FINAL EIR

General Plan 2030

City of Santa Cruz

FINAL
ENVIRONMENTAL IMPACT REPORT

CITY OF SANTA CRUZ

GENERAL PLAN 2030

STATE CLEARINGHOUSE #2009032007

April 2012

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1.0 INTRODUCTION

IN THIS SECTION:

1.1 Purpose of EIR
1.2 Project Overview
1.3 EIR Process
1.4 Comments Received on Draft EIR
1.5 Report Organization

1.1 PURPOSE OF EIR

This EIR has been prepared for the City of Santa Cruz (City), which is the lead agency for the project. This EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code, section 21000 et seq.) and the State CEQA Guidelines, which are found in Title 14 of the California Code of Regulations, commencing with section 15000. CEQA and the State CEQA Guidelines were most recently amended in 2009, and the amendments became effective in 2010.

As stated in the CEQA Guidelines section 15002, the basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Pursuant to State CEQA Guidelines section 15121, an EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency. While the information in the EIR does not control the ultimate decision on the project, the agency must consider the information in the EIR and respond to each significant effect identified in the EIR by making findings pursuant to Public Resources Code section 21081.

This EIR is being prepared as a "Program EIR" pursuant to section 15168 of the State CEQA Guidelines. A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project, such as a General Plan, and are related geographically. A program EIR can provide a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action and can ensure consideration of cumulative

impacts that might be slighted in a case-by-case analysis. A program EIR can be used as part of the environmental review for later individual projects to be carried out pursuant to the project previously analyzed in the program EIR, where impacts have been adequately addressed in the program EIR. This is referred to as "tiering" as set forth in section 15152 of the State CEQA Guidelines. "Tiering" uses the analysis of general matters contained in a broader EIR (such as one prepared for a general plan) with later EIRs and negative declarations on narrower projects, incorporating by reference the general discussions from the broader EIR and concentrating the later EIR or negative declaration solely on the issues specific to the later project. The State CEQA Guidelines encourage agencies to tier the environmental analyses which they prepare for separate but related projects, including general plans, zoning changes, and development projects.

As a program EIR, this document focuses on the overall effect of the *General Plan 2030*. The analysis in this EIR does not examine the effects of site-specific projects that may occur within the overall umbrella of the *General Plan 2030* in the future. The nature of general plans is such that many proposed policies are intended to be general, with details to be worked out during implementation. Thus, many of the impacts and mitigation measures can only be described in general or qualitative terms.

1.2 PROJECT OVERVIEW

This Environmental Impact Report (EIR) addresses the potential environmental effects of the proposed City of Santa Cruz Draft *General Plan 2030* (dated February 27, 2009), which is an update of the City's existing *General Plan and Local Coastal Plan 1990- 2005* that was adopted in 1992 and subsequently amended. As its title indicates, the draft *General Plan 2030* extends to the year 2030. The proposed General Plan, when adopted, will supersede the 1990-2005 General Plan and its several amendments.

Pursuant to State law, the proposed General Plan includes the following elements required by state law: Land Use, Circulation, Housing, Conservation, Open Space, Safety, and Noise, and also includes optional subjects set forth in the State General Plan Guidelines prepared by the Governor's Office of Planning and Research related to community design and economic development. Goals, policies and actions are provided for each element.

The General Plan also includes a Land Use Map as required by State law, which identifies land use designations and graphically depicts the arrangement and location of land uses throughout the City. The *General Plan 2030* Land Use Map and land use designations are largely unchanged from the 1990-2005 General Plan and Local Coastal Program, except for new mixed-use designations along segments of Mission Street, Ocean Street, Soquel Avenue and Water Street. Additionally, land use designations for two sites ("Golf Club Drive" and "Swenson" properties) have been changed.

To aid the environmental analysis, a "buildout" projection was developed, which considers the development potential under the proposed General Plan that is estimated to occur in Santa Cruz by the year 2030. In summary the estimates forecast the following new development by year 2030:

- 3,350 residential units
- 1,087,983 square feet of commercial development and 311 hotel rooms
- 1,273,913 square feet of office space; and
- 776,926 square feet of industrial development.

1.3 EIR PROCESS

An Initial Study was not prepared for the project in accordance with State CEQA Guidelines section 15060(d) because the City determined that an EIR was required to assess the potential environmental impacts of the project. A Notice of Preparation (NOP) for this EIR was circulated on March 2, 2009 (see Appendix A). The NOP was circulated to the State Clearinghouse and local, regional and federal agencies, as well as organizations and interested citizens. Additionally, an agency scoping meeting and a public scoping meeting were each held on March 16, 2009 to take public comments on the proper scope of the EIR's analysis and project alternatives.

The Draft EIR was published and circulated for review and comment by the public and other interested parties, agencies and organizations for a 60-day review period from September 13, 2011 through November 14, 2011. The State Clearinghouse public review period ended October 27, 2012. This "Final EIR" document includes comments, responses to comments, and revisions to the Draft EIR that were deemed necessary or appropriate after consideration of public comments. This document, in conjunction with the Draft EIR document, dated September 2011, constitutes the Final EIR for the project. Section 15088(b) of the State CEQA Guidelines requires a lead agency to provide a written response to a public agency on comments made by that public agency at least 10 days prior to certifying an EIR. This document has been provided to all agencies, organizations and individuals who commented on the Draft EIR prior to the City Planning Commission hearing. The document also is posted on the City's website.

The Final EIR will be presented to the City Planning Commission and City Council. The City Council must ultimately certify that it has reviewed and considered the information in the EIR, that the EIR has been completed in conformity with the requirements of CEQA, and that the document reflects the City's independent judgment. (See CEQA Guidelines, § 15090, subd. (a).)

Pursuant to sections 21002, 21002.1 and 21081 of CEQA and sections 15091 and 15093 of the State CEQA Guidelines, no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant effects unless both of the following occur:

> (a) The public agency makes one or more of the following findings with respect to each significant effect:
>
> 1. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects on the environment.
> 2. Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been or can and should be, adopted by such other agency.

3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

(b) With respect to significant effects which were subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment.

Although these determinations (especially regarding feasibility) are made by the public agency's final decision-making body (here, the City Council) based on the entirety of the agency's administrative record as it exists after completion of a final EIR, the draft EIR must provide information regarding the significant effects of the proposed project and must identify the potentially feasible mitigation measures and alternatives to be considered by that decision-making body.

1.4 COMMENTS RECEIVED ON DRAFT EIR

Agencies, organizations and individuals that submitted written comments on the draft EIR are outlined below.

AGENCIES

1. California State Clearinghouse
2. California Native American Heritage Commission
3. LAFCO of Santa Cruz County
4. Monterey Bay Unified Air Pollution Control District
5. City of Santa Cruz Water Department
6. United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
7. California Department of Fish and Game (sent to Water Department with comments regarding Urban Water Management Plan and Water Supply Assessment for General Plan 2030)

ORGANIZATIONS

8. Rick Longinotti, Santa Cruz Desal Alternatives
9. Don Stevens, President, Habitat and Watershed Caretakers

INDIVIDUALS

10. Jean Brocklebank
11. John Golder
12. Rick Longinotti (Personal Comments)
13. Andy Schiffrin
14. John Swift

1.5 REPORT ORGANIZATION

The Final EIR is organized with the following sections.

- **INTRODUCTION**
- **SUMMARY OF ENVIRONMENTAL IMPACTS:** This section provides a summary of all impacts, level of significance, and mitigation measures identified for the project, as well as a summary of alternatives. Changes made since circulation of the public review Draft EIR are shown in underlined typeface for additions and ~~strikethrough~~ typeface for deletions.
- **CHANGES TO DRAFT EIR:** This section outlines revisions to the Draft EIR text as a result of review of comments and responses as may be needed. As previously indicated, this document in conjunction with the Draft EIR, dated November 2009, constitutes the Final EIR for the project. This document contains responses to comments received on the Draft EIR.
- **PUBLIC COMMENTS AND RESPONSES:** Responses to comments immediately follow each comment letter.

A Mitigation Monitoring and Reporting Program is included in Appendix A.

2.0 SUMMARY OF IMPACTS

IN THIS SECTION:

2.1 Project Summary
2.2 Areas of Concern
2.3 Summary of Alternatives
2.4 Summary of Impacts & Mitigation Measures

This summary provides a brief description of the proposed project, known areas of concern, project alternatives, and all potentially significant impacts identified during the course of this environmental analysis. This summary is intended as an overview and should be used in conjunction with a thorough reading of the EIR. The text of this report, including figures, tables and appendices, serves as the basis for this summary.

Changes to Draft EIR text that are identified below are shown in underlined type for new text and ~~strikeout~~ type for deleted text.

2.1 PROJECT SUMMARY

This Environmental Impact Report (EIR) addresses the potential environmental effects of the proposed City of Santa Cruz Draft *General Plan 2030* (dated February 27, 2009), which is an update of the City's existing *General Plan and Local Coastal Plan 1990- 2005*. Pursuant to State law, the proposed General Plan includes the following elements required by state low: Land Use, Circulation, Conservation, Open Space, Safety, and Noise, and also includes optional subjects set forth in the State General Plan Guidelines prepared by the Governor's Office of Planning and Research related to community design and economic development. The City's Housing Element is prepared as a separate volume to the General Plan as it requires updates every seven years in accordance with State law. The City's current Housing Element was updated and adopted in 2010 (with formal state approval and final City adoption in 2011) and covers the years 2007 to 2014. Thus, the Housing Element is not part of the *General Plan 2030* document and not included in the environmental review.

Goals, policies and actions are provided for each element. The General Plan also includes a Land Use Map as required by State law, which identifies land use designations and graphically depicts the arrangement and location of land uses throughout the City. To aid the environmental analysis, a "buildout" projection was developed, which considers the development potential of land permitted under the proposed General Plan that is estimated to occur in Santa Cruz by the year 2030.

2.2 AREAS OF CONCERN

The City of Santa Cruz, as the Lead Agency, has identified areas of concern based on comments received on the Notice of Preparation (see Appendix A) and comments received at two scoping meetings held on March 16, 2009. Eleven letters (or emails) of comment were received from agencies, organizations and individuals in response to the Notice of Preparation (see Appendix A in the Draft EIR) – six from agencies and five from members of the community.

Issues or concerns raised by other comment letters include:

- Safety and Hazards
- Consideration of safety requirements for the General Plan;
- Requirements for development in a floodplain;
- Traffic impacts on State highways;
- Air quality impacts;
- Parks planning and park uses;
- Traffic impacts;
- Greenhouse gas emissions;
- Historical preservation;
- UCSC future enrollments;
- Alternatives and Cumulative impacts
- Community benefits

2.3 SUMMARY OF ALTERNATIVES

CEQA Guidelines require that an EIR describe and evaluate alternatives to the project that could eliminate significant adverse project impacts or reduce them to a less-than-significant level. The following alternatives are evaluated in this EIR in the Chapter 5 - CEQA Considerations.

- **ALTERNATIVE 1: No Project.** This alternative would maintain the City's existing 1990-2004 General Plan without new mixed-use land use designations or other land use changes and without new or revised policies and actions. The alternative would result in estimated development of 1,816 residential units and approximately 2,860,000 square of commercial, office and industries with an associated population increase of 4,360 residents and 7,710 employees.

- **ALTERNATIVE 2: Reduced Growth.** This alternative assumes that growth would occur as forecast by AMBAG under which 2,413 new housing units are projected between 2009 and 2030, which would result in a population increase of 5,790 residents. Under AMBAG forecasts, the City would experience an increase of approximately 8,080 new employees between 2009 ~~1990~~ and 2030. This would result in approximately 2,911,000 square feet of commercial, office and industrial uses.

- **ALTERNATIVE 3: Reduced Land Use Density/Intensity.** This alternative would reduce the projected General Plan buildout by reducing land use densities or intensities in some areas. This alternative assumes a reduction in land use density or intensity in the following areas: a) reduced density along transit corridors and/or elimination of specified segments of mixed use designations to include removal of a mixed use segment along Mission between Bay Street and Walnut Avenue and changing the proposed mixed-use high density designated along Soquel Avenue to a mixed-used medium density designation; b) maintaining the existing General Plan land use designations (and density) at Swenson site and Golf Club Drive area; and elimination of support of large retail commercial in Harvey West area. The alternative would result in estimated development of 2,750 residential units and approximately 3,120,000 square of commercial, office and industries with an associated population increase of 6,600 residents and 8,645 employees.

As discussed in the "Alternatives" subsection of the CEQA CONSIDERATIONS (Chapter 5.0) section of this EIR, none of the alternatives, including the No Project Alternative (Alternative 1) would eliminate significant unavoidable project and cumulative impacts related to traffic and water supply, although all alternatives would result in a reduced level of traffic and water demand. The No Project Alternative would, however, reduce the other four identified significant impacts to less-than significant levels. Alternative 2 – Reduced Growth would also reduce the identified significant impact related to consistency with the Air Quality Management Plan to a less-than-significant level, although under the Alternative 3—Reduced Density/Land Use Intensity, this would remain significant, but could be mitigated to a less-than-significant level as with the project. Potentially significant impacts on schools and cultural resources would remain significant under Alternatives 2 and 3, but could be mitigated. Table 5-5 provides a comparison of impact significant between the proposed *General Plan 2030* and the alternatives evaluated in this section. Alternatives 2 and 3 could attain some of the objectives (#1 and #3) and partially attain others (#2 and #4).

Excluding the No Project Alternative (Alternative 1), Alternative 2 – Reduced Growth, is considered the environmentally superior alternative of the alternatives considered. Although it would not eliminate significant unavoidable impacts, it could result in the greatest reduction of traffic and water demand impacts and reduce some of the other identified significant impacts. However, it would not fully meet project objectives.

2.4 SUMMARY OF IMPACTS AND MITIGATION MEASURES

All impacts identified in the subsequent environmental analysis are summarized in this section. This summary groups impacts of similar ranking together, beginning with significant unavoidable impacts, followed by significant impacts that can be mitigated, followed by impacts not found to be significant.

SIGNIFICANT UNAVOIDABLE IMPACTS

The following impacts have been identified as being significant, and although mitigation measures help reduce the level of significance, the impacts cannot be reduced to a less-than-significant level.

4.4 - Transportation and Traffic

Impact 4.4-1: Traffic Impacts on Intersections Levels of Service (LOS). Adoption and implementation of the proposed *General Plan 2030* would accommodate future development that would result in increased vehicle trips and traffic, resulting in changes in intersection levels of service to unacceptable levels or further deterioration of intersections currently operating at unacceptable levels of service. With implementation of proposed *General Plan 2030* policies and actions, including road improvements identified in an updated Traffic Impact Fee program, intersection operations would be improved and traffic levels would be reduced, except at eight intersections.

Mitigation Measures

With implementation of the proposed *Plan 2030* policies and actions to reduce vehicular traffic, increase vehicle occupancy and support/encourage use of alternative transportation measures, the impact could be reduced to a less-than-significant level at all but four intersections along state highways and the four local intersections. Impacts would remain significant and unavoidable. With uncertainly regarding funding and implementation of transportation projects for the other intersections, the impact remains significant and unavoidable. However, revision of the following *General Plan 2030* action is recommended.

Recommended Revisions to the *Draft General Plan 2030*

Revise or add policies/actions as indicated below. Deleted text is shown in ~~strikeout~~ typeface, and new text is shown in underlined typeface.

M3.1.4 Accept a lower level of service and higher congestion at major regional intersections if necessary improvements would be ~~too~~ prohibitively costly or result in significant, unacceptable environmental impacts.

Impact 4.4-2: Traffic Impacts on State Highway Levels of Service (LOS). Adoption and implementation of the proposed *General Plan 2030* would accommodate future development that would result in increased vehicle trips and traffic on state highways in the regions (Routes 1, 17, and 9), which would further exacerbate existing unacceptable levels of service.

Mitigation Measures

None are known beyond those being considered for Highway 1 by Caltrans as discussed in the EIR text.

4.5 - Water Supply

Impact 4.5-1 Water Supply. Adoption and implementation of the proposed *General Plan 2030* could indirectly result in increased development and population growth that would result in an increased demand for water supply in a system that currently has inadequate supplies during dry years and may have inadequate supplies in normal years in the future.

Mitigation Measures

Implementation of the proposed *General Plan 2030* policies and actions to reduce water demand, promote water conservation, and support development of reliable supplemental water supplies will not reduce this impact to a less-than-significant level due to uncertainties regarding funding and implementation of desalination or another adequate alternative water supply, which may be needed to serve future growth. Therefore, the conservative conclusion is that the project impact on City water supplies during both normal and during dry year conditions is significant and unavoidable, even with implementation of proposed *General Plan 2030* policies and actions.

Cumulative Impacts

The following were determined significant cumulative impacts to which the proposed project's incremental contribution was found to be cumulatively considerable, thus resulting in a significant unavoidable impact.

- **Population Growth**. Cumulative growth (City and UCSC) could result in an average annual growth rate of 1.3% if the North Campus area is annexed to the City in the next 20 years. This projected level of growth exceeds historical growth rates between 1990 and 2009 (0.901.9%), as well as the AMBAG population growth rate of 0.65% between 2009 and 2030.
- **Traffic**. Cumulative development and growth would generate traffic that would result in unacceptable levels of service at 26 intersections, all of which could be improved to acceptable levels or improved operations, except at 11 intersections, including five along state routes. Cumulative traffic along state highways would contribute to existing and future unacceptable levels of service. Therefore, the cumulative traffic would result in significant cumulative impacts at seven intersections and along Highways 1 and 17. Funding availability for facility improvements and expansion of transit service will likely remain constrained into the foreseeable future. Thus, implementation of recommended improvements and alternative transportation facilities cannot be assured, and the impact under the cumulative conditions remains significant, at City intersections and along state highways this is a significant cumulative impact, and the project's incremental increase would be cumulatively considerable.
- **Water Supply**. Cumulative development and growth in the City's water service area would result in a significant cumulative water impact, as it results in additional demand in a system that does not currently have adequate water supplies to meet existing or future demands during drought conditions or potentially during normal years at some time after the year 2015 ~~2020~~. The City's supplies are sufficient to

meet cumulative water demands in a normal year through to the year 2030 if overall water use remains at 2007-2008 levels. However, if water demand is consistent with historic water use between 1999 and 2004, the City's total demand will be approximately 377 ~~223~~ MGY greater than the available normal year supply of 4,160 ~~4,314~~ MGY in 2030. Thus, cumulative development and growth would result in a significant cumulative impact during dry years and potentially during normal years. The project's incremental contribution is therefore considered "cumulatively considerable" and thus significant in and of itself. The City has identified a desalination plant as its best, potentially feasible option to alleviate shortages in drought conditions and as a potential additional normal-year water supply to serve new growth, and therefore has committed to pursuing this option with the intent of obtaining all necessary regulatory approvals. However, the City acknowledges the inherent uncertainty about its ability to obtain all necessary approvals for the planned desalination facility. Furthermore, surface water supplies may be reduced due to implementation of wildlife protection strategies under a future HCP, which may require that the City seek additional supplies and/or expansion of a desalination facility beyond that capacity that is currently planned for drought supply. Thus, the impact remains significant and unavoidable.

- **Noise.** Cumulative development and growth would result in noise increases associated with the traffic increases, but the increases would not exceed significance criteria (more than a 3 dBA increase), except for three road segments (Swift Street north of Delaware and Mission Street between Bay and Walnut) that would be considered significant for some existing residences along these segments.

SIGNIFICANT IMPACTS

The following impacts have been identified as being significant which can be mitigated to a less-than-significant level with implementation of recommended mitigation measures.

4.6 – Public Services & Utilities

Impact 4.6-4 Schools. Adoption and implementation of the proposed *General Plan 2030* could indirectly result in increased development and population growth that would generate elementary school student enrollments that could exceed capacity of existing schools.

Mitigation Measures

No mitigation measures are required beyond payment of school impact fees that will be collected at the time of issuance of a building permit.

4.9 – Cultural Resources

Impact 4.9-1: Archaeological Resources and Human Remains. Adoption and implementation of the proposed General Plan 2030 would accommodate future development that could directly or indirectly disturb or alter archaeological resources, historical archaeological, and/or

human remains. Even with implementation of the proposed General Plan policies and actions for cultural resource protection, this is considered a potentially significant impact.

Mitigation Measures

Implementation of Mitigation Measure 4.9-1 below, in conjunction with implementation of the proposed General Plan policies and actions and compliance with local regulations, will mitigate potential impacts of future development on archaeological resources to a less-than-significant level.

MITIGATION 4.9-1 Add Action HA1.2.2 that establishes a procedure for preparing archaeological investigations as follows:

HA1.2.2 Require preparation of archaeological investigations on sites proposed for development within areas identified as "Highly Sensitive" or "Sensitive" on the "Areas of Archaeological Sensitivity" and "Historical Archaeology Sensitivity" maps, except for exempt uses within "Sensitive" areas as described below, prior to approval of development permits. The investigation shall include archival research, site surveys and necessary supplemental testing as may be required, conducted by a qualified archaeologist. The significance of identified resources shall be ascertained in accordance with CEQA definitions, and impacts and mitigation measures outlined if significant impacts are identified, including, but not limited to recovery options and onsite monitoring by an archaeologist during excavation activities. A written report describing the archeological findings of the research or survey shall be provided to the City.

Allow minor projects with little excavation to be exempt from this requirement for preparation of an archaeological assessment within designated "Sensitive" areas, but not within the "High Sensitivity" areas. Minor projects generally involve spot excavation to a depth of 12 inches or less below existing grade, or uses that have virtually no potential of resulting in significant impacts to archaeological deposits. Exempt projects may include: building additions, outdoor decks, or excavation in soil that can be documented as previously disturbed.

Impact 4.9-3: Paleontological Resources. Adoption and implementation of the proposed General Plan 2030 would accommodate future development that could directly or indirectly disturb or alter paleontological resources. Even with implementation of the proposed policies and actions for cultural resource protection, this is considered a potentially significant impact.

Mitigation Measures

Implementation of the proposed General Plan policies and actions outlined above, and Mitigation Measure 4.9-2 identified below will mitigate potential impacts of future development to a less-than-significant level.

MITIGATION 4.9-2 Add Action HA1.2.3 that establishes a procedure for preparing archaeological investigations as follows:

HA1.2.3 The City shall notify applicants within paleontologically sensitive areas of the potential for encountering such resources during construction and condition approvals that work will be halted and resources examined in the event of encountering paleontological resources during construction. If the find is significant, the City should require the treatment of the find in accordance with the recommendations of the evaluating paleontologist. Treatment may include, but is not limited to, specimen recovery and curation or thorough documentation.

Air Quality

Impact 4.11-1 Consistency with AQMP. Adoption and implementation of the General Plan 2030 could indirectly result in increased population associated with potential development that would be accommodated by the Plan. The increased population would exceed population estimates in the Air Quality Management Plan in 2030, and thus the project would be inconsistent and conflict with the AQMP.

Mitigation Measures

Implementation of the following mitigation measure will reduce the impact to a less-than-significant level.

MITIGATION 4.11-1 The City shall work with the MBUAPCD and AMBAG and request that AMBAG's next population and housing forecast for the city of Santa Cruz and MBUAPCD's next *Air Quality Management Plan* be updated to reflect potential growth that could be accommodated by the General Plan 2030.

LESS-THAN-SIGNIFICANT IMPACTS

The following impacts were found to be less-than-significant. Mitigation measures are not required.

4.1 - Land Use

Impact 4.1-2: Introduce Incompatible Land Uses. The proposed *General Plan 2030* does not introduce new land uses that would be incompatible with existing land uses or land use designations, although residential densities may increase in limited areas. However, with implementation of proposed *General Plan 2030* policies and actions, compatibility between new higher density residential uses with adjacent lower density residential neighborhoods would be ensured.

4.2 - Population & Housing

Impact 4.2-1 Population Growth Inducement. Adoption and implementation of the *General Plan 2030* could indirectly result in increased population associated with potential development that could be accommodated by the Plan. However, the estimated amount and rate of growth are consistent with historic population growth patterns and trends, and would not be considered substantial.

Impact 4.2-3 Removal of Housing and/or Displacement of People. Adoption and implementation of the proposed *General Plan 2030* could indirectly result removal of existing housing and/or displacement of residents due to redevelopment of underutilized parcels. As most mixed-use and redevelopment areas include predominantly non-residential structures, and with adherence to City regulations and *Housing Element* policies, this is considered a less-than-significant impact.

4.3 - Aesthetics

Impact 4.3-1: Scenic Public Views. Adoption and implementation of the proposed General Plan 2030 would accommodate future development that could adversely affect scenic public views. However, such development would be limited to infill sites and with implementation of the proposed policies and actions for protection of scenic public views, this is considered a less-than-significant impact.

Impact 4.3-2: Scenic Resources. Adoption and implementation of the proposed General Plan 2030 would accommodate future development that could adversely impact scenic resources. However, with implementation of the proposed policies and actions for protection of scenic resources, this is considered a less-than-significant impact.

Impact 4.3-3: Degradation of Visual Quality of Surrounding Areas. Adoption and implementation of the proposed General Plan 2030 would accommodate future development that would result in intensified structural development in some areas that could result in substantial degradation of the visual quality of surrounding neighborhoods. However, with implementation of the proposed policies and actions for siting of development to be sensitive to existing uses in concert with street landscaping, this is considered a less-than-significant impact.

Impact 4.3-4: Introduction of Light and Glare. Adoption and implementation of the proposed General Plan 2030 would accommodate future development that could introduce new sources of light or glare. However, given the infill nature of future development, it is not expected that new sources of substantial light or glare would be introduced. Implementation of the proposed policies and actions for minimizing lighting impacts would further reduce potential effects.

4.4 - Transportation and Traffic

Impact 4.4-3: Traffic Hazards. Adoption and implementation of the proposed *General Plan 2030* would not result in new roads that could potentially create hazards, and with implementation of proposed *General Plan 2030* policies and actions to ensure road safety, the project would not result in direct or indirect impacts related to increased hazards. Therefore, there is *no impact* related to road safety/hazards.

Impact 4.4-4: Conflicts with Adopted Plans. Adoption and implementation of the proposed *General Plan 2030* would not result in conflicts with adopted plans, policies or programs that support alternative transportation, as the proposed goals, policies and actions directly support implementation and use of alternative transportation modes.

4.5 - Water Supply

Impact 4.5-2 Groundwater. Adoption and implementation of the proposed *General Plan 2030* could indirectly result in increased development and population growth that would result in an increased demand for water supply. However, the draft *General Plan 2030* plan does not propose expansion of groundwater supplies, and with implementation of proposed policies and actions, groundwater supplies would not be depleted, nor would development accommodated by the plan interfere with groundwater recharge.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified. However, revision of the following *General Plan 2030* action is recommended.

Recommended Revisions to the *Draft General Plan 2030*

Revise or add policies/actions as indicated below. Deleted text is shown in ~~strikeout~~ typeface, and new text is shown in underlined typeface.

CC3.3.8 Provide adequate pumping, treatment, and distribution facilities for the reliable production of groundwater, consistent with pumping rates/volumes identified in the City's Urban Water Management Plan. ~~of 1 mgd all in normal years and 2 mgd during droughts~~.

4.6 – Public Services & Utilities

Impact 4.6-1 Fire Protection. Adoption and implementation of the General Plan 2030 could indirectly result in increased population associated with potential development that could be accommodated by the Plan that would result in increased fire protection and emergency service demands. However, future development and growth would not result in the need to construct new or expanded fire stations.

Impact 4.6-2 Police Protection. Adoption and implementation of the General Plan 2030 could indirectly result in increased population associated with potential development that could be accommodated by the Plan that would result in increased police protection service demands. However, future development and growth would not result in the need to construct new or expanded police stations.

Impact 4.3 Parks and Recreation. Adoption and implementation of the proposed General Plan 2030 could indirectly result in increased development and population growth that would result in an indirect demand for parks and recreational facilities. However, the estimated growth would not increase use of parks or recreational facilities such that a substantial physical deterioration would occur. With implementation of proposed policies and actions, in combined with existing regulations, the impact to parks and recreational facilities is considered less-than-significant.

Impact 4.6-5 Wastewater Collection & Disposal. Adoption and implementation of the proposed General Plan 2030 could indirectly result in increased development and population growth that would result in indirect generation of wastewater that could be accommodated by the existing wastewater treatment plant and collection system improvements, as needed and supported in the General Plan.

Impact 4.6-6 Solid Waste Disposal. Adoption and implementation of the proposed General Plan 2030 could indirectly result in increased development and population growth that would result in indirect generation of solid waste that could be accommodated within the remaining landfill capacity.

Impact 4.6-7 Energy Use. Adoption and implementation of the proposed *General Plan 2030* could indirectly result in increased development that would result in indirect energy demands, which would not be wasteful or an inefficient use with implementation of state and local regulations and proposed *General Plan 2030* policies and actions.

4.7 – Hydrology, Drainage & Water Quality

Impact 4.7-1: Alteration of Drainage Patterns and Stormwater Runoff. Adoption and Implementation of the proposed *General Plan 2030* would accommodate future development that could result in increased stormwater runoff. With implementation of the proposed policies and actions for stormwater management and adherence to other City's plans and regulations, there would be no alteration of drainage patterns and increases in runoff would be considered a less-than-significant impact.

Impact 4.7-2: Water Quality. Adoption and Implementation of the proposed General Plan 2030 would accommodate future development that could result in increased stormwater runoff and potential urban pollutants that contribute to water quality degradation. With implementation of the proposed policies and actions for water quality protection and adherence to other City's plans and regulations related to drainage and water quality controls, this would be considered a less-than-significant impact.

Impact 4.7-3: Flood Hazards. Adoption and Implementation of the proposed General Plan 2030 would accommodate future development that could result in exposure to flood hazards, including watercourse flooding, dam failure and/or tsunami. With implementation of the proposed policies and actions related to flood control and adherence to other City's plans and regulations, the project would not result in location of habitable structures within a floodplain or substantial risk of exposure of structures or people to flood hazards. This is considered a less-than-significant impact.

4.8 – Biological Resources

Impact 4.8-1: Riparian and Wetland Habitats. Adoption and Implementation of the proposed General Plan 2030 would accommodate future development that could directly or indirectly impact riparian and/or wetland habitat areas within and adjacent to the City. With implementation of the proposed policies and actions for resource protection and adherence to other City's plans and regulations protecting these habitat areas, this is considered a less-than-significant impact.

Impact 4.8-2: Other Sensitive Habitat Areas. Implementation of the proposed General Plan 2030 would result in future development that could directly or indirectly impact sensitive habitat areas within and adjacent to the City (other than riparian and wetland habitats). Within implementation of the proposed policies and actions for resource protection, this is considered a less-than-significant impact.

Impact 4.8-3: Special Status Species. Implementation of the proposed General Plan 2030 would result in future development that could directly or indirectly impact special status species. With implementation of the proposed policies and actions for resource protection, this is considered a less-than-significant impact.

Impact 4.8-4: Wildlife Movement & Breeding. Implementation of the proposed General Plan 2030 would result in future development that could directly or indirectly interfere with wildlife movement and/or breeding. With implementation of the proposed policies and actions for resource protection, this is considered a less-than-significant impact.

Impact 4.8-6: Tree Protection. Implementation of the proposed General Plan 2030 would result in future development that could directly or indirectly adversely affect heritage trees in conflict with local tree protection regulations. With implementation of the proposed policies and actions for resource protection, this is considered a less-than-significant impact.

4.9 – Cultural Resources

Impact 4.9-2: Historical Resources. Adoption and implementation of the proposed General Plan 2030 would accommodate future development that could directly or indirectly disturb or alter historical resources. With implementation of the proposed General Plan policies and actions for historic resource protection, this is considered a less-than-significant impact.

4.10 – Geology and Soils

Impact 4.10-1: Seismic Hazards. Adoption and implementation of the proposed General Plan 2030 would accommodate future development that could result in exposure of people and property to seismic hazards, including ground shaking, liquefaction, and ground settlement. With adherence to City regulations, the project would not result in increased risk of exposure to seismic hazards.

Impact 4.10-2: Other Geologic Hazards. Adoption and implementation of the proposed General Plan 2030 would accommodate future development that could result in exposure to people and property to potential hazards associated with landslides, slope stability, and/or coastal bluff retreat. With adherence to City regulations and proposed General Plan 2030 goals, policies and actions, the future development would not be located on unstable area related to landslides, slope instability or coastal bluff retreat.

Impact 4.10-3: Soil Constraints. Adoption and Implementation of the proposed General Plan 2030 would accommodate future development that could result in exposure to soil constraints, such as expansive soils, that could lead to structural damages. With adherence to City regulations, the project would not result in increased risk of exposure to soils constraints.

Impact 4.10-4: Erosion. Adoption and Implementation of the proposed General Plan 2030 would accommodate future development that could result in erosion and inadvertent sedimentation into storm drains or watercourses, if not properly controlled. With adherence to City regulations, the project would not result in substantial soil erosion.

4.11 – Air Quality

Impact 4.11-2 Increased Emissions of Criteria Pollutants. Adoption and implementation of the proposed *General Plan 2030* could indirectly result in emissions of criteria pollutants due to new development that would be accommodated by the Plan within an air basin that currently exceeds state standards for ozone and PM_{10}. However, emissions of criteria pollutants are expected to decrease in the future, and new emissions would not contribute to potential air quality violations. Additionally, with implementation of proposed *General Plan 2030* policies and actions and adherence to regional guidelines for future project-level reviews, indirect emissions resulting from buildout under the Plan would not be expected to substantially increase ozone precursors and particulate matter or result in air quality violations.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified. However, revision of the following *General Plan 2030* actions are recommended to strengthen support for MBUAPCD air pollution control strategies.

Recommended Revisions to the *Draft General Plan 2030*

Revise or add policies/actions as indicated below. Deleted text is shown in ~~strikeout~~ typeface, and new text is shown in underlined typeface.

HZ2.2.1 ~~Incorporate~~ Require future development projects to implement applicable Monterey Bay Unified Air Pollution Control District control measures and/or air quality mitigations in the design of new projects as set forth in the District's "CEQA Guidelines".

HZ2.2.2 Permit major indirect sources of air pollution only if they provide transportation measures to reduce their impacts to ~~an in~~ a less-than-significant level, consistent with applicable MBUAPCD recommended mitigation and control measures as set forth in the District's "CEQA Guidelines".

HZ2.2.6 Support MBUAPCD air pollution control strategies, air quality monitoring and enforcement activities.

Impact 4.11-3 Exposure of Sensitive Receptors to Pollutants. The increased population or development accommodated by the proposed *General Plan 2030* could indirectly result in exposure of existing or new sensitive receptors to pollutant concentrations which would not be considered substantial with implementation of the proposed *General Plan 2030* policies and actions and the regulation of stationary sources by the Monterey Bay Unified Air Pollution Control District.

4.12 – Global Climate Change

Impact 4.12-1 Generation of Greenhouse Gas Emissions. Adoption and implementation of the proposed *General Plan 2030* could indirectly result in increased greenhouse gas emissions from development accommodated by the proposed plan. However, the emissions level would not be considered substantial compared to long-term forecasts and state and regional targets, and implementation of the proposed *General Plan 2030* policies and actions, as well as planned implementation statewide actions, would further reduce emissions.

4.13 – Noise

Impact 4.13-1: Exposure to Noise. Implementation of the proposed General Plan 2030 would accommodate future development that could be exposed to noise levels that exceed state

standards for compatible noise levels for residential uses. With implementation of the proposed General Plan policies and actions for noise, this is considered a less-than-significant impact.

Mitigation Measures

No mitigation measures are required, but revisions to the following General Plan 2030 actions are recommended to specifically reference land-use noise compatibility standards.

Recommended Revisions to the Draft General Plan 2030

Revise or add policies/actions as indicated below. Deleted text is shown in ~~strikeout~~ typeface, and new text is shown in underlined typeface.

HZ3.2.1 Apply noise and land use compatibility table and standards to all new residential, commercial, and mixed-use proposals, including condominium conversions in accordance with the standards set forth in the "Land Use – Noise Compatibility Standards" table.

Impact 4.13-2: Increase in Permanent Ambient Noise Levels. Implementation of the proposed General Plan 2030 would accommodate future development that would generate traffic and contribute to increased noise levels along City streets and highways, but would not exceed criteria of significance or substantially increase ambient noise levels.

Impact 4.13-3: Increase in Temporary Noise Levels Due to Construction. Implementation of the proposed General Plan 2030 would accommodate future development that would generate temporary increases in ambient noise levels due to construction activities, although substantial generation of vibration would not be expected. Due to the temporary and short-term duration of construction with intermittent noise levels, this is considered a less-than-significant impact.

4.14 – Hazardous Materials

Impact 4.14-1 Creation of Hazard with Transport, Use or Disposal of Hazardous Materials. Adoption and implementation of the proposed *General Plan 2030* could indirectly result in creation of a hazard to the public or environment through the routine transport, use or disposal of hazardous materials. With implementation of proposed *General Plan 2030* policies and actions and adherence to federal, state and local regulations, a significant hazard would not be expected to result.

I**mpact 4.14-2 Exposure to Hazardous Materials.** Adoption and implementation of the proposed *General Plan 2030* could indirectly result in exposure to contaminated sites accidental release of hazardous materials. With adherence to federal, state and local regulations, a significant hazard would not be expected to be created.

4.15 – Agricultural, Forest & Mineral Resources

Impact 4.15-1: Conflicts with Agricultural Uses. Adoption and Implementation of the proposed *General Plan 2030* would accommodate future development which would not result in conflicts with agricultural uses of that could lead to conversion of farmlands to non-agricultural uses with implementation of proposed policies and actions.

NO IMPACTS

The State CEQA Guidelines section 15128 require that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. The EIR identified the following topics/issues as not being an impact for the reasons provided.

4.1 – Land Use

Impact 4.1-1: Divide an Established Community. Adoption and implementation of the *General Plan 2030* would not result in development or expansion of municipal boundaries that would result in a physical division of an established community.

Impact 4.1-3: Conflict with Applicable Land Use or Other Plans. Goals, policies and actions of the draft *General Plan 2030* would not conflict with other adopted plans. The plan consistency analysis has not found any plan inconsistencies with the Draft General Plan that would result in adverse physical impacts.

4.4 - Transportation and Traffic

Impact 4.4-3: Traffic Hazards. Adoption and implementation of the proposed *General Plan 2030* would not result in new roads that could potentially create hazards, and with implementation of proposed *General Plan 2030* policies and actions to ensure road safety, the project would not result in direct or indirect impacts related to increased hazards.

Impact 4.4-4: Conflicts with Adopted Plans. Adoption and implementation of the proposed *General Plan 2030* would not result in conflicts with adopted plans, policies or programs that support alternative transportation, as the proposed goals, policies and actions directly support implementation and use of alternative transportation modes.

4.8 – Biological Resources

Impact 4.8-5: Habitat Reduction. Implementation of the proposed General Plan 2030 would result in future development that would be considered urban infill development and would not result in significant reduction of wildlife habitat or cause a wildlife or plant population to drop below self-sustaining levels or become eliminated. Therefore, there is no impact related to substantial habitat reduction.

Impact 4.8-7: Conflicts with Local Plans and Policies. Adoption and implementation of the proposed General Plan 2030 would not result in conflicts or inconsistencies with policies adopted to protect biological resources. Thus, there is no impact related to this issue.

4.11 – Air Quality

Impact 4.11-4 Odors. Adoption and implementation of the *General Plan 2030* would not directly or indirectly result in new uses that would be result in introduction of substantial odors with implementation of proposed policies and actions and adherence to City regulations.

4.12 – Global Climate Change

Impact 4.12-2: Conflicts with Applicable Plans. Potential development that could be accommodated in the draft *General Plan 2030* would result in increased greenhouse gas emissions, but the proposed project would not conflict with adopted plans.

4.15 – Agricultural, Forest & Mineral Resources

Agricultural Resources. There are no designated agricultural lands within City limits or the City's existing Sphere of Influence, and future development accommodated by the plan would not result in conversion of agricultural lands or conflict with existing agricultural zoning or Williamson Act contracts.

Forest Resources. There are no areas of protected timberland land within the City or its existing Sphere of Influence, and there are no protected timberlands within the General Plan 2030 planning area. Thus, there would be no conflicts with zoning of forest lands (15d) or the conversion of timberland (15e-f). Furthermore, the proposed plan includes goals, policies and actions that seek maintenance and expansion of the City's urban forest as summarized in Table 4.15-1.

Mineral Resources. There are no designated mineral resources within the City, its existing Sphere of Influence or the *General Plan 2030* planning area, and therefore, the proposed General Plan would have no impact to mineral resources (15g). An existing quarry is located west of the City within the General Plan planning area. The site is located within the unincorporated area of Santa Cruz County and subject to County regulations.

3.0 CHANGES TO DRAFT EIR

IN THIS SECTION:

3.1 Changes to Summary (DEIR Chapter 2.0)
3.2 Changes to Project Description (DEIR Chapter 3.)
3.3 Changes to Aesthetics (DEIR Chapter 4.3)
3.4 Changes to Water Supply (DEIR Chapter 4.5)
3.5 Changes to Public Services (DEIR Chapter 4.6)
3.6 Changes to Biological Resources (DEIR Chapter 4.7)
3.7 Changes to Geology & Soils (DEIR Chapter 4.10)
3.8 Changes to Air Quality (DEIR Chapter 4.11)
3.9 Changes to Global Climate Change (DEIR Chapter 4.12)
3.10 Changes to CEQA Considerations (DEIR Chapter 5.0)
3.11 Changes to References (DEIR Chapter 6.0)
3.12 Changes to EIR Figures (DEIR Chapter 7.0)
3.13 Changes to Appendices

Changes to Draft EIR text that are identified below are shown in underlined type for new text and ~~strikeout~~ type for deleted text.

3.1 CHANGES TO "SUMMARY OF IMPACTS" (DEIR CHAPTER 2.0)

Page 2-10 Revise the recommended revision to General Plan action CC3.3.8 as shown in the SUMMARY OF IMPACTS (Chapter 2.0) of this document.

3.2 CHANGES TO "PROJECT DESCRIPTION " (DEIR CHAPTER 3.0)

Page 3-13 On Table 3-3, revise the reference under "Other Pending Development" from Table 3-3 to Table 3-4.

3.3 CHANGES TO "AESTHETICS" (DEIR CHAPTER 4.3)

Page 4.5-10 Correct subsection header to read: 4.3~~2~~.2 RELEVANT PROJECT ELEMENTS.

Page 4.5-11 Correct subsection header to read: 4.3~~2~~.2 IMPACTS AND MITIGATION MEASURES.

Page 4.3-13 Revise the last sentence of the second paragraph as follows:

The Golf Club Drive site is not highly visible from surrounding areas and is not a substantial part of any scenic public views. Figure 4.3-1 identifies panoramic views from Pogonip, which generally consist of views of Monterey Bay and distant Monterey Peninsula hilltops with panoramic views of the City of Santa Cruz in the foreground. The Golf Club Drive area is largely screened from view by existing tree cover. Portions of future buildings may be visible, as is other development in the area, but would not obstruct distant bay and mountain views.

Page 4.5-17 Revise the first sentence of the last paragraph as follows:

In areas where new mixed-use, infill or intensified development may be proposed in the future, new buildings may result in substantial degradation of the visual character of the surrounding area if new buildings are overly massive, substantially taller or out of scale with adjacent areas. This is especially a concern for residential areas next to mixed-use areas. This would also be a concern in areas planned for intensified development, such as the Golf Club Drive area and Swenson sites. As indicated in the Impact 4.3-1 discussion, neither site is prominent within scenic views. Views of the Golf Club Drive area are largely screened from view along Pogonip trails due to intervening tree cover and topographical changes. There are limited vantage points where the future development may be partially visible, depending on overall structural height and massing. However, the urban landscape (i.e., the Harvey West area and other parts of the City) also are visible as part of scenic views of the bay and distant mountains.

3.4 CHANGES TO "WATER SUPPLY" (DEIR CHAPTER 4.5)

Page 4.5-2 Revise the last two sentences of the first full paragraph as follows:

The City adopted its *2005 Urban Water Management Plan* (UWMP) in February 2006 and adopted an updated 2010 UWMP on December 13, 2011 as further discussed below in the "Water Supply Planning & Adopted Plans" subsection. ~~In accordance with state law, the City is currently updating the UWMP, for planned adoption in Fall 2011.~~

Page 4.5-4 Revise and expand the first two full sentences as follows:

The City currently serves nearly 21,600 ~~21,000~~ residential accounts, approximately 2,200 commercial, industrial, institutional and municipal accounts, and 450 ~~500~~ irrigation accounts (City of Santa Cruz Water Department, December 2011 ~~EKI, March 2011~~). In addition to domestic demand, the City supplies approximately 21 ~~18~~ million gallons of water per year for agricultural uses along the North Coast outside of City limits. The single-family residential class is the City's largest customer category in terms

of both the number of accounts and total amount of water consumed; the overall proportion of residential water use that goes to outdoor purposes is about 25% (Ibid.). The University of California currently represents about 6% of system demand.

Page 4.5-6 Revise the third sentence of the last paragraph as follows:

Total annual extraction from the Purisima aquifer by ~~all pumpers~~ the City and Soquel Creek and Central Water Districts has ranged between 1,092 and 1,210 MGY between 2006 and 2010 (City of Santa Cruz Water Department, December 2011). ~~is estimated at nearly 2,000 million gallons per year (MGY) of which~~ The City produced approximately 119 to 179 MGY during this time with 164 MGY produced in 2008; City production is approximately 13-14% of this total ~~167 MGY (8% of total~~) (City of Santa Cruz Water Department, December 2011~~February 2006~~).

Page 4.5-8 Revise last paragraph and footnote as follows:

The 2005 UWMP reported that on average, about 79% of the City's annual water supply needs are met by surface diversions from the coastal streams (32%) and San Lorenzo River (47%), while approximately 17% is supplied by Loch Lomond Reservoir and 4% of the supply is derived from the Live Oak Well system (City of Santa Cruz, February 2006) as summarized in Table 4.5-1. The updated and adopted 2010 UWMP reported similar use over the last five years with 30% production from North Coast sources, 54% from San Lorenzo River supplies, 12% from Loch Lomond, and 4% from the Live Oak wells. ~~With~~ Loch Lomond production is limited by the City's water rights to a maximum of 1,042[1] MGY.~~, existing water supply availability totals approximately 4,300 MGY (City of Santa Cruz Water Department, February 2006). However,~~ The City recognized that the uncertain nature of groundwater conditions in the western portion of the basin is a serious issue and has limited future maximum extraction during all water years to 210 MGY ~~645 ac-ft/yr~~, or approximately 1 MGD (700 GPM) (City of Santa Cruz Water Department, December 2010).

Water production has fluctuated over the past ten years; annual production has ranged from a high of nearly ~~approximately~~ 4,5~~4~~00 MGY in 2000 ~~(City of Santa Cruz Water Department, February 2006)~~ to a low of approximately 3,200 MGY in 2009 (City of Santa Cruz Water Department, ~~May~~ December 2011).~~ as discussed further in the following subsection.~~ Average water production between 1985 and 2010 was approximately 3,900 MGY, while average water production between 2006 and 2010 averaged approximately 3,500 MGY as summarized in Table 4.5-1 (City of Santa Cruz Water Department, December 2011).

[1] Of this amount, 104 MGY or 10%, is technically available to the San Lorenzo Valley Water District. Although the District has not taken water in recent years, the City has reopened discussions with SLVWD about its entitlement and the City expects that the SLVWD eventually intends to exercise its right to that supply. ~~but it has taken no action in recent years and has no current plan to exercise its entitlement.~~

Page 4.5-9 Revise Table 4.5-1 and the first full paragraph as follows:

TABLE 4.5-1
Existing City Water Supplies – Gross Production

Source	Million Gallons Per Year (MGY) [1]	Million Gallons Per Year (MGY) [2]	Million Gallons Per Year (MGY) [3]
Groundwater	187	167	155
Surface Diversions:			
▪ North Coast Sources	1,077	1,089	1,065
▪ San Lorenzo River	2,008	2,019	1,889
▪ Loch Lomond Reservoir	1,042	721	419
TOTAL	**4,314**	**3,928**	**3,528**

[1] Reported in 2005 UWMP, February 2006
[2] Average between 1985 and 2010 as reported in the 2010 UWMP, December 2011
[3 Average between 2005 and 2010 as reported in the 2010 UWMP, December 2011
Numbers are rounded.

The City's ~~adopted~~ 2005 UWMP indicate~~d~~s that ~~current~~ water supplies would ~~will~~ remain relatively unchanged with a total net production capacity of approximately 4,300 MGY through the year 2030 assuming normal water conditions and no change to current operations or water rights. However, as further described below, existing water supplies may be reduced in the future as a result of other permit requirements and water rights issues, and the City is currently pursuing water conservation measures to reduce demand and construction of a desalination plant as a supplemental water source during drought conditions. The updated and adopted 2010 UWMP estimates future water supplies in the year 2030 as 4,160 MGY, depending on the outcome of negotiations between the City and regulatory agencies regarding releases for fish habitat. The estimates were developed using the City's water supply operations model and incorporates the best available information about future operations beginning in 2015 under a yet to be approved Habitat Conservation Plan (HCP).

Page 4.5-10 Revise the first two paragraphs as follows:

Water demand forecasts developed for the City in 1997 (Maddaus Water Management, March 1998) were utilized in the preparation of the City's *Integrated Water Plan* and *2005 Urban Water Management Plan*. The forecasts estimated that water demand would increase to approximately 4,900 MGY by 2005 and up to approximately 5,300 MGY in the year 2030 (City of Santa Cruz Water Department, February 2006) based on population and employment trend information and forecasts provided by AMBAG at the time the forecasts were developed. The former 2005 UWMP ~~Current City plans~~ estimated that water demand under normal conditions will exceed

water system capacity at some time between 2015 and 2020 (City of Santa Cruz Water Department, February 2006). However, actual total water use has been substantially lower than was predicted in these former demand forecasts. Based on the treated water production shown on Table 4.5-2, average annual water demand was approximately 3,900 MGY from 2000 through 2004, compared to approximately 4,900 MGY predicted for the year 2005. Water demand has further decreased since 2005 to an average demand of slightly less 3,5~~6~~00 MGY between the years 2005 and 2008, with a low of approximately 3,200 MGY in 2009.

Based on actual use, the City's adopted ~~2005~~ *2010 Urban Water Management Plan* (UWMP) ~~indicates that it is more plausible that water use within the entire service area would likely increase at a rate of between approximately 0.4% and 0.8% per year through 2020 (City of Santa Cruz Water Department, February 2006). Based on these percentages, the UWMP~~ estimates a water demand of between 4,046 and 4,537 MGY in the year 2030 within the entire water service area, compared to the former projected demand of 4,365 MGY in the year 2020 as identified in the 2005 UWMP. This is based on two scenarios; the higher demand reflects water use between 1999 and 2004, while the lower demand reflects more recent water use trends experienced in 2007-08. The 2010 UWMP indicates that the lower demand scenario is more reasonable given recent trends and state mandates for water conservation (City of Santa Cruz, December 2011). Both estimates include buildout projections for the draft *General Plan 2030*. ~~These scenarios were not carried beyond the year 2020 in the UWMP.~~

Page 4.5-10 Revise last paragraph ("Water Supply Limitations" subsection) as follows:

The primary water reliability issue currently facing the City of Santa Cruz is the lack of adequate water supply during droughts due to the wide range in the yield of surface water sources from year to year and limited storage capacity. ~~The City's water supply system is able to meet 100% of the existing water demand in about 7 out of every 10 years and at least approximately 90% of existing demand in about 9 out 10 years. A significant shortage occurs on average about 1 out of every 10 years (City of Santa Cruz Water Department, February 2006).~~ Updated modeling conducted for the 2010 UWMP found that the worst-year peak season shortage could range between 23 and 37% and between 42 and 51% with additional flow releases for fish habitat as further discussed below. ~~During normal hydrologic years, the City's water supply totals approximately 4,300 MGY.~~ Historically, one dry or critically dry year has not created a water shortage due to sufficient storage in Loch Lomond Reservoir. Based on past experience, however, a shortage is likely to occur when the central coast region experiences two or more dry or critically dry years in a row (City of Santa Cruz Water Department, December 2011). The total water supply estimated to be available to the City in single dry years (i.e., 1994) is ~~3,800~~ 3,900 MG (Ibid.). ~~or approximately 12% less than is available in normal years (Ibid.).~~ However, during an extreme two-year drought similar to the 1976-77 event, the

estimated water supply available to the City in the second year of that event is 2,800 ~~2,700~~ MG with a resulting deficit of approximately 1,200 MG (Ibid.). The peak season is between April and October since this is the period that would be most affected by a supply shortage due to peak water demand.

Page 4.5-12 Revise and expand the first full paragraph and expand discussion as follows:

A Draft Conservation Strategy was submitted to the NMFS in August 2011. The primary focus of the strategy is to avoid or minimize existing and potential effects of the City's activities to the maximum extent practicable as required by the Federal Endangered Species Act. A major element of the strategy is identification of minimum in-stream flows at City diversions to minimize the effect of diversions on habitat conditions for steelhead and coho salmon. Three alternatives, or tiers, of instream flow targets are specified which represent increasing levels of habitat protection. These targets vary by location, hydrologic year type and month. The three tiers represent increasing levels of habitat protection. The strategy guarantees minimum flows that ensure no further degradation of habitat (known as Tier 1). The strategy attempts to provide further protection of habitat by offering Tier 2 minimum flows under most hydrologic conditions, reverting to Tier 1 in dry years. Tier 3 flows represent a flow scenario that is 80% of the optimum condition for salmonid species present in the streams from which the City draws water (City of Santa Cruz Water Department, December 2011). ~~With increasing water demand, the City will be able to provide Tier 2 flows less frequently.~~ As the City moves toward augmenting its supply to include additional sources such as some mix of desalination, reclamation, conservation, or additional storage, over the course of the HCP further instream reservations will be possible (City of Santa Cruz, August 2011). ~~Addition of new supply (2.5 mgd desalination, reclamation) would allow Tier 2 flows to be provided in 70% of years. Tier 3 flows would provide approximately 80% habitat value and could be provided in as much as 21% of years well into the future with the addition of 2.5 mgd of desalination.~~

The City's water supply operations model was recently updated and the effect of HCP options on water supply reliability were factored into the model for each of the proposed three tiers with an estimate of future water supplies. The estimates were developed using the City's water supply operations model and represent net production averaged over a 73-year hydrologic period with water demand similar to 2007-2008 ("Scenario 2" in the 2010 UWMP). The model incorporates the best available information about future operations beginning in 2015 under a yet to be approved Habitat Conservation Plan (HCP) with "Tier 2" stream flows factored into the model consistent with the City's proposed conservation strategy of the HCP for fish flows (City of Santa Cruz Water Department, December 2011). The model was also updated to calculate the amount of new water supply capacity needed to limit peak season shortages to 15% as the curtailment goal set forth in the adopted IWP.

Results of the model update indicate without any consideration of environmental water needs, the system reliability has improved considerably related to conditions identified in the IWP, mainly due to lower water demand (City of Santa Cruz Water Department, December 2011). The results further indicate that with no increased flow releases for habitat and at the water demand level experienced in 2007-08, the amount of new water supply capacity needed over the next 20 years is less than the 2.5 mgd desalination plant that was proposed in the IWP. However, with proposed Tier 2 flows, a 2.25 mgd plant would be required under existing conditions and a 2.75 mgd plant would be needed by 2030, assuming the 2007-08 level of water demand is maintained. If higher demand levels occur, a desalination plant capacity of 3.25 to 4.25 mgd could be required (Ibid.). Modeling of Tier 3 flows indicates that even assuming desalination capacities needed with Tier 2 flows, the City would experience water shortages much more often (statistically every other year) and would require much greater levels of total new water supply capacity (i.e., 7.50-9.75 mgd plant capacity) to maintain target levels of reliability (Ibid.).

Tier 3 flows represent a flow scenario that is 80% of the optimum condition for the salmonid species present in the streams from which the City withdraws water. However, the 2010 UWMP indicates that without the addition of a new water supply, the City would be incapable of virtually ever meeting Tier 3 flows, even in wet years. In dry years, and consecutive dry years, without additional supply, providing such flow would leave the City with only about 25% average water supply. For that reason, the 2010 UWMP does not consider the operation of the water system under a Tier 3 flow scenario unless and until new supply is developed (City of Santa Cruz Water Department, December 2011). However, the 2010 UWMP also acknowledges that should regulatory agencies mandate the City to release more water than is represented under Tier 2 flows, water shortages could be greater than projected in the Plan.

Page 4.5-15 Revise and expand the last paragraph as follows:

The City has acknowledged that climate change may impact City water supplies that are largely dependent on surface water flows. To the extent that rain events are more intense but less frequent, the base flow in streams and rivers from which the City diverts could change. Predictions regarding the extent of climate change on water resources are dependent on many variables. In 2011, "The Vulnerability Study" was prepared for the City, which provides an assessment of potential effects of climate change in the City, including changes in precipitation and water availability. Over the next 40 years, the highest identified risks to the City are: 1) water shortages due to a combination of increasing temperatures and changes in precipitation patterns; and 2) rise in water table on buildings and infrastructure beneath the downtown portion of the City (City of Santa Cruz Water Department, December 2011). Based on this study, the City has developed goals,

objectives and a range of potential actions to respond to these risks. Of over 30 identified action items, those relating to the Water Department's water supply include: diversification of the water portfolio, protection of watersheds, conservation and curtailment of water use, and preparing for climate-change related short-term water shortages (Ibid.). Models are being developed to assist water utilities in looking at climate change variables in their water planning efforts,[2] but the timing and quantification of potential climate changes effects are too speculative to try to predict with any certainty at this time. However, the City is working with other County water agencies to look at the models that are being developed and will consider new information as it becomes available.

Page 4.5-20 Expand discussion in the first paragraph of the "Recycled Water" subsection as follows:

The City of Santa Cruz owns and operates a regional wastewater treatment facility providing service to the cities of Santa Cruz and Capitola and parts of unincorporated Santa Cruz County. Recycled water is defined as wastewater treated to a specified quality in order to be used for a specified purpose. Currently, recycled water is not approved or permitted for discharge directly into a potable water distribution system. The quality of wastewater produced at the City's treatment plant ~~currently would be best classified as "Undisinfected Secondary", and~~ is potentially suitable for only very limited agricultural applications and for flushing sanitary sewers according to the standards in Title 22 (City of Santa Cruz Water Department, December 2011). No such agricultural uses for water of this quality are known to occur in the City service area. The only allowed use would be for sewer system flushing, which totals less than 1 MGY (Ibid). ~~The City's treated wastewater is potentially suitable for some agricultural applications and for limited public access irrigation.~~ However, the level of treatment is not sufficient for general irrigation or unrestricted use on playgrounds, parks, schoolyards, etc. Additional treatment above that currently provided would be needed to meet the state public health and safety requirements. In addition to the treatment upgrades, a distribution system, including pumps, meters, storage facilities, and separate piping, would be required to convey the recycled water to customers (City of Santa Cruz Water Department, February 2006).

Page 4.5-21 Add the following after the second paragraph:

The use of recycled wastewater for groundwater recharge was also considered in which advance treated recycled water is injected into a groundwater basin for future extraction, followed by treatment and potable use. This concept was reviewed for its feasibility for both the City and Soquel Creek Water District but was found not to be a practical approach for either agency due to numerous geological, financial, regulatory and operational

[2] See Water Utility Climate Alliance. January 2010. "Decision Support Planning Methods: Incorporating Climate Change Uncertainties into Water Planning."

constraints (City of Santa Cruz Water Department, December 2011). The reasons include geological conditions that are not conducive to large, high capacity injection wells and the requirement that recycled water be blended with up to 50% of another water source puts additional demand on already limited resources (Ibid.).

Page 4.5-21 Move the third full paragraph to the end of the "Recycled Water" subsection and edit as follows:

Recycled water for landscape irrigation remains a potentially viable alternative that could be pursued in the future. However, currently it is not the City's preferred water supply strategy for the reasons outlined above. The 2010 ~~2005~~ UWMP indicates that the steps and actions to encourage and optimize recycled water will be defined in the future if and when recycling is selected and pursued to diversify the City's water supply portfolio (City of Santa Cruz Water Department, December 2011 ~~February 2006~~).

Page 4.5-22 Add the following to the end of the first full paragraph:

The City has been exploring a long-term recycled water and potable water exchange that involves Pasatiempo Golf Club and the Scotts Valley Water in which potable water would be provided by the City to the Water District during the winter non-peak period when the City has some excess surface water available, in exchange for the District providing recycled water for irrigating the Pasatiempo golf course, one of the City's largest customers. Approximately 40 MGY of recycled water would be provided for irrigation of the golf course (City of Santa Cruz Water Department, December 2011). This arrangement would benefit the City by effectively shifting some of the peak summer demand to the winter season when the City is not drawing from surface storage and would benefit the District by lessening groundwater extraction (Ibid.).

Page 4.5-22 Revise the second full paragraph as follows:

Improvements to Existing Facilities. Improvements to maximize use of existing water sources and storage were identified in 2000 that were estimated to collectively ~~could~~ provide approximately 600 MGY during a two-year drought. The upgrades ~~could~~ included additional treatment for turbidity on the North Coast supply; capacity upgrades of the North Coast pipeline; treatment and/or facility upgrades for turbidity at the Tait Street intake; capacity upgrades at the Coast pump station; and/or upgrading the hydraulic capacity of the Felton/Loch Lomond supply system. At that time, the upgrades were identified to ~~would~~ provide additional supply during drought and non-drought years and ~~would~~ to also improve operational reliability and flexibility, but shortfalls during multiple dry year scenarios would continue to occur (Carollo Engineers, November 2000). The upgrades were further modeled during preparation of the IWP to assess their effectiveness. None were found to have a significant impact on the size of drought curtailments (Gary Fiske & Associates, 2003), and the alternative was not further evaluated in the IWP. Since 2000, the upgrades either have been completed such as SLR pump station improvements; are in progress (i.e., the North Coast water pipeline

upgrade); or were found to result in only small water yields compared to the expense involved, e.g. pre-treating turbid coast and river water. Any water savings achieved as a result of the upgrades implemented since this 2000 recommendation have been factored into the City's water system model, and the former estimate of 600 MGY as a potential separate alternative is no longer accurate.

Page 4.5-23 to 4.5-25 Revise the "Urban Water Management Plan (UWMP)" subsection as follows:

***URBAN WATER MANAGEMENT PLAN* (UWMP)**

In 2006, the City adopted the *2005 Urban Water Management Plan* (UWMP) that was prepared in accordance with state law requirements. The plan evaluates and describes water resource supplies and projected needs over a twenty-year planning horizon, and addresses a number of related subjects, including water conservation, water service reliability, water recycling, opportunities, water transfers, and contingency plans for drought events.

As previously indicated, pursuant to state law, the City of Santa Cruz Water Department must prepare and adopt an urban water management plan and update it every five years. Thus, the City's water resource supplies and projected needs over a 20-year planning horizon will be assessed and updated every five years, which will enable the City to review water demand trends and review its water supply management and options. The City's ~~existing~~ 2005 UWMP ~~is being~~ was updated at the time the General Plan 2030 Draft EIR was completed and circulated for public review. Subsequently the UWMP was released in October 2010 and adopted by the City Council on December 13, 2011. ~~and a draft is expected to be completed during the fall of 2011.~~ The updated plan follows the same basic structure and organization as the 2005 plan, while updating each section with more recent information. The updated and adopted 2010 UWMP reported similar use over the last five years with 30% production from North Coast sources, 54% from San Lorenzo River supplies, 12% from Loch Lomond, and 4% from the Live Oak wells. Key factors that changed since the 2005 UWMP as prepared and adopted are noted in the 2010 plan as follows:

- **Effects of Water Shortage** – The City declared a water shortage and enacted water restrictions in 2009, which was the first time since the early 1990s that water resources were stressed by three years of below normal rainfall.

- **Reduced Surface Water Diversions Due to Endangered Species Regulation** – It is now is certain that the City faces losing a portion of its long-established surface water resources due to federal and state regulations to protect endangered species. Interim flow releases began in 2007 and increased in 2008.

- **Decreased Groundwater Availability** – There is a growing acknowledgement that sustainable production capability of the groundwater basin from which the City and other users draw is substantially less than previously assumed.

- **Aging Infrastructure** – Key components of the City water system, including Bay Street Reservoir and North Coast system, have reached the end of their useful life and are now in the process of reconstruction, adding pressure on limited financial resources.

- **Changing Demand** – Water use in the City's service area has decreased substantially due to a number of contributing factors, such as changes in pricing, ongoing water conservation efforts, temporary water restrictions, unseasonable weather conditions, and housing and economic conditions.

The water demand projections in the 2010 UWMP include two growth scenarios within the City water service area that ~~will~~ reflect the proposed *General Plan 2030* buildout. ~~As part of the UWMP update, the City Water Department will continue to review conservation and other strategies.~~ Both scenarios discount the most recent downturn in water use beginning in 2009 as a temporary condition caused primarily by water restrictions, which is not considered indicative of normal use. Scenario 1 is based on water demand levels experienced from 1999 through 2004. Scenario 2, which is lower, is based on average water use during the 2007-08 period just prior to water restrictions. The projected water demand for the City's entire water service area is estimated to be 4,537 MGY under Scenario 1 and 4,046 MGY under Scenario 2. Given state mandates for water conservation, the 2010 UWMP concludes that Scenario 2 reflects the most reasonable scenario for water management planning purposes.

The 2010 UWMP provides a description of the City's adopted "integrated water planning" approach identified in the IWP that includes conservation, 15% curtailment during a drought and development of a supplemental water supply, which was identified as desalination. ~~water conservation programs as the IWP calls for continued implementation of a broad set of conservation programs.~~ The IWP calls for supplying 85% of normal demand in critical drought years (e.g., the 1976-77 event), and for a corresponding reduction in peak season water use of up to 15%. This cutback would be achieved through temporary watering restrictions or rationing that target landscape irrigation and other outdoor uses. The 2010 UWMP also indicates that recycling remains a viable option for landscape irrigation, but is not currently the City's preferred water supply strategy.

Conservation programs include water survey programs, plumbing retrofits, water audits and leak detection and repair, large landscape conservation programs and incentives, high-efficiency clothes washer rebate program, and other public information programs. The 2010 UWMP indicates that a long-

term water savings of approximately 251 MGY ~~nearly 300 MGY could~~ has been achieved over the last ten years. Furthermore, there has been a larger reduction in water use from water conservation programs than there has been an increase in water use by new connections over the last ten years with a net decrease of almost 80 MGY over the past 10 years (Ibid.). ~~A savings of approximately 153 MGY had been achieved by 2005 (City of Santa Cruz Water Department, February 2006). The plumbing fixture retrofit and rebate program have produced the most water savings of any program, totaling about 136 MGY (Goddard, City of Santa Cruz Water Department, personal communication, August 2011.). As a result, conservation programs continue to offset new water demand from development and growth in new accounts, and then some, for the time being (Ibid.). It is estimated that approximately 250 MGY have been saved to date through conservation in part due to rate and price changes and restrictions in recent year (Goddard, personal communication, June 2011).~~

~~The IWP calls for supplying 85% of normal demand in critical drought years (e.g., the 1976-77 event), and for a corresponding reduction in peak season water use of up to 15%. This cutback would be achieved through temporary watering restrictions or rationing that target landscape irrigation and other outdoor uses.~~

The 2010 UWMP includes a "Water Shortage Contingency Plan" (Chapter 8) that was updated and adopted in March 2009. This plan was developed to fulfill two fundamental purposes:

- To establish the procedures and actions necessary to achieve the up-to-15% cutback in system-wide demand established in the City's Integrated Water Plan, and
- To describe how the City would respond if faced with much larger shortages in water supply ranging as high as 50%.

The updated Water Shortage Contingency Plan uses a staged approach that classifies a shortage event into one of five levels spanning a water shortage range from 5-50%. The overall concept is that water shortages of different magnitudes require different measures to overcome the deficiency. Because there is so little the City can do in the short run to increase the supply of water, the focus of this plan is primarily on measures that reduce demand. Each stage includes a set of demand reduction measures that become progressively more stringent as the shortage condition escalates. Normally, only one of these five stages would be put into effect early in the year at the recommendation of the Water Director and remain in force for the entire dry season (City of Santa Cruz Water Department, March 2009). These stages are outlined below:

Stage	Magnitude of Water Shortage	Title
1	0-5%	Water Shortage Alert
2	5-15%	Water Shortage Warning
3	15-25%	Water Shortage Emergency
4	25-35%	Severe Water Shortage Emergency
5	35-50%	Critical Water Shortage Emergency

Stages 1 and 2 represent a level of curtailment that is envisioned as being necessary to balance water supply and demand from time to time under the City's Integrated Water Plan. Shortages of 15% or less, while inconvenient, do not directly threaten public safety or pose undue economic impact. Stages 3-5 are characterized as emergency water shortages since they result in more widespread hardships being felt throughout the community, may threaten public health and welfare, and cause more economic harm. Customer demand reduction goals were established for major water demand groups based on the following priorities: 1) health/safety, i.e., all domestic and sanitary uses, 2) business and industrial uses and, 3) irrigation and other outdoor uses) (City of Santa Cruz Water Department, March 2009).

~~The 2005 UWMP indicates that in addition to pursuing desalination, the City remains open to exploring other water supply alternatives that would not be feasible to develop in the short-term, but may be useful to consider over a 20-year or longer time frame. The UWMP identifies the possible longer term options as:~~

- ~~Recycled water~~
- ~~Groundwater recharge~~
- ~~Reservoir expansion~~
- ~~Aquifer storage and recovery~~
- ~~Off-stream storage.~~

Page 4.5-31 Revise impact analysis on pages 4.5-31 to 4.5-31 to reflect findings in the adopted 2010 UWMP as follows:

NORMAL YEAR SUPPLY AND DEMAND WITH PROJECT

Based upon the updated water demand projections in the WSA and the updated and adopted 2010 UWMP, the City's water supply for a normal hydrologic year is sufficient to meet the existing water demand and the incremental water demand associated with development accommodated by the proposed General Plan through the General Plan planning horizon to the ~~about~~ the year 2030. ~~2020.~~ Under normal years, the City's water supplies are estimated to provide approximately 4,160 ~~4,300~~ MGY of water, taking into account currently proposed flow releases for fisheries (City of Santa Cruz Water Department, December 2011). Beginning in 2015, production from the coastal sources is seen to decline, reflecting greater environmental in stream bypass flows. This reduction is partly compensated for in normal water years

by increased diversion from the San Lorenzo River and partly by greater withdrawals from Loch Lomond Reservoir (Ibid.).

Existing estimated water demand within the entire service area with the addition of the proposed project water demand would total approximately 4,244 MGY under the "Estimate 1" water demand scenario in the WSA and 3,773 MGY under the "Estimate 2" scenario in the year 2030 (EKI, March 2011). Water supplies would be adequate to serve buildout accommodated by the proposed General Plan without any other increased water demand in the City's service area under the lower water demand scenario as contemplated in the 2010 UWMP.

With other growth and development, water demand within the City's entire service area in 2030 is estimated as 4,537 MGY under "Estimate 1" and 4,046 MGY under "Estimate 2". This matches the scenarios and service area demand included within the 2010 UWMP. As previously indicated, the 2010 UWMP uses the lower demand scenario for planning purposes given the ongoing trend in lower water use and conservation goals. Under this scenario and in normal water years, there is a slight surplus of supply and the City is able to fully meet projected water demand within the service area through 2030, even accounting for habitat needs (City of Santa Cruz Water Department, December 2011). ~~With other growth and development in the service area taken into account, the City's normal water supply may not be sufficient after the year 2020 under the Estimate 1 growth scenario, which is based on average water use between 1999 and 2004.~~

If water demand returns to levels experienced in the early 2000s, water demand in the service area could total 4,537 MGY in the year 2030 in which case there could be shortages sometime after the year 2015. However, for water planning purposes, the adopted 2010 UWMP assumes the lower demand will occur over the next 20 years, as discussed above. ~~there would be sufficient water supplies until the year 2030 under the Estimate 2 growth scenario in which average water use would continue along the same trend as experienced in the last few years (Ibid.). This does not take into account potential reductions in water supply that could reduce the City's estimated normal year capacity of approximately 4,300 MGY due to potential changes in North Coast or San Lorenzo River diversions resulting from federal and state agency decisions.~~

The estimated total future water service area demand may be slightly reduced by approximately 136 MGY due to decisions pending before the Santa Cruz LAFCO regarding provision of water and sewer service to UCSC.[3]

[3] In December 2011 (after the close of the public review period for this DEIR), LAFCO tentatively approved an amendment of the City's Sphere of Influence and provision of extraterritorial water and sewer service to a portion of the North Campus area of UCSC with a condition that future development of UCSC not result in a net increase in water demand. Subsequently a water conservation strategy was developed by the City of Santa Cruz in February 2012. In essence, the program requires that the water demand from future UCSC development be offset (on- or off-campus) so that there is no net increase in water demand. Thus, the

If so, the 2030 water service area demand would be reduced to a total demand of between 3,910 and 4,401 MGY. Other growth in the City's water service area is addressed in the "Cumulative Impacts" subsection of the CEQA CONSIDERATIONS (Chapter 5.0) section of this EIR.

DRY YEAR SUPPLY AND DEMAND WITH PROJECT

The WSA concludes that the City does not have sufficient water to meet current or future projected water demand during dry years, irrespective of future development and growth accommodated by the proposed General Plan. As previously indicated, during a single dry year, the City currently has is approximately 3,900 ~~3,800~~ MGY available and approximately 2,800 ~~2,700~~ MGY available during the second year of a drought (City of Santa Cruz, December 2011 ~~February 2006~~). Based on the 2010 UWMP, an annual average water supply deficit of 3~~5~~% ~~may exist between the City's water supply~~ during a single dry year could occur in the year 2030 and could occur sometime after the year 2015. ~~and the existing water demand. If development associated with the proposed *General Plan 2030* and elsewhere within the City's water service area is also considered, then an annual average deficit of 12% between 2010 and 2020, and up to 16% by 2030, may be experienced during a single dry year.~~ As indicated above, ~~although~~ LAFCO has not made its final determination regarding provision of water and sewer services to UCSC, and its next scheduled meeting to consider the matter is scheduled in June 2012. If approved, the total water demand in the service area could decrease due to "water neutral" conservation strategies implemented in association with future UCSC growth.

Annual average deficits are greater for multiple-dry year periods. The annual average deficit between the City's water supply during a second dry year and existing demand is estimated to be 9 to 20% ~~23% to 32%~~. This deficit increases to 30 to 38% ~~33% to 40%~~ by 2030 in a multiple-dry year with water demand in the entire service area as estimated in the 2010 UWMP. ~~if planned development also is taken into account.~~ It is important to note that these deficits are annual average values that do not address peak season cutbacks, which can be significantly greater than the annual average deficits due to seasonal variations in demand and supply, and limitations on the City's water storage facilities (EKI, March 2011). The 2010 UWMP estimates a peak seasonal demand deficit of 43% in 2030 with a multiple-year under the low demand scenario. ~~These estimates also do not take into account potential reductions in water supply that could reduce the City's estimated normal year capacity of approximately 4,300 MGY (e.g., potential changes in North Coast or San Lorenzo River diversions resulting from federal and state wildlife agency decisions discussed above).~~

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overall water service area demand in the year 2030 could be reduced by 136 MGY, the estimated UCSC water demand to the year 2030. LAFCO has not yet taken final action regarding the provision of water and sewer services to UCSC , and its next meeting to consider the matter is scheduled for June 2012. The outcome of this meeting and decision is unknown at this time.

CONCLUSION – SUPPLY AVAILABILITY

Water supplies are sufficient to serve the proposed project in a normal year with existing water demand until ~~approximately 2020, or until~~ 2030 if reduced water demand trends throughout the service area continue as projected in the 2010 UWMP. If reduced demand trends do not continue, water supplies in a normal year may be insufficient after the year 2015 ~~2020~~ with other new development and growth in the City's water service area, which is further addressed in the "Cumulative Impacts" subsection (5.4) of the CEQA CONSIDERATIONS (Chapter 5.0) section of this EIR.

Water supply during a single dry year is barely sufficient to meet system demand in the near term (based on the lower demand scenario), and is not sufficient to meet projected demand from 2020 to 2030. Water supplies are not sufficient under existing and future conditions in a single dry year under the higher demand scenario. Implementation of a water conservation strategy for UCSC, if approved by LAFCO, could decrease total water service area demand.

Water supplies in multiple dry years are not sufficient to meet demand under or existing or future conditions under either demand scenario. Due to existing insufficient water supplies during dry years, additional demand from the proposed project would be considered significant. Furthermore, supplies in normal years may become inadequate between 2020 and 2030 if lower water demand trends do not continue in the future, and, thus, additional demand from the proposed project would be considered significant.

Page 4.5-32 Revise last paragraph as follows:

The HCP is being developed to prevent impacts to endangered fish, which are generally the greatest on the North Coast streams during the dry season and during dry water years, as well as wet season salmonid migration and spawning (City of Santa Cruz Water Department, April 2011). The proposed strategy consists of provision of specified instream flows during different periods and with and without water supply augmentation and other mitigation strategies. The proposed strategy consists of three tiers. The water supply implications of providing Tier 1 flows are minimal as these flows would maintain existing habitat levels by maintaining current status quo for operations to ensure no further degradation in habitat and can currently be met in most years (88% of years) with the City's current water supply system ~~and without exacerbating the magnitude of dry weather shortages (currently about 35% shortage under 1977 drought hydrology)~~ (Ibid). Worst-year peak season shortages would increase from 12% to 23% in 2030 (City of Santa Cruz Water Department, December 2011). The situation gets worse over time as water demands grow with the frequency of dry weather shortages increasing and the magnitude of drought year shortages growing more severe. Tier 2 flows would provide better than existing habitat in North Coast streams and San Lorenzo Lagoon (with priority to Laguna Creek and San Lorenzo Lagoon due to their relatively greater habitat value for anadromous

salmonids). With Tier 2 releases, worst-year peak shortages would increase to 42%, and with Tier 3 releases, shortages would increase to 48%, assuming a desalination plant is in operation (Ibid.). ~~While this magnitude of instream flows is possible in most years in the near term during wet and average water years, it results in a Critical Water Shortage Emergency (33 – 43% peak-season shortage) in dry years, which are 10% of years. By 2030, the Critical Water Shortage Emergency grows (42 – 50% peak-season shortage) and can occur in 28% of years without the development of 2.5 mgd of additional dry weather water supply (Ibid.).~~

Page 4.5-33 Revise the first two paragraphs as follows:

The utilization of any one water source varies monthly and throughout the year and also during wet, normal and dry years. Thus, the City cannot confidently predict at this time, the actual amount of potential water supply reduction that may occur due to the HCP effort, which is an ongoing process that has not been completed. However, the City acknowledges the uncertainty of the future water supply capacity. The estimated demand and supplies presented in this EIR are based on estimates and updates of current adopted plans and existing known supply limits. ~~The UWMP is being updated and is likely to be adopted in Fall 2011, and will present any new information that may be available regarding water supply availability.~~

As previously mentioned, the City is pursuing construction of a desalination plant to provide a reliable supplemental water supply in dry years~~, which is necessary even without the proposed project.~~ This is part of the City's overall water supply strategy that also includes conservation and curtailment during droughts as set forth in the City's adopted *Integrated Water Plan* and *Urban Water Management Plan*. This water supply strategy is further described below. Based on modeling developed as part of the recently adopted 2010 UWMP, current City projections indicate that a 2.25-2.75 mgd desalination facility would be required with Tier 2 releases, and a 7.5-8.0 mgd facility would be needed with Tier 3 flow releases (City of Santa Cruz Water Department, December 2011).

Page 4.5-37 Add the following before the last paragraph:

As previously indicated, the City is exploring the concept of a regional water exchange involving the Scotts Valley Water District and the Pasatiempo Golf Course in which 30-50 MGY of recycled water from the Water District would be used to irrigate the golf course during the summer instead of potable water from the City's system. The same volume of potable water would then be provided to the District during the winter when the City has available excess supply. The exchange would not lessen the amount of water produced by the City, but would shift demands from peak season to non-peak times of the year and lessen summer reservoir withdrawals (City of Santa Cruz Water Department, December 2011).

In the last year there has been renewed interest in potential water transfers and exchanges. Specifically, the County of Santa Cruz has been exploring various sources and methods for increasing groundwater storage in the Scotts Valley area and also the Soquel area. The County has been addressing conjunctive water use, which involves utilization of multiple water sources, usually both surface and groundwater sources, in a way that maximizes water storage and availability under different climatic conditions. This can involve transfers among water agencies of winter streamflow, summer groundwater, recycled water, and water from desalination (County of Santa Cruz Health Services Agency, May 2011). According to a County status report on the subject, efforts have been undertaken to identify the best approaches for conjunctive use and increased groundwater storage in the Lower San Lorenzo Watershed and Scotts Valley. The operational approach being considered by the County involves diverting excess winter flows from the San Lorenzo River, treating it at the City's Graham Hill Water Treatment Plant, and delivering it to Scotts Valley and Soquel for direct use. Intertie pipelines would need to be constructed or enlarged. The plan would primarily benefit the neighboring water districts and does not represent a substitute for or alternative to desalination as a supplemental supply for the City. It may be possible, though not certain, that sometime in the future if and when the basin is restored, the Soquel Creek Water District might be able to send some amount of water back to the City in drought conditions (City of Santa Cruz Water Department, December 2011).

The County status report also notes that other conjunctive uses being evaluated include the project being considered by Scotts Valley Water District and the City of Santa Cruz described above and the regional seawater desalination project being evaluated by the City of Santa Cruz and Soquel Creek Water District (County of Santa Cruz Health Services Agency, May 2011). As indicated in the County's status report (as well as in the City's 2010 UWMP), the proposed water transfer schemes for Scotts Valley and Soquel do not provide any immediate water to the City of Santa Cruz (Ibid.).

Page 4.5-37 Revise and expand the last paragraph as follows:

The City's 2010 ~~2005~~ UWMP indicates that the 2.5 mgd desalination plant being pursued by the City and Soquel Creek Water District would function as a backup water supply in times of drought for the City and as a supplemental water source for the District in non-drought times to restore groundwater levels and prevent seawater intrusion (City of Santa Cruz Water Department, December 2011). The City will continue to rely on its existing water sources into the foreseeable future unless there is a loss of surface water due to implementation of endangered species laws (beyond that reduction already factored into the City's model and 2010 UWMP), in which case the desalination plant may also be operated for the City during non-drought periods (Ibid.). ~~, in addition to pursuing desalination, the City remains open to exploring other water supply alternatives that would not be feasible to develop in the short-term, but may be useful to consider over a 20-year~~

~~timeframe, such as water recycling, groundwater recharge, reservoir expansion, aquifer storage and recovery and off-stream storage. These potential alternatives have not yet been fully studied and consideration of such sources would occur at some point further in the long-term, if the desalination project is not ultimately approved~~.

Page 4.5-41 Revise the first sentence of the last full paragraph as follows:

The City's *2010 Urban Water Management Plan* indicates that there is a potential for saltwater intrusion to jeopardize the ~~safe~~ future production of groundwater from the Purisima aquifer due to coastal groundwater levels being below protective elevations. Even though pumping by the City constitutes a small proportion of the total extraction from the Purisima Formation, because the Ctiy's wells are located closest to the shoreline, they would be among the first impacted by seawater intrusion (City of Santa Cruz Water Department, December 2011). ~~but also notes that at this time, under normal operations, there appears to be no imminent threat of seawater intrusion, and~~ At this time the California Department of Water Resources has not identified the groundwater basin as overdrafted or projected to be overdrafted if present management practices continue (Ibid.).

Page 4.5-42 Revise changes to the recommended revision to General Plan action CC3.3.8 as follows to be consistent with the recently adopted 2010 UWMP:

CC3.3.8 Provide adequate pumping, treatment, and distribution facilities for the reliable production of groundwater, consistent with pumping rates/volumes identified in the City's Urban Water Management Plan. ~~of 1 mgd~~ all ~~in normal years and 2 mgd during droughts~~.

3.5 CHANGES TO "PUBLIC SERVICES & UTILITIES"

(DEIR CHAPTER 4.6)

Page 4.6-2 Revise the last sentence of the third full paragraph as follows:

The City serves the Paradise Park subdivision ~~through an annexation to the service area that was approved by the Local Agency Formation Commission (LAFCO) of Santa Cruz County~~. The City of Santa Cruz has entered into an automatic aid agreement with the County Fire Department, which is operated by CA FIRE, to provide first response into Paradise Park because the City fire department has significantly faster response times into Paradise Park than the County/CAL FIRE companies.

Page 4.6-9 Revise Table 4.6-1 as shown on the next page, which shows updated park acreages per the City's GIS staff review.

TABLE 4.6-1: City Parks and Open Space Lands

TYPE	FACILITY	SIZE (in acres)	REVISED SIZE (in acres)
Neighborhood Parks			
	▪ Beach Flats Park – 122 Raymond St.	~~0.3~~	0.22
	▪ Bethany Curve Greenbelt – Delaware to West Cliff	~~2.6~~	3.40
	▪ Central Park – 301 Dakota St.	~~0.2~~	0.16
	▪ Derby Park – 509 Woodland Way	~~3.8~~	3.65
	▪ Frederick Street Park – 168 Frederick Street	~~4~~	3.97
	▪ Garfield Park – 624 Almar Ave.	~~1.8~~	1.78
	▪ Grant Park – 150 Grant St.	~~2.4~~	2.36
	▪ John Franks Park – Marnell St.	~~0.3~~	0.48
	▪ Laurel Park – 301 Center St.	~~1~~	1.77
	▪ Lighthouse Neighborhood Park – Lighthouse Ave.	~~1.7~~	0.35
	▪ Mission Plaza – 103 Emmet St.	~~1~~	0.94
	▪ Moore Creek Overlook – Cypress St.	~~0.12~~	0.12
	▪ Lower Ocean Street Park – 258-262 San Lorenzo Blvd.	~~0.5~~	0.50
	▪ Ocean View Park – 102 Ocean View Ave.	~~2.5~~	3.06
	▪ Poets Park – 200 Raymond St.	~~0.13~~	0.03
	▪ Rincon Park – 601 Chestnut St.	~~0.1~~	0.06
	▪ Round Tree Park – 205 Nobel	~~0.13~~	0.28
	▪ Star of the Sea – Frederick St. & Darwin St.	~~2.1~~	2.10
	▪ Trescony – Trescony St.	~~2~~	2.00
	▪ Tyrell Park – Santa Cruz Museum	~~1.5~~	1.30
	▪ University Terrace – Meder Street	~~8.5~~	8.69
	~~▪ West Cliff~~	~~14.5~~	
	▪ Westlake Park – Bradley Dr. @ Spring St.	~~6~~	6.03
	▪ School Playing Fields [1]	~~44.6~~	44.66
	TOTAL ACRES (rounded)	~~102~~	88
Community Parks [2]			
	▪ Depot Park	~~8.5~~	9.89
	▪ Harvey West Park	~~55~~	44.77
	▪ DeLaveaga Park – Lower	~~35~~	50.00
	▪ DeLaveaga Golf Course	~~250~~	250.00
	▪ San Lorenzo Park – 137 Dakota St.	~~13~~	11.12
	▪ Ken Wormhoudt Skate Park at Mike Fox Park	~~4~~	1.25
	▪ West Cliff	~~14.5~~	14.64
	TOTAL ACRES (rounded)	~~366~~	382
Greenbelts & Open Space Lands with Recreational Uses			
	▪ Arana Gulch – Agnes St.	~~68.9~~	65.85
	▪ DeLaveaga Park – Upper (minus Golf Course)	~~275~~	199.9
	▪ Jessie Street Marsh	~~2.29~~	2.3
	▪ Moore Creek Preserve	~~246~~	250.0
	▪ Neary Lagoon – 100 California St.	~~44~~	44.0

CONTINUED ON NEXT PAGE

TABLE 4.6-1: City Parks and Open Space Lands

TYPE	FACILITY	SIZE (in acres)	REVISED SIZE (in acres)
	▪ Pogonip – 333 Golf Club Drive	640	640.0
	TOTAL ACRES (rounded)	~~1,276~~	1202
City-Owned Beaches			
	▪ Main Street Beach	~~26.4~~	17.6
	▪ Cowell Beach	~~4.9~~	5.0
	▪ Wharf	~~8.2~~	8.0
	▪ Mitchell's Cove	~~0.4~~	0.4
	▪ Its Beach (west portions)	~~N/A~~	1.5
	TOTAL ACRES (rounded)	~~40~~	32.5

[1] School sites are given credit for ¾ of their field acreage at: Santa Cruz & Harbor High Schools; Branciforte and Mission Hill Middle Schools; Bay View, DeLaveaga, Loma Prieta, Gault, Branciforte & Westlake Elementary Schools; Pacific Collegiate School; Holy Cross
[2] Loch Lomond Park (100 Loch Lomond Way, Felton) provides recreational opportunities outside City limits.

Page 4.6-7 Revise the second two sentences of the second full paragraph as follows:

There are 23 existing neighborhood parks, as summarized on Table 4.6-1and shown on Figure 4.6-2, which total approximately 43 ~~57~~ acres. There are approximately 45 acres of school playing fields, for a total of nearly 88 ~~approximately 102~~ acres of neighborhood parks within the City.

Page 4.6-8 Revise the first sentence as follows:

There are six existing community parks, as well as West Cliff Drive, totaling approximately 382 ~~366~~ acres within the City as summarized below and on Table 4.6-1, and shown on Figure 4.6-2.

Page 4.6-10 Revise the second through fourth sentences of the first paragraph as follows:

Given an estimated current population of 58,982 (California Department of Finance, May 2010), a total of 118 acres of neighborhood parkland would be required to meet this level of service. Presently the City has approximately 88 ~~102~~ acres of neighborhood parkland (including school play grounds). Thus, the City would require 30 ~~16~~ additional acres of neighborhood parkland to meet the current desired level of neighborhood parks.

Page 4.6-10 Revise the last sentence of the second paragraph as follows:

The City presently has approximately 381 ~~366~~ acres of community parklands, which exceeds the City's desired ratio.

Page 4.6-12 Changes references to City-owned open space and greenbelt acres in the first and fourth paragraphs from approximately 1,500 to 1,200 acres currently owned and managed.

Page 4.6-21 Revise citation on Table 4.6-2 to read:

SOURCE: Santa Cruz City Schools, April, 2011

Page 4.6-27 Add the following new subsection before the "Electrical & Natural Gas Utilities" subsection:

Regional Plans

The Santa Cruz County Countywide Integrated Waste Management Plan" was adopted in 1996. The purpose is to aggregate all the elements of the countywide solid waste management planning process. It incorporated the mandatory Source Reduction and Recycling Elements (SRRE's) adopted by each city and the county. Periodic reviews and revisions are required on this countywide plan. The last review was in 2009, which basically found that no significant changes to the Countywide Integrated Waste Management Plan were needed. The next review is due 2014. The Plan includes goals and objectives to manage solid waste generated in Santa Cruz County and to implement diversion goals, objectives, policies and programs of the SRREs. As indicated above, the City has met and exceeded its mandated solid waste reduction goals. Proposed policies and actions in the draft *General Plan 2030* continue to support reduction in solid waste, promotion and support of recycling and landfill management and planning, consistent with the goals in the Integrated Waste Management Plan.

Page 4.6-38 Revise the second sentence of the first full paragraph as follows:

Under existing conditions and with future growth, a total of 46 ~~32~~ additional neighborhood park acres would be required to meet the City's service standard.[7]

3.6 CHANGES TO "BIOLOGICAL RESOURCES" (DEIR CHAPTER 4.8)

Page 4.8-12 Change second subheader to read:

ANNUAL GRASSLAND / COASTAL PRARIE & ANNUAL GRASSLAND

Pages 4.8-16 to 4.8-21 Revise Tables 4.8-2 and 4.8-3 to update special species status as shown on the revised tables at the end of this section.

Page 4.8-26 Add the following new paragraph after the second paragraph:

All of the streams from which the City diverts water currently support steelhead trout, and the San Lorenzo River may potentially support coho salmon (City of Santa Cruz Water Department, December 2011). Both of these fish species are listed under state and federal Endangered Species Acts (ESA) as either "threatened" or "endangered". Numerous studies undertaken in support of the HCP have evaluated how much water flow is needed in streams, and during what times of the year, to protect the fisheries habitat during all freshwater life phases (migration, spawning, and rearing) over a range of hydrologic year types. These studies show that there is potential 'take', or harm to endangered fish, occurring due to the City's existing operations, and that more water must remain in the streams to protect the fisheries, primarily on the North Coast streams during the dry season (Ibid.). Additional in-stream flows are also indicated to support anadromous salmonid migration and spawning on North Coast streams during the wet season (Ibid.). Moreover, given renewed focus on the San Lorenzo River for coho salmon recovery, the HCP must also address diversions on the San Lorenzo River and on Newell Creek as well.

Page 4.8-26 Replace the last sentence of the third paragraph as follows:

Based on modeling developed as part of the recently adopted 2010 UWMP, current City projections indicate that a 2.25-2.75 mgd desalination facility would be required with Tier 2 releases, and a 7.5-8.0 mgd facility would be needed with Tier 3 flow releases (City of Santa Cruz Water Department, December 2011). ~~Addition of new supply (2.5 mgd desalination, reclamation) would allow Tier 2 flows to be provided in 70% of years. Tier 3 flows would provide approximately 80% habitat value and could be provided in as much as 21% of years well into the future with the addition of 2.5 mgd of desalination.~~

Page 4.8-26 Revise the last sentence of the fourth paragraph:

The process ~~could take more than two years.~~ is expected to take several more years to complete. While the outcome remains uncertain, it is clear that implementation of endangered species regulation at the state and federal levels will result in less water being available from the City's flowing sources in future years compared to the past. This, in turn, will place greater reliance on water stored in Loch Lomond Reservoir to meet the community's annual water needs and exacerbate the aforementioned problem of water shortage (City of Santa Cruz Water Department, December 2011).

3.7 CHANGES TO "GEOLOGY & SOILS" (DEIR CHAPTER 4.10)

Page 4.10-2 Correct the first sentence under the "California Building Code" subsection as follows:

Title 24 of the California Code of Regulations, formerly known as the Uniform Building Code and now known as the California Building Code (CBC), sets forth minimum requirements for building design and construction in public buildings and a large percentage of private buildings.

3.8 CHANGES TO "AIR QUALITY" (DEIR CHAPTER 4.11)

Page 4.11-1 Change federal Clean Air Act acronym to FCAA in the "Federal Regulations" subsection.

Page 4.11-2 Revise the last sentence of the first paragraph under the "Regional Regulations" subsection as follows:

The North Central Coast Basin is comprised of Santa Cruz, Monterey and San Benito Counties.

Page 4.11-5 Replace Table 4.11-1 with updated ambient air quality standards as shown in Appendix B of this FEIR document.

Page 4.11-9 Delete the third footnote in Table 4.11-2 as EPA designations for $PM_{2.5}$ have been finalized and are effective.

Page 4.11-17 Revise the last sentence of the "Conclusion" subsection as follows:

Furthermore, the *General Plan 2030* includes several policies and actions that, when implemented, would reduce vehicle trips ~~miles traveled~~ and thus, air pollutant emissions from vehicle trips, which is consistent with the goals of the MBUAPCD's AQMP.

Page 4.11-18 Add the following to Table 4.11-3 under "Reduce Auto/Vehicle Trips & Emissions":

- Mitigate safety, noise, air quality impacts from roadways on adjacent land uses through setbacks, landscaping, and other measures: M3.3.4.

Page 4.11-20 to 4.11-21 Revise the last paragraph as follows:

The EMFAC 2007 program was used to generate emissions factors for Santa Cruz for vehicular emissions. The methodology involved developing estimates of Vehicle Miles Travelled (VMT) within city limits and multiplying by an

annual average emission factor derived from the EMFAC-2007 program. For area sources, the baseline emissions were developed from CARB county-wide emissions inventories. The additional area source emissions by 2030 were estimated using the URBEMIS-2007 program. The results are shown in Table 4.11-4. Ozone precursors (ROG and NO_x) would be reduced, with ROG emissions almost unchanged and NO_X showing a substantial reduction. CO also shows a substantial reduction by 2030 despite anticipated increases in VMT due to reductions in per-mile emission rates for the 2030 vehicle fleet. (See summary in revised Appendix E for further details.) This decrease would have the effect of offsetting indirect emissions generated as a result of development accommodated by the proposed *General Plan 2030*. Thus, the project would not result in emission levels that would potentially contribute to air quality violations for ozone precursors.

Page 4.11-21 Revise Table 4.11-4 as follows:

TABLE 4.11-4
Citywide Existing & Future Criteria Pollutant Emissions, Pounds Per Day

Year	Daily Average Emissions in Pounds/Day			
	ROG	CO	NO_x	PM_{10}
2008				
Vehicles	328.6	6,854.1	1,194.6	40.0
Area Sources	1,540.0	6,810.0	330.0	990.0
TOTAL	1,868.6	13,664.1	1,527.6	1,030.0
2030	~~82.8~~	~~1,997.6~~	~~332.93~~	~~45.8~~
Vehicles	67.6	1,194.6	319.7	44.0
Area Sources	1,804.7	7,074.1	380.1	1,024.4
TOTAL	1,872.3	8,268.7	699.8	1,068.4
Change	+3.7 ~~245.8~~	- 5,395.4 ~~4,856.5~~	-827.8 ~~861.7~~	+38.4 ~~5.8~~

Source: Donald Ballanti, August 2011; revised February 2012

Page 4.11-21 Revise the paragraph after Table 4.11-14 as follows:

Future emissions, however, would result in a slight net increase in PM_{10} emissions. Vehicular emissions for this pollutant are not expected to decrease in the future as fast other criteria pollutants. This is because it has two components: exhaust and tire wear. While exhaust emissions will decrease over time, tire wear does not. Even so, the anticipated increase is less about 38 pounds per day, an amount that would not measurably change air quality and is below the Air District's daily threshold. Thus, it would represent a less-than-significant air quality impact (Ballanti, February 2012). ~~with a potential to contribute to future air quality violations. However, Furthermore,~~ The MBUAPCD's CEQA Guidelines include significance criteria for development projects so that daily thresholds are not exceeded. Future review and compliance with these standards (as discussed further below) would ensure that thresholds for PM_{10} are not exceeded.

Page 4.11-23 Revise the second two sentences of the "Conclusion" subsection as follows:

Future emissions of ozone precursor pollutants are projected to decrease or remain nearly unchanged, and thus, project-level emissions would not contribute to existing or potential future violations of ozone precursors or CO air quality standards. While, PM_{10} emissions would slightly increase, it would not measurably change air quality, and compliance with MBUAPCD significance criteria at a project level would ensure that project emissions do not exceed daily standards.

3.9 CHANGES TO "GLOBAL CLIMATE CHANGE"

(DEIR CHAPTER 4.12)

Page 4.12-25 Revise Table 4.12-3 and the first second paragraph as follows:

TABLE 4.12-3
***General Plan 2030* Growth GHG Emissions (in CO_2e Equivalent Metric Tons/Year)**

Source	2008	2030 [Based on New Travel in City Limits]
Transportation	34,455.86 ~~39,805.84~~	24,417.30 ~~28,208.41~~
Area Sources	910.69 ~~2,918.54~~	910.69 ~~2,918.54~~
Electricity	14,722.23 ~~14,861.48~~	9,098.34 ~~9,148.39~~
Natural Gas	6,656.74 ~~6,809.85~~	6,024.35 ~~6,162.91~~
Water & Wastewater Treatment	640.58 ~~679.88~~	600.02 ~~636.05~~
Solid Waste	6,285.00 ~~6,045.40~~	6,281.74 ~~6,061.82~~
Total	63,671.10 ~~71,120.98~~	47,332.44 ~~53,172.12~~

Source: Donald Ballanti, April 2011

Table 4.12-4 shows existing (2008) emissions and provides estimated community emissions in 2030 that were developed by City staff for this EIR, using AMBAG's recent 2011 emissions inventory for the City as updated by the City. The City's projection includes AMBAG's projections, but does not account for existing landfill operations, only future operations, and thus, are slightly lower than AMBAG's. These projections are based on historic growth patterns, and identify an increase of approximately 70,821 MT CO_2e between 2008~~5~~ and 2030. The estimated *General Plan 2030* GHG emissions would result in a total City emissions of approximately 398,654 ~~404,493~~ MT CO_2e over 2008 levels (351,321 in 2005 + 47,332.44 ~~53,172~~ = 398,653.44 ~~404,493~~), which is ~~close to, but~~ less than, the 408,928~~3~~ MT CO_2e forecast for 2030 for the residential, commercial/industrial and transportation sections. In this respect, the growth accommodated by the proposed General Plan would not result in a substantial increase in GHG emissions over what has been estimated.

Page 4.12-26 Revise the first and third sentences of the second paragraph as follows:

Based on the emissions data in Table 4.12-4, in 2008, the City had a 3.78 ~~3.82~~ MT CO_2e per capita GHG emission rate (residents and employees[9]). Thus, the City's per capita emissions are already below the overall rate of 6.6 MT CO_2e per year per capita that is based on the state's reduction goals. With addition of the indirect General Plan emissions, the annual per capita would be about 3.64 ~~3.72~~ MT CO_2e per year per capita, slightly less than the existing per capita rate and still less than the overall projected state rate as embodied in the GHG significance threshold for General Plans. Thus, under this approach, emissions resulting from the proposed general plan would not be considered substantial.

Page 4.12-26 Add the following new text after the second paragraph:

Implementation of the General Plan would not directly result in increased new development. However, future development supported and/or accommodated by the proposed General Plan would result in construction-related emissions that would result in generation of GHG emissions from construction equipment, traffic, materials and/or energy use. Construction activities would generally include demolition, excavation, grading, vehicle trips (including workers, deliveries and hauling), and vehicle travel on paved and unpaved surfaces. The amount of GHG emissions will be dependent on the type of project, location, construction duration, and equipment and materials used. Furthermore, future site-specific discretionary projects to be developed consistent with the General Plan would undergo their own project-level environmental review. To the extent that state-implemented programs and actions to reduce vehicle, fuel, and energy related emissions are likely to be enacted and implemented, temporary construction-related emissions also may be lessened in the future.

Page 4.12-26 Revise footnote 9 as follows due to error in reported population:

[9]In 2008, the City had 58,982 ~~58,125~~ residents (per California Department of Finance records) and approximately 33,896 ~~33,925~~ employees (per AMBAG estimates, June 2008) for a total service population of 92,878 ~~050~~. Buildout under the draft General Plan could result in 8,040 new residents and 8,665 new employees for an increase of 16,705 and total service population of 109,583 ~~108,755~~.

3.10 CHANGES TO "CEQA CONSIDERATIONS"

(DEIR CHAPTER 5.0)

Page 5-2 Revise the first two sentences of the last paragraph as follows:

Water Supply. As discussed in the WATER SUPPLY (Chapter 4.5) section of this EIR, City water supplies are currently insufficient to meet existing demand during dry years and could potentially become insufficient after the year

2015 ~~2020~~ in normal years with development and growth accommodated by the proposed General Plan and other demands in the City's water service area if reduced water demand trends throughout the service area as projected in the 2010 UWMP do not continue. (Estimated water demand associated with buildout accommodated by the proposed General Plan 2030 would not exceed existing supplies in a normal year if reduced water demand trends throughout the service area as projected in the 2010 UWMP do continue. ~~but supplies could become insufficient during the General Plan timeframe with consideration of all demand within the water service area.~~)

Page 5-3 Revise the beginning of the last paragraph as follows:

Water Supply. Cumulative development and growth in the City's water service area would result in a significant cumulative water impact, as it results in additional demand in a system that does not currently have adequate water supplies to meet existing or future demands during drought conditions or potentially during normal years at some time after the year 2015 ~~2020~~. The City's supplies are sufficient to meet cumulative water demands in a normal year through to the year 2030 if overall water use remains at 2007-2008 levels. However, if water demand is consistent with historic water use between 1999 and 2004, the City's total demand will be approximately 377 ~~223~~ MGY greater than the available normal year supply of 4,160 ~~4,314~~ MGY in 2030 (City of Santa Cruz Water Department, December 2011 ~~EKI, March 2011~~). Thus, cumulative development and growth would result in a significant cumulative impact during dry years and potentially also during normal years.

Page 5-15 Correct the first two sentences of the second full paragraph as follows:

Wastewater generated by the proposed project is estimated as approximately 0.55 mgd. Cumulative wastewater flows for UCSC are estimated as between 0.2 and 0.45 mgd for the year 2020 ~~2010~~ (City of Santa Cruz, July 2010). This estimate represents an average per capita wastewater generation of 45-100 gpd, based on an increased student enrollment level of 4,500 students.

Page 5-15 Add the following new paragraph after the second full paragraph as follows:

It should be noted that the lower rate for UCSC was based on gross water use, less landscaping; 30-40% of UCSC water use is estimated as being used for landscaping (City of Santa Cruz, July 2010). The higher rate was based on studies conducted by the University as part of its Long Range Development Plan. The rates were also based on a student increase of 4,500 students by the year 2020. However, the estimated water demand between 2020 and 2030 was provided by the City Water Department based on review of water use at the University between 1987 and 2008. This estimated water demand is considered to be an accurate, yet conservative estimate, based on historical water use at UCSC. This would result in a lower average wastewater generation of approximately 0.02 mgd between 2020 and 2030. When

added to previous UCSC estimates to the year 2020, cumulative wastewater generation from UCSC would be between approximately 0.22 and 0.47 mgd. Thus, the wastewater generation estimate in the DEIR is conservatively high.

Page 5-30 Add the new text to the end of the last paragraph.

(These estimates were also used in the City's recently updated and adopted 2010 Urban Water Management Plan.) Although LAFCO has not made its final determination, and will not do so until at least June 2012, it is also possible that the estimated total future water service area demand will be slightly reduced by approximately 136 MGY due to conditions proposed by the Santa Cruz LAFCO regarding provision of water and sewer service to UCSC as discussed in the WATER SUPPLY (Chapter 4.5) section of the EIR. If so, the 2030 water service area demand would be reduced to between 3,910 and 4,401 MGY.

Page 5-31 Revise the first two paragraphs as follows:

Cumulative Impacts. Based on cumulative water demand projections, the City's water supply for a normal hydrologic year is sufficient to meet cumulative demand through about the year ~~2020~~ 2030 based on the continued water demand trends projected in the 2010 UWMP. Under this scenario and in normal water years, there is a slight surplus of supply and the City is able to fully meet projected water demand within the service area through 2030, even accounting for habitat needs (City of Santa Cruz Water Department, December 2011). If projected water demand trends do not continue, after 2015 ~~2020~~, the City's normal year water supply may not be sufficient to meet the water demand projected for the development envisioned in the *General Plan 2030* and other development expected to occur within the City's water service area. If water demand is consistent with the EWD Estimate 1 (that reflects historic water use between 1999 and 2004), the City's total demand will be approximately 491 ~~223~~ MGY greater than the available normal year supply of 4,314 MGY in 2030 (EKI, March 2011). ~~This unmet demand would represent an average annual deficit of approximately 5%.~~ However, if water demand is consistent with EWD Estimate 2 (that reflects lower overall water use in 2007 and 2008), the City will have sufficient normal year supply to meet the projected demand in 2030.

The City does not have sufficient water to meet current or future projected water demand during single or multiple dry years. This finding is consistent with the 2005 UWMP and 2010 UWMP findings and the conclusions presented in the 2003 Integrated Water Plan ("IWP"), which states that the City's water system is inadequate to meet current demand under drought conditions (EKI, March 2011). An annual average deficit of 3~~5~~% may exist ~~between the City's water supply~~ during a single dry year in the year 2030 (City of Santa Cruz Water Department, December 2011). ~~and the existing water demand (EKI, March 2011). With cumulative water demand, an annual~~

~~average deficit of 12% between 2010 and 2020, and up to 16% by 2030 may be experienced during a single dry year (Ibid.).~~

Annual average deficits are greater for multiple-dry year periods. The annual average deficit between the City's water supply during a second dry year and existing demand is estimated to be 9 to 20% ~~23% to 32%~~. This deficit increases to 30 to 38% ~~33% to 40%~~ by 2030 in a multiple-dry year with water demand in the entire service area as estimated in the 2010 UWMP. ~~if planned development also is taken into account.~~ It is important to note that these deficits are annual average values that do not address peak season cutbacks, which can be significantly greater than the annual average deficits due to seasonal variations in demand and supply, and limitations on the City's water storage facilities (EKI, March 2011). The 2010 UWMP estimates a peak seasonal demand deficit of 43% in 2030 with a multiple-year under the low demand scenario.

Page 5-33 Revise the second two paragraphs as follows:

Three alternatives were recommended for further review: desalination, wastewater reclamation, and maximizing use of existing sources and storage in Loch Lomond Reservoir. Recycled wastewater was determined potentially feasible for irrigation, including agricultural irrigation, but would produce limited yields (approximately 230 MGY) that were considered too small to meet the City's drought year needs and at a high cost. Improvements to maximize use of existing water sources and storage were identified, that collectively ~~could~~ were estimated to provide approximately 600 MGY during a two-year drought. The upgrades ~~would~~ were intended to provide additional supply during drought and non-drought years and ~~would~~ to also improve operational reliability and flexibility, but shortfalls during multiple-dry-year scenarios would continue to occur (Carollo Engineers, November 2000). However, as indicated in the WATER SUPPLY (Chapter 4.5) section, the upgrades were further modeled during preparation of the IWP to assess their effectiveness. None were found to have a significant impact on the size of drought curtailments (Gary Fiske & Associates, 2003), and the alternative was not further evaluated in the IWP. Since 2000, the upgrades either have been completed, are in progress (i.e., the North Coast water pipeline upgrade), or were found to yield too small an amount of water for the expense involved. Any savings achieved since 2000 have been factored into the City's water system model, and the former estimate of 600 MGY as a potential separate savings is no longer accurate.

Thus, seawater desalination was the only practicable solution available to the City to meet drought and future demands. The WATER SUPPLY (Chapter 4.1) section of this EIR also discusses other supplemental water supplies that have been evaluated over the past 20+ years and found to be not viable at the present time. These include several groundwater pumping options, conjunctive use with Soquel Creek Water District, and reservoir storage at the Olympia Quarry in the San Lorenzo Valley. The City's 2010 UWMP indicates that

actions to encourage and optimize recycled water will be defined in the future if and when recycling is selected and pursued to diversity the City's water supply. ~~in addition to pursuing desalination, the City remains open to exploring other water supply alternatives that would not be feasible to develop in the short-term, but may be useful to consider over a 20-year timeframe, such as water recycling, groundwater recharge, reservoir expansion, aquifer storage and recovery and off-stream storage.~~

Page 5-33 Change reference to 2020 to 2015 in the Conclusion subsection.

Page 5-34 Revise first full sentence as follows:

However, if water demand is consistent with historic water use between 1999 and 2004, the City's total demand will be approximately 377 ~~223~~ MGY greater than the available normal year supply of 4,160 ~~4,314~~ MGY in 2030 (City of Santa Cruz Water Department, December 2011 ~~EKI, March 2011~~).

Page 5-41 Revise the estimated employees for the No Project Alternative in the third paragraph from ~~7,565~~ to 7,700.

Page 5-42 Revise Table 5-3 as shown on the next page:

Page 5-3 Revise the fourth and fifth sentence of the second paragraph as follows:

With a current estimated normal year supply of approximately 4,160 ~~4,300~~ MGY, the No Project Alternative would continue to create a demand that could potentially exceed normal year supplies if future demand proceeds at historic rates. The demand would also exceed currently available dry year supplies of 3,900 ~~3,800~~ MGY under a single-dry year and 2,800 ~~2,700~~ MGY under a multiple dry year condition.

Page 5-46 Revise last two sentences of last paragraph as follows:

Under AMBAG forecasts, the City would experience an increase of approximately 8,080 new employees between 1990 and 2030, which is ~~slightly~~ lower than~~, but similar to,~~ the estimate of an 8,665 ~~8,175~~ employee increase under the proposed *General Plan 2030*. This reduction represents a reduction of approximately 585 ~~95~~ employees. ~~which~~ Assuming the reduction in employees would be split equally between commercial and office uses, the reduction in employees would generally correspond to a reduction of approximately 146,000 ~~50,000~~ square feet in commercial use and ~~or~~ approximately 88,200 ~~30,000~~ square feet of office space.

TABLE 5-3
Comparison of Alternatives

	PROPOSED PROJECT GP 2030 Buildout	ALTERENATIVE 1 NO PROJECT Existing GP	ALTERNATIVE 2 AMBAG Growth	ALTERNATIVE 3 Reduced Density
Dwelling Units	3,350	1,816	2,413	2,750
Total Non-Residential Square Footage	3,145,000 SF	2,870,000 SF	2,911,000 ~~3,000,000~~ SF	3,125,000 SF
Commercial	1,090,000 SF & 310 Hotel Rooms	1,050,000 SF & 310 Hotel Rooms	944,000 SF ~~Reduced by 50,000 SF from Proposed GP 2030~~ ~~OR~~	970,000SF
Office	1,275,000 SF	940,000 SF	1,187,000 SF ~~Reduced by 30,000 SF from Proposed GP 2030~~	1,275,000 SF
Industrial	780,000 SF	880,000 SF	Same as Proposed Project	880,000 SF
POPULATION INCREASE [From 2009]	8,040	4,360	5,790	6,600
EMPLOYEE INCREASE [From 2009]	8,665	7,700 ~~7,565~~	8,082 ~~[2010-2030]~~	8,645
TRAFFIC	21 intersections impacted; all can be improved to acceptable LOS except for 8 intersections.	20 intersections impacted; 5 improved over project levels. All Can be improved to acceptable LOS except for 5 intersections.	Impacts estimated to be between the No Project and Project levels.	Same as or similar impacts to Proposed Project
WATER DEMAND	239 MGY	174 MGY	193 ~~200-203~~ MGY	210 MGY
SCHOOLS Elementary Students	915	495	660	750

Page 5-47 To 5-48

Revise last paragraph as follows:

Water demand also would decrease to approximately 193 ~~200-203~~ million gallons per year (MGY) under this alternative. This represents a reduction in demand of approximately 46 ~~35-39~~ MGY compared to the proposed project. ~~depending on whether non-residential use reductions occur within the commercial or office sector.~~ Under this alternative, total water demand within the City's water service area in 2030 would range between approximately 4,000 ~~4,010~~ and 4,490 ~~4,500~~ MGY. With a current estimated normal year supply of approximately 4,160 ~~4,300~~ MGY, this alternative would continue to create a demand that could potentially exceed normal year supplies after the year 2015 ~~2025~~, if future demand proceeds at historic rates. The demand would also exceed currently available dry year supplies of 3,900 ~~3,800~~ MGY under a single-dry year and 2,800 ~~2,700~~ MGY under a

multiple-dry year condition. Thus, while overall water demand would be reduced, the Reduced Growth ~~No Project~~ Alternative would not eliminate the significant unavoidable project and cumulative water demand impacts under existing and future drought and potential future normal year conditions.

Page 5-51 Revise third full paragraph as follows:

Water demand also would decrease to approximately 210 million gallons per year (MGY) under this alternative. This represents a reduction in demand of approximately 29 MGY compared to the proposed project. Under this alternative, total water demand within the City's water service area in 2030 would range between approximately 4,015 and 4,500 MGY. With a current estimated normal year supply of approximately 4,300 MGY, the No Project Alternative would continue to create a demand that could potentially exceed normal year supplies if future demand proceeds at historic rates. The demand would also exceed currently available dry year supplies of 3,900 ~~3,800~~ MGY under a single-dry year and 2,800 ~~2,700~~ under a multiple-dry year condition. Thus, while overall water demand would be reduced, the Reduced Land Use Density/Intensity ~~No Project~~ Alternative would not eliminate the significant unavoidable project and cumulative water demand impacts under existing and future drought and potential future normal year conditions.

Page 5-51 Correct reference in first sentence of fourth paragraph from ~~No Project~~ Alternative to Reduced Land Use Density/Intensity Alternative.

Page 5-56 Revise Table 5-5 entries and legend for the "S" designation to read:

S / LS

3.11 CHANGES to "REFERENCES" (DEIR CHAPTER 6.0)

Page 7-1 Add the following "References" subsection:

City of Santa Cruz Water Department. December 2011. "2010 Urban Water Management Plan."

County of Santa Cruz and the Cities of Capitola, Santa Cruz, Scotts Valley and Watsonville. April 1996. "Santa Cruz County Countywide Integrated Waste Management Plan – Final Draft."

County of Santa Cruz Health Services Agency. May 11, 2011. "Status Report on the Potential for Surface Water Transfers in Northern Santa Cruz County."

Water Utility Climate Alliance. January 2010. "Decision Support Planning Methods: Incorporating Climate Change Uncertainties into Water Planning."

3.12 CHANGES to "EIR FIGURES" (DEIR CHAPTER 7.0)

Page 8-18 Revise legends on Figures 4.8-1 and 4.8-3 as shown at the end of this section to read:

Annual Grassland /~~Potential~~ Coastal Prairie and Annual Grassland

3.13 CHANGES to "APPENDICES"

APPENDIX E: Replace the DEIR technical air memoranda with the revised Appendix E included in Appendix C of this FEIR document

APPENDIX F-1: Replace the DEIR technical biological study with the revised Appendix F-1 included in Appendix D (CD and online version) of this FEIR document.

TABLE 4.8-2: Special-Status Plant Species Occurring in the City of Santa Cruz, California

Species Common Name[1]	USFWS Listing[2]	State Status[3]	CNPS Status[4]	Habitat Type[5]	Flowering Period	Occurrence[6]
Arctostaphylos andersonii Santa Cruz Manzanita	None	None	~~2-2-3~~ List 1B.2	Chaparral; openings in and edges of broadleafed upland forest and north coast coniferous forest	November-April	Kalkar Quarry Pogonip (P) Delaveaga (P) (UCSC)
Chorizanthe robusta var. *robusta* robust spineflower	Endangered	None	~~3-3-3~~ List 1B.1	Coastal dunes, coastal scrub, openings in cismontane woodland, in sandy or gravelly soil	April-September	Pogonip Private Parcel-Market St
Holocarpha macradenia Santa Cruz tarplant	Threatened	Endangered	~~3-3-3~~ List 1B.1	Coastal prairie, valley and foothill grassland, coastal scrub, often in clay or sandy soils	June-October	Arana Gulch Delaveaga Park
Perideridia gairdneri ssp. *gairdneri* Gairdner's yampah	None	None	~~1-2-3~~ List 4.2	Moist sites in coastal prairie, broadleafed upland forest, chaparral, valley and foothill grassland, vernal pools	June-October	Pogonip
Plagiobothrys chorisianus var. chorisianus Choris's popcorn-flower	None	None	~~2-2-3~~ List 1B.2	Moist places in chaparral, coastal prairie, coastal scrub	March-June	Lighthouse Field Arana Gulch
Plagiobothrys chorisianus var. *hickmanii* Hickman's popcorn-flower	None	None	~~1-2-3~~ List 4.2	Moist places in closed-cone coniferous forest, chaparral, coastal scrub, marshes and swamps, vernal pools	April-June	Arana Gulch
Plagiobothrys diffusus San Francisco popcornflower	None	Endangered	~~3-3-3~~ List 1B.1	Coastal prairie; valley and foothill grassland	March-June	Moore Creek Preserve Private Parcel- Meder St Pogonip
Trifolium buckwestiorum Santa Cruz clover	None	None	~~3-3-3~~ List 1B.1	Coastal prairie; margins of broadleafed upland forest, cismontane woodland	April-October	Pogonip

Notes:

[1] Nomenclature follows ~~Hickman (1993),~~ Tibor (2001), Baldwin et. al. (2012), and California Native Plant Society (2012~~2006~~).

[2] U.S. Fish and Wildlife Service (2006a,b,c).

[3] Section 1904, California Fish and Game Code (California Department of Fish and Game 2006a).

[4] Tibor (2001) and California Native Plant Society (2006).
CNPS Lists: List 1B: Rare, Threatened, or Endangered in California and elsewhere. List 4: Plants of limited distribution: a watch list
Threat Code extensions: .1: Seriously endangered in California. .2: Fairly endangered in California.
~~*Top line*: CNPS R-E-D (Rarity-Endangerment-Distribution) code.~~
~~Rarity: 1=Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time; 2=Occurrence confined to several populations or to one extended population; 3=Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.~~
~~Endangerment: 1=Not endangered; 2=Endangered in a portion of its range; 3=Endangered throughout its range.~~
~~Distribution: 1=More or less widespread outside California; 2=Rare outside California; 3=Endemic to California.~~
~~*Bottom Line*: CNPS List. List 1B: Rare, Threatened, or Endangered in California and elsewhere. List 2: Rare, Threatened, or Endangered in California, more common elsewhere. List 3:~~ Plants about which more information is needed. List 4: Plants of limited distribution: a watch list.

[5] Thomas (1960), Munz and Keck (1973), Hickman (1993), Tibor (2001), Morgan et al. (2005), Baldwin et. al. (2012), California Native Plant Society (2012~~2006~~)., and unpublished information.

[6] See Revised Technical Appendix F-1 for citations.

SOURCE: EcoSystems West Consulting Group, February 2012 ~~January 2009~~

TABLE 4.8-3: Special-Status Wildlife Species Occurring in the City of Santa Cruz, California

Common Name *Scientific Name*	Status[1] Federal/State/Other	Habitat Requirements	Location[2, 3]
Invertebrates			
Ohlone tiger beetle *Cicindela ohlone*	E/--/G1S1	Coastal prairie and open grassland with barren areas for burrow construction.	Pogonip Moore Creek Preserve Private Parcels near Moore Creek Preserve and Meder St
Monarch butterfly (wintering sites) *Danaus plexippus*	--/--/G5,S3	Eucalyptus, Monterey Pine, or Monterey Cypress tree groves.	Lighthouse Field Natural Bridges Lower Branciforte Creek
Fish			
Coho Salmon (Central CA ESU) *Oncorhynchus kisutch*	E/E/G4S2?	Spends the first few years of its life in fresh water before migrating to the ocean. Adults will later return to the freshwater location where they were spawned to breed.	San Lorenzo River (H)
Steelhead (Central Coast DPS) *Oncorhynchus mykiss*	T/--/G5S2	Spends the first few years of its life in fresh water before migrating to the ocean. Adults will later return to the freshwater location where they were spawned to breed.	Carbonera Creek Branciforte Creek Arana Gulch San Lorenzo River
Tidewater goby *Eucyclogobius newberryi*	E/SC/G3S1S2~~S3~~	Coastal lagoons and creeks up to 3 miles with protected still water areas.	Moore Creek San Lorenzo River
North American green sturgeon (Southern DPS) *Acipenser medirostris*	FT/CSC/ G3S1S2	Spend the majority of their lives in nearshore oceanic waters, bays, and estuaries. Spawning and early life-history stages (less than 4 years old) occurs in fresh water.	HP, CHP
Amphibians and Reptiles			
California red-legged frog *Rana ~~aurora~~ draytonii*	T/SC/G4T2T3S2S3	Requires the presence of surface water until mid to late summer for reproduction; occupies ephemeral and/or perennial water with standing or slow moving flows; upland habitat includes leaf litter and small mammal burrows; adults are known to travel up to 2 miles overland between aquatic sites.	Moore Creek (B) Antonelli Pond Natural Bridges Marsh
Southwestern pond turtle *Emmys [Clemmys] marmorata pallida*	--/SC/G3G4S3	Found in ponds, marshes, rivers, streams, and irrigation ditches containing aquatic vegetation; usually seen sunning on logs, banks, or rocks. Moves up to 3-4 miles within a creek system, especially during "walk-abouts" before a female lays eggs; nests in burrows in upland areas up to several hundred feet away from aquatic habitat, in woodlands, grasslands, or open forest.	Antonelli Pond Neary Lagoon Moore Creek Natural Bridges Marsh Pogonip-San Lorenzo River
Birds (protected activity/habitat)			
Brown Pelican (communal roosts and rookeries) *Pelecanus occidentalis*	Delisted* /Delisted, FP~~SE~~**, ~~CFP~~/G4T3S1S2	Nest in large colonies mostly on small coastal islands. Preferred nesting sites provide protection from mammal predators, and sufficient elevation to prevent widescale flooding of nests (USFWS Division of Endangered Species 2007). The nests occur on the ground, in bushes, or in the tops of trees.	Cliffs from Lighthouse Point to Younger Lagoon Municipal Wharf San Lorenzo River
Double-crested Cormorant (rookeries) (*Phalacrocorax auritus*)	--/WL~~SC~~/G5S3	Marine and inland aquatic habitats, such as ponds, lakes, rivers, lagoons, estuaries, and open coastline.	San Lorenzo River(H) (Schwan Lagoon)

TABLE 4.8-3: Special-Status Wildlife Species Occurring in the City of Santa Cruz, California

Common Name *Scientific Name*	Status[1] Federal/State/Other	Habitat Requirements	Location[2,3]
Black-crowned Night Heron (rookeries) (*Nycticorax nycticorax*)	--/--/G5S3	Roosts among the dense foliage of trees (that are not always adjacent to water). It will also roost within fresh or brackish emergent wetlands, as well as on piers, and pilings (Grinnell and Miller 1944).	Branciforte Creek (H) Neary Lagoon (P)
Sharp-shinned hawk (nesting) *Accipiter striatus*	--/ WL~~SC~~/G5S3	Nests in deciduous riparian forest associated with dense stands of smaller conifers.	Arana Gulch(P) Meder Canyon(P) Pogonip (P)
Cooper's hawk (nesting) *Accipiter cooperi*	--/ WL~~SC~~/ G5S3	Nests in deciduous riparian forest, live oak, or second growth conifers usually near stream courses with dense canopy cover and open understory.	Moore Creek Pogonip Harvey West Park DeLaveaga
Golden eagle (nesting & wintering) Aquila chrysaetos	--/ WL~~SC~~/ G5S3	Resident in open mountains, foothills, canyons, or plains. Nests in a mass of sticks on cliffs or in trees. Is frequently observed foraging over nearby open fields of UCSC and Moore Creek Preserve lands.	Pogonip Rincon Gorge(unconfirmed)
Ferruginous Hawk (wintering) (*Buteo regalis*)	BCC/ WL~~SC~~/G5S3S4	Grasslands, agricultural areas, sagebrush flats, low foothills, and desert scrub (Garrett and Dunn 1981).	Antonelli Pond
White-tailed kite (nesting) *Elanus leucurus*	--/FP/F5S3	Nests in conifers on the margins of open areas including grasslands and sloughs containing a high abundance of small mammals and lizards.	Pogonip Natural Bridges
Merlin (wintering) *Falco columbarius*	--/ WL~~SC~~/G5S3	Utilizes a wide variety of habitats, from annual grasslands to ponderosa pine and montane hardwood-conifer habitats. Also favors coastlines, lakeshores, and wetlands. Forages along shorelines in winter, to hunt for shorebirds (CDFG 2005).	Arana Gulch Lighthouse Field Meder Canyon Antonelli Pond
Black Oystercatcher (nesting) *Haemotopus bachmani*	BCC/--/G5S2	Rocky shores of marine habitats, and on adjacent islands. Requires cliffs, rock outcrops, offshore rocky islets, jetties and similar features of coastal rocky intertidal habitats for roosting at high tide.	Natural Bridges/De Anza
Long-eared owl (nesting) *Asio otus*	--/SC/G5S3	Utilizes abandoned stick nests of other large birds or squirrel nests in a variety of wooded areas, including orchards and usually near aquatic and open areas for foraging; forages mostly on rodents.	Neary Lagoon (P) Pogonip[3] (P)
Burrowing Owl (burrow and wintering sites) *Athene cunicularia*	--/SC/G4~~5~~S2	Open grassland habitats for foraging and nesting. Suitable habitat has low-growing vegetation interspersed with bare ground; and hillocks, berms, fence posts or other slightly elevated objects available for resting/perching.	Pogonip (P) Moore Creek (P) Private parcels adjacent to Moore Creek (P)
Vaux's swift (nesting) *Chaetura vauxi*	--/SC/G5S3	Nest in hollow trees in forested environments. Nest made of conifer needles are glued together with salvia and attached to inside wall of hallow tree usually near the bottom. Post breeding flocks up to several hundred may roost together in chimney like tree hollows.	Residential neighborhoods near Natural Bridges, Spring Street and
Black Swift (nesting) *Cypseloides niger*	--/SC/G4S2	Breeds along coastal bluffs and mountains.	Mitchell's Cove (H) Lighthouse Point (H)

TABLE 4.8-3: Special-Status Wildlife Species Occurring in the City of Santa Cruz, California

Common Name *Scientific Name*	Status[1] Federal/State/Other	Habitat Requirements	Location[2, 3]
Loggerhead shrike *Lanius ludovicianus*	BCC/SC/G4S4~~FWS~~	Grassland and shrub habitats with small reptiles and insects.	Pogonip (P) Moore Creek (P) Private parcels adjacent to Moore Creek (P)
California Horned Lark *Eremophila alpestris actia*	--/ WL~~SC~~/G5T3S3	Open, level or gently-sloping California habitats, including sage scrub, grassland, chaparral, alkali playa, as well as agricultural and residential lands. (Grinnell and Miller 1944). Builds a grass-lined nest in a depression on the ground out in the open.	Pogonip Moore Creek (P) Private parcels adjacent to Moore Creek (P)
Oak Titmouse (nesting) *Baeolophus inornatus*	BCC/--/G5T3?S2~~3~~	Warm, dry oak, pine, or oak-pine woodlands. The breeding pair builds a nest of grass, moss, mud, hair, feathers, and fur (Harrison 1978) in a woodpecker hole, natural cavity, or nest box.	Lighthouse Field Neary Lagoon Garfield Park Westside residential areas lower Branciforte Creek Oceanview Park Jesse Street Marsh area San Lorenzo River (N of Hwy 1) Natural Bridges (unconfirmed)
Yellow warbler *Dendroica petechia brewsteri*	BCC/SC/G5T3?S2	Nests in deciduous riparian woodland with open canopy along streams or other watercourses; forages in dense understory of riparian woodland.	Arana Gulch Neary Lagoon Moore Creek Preserve Antonelli Pond Carbonera Creek Branciforte Creek Westlake Pond San Lorenzo River (H) (P)
Hermit Warbler (nesting) *Dendroica occidentali*	BCC/--/G4G5S3?	Mature stands of conifers (ie., Douglas-fir, redwood, and montane hardwood-conifer habitats), with open to dense canopy for breeding and other activities.	Pogonip
Saltmarsh Common Yellowthroat[38] *Geothlypis trichas sinuosa*	BCC/SC/G5T2S2	Nests in overgrown fields with scrub, on the margins of woodlands, and freshwater and saltwater marshes. Builds well-concealed open-cup nests, typically near the ground in grasses, herbaceous vegetation, cattails, tules, and scrub (including coyote brush) (Gardali and Evens date).	Neary Lagoon San Lorenzo River (Younger Lagoon)
Yellow-breasted chat (nesting) *Icteria virens*	--/ SC/G5S3	Dense riparian vegetation 1-8 ft. above the ground, with a well-developed understory.	San Lorenzo River (H)
Chipping Sparrow (nesting) *Spizella passerina*	--/--/G5S3S4	Open wooded habitats with a sparse or low herbaceous layer and few shrubs. Prefers trees for nesting, resting, singing, and other cover, but will also utilize shrubs and ground herbage. Also known to breed or winter in orchards (Grinnell and Miller 1944, McCaskie et al. 1979, Garrett and Dunn 1981).	Moore Creek Pogonip
Grasshopper Sparrow *Ammodramus savannarum*	--/SC/G5S2	Occurs in dry, dense grasslands, especially in those with a variety of grasses, tall forbs, and scattered shrubs (Grinnell and Miller 1944; McCaskie et al. 1979 and Garrett and Dunn 1981). Builds nests composed of grasses and forbs, located in a slight depression in ground at the base of an overhanging clump of grasses or forbs (Harrison 1978).	Moore Creek Pogonip

TABLE 4.8-3: Special-Status Wildlife Species Occurring in the City of Santa Cruz, California

Common Name *Scientific Name*	Status[1] Federal/State/Other	Habitat Requirements	Location[2, 3]
Tricolored Blackbird (nesting colonies) *Agelaius tricolor*	BCC/SC/G2G3S2	Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Their nests are usually located near fresh water, and tend to be hidden on the ground among low vegetation (Orians 1960).	Neary Lagoon (H) Antonelli Pond (H)
Mammals			
Townsend's western big-eared bat *Corynorhinus [Plecotus] townsendii townsendii*	--/SC/HP, G4S2S3	Roost sites are highly associated w/ caves and mines; buildings must offer "cave-like" features; known to roost in tree hollows and under bridges.	Pogonip Clubhouse undeveloped lands and open spaces (P)
Pallid bat *Antrozous pallida*	--/SC/HP, G5S3	Roost sites are primarily associated with oak, redwood, ponderosa pine, and giant sequoia forests. Will also roost under bridges and in buildings and rock outcrops.	undeveloped lands and open spaces (P)
Western red bat *Lasiurus blossevillii*	--/**/HP, G5S3	Roosts in foliage primarily in riparian and wooded habitats.	Arana Gulch undeveloped lands and open spaces (P)
Fringed myotis *Myotis thysanoides*	--/**/HP, G4G5S4	Roosts sites in California are primarily in buildings or mines; will also roost in large conifer snags and in caves.	undeveloped lands and open spaces (P)
Long-legged myotis *Myotis volans*	--/**/HP	Roosts primarily in large hollow tree snags, or live trees with exfoliating bark; also uses rock crevices, mines, and buildings.	undeveloped lands and open spaces (P)
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	--/SC/--	Associated with riparian, oak woodland and redwood forest habitats. Builds stick nests under or in buildings, hollow trees, or in tree canopy.	undeveloped lands and open spaces
American Badger *Taxidea taxus*	--/SC/--	Drier open stages of most shrub, forest, and herbaceous habitats, that are composed of friable soils. American badgers dig burrows in friable soil for cover, frequently reusing old burrows. They are also known to dig a new den each night (especially in summer) (Messick and Hornocker 1981).	undeveloped lands and open spaces (P)
Southern sea otter *Enhydra lutris nereis*	T, MMPA/FP/--	Inhabit nearshore coastal waters, bays, harbors, and estuaries along the central California coast, and are often associated with rocky substrate. Most remain inshore of the outer kelp edge, and foraging activity is generally restricted to water depths of 25 meters or less.	Yacht Harbor
California sea lion *Zalophus californianus*	MMPA /--/--	California sea lions reside in shallow coastal and estuarine waters. They haul out on sandy beaches, marina docks as well as jetties and buoys.	Yacht Harbor, Santa Cruz Wharf
Eastern Pacific harbor seal *Phoca vitulina richardsi*	MMPA /--/--	Occur in nearshore coastal California waters, rivers, bays, harbors and estuaries. Hauls out on rock outcroppings, beaches, mudflats, and docks that have easy access to water.	Yacht Harbor

Notes:

1 **Federal Status (USFWS 2007b, c, d; CDFG 2011~~2006~~)**

E = Endangered: Any species, which is in danger of extinction throughout all, or a significant portion of its range.

T = Threatened: Any species, which is likely to become an endangered species within the foreseeable future throughout all, or a significant portion of its range.

BCC= Considered by Fish and Wildlife Service as a 'Bird of Conservation Concern' with a high priority to study and take action to protect.

State Status (CDFG 2011~~2006~~)

E = Endangered: A native species or subspecies of animal which is in serious danger of becoming extinct throughout all, or a significant portion of its range, due to loss of habitat, change in habitat, over exploitation, predation, competition and/or disease.

T = Threatened: A native species or subspecies that, although no presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts.

TABLE 4.8-3: Special-Status Wildlife Species Occurring in the City of Santa Cruz, California

Common Name *Scientific Name*	Status[1] Federal/State/Other	Habitat Requirements	Location[2, 3]

SC = CDFG Species of Special Concern are taxa given special consideration because they are biologically rare, very restricted in distribution, declining throughout their range, or at a critical stage in their life cycle when residing in California or taxa that are closely associated with a habitat that is declining in California (e.g., wetlands)

WL = CDFG Watch List Birds are a new category created in the 2008 California Bird Species of Special Concern (CDFG et al. 2008). The birds on this watch list are 1) not on the current Special Concern list but were on previous lists; 2) were previously but are not currently state or federally listed; or 3) are on the list of "Fully Protected" species.

FP = Fully Protected: This classification was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

** = Included on preliminary list of revised CDFG Mammal Species of Special Concern (CDFG 1996)

Other

O = Protected by City and/or County ordinances

HP **=** Considered "High Priority" on the Western Bat Working Group's (WBWG) Western Bat Species Regional Priority Matrix (1998)

CNDDB Ranking (CDFG 2011,; NatureServe 2009):

G = Global (worldwide status of a full species): G1 to G5

T = Status of a subspecies throughout its range: T1 to T5

S = State (statewide status of a full species or a subspecies): S1 to S5

where:

1 = Extremely endangered
2 = Endangered
3 = Restricted Range, Rare
4 = Apparently secure
5 = Demonstrably secure: commonly found throughout its historical range
? = Inexact Numeric Rank

2 ( ) = Locations outside of the city limits.
H = Historical Observation
B = Breeding Habitat (except birds—locations correspond to protected activity only—listed by species name)
P = Potential Habitat
HP]- Habitat Present - habitat is, or may be present. The species may be present.
CH] - Critical Habitat - project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

3 See Revised Technical Appendix F-1 for citations.

~~*On November 17, 2009 the brown pelican was removed from the Federal List of Endangered and Threatened Wildlife (USFWS 2009).~~

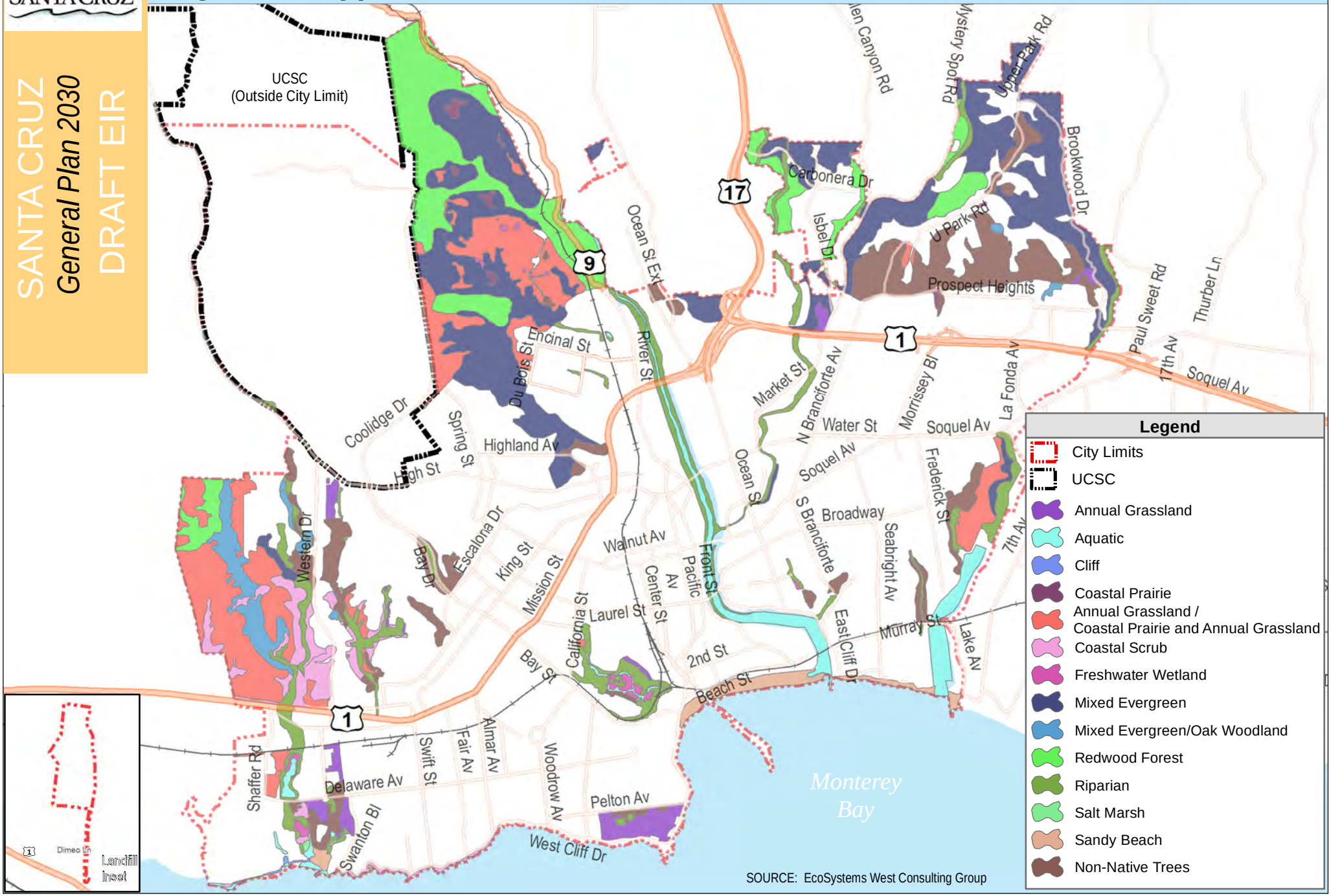
~~**On February 5, 2009 the Fish and Game Commission adopted the proposed changes to remove the brown pelican from the CESA list of endangered species. The Commission's decision to delist the brown pelican will now be reviewed by the Office of Administrative Law before the bird is officially removed from the state list (California Fish and Game Commission 2009).~~

SOURCE: EcoSystems West Consulting Group, February 2012 ~~January 2009~~

SANTA CRUZ
General Plan 2030
DRAFT EIR

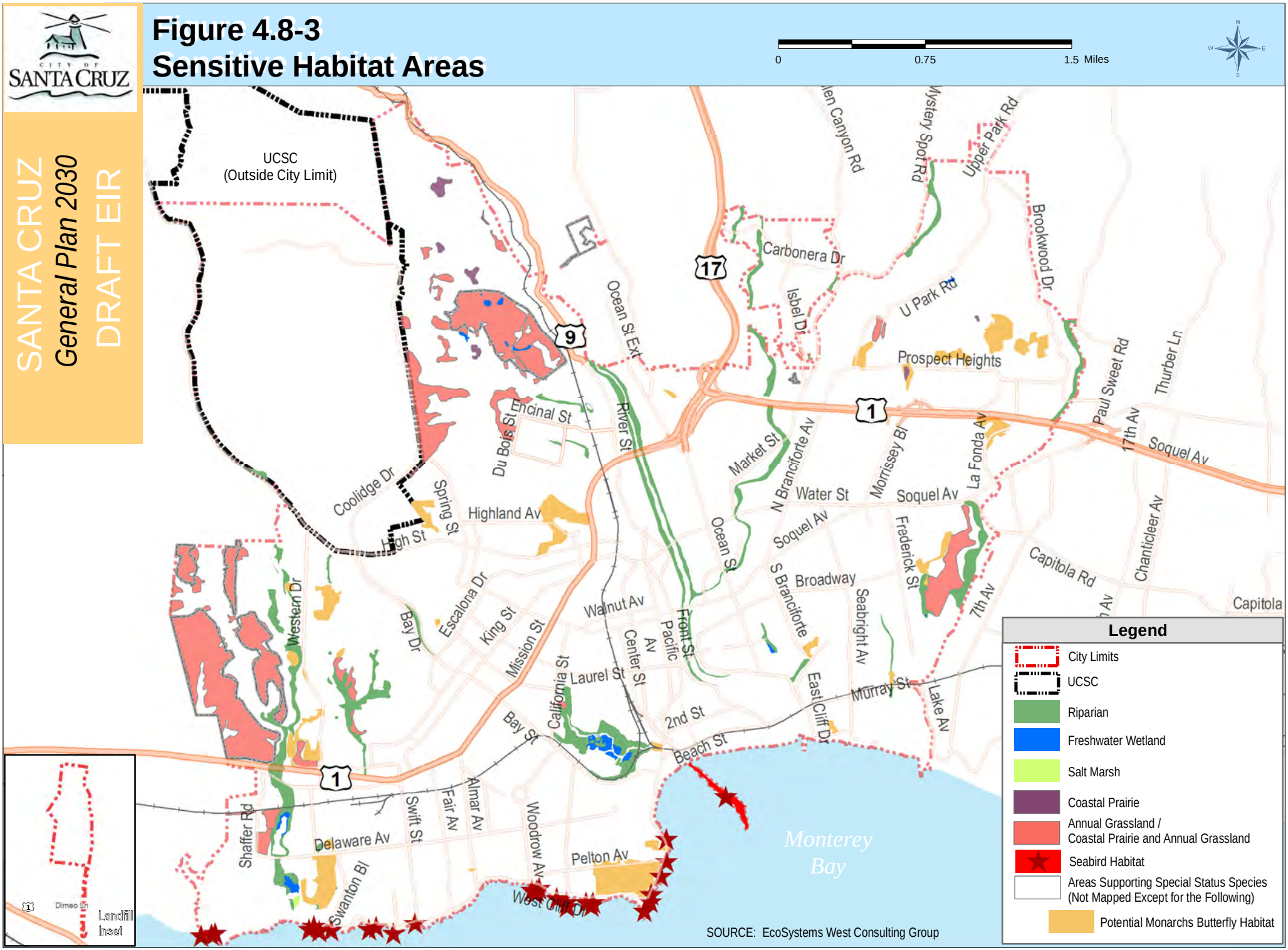
Figure 4.8-1
Vegetation Types

0 0.75 1.5 Miles



SANTA CRUZ
General Plan 2030
DRAFT EIR

Figure 4.8-3
Sensitive Habitat Areas



SOURCE: EcoSystems West Consulting Group

4.0 COMMENTS & RESPONSES

IN THIS SECTION:

4.1 Introduction
4.2 List of Comments Received
4.3 Master Responses
4.4 Comment Letters & Responses

4.1 INTRODUCTION

This chapter provides responses to individual comments that were submitted by agencies, organizations and individuals as summarized below in subsection 4.2. Each letter of comment is included in subsection 4.4; a response to each comment is provided immediately following each letter. Two Master Responses are provided in subsection 4.3 for similar water supply comments that were contained in several comments. Appropriate changes that have been made to the Draft EIR text based on these comments and responses are provided in the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document.

State CEQA Guidelines section 15088(a) requires a lead agency to evaluate comments on environmental issues and provide written responses. A response to each comment is provided immediately following each letter in subsection 4.4. Section 15204(a) provides guidance on the focus of review of EIRs as follows:

> (a) In reviewing draft EIRs, persons and public agencies should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. At the same time, reviewers should be aware that the adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors. When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR.

In reviewing comments and providing responses on the following pages, this section of the State CEQA Guidelines will be considered. The focus will be on providing responses to significant environmental issues.

4.2 LIST OF COMMENTS RECEIVED

Agencies, organizations and individuals that submitted written comments on the draft EIR are outlined below.

AGENCIES

1. California State Clearinghouse
2. California Native American Heritage Commission
3. LAFCO of Santa Cruz County
4. Monterey Bay Unified Air Pollution Control District
5. City of Santa Cruz Water Department
6. United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
7. California Department of Fish and Game (sent to Water Department with comments regarding Urban Water Management Plan and Water Supply Assessment for General Plan 2030)

ORGANIZATIONS

8. Rick Longinotti, Santa Cruz Desal Alternatives
9. Don Stevens, President, Habitat and Watershed Caretakers

INDIVIDUALS

10. Jean Brocklebank
11. John Golder
12. Rick Longinotti, Personal Comments
13. Andy Schiffrin
14. John Swift

4.3 MASTER RESPONSES

MASTER RESPONSE WS-1: Urban Water Management Plan Update

[5-1, 13-21]

Two comments ask that the Final EIR be updated to contain current information based on the recently adopted 2010 Urban Water Management Plan (UWMP), including the impact analysis. A draft updated 2010 Urban Water Management Plan (UWMP) was released for public review in October 2011 after the release and distribution of the *General Plan 2030* Draft EIR. The 2010 UWMP is a five-year update of the 2005 UWMP as required by state law, and was adopted by the City Council on December 13, 2011. The DEIR text has been revised to account for updates in the 2010 UWMP; see the CHANGES TO DRAFT EIR (Chapter 3.0)

section of this document, and a brief overview is provided below. The adopted 2010 UWMP does not change the conclusions of the DEIR impacts on water supply. A supplemental water source continues to be planned/proposed in the 2010 UWMP.

The updated plan follows the same basic structure and organization as the 2005 plan, while updating each section with more recent information. Key factors that changed as noted in the plan included: effects of a water shortage; reduced surface water diversions due to endangered species regulation and protection, decreased groundwater availability, aging infrastructure; and changing (reduced) water demand.

The updated 2010 UWMP refines water supply and demand estimates based on updated water system modeling, potential water supply reductions due to federal and state requirements for protection of fishery species (see Master Response WS-2 below), and changes in overall demand over the past five to ten years. The 2010 UWMP indicates that total water supply estimated to be available to the City is 4,160 MGY in normal years, 3,930 MGY in single dry years (i.e., 1994), and 2,830 MGY during an extreme two-year drought similar to the 1976-77 event. These forecasts are similar to those identified in the DEIR for a single-dry year (3,800 MGY) and a two-year drought (2,700 MGY), but lower under normal years (4,300 MGY). The 2010 UWMP water supply estimates are based on detailed modeling and are more accurate than the estimates in the former 2005 UWMP. The model used for the 2010 UWMP was updated to account for changes in: water demand; hydrologic stream flow data, including potential bypasses under the City's proposed Conservation Strategy; water supply information; and water transmission losses. A water supply deficit of approximately 1,200 MG is identified for a multiple-year drought in the 2010 UWMP compared to approximately 1,340-1,800 estimated in the Water Supply Assessment prepared for this EIR, which utilized water supply forecasts in the 2005 UWMP.

The water demand projections in the 2010 UWMP include two growth scenarios within the City's water service area, both of which reflect the water demand estimates developed for proposed *General Plan 2030* buildout that are included in the DEIR and accompanying Water Supply Assessment (WSA). Both scenarios discount the most recent downturn in water use beginning in 2009 as a temporary condition caused primarily by water restrictions, which is not considered indicative of normal use. Scenario 1 is based on water demand levels experienced from 1999 through 2004. Scenario 2, which is lower, is based on average water use during the 2007-08 period just prior to water restrictions. The projected water demand for the City's entire water service area is estimated to be 4,537 MGY under Scenario 1 and 4,046 MGY under Scenario 2, which is the same level forecasted in the DEIR. Given state mandates for water conservation and recent trends in reduced water demand, the 2010 UWMP concludes that Scenario 2 reflects the most reasonable scenario for water management planning purposes.

It is also noted that total future demand may be reduced by 136 MGY from what was reported in the DEIR or in the City's recently adopted 2010 UWMP. This is due to LAFCO's potential approval of a sphere of influence amendment and provision of water and sewer service to a portion of the North Campus area of UCSC as explained in Response to Comment 8-2. In essence, the approval as initially conditioned required that the water demand from future UCSC development be offset (on- or off-campus) so that there is no net increase in water demand. Thus, the overall water service area demand in the year 2030 could be reduced by

136 MGY. However, a final decision by LAFCO has not been made, and the next scheduled meeting is set in June 2012, and thus, the outcome remains uncertain.

MASTER RESPONSE WS-2: Potential Reduction of Water Supplies

[6-1, 6-3, 7-2, 8-1, 9-2, 9-3]

A number of comments questioned the City's water supply availability given potential reduction due to potential increases in flow releases to protect endangered fish species. The City's water supply (San Lorenzo River and North Coast streams) historically and currently maintain populations of listed species – coho salmon and steelhead. The National Marine Fisheries Service (NMFS) is concerned that water withdrawals are having an adverse impact on the species, especially during critically dry years, and states that the City has not given assurances it is capable of meeting water demand requirements identified in the DEIR. NMFS and the City are currently in the process of developing a HCP to minimize impacts from the City's water operations, and NMFS indicated in its comment letter that specific flow targets for multiple life stages of coho and steelhead have not been determined, although it is expected that the HCP will require additional flow releases to avoid and/or minimize impacts to these species. Until flow targets are developed, NMFS indicated that the Water Supply Analysis cannot identify potential impacts.

The DEIR and accompanying Water Supply Assessment (WSA) prepared for the EIR estimated future water demand that could result from estimated potential buildout under the draft General Plan. The water supply analysis in the WSA and DEIR recognizes that the protection of the referenced species will be required, which is being developed through the HCP process. The DEIR also acknowledges that overall water supply may be reduced as a result of flow releases ultimately required for listed fishery species. This is discussed on pages 4.5-11 and 4.5-12 of the DEIR. However, at the time the DEIR was prepared there had been no estimates of potential flow releases or overall reduction to water supply. Just prior to the release of the DEIR for public review, the City submitted its proposed Conservation Strategy to NMFS in August 2011. The DEIR summarized provisions of this proposal as was known at the time the DEIR was prepared on Pages 4.5-12 and on pages 4.8-25 to 4.8-26.

Additional water system modeling and analyses are provided in the 2010 UWMP, which was adopted by the City Council in December 2011 (after the close of the public review period for this EIR). The model was recently updated, and the effect of HCP options on water supply reliability were factored into the model for each of the proposed three tiers. The model incorporated the best available information, including net water production over a 73-year period, and future operations beginning in 2015 under a yet to be approved Habitat Conservation Plan (HCP) with "Tier 2" stream flows factored into the model consistent with the City's proposed conservation strategy of the HCP for fish flows. The model was also updated to calculate the amount of new water supply capacity needed to limit peak season shortages to 15% as the curtailment goal set forth in the adopted IWP.

The updated and recently adopted 2010 UWMP indicates that it is now is certain that the City faces losing a portion of its long-established surface water resources due to federal and state regulations to protect endangered species. The actual amount in MGY is not known as negotiations with the agencies are in progress and there are many variables that affect the amount of releases, including different flow requirements for different life stages of the species,

daily and seasonal flow fluctuations and requirements, type of year (i.e., normal, single-dry, multiple-dry), and how different supply sources are utilized. However, based on the results of the modeling, the 2010 UWMP indicates that with proposed Tier 2 flows, water supplies in 2030 are estimated as 4,160 MGY in a normal year, 3,930 MGY in single-dry year, and 2,830 MGY in a multiple-year drought. The 2010 UWMP also identifies the needed capacity of a supplemental water source (desalination is the current preferred source) with implementation of each proposed tier. With Tier 2 flow releases, a 2.25 mgd plant would be required under existing conditions and a 2.75 mgd plant would be needed by 2030, assuming the 2007-08 level of water demand is maintained. If higher demand levels occur, a desalination plant capacity of 3.25 to 4.25 mgd could be required. Modeling of Tier 3 flows indicates that even assuming desalination capacities needed with Tier 2 flows, the City would experience water shortages much more often (statistically every other year) and would require much greater levels of total new water supply capacity (i.e., 7.50-9.75 mgd plant capacity) to maintain target levels of reliability.

Some comments indicated that Tier 3 flows should be utilized. The Tier 3 level proposed in the City's Conservation Strategy represents a flow scenario that is 80% of the optimum condition for the salmonid species present in the streams from which the City withdraws water. However, the 2010 UWMP indicates that without the addition of new water supply, the City would be incapable of virtually ever meeting Tier 3 flows, even in wet years. In dry years, and consecutive dry years, without additional supply, providing such flow would leave the City with only about 25% average water supply. For that reason, the 2010 UWMP does not consider the operation of the water system under a Tier 3 flow scenario unless and until a new supply is developed. However, the 2010 UWMP also acknowledges that should regulatory agencies mandate the City to release more water than is represented under Tier 2 flows, water shortages could be greater than projected in the Plan.

The HCP process has and will be the mechanism that will ultimately determine the appropriate flows for fish species protection and additional flow releases required of the City. Since this is a process that is still underway, what is known at this time is that some level of release will be required, and the City has offered its Conservation Strategy as a means to achieve species protection. The City acknowledges receipt of responses from NOAA and CDFG that the City's current proposal may not be acceptable, and ultimate flows may be different. CEQA does not require agencies to engage in speculation or to suspend all decision-making until independent regulatory processes, such as the HCP, conclude. Rather, the City may proceed, as it has done in this EIR, to make reasonable assumptions based on the best available data, including information in the WSA and most recent UWMP, and information that is available at the time the EIR is prepared.

As indicated in Master Response WS-1 above, changes have been to the DEIR to reflect these new estimates and information in the 2010 UWMP; see CHANGES TO DRAFT EIR (Chapter 3.0) of this document. The proposed General Plan update is evaluated at a programmatic level, and the analysis in the EIR does not examine the effects of site-specific projects that may occur within the overall umbrella of the General Plan update. The DEIR discloses potential reduction in supply due to implementation of the HCP to the extent that such information is available. The City and NMFS are currently working on the flow targets. The General Plan does not commit the City to providing water to a specific use or development. If in the future, water supplies are reduced below the levels currently anticipated in the City's water system modeling and 2010

UWMP, further amendments to adopted water plans may be required, and any specific projects triggering project-level environmental review and water supply assessments under the Water Code will be required to account for potentially changed assumptions and conditions.

It is also noted that interim flow releases began in 2007 and increased in 2008. As indicated in the 2010 UWMP, in accordance with the requirements of its water rights, the City releases a minimum flow of 1.0 cfs (equal to 0.65 mgd or approximately 20 MG per month) from storage in Loch Lomond to support fishery resources. In 2007, the City voluntarily began releasing in-stream flows from the North Coast system. Over the last three years, combined in-stream flow release on the North Coast system have averaged 0.39 mgd or about 11 MG per month (City of Santa Cruz Water Department, December 2011). The 2010 UWMP acknowledges that the City anticipates having to bypass substantially more flow in the future from the North Coast sources and from the San Lorenzo River once an agreement with regulatory agencies has been negotiated (Ibid.).

4.4 COMMENT LETTERS & RESPONSES

Agencies, organizations and individuals that submitted written comments on the draft EIR are outlined above in section 4.2. Each letter of comment is included in this section. As indicated above, the State CEQA Guidelines section 15088(a) requires a lead agency to evaluate comments on environmental issues and provide a written response. A response to each comment is provided immediately following each letter. As indicated in subsection 4.1 above, the emphasis of the responses will be on significant environmental issues raised by the commentors. (CEQA Guidelines, § 15204, subd. (a).) Appropriate changes that have been made to the Draft EIR text based on these comments and responses are provided in the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document.

LETTER 1

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

October 28, 2011

Ken Thomas
City of Santa Cruz, Planning Department
809 Center Street, Rm 107
Santa Cruz, CA 95060

Subject: General Plan 2030
SCH#: 2009032007

Dear Ken Thomas:

1-1 The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on October 27, 2011, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

Document Details Report
State Clearinghouse Data Base

LETTER 1

SCH#	2009032007
Project Title	General Plan 2030
Lead Agency	Santa Cruz, City of

Type	EIR Draft EIR
Description	The project is an update of the City's General Plan / Local Coastal Program 1990-2005 that includes elements required by State law and a land use map, as well as optional subjects related to community design and economic development. Goals, policies and actions are provided for each element. The General Plan 2030 Land Use Map and land use designations are largely unchanged from the 1990-2005 General Plan, except for three new mixed use land designations along major road corridors and designation changes for three specified sites. Buildout projections were estimated to provide an estimate of the amount of development that could occur by 2030. The Local Coastal Plan will be updated as a separate document.

Lead Agency Contact

Name	Ken Thomas		
Agency	City of Santa Cruz, Planning Department		
Phone	831 420 5148	***Fax***	
email			
Address	809 Center Street, Rm 107		
City	Santa Cruz	***State*** CA	***Zip*** 95060

Project Location

County	Santa Cruz			
City	Santa Cruz			
Region				
Lat / Long				
Cross Streets	Citywide			
Parcel No.				
Township		***Range***	***Section***	***Base***

Proximity to:

Highways	Hwy 1,9,17
Airports	
Railways	Union Pacific
Waterways	Monterey Bay, San Lorenzo River
Schools	UCSC
Land Use	Various

Project Issues	Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Landuse; Cumulative Effects; Other Issues
Reviewing Agencies	Resources Agency; California Coastal Commission; Department of Fish and Game, Region 3; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Management Agency, California; California Highway Patrol; Caltrans, District 5; Department of Housing and Community Development; Regional Water Quality Control Board, Region 3; Department of Toxic Substances Control; Native American Heritage Commission; Public Utilities Commission

Date Received 09/13/2011 ***Start of Review*** 09/13/2011 ***End of Review*** 10/27/2011

Note: Blanks in data fields result from insufficient information provided by lead agency.

LETTER 1 – CALIFORNIA GOVERNOR'S OFFICE OF PLANNING & RESEARCH, STATE CLEARINGHOUSE

1-1 The letter acknowledges that the City of Santa Cruz complied with the State Clearinghouse review requirements for review of draft environmental documents. No response is necessary.

LETTER 2

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

September 26, 2011

Clear
10/27/11

RECEIVED
SEP 27 2011
STATE CLEARING HOUSE

Ken Thomas
City of Santa Cruz Planning Department
809 Center Street, Room 107
Santa Cruz, CA 95060

RE: SCH# 2009032007 City of Santa Cruz General Plan 2030: Santa Cruz County.

Dear Mr. Thomas:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Completion (NOC) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

2-1✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
- If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
- If any known cultural resources have already been recorded on or adjacent to the APE.
- If the probability is low, moderate, or high that cultural resources are located in the APE.
- If a survey is required to determine whether previously unrecorded cultural resources are present.

✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
- The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
- The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.

2-2✓ Contact the Native American Heritage Commission for:
- A Sacred Lands File Check. . **USGS 7.5 minute quadrangle name, township, range and section required.**
- A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached.**

2-3✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
- Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
- Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
- Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Katy Sanchez
Program Analyst
(916) 653-4040

cc: State Clearinghouse

LETTER 2 – CALIFORNIA NATIVE AMERICAN HERITAGE COMMISSION

2-1 Archaeological Records Search. The comment recommends contacting the appropriate regional archaeological Information Center for a records search. This was conducted as part of the cultural resources study that is included in Appendix F-2 of the EIR. A summary of the results of the records search is presented page 4.9-10 of the DEIR.

2-2 Native American Heritage Commission Contact. Contact with the Native American Heritage Commission, as recommended in the comment, was made as part of the preparation of the cultural resources report. The results are summarized on page 4.9-10 of the DEIR and are described in Technical Appendix F-2. The NAHC indicated that the sacred lands file did not list cultural resources in the General Plan planning area.

2-3 Evaluation of Archaeological Resources. The draft General Plan 2030 does include policies to protect archaeological and cultural resources as summarized on Table 4.9-2 (page 4.9-21) of the DEIR. Existing City regulations (Municipal Code section 24.12.430) outline procedures to be followed in the event that archaeological resources are accidentally discovered during construction, including provisions for discovery of human remains. These provisions are typically applied to development projects as conditions of approval. Mitigation 4.9-1 adds an action to the draft General Plan that specifies the procedure for preparing archaeological investigations. Thus, the provisions for identification, evaluation and mitigation of cultural resources has been addressed in the draft General Plan and DEIR as recommended in the comment.

November 10, 2011

City of Santa Cruz
Attention: Ken Thomas, Principal Planner
Department of Planning and Community Development
809 Center Street, Room 106
Santa Cruz, CA 95060

Subject: City of Santa Cruz Draft General Plan 2030 Environmental Impact Report

Dear Mr. Thomas:

3-1 I am responding to your Notice of Availability of the Draft Environmental Impact Report for the City of Santa Cruz Draft General Plan 2030. LAFCO is a responsible agency for any projects that involve amendments to the City's Sphere of Influence, annexations proposals, or extraterritorial expansion applications of the City's water or sanitary sewer service areas.

With the exception of the UCSC North Campus area, the draft General Plan 2030 proposes to maintain the current City Sphere of Influence, as adopted by LAFCO. The North Campus Sphere of Influence Amendment (LAFCO No. 928) and the application (LAFCO No. 929) to provide extraterritorial water and sewer service to the North Campus will go to LAFCO hearing before the City's general plan update process is complete. The number of LAFCO matters in the General Plan EIR, separate from the North Campus issue, are quite limited.

3-2 Dimeo Lane

The City maintains its landfill and resource recovery facility at 605 Dimeo Lane on the North Coast. This facility is inside the City limits. My understanding is that the City has acquired property near the entrance to the facility that would allow for a future building to be constructed. Land Use Policy 2.2 in the Draft General Plan states that the City will not support expansion of the City Sphere of Influence or annex lands except within the current sphere of influence in the Carbonera area or in the North UCSC Campus. The Draft General Plan does not address Sphere expansion in the Dimeo Lane area. Since there may be operational advantages to annexing the newly acquired property, the City should consider either (1) including the newly acquired property in the General Plan's sphere expansion list, and analyzing it in the EIR; or (2) excluding the building site from the General Plan and EIR in order to purposely defer the environmental analysis until a comprehensive project description and environmental analysis is done after the City identifies the preferred site development details. Either option is satisfactory to LAFCO.

3-3 Paradise Park

On Page 4.6-2, the Draft EIR states that the Paradise Park area was annexed to the City's Fire Service Area. That wording misstates the LAFCO terminology. A better way to describe the situation is to say

that the City of Santa Cruz has entered into an automatic aid agreement with the County Fire Department, which is operated by CAL FIRE, to provide first response into Paradise Park because the City fire companies have significantly faster response times into Paradise Park than the County/CAL FIRE companies.

Please contact me if you have any questions about this communication.

Very truly yours,
/original signed/
Patrick M. McCormick
Executive Officer

LETTER 3 – LAFCO, Santa Cruz County

3-1 Sphere of Influence Amendments. The comment states that with the exception of the UCSC North Campus area, the draft General Plan 2030 proposes to maintain the current City Sphere of Influence (SOI), and the Sphere of Influence amendment for UCSC will go to LAFCO for a hearing. In addition to UCSC, the draft General Plan also includes a policy to amend the City's SOI in the Carbonera area and at the City's Landfill and Resource Recovery Center as summarized on page 4.1-19 of the DEIR. With regards to UCSC, hearings before LAFCO were held in December 2011 and March 2012. A decision has not yet been made, and the next scheduled meeting on the matter is set for June 2012.

3-2 SOI Amendment in Dimeo Lane. Policy LU2.2.3 has been drafted by City staff to be added to the General Plan 2030, which calls for amendment of the City's SOI to include the recently acquired 5.5-acre parcel adjacent to the City's existing landfill and Resource Recovery Center as summarized on pages 4.1-16 and 4.1-22 of the DEIR. Furthermore, the DEIR specifically acknowledges the 5.5-acre parcel on page 4.1-19: "The draft General Plan policies do not support expansion of the City's Sphere of Influence (SOI) or annexation except in the Carbonera Area (LU2.2.1), the UCSC north campus area pursuant to the UCSC/City Comprehensive Settlement Agreement (LU2.2.2), and a 5.5-acre addition to the City's Landfill and Resource Recovery Center (LU2.2.3)."

3-3 Paradise Park Fire Service. The comment suggests better wording to describe fire service provision to Paradise Park. The PUBLIC SERVICES & UTILITIES (Chapter 4.6) of the EIR has been revised as requested; see CHANGES TO DRAFT EIR (Chapter 3.0) of this FEIR document.

MBUAPCD
Monterey Bay Unified Air Pollution Control District
Serving Monterey, San Benito, and Santa Cruz Counties

24580 Silver Cloud Court
Monterey, CA 93940
PHONE: (831) 647-9411 • FAX: (831) 647-8501

November 14, 2011

Ken Thomas
Principal Planner
City of Santa Cruz
Department of Planning & Community Development
809 Center Street, Room 106
Santa Cruz, CA 95060

kthomas@cityofsantacruz.com
Original Sent 1st Class Mail

SUBJECT: DEIR for City of Santa Cruz Draft General Plan 2030

Dear Mr. Thomas:

4-1 The Monterey Bay Unified Air Pollution Control District (Air District) appreciates the opportunity to comment on the above referenced document. The Air District commends the City for their efforts to adopt policies and actions to reduce both air emissions and greenhouse gas (GHG) emissions.

4-2 The Air District is concerned with the air quality analysis due to the method used to estimate vehicle miles traveled (VMT) and the operational emissions analysis. The main concern with the document is how the VMT have been estimated. Typically, a traffic study or traffic analysis is used to develop VMT values for use in estimating air emissions. The air quality analysis used URBEMIS2007 to estimate VMT; however, this model is not intended to be used to project VMT for a general plan-level document. Using this method may have underestimated VMT for the plan. Please review and revise the VMT used to evaluate air quality and greenhouse gas impacts.

4-3 Furthermore, the project-level operational emission analysis presented in the air quality chapter of the DEIR needs to include criteria pollutant emissions from area sources.

In addition, the Air District submits the following comments regarding the above document:

4-4 Regulatory Setting, Federal Regulations, on Page 4.11-1.
The acronym for federal Clean Air Act should be “FCAA”.

Regulatory Setting, Regional Regulations, on Page 4.11-2.
In the last sentence of the first paragraph, add the term “Central” between “North” and “Coast”.

Existing Air Quality Conditions, Ambient Air Quality Standards, on Page 4.11-4.
Delete the sentence, “However, the numerical values for both standards are the same.”

Table 4.11.1 National and State Ambient Air Quality Standards on Page 4.11-5.
Update standards for ozone, nitrogen dioxide, sulfur dioxide, and lead to match current standards that can be found here: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf .

Table 4.11-2 Attainment Status for the North Central Coast Air Basin – January 2009 on Page 4.11-9.
Delete third footnote in table, EPA designations for $PM_{2.5}$ have been finalized and are effective.

4-5 Relevant Project Elements on Page 4.11-13 and Table 4.11-3, Proposed General Plan Policies & Actions that Reduce Air Emissions & Air Quality Impacts on Page 4.11-18.
Policy HZ2.1 states that the City will "strive to exceed air quality standards". Please note, in air quality terms, striving to exceed the standards essentially means striving to violate the standards. Please revise policy HZ2.1 to state that the City will "strive to achieve the ambient air quality standards".

4-6 Impacts and Mitigation Measures Conclusion on Page 4.11-17 and Appendix E, Memorandum Dated April 6, 2011, on Page 2.
The conclusion states, "reduce vehicle miles traveled and thus, air pollutant emissions from vehicle trips…" Recommend to re-word sentence to state that policies and actions would reduce vehicle trips rather than vehicle miles. Appendix E states that a trip length of 2.2 miles was used for emission calculations. It may be difficult to reduce the miles much lower than 2.2 miles per trip and may make more sense to reduce or eliminate vehicle trips to reduce emissions.

Please confirm the assumption of using a 2.2 mile trip length for all trip types since this is substantially lower than the County average. The trip types should include trips that remain contained within the City, pass through trips, trips that originate from the outside but end in the City, and trips that originate within the City but end outside. Explain how implementing the General Plan policies and actions could achieve reducing a 2.2 mile trip length. Using this short distance may limit the ability to reduce emissions by reducing VMT.

4-7 Table 4.11-3 Proposed General Plan Policies & Actions that Reduce Air Emissions & Air Quality Impacts on Page 4.11-18.
The intent of Policy HZ2.1 is to achieve the federal and State air quality standards. However, the actions HZ2.1.1 through HZ2.1.4 address how to reduce GHG emissions. How do actions HZ2.1.1 through HZ2.1.4 help in meeting federal and state air quality standards when standards have not been established for GHGs?

Table 4.11-3, Proposed General Plan Policies & Actions that Reduce Air Emissions & Air Quality Impacts on Page 4.11-18.
The second bulleted policy under Reduce Auto Vehicle Trips and Emissions indicates that the City will work to reduce automobile dependence and vehicle trips. The Air District suggests as a specific measure under these policies that the City encourage the University of California Santa Cruz (UCSC) to create affordable on-campus housing so that students will have an incentive to live on-campus, thus reducing trips and the associated motor vehicle emissions. This measure would also be consistent with the third guiding principle for the general plan presented in Table 3-1, where the City will seek a mutually beneficial relationship with UCSC to mitigate off-campus impacts on the community.

4-8 Future Project-Level Operational Emissions on Page 4.11-20.
The text states, "The estimated General Plan 2030 buildout could result in an increase of 78,236 new average daily trips (ADT)." Please provide a reference for the ADT value. This value does not match the URBEMIS2007 value output contained in Appendix E.

4-9 Future Project-Level Operational Emissions on Page 4.11-20.
The text states, "The methodology involved developing estimates of Vehicle Miles Travelled (VMT) within city limits…" Are the VMT estimates developed consistent with AMBAG projections? For example, were VMT associated with attracting vehicles from Santa Clara County to within City limits included in the estimate? The VMT should account for all vehicles entering and leaving the City.

Future Project-Level Operational Emissions on Page 4.11-20.
The Air District suggests that the City use the same criteria for estimating transportation and area source emissions in both the General Plan and the Climate Action Plan.

4-10 Table 4.11-4 Criteria Pollutant Emissions on Page 4.11-21.
The criteria pollutant emissions reported in Table 4.11-4 were estimated based only on VMT and does not account for area source emissions. The criteria pollutant area source emissions should be added to the table.

4-11 Conclusion and Mitigation Measures on Page 4.11-23.
Revise conclusion to state that construction-related emissions would potentially be significant. Add mitigation measure to require implementation of the following measures during construction of projects associated with buildout of the General Plan.

- Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure.
- Prohibit all grading activities during periods of high wind (over 15 mph).
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydro seed area.
- Haul trucks shall maintain at least 2'0" of freeboard.
- Cover all trucks hauling dirt, sand, or loose materials.
- Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land.
- Plant vegetative ground cover in disturbed areas as soon as possible.
- Cover inactive storage piles.
- Install wheel washers at the entrance to construction sites for all exiting trucks.
- Pave all roads on construction sites.
- Sweep streets if visible soil material is carried out from the construction site.
- Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Monterey Bay Unified Air Pollution Control District should be visible to ensure compliance with Rule 402 (Nuisance).

- Limit the area under construction at any one time.

4-12 Recommended Revisions to the Draft General Plan 2030 on Page 4.11-24. last sentence
Revise the sentence by replacing "Stationary sources…" with "Projects…".

Recommended Revisions to the Draft General Plan 2030 on Page 4.11-24.
Planting certain types of trees can have a beneficial impact on air quality. The Air District recommends adding a new action, HZ2.2.7, that states, "Encourage landscaping that includes vegetation, such as bushes and trees capable of reducing the impact of air emissions from diesel and gasoline-fueled vehicles traveling along roadways."

4-13 Impacts and Mitigation Measures, Impact 4.12-1 on Page 4.12-24
The section should include a qualitative discussion of potential GHG emissions from construction of projects similar to discussion in Section 4.11.

4-14 Impacts and Mitigation Measures on Page 4.12-25
Based on the data in Table 4.12-4, the value should be 408,**923** metric tons CO2e for 2030 Community GHG emissions from residential, commercial/industrial, and transportation. The text reports a value of 408,**983** metric tons CO2e.

Impacts and Mitigation Measures, on Page 4.12-25
The paragraph above Table 4.12-4 switches between using the "2005" and "2008" but Tables 4.12-3 and 4.12-4 only report emissions for 2008. Please review and change "2005" to "2008" if this is correct.

Impacts and Mitigation Measures, on Page 4.12-25 and Page 4.12-26.
Based on the values on page 4.12-16, in 1996 the City estimated 427,280 metric tons CO2e per year. In addition, the City estimated 351,321 metric tons CO2e per year in 2008. The 2030 General Plan projects 404,493 metric tons CO2e per year in the year 2030 (page 4.12-25), which includes reductions for transportation, electricity, and natural gas. However, the 2030 emissions represent a six percent decrease from 1996 levels and 13 percent increase from 2008 levels. Please explain how higher emissions in the year 2030 compared to the year 2008 demonstrates meeting the goal of achieving a 30% reduction in GHG emissions by 2020 (compared to 1990 levels) set forth in Policy NRC4.1.1.

Impacts and Mitigation Measures, on Page 4.12-26 footnote
Review the calculation of the total service population reported in the footnote. The total service population value calculated as 108,755 does not match the numbers in Section 4.2 Population and Housing, page 4.2-12, which are 67,022 population and 42,561 employees (109,583 service population).

4-15 Appendix E, Santa Cruz GP GHG Emissions, Memorandum Dated April 6, 2011, on Page 1.
This first paragraph indicates that the Bay Area Greenhouse Model (BGM) was used to estimate GHGs out to the year 2030. Please explain how the BGM was adjusted for use in the General Plan since the BGM is specific to the nine counties of the San Francisco Bay Area and not the City of Santa Cruz.

4-16 Appendix E, Memorandum Dated August 29, 2011, on Page 2.
This section indicates that URBEMIS2007 was used to calculate annual average daily emissions. Please describe the rationale of using URBEMIS to assess impacts at the General Plan level since URBEMIS is geared toward project level impacts. Also, please note the District's

significance threshold for criteria pollutants are based on peak daily emissions. Please develop figures using appropriate modeling for peak daily emissions.

4-17 Appendix E, Memorandum Dated August 29, 2011, on Page 2
Based on the URBEMIS2007 output, there would be area source emissions, in addition to the vehicle emissions, associated with the General Plan buildout. The area source emissions need to be added to the vehicle emissions and summarized in Appendix E and Table 4.11-4.

4-18 Appendix E, PM10 Emissions on Page 3.
The last sentence indicates that the 6 lb per day increase in PM10 between 2008 and 2030 represents a significant air quality impact. However, 6 lbs per day is well below the District's significance threshold of 82 lbs per day. Please revise to indicate a less than significance impact if appropriate.

4-19 Appendix E, URBEMIS Output
The land use values used in URBEMIS are inconsistent with the values presented on page 3-12 of General Plan EIR project description. See table below. Please confirm assumptions used to develop URBEMIS2007 emission estimates.

Land Use Type	**Value Used in URBEMIS2007**	**Value in GP EIR, Page 3-12**
Residential	446 Single Family	
	1,133 Apartments –low rise	
	1,510 Apartments – mid rise	
	558 Condo/townhouse general	
	3,647 Total Residential Units	3,350 Residential Units
Commercial	1,412,290 square feet Commercial	1,087,983 square feet
Office	1,318,920 square feet General Office Building	1,273,913 square feet
Industrial	783,540 square feet General Light Industry	776,926 square feet
Hotel	None	311 rooms

Thank you for the opportunity to comment on this document.

Best regards,

Robert Nunes
Air Quality Planner

Cc: Richard Stedman, MBUAPCD Air Pollution Control Officer
David Craft, MBUAPCD Air Quality Engineer
Amy Clymo, MBUAPCD Air Quality Planner

LETTER 4 – MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT

4-1 City Efforts to Reduce Emissions. The comment states that the Air District commends the City for their efforts to adopt policies and actions to reduce both air emissions and greenhouse gas (GHG) emissions. No response is necessary.

4-2 Methodology to Calculate Vehicle Miles Traveled (VMT). The comment questions how VMT was estimated as VMT is used to estimate air emissions. Typically, the URBEMIS program is run to estimate project-level air emissions. For the proposed project, the URBEMIS-2007 model was used for two purposes: to allow an estimation of new greenhouse gases as input to the BGM model, and to do an emissions trend analysis. The URBEMIS-2007 program is not recommended for use on large areas as it would tend to double count trips and is not a traffic model. So it would not be recommended for addressing all emissions from the City of Santa Cruz, for example. It is quite capable, however, of accurately calculating emissions from incremental land use changes, particularly where project-specific vehicle trip rates are available, as they were for the project. The URBEMIS-2007 program was applied only to the incremental growth accommodated by the plan through 2030. The URBEMIS-2007 run on project incremental growth was used by the BGM program to estimate greenhouse gas emissions from new development. It was also used in the emissions trend analysis to provide an estimate of the new vehicle miles travelled within city limits and to estimate area source emissions. The URBEMIS-2007 is fully capable of accurately estimating these parameters.

4-3 Area Source Emissions. The emissions trend analysis has been updated to include criteria pollutant emissions from area sources. See the revised technical memo in Appendix C of this document, as well as the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document for revisions to the air quality analysis.

4-4 Corrections to Environmental Setting Section. The comment lists several minor corrections and clarifications to the Environmental Setting section, which have been made where appropriate. See CHANGES TO DRAFT EIR (Chapter 3.0) of this FEIR document. The request to delete a sentence on page 4.11-4 is unclear as the sentence is cited in the District's current Air Quality Management Plan.

4-5 General Plan Policy HZ2.1. The comment suggests rewording draft General Plan policy HZ2.1 to better reflect air quality terms so that it reads that the City will strive to achieve, not exceed air quality standards". The change will be included with other policy/action word changes presented as part of the General Plan 2030 package submitted to the Planning Commission and City Council.

4-6 VMT Trip Length. The trip length of 2.2 miles was specifically chosen so that calculated emissions from the BGM model would reflect greenhouse gas emissions within the City boundaries. This was done because the greenhouse gas inventory for Santa Cruz only reflects emissions within City boundaries. Similarly, the criteria pollutant trends analysis quantified emissions of criteria pollutants within the City boundaries to allow

identification of emission trends. The 2.2 trip length mile was based on AMBAG data that was utilized in the City's "Master Transportation Study" (MTS), which reported approximately 74,000 VMT in the City and 33,000 trips for an average trip length of 2.2 miles. This is conservative (i.e., worst case) as it includes trips from outside the City; the trip length in the City would be slightly lower, the 2.2 trip length was used and is considered accurate.

The MBUAPCD has no quantitative standards or thresholds of significance applicable to a general plan. Regional impacts are primarily addressed through the consistency determination process, so the quantitative analysis of air quality and greenhouse gas emissions focused on determination of trends in emissions. Thus the 2.2 mile trip length does not represent a goal of the General Plan, it is simple a trip length representing the average trip length vehicles drive within City limits.

4-7 General Plan Policies and Actions that Reduce Air Emissions and Air Quality Impacts. The comment refers to Table 4-11-3 of the DEIR, which summarizes proposed General Plan policies and actions that reduce air emissions and air quality impacts, and questions how actions HZ2.1-1 through 2.1-4 support achieved air quality standards when they address greenhouse gas (GHG) emissions reductions. These actions are not specifically summarized in the referenced table as they pertain to GHG emission reductions. However, since the majority of GHG emissions are transportation-related, potential transportation-related GHG emissions reductions would also reduce other emissions.

The comment also suggests that a measure be added to policies that seek to reduce auto vehicle trips in which the City encourages the University of California to create affordable on-campus housing. This suggestion is not necessary as the "Comprehensive Settlement Agreement" that was negotiated as part of the settlement of lawsuits against the University's 2005 Long Range Development Plan EIR include provisions for increased on-campus housing. Specifically, the Agreement indicates that UCSC will provide 7,125 beds for student enrollment up to 15,000 and will provide additional housing to accommodate 67 percent of new-student enrollment above 15,000. This results in provision of a total of 10,125 available beds for an enrollment of 19,500. See pages 5-9 to 5-10 and 5-12 to 5-13 of the DEIR for further discussion. As part of the Settlement Agreement, the City agreed to incorporate the housing elements of this agreement in its 2008-2009 Housing Element update and the City's update to the General Plan. A program addressing student housing needs is included in the Housing Element.

4-8 Total Average Daily Trips. The comment asks for a reference for ADT. The DEIR text on page 4.11-20 notes that the estimated General Plan buildout would result in an increase of 78,236 new average daily trips (ADT). The ADT was provided by the traffic consultants based on trip generation rates taken from the Institute of Transportation Engineers' "Trip Generation - An ITE International Report", 8th Edition (2008), and applied to residential units and commercial, office and industrial square footages estimated for buildout. Some adjustments were made for mixed use and development along the major corridors as explained in Appendix C in the DEIR. The ADT calculated by the URBEMIS program for the DEIR analysis resulted in a slightly higher level of trips at approximately 105, 344 daily trips. The URBEMIS-2007 program was re-run with

the buildout estimates included in the DEIR. (See the revised air quality memos in Appendix C of this document). The results show a slightly lower ADT of approximately 91,100. Although slightly higher than the ADT provided by the traffic analysis, the results do not indicate potential significant impacts related to air quality.

4-9 Vehicle Miles Traveled. The VMT estimates were generated using Caltrans's Highway Performance Model System (HPMS) data for baseline data combined with estimated VMT for General Plan 2030 growth through 2030 specifically for the City of Santa Cruz. It is not the product of a transportation model, so it cannot be said whether it is consistent or inconsistent with AMBAG projections. See also Response to Comments 4-2 and 4.8 regarding VMT and daily trips. The comment also suggests that the City use the same criteria for estimating transportation and area source emissions in both the General Plan and Climate Action Plan. The Climate Action Plan focuses on greenhouse gas emissions, while the air quality analysis for the General Plan takes a broader view of transportation-related emissions to include criteria pollutants.

4-10 Area Source Emissions. See Response to Comment 4-3.

4-11 Future Construction Impacts. The comment suggests that future construction impacts would be significant. At a program-level analysis, the DEIR concluded that future project-level construction emissions would not be significant because proposed General Plan policies require project-level development review, which would include utilizing Air District significance thresholds and recommended mitigation measures so as to avoid significant construction-related emissions impacts as discussed on DEIR page 4.11-23. This conclusion is also consistent with comments received from the Air District on the EIR's Notice of Preparation. Additionally, the District's recommended mitigation measures for identified significant project construction impacts as outlined on page 8-3 of its "CEQA Guidelines" (February 2008) are the same as those outlined in the comment. Recommended language changes to Action HZ2.2.1 are suggested on pages 4.11-23 to 4.11-24 in the DEIR to make this intent clearer.

4-12 Recommended Revisions to Draft General Plan Policies. The comment suggests replacing the word "stationary sources" with "projects" in the discussion of Toxic Air Contaminants (TACs) on page 4.11-24. However, TACs typically result from stationary sources, and the suggested wording is unnecessary as any project with the potential to emit TACs would potentially be subject to Air District regulations. The comment also suggests adding an action that encourages landscaping along roadways to reduce air quality impacts. This is included in Action M3.3.4 that states: "Mitigate safety, noise, and air quality impacts from roadways on adjacent land uses through setbacks, landscaping, and other measures." This action has been added to the summary in Table 4.11-3; see the CHANGES TO DRAFT EIR (Chapter 3.0) of this document.

4-13 GHG Emissions from Future Construction. The proposed project as a general plan update is evaluated at a program level in the EIR. There is no specific development or projects proposed at this time under which construction impacts would occur in which construction-related GHG emissions would occur. Nonetheless, a qualitative discussion has been added as requested by the commenter, on page 4.12-26; see the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document.

4-14 GHG Emissions Analysis. The comment raises several questions regarding facts included in the GHG emissions analysis. The commenter is correct that the AMBAG forecast of GHG emissions for residential, commercial/industrial and transportation sections is 408,923 and not 408,983 MT CO_2e as reported in the DEIR. This typographical error has been corrected as has the reference to the year 2005, which should be 2008; see the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document.

The comment also questions how the General Plan emissions in 2030 achieve a 30% reduction in GHG emissions as set forth in Policy NRC4.1.1. The overall reduction policy is applicable to the entire City and all types of uses and sectors, not just the emissions generated form potential buildout under the draft General Plan. The preparation and implementation of a Climate Action Plan as proposed in draft General Plan Action NCR4.1.2 will look at all the combined measures to achieve this goal. For the purpose of CEQA, the significance criteria used for the General Plan impact analysis is per capita increase as described on page 4.12-22 of the DEIR, which is consistent with criteria being evaluated by the Monterey Bay Unified Air Pollution Control District.

Regarding the population numbers in footnote 9 on page 4.12-26, the commenter is correct that the existing population is in error. This has been corrected as shown in the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document. With the corrected population, the per capita GHG emissions are similar, but slightly less than reported in the DEIR.

4-15 Appendix E – GHG Emissions Methods. The BGM program was developed by the Bay Area Air Quality Management District but is flexible enough to be applied to areas outside the BAAQMD. Transportation and area source emissions used by BGM are taken from URBEMIS-2007, which was run using Santa Cruz County inputs. Solid waste disposal and Water/Wastewater emissions are calculated using statewide protocols that are applicable in Santa Cruz County and based on PG&E emission rates, which are applicable both the Bay Area and Santa Cruz County.

Electrical usage and natural gas consumption are two sources of GHG that are partially determined by Climate Zone and thus vary from region to region. It is possible to change electrical and natural gas usage rates in BGM, however, this is not necessary since a portion of the BAAQMD shares the same Climate Zone with Santa Cruz. By specifying Climate Zone 5, BGM utilized electrical/natural gas parameters appropriate for Santa Cruz.

4-16 Appendix E – Air Emissions Methods. See Response to Comments 4-2 and 4-6. It is noted that the MBUAPCD's CEQA significance thresholds are applicable to daily emissions from individual projects.

4-17 Appendix E – Area Source Emissions. The analysis of air pollutant trends in Santa Cruz has been expanded to include area sources. See Response to Comment 4-3.

4-18 Appendix E – PM_{10} Emissions. The analysis of air pollutant trends in Santa Cruz has been revised to document area source emissions and accurate land use assumptions as

described in Response to Comments 4-3 and 4.8. The revised technical memoranda are included in Appendix C of this document. The revised analysis shows that PM_{10} emissions would slightly increase by 2030 to approximately 38.4 pounds per day, which would be below the District's significance threshold of 82 pounds per day as noted in the comment. Thus, the significance of project PM_{10} impacts has been changed to less than significant.

4-19 Appendix E – Land Use Values Used in URBEMIS. The DEIR analysis of GHG and criteria pollutant emission trends have been updated to reflect the land uses shown on page 3-12 of the DEIR. (See revised memos in Appendix C of this document.) Although the updated emissions estimations vary slightly with those in the DEIR, conclusions regarding the significance of the emissions are unchanged, except that project PM_{10} impacts are now considered less than significant, consistent with MBUAPCD comment 4-18.

LETTER 5

CITY OF SANTA CRUZ

WATER DEPARTMENT

212 Locust Street, Suite C, Santa Cruz, CA 95060 • (831) 420-5200 • Fax (831) 420-5201

November 9, 2011

City of Santa Cruz
Department of Planning & Community Development
Attn: Ken Thomas
809 Center Street, Room 106
Santa Cruz, CA 95060

Re: Water Commission Comments in the General Plan 2030 Draft EIR

Dear Mr. Thomas:

5-1 At its November 7, 2011 meeting, the Water Commission discussed the General Plan 2030 Draft EIR. On behalf of the Water Commission, here is the comment they wished to provide:

The Final EIR should be updated to contain current information based on the 2010 Urban Water Management Plan.

Sincerely,

Lydia Tolles

Lydia Tolles
Management Analyst

LETTER 5 – CITY OF SANTA CRUZ WATER DEPARTMENT

5-1 Updated Urban Water Management Plan (UWMP). The comment asks that the Final EIR be updated to contain current information based on the 2010 Urban Water Management Plan (UWMP). The UWMP was adopted by the City Council on December 13, 2010. The EIR text has been revised to include updated information presented in the Plan; see the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document. See also Master Response WS-1 above.

LETTER 6

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Ave., Room 325
Santa Rosa, CA 95404-4731

RECEIVED
NOV 21 2011
CITY PLANNING DEPT

November 16, 2011

In response refer to:
151422SWR2011SR00549

Juliana Rebagliati, Director
Santa Cruz Planning Department
809 Center Street, Room 107
Santa Cruz, California 95060

Dear Ms. Rebagliati:

Thank you for this opportunity to comment on the City of Santa Cruz's (City) 2011 General Management Plan (GMP) Draft Environmental Impact Report (DEIR). The purpose of the DEIR is to identify the potential environment impacts of the proposed City of Santa Cruz GMP to the year 2030, pursuant to California Environmental Quality Act Guidelines.

6-1 NOAA's National Marine Fisheries Service's (NMFS) review of the DEIR focused on the Water Supply Analysis Section 4.5, which evaluates the City's water supply system and the ability to meet current and projected demand. The City's water supply system is composed of four main water sources from surface water diversions: North Coast Sources, San Lorenzo River Diversions, Loch Lomond Reservoir, and Live Oak Wells. The San Lorenzo River and North Coast streams historically and currently maintain populations of Central California Coast (CCC) Evolutionary Significant Unit (ESU) coho salmon (*Oncorhynchus kisutch*) and CCC steelhead (*O. mykiss)* Distinct Population Segment (DPS).

Central California Coast steelhead were listed as a threatened species on August 18, 1997 (62 FR 43937), pursuant to the Federal Endangered Species Act (ESA) of 1973, as amended. Central California Coast coho salmon were listed as a threatened species on October 31, 1996 (61 FR 56138). The listing status of CCC coho salmon was upgraded to endangered effective August 29, 2005 (70 FR 37160). Coho salmon in Santa Cruz represent the southern extent of the species' North American range. Since the last formal review (Good *et al.* 2005) all evidence indicates conditions have worsened for coho salmon populations in the ESU (Spence and Williams 2011). NMFS is concerned that this species is close to extirpation in Santa Cruz County watersheds and significant conservation actions will be necessary to halt and reverse their decline.

Under the ESA, it is unlawful for any person subject to the jurisdiction of the United States to "take" any species of fish or wildlife listed as threatened or endangered (16 U.S.C. § 1538(a)(1)(B)). The term "take" is defined by the ESA to mean harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such activity (16 U.S.C. § 1532(19)). "Harm" has been further defined by NMFS to mean:

> ... an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding or sheltering (50 C.F.R. § 222.102).

The protective regulations for CCC coho salmon and CCC steelhead describe certain activities that are most likely to cause "harm" resulting in a violation of the ESA. These activities, which may pertain to the diversion of water from the San Lorenzo River and North Coast streams, include, in part:

> "Removing water or otherwise altering streamflow when it significantly impairs spawning, migration, feeding, or other essential behavioral patterns . . ."

The City has not given assurances it is capable of meeting current and total annual water requirements as stated in the Water Supply Analysis (Section 4.5) of the DEIR and maintain suitable habitat conditions for federally protected fish species. During critically dry years, the impacts to listed species are even more significant to adult and juvenile salmonids by limiting passage opportunities and reducing water quality. NMFS continues to support the City's goal of
6-2 augmenting water supply to the City's customers through water conservation, customer curtailment, and a new water supply project to meet current and projected water needs. A new water supply will offer opportunities to decrease the City's reliance on summer surface water diversions leading to improvements in in-stream water quantity and quality, groundwater recharge, and improved water distribution.

6-3 NMFS and the City are currently in the process of developing a Habitat Conservation Plan (HCP) to provide conservation for CCC coho and CCC steelhead and minimize impacts from the City's water operations. The specific flow targets for multiple life stages of CCC coho and CCC steelhead have not been determined, though it is expected the HCP will require additional flow releases to avoid and/or minimize impacts to populations of federally protected species above current levels.

The DEIR cannot accurately address impacts to multiple life stages of CCC coho or CCC steelhead without first determining the required flows needed to maintain CCC coho and CCC steelhead habitat. In order to do this, the HCP will need to be fully developed and finalized. It is likely the City will need to provide additional surface water flows to provide fish habitat and additional water needs should be analyzed in the DEIR Water Supply Analysis. Until the flow targets in the HCP for CCC coho and CCC steelhead and their designated critical habit are developed, the DEIR Water Supply Analysis is not identifying the potential environmental impacts of the GMP.

NMFS appreciates the opportunity to comment on the City's DEIR. If you have questions or concerns regarding this letter, please contact Mr. Devin Best (707) 578-8553 or via email at Devin.Best@noaa.gov.

Sincerely,

Dick Butler
North Central Coast Office Supervisor
Protected Resources Division

cc: Toby Goddard, Water Department, City of Santa Cruz
Pat McCormick, Executive Officer, LAFCO, Santa Cruz County
Chad Mitcham, USFWS, Ventura
Suzanne Deleon, CDFG, Yountville
Phil Hammer, CCRWQCB, San Luis Obispo
Don Stevens, Santa Cruz
Copy to file: 151422SWR2011SR00549

Literature Cited

Good, T.P., R.S. Waples, and P. Adams, editors. 2005. Updated status of Federally listed ESUs of West Coast salmon and steelhead. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-NWFSC-66. Santa Cruz, California.

National Marine Fisheries Service. 2010. Public Draft Recovery Plan for Central California Coast Coho salmon (Oncorhynchus kisutch) Evolutionary Significant Unit. National Marine Fisheries Service, Southwest Region, Santa Rosa, California.

Spence, B., and T. Williams. 2011. Status Review Update for Pacific Salmon and Steelhead Listed Under the Endangered Species Act: Central California Coast Coho Salmon ESU. National Marine Fisheries Service, Fishery Ecology Division, Southwest Science Center.

LETTER 6 – U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

6-1 Water Supply and Impacts to Listed Species. The letter indicates that the City's water supply (San Lorenzo River and North Coast streams) historically and currently maintains populations of listed species – coho salmon and steelhead. The National Marine Fisheries Service (NMFS) is concerned that water withdrawals are having an adverse impact on the species, especially during critically dry years, and states that the City has not given assurances it is capable of meeting water demand requirements identified in the DEIR. As indicated in Master Response WS-2, the recently updated and adopted 2010 UWMP indicates that it is now certain that the City faces losing a portion of its long-established surface water resources due to federal and state regulations to protect endangered species, but the actual amount of reduction in MGY is not known at this time, as negotiations with the agencies are in-progress and there are many variables that affect the amount of releases, including different flow requirements for different life stages of the species, daily and seasonal flow fluctuations and requirements, type of year (i.e., normal, single-dry, multiple-dry), and how different supply sources are utilized. The HCP process has been and will be the mechanism that will ultimately determine the appropriate flows for fish species protection and additional flow releases required of the City. Since this is a process that is still being determined, what is known at this time is that some level of additional release will be required, and the City has offered its Conservation Strategy as a means to achieve species protection. The City acknowledges receipt of responses from NOAA and CDFG indicating that the City's current proposal may not be acceptable, and ultimate flows may be different than those assumed in the City's proposal. This EIR, however, has made reasonable assumptions about possible reductions based on the best available data, including information in the WSA and most recent UWMP, and information that was available at the time the EIR was prepared.

6-2 Support of City Goals. The comment supports the City's goal of augmenting water supply through water conservation, customer curtailment and a new water supply source. The comment is noted; no response is necessary.

6-3 HCP-Required Flow Releases and Effects on Water Supply. The comment states that the NMFS and the City are currently in the process of developing a HCP to minimize impacts from the City's water operations, and that specific flow targets for multiple life stages of coho and steelhead have not been determined, although it is expected that the HCP will required additional flow releases to avoid and/or minimize impacts to these species. Until flow targets are developed, the Water Supply Analysis cannot identify potential impacts. See Master Response WS-2, which further responds to potential water supply reductions due to potential future flow releases to protect fish species.

State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
(707) 944-5500
www.dfg.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

LETTER 7

November 1, 2011

Mr. Toby Goddard
Water Conservation Manager
City of Santa Cruz
809 Center Street, Room 107
Santa Cruz, California 95060
tgoddard@cityofsantacruz.com

Dear Mr. Goddard:

Subject: City of Santa Cruz's Urban Water Management Plan and Water Supply Assessment for General Plan 2030

7-1 The Department of Fish and Game (DFG) has reviewed the Urban Water Management Plan (UWMP) and the Water Supply Assessment in addition to other supporting documents as they pertain to water availability for the Sphere of Influence Amendment and Habitat Conservation Plan for the City of Santa Cruz's (City) diversions. DFG, as a Trustee Agency, is responsible for the conservation, protection and management of the State's biological resources. DFG is providing these comments to assist the City in its long-term planning efforts and to better coordinate our efforts to analyze and minimize impacts from increased demands on the City's water supply system on sensitive biological resources.

As stated in Section 5.1.2 of the UWMP, DFG, National Marine Fisheries Service (NMFS) and the City are currently in the process of developing a Habitat Conservation Plan (HCP) and California Endangered Species Act Incidental Take Permit in order for the City to comply with state and federal Endangered Species Acts for coho salmon and Central California Coast Distinct Population Segment steelhead. As such, the City, in consultation with NMFS and DFG, is evaluating the effect of the diversions on steelhead and coho salmon, with the expectation that the City shall obtain from DFG an Incidental Take Permit and a Streambed Alteration Agreement for diversion of water.

7-2 DFG is concerned that the Water Supply Analysis does not accurately consider the amount of flow needed to maintain fisheries resources below the points of diversion. It is likely that the City will need to release additional water to maintain fisheries habitat in good condition and the amount of water needed for those releases should be considered in the Water Supply Analysis. The City has recently drafted a Conservation Strategy to support the HCP that relies on a three-tiered system for instream flows. Current operations (similar to Tier 1) at the City's existing facilities are not favorable for most life history stages of salmonids at the current demand level and do not provide adequate stream flow conditions for fish.

Minimum bypass flows proposed under Tier II will not provide sufficient flow for several life history stages of salmonids in many years. However, Tier III flows, as proposed, will provide at least 80% of the instream habitat value that would exist in the absence of the City's diversions. As such, any Water Supply Analysis should consider the amount of water needed to maintain Tier III releases with the understanding that further consultation will provide more specific flow recommendations.

7-3 DFG is recommending that the UWMP be delayed until after the City, NMFS and DFG complete their evaluation of the City's diversion operations on fisheries resources. The Water Supply Analysis should be revised to include release of sufficient flow needed to maintain instream resources which should be available upon completion of the HCP and issuance of DFG's Streambed Alteration Agreements and ITP. If the UWMP cannot be delayed, then the UWMP should be revised to include a scenario for release of Tier III flows in order to provide a more accurate estimate of the amount of water that may be required to maintain fisheries resources.

If you have any questions, please contact Ms. Corinne Gray, Staff Environmental Scientist, at (707) 944-5526 or cgray@dfg.ca.gov; or Mr. Scott Wilson, Environmental Program Manager, at (707) 944-5584.

Sincerely,

Scott Wilson FOR

Carl Wilcox
Regional Manager
Bay Delta Region

cc: Devin Best, National Marine Fisheries Service
devin.best@noaa.gov

Patrick McCormick, Santa Cruz Local Agency Formation Commission
pat@santacruzlafco.org

LETTER 7 – CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG)

7-1 Comments on UWMP and WSA. The comment indicates that CDFG has reviewed and is providing comments on the City's Urban Water Management Plan (UWMP) and Water Supply Assessment (WSA) prepared for the draft *General Plan 2030*. The comment further indicates that CDFG, NMFS, and the City are currently in the process of developing a Habitat Conservation Plan and California Endangered Species Act Incidental Take Permit for coho salmon and steelhead trout. Comments addressing the WSA are addressed below.

7-2 Water Supply and Impacts to Listed Species. The comment expresses concern that the WSA does not accurately consider the amount of flow needed to maintain fisheries and that it is likely that the City will need to release additional water to maintain fisheries habitat. The HCP process has and will be the mechanism that will ultimately determine the appropriate flows and additional flow releases required of the City. Since this is a process that is still underway, what is known at this time is that some level of release will be required, and the City has offered its Conservation Strategy as a means to achieve species protection. The comment further indicates that the WSA should consider the amount of water needed to maintain Tier III releases. The commenter's recommendation is noted. See Master Response WS-2 for further discussion.

7-3 UWMP Comment. This comment addresses the draft UWMP and not the draft General Plan 2030 Draft EIR, and no response is required.

From: Rick Longinotti [mailto:longinotti@baymoon.com]
Sent: Sunday, November 13, 2011 11:10 AM
To: Ken Thomas
Subject: Comments on Gen Plan EIR

Dear Ken,

Attached are comments from Santa Cruz Desal Alternatives on the water section of the EIR draft.
Also attached are my personal comments on revising the General Plan to reflect the information in the Vulnerability Study.

Best,
Rick

Rick Longinotti, MFT
http://www.findingharmony.org
831 515-8072

Comments on the Draft EIR's section 4.5: Water Supply

8-1 **1. Supply projections**

"There would be sufficient water supplies until the year 2030 under the Estimate 2 growth scenario in which average water use would continue along the same trend as experienced in the last few years (Ibid.). This does not take into account potential reductions in water supply that could reduce the City's estimated normal year capacity of approximately 4,300 MGY due to potential changes in North Coast or San Lorenzo River diversions resulting from federal and state agency decisions." P31

There is now sufficient information for the EIR to take into account the potential reductions in the City's water supply due to fish habitat. The final EIR should estimate the reduction in water supply based on figures in the City's *Draft Conservation Strategy*, submitted to National Marine Fisheries Service (NMFS) in August, 2011.

The Tier 2 levels proposed in the *Conservation Strategy* for normal rainfall years should be used as *the low estimate* for how much the City's water supply will diminish in those years. The reduction will certainly not be any less than what the City has proposed in this document, and is likely to be significantly higher if the City's proposal is not accepted.

My conversations with fisheries agency staff indicate that they consider Tier 2 flows in normal years inadequate for native salmonid recovery. This suggests that the EIR should make a higher estimate for diminished water supplies. I suggest that the basis for this higher estimate would be Tier 3 water flows in normal rainfall years, and Tier 2 flows in critically dry years. Tier 3 flows are defined as "flow targets that more closely approximate regulatory agency goals" (April 5, 2011 HCP Update)

Tier 3 flows would reduce normal year water supply to 3740 million gallons/year according to the following chart supplied by the Water Department.

Water Production in Normal Years with Tier 3 Flows

	Million gals/year
North Coast streams	630
San Lorenzo River	1900
Live Oak Wells	170
Loch Lomond	1040
Total Supply	**3740**

The EIR should indicate that the 3740 million gallons/year normal water supply with Tier 3 flows assumes that the maximum water rights allocation of Loch Lomond Reservoir water would be used up in a normal year. This assumption is counter to the actual practice of the Water Department, which is to keep a prudent reserve in the reservoir at the end of the dry season in normal years, according to Toby Goddard, City Conservation Manager (Nov 1 Council Study Session). If in actual practice the City were to use its maximum water rights limit of reservoir water in normal years, the resulting drop in

reservoir levels would create a severe shortfall in the event of a subsequent two-year drought (source: *Draft UrbanWater Management Plan)*. This is an unacceptable scenario. Hence the EIR should assume a lower use of reservoir water in normal years in order to maintain a prudent reserve as shown below:

Water Production in Normal Years with Tier 3 Flows with Prudent Reservoir Use

	Million gals/year
North Coast streams	630
San Lorenzo River	1900
Live Oak Wells	170
Loch Lomond	590 (provides 80% capacity on Oct 1)
Total Supply	**3290**

Thus the total City water supply with Tier 3 flows and a prudent reservoir reserve would be 3290 million gallons.

A similar adjustment of Loch Lomond allocation should be made in figuring the high estimate for normal year water supply (using Tier 2 flows). The resulting high estimate for City normal year water supply assuming Tier 2 flows is 3560 million gallons.

Using this range of 3290 to 3560 million gallons as the City's normal year water supply requires a revision in the draft EIR's conclusion that existing water supplies are adequate to serve the development anticipated by the General Plan until at least 2020.

8-2 **2. Demand projections**

> *Water demand projections for the City's water service area were reviewed and updated as part of the preparation of the Water Supply Assessment and project impact analysis conducted for this EIR. Total water demand in the City's water service area is now estimated as approximately 4,050 to 4,550 MGY in the year 2030.* page-10

These high and low demand projections are based on an assumption that the demand from UCSC campus expansion will adhere to figures estimated in the Comprehensive Settlement Agreement. The February, 2011, decision by LAFCO to require water service extensions to be water-negative needs to be factored into these demand projections.

Also, the demand projections cited above do not account for conservation savings. The projections are inadequate without an estimate for future net water demand (after accounting for conservation).

3. History of water supply strategies

8-3 *Artificial groundwater recharge was considered as a means to improve reliability/sustainability during a drought, but was not found to be a viable alternative as there are no surplus water sources available for recharge.* Page 19

This conclusion needs to be updated in light of the study commissioned by John Ricker, County Water Resources Director, that show excess water available in the San Lorenzo River during winter months. Likewise the discussion of water transfers with neighboring districts needs to be updated to include the information in Ricker's report.

8-4 ***Improvements to Existing Facilities***
Improvements to maximize use of existing water sources and storage were identified that collectively could provide approximately 600 MGY during a two-year drought. The upgrades could include additional treatment for turbidity on the North Coast supply; capacity upgrades of the North Coast pipeline; treatment and/or facility upgrades for turbidity at the Tait Street intake; capacity upgrades at the Coast pump station; and/or upgrading the hydraulic capacity of the Felton/Loch Lomond supply system. The upgrades would provide additional supply during drought and non-drought years and would also improve operational reliability and flexibility, but shortfalls during multiple dry year scenarios would continue to occur (Carollo Engineers, November 2000).

The EIR needs to explain the why this strategy, which "could provide approximately 600 million gallons a year during a two-year drought" is not being pursued, while a desalination facility, expected to produce 455 million gallons/yr during a drought, is the preferred strategy. The EIR should also note that the Carollo Engineers study concluded that this strategy has "no permitting fatal flaws", and that "None of the potential [environmental] impacts are thought to be significant."

- *Rick Longinotti*

LETTER 8 – RICK LONGINOTTI, SANTA CRUZ DESAL ALTERNATIVES

8-1 Water Supply Reductions with HCP. The comment states that "there is now sufficient information for the EIR to account for potential reductions in the City's water supply due to fish habitat." As indicated in Master Response WS-1, the EIR text has been revised to account for the City's recently updated and adopted UWMP, which accounts for the City's proposed Conservation Strategy. The comment also suggests that Tier 3 flows in normal rainfall years and Tier 2 flows in critically dry years should be used to determine water supply reductions. The commenter provides estimates of available water supply in normal years with the proposed Tier 3 conservation strategy as 3,290 to 3,560 million gallons per year (MGY). It is not clear how the commenter's estimates were developed. As discussed in Master Response WS-2, however, the City does not consider Tier 3 releases to be feasible without an expanded supplemental water supply. Furthermore, the City's recently updated 2010 UWMP includes updated water system modeling that identifies available water supplies with Tier 2 flow releases. See Master Response WS-2 for further discussion. The DEIR text has been revised to reflect updated information and analyses contained in the adopted 2010 UWMP; see the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document.

The commenter also suggests a lower use of Loch Lomond reservoir supplies during normal years in order to maintain a reserve. According to Water Department staff, Loch Lomond was originally intended to meet dry-year demands during peak summer months when other water supply sources are insufficient to meet peak demands, i.e., North Coast streams. The recently updated and adopted 2010 UWMP indicates that the City's Live Oak wells and Loch Lomond are used in the summer and fall; withdrawals from the reservoir vary between 2 and 4 mgd depending on weather and customer demands. Withdrawals are also made from Loch Lomond during the winter season when the North Coast and San Lorenzo River sources become untreatable due to excessive turbidity from storm runoff. As indicated in the UWMP, between 1986 and 2010, Loch Lomond provided on average about 18% of the City's annual water production. The reservoir has never been intended to be reserved for use only as drought protection, but rather for but rather for meeting peak summer demands when streams from which the City draws its supplies were insufficient to meet water demand. If it were used less during normal years to satisfy daily peak demands as suggested by the commenter, the City would be in the position of having to enforce water restrictions virtually every summer when daily peak demands exceed the flowing sources, as overall supply would not meet peak summer demand.

8-2 UCSC Water Demand Projections. The comment indicates that the high and low water demand projections in the DEIR are based on an assumption that the demand from the UCSC campus will "adhere to figures estimated in the Comprehensive Settlement Agreement." The cited high and low demand projections are based on two different water use trends identified in the 2005 UWMP for the entire water service area as explained in the DEIR on page4.5-10. The water demand projections within the City's water service area were updated in the recently adopted 2010 UWMP as summarized in Master Response WS-1 and in the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document.

The UCSC water demand projection was based on information developed by the University as part of its 2005 Long Range Development Plan as updated in the Water Supply Assessment prepared for the EIR on the proposed City of Santa Cruz Sphere of Influence Amendment and provision of extraterritorial water and sewer service to UCSC as described on page 5-30 of the DEIR. In December 2011 (after the close of the public review period for the General Plan DEIR), LAFCO tentatively approved amendment of the City's Sphere of Influence and provision of extraterritorial water and sewer service to a portion of the North Campus area of UCSC with a condition that future development of UCSC not result in a net increase in water demand. In essence, the LAFCO approval as conditioned requires that the water demand from future UCSC development be offset (on- or off-campus) so that there is no net increase in water demand. Subsequently a water conservation program was drafted and approved by the Santa Cruz City Council in February 2012. Thus, the overall water service area demand in the year 2030 may be reduced by 136 MGY, the estimated UCSC water demand to the year 2030. The 2030 total water service area demand would be reduced to between 3,910 and 4,401 MGY. LAFCO has not yet taken final action regarding the provision of water and sewer services to UCSC, and its next meeting to consider the matter is scheduled for June 2012. The outcome of this meeting and decision is unknown at this time. The DEIR text has been revised; see the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document.

The comment also indicates that the demand projections cited in the DEIR do not account for conservation savings. However, as indicated above, the projections in the DEIR were based on the two scenarios that reflected different levels of water demand based on use trends. The 2010 UWMP further refined these projections based on water demand trends in the 2000s, and used the lower demand projections that reflects lower water use trends in the late 2000s. Thus, water conservation savings is implicit in the City's overall projections as the UWMP assumes that the lower water demand (and water conservation) will continue. Furthermore, as indicated in the 2010 UWMP, there has been a larger reduction in water use from water conservation programs than there has been an increase in water use by new connections over the last ten years with a net decrease of almost 80 MGY over the past 10 years.

8-3 Artificial Groundwater Recharge. The comment indicates that the DEIR's conclusion that artificial groundwater recharge was not considered viable should be updated in light of recent County studies regarding water transfers. The cited conclusion on page 4.5-19 dealt with potential groundwater recharge on the North Coast. As further explained in the referenced DEIR paragraph, even if flows were available, there would be a need for a water rights change that could effectively preclude conjunctive uses with surface and groundwater. Additionally, any petition to change water rights would be a lengthy process.

The current studies by the County of Santa Cruz cited in the comment address conjunctive water use, which involves utilization of multiple water sources, usually both surface and groundwater sources, in a way that maximizes water storage and availability under different climatic conditions. According to a staff report on the subject, efforts have been undertaken to identify the best approaches for conjunctive

use and increased groundwater storage in the Lower San Lorenzo Watershed and Scotts Valley County of Santa Cruz Health Services Agency, May 2011. The first phase evaluates a variety of water sources and methods for increasing groundwater storage, including: restoration of stormwater infiltration in urbanized areas of Scotts Valley, water transfers of surplus winter streamflow from Santa Cruz to reduce Scotts Valley area groundwater pumping, and use of winter streamflow for direct groundwater recharge. Under these scenarios, the excess winter flows from the City's San Lorenzo River Tait Street source would be diverted, treated and delivered to Scotts Valley or Soquel for direct use as potable water instead of pumped groundwater (in-lieu recharge) or for infiltration to the basin (managed recharge).

The County report also notes that other conjunctive use projects are also being evaluated to address the overall water supply shortage issues, including: 1) a project being considered by Scotts Valley Water District and the City of Santa Cruz that would result in the delivery of recycled water from Scotts Valley to the Pasatiempo Golf Course for summer irrigation, with the savings in potable water being delivered from Santa Cruz to Scotts Valley; and 2) the regional seawater desalination project being evaluated by the City of Santa Cruz and Soquel Creek Water District. .

As indicated in the County's status report (as well as in the City's 2010 UWMP), the proposed water transfer schemes for Scotts Valley and Soquel do not provide any immediate water to the City of Santa Cruz. Although some water could possibly come back to Santa Cruz from Soquel or Scotts Valley in the future, once the groundwater basins recover, it cannot be predicted when this would be available and how much would be available. This water transfer scheme would not eliminate the need for the proposed desalination plant or some other significant source of supplemental water in combination with continued conservation efforts.

The DEIR text has been updated to identify water transfer programs under consideration; see the CHANGES TO DEIR (Chapter 3.0) section of this document.

8-4 Improvements to Existing Facilities. The referenced upgrades were part of recommended alternatives to be further considered in 2000 as part of the Integrated Water Plan (IWP) planning process, and as indicated in the DEIR text, included additional treatment for turbidity on the North Coast supply; capacity upgrades of the North Coast pipeline; treatment and/or facility upgrades for turbidity at the Tait Street intake; capacity upgrades at the Coast pump station; and/or upgrading the hydraulic capacity of the Felton/Loch Lomond supply system. At that time, the upgrades were identified to provide additional supply during drought and non-drought years and to improve operational reliability and flexibility. However, shortfalls during multiple dry year scenarios would continue to occur, and the alternative was not further evaluated in the IWP. Since 2000, the upgrades have been completed such as SLR pump station improvements, are in progress (i.e., the North Coast water pipeline upgrade) or were found to result in only small water yields compared to the expense involved (e.g. pre-treating turbid coast and river water). Any water savings achieved as a result of the upgrades implemented since this 2000 recommendation have been factored into the City's water system model, and the former estimate of 600 MGY as a

potential separate alternative is no longer accurate. The DEIR text has been clarified; see CHANGES TO DEIR (Chapter 3.0) section of this document.

LETTER 9

From: Don Stevens [mailto:don@bind.com]
Sent: Sunday, November 13, 2011 8:43 PM
To: Ken Thomas
Cc: Suzanne Deleon; Devin Best
Subject: Comments for the Draft EIR For the Draft General Plan 2030

Dear Mr. Thomas,

Please find my comment letter attached and pasted below concerning the Draft EIR For the Draft General Plan 2030.

Also attached is a comment letter from the California Department of Fish & Game that was originally submitted for the Draft 2010 Urban Water Managment Plan and included here for your reference regarding Water Supply for the DEIR.

Thank you.

Sincerely,
Don Stevens

Ken Thomas
Principal Planner
City of Santa Cruz Department of Planning & Community Development
809 Center Street, Room 106
Santa Cruz, CA 95060
kthomas@cityofsantacruz.com

Re: Draft EIR For the Draft General Plan 2030

Thank you for the opportunity to comment on the Draft EIR for the Draft General Plan 2030.

9-1 I urge you to extend the public comment period for this Draft EIR (DEIR) until after a Final 2010 UWMP has been adopted by the City of Santa Cruz. The findings of the 2010 UWMP will be important for the accuracy and conclusions of the DEIR Section 4.5 Water Supply.

9-2 If however, the City does not choose the extend the deadline for public comment, I would request that Section 4.5 Water Supply should be revised to include additional analysis about water supply projections and the implications for the General Plan if Tier 2 or Tier 3 flows as described by the Draft Conservation Strategy in Section 4.5-12 were to be required by NMFS and the CDFG during all years with the adoption of an HCP. The DEIR should also include analysis about water supply projections if the proposed desalination plant is not built, since it is very uncertain if it will be built.

The California Department of Fish & Game (CDFG) submitted a comment letter dated Nov. 1, 2011 on the Draft 2010 UWMP to the City of Santa Cruz and LAFCO citing deficiencies in Draft 2010 UWMP and is attached here for the record and your consideration for this DEIR. The Water Supply Assessment (WSA) in the Draft 2010 UWMP apparently is the same one as was used in this Draft EIR. In CDFG's opinion, the Water Supply Analysis did not accurately consider the amount of flow needed to maintain fisheries resources. The proposed Tier 1 and Tier 2 flows will not be adequate to support endangered salmonids in many years. CDFG stated that the draft UWMP should be revised to include analysis and a scenario for release of Tier 3 flows in order to provide a more accurate estimate of the amount of water that may be required to maintain fisheries resources. The draft UWMP was deficient because it limited its analysis to Tier 2 flows as would be the DEIR if it likewise limited its analysis.

9-3 Question #1: Is the WSA used in this DEIR the same or essentially the same as the WSA used in the Draft UWMP?

Question #2: If so, why didn't the WSA include analysis for Tier 3 flows that was similar in extent to the analysis of Tier 2 flows?

9-4 Question #3: Has the City had any reaction to date other than the above cited CDFG comments, either in written or verbal form, from either NMFS or CDFG about the

adequacy of the volume of proposed stream flows in the City's proposed Conservation Strategy to support the HCP?

Question #4: Does the City believe that NMFS may share CDFG's stated opinion that the proposed Conservation Strategy would not allow for adequate flows for anadromous salmonids?

Question #5: Since the limitations of the existing water supply system does not allow consistent achievement of optimal flows for salmonids as stated in 4.5-11, would the public be correct to assume that the watersheds supplying the City are over-allocated?

Question #6: Does the City believe that the CDFG comment letter cited above is accurate? If not, why not?

Question #7: If the answer to #6 is that the City cannot allow greater flows for salmonids because it wouldn't have enough for its existing customers, shouldn't the City consider a no-growth scenario in its DEIR?

9-5 The City should include analysis that assumes that any growth in water demand will have adverse impacts on salmonids and include analysis of these adverse impacts.

9-6 Also of concern is the City's petition with the SWRCB to extend the time allowed for putting to beneficial use the full 980 mgy at the Felton Diversion. Since the City thus far has only obtained permanent rights to slightly over half of this 980 mgy, the DEIR lacked analysis and failed to show how water supply would be impacted should the City's petition be rejected. The City was granted an extension in the mid-1980's and then again in the mid-1990's, but in the 1990's it was only granted after a Memorandum of Agreement with the California DFG amid their concern for fish habitat. What is different now is the further degradation of habitat in the San Lorenzo watersheds, the now endangered status of coho salmon and steelhead trout, and the identification of the San Lorenzo as a priority in the draft CCC coho salmon recovery plan. With current inadequate stream flows for sustainable fish habitat, it is doubtful whether the SWRCB will grant another extension. Therefore, the DEIR should be revised to reflect this uncertainty and include water supply projections that do not include the almost 500 mgy that the City includes as supply, but does not actually have a right to at this point.

9-7 The DEIR also fails to link the cumulative impacts, direct and indirect, of growth inducement on the status of coho and steelhead and the habitat conditions necessary to support these listed species.

Thank you very much for your attention.

Sincerely,
Don Stevens
President
Habitat And Watershed Caretakers

320 Cave Gulch
Santa Cruz, CA 95060

State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
(707) 944-5500
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EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

November 1, 2011

Mr. Toby Goddard
Water Conservation Manager
City of Santa Cruz
809 Center Street, Room 107
Santa Cruz, California 95060
tgoddard@cityofsantacruz.com

Dear Mr. Goddard:

Subject: City of Santa Cruz's Urban Water Management Plan and Water Supply Assessment for General Plan 2030

The Department of Fish and Game (DFG) has reviewed the Urban Water Management Plan (UWMP) and the Water Supply Assessment in addition to other supporting documents as they pertain to water availability for the Sphere of Influence Amendment and Habitat Conservation Plan for the City of Santa Cruz's (City) diversions. DFG, as a Trustee Agency, is responsible for the conservation, protection and management of the State's biological resources. DFG is providing these comments to assist the City in its long-term planning efforts and to better coordinate our efforts to analyze and minimize impacts from increased demands on the City's water supply system on sensitive biological resources.

As stated in Section 5.1.2 of the UWMP, DFG, National Marine Fisheries Service (NMFS) and the City are currently in the process of developing a Habitat Conservation Plan (HCP) and California Endangered Species Act Incidental Take Permit in order for the City to comply with state and federal Endangered Species Acts for coho salmon and Central California Coast Distinct Population Segment steelhead. As such, the City, in consultation with NMFS and DFG, is evaluating the effect of the diversions on steelhead and coho salmon, with the expectation that the City shall obtain from DFG an Incidental Take Permit and a Streambed Alteration Agreement for diversion of water.

DFG is concerned that the Water Supply Analysis does not accurately consider the amount of flow needed to maintain fisheries resources below the points of diversion. It is likely that the City will need to release additional water to maintain fisheries habitat in good condition and the amount of water needed for those releases should be considered in the Water Supply Analysis. The City has recently drafted a Conservation Strategy to support the HCP that relies on a three-tiered system for instream flows. Current operations (similar to Tier 1) at the City's existing facilities are not favorable for most life history stages of salmonids at the current demand level and do not provide adequate stream flow conditions for fish.

Minimum bypass flows proposed under Tier II will not provide sufficient flow for several life history stages of salmonids in many years. However, Tier III flows, as proposed, will provide at least 80% of the instream habitat value that would exist in the absence of the City's diversions. As such, any Water Supply Analysis should consider the amount of water needed to maintain Tier III releases with the understanding that further consultation will provide more specific flow recommendations.

DFG is recommending that the UWMP be delayed until after the City, NMFS and DFG complete their evaluation of the City's diversion operations on fisheries resources. The Water Supply Analysis should be revised to include release of sufficient flow needed to maintain instream resources which should be available upon completion of the HCP and issuance of DFG's Streambed Alteration Agreements and ITP. If the UWMP cannot be delayed, then the UWMP should be revised to include a scenario for release of Tier III flows in order to provide a more accurate estimate of the amount of water that may be required to maintain fisheries resources.

If you have any questions, please contact Ms. Corinne Gray, Staff Environmental Scientist, at (707) 944-5526 or cgray@dfg.ca.gov; or Mr. Scott Wilson, Environmental Program Manager, at (707) 944-5584.

Sincerely,

Scott Wilson FOR

Carl Wilcox
Regional Manager
Bay Delta Region

cc: Devin Best, National Marine Fisheries Service
devin.best@noaa.gov

Patrick McCormick, Santa Cruz Local Agency Formation Commission
pat@santacruzlafco.org

LETTER 9 – DON STEVENS, President, Habitat and Watershed Caretakers

9-1 Request to Extend Public Review Period. The comment requests that the General Plan EIR public review period be extended until the 2010 UWMP has been adopted. The UWMP was adopted in December 2011, but the City did not determine a need to extend the General Plan EIR public review period. The DEIR text has been revised to account for updated information in the 2010 UWMP; see the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document. For a brief overview of the updates in the 2010 UWMP, see Master Response WS-1. As stated in Master Response WS-1, the information in the adopted 2010 UWMP does not change the conclusions of the DEIR regarding impacts on water supply. Furthermore, see Response Comment 9-2 below.

9-2 Water Supply Projections with Tier 2 and Tier 3 Releases. The comment requests additional analysis of impacts to water supplies if Tier 2 or Tier 3 flows (as described in the City's draft Conservation Strategy) are required by NMFS and CDFG. The water system model that was updated and utilized for the recently adopted 2010 UWMP does consider Tier 2 flow releases, but not Tier 3 releases until a supplemental water supply is developed. See Master Response WS-2 for further discussion. For clarification, the 2010 UWMP updated water supply estimates with incorporation of Tier 2 flows, but did not use the Water Supply Assessment prepared for the draft General Plan, except for water demand projections within the service area. See Response to Comment 9-3 below. The comment also attaches a letter from the CDFG to the City, which is included in this document as Letter 7 for which responses to comments are provided.

9-3 Water Supply Assessment. The Water Supply Assessment (WSA) prepared for the draft General Plan 2030 was used as a basis for estimated water demand for the 2010 UWMP. The estimated water demand remains unchanged except for a potential reduction in future estimated UCSC demand as explained in Response to Comment 8-2. The City's proposed Conservation Strategy was released in August 2011 after the WSA was prepared and as the General Plan 2030 Draft EIR was in final production for public release. However, the updated 2010 UWMP does provide an update on water availability and includes modeling to reflect the City's proposed flow releases under the tiers outlined in the Conservation Strategy. See Master Response WS-2 for further discussion.

9-4 Proposed Conservation Strategy. The comment questions (#3) whether the City has had comments from NMFS or CDFG about the adequacy of the volume of stream flows proposed in the City's proposed Conservation Strategy for the HCP. The comment does not raise comments on analyses in the General Plan EIR. However, it is noted and acknowledged that the commenter forwarded a letter from CDFG to the City Water Department, dated December 5, 2011, that indicates CDFG's recommendation that the Conservation Strategy be revised to require implementation of Tier 3 flows in the near-term with assurances that the habitat would not be further impaired in the long-term. The comment also asks whether the City believes NMFS shares CDFG's opinion (#4), whether it can be assumed that the watersheds supplying the City are "over-allocated" (#5), and whether the City believes the referenced CDFG letter is accurate (#6). Again, the questions do not address analyses in the DEIR, and no response is necessary.

However, the City acknowledges receipt of comments from NMFS and CDFG indicating that those agencies may not approve the City's proposed Conservation Strategy, and therefore, ultimate flows may be different. (See response to comment 6-1, above.) However, the HCP process, including the Conservation Strategy, is being developed independently of the General Plan. Pages 4.5-11 to 4.5-12 of the DEIR describe this process. This text has been updated based on currently known water supply scenarios, taking the proposed Water Conservation Strategy into consideration as set forth in the recently adopted 2010 UWMP. See Master Response WS-2 and the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document.

The comment also suggests that the City consider a non-growth scenario in the DEIR if the City cannot allow greater flows for salmonids because it doesn't have enough for its existing customers. This question is tiered off of an earlier question that is not directed at the adequacy of the DEIR specifically. Nonetheless, the City directs the commenter to Master Response WS-2 regarding water availability and the HCP process. The proposed *General Plan 2030* is not a growth document, but rather a state-law-required land use document that guides location and intensity of land use. The document cannot prohibit or limit population growth to zero as suggested by the commenter, because population growth is driven by factors other than just land use designations. The DEIR does include two alternatives that assume a lower amount of development. Alternative 1, "No Project," assumes continuation of the existing 2005 General Plan without the addition of mixed-use designations along the City's major transportation corridors. Under this scenario, the City would build out at a lower level overall than proposed in the *General Plan 2030*. Alternative 2, "Reduced Growth", assumes a slightly lower level of development than evaluated in the DEIR based on AMBAG's growth projections. Alternative 3, "Reduced Density," looks at lower density and/or intensity for specified areas. All three alternatives would result in a slightly lower water demand as summarized on Table 5-3.

A "no growth" scenario is not considered a potentially feasible scenario because (a) the City cannot legally impose an extended moratorium on all new growth, and (b) the City's growth is affected in part by the growth in student enrollment at UCSC. While UCSC has agreed to implement a number of measures aimed at mitigating the effects of its student and faculty growth under its Long Range Development Plan and the Comprehensive Settlement Agreement, the City has no regulatory authority to extend any kind of growth moratorium to the University. Moreover, the City has an obligation under state law to accommodate its fair share of regional housing needs, and adopting a "no growth" alternative would be inconsistent with that obligation.

The EIR analyzed a reasonable range of alternatives that were appropriate for the General Plan 2030 in light of the project objectives. (*California Oak Foundation v. The Regents of the University of California* (2010) 188 Cal.App.4th 227, 277 ["CEQA clearly recognizes the agency will look to the proposed project's particular objectives when developing its range of project alternatives"].) "CEQA establishes no categorical legal imperative" for the scope of alternatives, with exception of the no project alternative. (CEQA Guidelines, § 15126.6.) Thus, the City was not required to analyze a "no growth" scenario in the DEIR.

9-5 Water Demand Impacts on Salmonids. The comment indicates that the EIR analysis should assume that any growth (including cumulative as expressed in Comment 9-7) will have adverse effects on salmonids, which should be analyzed. The DEIR (page 4.8-26), the proposed HCP Conservation Strategy, and the recently updated and adopted 2010 UWMP all indicate potential impacts from City water diversions and acknowledge that increased flow releases will be necessary in the future. As indicated in the DEIR and Master Response WS-2 above, the City and regulatory agencies are in the process of determining what will be required regarding flow releases. The project does not propose or indirectly result in increased diversions, and thus, potential direct and indirect impacts would not worsen with adoption and implementation of the proposed *General Plan 2030*. There is no substantial evidence to support a presumption that growth accommodated by the proposed General Plan will result in indirect cumulative significant impacts to fish species. Furthermore, water use in the City's service area remained constant in the early 2000s and has decreased within the last few years, so the potential demand resulting from estimated buildout under the draft General Plan would not exceed historical levels. Additionally, the HCP process is the mechanism being utilized to develop the target flow releases and measures to ensure adequate protection of the species. The situation is complicated by different flow requirements for different life stages of species in different areas and other water supply sources/augmentation implemented by the City. It is also noted that the City began voluntary in-stream flow releases on North Coast streams in 2007.

9-6 City Petition For Extension of Rights at Felton Diversion. The comment questions how the City's water supply will be impacted if the petition is denied. The comment also expresses doubt as to whether the SWRCB will grant another extension of time for the City to put to beneficial use its full water rights associated with the Felton Diversion. As indicated on page 4.5-5 of the DEIR, the City may divert flows at the Felton Diversion during specified times of the year with specified flows and only with diversion to Loch Lomond. As the commenter notes, the City has been granted two extensions of time in the past – in the mid-1980s and again in the mid-1990s after negotiations with CDFG and execution of a Memorandum of Agreement that modified the manner in which the City operated the facility. Thus, it would be premature and speculative to conclude that the City is unlikely to retain this water right. In the future, the City will rely more on the Felton Diversion to help replace the water drawn from the Newell Creek Reservoir for environmental demands. However, the City's supply modeling shows that in most years that Felton Diversion would be available for diversion, the current maximum water use (1,700+ acre-feet or about 565 MG) is sufficient, which is the amount factored into City studies and used in the DEIR. The difference between the 3,000 acre-feet and the 1,700 acre-feet do represent greater flexibility in the system, which is the reason it is important to the City to receive an extension of time. The City's application for an extension of time, which was submitted to the State in December 2006, has not been acted on by the State. The original application was in 1971.

9-7 Cumulative Impacts on Fisheries. See Response to Comment 9-5.

From: Jean Brocklebank [mailto:jeanbean@baymoon.com]
Sent: Monday, September 26, 2011 8:36 PM
To: Ken Thomas
Subject: Draft General Plan

Hello Ken ~

10-1 In reviewing the color maps of the draft General Plan (http://www.cityofsantacruz.com/index.aspx?page=1692), I notice that there are two classifications for vegetation types of natural areas and open space: "coastal prairie" and "grassland, potential coastal prairie." On two of these maps, the Arana Gulch greenbelt, containing coastal terrace prairie, is identified only as "grassland, potential coastal prairie."

In the February 2006 Arana Gulch Draft Master Plan, Arana Gulch is identified, correctly, as "coastal prairie." Since AG has coastal prairie soils and coastal prairie flora (Holocarpha, Madia and Hemizoznia), excluding its riparian zones, it certainly is coastal prairie.

Can you tell me why a change was made to its identification for the General Plan?

Best regards,
Jean Brocklebank

LETTER 10 – JEAN BROCKLEBANK

10-1 Coastal Prairie Mapping for Arana Gulch. The comment indicates that Arana Gulch is mapped as "Grassland, Potential Coastal Prairie," whereas the Arana Gulch Master Plan designates the site as "coastal prairie." The Arana Gulch Master Plan maps the habitat at Arana as "Grassland (Coastal Prairie and Annual Grassland)", and the Plan text indicates that non-native annual grasses dominate the grassland habitat at Arana Gulch, although some native coastal prairie species occur to a limited extent. The Plan goes on to state that remnants of coastal prairie are scattered throughout the coastal terrace. The General Plan DEIR text describes two subsets of grassland habitat as coastal prairie and annual grassland/coastal prairie on pages 4.8-12. The second designation accounts for areas that are largely dominated by annual, non-native grasses, but native perennial grasses may also occur, whereas the designation of coastal prairie is applied to areas that are characterized by dominance of native perennial grasses. The legend for the DEIR Figure 4.8-1 has been revised to delete the word "potential" in the designation and to rename it as "Annual Grassland/Coastal Prairie & Annual Grassland". This would be consistent with the context in which the term is used in both the General Plan study and in the Arana Gulch Master. See the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document.

Sept. 15, 2011 J. Golder to K. Thomas Objections to GP 2030 Draft DEIR

TO: **Ken Thomas** , Principal Planner
Department of Planning and Community Development
City of Santa Cruz, CA
809 Center St., Room 206 (107= Future Planning)
Future Planning Division

FROM: **John Golder**, Developer Consultant, RedLog Properties
Executive Director, **Active Recreation Coalition of Santa Cruz**
A 501c4 Calif. non-profit corporation ***"A team of teams speaking for sports"***
PO Box 46, Felton CA 95018 (831) 706 – 8716

RE: Draft EIR for the 2030 General Plan; serious errors, omissions & inconsistencies and CPRA request for source data

Dear Mr. Thomas:

11A-1 This is formal notice that the recently released Draft EIR for the the City of Santa Cruz 2030 General Plan contains, much to my shock and disappointment, many serious errors of material fact in the section describing the City's developed parkland inventory, particularly regarding community parks. A number of these errors in acreage are more than 100% in magnitude.

Additionally the Draft EIR has taken liberty to arbitrarily reclassify city parkland including DelaVeaga Golf Course, Mike Fox Park and Depot Park as community parks, none of which have ever been represented or so previously described as such. The labeling of 46 acres of city schools campus as "school fields" is particularly misleading & blatantly inaccurate.

11A-2 I have been in close communication with you, your department (Planning), your division (Future Planning), City administration and particularly Parks and Recreation Director Dannettee Shoemaker and Parks & Recreation Commission Chairperson David Baskin. I have diligently and freely shared more than twenty years of detailed city parks and parkland research to bring to your attention the urgent need for community parks and the active recreation facilities by which they are defined by every previous City general plan and as typically defined in community planning and parks master plan terminology (footnote 2).

I have requested since last November to be informed of just what "parklands" or "active recreation parks" you were going to inventory and what definitions would apply (footnote 3) . I have given you, by email and phone conversation, detailed analysis of the 1993 and the 1983 parkland inventories and the significant errors within. I have emailed you dozens of aerial photo (Google Earth) images measured and

Footnotes 1).

2) Ref. Emails: 10-25-10, 10-27-10, 10-31-10 JG to KT,MK,cc to JR, DS
11-1-10 JG to KT,P&RComm, DS reply KT to JG: 11-4-10, my reply JG to KT 11-5-10

3) KT to JG 11-17-10 first mention of "parks deficiency analysis (PkDA)" to be included in GP 2030
My request for PkDA info JG to KT 12-1-10 my extensive ltr re PkDA JG to JR cc: MB City Mgr, DS 12-9-10
Acknowledgement of my ltr & info JR to JG cc; KT 12-13-10
CPRA for "parks" def, Quimby Act Basics, Open space v.parks definition analysis & my PkDA w/ added graphics
JG to JR, DS cc: MB City Mgr, DB (David Baskin) 12-14-10
Six questions re parks, pks zoning, natl areas & comm. Facilities JG to Current Plnng 12-16-10

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analyzed using GE and other map tools to calculate park acreage, particularly active recreation facilities, & ball fields as well as the detailed results of the 1993 Sportsfield Needs and Site Assessment Study (SFNASS) initiated by me in 1993 after the City Council's Pogonip decision rejected sportsfields.

You have responded minimally and steadfastly refused to describe or identify the parks facilities inventory criteria or methodology you undertook.

Now that the dismal results are public, I find it necessary to make the following CPRA request for records:

Please provide for my review any and all documents and records including maps, diagrams, surveys, legal descriptions, parcel maps, aerial photos, ground survey notes, park worker or supervisor reports or notes, facility inventories, park plans, park master plans, construction or maintenance documents, assessor's records, ground or oblique imagery, maintenance or construction contracts, defining or limiting descriptions, metes & bounds descriptions, fence or boundary descriptions, or any other record used to assemble, evaluate, define, describe or inventory the community or neighborhood parkland described and counted in the DEIR.

Please include any and all worksheets, calculations, formulas or algorithms, map software, estimating tools, calculator (printout)tape or any other evidence that documents how the sums of acreage were calculated and verified.

Please include any and all records documenting the person or persons who did any of the following during the inventory process: map or image procurement or analysis, ground survey, image measurement, labeling or defining any involved boundary or limit, calculations of any measured or estimated distances, areas, angles or irregular shapes, additions or sums.

11A-3 Please provide the following definitions used in your inventory:

A) Community park

B) Neighborhood Park

C) Regional Park

D) Greenbelt

E) Resource conservation area park

F) Natural area

Footnotes 1).

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Sept. 15, 2011 J. Golder to K. Thomas Objections to GP 2030 Draft DEIR

G) Parks

H) Facilities or community Facilities

I) Community services

11A-4 Please provide documentation as to which acreage measurements included service roads or parking lots or maintenance yards.

Please provide any document or record that will identify every lot or parcel (legal description of.) included in this inventory.

All records are to be assembled for my review. I will arrange or designate which records I need copied.

11A-5 As a further matter of great concern, as it is unlawful under the Calif. Government Code provisions for analyzing a general plan, is that you have stated directly in your DEIR that you have excluded EIR analysis of the (projected)population and housing in this DEIR.

Mr. Thomas, please kindly explain how the City or anyone can do a rational and feasible analysis of the environmental effects of this project unless the population (added) is included

Will you come to the same irrational conclusion that the (City's) 2002-2007 and the 2007 to 2014 Housing Elements did, i.e.: that additional population will have no significant effect on the City's recreational facilities or community and neighborhood parks or that existing facilities are adequate and do not need expansion or renovation and that expansion or renovation will have less than significant effect environmental effects?

11A-6 Please refer to my many emails to you or confer with Director of Parks and Recreation Dannettee Shoemaker about the many environmental battles and litigation over every single attempt to improve or develop any city parkland in the last 30 years.

11A-7 Finally, I find it insulting to the intelligence of this community that your draft EIR attempts to declare that the City of Santa Cruz has a surplus of community parks.

In reality, Mr. Thomas, this city has a community park **deficit** of more than a hundred acres!

I have thoroughly documented the following facts which your draft EIR completely ignores or misstates:

Footnotes 1).
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Sept. 15, 2011 J. Golder to K. Thomas Objections to GP 2030 Draft DEIR

-The City has not built a community park since Lower DeLaVeaga and San Lorenzo Park in the mid-1960s!

Depot Park minus parking lot is 4.74 acres, not 8.5.

The useable developed portion of Harvey West Park is about 28 ½ acres, not 55.

The useable developed portion of Lower DeLaVeaga (including Washington Grove) is about 20 acres, not 35.

City school grounds have lost some 6 acres of playgrounds to buildings & improvements since 1993.

11A-8 The City can find no record of any land given to the City through the city's Parkland Dedication Ordinance (1980) nor any record of developed parkland that has been acquired using the Special Reserve Funds (General Ledger #s 240-249) from either the Parks Facilities Tax (1973) or the Quimby Funds (1982).

11A-9 The City does not have and has not had a Parks Master Plan since 1983. That one expired in 1989.

11A-10 The City has had a **net loss of developed parkland** over a time period of more than seventy years.

The City's largest park DeLaVeaga has had its Park Master Plan sitting on the shelf unfinished since 1960

Millions of dollars in unique community facilities have been destroyed (Charles Derby Small Bore Range and access road) or are designated for destruction (19,000 sq. ft. Naval Building formerly used for more than 35 yrs as the Cabrillo Stroke Center), both adjacent to sensitive Monarch butterfly habitat in southeast DeLaVeaga Park, without a significant public hearing or a disclosure of the effects of their demolition or needed replacement on the environment

11A-11 The city's sports leagues,(almost 15% of the population in 1993) especially soccer, have been forced to travel outside the City limits to private fields or other communities because the City has had no net gain in sports fields in more than 40 years. This increases travel noise, exhaust pollution and steals citizens' time.

The City's neighborhood parks inventory is 50% school grounds, its ball fields are 66% school fields (90% of which are multi-use), yet the City has never shared significant Quimby or PFT funds with the schools.

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Sept. 15, 2011 J. Golder to K. Thomas Objections to GP 2030 Draft DEIR

11A-12 There are numerous other undeclared environmental, managerial and administrative problems with the City's parks and recreation facilities, including drug dealer invasions and closures, criminal activities such as stolen bike and property caches, non-native plant invasions, no permanent maintenance funding, excessive landscape maintenance costs, limited public access, poor facility distribution citywide, litter and camper damage, creekside erosion, poor drainage, lack of facilities, especially lighting, restrooms and trash bins, lack of multi-use trails, no camping facilities, commercial uses prohibited under deed restrictions, easement litigation, wildfire hazards, emergency communication difficulties, insufficient patrolling, lack of security measures, trespass, unrecognized landfills, poor signage, especially addressing, confusing and contradictory classifications, unfair and discriminatory field & parking fee & security deposit policies, arbitrary user group subsidies, marijuana cultivation, misappropriation of special reserved funds for repair & maintenance, lack of inventory or facility records, unmeasured public use, indiscriminate and all-inclusive use zoning classification ("Parks") resulting in ineffective planning process and the waste of public resources in needless debate and litigation..

I will expand on these at the first public opportunity.

Resolutely,

J. Golder, concerned citizen.

Footnotes 1).

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(to Planning

p. 1 of 7

LETTER 11B

Sept. 15 2011
J. Golden to K. Thomas → Objections to GP2030 Draft EIR

TO: Ken Thomas Principal Planner
Dept. of Planning & Community Development
City of Santa Cruz CA
809 Center St., Room 206 (107 physical

Future Planning Division

FROM: John Golden Develope Consultant Red Log Property
Executive Director Active Recreation Coalition of Santa Cruz
a 501 c4 CA Non Profit "A team of teams speaking for sports"
PO Box 46 Felton CA 95018 831 706-8716

RE: DRAFT EIR for the General Plan 2030
Serious errors, ommissions & inconsistencies
& CPRA for source data

Dear Mr. Thomas,

11B-1 This is formal notice that the recently released Draft EIR for City of Santa Cruz General Plan 2030 contains much to my shock and disappointment many serious errors of material fact in the section describing the City's developed parkland inventory, particularly regarding community parks. The A number of these errors in acreage are more than 100% in magnitude. (1)

Additionally the Draft EIR has taken liberty to arbitrarily label or reclassify parkland including De La Veaga golf course, Mike Fox park, Depot Park as community parkland which it has never been represented or so previously desribed as such.

I have been in close communication with you, your dept. (Planning) your division (Future Planning) City Administration and particularly Parks & Recreation including Dir. Dannette Shoemaker & Parks & Rec. Commission Chairperson David Baskin. I have

(1) The labeling of 46 acres of city school campus as "school fields" is particularly misleading and blatantly inaccurate.

9/15/11 Golden → Thomas
Draft 2030 EIR

diligently & freely shared more than Twenty years of detailed City parks & parkland research to bring to your attention the urgent need for community parks and the active recreation facilities by which they are defined in every previous City General Plan and as typically defined in community planning & parks master plan terminology.

I have requested since last November to be informed of just what "parklands" or "active recreation parks" you were going to inventory. I have given you (by email) and phone conversation detailed analysis of the 1993 and 1983 parkland inventories and the significant errors within. I have emailed you dozens of aerial photo (Google Earth Images) measured & analyzed using GIS and other map tools to calculate park acreage, particularly active recreation facilities, ball fields as well as the detailed results of the 1993 ~~SASAS~~ Sports field use assessment and siting study.

You have responded minimally and steadfastly refused to describe or identify the parks/facilities inventory criteria or methodology you undertook.

Now that the dismal results are public I find it necessary to make the following CPRA request for records:

9/15/11 Golder → Thomas LETTER 11B
re: Draft EIR 2030 GP p. 501
CPRA pp. 3 & 4

Per CA Govt Code 6250 et seq.

Please provide for my review any and all documents and records, ~~that~~ including maps, diagrams surveys, legal descriptions, parcel maps, aerial photos, ground survey notes, park worker or supervisor reports or notes facility inventories, park plans, park masterplans, construction or maintenance documents, assessor's records, ground or oblique imagery, maintenance or construction contracts, defining or limiting descriptions, metes & bounds description, fence or boundary descriptions or any other record used to assemble, evaluate, define, describe, or inventory the community & neighborhood parkland described and counted in the EIR.

Please include any and all worksheets area calculations, formulae, algorithms, map software, estimating tools, calculator tape or any other evidence that documents how the sums of acreage were computed and verified.

Please include any and all records documenting the person or persons who did ~~the computing or analyzing~~ any of the following during the inventory process: map or image procurement or analysis, or ground survey, image measurement, labeling or defining any involved boundary or limit calculations of measured or estimated distances areas, angles or irregular shapes, additions or sums.

Please provide the following

9/15/11 Golder → Thomas p. 1 of 3

re: 2030 GP Draft EIR, cPRA pp. 3 & 4

definitions used in your inventory

A) Community Parks

B) Neighborhood Parks

C) Regional Parks

D) Greenbelt

E) Resource conservation area

F) Natural Area

G) Parks

H) Facilities or Community Facilities

I) Community Services

Please provide documentation as to which acreage measurements include service roads or parking lots or maintenance yards.

Please provide ~~any list~~ any document or record that will identify every lot or parcel (legally) included in this inventory

All records are to be assembled for my review. I will arrange or designate which ~~copi~~ records I need copied.

As a further matter of great concern

9/15/11 Golder → Thomas
re: Draft EIR 2030 GP

LETTER 11B

as it is unlawful under the Govt. Code provisions for analyzing a general plan, is that you have stated directly in your EIR that you have excluded EIR analysis of the population and housing in this EIR.

Mr. Thomas, please kindly explain how the City or any one can do a rational & feasible analysis of the environmental effects ~~of~~ of this project unless the population (added) is included?

Will you come to the same inane and irrational conclusion that the 2002-2007 and the 2007-2014 Housing Elements did? ie:

- That additional population will have no significant effect on the City's recreational facilities or community & neighborhood parks or that existing facilities are adequate and do not expansion or renovation and that expansion or renovation will have no or less than significant environmental effects?

Please refer to my many emails to you or confer w/ Dir of Parks & Rec Dannette Shoemake about the many environmental battles and litigation over every single attempt to improve or develop any city parkland in the last 30 yrs.

9/15/11 Golden → Thomas
re: 2030 GP Draft EIR

Finally I find it insulting to the intelligence of this community that your draft EIR attempts to declare that the City of Santa Cruz has a surplus of Community Parks.

In reality, Mr. Thomas, this city has a community park deficit of more than a hundred acres!

I have thoroughly documented the following facts, which your Draft EIR completely ignores or misstates:

The City has not built a community Park since Lower De La Vaga in the mid 1960s and San Lorenzo Park (ensuing of date).

Depot Park minus parking lot is 4.74 ac. not 8.5

No land has ever been given to the city through the Parkland Dedication Ordinance (since 1980)

No developed parkland has ever been purchased with the special reserved funds from the Parks Facilities Tax or Quimby Funds

The City does not have and has not had a Parks Master Plan since 1985. That one expired in 1989.

The City has had a net loss in developed

LETTER 11B

9/15/11 Golden → Thomas
re: 2030 GP Draft EIR

parks land for more than 70 years

The City's largest park DeLaVeaga has had its master plan sitting on the shelf, unfinished since 1960

Millions of dollars in unique community facilities have been destroyed (Charles Davis Small Bore Range & access road) or are designated for destruction (19,000 sq ft Naval Building in the center of a Monarch Butterfly sensitive Habitat) without a single public hearing or any significant discussion or disclosure of the effects on community facilies or the environment,

The City's sports leagues (especially soccer) have largely migrated their games to private fields outside the city (at significant cost to driving pollution & noise) because the City has had no net gain in sports fields for more than 40 years.

The City's neighborhood parks inventory is 50% school grounds, its ball fields are 66% school fields (90% of which are multi-use) yet the city has never shared any significant funding on PFT funds with the schools.

I'll expand on this at the first public opportunity. Respectfully J. Golden

From: John Golder [mailto:jhond@comcast.net]
Sent: Tuesday, September 20, 2011 11:26 AM
To: Ken Thomas; jrebagliato@cityofsantacruz.com; Dannettee Shoemaker; Bren Lehr
Cc: 'Jhond Golder'
Subject: FW: GP 2030 Draft EIR objection and CPRA for parks inventory source material

To other recipients:
If these issues are a concern to you, I encourage you to read the DEIR and comment yourselves. Any of my research is available for the asking.

Sept. 20, 2011

To: Ken Thomas , Principal Planner
Department of Planning and Community Development
Future Planning Division
809 Center St. Santa Cruz CA
From: John Golder, concerned citizen, RedLog Properties Developer Consulting
Executive Dir. Of Active Recreation Coalition of Santa Cruz
-a 501c4 Calif. non-profit corporation "A team of teams speaking for sports"

RE: Additional response and comment on the recent Draft Environmental Impact Report (DEIR) For the City of Santa Cruz General Plan 2030.

Mr. Thomas,

Thank you for your prompt reply and the helpful comments on DEIR process.

11C-1 The attached docs are previous relevant research sent you, recently updated w/minor revisions. They are intended for other viewers who will be copied this email re: recent Draft Environmental Impact Report (DEIR)
for the City of Santa Cruz General Plan 2030.

11C-2 My inclusive CPRA request **within** my Sept. 15, 2011 written comments on this DEIR is intended specifically for verification of the acreages you have stated in the City's "parks" inventory.
All the records requests are intended for that purpose, i.e. How did you calculate the acreages given?

As you are absolutely aware of, I have been in frequent and regular contact with you, P & R Director Dannettee Shoemaker, the City Clerk's office, the City manager's office, (the two offices being now combined) and all the staff therein regarding the hundreds of preliminary questions (per GC §62453.1) and defined records requests (per GC §62450 et.seq.) since October of last year. Most of my requests are directly or indirectly related to an accurate City parklands inventory which is an absolute requirement for the City's Quimby Actparkland dedication ordinace and the in-lieu developers park fees requirements..

A number of my key records requests Involving City owned real estate parcels and lots have never been answered. Some of them are over 9 months old.

Additionally, I have been in substantial, though not regular, contact with dozens of other departmental
administrators, managers and staff regarding my parks & recreation facilities research for the 2030 General Plan.

Since any property/real estate/legal boundary inventory MUST at some point reference
a legal description of the involved parcels, and/or an accurate survey of same,
it mystifies me how your division could accurately accomplish an inventory when NO ONE
in the combined City Clerk/City Manager's office has been able to locate the City's real estate files.

The following depts. have been unable to locate the requisite records:

City Clerk's office: Bren Lehr, Tom Graves ,Nydia Patiño, Tina Shull and presumably, all their available staff.

Despite numerous attempts to speak directly to Ms. Patino, whose has the primary responsibility for the
location, filing, and retrieval of City records, she has never returned a single phone call nor given any indication
whatsoever in her email responses that the City knew where its real estate records are.

City Manager's office: Neither Suzanne Haberman nor Asst Dir. Tina Shull claim any knowledge of these records.

City Risk Manager: interim manager Barbara Choi and her staff know nothing of these records and referred me to
the City Clerk's office at a time when there was no City Clerk. Interim City Clerk Tom Graves has been obstructive
and non-communicative the entire 6 months I tried to work with him. Ms. Lehr's appointment has solved that obstruction.

City Attorney's office: no response from anyone in management at that office

Public Works Dept.: Dir. Mark Dettle, Deputy Dir Chris Schneider and all staff I have had communication with
deny any knowledge of those records. City engineering plans do not include APNs or deed references.
With a few rare exceptions, undeveloped city owned lands do not have street addresses.

Property Manager: This position has been vacant for several years, at least. A CPRA request has been made
to Human Resources division to determine the protocol for transferring and the likely disposition of those records.
HR Dir. Ms. Sullivan is aware of this very recent request

Parks and Recreation: Dir. Dannettee Shoemaker has no idea where those records are. Some of their historical
parks files contain misc. parcel info and acquisition information. There is nothing comprehensive re: parks facilities,
though the 1983 Parks Plan mentions several programs to track & evaluate facilities & parklands.

Planning and Community Development: I have discussed this a number of times with you and Dir. Juliana Rebagliati.
I am rather surprised that you don't have these files as a reference, since everything your department does references
some parcel or parcels of land.

IT: I have had a number of conversations and a personal meeting with Rich Westfall about the City's GIS system and how

to research the data layers. Unfortunately, any City owned property input into the City's GIS is not updated as to use, and

11C-3 there are many city parcels whose use is split between, parks, natural areas, housing, commercial, public facilities and easements.

Here are typical examples associated with Depot Park & Neary Lagoon: APNs 4-321-06, 4-321-16, 4-311-25.

To measure such uses with legal knowledge of boundaries, required buffers, easements and deed/use restrictions is a complicated task *and*

requires the unavailable City real estate records or a complicated accumulation of civil escrow records and a comprehensive record all subsequent

pre & post purchase legal actions affecting the parcels.

But without the City's real estate records, the "park" parcels themselves are hard to identify for legal research.

Furthermore, there is no CAD redrafting of a city owned parcel serving multiple uses.

Scribe system records scanning subcontractor. I have had several conversations with this subcontractor. The records scanning project is now

about 2 yrs old. He does not know about these records.

Economic Development and Redevelopment: I have talked with Joe Hall, Norm Daly & Peter Kota. None of these

Individuals know the whereabouts of these records. I have not reached Dir. Lipscombe.

11C-4 Regarding your reference to population and its effects on the elements of the proposed GP 2030 , it is specifically the ***separation*** of the added population analysis from the other elements (that discuss community services and facilities, land use planning , resource conservation, community design and recreation facilities needs) that I am formally objecting to.

Your DEIR is attempting to separate these analyses legally (by separate analysis & approval), documentary (by excluding them from this document), context (by not analyzing them as a whole), cause & effect (by assuming added population has no significant effect on recreational facilities) and public notice (by completely separating the housing element process in time and public comment/response from the main DEIR).

This, of course is all in direct contradiction to substantial CEQA case law which requires that a general plans and its constituent elements and analyses *must be consistent and considered as a whole*. In other words, regardless of the recent Housing Element state "final approval", it must consider the 40 year deficit condition of the city's active recreational facilities, a condition substantially described in the P&R Element and the Civic Community Element of the current General Plan. Please note, that the unsupportable false statements made in your 2002-2007 & your 2007-2014 Housing Elements, viz. that added population will have no significant effect on the City's recreational facilities and that current facilities are adequate to for current and projected population would essentially place the City in a position of not justifying any developer park fees (PFT and Quimby fees**). Please let me know when you suspend that requirement for residential projects!**

11C-5 The principal involved is CONCURRENCY for which the City has been charging park developer fees for more than 39 yrs (PFT) and 31 yrs (Quimby Funds) , in sum some tens of millions of dollars with NO NET GAIN in developed parkland. Not only no net gain , but a **verified surveyable NET LOSS in developed usable parkland** with active recreation facilities. Unmentioned by your draft DEIR are the unique and expensive recreational facilities destroyed without meaningful public comment, without any reference to an individual Park Master Plan or a comprehensive City Parks Master Plan (last done in 1983).

The unique facilities destroyed or about to be destroyed in DelaVeaga Park, the 2 acre Charles Derby Small Bore Range and access road (valued at several hundred thousand dollars)and the 19K sf Naval Building (former Stroke Center –valued at over $3 million) are essentially irreplaceable because the significant effect that their replacement recreational facilities would have on the environment would probably cost millions in mitigation measures (both are in sensitive Monarch Butterfly habitat). All of this has been done without any reference to the DeLaVeaga Park Master Plan which has been left deliberately unfinished for more than 50 yrs.

11C-6 This DEIR , by presenting a completely false and inflated parks inventory that includes hundreds of acres of raw undeveloped and undevelopable steep forested inaccessible hillside under the misnomer of "community park" is a deliberate and knowing attempt to misrepresent the current and longstanding active recreational facility deficit that the City has suffered under "progressive" political leadership since the mid 1970's. Changing park definitions of long accepted and currently classified City parklands is inadequate procedurally, administratively, professionally, or ethically. It is also highly unrealistic. It smacks of George Orwell's novel 1984 in terms of premeditated public deception. Please be advised that my many emails and communication to your Planning Department re: park definitions are all part of the public record. It will be impossible for you to testify that park definitions are not fundamental to an accurate park inventory, or that you were not cognizant of the many issues I raised on definition discrepancies and ambiguities.

11C-7 It is apparent that part of the intent of this DEIR's highly inflated parklands inventory would be an attempt to actually meet the LOS standards that the Quimby Act GC §6477 requires. Unfortunately, the City of Santa Cruz has never met ***any*** of the 12 + Quimby Act requirements and has been requiring park developer fees and exactions under unverified inventory and subdivision density data since the inception of Ordinance 80-42 in 1980 and Ordinance 73-10 in 1973.

The DEIR fails to mention that the City's subdivision dedication ordinance has failed to produce a single square foot of net gain in developed parkland despite 31 years of implementation. My records request to your department to produce a single example of developed park acreage or parcel purchased with Quimby Funds or Parks Facilities Tax (38 yrs!) has yet to be answered. The following excerpt from my CPRA request was sent to the City Manager on Mar. 21, 2011. It restates the unanswered Dec. 8, 2010 CPRA request to Julianna Rebagliati and Dannettee Shoemaker:

> The still unanswered records request for such a parkland parcel was first made in a letter sent to both Planning Dir. Julia 2010 on page 8 and copied below.
> **Important questions:**
> 1) What IS the City standard for natural area/conservation resource/undeveloped open space?
> (A standard must be determined to complete a PkDA and to qualify for Quimby funds.)
> (This is still unanswered)
>
> 2) How will we ever solve an urban parks deficit if all the available open space is permanently preserved?
> (Available parcels must be identified for urban park use or further park expansion planning is fruitless)
> (This is still unanswered)
>
> 3) Have any new parklands ever been acquired through 30 years of Quimby Ordinance Fees (since 1980) and 38 yrs of CPRA records request.
> (This might be partially answered through this request))

Please explain what portion of the records used to define and measure your DEIR parklands inventory will
take more than ten days to assemble.

I am more than willing to review whatever you have as soon as its available., regardless how incomplete.

Does any of your inventory source material include any of the missing City real estate files?

11C-8 You have refused since last January to disclose how and by what sources or definitions this inventory was being done until the inventory
itself was complete and available for public review.

11C-9 Are you now willing to reveal who actually did this inventory and by what methodology and source material?

I believe the public deserves an answer for this inexcusably inaccurate and misleading document.

CC1 An involved and informed citizenry and responsive and effective government

Resolutely,

J. Golder

A. Basics Quimby, AB 1600 & City Park Funding pp.1-2
B. Quimby articles, legal opinion & URL links (selected excerpts, notes, edits) pp. 3-7
Generally in order from simple to complex and technically specific
C. Quimby Act pp. 8-10

This is part of a range of research and comment on the City of Santa Cruz 2030 draft General Plan related to community parks planning. Please contact J. Golder jhond@comcast.net 831-706-8716 at RedLog Properties with comment or inquiries or to obtain a list of available research.

A. Basics: City of Santa Cruz park funding ordinances and CA Quimby Act.

Calif. statute §6477 GC "Quimby Act" was passed in 1965 and substantially amended in 1982. In 2002 AB 2936 revised it to allow limited use of funds for park master plans. Its primary intent is to enable cities and counties to acquire and develop new parkland and recreational facilities to serve new subdivisions through parkland dedication standards[1] or in-lieu fees based on development residential density[2]. The primary intent is stated in subdivision (3): "The land, fees or combination thereof are to be used only for the purpose of developing new or rehabilitating existing neighborhood or community park or recreational facilities to serve the subdivision."

There are a number of restrictions on the calculation, collection, accounting, and expenditure of Quimby funds. Assembly bill AB 1600, Mitigation Fee Act[3], in1987 has had some legal effects on Quimby Act interpretation.

The City enacted a Parks & Recreation Facilities (excise privilege) Tax (PFT) in 1973 . The intent and the handling of PFT funds was virtually identical to the city's later "Quimby" ordinance. The PFT is currently codified as Chapter 5.72 MC. The PFT applies at $3/sq.ft. to any new habitable residential space, including apartments and remodels. The tax :

> **5.72.110.:** "shall be placed into a special fund… known as the "parks and recreation facilities tax fund."…" shall be used and expended solely for the acquisition, improvement and expansion of public park, playground and recreational facilities in the city." (Ord. 94-08 § 7, 1994: Ord. 73-10 § 1 (part), 1973).

The City's first "Quimby" fee parkland dedication (QFPD) ordinance was Ord. 80-42 eff.12/25/80, revised (Ord.82-19) & (Ord. 94-07) eff. 3/24/94 and now codified in Chapter **23.28** MC. The primary intent of the QFPD is stated within **23.28.20.1**: "The land, fees, or combinations thereof, are to be used only for the purpose of providing park or recreational facilities to serve the subdivision."

The QFPD applies as an in-lieu fee at the same rate as the PFT, but only when a new lot is created[4]. The 1994 revision changed the in-lieu fee rate from $80 per new bedroom to $3 per sq.ft. of floor space and raised the "per lot " fee (when plans do not specify sq.ft) from $240 to $4780. The QFPD land dedication schedule exacts (requires dedication of) 4.5 ac./1000 added residents. This acres/1000 residents is called a "parks standard"[1] or simply "standard".

These two park funds are Special Revenue Funds accumulated under GL account numbers 241-249[5].

Significant issues re: city's QFPD ordinance and funds use follow:

-Construction (wording) omits most of the restrictive requirements and clauses found in the state statute. Nevertheless, the city's collections, land exactions and Quimby fund appropriations are bound by the Quimby subdivision provisions.

-Actual land dedication is unknown and may have never occurred.

-No calculated source of the in-lieu fee rate has been located. The relationship of a dwelling sq. ft.
rate to population density has no source data and cannot be validated[2]

- The City's dedication standard of park acreage cannot be verified per adopted 1990 General Plan records referenced in the ordinance[6]. The parkland inventory is over 18 years old and inaccurate.

Related planning issues

Accurate parkland inventories are the basis and the rationale behind exacting a park land dedica-tion or in-lieu fee. Review of city park acreage indicates a substantial "acres per population" developed park land deficiency. Restated, the city's last park land inventory has questionable data. The city may need some 50 to 150% more developed park land to meet the 4.5 ac/1000 standard claimed under its QFPD ordinance .

Issues of parks categories and definitions could more than triple this deficit. School yard claimed as neighborhood park, inaccessible raw land claimed as community park, and community facilities reclassified as regional parks are the main issues. Having no "acres/population" standard for open space makes those parklands technically ineligible to receive Quimby funds[7] . Even with a standard, open space lands may not meet the intent of the Quimby Act without recreation facilities.

Finally, CIP (Capital Improvement Project) and Parks & Rec budget reports indicate that much of QFPD fees have been used, and are currently appropriated, for maintenance and repair. This is not an allowed use under Quimby (ref. articles on pp.4, 5 & 7). Additionally many of the funded projects have a questionable "nexus" beneficial relationship to the development generating the fees. (ref. articles on pp.3, 6, & 7) As yet, no city parkland has been identified as having been purchased with QFPD funds even though that was the primary intent of the Quimby Act.

Footnotes:

1) Quimby Act land dedication basic formula = park acres/1000 residents. This is commonly referred to in planning and law as a "parks standard" Park acres herein refers to "developed neighborhood and community parks". Residents is per most recent census. Ref. §6477 GC (a (2)(A)

2) In-lieu fee determinations should be based on (new additional parkland) land value per acre ($LV/ac) X parkland standard (acres/1000 residents or ac/1000) X ARpD (added residents per development). ARpD must use an average value for household size that can be validated by statistics and the (latest) federal census. Census data is available for occupants per household & sometimes occupants per room (excluding kitchen, bath, halls, etc) or occupants per bedroom. No census or City data is known for occupants per sq.ft. (Ref. Scotts Valley 16.35.040 - Standards and formula for dedication of land)

3) §§ 66000-66011 Govt. Code

4) If subdivision is not involved the Quimby Act does not apply; i.e. remodels, apartments, hotels, dorms.

5) From its start (1980) QFPD funds have been separated into different city area quadrants as follows: 241-NW, 242-SW, 243-NE, 244-SE. From the PFT beginning (1973) its funds were likewise separated: PFT:, 245-NW, 246-SW, 247-NE, 248-SE. In 2008 the PFT funds were combined into a single fund, 249.

6) Parks and Recreation Element of the General Plan, adopted by the city on October 27, 1992 and the Local Costal Plan for the city of Santa Cruz, certified by the California Coastal Commission on May 7, 1985.

7) Ref. §6477 GC (a (2)(A)

B. Quimby articles, excerpts, links and legal references

05.28.02 Quimby Act 101: An Abbreviated Overview
Laura Westrup, Planning Division
California Department of Parks and Recreation

This brief article is meant to assist park and recreation staff members in refamiliarizing themselves with the Quimby Act and with its intended function. A sample resolution and policy are provided for the reader, but are intended as examples only. [omitted herein]

Local governments in California provide a critical role in the effort to set aside parkland and open space for recreational purposes. Cities and counties have been authorized since the passage of the 1975 [sic 1965 is correct] Quimby Act (California Government Code §66477) to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities.

The goal of the Quimby Act was to require developers to help mitigate the impacts of property improvements. The Act gives authority for passage of land dedication ordinances only to cities and counties. Special districts must work with..(NA, rem.omitted). The fees must be paid and land conveyed directly to the local public agencies that provide park and recreation services community wide. When California voters approved the local property tax relief initiative, Proposition 13 in 1978, property taxes were essentially frozen thus frustrating local governments' financing options further. In addition, Federal and state mandates without reimbursements also put pressure on already stretched recreation and park agency budgets.(added: i.e.. required safety standards for playground equipment)

Local agencies needed to become more resourceful in locating funding options, and turned to Quimby, Mello-Roos, development impact fees, developer agreements (informal agreements requiring additional exactions) fee concession operations, facility leases, non-profits, commercialization, and competitive grants to sustain their budgets.

Local agencies have found that the Quimby Act provides a consistent means of providing parks for many California communities and helps to supplement strained agency budgets. While the Quimby Act is not an end-all in being able to provide sufficient dollars for land acquisition and park development, many agencies agree that it's a good start.

Originally, the Act was designed to ensure "adequate" open space acreage in jurisdictions adopting Quimby Act standards (i.e., 3-5 acres per 1,000 residents). In some California communities the acreage fee can get very high where the property values are high, and many

local governments do not differentiate on their Quimby fees between infill projects and green belt developments.

Amendments to Quimby: In 1982, the Act was substantially amended. The amendments further defined acceptable uses of or restrictions on Quimby funds, provided acreage/population standards and formulas for determining the exaction, and indicated that the exactions must be closely tied (nexus) to a project's impacts as identified through traffic studies required by the California Environmental Quality Act (CEQA).

Exaction abuses coupled with economic recession and political changes – stronger "private property" rights advocacy – brought about a builders' backlash of perceived loopholes prompting California legislation AB 1600 (California Government Code §§66000-66025).

Exaction is the process of shifting forward to new development the cost of infrastructure for which is generated the need is generated by the new residents. Parkland and or development of recreation facilities can be exacted from the developer as land, cash-in-lieu of land and/or impact fee as a condition of subdivision map approval.

The 1982 amendment to Quimby was designed to hold local governments accountable for imposing park development fees; hence the 1982 amendment to Quimby. AB 1600 requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or park land and the type of development project upon which the fee is imposed. Cities and counties were required to be more accountable and to show again, a strong direct relationship or nexus between the park fee exactions and the proposed project. Local ordinances must now include definite standards for determining the proportion of the subdivision to be dedicated and the amount of the fee to be paid.

Pressure to further revise the Quimby Act has come from a variety of sources, including governmental officials, the building industry, homeowners, and environmental groups. In recent months, AB 2936 has been introduced authorizing Quimby funds to be used for the planning of new parks and for community master planning purposes.

The subject of park fees and the possibility of an ordinance revision can quickly polarize local policy makers and community leaders. Community involvement is crucial to any suggestion of Quimby revision. Reliable data on costs of acquisition, development and values of competing communities is essential to keep the debate as objective as possible. Formal public hearings conducted by the decision making body must be held before approval of the ordinance with staff members keeping everyone appraised of developments throughout the process.

How Quimby Works: Typically, the City/County Planning staff develops Quimby Act ordinances with the assistance from the City/County Attorney. Implementation of a Quimby ordinance begins once a developer files an application for a development project with a tentative subdivision parcel map. The tentative map goes to a review committee that makes recommendations on the proposed map. Comments are sent to the planning department that will provide information for a public hearing that result in a recommendation action for the city council or county board of supervisors. If denied, the tentative map would be sent back to the developer for revision

The final map would be reviewed by all the appropriate agencies for conformance with conditions before going to a final public hearing and approval, or disapproval, by the city council/county board of supervisors at which time fees are paid. If approved, the final map is filed with the county recorder. Whether you use the Quimby Act and/or other authorizations, the development of the ordinance must be done with the help of legal counsel. (Please note that the sample resolution below is for illustration only). Each community should refine the model ordinance by taking into account its own unique circumstances and conditions.

(sample resolution omitted)

Fr. http://www.cacities.org/resource_files/23040.Peter%20Brown%20Paper%20on%20Fees.pdf

Article on impact fees by Peter N. Brown atty Calif. League of Calif. Cities Feb.2003•

Some non-AB 1600 exactions interrelate with AB 1600 fees. For example, Quimby Fees can be collected from residential subdivisions for park or recreational purposes. However, Quimby fees cannot be collected from commercial developments, apartment projects, or subdivisions of fewer than five (5) parcels. To ensure that such development mitigates its parks impacts, an equivalent AB 1600 fee could be collected. Also, there is authority for the proposition that Quimby fees can only be based on the value of unimproved land.*(Norsco Enterprises v. City of Fremont* (1976) 54 Cal.App.3d 488.)[3] Cities will often adopt an AB 1600 impact fee to "fill in the gap" left by Quimby. Also, Quimby fees cannot be used to maintain parks or recreation facilities, only for the initial development. Therefore, under this approach, cities could have three separate fees that relate to park and recreation facilities:

(1) a Quimby fee applicable to residential subdivisions for the purchase of park or recreation acreage,
(2) (2) an AB 1600 fee applicable to commercial, condominium and residential developments of fewer than five parcels for the same purpose, and
(3) An AB 1600 fee applicable to all new development for the construction of park improvements.

The authors have been informed that some jurisdictions in California have not adopted a Quimby Fee and instead impose AB 1600 fees on residential subdivisions

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City of Scotts Valley. Well written parkland dedication Quimby ordinance:

Chapter 16.35 - DEDICATION OF LAND FOR PARK AND RECREATIONAL PURPOSES

http://library.municode.com/HTML/13736/level3/SCOTTS_VALLEY_MUNICIPAL_CODE_TIT16SU_CH16.35DELAPAREPU.html#SCOTTS_VALLEY_MUNICIPAL_CODE_TIT16SU_CH16.35DELAPAREPU_16.35.010DE

City of Livermore An extremely well crafted Parks Facility Fee Code section with excellent and comprehensive definitions for what the fees will cover and how they are computed. Crafted under the Mitigation Fee Act requirements: Chapter 12.60 PARKS FACILITIES FEE

Fr. Monterey Co. Enviro. Impact report:
http://www.co.monterey.ca.us/planning/gpu/2007_GPU_DEIR_Sept_2008/Text/Sec_04.12_Park_Recreation_Open_Spaces.pdf

AB 1600 amended the Quimby Act in 1982 to hold local governments more accountable for imposing park development fees. The AB 1600 amendment requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or park land and the type of development project upon which the fee is imposed. Cities and counties are required to show a strong direct relationship, or nexus, between the park fee exactions and the proposed project. Local ordinances must include definite standards for determining the proportion of the subdivision to be dedicated and the amount of the fee to be paid by the developer. AB 2936 was adopted as an amendment to the Quimby Act in 2002, and allows counties and cities to spend up to 10% of their Quimby Act fees to prepare master plans for park and recreation facilities every three years.

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fr. Public INTEREST LAW JOURNAL [Vol. 16 2006] TAXING DEVELOPMENT p.11

The California Supreme Court clearly distinguished between ad hoc and legislatively imposed exactions.112 Exaction abuses and private property advocacy by builders' groups eventually led to "nexus legislation"113 under Assembly Bill 1600.114 California established this legislation in 1987, effective as of January 1, 1989, which added sections 66000-66011 to the California Government Code.115 In 1996, in light of *Ehrlich*, the Legislature relabeled sections 66000-66025 the "Mitigation Fee Act" ("Act").116 In the Act, the Legislature amended the definition of a fee to include both legislatively imposed and ad hoc fees.117 Currently, a government entity imposing an impact fee on development projects must: establish the purpose of the fee, establish the use of the fee including public facilities to be financed, show a reasonable nexus between the purpose of the fee and the type of development, show a reasonable relationship between the public facility which the fee will finance and the type of development on which it imposes the fee, show a reasonable relationship between the specific amount of the fee and the cost of public facilities attributable to the project, and account for and spend collected fees only for the purposes intended with provision for the return of unexpended funds.118 The final condition includes provisions requiring the government entity to deposit, invest, account for, and expend the fees, as well as account for unexpended or uncommitted funds once each fiscal year.119 The entity must identify a schedule of improvements and adopt a capital improvement plan within 180 days of determining that sufficient funds were collected.120 Within 180 days of the closing of the fiscal year, there must be a full accounting of the funds and a review of the accounting by the local government council at its next regularly scheduled meeting,

110 *San Remo Hotel*, 545 U.S. at 335.
111 *Id.* (quoting San Remo Hotel v. City and County of S.F., 364 F.3d 1088, 1098 (9th Cir. 2004)); Michael Berger, *San Remo Hotel: When Ship Comes In—But Only Passes By*, L.A. DAILY J., July 11, 2005, at 2-3.
112 Ehrlich v. City of Culver City, 911 P.2d 429, 447 (Cal. 1996).
113 CURTIN & TALBERT, *supra* note 33, at 329.
114 Laura Westrup, Cal. Dep't of Parks & Recreation, *Quimby Act 101: An Abbreviated Overview*, CAL. PARKS & RECREATION, Summer 2002, at 8, *available at* http://www.cprs.org/membersonly/Sum02_Quimby.htm.
115 CAL. GOV'T CODE §§ 66000-66011 (West 1989); CURTIN & TALBERT, *supra* note 33,

at 329.
116 CAL. GOV'T CODE §§ 66000-66025 (West 1996); CURTIN & TALBERT, *supra* note 33, at 329.
117 CURTIN & TALBERT, *supra* note 33, at 329.
118 *See id.* (citing §§ 66001(a), 66001(b), and 66006); Ross & Thorpe, *supra* note 14, at 108.
119 § 66006(a); CURTIN & TALBERT, *supra* note 33, at 329.
120 CURTIN & TALBERT, *supra* note 33, at 329 (citing § 66001(e) and § 66002).

BRANCIFORTE HEIGHTS, LLC, Plaintiff and Respondent, v. CITY OF SANTA CRUZ et al., Defendants and Appellants.

H028864 [*1] Superior Court of Santa Cruz County, No. CV149269, Robert B. Yonts.

The central substantive question in this case is whether **subdivision (e) of section 66477** imposed a duty on the City to provide a private open space credit against the park and recreation fees assessed against Branciforte. The City maintains that it retains discretion under **subdivision (e) of section 66477** to decide whether to include a private open space credit in its park fee ordinance and the City may "eschew private open space credits in favor of a policy and ordinance intended to advance public parkland development." The City additionally claims that the open space amenity was provided "in consideration for the project's PUD permit," which authorized a development plan not permitted under conventional zoning and, therefore, the provision of open space was not an aspect of subdivision permit approval against which [*3] such a credit could be applied.

City of Costa mesa study on raising park fees
http://www.ci.costa-mesa.ca.us/docs/User_fees_07-08.pdf

City **of Colton CA -Quimby Dedication Requirement and In-Lieu Fee Study** & Park Impact Fee Nexus Study done by SCI, Inc. in 2008

http://www.ci.colton.ca.us/a/MG44479/AS44488/AS44489/AI44511/DO44512/DO_44512.PDF

Very interesting legal comment on nexus study re: Pasadena 2004 540% park impact fee increase
Six separate documents from attorneys and developers cover virtually all issues of a proper v. improper nexus study.

http://ww2.cityofpasadena.net/councilagendas/2004%20agendas/Nov_08_04/7A1.pdf

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http://www.ci.antioch.ca.us/CityGov/CommDev/PlanningDivision/docs/ebart-Hillcrest-Station-DEIR-Plan/DEIR/DEIR%20Chapters/3.12%20Public%20Services.pdf

fr. City of Antioch planning EIR draft State Regulations
State law allows a city or county to impose fees as a condition of approving any development project if it can demonstrate a relationship between the fee and the purpose for which it is being earmarked. The jurisdiction must conduct studies to demonstrate a reasonable relationship between the need for the public facility and the type of development project. It must also be able to show there is a reasonable relationship between the amount of the fee and the cost of the public facility attributable to the development (California Government Code section 66000 et. seq.).

Parks

The 1975 [sic1965] Quimby Act (California Government Code §66477) authorized cities and counties to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. The Act states that the dedication requirement of parkland can be a minimum of 3 acres per thousand residents or more, up to 5 acres per thousand residents if the existing ratio is greater than the minimum standard. Revenues generated through in lieu fees collected and the Quimby Act cannot be used for the operation and maintenance of park facilities. In 1982, the act was substantially amended. The amendments further defined

acceptable uses of or restrictions on Quimby funds, provided acreage/population standards and formulas for determining the exaction, and indicated that the exactions must be closely tied (nexus) to a project's impacts as identified through studies required by the California Environmental Quality Act (CEQA).

C. Quimby Act

-Ca. Govt. Code 1965

66477. (a) The legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative map or parcel map, if all of the following requirements are met:

(1) The ordinance has been in effect for a period of 30 days prior to the filing of the tentative map of the subdivision or parcel map.

(2) The ordinance includes definite standards for determining the proportion of a subdivision to be dedicated and the amount of any fee to be paid in lieu thereof. The amount of land dedicated or fees paid shall be based upon the residential density, which shall be determined on the basis of the approved or conditionally approved tentative map or parcel map and the average number of persons per household. There shall be a rebuttable presumption that the average number of persons per household by units in a structure is the same as that disclosed by the most recent available federal census or a census taken pursuant to Chapter 17 (commencing with Section 40200) of Part 2 of Division 3 of Title 4. However, the dedication of land, or the payment of fees, or both, shall not exceed the proportionate amount necessary to provide three acres of park area per 1,000 persons residing within a subdivision subject to this section, unless the amount of existing neighborhood and community park area, as calculated pursuant to this subdivision, exceeds that limit, in which case the legislative body may adopt the calculated amount as a higher standard not to exceed five acres per 1,000 persons residing within a subdivision subject to this section.

(A) The park area per 1,000 members of the population of the city, county, or local public agency shall be derived from the ratio that the amount of neighborhood and community park acreage bears to the total population of the city, county, or local public agency as shown in the most recent available federal census. The amount of

neighborhood and community park acreage shall be the actual acreage of existing neighborhood and community parks of the city, county, or local public agency as shown on its records, plans, recreational element, maps, or reports as of the date of the most recent available federal census.

(B) For cities incorporated after the date of the most recent available federal census, the park area per 1,000 members of the population of the city shall be derived from the ratio that the amount of neighborhood and community park acreage shown on the records, maps, or reports of the county in which the newly incorporated city is located bears to the total population of the new city as determined pursuant to Section 11005 of the Revenue and Taxation **Code**. In making any subsequent calculations pursuant to this section, the county in which the newly incorporated city is located shall not include the figures pertaining to the new city which were calculated pursuant to this paragraph. Fees shall be payable at the time of the recording of the final map or parcel map or at a later time as may be prescribed by local ordinance.

(3) The land, fees, or combination thereof are to be used only for the purpose of developing new or rehabilitating existing neighborhood or community park or recreational facilities to serve the subdivision.

(4) The legislative body has adopted a general plan or specific plan containing policies and standards for parks and recreation facilities, and the park and recreational facilities are in accordance with definite principles and standards.

(5) The amount and location of land to be dedicated or the fees to be paid shall bear a reasonable relationship to the use of the park and recreational facilities by the future inhabitants of the subdivision.

(6) The city, county, or other local public agency to which the land or fees are conveyed or paid shall develop a schedule specifying how, when, and where it will use the land or fees, or both, to develop park or recreational facilities to serve the residents of the subdivision. Any fees collected under the ordinance shall be committed within five years after the payment of the fees or the issuance of building permits on one-half of the lots created by the subdivision, whichever occurs later. If the fees are not committed, they, without any deductions, shall be distributed and paid to the then record owners of the subdivision in the same proportion that the size of their lot bears to the total area of all lots within the subdivision.

(7) Only the payment of fees may be required in subdivisions containing 50 parcels or less, except that when a condominium project, stock cooperative, or community apartment project, as those terms are defined in Section 1351 of the Civil **Code**, exceeds 50 dwelling units, dedication of land may be required notwithstanding that the number of parcels may be less than 50.

(8) Subdivisions containing less than five parcels and not used for residential purposes shall be exempted from the requirements of this section. However, in that event, a condition may be placed on the approval of a parcel map that if a building permit is requested for construction of a residential structure or structures on one or more of the parcels within four years, the fee may be required to be paid by the owner of each parcel as a condition of the issuance of the permit.

(9) If the subdivider provides park and recreational improvements to the dedicated land, the value of the improvements together with any equipment located thereon shall be a credit against the payment of fees or dedication of land required by the ordinance.

(b) Land or fees required under this section shall be conveyed or paid directly to the local public agency which provides park and recreational services on a communitywide level and to the area within which the proposed development will be located, if that agency elects to accept the land or fee. The local agency accepting the land or funds shall develop the land or use the funds in the manner provided in this section.

(c) If park and recreational services and facilities are provided by a public agency other than a city or a county, the amount and location of land to be dedicated or fees to be paid shall, subject to paragraph (2) of subdivision (a), be jointly determined by the city or county having jurisdiction and that other public agency.

(d) This section does not apply to commercial or industrial subdivisions or to condominium projects or stock cooperatives that consist of the subdivision of airspace in an existing apartment building that is more than five years old when no new dwelling units are added.

(e) Common interest developments, as defined in Section 1351 of the Civil **Code**, shall be eligible to receive a credit, as determined by the legislative body, against the amount of land required to be dedicated, or the amount of the fee imposed, pursuant to this section, for the value of private open space within the development **which is usable for active recreational uses**.

(f) Park and recreation purposes shall include land and facilities for the activity of "recreational community gardening," which activity consists of the cultivation by persons other than, or in addition to, the owner of the land, of plant material not for sale.

(g) This section shall be known and may be cited as the Quimby Act.

AB2936 amendment 2002

(f) Park and recreation purposes shall include either of the following:
(1) Land and facilities for the activity of ‘‘recreational community gardening,’’ which activity consists of the cultivation by persons other than, or in addition to, the owner of the land, of plant material not for sale.
(2) The preparation of *master* plans for park and recreational *facilities provided that both of the following conditions are met:*
(A) Not more than 10 percent of the fees and dedications collected by a city or county pursuant to subdivision (a) are expended for city, county, or regional master plans for a maximum master planning period of three years.
(B) Every five years from the adoption of the master plan not more than 5 percent of the fees and dedications collected by a city or county pursuant to subdivision (a), in that year, are expended for plan updates.

Parks vs Open Space --What are we talking about?

This is part of a range of independent research and comment on the City of Santa Cruz 2030 draft General Plan related to community parks planning. Please contact J. Golder jhond@comcast.net 831-706-8716 with comment or inquiries or to obtain a list of available research.

Definition of "park" from the California Parks & Wildlife (CALPAW) 1988 Prop 70 state bonds proposition that became Resource Code 5907.

"**Park**" means a tract of land with outstanding scenic, natural, open-space, or recreational values, set apart to conserve natural,scenic, cultural, or ecological resources for present and future generations, and to be used by the public as a place for rest, recreation, education, exercise, inspiration, or enjoyment.

The approved Prop 70 bond issue raised $770 million including the $15 million that purchased Pogonip. When preservationists think "park" this is the definition they are holding. It is essentially the same "parks mission" definition that the California State Parks Dept. uses.

When the 1965 Quimby Act that became Govt. Code §6477 GC was passed the intent was for acquiring land and developing it for "**neighborhood and community** (urban) **parks** with " active recreational facilities" to serve new subdivisions..

The following definitions are from the City's 1983 Urban parks Recreation & Recovery Plan p.7, under Definitions and Standards:

Neighborhood Park: A park designed to serve the residents of neighborhoods living within a half mile distance. Primarily a spontaneous use facility, including tot lot, minor picnic and athletic facilities. 5-10 acres. STANDARD: 2.5 acres/1000 people.

Community Park" A larger facility serving the residents of several neighborhoods in a three mile radius. Primarily an area with major recreational facilities, i.e. large picnic area, swimming pool, ballfield, tennis courts and recreation centers. STANDARD: 2.5 acres/1000 people.

The following definitions are from the current 1990-2005 General Plan, p.2 & p.7, P&R Element

1**. Neighborhood Parks**
Neighborhood parks serve the recreational needs of residents living or working within a neighborhood area. They are used for spontaneous recreation and include facilities such as children's play areas, picnic areas, athletic fields and outdoor basketball courts. The City's standard for neighborhood parks is 2.0 acres/1000 people with a service radius of 3/8 of a mile or five blocks

2. **Community Parks**
Community parks serve recreational needs beyond those supplied by neighborhood parks. They are generally larger in size than neighborhood parks and have major recreation facilities such as large picnic areas, swimming pools, ball fields, tennis courts and recreation centers. The City's standard for community parks is 2.5 acres/1000 people with a service radius of 1-1/2 mile.

From Draft General Plan 2030 p.26

Neighborhood parks serve the recreational needs of those living or working within a service radius of three-eighths of a mile (about five blocks). They provide recreation in facilities such as children's play areas, picnic areas, athletic fields, and outdoor basketball courts. The City's standard is to provide neighborhood parks at a ratio of 2.0 acres per 1,000 people.
Community parks are designed to serve the entire community. They are generally larger than neighborhood parks and offer unique facilities such as larger picnic areas, swimming pools, ball fields, tennis courts, and recreation centers. The City's standard for community parks is 2.5 acres per 1,000 people, with a service radius of 1.5 miles.

Glossary
Community Park p. 162
Land with full public access intended to provide recreation opportunities beyond those supplied by neighborhood parks. Community parks are larger in scale than neighborhood parks but smaller than regional parks. (NO mention of scope of facilities)

Neighborhood Park p.184
City- or County-owned land intended to serve the recreation needs of people living or working within one-half mile radius of the park. (service radius discrepancy from p.26 def., also no mention of scope of facilities)

Parks vs Open Space definition ambiguity and confusion

Throughout the Draft General Plan 2030 the terms "parks" and "open space" are distinctly and regularly separated. The term "parks" is associated with traditional developed or improved open space as in the 1983 UPARR and 1990-2005 Gen Plan definitions of **neighborhood** and **community parks** above.

Conversely, the term "open space" is almost always paired or associated with undeveloped, preserved, natural area or greenbelt in the descriptive text. Both of these associated meanings also occur consistently throughout the programs/policies /actions, except in the Glossary, where their meanings are supposed to be presented clearly and precisely. See Glossary preface excerpt in box >>

> Because the general plan is such a comprehensive and overriding policy document, it is critical that all those participating in the planning process, and all those who will use the Plan, have a common understanding of what the more frequently used terms mean. The aim of this Glossary is to ensure that every user under-

The actual proposed Glossary definitions are circular and ambiguous. Here's the definitions in the 2030 GP Glossary:

p. 186 **Open Space Land:** Any parcel or area of land or water that is essentially unimproved and devoted to an open space use for the purposes of (1) the preservation of natural resources, (2) the managed production of resources, (3) outdoor recreation, or (4) public health and safety.

Parks p.187
Open space lands whose primary purpose is recreation. (See "Open Space Land," "Community Park," and "Neighborhood Park."

. The combined dependent result would therefore, logically, be:

Parks = Any parcel or area of land or water that is ***essentially unimproved*** and devoted to… outdoor recreation.

However, the key "open space" descriptive phrase "***essentially unimproved***" is **inconsistent and ambiguous** if applied to any park development, improvement or facility such as: drainage & irrigation, fencing, restroom & picnic facilities, paving, playground equipment, playing surfaces, goals, etc.

An "essentially unimproved" open space meets the needs of an urban park about as well as an "essentially appliance-free " kitchen meets the needs of a restaurant. What that means is a "resource conservation " park, also known as "natural area" or preserve, maybe "greenbelt" but not a city park.

Even the Planning Dept's fundamental Land Use Designation map confuses these two opposed park functions. The map illustrates the undeveloped State Parks, Henry Cowell and Wilder and the fully developed city neighborhood and community parks using the same exact shade of green. http://www.cityofsantacruz.com/Modules/ShowDocument.aspx?documentid=9196
If planners and map technicians fail to illustrate the distinction in wording or pictures, it's no wonder that citizens, officials, commissions and even attorneys confuse the intended community purpose.

Compounding this ambiguity is the wide ranging use of the term "facility" especially as "recreation facility" or "community facility." Proposed Land Use policy LU 3.10 allows community service facilities in any (all) land use designations. According to references in box >> "neighborhood parks" are an example of "community service facilities" and will be allowed as of right under proposed LU 3.10.1, in "natural areas" or anywhere else.

.***Note:** The draft 2030 General Plan Land Use Element pp. 85-86 refers to "parks and recreation facilities" and "facilities such as neighborhood parks" within text on Community Facilities and Services. The City's P&R website pages refer to improved parks as "Facilities" http://www.cityofsantacruz.com/index.aspx?page=550
Neighborhood parks are listed as community facilities in Table L-9 p.130 1990-2005 General Plan. All City parks, State Parks and natural areas (?!) are described as "Parks and Recreation

Conversely "natural areas" are currently an allowed use in "Parks"zoning , as is, of course "developed" parks". These current and proposed policies and definitions therefore allow, as of right, any mix of a community service facility and natural area or of a community park and a resource conservation land use. Or so it seems from the above definitions. But veteran local citizens know this doesn't happen.

The reality of trying to plan any compatible mix of "facilities" in the "open space preserves" of Arana Gulch and Pogonip has ignited over twenty years of vitriolic community debate, expensive litigation and frustrating planning delays. Even the simplest of recreational facilities, a trail or path, has paralyzed the completion of the Arana Gulch Master Plan and now threatens still another legal battle in the Pogonip.

These counterproductive planning wars between "developed" and "preserved" park factions can only be avoided by a careful and honest evaluation of past park and open space planning process. The groundwork for a civilized discussion must begin by presenting the community with a well crafted General Plan that carefully draws distinctions in terminology, intent and presentation.

The second challenging and critical phase is to develop a complete balanced Parks Master Plan with measurable feasible goals and standards and fair allocation of land and fiscal resources . Two generations of this community have seen no actual increase in city parks or ball fields.

Meanwhile the super abundance of protected public natural open space within a short 15 minute drive (within 10 miles of City limits) has grown to over 30,600 acres. That's 185 open space acres for every one acre of urban park. The maintenance costs and management problems continue to multiply, draining the general funds and contributing to closure of City recreational facilities.

An "essentially appliance-free" kitchen cannot feed the healthy recreation appetite of Santa Cruz.
Please help craft a fair and workable City Park plan for our next generation.

This is part of a range of independent research and comment on the City of Santa Cruz 2030 draft General Plan. Please contact J. Golder jhond@comcast.net 831-706-8716 with comment or inquiries.

Excerpt from CEQA environmental study of the City of Santa Cruz 2007-2014 Housing Element and contradictory excerpts from former City manager R. Wilson's budget messages. This is part of a range of independent research and comment on the City of Santa Cruz 2030 draft General Plan related to community parks planning. Please contact J. Golder jhond@comcast.net 831-706-8716 with comment or inquiries or to obtain a list of available research.

Notes and comment by J. Golder in blue and red.

13-14. PUBLIC SERVICES & RECREATION

In accordance with the California Environmental Quality Act (CEQA), State CEQA Guidelines, City of Santa Cruz plans and policies, and agency and professional standards, a project impact would be considered significant if the project would:

- *Result in substantial adverse physical impacts associated with provision of new or physically altered facilities, the construction of which could cause significant impacts, in order to maintain acceptable service for fire protection, police protection, schools and parks.*
- *Increase the use of existing parks or recreational facilities such that substantial physical deterioration would occur or be accelerated; or*
- *Include recreational facilities or require construction or expansion of recreational facilities which might have an adverse physical effect on the environment.*

Future residential projects would be served by existing services and utilities.
[Not possible! Current projects are already underserved with developed parkland deficits of more than 30 years running!].

***Impact Analysis*.** As indicated above in the INTRODUCTION to this section, implementation of the Housing Element policies and programs and efforts to meet quantified housing objectives may indirectly result in construction of new housing units with resulting population growth. For the years 2007 to 2014, the draft Housing Element includes objectives to construct 672 new housing units, of which 390 already have been constructed. This results in a new housing production need of 282 units constructed by the year 2014. This would result in a population increase of 677* persons based on existing City average household sizes. [*Uses 2.4 persons per household. Units already constructed does nothing to diminish the new recreational service and space demands of the added residents (unless the previous 2002-2007Housing Element and its CEQA addressed those 390 units) . . The population increase for the time period of this study is 672 new units x 2.4 persons per household; or 1613 people. This is 2.78% of the estimated 2008 City population 58,125 The City's park standard requires 4.5 acres per 1000 added residents. This increase indirectly requires 1613/1000 x 4.5 ac./1000 or 7.26 acres of new developed park land. There is no designated location for this parkland so there will be a significant environmental effect on 7.26 acres if the General Plan for Parks and Recreation is consistently implemented with this Housing Element.

Every attempt to place additional recreational facilities in new greenbelt parkland has caused massive environmental protest, i.e. bike trails in Pogonip and Arana Gulch. Construction of a small neighborhood park at Depot Park cost $10 million and generated significant environmental impacts. There are many examples of CEQAs and EIRs for City P&R CIPs which have ranged from .5 to 1.5 million per year. At least 80% of the funding for P& R CIPs is from special revenue funds 241-249 which are specifically reserved for projects to improve or rehabilitate P &R facilities to increase facility life and capacity or to expand facilities to serve current and future recreational and park needs.

As discussed in section 12 (Population and Housing) above, this population increase is well within the range of regional population projections developed by AMBAG.Future housing construction and associated population increases would result in minor increase in demand for public services. With the estimated level of population growth and as new residential infill development, future

residential development would have no measurable effect on existing public services in that the increase will not require expansion of any services to serve the project. Then perhaps all Park fees and land dedications can be waived. This would be welcome news to many developers paying $3 to $6 per sq.ft. in park fees..
The population increase represents approximately 1% of the existing City population level and would not substantially affect parks or recreational facilities such that substantial physical deterioration would occur or be accelerated.[No, it is 2.78%. Irregardless, by this logic any 1% increase in the population would require no expansion of services or facilities] [City P&R spends roughly $1 million per year in parks capital improvement projects to mitigate the effects of use and deterioration and to increase facility life and capacity..] Future site-specific development would be subject to site-specific environmental review as well as permit and design review, including review for compliance with conditions imposed by the Fire and Police Department regarding access and safety. Thus, the proposed project's indirect impacts on public services and recreation are considered less-than-significant.
This *less-than-significant* conclusion is not supported by either the facts or common sense.

24.22.085.1 ASSUMED HOUSEHOLD SIZE BASED ON UNIT SIZE.

A household of one person in a studio apartment, two persons in a one bedroom unit, three persons in a two bedroom unit and one additional person for each additional bedroom thereafter.

(Ord. 2006-17 § 1 (part), 2006).

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census data # of residential units City of Santa Cruz 1970-2000
http://socds.huduser.org/Census/housing.odb?msacitylist=7485.0*0600069112*1.0&metro=msa
Fr. City Manager R. Wilson's Introduction Message to 2011 FY Budget re: Parks & Recreation

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Fr. 2005-2020 General Plan/LCP Background Report
http://www.cityofsantacruz.com/Modules/ShowDocument.aspx?documentid=2372

fr. Introduction
City Budget
As a result of the continuing decline in general fund revenue the level of existing city services may have to be further reduced. Limited general fund revenues could influence future General Plan objectives for Parks and Recreation and Community Facilities and Services Elements. The City is finding it difficult to maintain existing parks and recreational facilities and programs at the level that is expected by the public. Revenue resources for maintenance, protection and enhancement of the City's 2000-acre open space

greenbelt system are currently not adequate. Planning decisions, particularly those related to land use and transportation, have an impact on economic development, and therefore on

Experience shows that cutting programs does not eliminate work. For example, the Department's staff must still dedicate considerable time and effort to see that successor organizational structures for the Harvey West Pool, the Beach Flats Community Center, the Surfing Museum, the Natural History Museum, and other programs are successful. Cutting the budget is often only the beginning of new responsibilities. Unless the City wishes to divest itself of its parks and recreation assets, it cannot escape fundamental costs associated with those assets.

The wharf and the golf course will command more attention than usual in the next few years. So will the fate of programs for teens. Funds will be scarce and needs will be pressing.

The Department simply cannot afford to do that which I suspect almost everyone thinks it ought to do. That is why, over the next few years, there will be a need for focused community discussion about paying for parks and recreation services.

Fr. City Manager R. Wilson's Introduction Message to 2010 FY Budget re: Parks & Recreation

Parks and Recreation Department

The three largest functions supported by taxes are police, fire, and parks and recreation, in that order. These three departments represent nearly 75% of tax spending. That simple fact explains

why the Parks and Recreation Department employs about 50 fewer people than it did eight years ago, and why the Department no longer operates the Harvey West Pool, the Beach Flats Community Center, the Surfing Museum, or the Museum of Natural History.

As the economy continues to shrink and the City's tax receipts continue to fall, the City must continue to reduce parks and recreation services. The Department will have no choice but to further reduce operating hours, maintenance levels, and program expenditures, perhaps severely. As I write this, the extent of upcoming cuts in this Department is unknown.

The City's real problem is that even if it eliminated the Parks and Recreation Department altogether, it would still own and be responsible for 1,600 acres of open space, two regional parks, 25 neighborhood parks, 3 acres of street medians, 4 miles of levee pathway and landscaping, 18 playgrounds, 9 ball fields, 2 skate parks, a bike park, Main Beach, Cowell Beach, the Municipal Wharf, and a host of other assets. How would a skeleton crew handle all this?

Park maintenance is the single biggest expense of the Parks and Recreation Department; it could face extensive cuts. The Louden Nelson Community Center and the Teen Center could be closed; perhaps they could be reestablished as nonprofit operations at some point in the future. The Civic Auditorium could be closed, or even privatized. The golf course could be privatized. Recreation programs could be scaled way back.

It could very well be that the Parks and Recreation Department we have known and valued so highly over the years will be a thing of the past. I hope that will not be the long-term outcome, but it may very well be the short-term situation.

We are also in a deficit position with the golf course. The golf course owes the General Fund about $2 million, reflective of two bad budget years. This reflects a downturn in the golf industry as a whole (too many new courses have been built and too few new players have come along), the recession, and capital spending that was required at the golf course. The golf course must begin to repay the General Fund this fiscal year; we will present details with the Parks and Recreation Department budget. Considering all these circumstances, privatizing golf course operations might be worth exploring.

Fr. City Manager R. Wilson's Introduction Message to 2009 FY Budget re: Parks & Recreation

The Diminishing Trust Fund

The Trust Fund balance has been reduced by five major loans over the course of the past several years: $530,000 for affordable housing; $509,000 for the skate park; $610,000 to CDBG for the Homeless Services Center; $992,000 for Mission Street undergrounding; and $2 million for

street paving. No fixed terms were established when these loans were made. The Trust Fund balance is now $4 million.

Two items may require additional appropriations from the Trust Fund, given the status of the General Fund. The first is the abatement of lead at the Charles Derby Gun Range at DeLaveaga Park. The City has no choice but to perform this cleanup. The second item is wharf substructure repair: significant work must be done under the Dolphin and Miramar restaurants.

Given these exigencies, the Trust Fund will be at its lowest value since it was created. We need to be very cautious about approving further outlays from this fund.

The City of Santa Cruz still owns just under eight acres of land in the City of Scotts Valley (the remaining Skypark airport property). The City of Scotts Valley's Redevelopment Agency has an option to purchase this land, and will do so if and when a developer is able to undertake a project to realize Scotts Valley's plan for its downtown. The City of Scotts Valley is currently working

(end)

From: John Golder [mailto:jhond@comcast.net]
Sent: Sunday, September 25, 2011 6:51 PM
To: Ken Thomas; jrebagliato@cityofsantacruz.com; dshoemaker@cityofsantacuz.com; Alex Khoury; Ali MacBird
Cc: dmiller@santacruzsentinel.com
Subject: FW: GP 2030 Draft EIR and CPRA for parks inventory source material

11D-1 This comment & formal response to the City of Santa Cruz Draft Environmental Impact Report for the 2030 General Plan
Is directed to Ken Thomas, Principal Planner, Juliana Rebagliato, Dir. Of Planning & Community Development,
Dannettee Shoemaker, Dir. Of Parks & Recreation, the Planning Commission c/o Zoning Administrator Alex Khoury,
and the Parks & Recreation Commission c/o P & R staffperson Ali MacBird [amacbird@cityofsantacruz.com].
It references an earlier Sept. 15 (originally handwritten) response that has now been rewritten with some revisions and become a MS Word document
(filename=DEIR 2030 GP objection ltr & CPRA for parks inventory 9-15-11.doc It is attached above.)

Both letters and the body of research I have completed over the last ten months constitute a comprehensive
reply to an untenable and apparently unrecognized 30 year collapse of any comprehensive concurrently effective City Parks planning process.
They also address decades of misappropriated Special Reserve Funds received under the Quimby Act provisions to acquire and
develop community parks. The end result of three decades of inattention to these planning and funding matters is that
the residents and citizens of and the visitors to the City of Santa Cruz have been deprived in a very real and likely misfeasant manner,
of an adequate park system for their neighborhoods and community, **even though it has been paid for, in advance , by the developer community through**
millions of dollars in park fees exacted under a noncompliant City ordinance.
As of this date, it is apparent that neither the City Council, the City Manager, the departments of Planning and Community Development
or Parks and Recreation, or Finance or their respective Directors and senior staff, or the Planning Commission or
the Parks & Recreation Commission recognize the extent or legal seriousness of the problem.

Ken,
Thank you for your prompt reply and the helpful comments on DEIR process.

11D-2 My inclusive CPRA request **within** my Sept. 15, 2011 written comments on this DEIR
is intended specifically for verification of the acreages you have stated in the City's "parks" inventory.
All the records requests are intended for that purpose, i.e. How did you calculate the acreages given?

As you are absolutely aware of, I have been in frequent and regular contact with you, P & R Director Dannettee Shoemaker, the City Clerk's office, the City manager's office, (the two offices being now combined) and all the staff therein regarding the hundreds of preliminary questions (per GC §62453.1) and defined records requests (per GC §62450 et.seq.) since October of last year. Most of my requests are directly or indirectly related to an accurate city parklands inventory which is an absolute requirement for the City's Quimby Act parkland dedication ordinance and the in-lieu developers park fees requirements.

A number of my key records requests Involving City owned real estate parcels and lots have never been answered. Some of them are over 9 months old.

Additionally, I have been in substantial, though not regular, contact with dozens of other departmental
administrators, managers and staff regarding my parks & recreation facilities research for the 2030 General Plan.

Since any property/real estate/legal boundary inventory MUST at some point reference a legal description of the involved parcels, and/or an accurate survey of same, it mystifies me how your division could accurately accomplish an inventory when NO ONE in the combined City Clerk/City Manager's office has been able to locate the City's real estate files.

The following depts. have been unable to locate the requisite records:

City Clerk's office: Bren Lehr, Tom Graves ,Nydia Patiño, Tina Shull and presumably, all their available staff.

Despite numerous attempts to speak directly to Ms. Patino, whose has the primary responsibility for the
location, filing, and retrieval of City records, she has never returned a single phone call nor given any indication
whatsoever in her email responses that the City knew where its real estate records are.

City Manager's office: Neither Suzanne Haberman nor Asst Dir. Tina Shull claim any knowledge of these records.

City Risk Manager: interim manager Barbara Choi and her staff know nothing of these records and referred me to
the City Clerk's office at a time when there was no City Clerk. Interim City Clerk Tom Graves has been obstructive
and non-communicative the entire 6 months I tried to work with him. Ms. Lehr's appointment has solved that obstruction.

City Attorney's office: no response from anyone in management at that office

Public Works Dept.: Dir. Mark Dettle, Deputy Dir Chris Schneider and all staff I have had communication with
deny any knowledge of those records. City engineering plans do not include APNs or deed references.
With a few rare exceptions, undeveloped city owned lands do not have street addresses.

Property Manager: This position has been vacant for several years, at least. A CPRA request has been made
to Human Resources division to determine the protocol for transferring and the likely disposition of those records.
HR Dir. Ms. Sullivan is aware of this very recent request

Parks and Recreation: Dir. Dannettee Shoemaker has no idea where those records are. Some of their historical
parks files contain misc. parcel info and acquisition information. There is nothing comprehensive re: parks facilities,
though the 1983 Parks Plan mentions several programs to track & evaluate facilities & parklands.
Planning and Community Development: I have discussed this a number of times with you and Dir. Juliana Rebagliati.
I am rather surprised that you don't have these files as a reference, since everything your department does references
some parcel or parcels of land.
IT: I have had a number of conversations and a personal meeting with Rich Westfall about the City's GIS system and how
to research the data layers. Unfortunately, any City owned property input into the City's GIS is not updated as to use, and
there are many city parcels whose use is split between, parks, natural areas, housing, commercial, public facilities and easements.
Here are typical examples associated with Depot Park & Neary Lagoon: APNs 4-321-06, 4-321-16, 4-311-25.
To measure such uses with legal knowledge of boundaries, required buffers, easements and deed/use restrictions is a complicated task *and*
requires the unavailable City real estate records or a complicated accumulation of civil escrow records and a comprehensive record of all subsequent
pre & post purchase legal actions affecting the parcels.
But without the City's real estate records, the "park" parcels themselves are hard to identify for legal research.
Furthermore, there is no CAD redrafting of a city owned parcel serving multiple uses.
Scribe system records scanning subcontractor. I have had several conversations with this subcontractor. The records scanning project is now
about 2 yrs old. He does not know about these records.
Economic Development and Redevelopment: I have talked with Joe Hall, Norm Daly & Peter Kota. None of these
Individuals know the whereabouts of these records. I have not reached Dir. Lipscombe.

Regarding your reference to population and its effects on the elements of the proposed GP 2030 , it is specifically the ***separation*** of the added population analysis from the other elements (that discuss community services and facilities, land use planning , resource conservation, community design and recreation facilities needs) that I am formally objecting to.

Your DEIR is attempting to separate these analyses legally (by separate analysis & approval), documentary (by excluding them from this document), context (by not analyzing them as a whole), cause & effect (by assuming added population has no significant effect on recreational facilities) and public notice (by completely separating the housing element process in time and public comment/response from the main DEIR).

This, of course is all in direct contradiction to substantial CEQA case law which requires that a general plan and its constituent elements and analyses *must be consistent and considered as a whole*. In other words, regardless of the recent Housing Element state "final approval", it must consider the 40 year deficit condition of the city's active recreational facilities, a condition substantially described in the P&R Element and the Civic Community Element of the current General Plan. Please note, that the unsupportable false statements made in your 2002-2007 & your 2007-2014 Housing Elements, viz. that added population will have less than significant effect on the City's recreational facilities

and that current facilities are adequate for current and projected population would essentially place the City in a position of not justifying any developer park fees (PFT and Quimby fees**). Please let me know when you suspend that requirement for residential projects!**

The principal involved is CONCURRENCY for which the City has been charging park developer fees for more than 39 yrs (PFT) and 31 yrs (Quimby Funds) , in sum some tens of millions of dollars with NO NET GAIN in developed parkland. Not only no net gain , but a **verified surveyable NET LOSS in developed usable parkland** with active recreation facilities. Unmentioned by your draft DEIR are the unique and expensive recreational facilities destroyed without meaningful public comment, without any reference to an individual Park Master Plan or a comprehensive City Parks Master Plan (last done in 1983).

The unique facilities destroyed or about to be destroyed in DelaVeaga Park, the 2 acre Charles Derby Small Bore Range and access road (valued at several hundred thousand dollars)and the 19K sf Naval Building (former Stroke Center –valued at over $3 million) are essentially irreplaceable because the significant effect that their replacement recreational facilities would have on the environment would probably cost millions in mitigation measures (both are in sensitive Monarch Butterfly habitat). All of this has been done without any reference to the DeLaVeaga Park Master Plan which has been left deliberately unfinished for more than 50 yrs.

This DEIR , by presenting a completely false and inflated parks inventory that includes hundreds of acres of raw undeveloped and undevelopable steep forested inaccessible hillside under the misnomer of "community park" is a deliberate and knowing attempt to misrepresent the current and longstanding active recreational facility deficit that the City has suffered under "progressive" political leadership since the mid 1970's. Changing park definitions of long accepted and currently classified City parklands is inadequate procedurally, administratively, professionally, or ethically. It is also highly unrealistic. It smacks of George Orwell's novel 1984 in terms of premeditated public deception. Please be advised that my many emails and communication to your Planning Department re: park definitions are all part of the public record. It will be impossible for you to testify that park definitions are not fundamental to an accurate park inventory, or that you were not cognizant of the many issues I raised on definition discrepancies and ambiguities.

It is apparent that part of the intent of this DEIR's highly inflated parklands inventory would be an attempt to actually meet the LOS standards that the Quimby Act GC §6477 requires. Unfortunately, the City of Santa Cruz has never met a majority of the 12 + Quimby Act requirements and has been requiring park developer fees and exactions ***under unverified inventory and subdivision density data*** since the inception of Ordinance 80-42 in 1980 and Ordinance 73-10 in 1973.

The DEIR fails to mention that the City's subdivision dedication ordinance **has failed to produce a single square foot of net gain in developed parkland despite 31 years of implementation**. My records request to your department to produce a single example of developed park acreage or parcel purchased with Quimby Funds or Parks Facilities Tax (38 yrs!) has yet to be answered. The following excerpt from my CPRA request was sent to the City Manager on Mar. 21, 2011. It restates the unanswered Dec. 8, 2010 CPRA request to Julianna Rebagliati and Dannettee Shoemaker:

> The still unanswered records request for such a parkland parcel was first made in a letter sent to both Planning Dir. Julia 2010 on page 8 and copied below.
>
> **Important questions:**
>
> 1) What IS the City standard for natural area/conservation resource/undeveloped open space?
> (A standard must be determined to complete a PkDA and to qualify for Quimby funds.)
> (This is still unanswered)
>
> 2) How will we ever solve an urban parks deficit if all the available open space is permanently preserved?
> (Available parcels must be identified for urban park use or further park expansion planning is fruitless)
> (This is still unanswered)

Please explain what portion of the records used to define and measure your DEIR parklands inventory will
take more than ten days to assemble.

I am more than willing to review whatever you have as soon as its available, regardless how incomplete.

Does any of your inventory source material include any of the missing City real estate files?

You have refused since last January to disclose how and by what sources or definitions this inventory was being done until the inventory
itself was complete and available for public review.

Are you now willing to reveal who actually did this inventory and by what methodology and source material?

I believe the public deserves an answer for this inexcusably inaccurate and misleading document.

CC1 An involved and informed citizenry and responsive and effective government

Resolutely,

J. Golder

From: Ken Thomas [mailto:kthomas@cityofsantacruz.com]
Sent: Monday, September 19, 2011 11:00 AM
To: John Golder

Cc: Juliana Rebagliati; Bren Lehr; Dannettee Shoemaker; Peter Koht; Bonnie Lipscomb
Subject: GP 2030 Draft EIR

John – There is a 60 day public comment period for the Draft EIR prepared for the GP 2030. Only written comments will be accepted. I've receive your records act request dated September 15. Due to the extent of the request it will take more than 10 days to respond. I will also respond to your inquiry about parkland in the IG zoning district that you discussed with the Economic Development Department.

With respect to future population and park needs please refer to page 4.6-38 of the DEIR. All environmental impacts are measured by using the project buildout of GP 2030 which is 8,040 new residents by 2030. This is not a population estimate but a worse case scenario if the plan is built out which is unlikely. The AMBAG population/employment forecast for 2030 is 6,965 new residents. CEQA requires that we use the worse case scenario.

Ken Thomas
Principal Planner
Planning and Community Development Department
City of Santa Cruz
(831) 420-5148

Note: My new email address is kthomas@cityofsantacruz.com

RECEIVED
OCT - 5 2011
CITY CLERK'S DEPT.

LETTER 11E

Oct 5, 2011 Golden → Thomas p.1 of 2

OCT - 5 2011

To: Ken THOMAS Principal Planner
Future Planning Division 420 5148
Dept. of Planning & Community Development
City of Santa Cruz CA 95060
809 Center St.

From JOHN GOLDEN 831 706 8716
Exec. Dir. ARC-SC a 503c4 CA. Corp.
PO Box 46, Felton CA 95018

RE: DEIR comment response, Gen Plan 2030
response & comment, CPRA #107, 108

MR. THOMAS

Preliminary question per 6453.1 GC.
"Who at future planning is responsible for incorporating or responding to public comment and criticism of the Gen. Plan 2030 and its EIR?

11E-1

Directive F41: Please consider all info I have sent you & planning to be comment on the 2030 GP public meeting held Sept. 7, 2011.

Comments: (continued)

Oct 5, 2011 Golder → Thomas

11E-2 So far, I can find nothing in the proposed 2030 Gen. Plan, which directly addresses the need for community active recreation facilities or developed parkland that has been prepaid for through Quimby fees.

Am I missing something?

11E-3 Finally, please provide, for my review, a copy of any and all contracts or work orders performed or bid on by EDG Environmental Design Group and for my review a copy of all of their work products on the Gen. Plan or related planning analysis.

Sincerely,
J. Golder

CITY OF SANTA CRUZ
PUBLIC RECORDS REQUEST FORM

LETTER RECEIVED
OCT 5 2011
CITY CLERK'S DEPT.

The City Clerk's Department staff responds to public records requests from the public as soon as it is practicable, given the Department's other responsibilities. We will make every effort to accommodate your request; however, no time frame can be guaranteed as to when records will be available. You will be notified in writing within ten (10) days whether your request seeks copies of disclosable public records prepared, owned, used or retained by the City.

The charge for copies of records is $.25 per page. If the record(s) are available in electronic format, there will be no charge to email them to you.

Date: Oct 5, 2011

Name of Requestor: John Golder

Email Address: jhandbw@gmail.com Phone No: 831-706-8716

Mailing Address ~~(IF NO EMAIL ADDRESS)~~: PO Box 46
Felton CA 95018

Please give a **complete** description of the information requested below:

11E-4 For my review
1992 City of Santa Cruz
Housing Element

FOR OFFICE USE ONLY

Staff member accepting request: _____

Copies at $.25 per page _____

Estimated Research Time: _____

Total Amount Due: $_____

Actual Research Time: _____

From: Jhond Golder [mailto:jhondbw@gmail.com]
Sent: Tuesday, November 15, 2011 12:50 PM
To: Ken Thomas
Cc: Bren Lehr
Subject: RE: DEIR comments

Ken,

I sent the email to six recipients including myself at 4:49 Monday afternoon.
Mark Lee, one of the recipients, received his copy at 4:58 pm and was next to last on the list.
I am presuming the arrival was delayed by your LAN.
The recipients were:

To: blehr@cityofsantacruz.com; Ken Thomas <kthomas@cityofsantacruz.com>; Juliana Rebagliati <jrebagliati@cityofsantacruz.com>
Cc: mbernal@cityofsantacruz.com; citycouncil@cityofsantacruz.com; Mark Lee <markdlee4125@sbcglobal.net>; jhondbw@gmail.com

Here is the email as copied from Mark Lee's :
(without the attachments)

With six deliveries and an elapsed time of 27 min. total transmission (4:49-5:16pm last copy received by me) the deliveries
would have averaged 4.5 min. ea. That's plenty of time for at least two copies to have reached City addresses before 5pm..

If you cannot find the email and intend to reject my comments under the circumstances, I will press a formal complaint and investigation.
I will talk to IT and see what they can tell me.

J. Golder

Sent: Mon, November 14, 2011 4:48:55 PM
Subject: DEIR GP 2030 comment

TO: **Ken Thomas** , Principal Planner Nov. 14, 2011
Department of Planning and Community Development
City of Santa Cruz, CA
809 Center St., Room 206 (107= Future Planning)
Future Planning Division

FROM: **John Golder**, Developer Consultant, RedLog Properties
Executive Director, **Active Recreation Coalition of Santa Cruz**
A 501c4 Calif. non-profit corporation ***"A team of teams speaking for sports"***
PO Box 46, Felton CA 95018 (831) 706 – 8716

RE: Draft EIR for the 2030 General Plan; serious errors, omissions & inconsistencies

and fundamental unconsidered environmental effects.

Dear Mr. Thomas:
This is formal notice that the recently released Draft EIR for the City of Santa Cruz 2030 General Plan lacks fundamental considerations of long term recreational planning and has therefore ignored significant current and future environmental effects related and or consequential to said lack of recreational planning considerations.

11F-1 **Background, independent parks planning research**
Author of this comment has been researching the City of Santa Cruz active recreation facilities and community parks planning for more than 25 years and has accumulated, largely through hundreds of CPRA requests, hundreds of files of city parks planning records. On May 8, 2008, at a Planning Commission meeting to review the city's Parks & Recreation General Plan 2030 Element, this author's comments and inquires in front of the Commission initiated a lengthy dialogue and inquiry into the long ignored status of city parks planning, including the admission by P&R Dir. D. Shoemaker that the City had not had a comprehensive Parks Master Plan in almost 30 years.
Annotated transcript of Commission's is attached and included as DEIR related comment particularly pp. 20 thru 36 where the lack of any parkland acquisition program, policy, action, revenue or budgeting becomes apparent through commissioners' questions.
:Following up on said inquiries this author Golder produced an in depth 24 page report and comment on what I felt were important considerations for a "Parks Deficiency Analysis" that principal planner K. Thomas revealed (11-17-10) would be produced for city's General Plan 2030.
After detailed analysis, I concluded that the city's neighborhood & community park inventory, which forms the basis of future parks planning and the benchmark for parkland dedication exactions, was overstated by at least 60% of actual usable developed community acreage. Further research revealed that the city had not developed any new community park acreage since the mid 1960's and had, in fact, a net loss of developed park acreage since that time. Golder's article SC Parks Deficiency Analysis Sept 18 2011 is attached as relevant and related comment to this DEIR.
Included in Golder's article is reference to ambiguous, circular and confusing definitions of "parks" which is addressed in some detail in Golder's article "Parks vs Open Space –What Are We Talking About? which is also attached as related and relevant comment on this DEIR.
At a GPAC meeting, Golder successfully had the term "active" added in front of "recreational facilities" for parks and Recreation Element Goal PR1, yet the current DEIR admits there is no proposed facility deficit solution.

Fundamental considerations of long term recreational planning that have significant environmental effects.

11F-2 **A. Geology, sports fields and feasibility**. The city landscape is a combination of marine terrace, riparian gulches, moderate to steep hillsides and mostly rocky cliff ocean frontage. Most of the easily accessible flat central marine terrace has been intensely developed for more than a hundred years. The currently recognized (under the existing General Plan and City's Parks & Recreation department website/ brochures) community parks with sports field facilities are on the northern edge of the City with significantly restricted community access and no space for expansion. Because there has been no comprehensive city parks planning for almost three decades., all of the subsequently acquired "parkland zoned" level marine terrace land has been apparently "preserved" as greenbelt indefinitely with no consideration whatsoever for active recreational facilities (sports fields & related amenities). This includes Arana Gulch where over 30 years of planning policy recognized the need for a community park and active recreation facilities (sports fields).
The fundamental feasibility consideration, that ball fields of several acres cannot be built on hillsides, cliffs or already densely developed property, has been completely overlooked. The city's largest

park, DeLaveaga, with some space potential, has had its long delayed park master plan shelved since 1960.

11F-3 **B. Schoolyards and sports fields** A 1993 sports field (SFNASS) study initiated by author Golder revealed that 2/3 of the city's ballfields are provided by the city schools, yet the city does not share significant funding for that service with the Santa Cruz School District. As a result, the schoolyard environments are highly impacted even as school sponsored sports and maintenance funding and programs have dwindled. This intense use has pushed the solution of artificial turf into increasing use, with a variety of known and unknown local environmental effects as well as extremely high installation cost.

11F-4 **C. Sports participation, venues and traffic circulation** As a result of poor sport field/ community park distribution, inadequate school facilities and large increases in team sport participation (particularly youth leagues) many adults, parents and school children have to travel excessively in, around and outside of city limits to find a suitable venue for practice and league play. The SFNASS study found almost 15% of city residents to be sports team participants and some 28% of recreational programs participants to be coming from outside the city (non-residents) to participate. Yet there has been **no net gain in city ball fields in forty years.** A typical solution (unmentioned and ignored by both City and county planners) is the intense weekend use of privately leased Good Shepherd fields for many of the city based youth soccer leagues. Most adult field sports leagues must travel to mid county or beyond for a suitable venue. Many thousands of vehicle miles and trips are added to the city's cramped circulation because there are inadequate sports fields and community parks within the city. Data exists through SFNASS to calculate this excess travel.
With every out of city limit trip, local dollars are likely spent elsewhere for meals, venues, supplies, sporting gear, lodging, etc. This is a significant economic loss to the city.

11F-5 **D. Deteriorating family environment, youth crime, social stratification**. As long planned infill/densification without adequate community park and active recreation venues continues Increase space competition, costs and frustration lead to the deterioration of the available social, economic, health and fitness benefits of community sports and gatherings. Unrest, vandalism, graffiti, crime, gangs, drug use, social isolation are some of the unconsidered major sociological effects of a dense urban environment that does not provide adequate healthy recreational outlets. Families move away, youth go astray and social interactions become risky and negative.

Over 18,000 residents have been added to Santa Cruz since 1980. Unmet City parkland standards called for over 80 acres of new neighborhood & community parks, yet no net gain has been made. This is unconscionable and in complete opposition to the planning policy of concurrency as described in the Community Design Element of the current General Plan.

The City's last two Housing Elements have completely misrepresented the impact of added population on the city's current recreational facilities and deliberately used a separated CEQA process to obfuscate the connection between added population and the unmet active recreational facility needs that have been building in deficit for almost two generations. Golder's article "Housing Element CEQA no impact Sept 2011" is attached as related and relevant comment on this DEIR. There is no consistency between the Housing Element CEQA statements of effect on city recreational facilities and the city's description of them elsewhere in City manager reports and the current (1990-2005) General Plan.

11F-6 **E. No permanent parks funding, rising maintenance costs**. Lack of any dedicated parks maintenance revenue source and the continually rising and unplanned cost of "greenbelt"

maintenance due to crime, litter, transients, habitat management, etc. *places the entire city parks system in jeopardy* for lack of resources.

11F-7 **F. "You can't manage what you can't measure"** This important planning phrase was the keynote focus of former City Planning Director Greg Larson during his farewell speech at the Santa Cruz Chamber of Commerce several years ago. Author Golder acted on this premise by inquiring to Parks & Recreation Director D. Shoemaker what written recommendations, studies, data, maintenance records, facility inventories, surveys, polls, program evaluations or other administrative analysis was being used to formulate the General Plan 2030 P&R programs, policies & actions (PPA). Dir. Shoemaker replied that the next twenty years of P&R planning was based on "informal meetings" and that there was no written records that were either used in the PPA planning or that were a result of the PPA meetings.
A recent telephone inquiry by author Golder to D. Shoemaker confirmed that virtually none of the management evaluation policies and programs enumerated in the city's 1983 Urban Parks & Recreation Recovery Plan were in effect. The City is planning its next twenty years of Parks and Recreation with virtually no data, analysis, surveys or written recommendations.

11F-8 Additionally, after nearly a year of CPRA inquiries by author Golder, the City has been unable to demonstrate that it has ever produced a Park Fees nexus study relating Parks & Rec CIP expenditures or proposals with the population service impact of added subdivisions and residential housing within the City. The City's P&R spending planning makes no studied rational connection to the needs of additional population or new subdivisions. This has been the P&R "planning method" for at least twenty years.

11F-9 **G. Quimby funds misappropriations** A detailed analysis of the City's P&R CIP appropriations reveals that a great deal of the special revenue funds reserved by Govt. Code §66477 for the acquisition and development of neighborhood & community parks have been spent on maintenance and repair and for greenbelt uses. In a an era of increasing budget insufficiency, these funds are very likely unrecoverable.
Therefore there will be no available financial resources to correct the recreational facility deficit left by these misappropriated funds, resulting in irreparable harm to the recreational service capability of the future and current city facilities..

11F-10 **Major Suggested Change in the General Plan** to offset predicted probable adverse significant environmental effects of proposed 2030 General Plan.
Add a policy to enact a City Ordinance giving renumerative tradable credit under the Subdivision Parkland Dedication section 23.28.xx of the Municipal Code to developers or property owners who create active recreation facilities. Such a credit is allowed under the Quimby Act, Sect. 9 (e).

Resolutely,
J. Golder, concerned citizen.

From: Ken Thomas [mailto:kthomas@cityofsantacruz.com]
Sent: Tuesday, November 15, 2011 10:26 AM
To: John Golder
Cc: Bren Lehr; Juliana Rebagliati; Martin Bernal
Subject: DEIR comments

Mr. Golder – In response to your voice mail on November 15, 2011 the department has not received an email with your comments on the Draft Environmental Impact Report for the Draft General Plan 2030. I also checked with the City Clerk to see if her office received the email and was told that no email was received. The 60 day public comment period closed on November 14, 2011 at 5 p.m.

Ken Thomas

Principal Planner
Planning and Community Development Department
City of Santa Cruz
(831) 420-5148

Note: My new email address is kthomas@cityofsantacruz.com

LETTER 11 – JOHN GOLDER

The following comment letters and emails were received from this individual on the dates noted.

A. 9-15-11 (typed version), Letter 11A
B. 9-15-11 (handwritten version), Letter 11B
C. 9-20-11 Email with attachments, Letter 11C:
    i. Quimby Act Basics
    ii. Parks vs Open Space – What Are We Talking About
    iii. Housing Element Initial Study Excerpt
D. 9-25-11 Email, Letter 11D
E. 10-5-11 Handwritten public records request & one official form request, Letter 11E
F. 11-15-11 Email, Letter 11F

11A-1 Park Acreages and Designations. The comment states that there are errors in park acreages, particularly community parks. See Response to Comment 11A-4 regarding park acreages and measurements. The comment asserts that DeLaveaga Golf Course, Ken Wormhoudt Skate Park and Depot Park have been arbitrarily reclassified as community parks. However, the City considers these parks to be community parks under the definitions cited below in Response to Comment 11A-3 as they serve a larger area than a neighborhood park. The Skate Park and Depot Park were developed after the adoption of the existing 2005 General Plan. As indicated on Table 4.6-1 (footnote1), the school play field acreages assumed ¾ of the field acreage and were formerly calculated and included in the City's existing 2005 General Plan / Local Coastal Plan.

11A-2 Need for Community Parks and Public Information Requests. Commenter states the need for community parks and active recreation facilities, and asks what definitions are used. The commenter also notes his requests for information on documents used to define, describe, inventory and evaluate community or neighborhood parks, as well as previously submitted analyses prepared by the commenter. See Response to Comment 11A-3 regarding park definitions and Response to Comment 11A-4 regarding park acreages and methods used to calculate park acreages for the park inventory used for the Draft EIR as summarized on Table 4.6-1 in the DEIR. Further description of neighborhood, community and regional parks is provided on pages 4.6-7 and 4.6-8 of the DEIR. The park inventory with acreages developed by the City's GIS staff was forwarded to the commenter from the City Planning Department on October 11, 2011.

11A-3 Park Definitions. The comment requests definitions for terms used in the City's parks inventory. The definitions of neighborhood, community and regional parks, as well as "parks" are presented in the Glossary of the *Draft General Plan 2030* and are provided below. (As noted above, description of neighborhood, community and regional parks is provided on pages 4.6-7 and 4.6-8 of the DEIR.) The terms "greenbelt", "resource conservation area park", "natural area", and "community services" are not defined in the draft General Plan and are not cited in the parks inventory included in the DEIR. The term "open space area" is defined in the draft General Plan as shown below. The term "greenbelt" refers to the City-owned open

space properties as discussed on pages 4.6-12 4.6-14 of the DEIR. Community facilities are addressed on pages 4.6-10 to 4.6-11 of the DEIR.

> **Parks.** Open space lands whose primary purpose is recreation. (See "Open Space Land," "Community Park," and "Neighborhood Park.")
>
> **Neighborhood Park.** City- or County-owned land intended to serve the recreation needs of people living or working within one-half mile radius of the park.
>
> **Community Park.** Land with full public access intended to provide recreation opportunities beyond those supplied by neighborhood parks. Community parks are larger in scale than neighborhood parks but smaller than regional parks.
>
> **Regional Park.** A park typically 150-500 acres in size focusing on activities and natural features not included in most other types of parks and often based on a specific scenic or recreational opportunity.
>
> **Open Space Land.** Any parcel or area of land or water that is essentially unimproved and devoted to an open space use for the purposes of (1) the preservation of natural resources, (2) the managed production of resources, (3) outdoor recreation, or (4) public health and safety.
>
> **Regional.** Pertaining to activities or economies at a scale greater than that of a single jurisdiction, and affecting a broad geographic area.

11A-4 Park Acreage Measurements. The comment asks for documentation on park acreage measurements. Information was provided to the commenter by City staff on October 11, 2011. The parks and open space areas outlined in the Draft EIR are based on gross acreage of the property based on assessor's parcel maps and calculated by City staff using the City's GIS system. The City's calculations of park acreage have always included the gross acreage of the parcel as all facilities on the site contribute to features and/or use of the park. The calculations do not break a park into various components (i.e. playing fields vs. restroom and asphalt) According to the City's GIS staff, the acreages are determined by dissolving the underlying parcel boundaries leaving just the perimeter. The acreage is then calculated for this polygon. There is no determination made indicating which portion of the park has improvements. The acreages were reviewed and updated by the City's GIS staff, and revised acreages have been presented for Table 4.6-1. See the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document.

11A-5 Analysis of Project Population and Housing. The comment claims that the DEIR analysis excludes projected population and housing. Chapter 4.2 provides a complete review of population and housing impacts resulting from adoption and implementation of the draft General Plan 2030, including population increases. The increase in population is used in the analysis of impacts on parkland demand that is provided on pages 4.6-37 to 4.6-40 of the DEIR.

11A-6 Development of City Parkland. The comment indicates past emails and issues regarding developing parks in the City in the last 30 years, but does not address information or analyses contained in the DEIR, and no response is necessary.

11A-7 Community Parks. The commenter disagrees with the DEIR finding that there is a surplus of community parks and believes that there is deficit of more than 100 acres based on parkland estimates provided by the commenter. The comment also states that some park acreages are lower when parking or other unusable areas are subtracted. As indicated above in Response to Comment 11A-4, the City's calculations of park acreage have always include the gross acreage of the parcel as all facilities contribute to features and/or use of the park.

11A-8 Park Dedication/Development. The commenter claims that the City has no record of park dedications or development required pursuant to City requirements. The comment does not address analyses in the DEIR and no response is necessary.

11A-9 Parks Master Plan. The commenter states that the City has not had a Parks Master Plan since 1983, which is correct. Action PR1.1.2 in the draft General Plan calls for preparation and maintenance of City Parks Master Plan. The comment does not address analyses in the DEIR and no further response is necessary.

11A-10 Loss of Developed Parkland. The commenter claims that the City has had a net loss of developed parkland over 70 years. Since adoption of the City's 2005 General Plan/Local Coastal Plan, neighborhood park acreage has generally remained the same with some minor increase, i.e. the Lower Ocean Street Park, and community parklands have increased by approximately 11 acres with the addition of the Depot Park. The commenter further states that DeLaveaga has had an unfinished Master Plan since 1960. As indicated on page 4.6-12 of the DEIR, a Park Master Plan was prepared for DeLaveaga in 1960, but has not been updated. A Golf Course Master Plan was adopted by the City in 2003. The comment does not address analyses in the DEIR and no further response is necessary.

11A-11 Lack of Sports Fields and Use of School Fields. The commenter states that the City has had no net gain in sports fields in more than 40 years, and the City's sports leagues must travel outside City limits to other facilities. The City acknowledges a need for sports fields, and the proposed General Plan seeks to develop new or expand existing athletic fields (Action PR1.2.2). The development of Depot Park in March 2005 provided additional athletic fields in the City. The comment also states that the City's neighborhood parks inventory includes school playgrounds, but the City has never shared Quimby or PFT funds with schools. Over the years the City has contributed to several City School improvements, including Natural Bridges Gymnasium, Harbor High Pool, Bay View Fields, and Natural Bridges gym. Review by the City staff indicates that none of the legislative enactments authorizes or requires the use of Park fees or Quimby Fees for school facilities.

11A-12 Problems at Parks. The comment states there are numerous problems with the City's parks and recreation facilities, including criminal activities and lack of maintenance

funding. The comment does not address analyses in the DEIR and no response is necessary.

11B-1 General Parks Comments. This letter is essentially a handwritten version of the typewritten version contained in the Letter 11A for which responses are provided above.

11C-1 Parks Information. The commenter cites attachments to this letter that he prepared regarding the Quimby Act, City park funding, parks and open space definitions, the City's Housing Element. The attachments are included with the comment letter on the preceding pages. However, the comment does not address analyses in the DEIR and no response is necessary.

11C-2 Need for Community Parks and Public Information Requests. Commenter states his public records requests for information regarding park acreages and identifies other correspondence to and community with various City departments, and is so noted. Information on park acreages was provided to the commenter by the City Parks and Recreation and Planning and Community Development Departments via email on October 11, 2011. See Response to Comment 11A-4 regarding calculation of park acreages.

11C-3 Park Acreages. Commenter states that there are many City parcels whose use is split between parks, natural areas, housing, commercial uses, public facilities and easements. See Response to Comment 11A-4 for an explanation of how City park acreages are developed. Some parks have a mix of open space and recreational uses, including natural areas and trails, as well as visitor amenities such as restrooms and parking.

11C-4 Population. The comment claims that the population analysis is separated from other elements that discuss community services. The comment does not cite a particular reference in the DEIR, and a specific response cannot be made. However, as discussed in Response to Comment 11A-5, population resulting from estimated buildout accommodated by the General Plan has been factored in the DEIR analyses for public services, including parks, as detailed in the PUBLIC SERVICES (Chapter 4.6) section of the DEIR.

11C-5 Park Developer Fees. The comment claims that the City charges park developer fees, but there has been no net gain in parks and that active recreation facilities have been destroyed. As indicated in Response to Comment 11A-10, neighborhood and community park acreages have slightly increased since 1990 when the existing 2005 General Plan was prepared. The comment also states that there is a "verifiable" net loss in developed usable parkland, citing destruction of the Charles Derby Small Bore Range and the Naval Building at Delaveaga Park. Past removal of facilities is part of the baseline conditions against which the impacts of implementing the proposed General Plan are compared, but these past activities are not part of the General Plan proposal itself. Moreover, as indicated above there has not been a net loss of parkland. Additionally, the Small Bore Range was closed due to contamination and remediation efforts; the work has been completed

and the site is currently in open space. The Naval Building facility (formerly used as the Cabrillo College Stroke Center for approximately 30 years) that was demolished last month and options for its future use will remain open until a planning process is undertaken by the City. The Armory is another military facility in DeLaveaga Park, but is on State-owned land and has been leased by the Homeless Shelter during the winter. The comment does not address analyses in the DEIR and no further response is necessary..

11C-6 Community Parks. The comment indicates that the DEIR presents a false and inflated parks inventory for community parks. The inventory, prepared by City staff, includes six community parks as well as West Cliff Drive, which meet the definitions of community parks as indicated in Response to Comments 11A-1 and 11A-3. These parks do not include hundreds of acres of steep undeveloped land as suggested in the comment. The largest acreage is the DeLaveaga Golf Course, which does include some adjacent open space lands. However, the open space area of DeLaveaga Park (Upper) is included under the open space and greenbelt lands and is not counted as a community park. See Response to Comment 11C-3 regarding different uses in park facilities.

11C-7 Quimby Act Funds. The comment requests and cites previous requests to the City for the amount of parkland acquired by Quimby Act – City subdivision ordinance requirements. See also Response to Comment 11A-11. The comment does not address analyses in the DEIR, and no further response is necessary.

11C-8 Parks Inventory. The comment questions definitions used in the parks inventory and who prepared it. See Response to Comments 11A-3 and 11A-4. The parks inventory included in the DEIR was developed by City Parks and Recreation Department staff; the acreages cited in the EIR have been revised based on updated acreages provided by the City's GIS data.

11D-1 Park Funds. The comment claims that park fees received under the Quimby Act have been misappropriated. The comment does not address analyses in the DEIR and no response is necessary.

11D-2 Public Records Requests and Other Comments. The remainder of the comment letter is the same as Comments 11C-2 through 11C-8, which are addressed above.

11E-1 Public Comments. The comment questions who at the City Planning Department is responsible for responding to comments. The General Plan EIR has been prepared by Planning Department staff and consultants as indicated on page 6-13 of the DEIR. Consistent with State CEQA Guidelines, section 15204(a), responses are provided to comments, with a focus on significant environmental issues, as part of this Final EIR. As stated in the Notice of Availability of the DEIR, all comments on the DEIR were to be directed to Ken Thomas at the Department of Planning and Community Development.

11E-2 Need for Active Recreation Facilities. The comment states that there is nothing in the proposed General Plan 2030 that directly addresses the need for active recreation

facilities. The comment is noted, but it addresses the proposed General Plan and not analyses in the DEIR, and no response is necessary.

11E-3 Information Requests. The comment requests contracts for work performed by the Environmental Design Group, but does not address analyses contained in the DEIR, thus no response is necessary.

11E-4 Public Records Request. The commenter requested a copy of the City's 1992 Housing Element through a public records request, which is hereby noted. The request does not provide any comments on the analyses in the DEIR, thus no response is necessary.

11F-1 Parks Research. The comment notes the commenter's research on parks planning, and is so noted. The comment does not address analyses in the DEIR, and no response is necessary.

11F-2 Play Fields. The commenter states that the feasibility of developing play fields in open space areas has been overlooked. The comment is noted, but it does not address analyses in the DEIR, and no response is necessary.

11F-3 Sports Fields and Schools Fields. The comment states that school playfields are impacted and maintenance has declined based on a 1993 sports field study the commenter authored. As indicated on page 4.6-7 of the DEIR, the City and the City School District entered into a joint use agreement in 1963 for shared used of each agency's playground and indoor facilities with maintenance provided by the respective agencies. The EIR has considered increased use on parks and recreational facilities, including school playground use, as discussed on page 4.6-38 of the DEIR. The comment also claims that intense use has resulted in increased use of artificial turf that has impacts, but does not address analyses in the DEIR, and no further response is necessary.

11F-4 Sports Fields. The comment claims that lack of sports fields in the City results in residents driving to other facilities with increased traffic. Except for school playgrounds, most sports facilities are within community parks that serve a larger area than just neighborhood parks. It is expected that at least some of trips associated with these facilities will be by automobiles. See also Response to Comment 11A-11.

11F-5 Social and Housing Comments. The comment addresses social and housing concerns, including references to the City's Housing Elements. As discussed in Response to Comment 11A-5, population resulting from estimated buildout accommodated by the General Plan has been factored in the DEIR analyses for public services, including parks, as detailed in the PUBLIC SERVICES (Chapter 4.6) section of the DEIR. However, the comment does not address analyses in the DEIR, and no response is necessary.

11F-6 Parks Funding. The comment states there is a lack of permanent park maintenance funding and the rising and unplanned cost of greenbelt maintenance places the city

parks system in jeopardy for lack of resources. The comment relates to overall park management, but does not address analyses in the DEIR, and no response is necessary.

11F-7 General Plan Suggestion. The commenter suggests adding a General Plan policy to enact an ordinance giving credit to property owners who create active recreation facilities. The comment is noted, but it addresses the proposed General Plan and not analyses in the DEIR, and no response is necessary.

From: Rick Longinotti [mailto:longinotti@baymoon.com]
Sent: Sunday, November 13, 2011 11:11 AM
To: Ken Thomas
Subject: Transition SC comments on GP EIR

Dear Ken,

Attached is a set of recommendations from the Transition Santa Cruz Housing Working Group. The recommendations are meant for incorporation into the General Plan. Many of the recommendations could be incorporated into the final EIR on the General Plan as mitigations measures that would reduce traffic, vehicle miles traveled and greenhouse gases.

Thanks,
Rick

Rick Longinotti, MFT
831 515-8072

LETTER 12

Rick Longinotti
longinotti@baymoon.com 831 515-8072

Comments on Draft EIR

12-1 I urge the Planning Department to revise the Draft General Plan to take into account the information in the recently published Vulnerability Study. After reading the Vulnerability Study, I corresponded with its author, Gary Griggs. I asked, "Does that mean a sea level rise of more than two to four feet will result in ground water at grade level downtown during peak tides and summer months?"
Here is an excerpt from his response:

> *You read that correctly….When you stop and think or consider what is under or beneath downtown, from electrical and phone lines, to water and sewer lines, and the extent of the downtown floodplain sand and gravels and their connectivity to the river and the ocean, the enormity of the problem becomes apparent. We are not alone, look at New Orleans, but I'm not sure that's any consolation. We have some time but I don't see any adaptation measure short of eventually relocating downtown.*

The current draft of the General Plan calls for increasing development downtown. Before reading the Vulnerability Study, I concurred with that goal. I thought it was particularly important to locate housing downtown that would be affordable to the workforce. Now I feel otherwise.

I think the City's 20 year General Plan should begin to plan for the flooding of underground utilities and building basements in the medium term, and water in the streets of downtown in the long-term. It seems to me that the question that should be addressed is *Should there be more development downtown? How does a city prepare for the inevitable private sector disinvestment in downtown?*

This disturbing information suggests that the City should consider additional support for hubs of commercial activity outside the floodplain. In addition to intensifying mixed use along Ocean St., Mission, and Soquel Ave, smaller neighborhood hubs could be fostered such as along the rail corridor in Seabright and California/Mission/Bay.

From: Rick Longinotti [mailto:longinotti@baymoon.com]
Sent: Sunday, November 13, 2011 11:11 AM
To: Ken Thomas
Subject: Transition SC comments on GP EIR

Dear Ken,

12-2 Attached is a set of recommendations from the Transition Santa Cruz Housing Working Group. The recommendations are meant for incorporation into the General Plan. Many of the recommendations could be incorporated into the final EIR on the General Plan as mitigations measures that would reduce traffic, vehicle miles traveled and greenhouse gases.

Thanks,
Rick

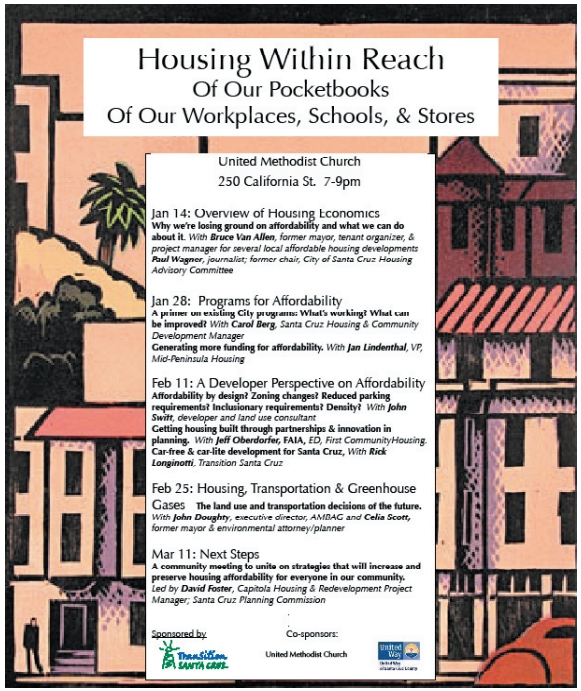
Rick Longinotti, MFT
831 515-8072

Recommendations on the Draft Climate Action Plan and Draft 2030 General Plan

from Transition Santa Cruz Housing Working Group

Transition Santa Cruz
Housing Working
Group

Jim Allen-Young
David Foster
Leon Khaimovich
Rick Longinotti
Dean Lundholm
Mardee McGraw
Jim Stroupe
John Swift



We are pleased to support the City's Climate Action Plan and offer feedback that we think will contribute to making the Plan a success. We are impressed with the level of commitment that the City has shown in choosing climate action goals that are necessary, though not easy to attain. And we find the draft Climate Action Plan to be an ambitious guide to reaching those goals.

The suggestions below emerged from a series of workshops in early 2010, titled, *Housing Within Reach---of Our Pocketbooks; of our Workplaces, Schools and Stores.* The workshop leaders and over 90 participants offered ideas and strategies that stem from the recognition that affordable housing for people close to their jobs and amenities is an essential feature of a sustainable community. Not only is affordably-priced housing a requirement of a community that aspires to social justice, it is a requirement for reducing transportation demand. With 1.25 jobs in Santa Cruz for every working resident, Santa Cruz employment contributes to the transportation demand that clogs Highway One and our surface streets.

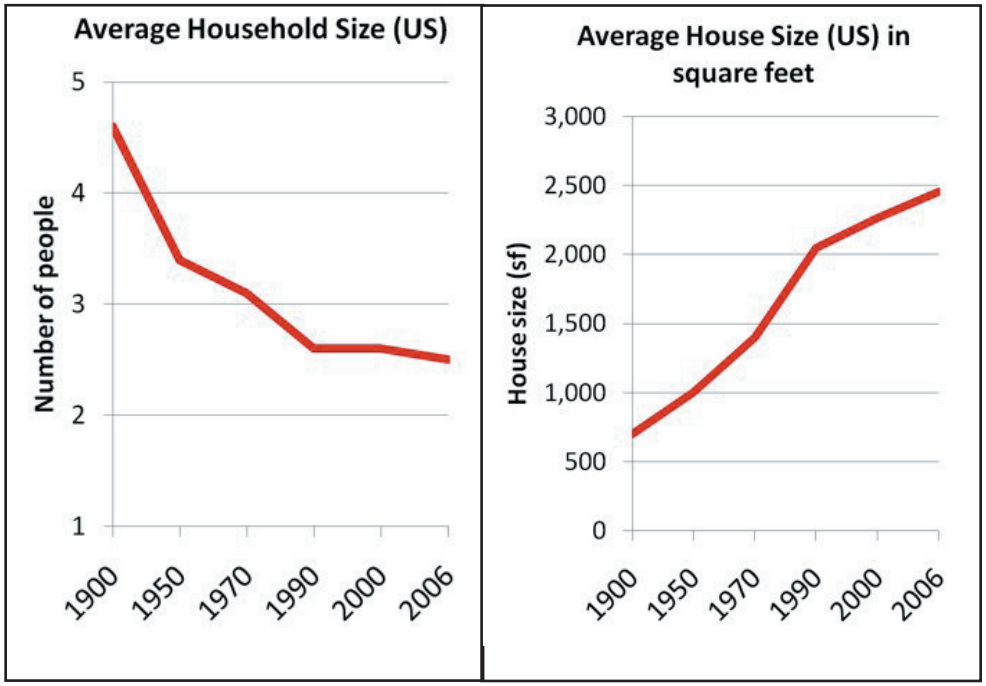
The Climate Action Plan recommends, "Accelerate the implementation of the City's General Plan." We agree, because we think that the draft General Plan will contribute to the development of a community where housing is close to jobs and transit. The following recommendations are intended to be incorporated into the General Plan in order to achieve its goals by making the means to those goals more specific. Our recommended additions to the draft General Plan are in bold type, followed by a discussion in regular type.

Zoning & Fees

1. **Allow Small Ownership Units and Single Room Occupancy units by right in certain transition and mixed-use zones. No design permit would be required because design guidelines are clear.**
One of the main strategies to make housing affordable is *Affordability by Design.* Small units are likely to be permanently affordable given that higher income sectors of the population do not compete for their occupancy. Santa Cruz has successfully allowed SRO's and SOU's and it is time to encourage the expansion of this program. For decades, zoning code has led to the development of higher priced housing by requiring low density. Expanding the SRO and SOU program would redress this imbalance.

2. **Expand the Auxiliary Dwelling Unit (ADU) program**
   - **Allow smaller ADUs on smaller lots of less than 5,000 sq ft.**
   - **Raise allowed size to 640sq ft. on 5000sq ft lot (matching County regulations)**
   - **Allow larger 2nd floor ADU's so long as they stay within the allowed size for 2nd floor additions.**

The ADU program adds affordable housing to Santa Cruz without the need for government subsidies. We estimate that more property owners would initiate construction of ADU's if the size of the units were allowed to increase. We also note that the construction cost of building second floor additions relative to ground level construction tends to incentivize the location of ADU's at ground level. Allowing larger ADU's as second story additions would make it more attractive for the homeowner to go to the extra expense of building up. It would also preserve more of the lot footprint from being developed.



Housing affordability is a function of housing size (among other factors). Square feet per capita has increased dramatically since 1960.

Branciforte Commons SRO

2.1 Create flexible guidelines for legalizing un-permitted housing additions and units.
The City's new Rental Inspection Ordinance has the potential to reduce our stock of affordable housing through red-tags of illegal units and bedroom additions. This is an undesireable consequence that can be mitigated through a flexible response that allows property owners to legalize their additions. For example, waivers of set-back requirements or other non-safety code regulations might be granted in order to preserve the housing stock.

3. **Redesign all building fees to be based on square footage rather than by unit count**. This could be added to the draft General Plan section LU3.1.1, "Encourage through incentives and expedited permit processing a variety of housing types, when appropriate."
Charging fees based on housing size rather than per unit would provide an incentive to build small units and discourages building big units. Examples of existing fees based on housing size are park and recreation fees ($3/ square foot) and schools charge $2.63 per square foot.. Currently charging by unit are water connection fees ($6,530 per unit), and sewer connection fees ($1,200 per unit).

4. **Allow design for future subdivision or expansion of units without further planning review. Initial approval would be for the highest density.**

5. **Change zoning to allow multi-residential & mixed use projects as a Principally Permitted Use (PPU) so that the use permit process is made quicker and easier for affordable housing projects**.

6. Encourage zoning that would allow for the development of housing above existing commercial buildings (e.g. on the roof of Trader Joe's or the CVS building)

Strawbale ADU in David Foster's yard on Westside

Encourage housing above existing commercial buildings

Water Credits for Affordable Housing

State law requires water-short communities to prioritize available water for affordable housing. The City should immediately institute such prioritization and incorporate it into the General Plan.

Parking Policy

Through design of parking policy, the City can increase housing affordability at the same time as encouraging a reduction in automobile dependence. Parking costs are a major factor in new construction of affordably priced housing, and can easily cost $50,000 per space.

1. "Unbundling" Parking from Housing Costs
In order to increase affordability, require new development to separate the cost of parking from the cost of leasing and purchasing residential and commercial space, and making the purchase of parking optional.
The Master Transportation Study calls for unbundling parking costs. "Require new development to separate the cost of parking from the cost of building lease space, thereby making the cost of parking "real" to the purchaser." Cities such as San Francisco require unbundling of parking in new development.

2. We suggest the following edits to the draft General Plan: Our additions are in **bold**
M3.1.9 ~~Consider reducing~~ **Reduce or eliminate** parking requirements for employers, **residential and commercial** developments, businesses, and major destination centers that implement effective alternative transportation programs **and/or participate in offsite clustered parking.**

Reduce parking requirements in residential housing with a resident

There is a market for units with reduced parking:

141 A, B, C, D Southhampton Ct./ Frederick St.
4 2-bedroom condos
1 uncovered parking space per unit
1 visitor parking space
recent condo sale price $490,000

population that has a documented reduced need for parking, e.g. seniors, low-income, and residents that convenant for non-auto use.

3. In existing development, allow conversion of parking space to new development based on evaluation of actual utilization of that parking space. In new development, require design of parking area that allows for future conversion.

4. Remove covered parking requirements for residential housing and allow tandem parking on the portion of driveways within the front yard setback.
Note that this recommendation does not reduce residential parking requirements. It removes the requirement that garages be dedicated to car parking so long as the required space is available on the driveway. Note also that the County does not require covered parking.

5. Our edits are in bold: M3.1.1 ~~Seek ways to~~ **R**educe vehicle trip demand and reduce the number of peak hour vehicle trips **by implementing city-wide Transportation Demand Management (TDM), especially for commuters to Downtown, Harvey West, and Westside workplaces, and for students commuting to schools. TDM measures include low cost bus passes, credit for carsharing (ZipCar), discount parking for carpools, emergency taxi-vouchers, and bike store credit. TDM will free up existing parking spaces for customers. Implementation of TDM needs to occur before funding any new garage capacity.**
With successful TDM, consider reductions in parking requirements and deficiency fees.

6. Subsidize housing, not parking. That is, new parking facilities need to pay their own way.
This doesn't mean the City should be prevented from loaning funds for new parking facilities.

Transportation Demand Managment for employees at UCSC includes $6.25 monthly bus passes, ZipCars available for department use, van pools, discounted parking for carpools, emergency taxi vouchers, bike shuttles and showers on campus.

Pacific Shores Apartments on Shaeffer Rd. City requires owner to provide free bus passes to all residents as a condition of development.

7. Institute parking maximums in selected areas to encourage affordability (projects can have no more than X number of spaces per unit)
Parking maximums can be a way to improve affordability in a market that favors the construction of high-end housing. A parking maximum of 1 space per unit, for example, would discourage luxury condos.
From Master Transportation Study:
"Set parking maximums to cap the construction of new parking spaces. One example is car-free housing, where no parking is provided with the residential project and future residents commit to the car-free lifestyle. This helps reduce housing costs."

8. Beach-Downtown shuttle, remote parking and better utilization of existing parking downtown for a "park-once" strategy. Fund through increased parking fees. Locate sites for remote parking.

Green Building Code Update

The Green Building Ordinances in Santa Cruz is important step towards the City's goal of requiring new buildings to be carbon neutral by 2030. We need to accelerate the steps toward carbon neutrality and can do so by incorporating the following:
1. Require passive solar design in new construction and remodels
Perhaps the single most effective energy-savings measure beyond home insulation is to design homes for passive solar heating. It is also potentially the least costly measure, as it requires proper design rather than a large materials expense. In multi-unit buildings it may be more difficult to achieve optimal solar exposure, and building codes can accomodate this challenge.

2. Green roofs, water catchment, graywater use, water saving fixtures
The City does not currently require the best practices for water conservation, water catchment and graywater use in new construction. Australian building code is exemplary in requiring dual flush toilets, waterless urinals, and low-flow shower heads. Green roofs can also greatly reduce the environmental impact of stormwater runoff and help recharge groundwater.

Pacific Shores Apartments: missed opportunity for passive solar orientation

LETTER 12 – RICK LONGINOTTI

12-1 Susceptibility of Downtown to Sea Level Rise. The comment questions whether further development should be proposed in the downtown area given the results of sea level rise identified in the "Vulnerability Study" that was prepared for the City. The cited study indicates that sea level rise will gradually inundate low-lying areas, which include all of the shoreline and beach areas along the City's coastline that are presently closest to sea level. The study indicates that areas of inundation will extend landward as a result of sea level rise. The greatest uncertainty is the rate at which this is likely to occur. However, the study identifies coastal areas vulnerable sea level rise as: West Cliff Drive; the Boardwalk, Cowell's Beach and Main Beach area; Seabright Beach and the Santa Cruz Small Craft Harbor; high tide intrusion into the San Lorenzo River and downtown; and the City's wastewater treatment plant at Neary Lagoon.

Due to its location adjacent to the San Lorenzo River, the downtown area has been susceptible to shallow groundwater levels that fluctuate with high tides and when river water levels rise as a result of a sand bar forming across the river mouth in mid- to late-summer. The Vulnerability Study indicates that as sea level continues to rise, and as summer river discharge declines, the result will be seawater extending farther upstream in the flood control channel more frequently, and rising gradually to higher elevations. This would lead to a rise in the water table beneath downtown. This area of the City has always been vulnerable to an elevated water table but this will become a more significant issue in the future. As noted in the study, the rising groundwater must be pumped back into the river as has historically occurred. The study recommends installation of a series of groundwater monitoring wells (piezometers) in the downtown area to continuously monitor the water table level.

Based on the findings of the Vulnerability Study, the City has developed goals, objectives and a range of potential actions to respond to these risks. The DEIR does identify the potential effects of sea level rise on the City on page 4.7-16. To the extent the commenter suggests that the DEIR should discuss the impact of sea level rise on the Project, the City notes recent case law holds that an EIR is not required to identify and analyze potentially significant effects of the environment *on* a project. (*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473-474.)

12-2 Transition Santa Cruz Housing Working Group. The comment attaches a set of recommendations from the Transition Santa Cruz Housing Working Group and suggests they be incorporated into the General Plan and Final EIR. The recommendations mainly deal with affordable housing and parking strategies. The housing recommendations relate to accessory units, legalizing un-permitted housing, building fees, allowing subdivision design without planning review, and other zoning recommendations to promote affordable housing. The proposed *General Plan 2030* does not include housing policies as the Housing Element is a separate adopted document. The parking recommendations include elimination of parking standards, conversion of parking, change in covered parking requirements, and not subsidizing parking. The EIR does not address parking impacts as this topic was eliminated from the CEQA checklist by amendments to the State CEQA Guidelines during preparation of the DEIR. Thus, it is not

clear how the recommendations in this attachment should be incorporated into the EIR. The DEIR includes summaries of proposed General Plan policies and actions that promote efficient land uses and transportation management to reduce traffic and greenhouse gas emissions. See Table 4.4-4 (page 4.4-39) and Table 4.12-5 (page 4.12-28) of the Draft EIR. This includes Transportation Demand Management measures suggested in the commenter's attachment. The attachment includes suggestions to the Green building Code Update, such as requiring passive solar design and water catchment fixtures and graywater systems. The *General Plan 2030* does recommend passive heating and cooling in new developments (NRC7.1.4); see summary table of energy-efficiency policies in Table 4.6-10 on page 4.6-46 of the DEIR. Similarly, the draft General Plan includes policies to encourage water efficient use, including support of graywater systems; see summary in Table 4.5-5 on page 4.5-39 of the DEIR.

November 124, 2011

Ken Thomas, Principal Planner
City of Santa Cruz
Department of Planning and Community Development
809 Center Street
Santa Cruz, CA 95060

RE: DRAFT GENERAL PLAN 2030 DEIR

Hello Ken Thomas:

Thank you for the opportunity to comment on the Draft General Plan 2030 Draft Environmental Impact Report (DEIR). Overall, I found the document extremely comprehensive and well written with a great deal of useful and relevant information. However, I did have the following comments and questions:

GENERAL CONCERNS:

13-1 GOLF CLUB DRIVE – The proposed General Plan 2030 proposes to double the density in the Golf Club Drive area from 100 to 200 dwelling units (dus). Since, unlike the proposed mixed use corridors, this area is essentially rural in nature with a history of agricultural production, the DEIR should have contained a serious analysis of the potential environmental impacts of the proposed intensification of the area. However, no such analysis is provided. This seems particularly inadequate as the General Plan 2030 also seems to propose a rail transit center in the area, access to the area is currently limited, and the area is adjacent to Pogonip. The Final EIR should contain a more detailed analysis of the potential impacts of doubling the density in the area. The fact that this is a program EIR does not mean that the City can avoid analyzing project impacts that can be reasonably determined. In addition, the determination that the future growth potential is 200 rather than 400 DUs, given the designation of up to 20 units per acre in the 20 acre area, needs to be clarified.

13-2 UCSC GROWTH AND WATER SUPPLY – There appears to be a contradiction within the document in its consideration of projected UCSC growth between 2020 and 2030. The Water Supply section and supporting appendix project an increased demand of 10 mgy from the estimated enrollment growth. However, in calculating the project sewage increase during this period, it appears as if the demand would be in the 70 mgy range. This needs to be clarified in the Final EIR.

13-3- HOTELS – As will be detailed below, the projection of hotel construction in the proposed General Plan 2030 seems inadequate. The document regularly indicates that about 300 new hotel rooms are anticipated but this is the number of rooms that are already pending. No additional hotel construction is listed and, at one point, the DEIR seems to state that future hotel construction is included in the projected commercial development. Since hotels can have impacts different from other commercial uses, like traffic, the approved ones are specified, and the mixed use designations along the corridors seems to anticipate them, I think the final EIR should estimate and analyze the potential increase in hotel construction possible under the proposed Plan.

SPECIFIC CONCERNS:

13-4 - PAGE 3-10 – PROJECT DESCRIPTION – LAND USE MAP CHANGES – GOLF CLUB DRIVE – Unlike the proposed changes along the three corridors, the proposed designation change from Very Low Density (up to 10 DU/acre) to Low Density (up to 20 DU/acre) covers a well defined 20 acre area. While the proposed Plan seems to require an area plan prior to development, the identification of a specific relatively isolated area requires a more detailed level of analysis in the DEIR. More important, the DEIR assumes that the total development would be 200 DUs. However, given the 20 DU/acre designation would allow up to 400 units. Why wasn't this number used? It appears as if the DEIR is underestimating the increased development potential and, therefore, the environmental impacts.

13-5- PAGE 3-13 – TABLE 3-3 – ESTIMATED GENERAL PLAN 2030 BUILDOUT – The table shows 310 rooms under pending development as the only estimated hotel construction under the proposed Plan. If pending hotel development is shown, it is reasonable for there to be an estimate of future hotel development as well.

In addition, the table refers to Table 3-3 (should be 3-4) for details on the pending projects. This table shows a total of 375 hotel units including La Bahia. Moreover, the last paragraph on page 4.1-4 indicates that 475 visitor serving rooms are pending or approved. These numbers should be clarified and updated in the Final EIR.

13-6- PAGE 3-15 – LOCAL COASTAL PLAN – The DEIR indicates that the City is updating the Local Coastal Plan (LCP) in a separate document. The FEIR should discuss the status of any General Plan 2030 changes in the Coastal Zone prior to the Coastal Commission approving the LCP update.

13-7 - PAGE 3-16 – ZONING ORDINANCE – Will the Zoning Ordinance need to be updated to assure consistency with the General Plan 2030?

13-8 - REGIONAL PLANS – No mention is made of mandated solid waste plans. Shouldn't they be included?

13-9 - PAGE 4.1-8 - LAND USE – TABLE 4.1-4 – ESTIMATED EXISTING GENERAL PLAN 2005 BUILDOUT – What is the basis of the buildout estimates – permit data or some other source?

- Again, the buildout numbers only include pending hotel development. How many hotel rooms were added under the 2005 General Plan?

13-10 PAGE 4.1-9 – BEACH AND SOUTH OF LAUREL COMPREHENSIVE AREA (B/SOL) PLAN – Please clarify how the B/SOL policies could be certified by the Coastal Commission but not be included in the LCP.

13-11 PAGE 4.1-16 – MIXED USE COMMERCIAL – The DEIR indicates that the mixed use designation in the proposed Plan is intended "to encourage high-quality visitor-serving commercial development along Ocean Street, particularly hotels and motels." Given this direction, shouldn't buildout estimates include hotel rooms?

13-12 PAGE 4.1-19 – POLICIES SUPPORTING DEVELOPMENT/INTENSIFICATION – The DEIR states that the Plan encourages neighborhood commercial uses in the Prospect Heights neighborhood. Where in the neighborhood would these uses be allowed and why weren't the potential impacts of introducing such uses in the neighborhood analyzed?

13-13 PAGE 4.1-20 –TABLE 4.1-5 – SUMMARY OF POLICIES AND ACTIONS – This table lists a Transit Center along the rail corridor in the Golf Club Drive area as an action under the proposed Plan. Why are no potential impacts of this center analyzed in the DEIR?

13-14 - PAGE 4.1-23 – IMPACT 4.1-2 – INTRODUCE INCOMPATIBLE LAND USES – Given the location of Pogonip, the permanent home of the Homeless Garden Project, and the traditional agricultural production nearby, the FEIR should include a discussion of the compatibility of the proposed higher density development with these uses.

- The FEIR should include a discussion of the compatibility of the Transit Center with the existing adjacent uses as well as Pogonip. The analysis in the DEIR, which simply refers to general Plan policies, is inadequate.

- There are also potential incompatibilities along the mixed use corridors with adjacent residential development. Both in terms of densities and height, the allowed new development could be incompatible. Simply having policies that say this won't happen does not represent sufficient analysis of the potential impacts. How high might the new developments be? How far away from the potential new development is existing development and how high is it?

13-15 PAGE 4.1-25 – IMPACT 4.1-3 – CONFLICT WITH APPLICABLE LAND USE OR OTHER PLANS – The explanation at the bottom of the page isn't clear. The DEIR states that except for four plans, the City's existing adopted plans are not part of the General Plan 2030. Yet, on page 3-15, the DEIR states that the "adopted version" of ten plans are incorporated by reference in the General Plan 2030. This list includes the Seabright Area Plan, the Western Drive Master Plan, and the Santa Cruz Harbor Development Plan. What will be the legal status of these plans once the General Plan 2030 is adopted?

In addition, the status of the B/SOL Plan is confusing. On page 3-15, the DEIR indicates that it is a part of the 2005 General Plan. However, it appears from this impact discussion that it will not be a part of the General Plan 2030. Is the entire B/SOL Plan being dropped?

13-16 - PAGE 4.3-8 – AESTHETICS – BEACH/SOUTH OF LAUREL DESIGN GUIDELINES – This section is under Existing Design Guidelines but shouldn't the DEIR have mentioned that these guidelines (recommendations) will no longer be in force under the General Plan 2030, if this is the case?

13-17 - PAGE 4.3-13FF – IMPACT 4.3-1: SCENIC PUBLIC VIEWS – The analysis and conclusions in this section of the DEIR are inadequate and need to be revised because they do not consider the impacts of the proposed development in the Golf Club Drive area. This area is adjacent to Pogonip, one of the City's protected open spaces, and construction of 200 plus units will clearly have an impact both to and from Pogonip. The development of the Rail Transit Center is also likely to impact views from Pogonip.

The DEIR seems to incorrectly state that the "Golf Club Drive site is not highly visible from surrounding areas and is not a part of any scenic public views." Given the site's proximity to Pogonip, this statement needs to be documented with simulations or corrected.

These concerns also apply to the conclusions in the DEIR for Impact 4.3-2: Scenic Resources and Impact 4.3-3: Degradation of Visual Quality of Surrounding Areas. Additional documentation is necessary to justify the conclusions in these sections as far as the Golf Club Drive area is concerned.

13-18 - PAGE 4.4-32 – TRANSPORTATION AND TRAFFIC – The DEIR refers to policies in the proposed Plan to encourage development of new lodging facilities and to attract top-end, full-service hotels. Yet the DEIR includes such uses within the total square footage of estimated commercial development. However, given the importance of these visitor–serving uses and their special characteristics, they should be estimated separately.

13-19 - PAGE 4.4-34 – The list of intersections includes Western and High, yet it appears that no signalization is anticipated under the Plan. Is this the case?

13-20 - PAGE 4.4-43 – RECOMMENDED REVISIONS TO DRAFT GENERAL PLAN 2030 POLICY M3.1.4 – What is the status of the Recommended Revisions in the proposed Plan? Has the City staff accepted them? Will they be included in the circulated Plan?

While generally, the proposed revisions seem desirable, in this case it negates the proposed General Plan 2030 policy. The proposed policy would accept lower levels of service at major regional intersections if improvements were too expensive or resulted in significant environmental impacts. The proposed revision would add, in part, “unacceptable” environmental impacts. Who would decide what is unacceptable? This seems to allow for arbitrary decisions regarding the feasibility of possible improvements. This language should either be dropped in the Final EIR or better justified.

13-21 - PAGE 4.5-1FF – WATER SUPPLY – The water supply analysis should be updated in the FEIR to reflect the information in the 2010 Urban Water Management Plan (UWMP), rather than the 2005 UWMP. In addition, in the sections describing previously developed plans and studies, it isn’t always clear what proposals have been rejected by the City. The FEIR should clarify the status of these previous efforts.

13-22 - PAGE 4.6-9 – PUBLIC SERVICES & UTILITIES – TABLE 4.6-1: City Parks and Open Space Lands – Why isn’t the Upper Neary Lagoon Park with its tennis courts and tot lot included in the list of neighborhood parks?

- Why is West Cliff included as a neighborhood park?

13-23 - PAGE 4.6-21 – SCHOOL CAPACITIES & PROJECTED ENROLLMENT – Why are the total numbers in Table 4.6-2 different from those in the paragraph below?

13-24 PAGE 4.8-44 – BIOLOGICAL RESOURCES – The DEIR identifies an action in the proposed Plan to preserve up to five acres in the Golf Club Drive area for open space as a wildlife interface zone, community garden, and riparian corridor area. This indicates that the area has potentially significant biological resources or is near to such resources, though this is not discussed in the DEIR. Since the General Plan 2030 proposes to allow over 200 DUs in the area, additional biological analysis of the potential impacts of such development should be included in the FEIR.

13-25 PAGE 4.11-13 – AIR QUALITY – PARTICULATE MATTER PLAN – The DEIR indicates that the major cause of exceedances in the particulate matter plan is due to naturally occurring sea salt. How does sea salt create particulates?

13-26 - PAGE 4.11-16FF – AIR QUALITY MANAGEMENT PLAN – Is it correct that the estimated buildout under the proposed General Plan 2030 would add 39% more housing units than forecasted by AMBAG (3,350 versus 2,413)?

Although the DEIR attempts to explain away this inconsistency with the AQMP by saying that the growth wouldn't be exceeded for at least 10 years and that City policies would reduce emissions, this impact, as admitted, is significant. Moreover, no data is presented indicating how successful City policies have been under the existing General Plan in reducing emissions. The Final EIR should not try to minimize the significance of this inconsistency.

13-27 - PAGE 4.13-18 - NOISE – IMPACT4.13-1: EXPOSURE TO NOISE – The elimination of the noise standards from the 2005 General Plan in the proposed General Plan 2030 seems important and should be treated as a significant impact. The Recommended Revision to the Plan that restores these standards should be a mitigation measure.

13-28 - PAGE 4.15-6 – AGRICULTURAL, FOREST & MINERAL RESOURCES – AGRICULTURAL RESOURCES – While it may be that there are no State designated agricultural lands within the City limits, agricultural production was carried out in the Golf Club Drive area for many years. While the CEQA Guidelines designate the threshold for impacts to prime agricultural lands in terms of the State maps, prime agricultural land has also been defined in terms of soil type and previous use.

The FEIR should present information on the agricultural history in the Golf Club Drive area as well as whether the soil type would qualify it as prime agricultural land.

Based on the importance of prime agricultural land in the statewide scheme, evidence that the land in this area is of prime quality, based on traditional measure, would make its conversion a significant environmental impact. The FEIR should clarify this issue.

13-29 - PAGE 5-15 – CEQA CONSIDERATIONS – CUMULATIVE IMPACT ANALYSIS – PUBLIC SERVICES AND FACILITIES – The DEIR states that the estimated 350 new students a year at UCSC between 2020 and 2030 would generate an additional 0.154-0.350 mgd of wastewater flow, or a "potential additional flow attributable to UCSC of 0.35 to 0.80 mgd." Converting this into annual flow is a little tricky since students are not there all year. Assuming 200 student days, the annual wastewater flow would be between 70 mgy and 160 mgy (350,000 or 800,000 times 200). Even if the 0.154 mgd figure is used, the 200 day total would be 30.8 mgy, while the 0.35 mgd total would be 70 mgy.

However, the DEIR, on page 5-30, in considering cumulative water supply impacts, estimates "that the demand for the UCSC campus will increase by 10 MGY from 2020 to 2030."

Since it appears that about 80% of water use ends up as wastewater, these figures are clearly incompatible. The FEIR needs to resolve this inconsistency. If the water demand estimate is low, as it appears, it needs to be corrected throughout the document.

13-30 - PAGE 5-21 – GLOBAL CLIMATE CHANGE QUALITY – Since, on page 5-9, the DEIR states that cumulative impacts include those within the City's planning area, shouldn't the climate change analysis include the unincorporated area growth in emissions as well as those of UCSC? Would inclusion of these emissions lift the total emissions over the significance threshold?

13-31 - PAGE 5-23 – POPULATION GROWTH – The DEIR estimates that at least 67% of new UCSC students between 2020 and 2030 would reside on campus based on the Settlement Agreement. However, the Settlement Agreement is tied to the 2005 LRDP and will expire in 2020. While it would be desirable for the University to continue its housing commitment, there will be no requirement that it do so. Given that, in the past, the University housed approximately 50% of its students on campus, this may be a more prudent estimate, absent some guarantee from the University that it does intend to continue its commitment.

- Historically, the University's campus population has been counted as part of the City's population. However, since a significant amount of future growth is estimated to occur in the North Campus area, that growth was not considered part of the City's population growth in the rest of this DEIR. Counting this growth would make the City's projected growth rate 1.3% a year, which is significantly higher than the range of 1.0 and 0.7% since 1990.

Is it true, then, that the growth proposed in the General Plan 2030 plus the additional UCSC growth will allow the City to grow at a significantly higher rate than it has in over 20 years?

13-32 PAGE 5-39 – PROJECT ALTERNATIVES – PROJECT OBJECTIVES – Given the generality of the project objectives, how is it possible to determine that some of the objectives meet them significantly less than the proposed project? On what basis were those determinations made?

In addition, does even the proposed project "fully" meet the project objectives? What is the basis for this determination?

Thank you for your consideration and I look forward to review the responses in the Final EIR.

Sincerely,

Andy Schiffrin
130 Shelter Lagoon Drive
Santa Cruz, CA 95060

LETTER 13 – ANDY SCHIFFRIN

13-1 Golf Club Drive Land Use Intensification. By motion of the Planning Commission on July 24, 2008, the land use designation was recommended to be changed from Low Density to Very Low Density as identified in the DEIR (pages 3-10 and 4.1-6). (Figure 2-2 shows the existing Low Density designation, which will be changed to Very Low Density if adopted by the City Council.) Action LU1.1.5 does allow a higher density (10.1-20 dwelling units per acre), but only with approval of an Area Plan. This same proposed Action requires preservation of up to five acres, reducing the potential developable acreage to at least 15 acres. Pursuant to the methodologies outlined in Appendix B for estimating buildout, certain assumptions were made regarding intensity of development. As indicated on Table 3-3 of the DEIR (page 3-13), the estimated buildout for the Golf Club Drive area was 245 residential units. The commenter is correct that the existing General Plan allows 100 units (with approval of Specific Plan), and thus, potential development would nearly double. However, the estimated 245 residential units represent a gross density of approximately 16 units per acre, which is consistent with the above density and methods used to estimate buildout. Thus, contrary to the comment, the development of up to 400 residential units does not appear likely.

The comment indicates that the DEIR should have contained an analysis of the environmental impacts resulting from intensification of the area. The buildout estimate noted above was used to evaluate impacts related to traffic, water supply, public services, air quality and climate change (greenhouse gas emissions). The DEIR does address potential physical impacts of development in the Golf Club Drive area related to aesthetics (page 4.3-13), biological resources (pages 4,8-38, 4.8-83), cultural resources (page 4.9-19), and geology and soils (page 4.10-21. Furthermore, the DEIR provides an analysis of cumulative land use and development impacts in section 5.4, Cumulative Impacts. At a program- level analysis, the General Plan contains policies and actions that require protection of specified resources and/or provide guidance on how future development proposals will be evaluated at a site and project-specific level. At this time, there is no proposed development or site plans for which more specific or detailed analyses could be provided.

13-2 UCSC Growth and Water Supply. The comment states that there is a discrepancy between the estimated UCSC water demand (10 million gallons per year [MGY]) and estimated wastewater increases (70 MGY) between 2020 and 2030. As discussed in the "Cumulative Impacts" section of the DEIR, UCSC wastewater generation in the year 2020 was estimated as 0.2 to 0.45 mgd based on previous analyses cited in the text. (Note that the typographical error of the year 2010 has been changed to 2020). The lower rate was based on gross water use less landscaping; 30-40% of UCSC water use is estimated as being used for landscaping (City of Santa Cruz, July 2010). The higher rate was based on studies conducted by the University as part of its Long Range Development Plan. The rates were also based on a student increase of 4,500 students to the year 2020. The DEIR conservatively estimated the increment of wastewater generated between 2020 and 2030 (with an estimated 350 students per year) based on these previous estimates. However, the estimated water demand between 2020 and 2030 was provided by the City Water Department based on review of water use at

the University between 1987 and 2008. This estimated water demand is considered to an accurate, yet conservative estimate, based on historical use. This would result in a lower average wastewater generation of approximately 0.02 mgd between 2020 and 2030. When added to previous UCSC estimates to the year 2020, cumulative wastewater generation from UCSC would be between approximately 0.22 and 0.47 mgd. Thus, the wastewater generation estimate in the DEIR is conservatively high and should not be used to determine water demand between 2020 and 2030, which was based on historical use. The EIR text has been clarified; see the CHANGES TO DRAFT EIR (Chapter 3.0) section of this EIR.

13-3 Hotel Projections. The estimate of future buildout based on the draft *General Plan 2030* land uses did not distinguish between types of commercial development, i.e. there was no distinction between retail commercial, regional commercial or visitor-commercial, including hotels. Pending hotel projects were added because the commercial land use projections for the Beach area did not account for these pending projects, which could be developed during the General Plan timeframe. Future hotel use would be concentrated in the Beach and Ocean Street areas. The pending projects in the Beach and lower Pacific areas (see Table 3-4 in the DEIR) account for approximately 75-80% of the estimated new hotel rooms projected in the Beach / South of Laurel Area Plan, and would seem a reasonable level of hotel development for the Beach area within the next 20 years.

Hotel development could also occur along Ocean Street where the new mixed-use designation is applied. The designation is intended to encourage high-quality visitor-serving commercial development along Ocean Street, particularly hotels and motels. However, it also accommodates other multi-story commercial development, such as office buildings. The area where this designation is applied is located near the Water Street intersection, including the site of the existing University Inn. Since the designation would allow for other uses, it would be speculative to try to estimate a number of hotel rooms. Neither the draft General Plan nor the draft Ocean Street Area Plan attempt to estimate hotel units in the Ocean Street area.

The comment also indicates that hotels have different impacts from other commercial uses, such as traffic, and thus, the DEIR should analyze the potential increase in hotel construction possible under the draft General Plan given new mixed use designations and policies that encourage high-end lodging facilities (Comments 13-11 and 13-18). Based on review of two recently approved hotel projects (Fairfield Inn and Hyatt Place), impacts under the commercial square footage measure would result in greater impacts than a hotel as summarized on the table on the next page. The comparison utilizes the trip rates and water demand rates included in the DEIR. Therefore, the commercial square footage used in the DEIR is inclusive of many commercial uses and is a conservative worst-case estimate for the purposes of environmental review.

13-4 Golf Club Drive Land Use Intensification. See Response to Comment 13-1.

Comparison of Impacts
Between Hotels & Commercial Square Footage

Project	Rooms	Total Square Footage	Impact
Fairfield Inn	**86**	**78,000**	
- Trips Per Room (8.92/room)			767 trips
- Trips 1,000 sf commercial (44.93/1,000 sq)			3,505 trips
- Water Demand Per Room (0.034 MGY/room)			2.9 MGY
- Water Demand Per Sq Ft (66 gallons/sf/yr)			5.1 MGY
Hyatt Place	**111**	**76,000**	
- Trips Per Room (8.92/room)			990 trips
- Trips 1,000 sf commercial (44.93/1,000 sq)			3,415 trips
- Water Demand Per Room (0.034 MGY/room)			3.8 MGY
- Water Demand Per Sq Ft (66 gallons/sf/yr)			5.0 MGY

13-5 Hotel Projections. See Response to Comment 13-3 regarding estimated hotel development. The DEIR reference to 470 visitor-serving rooms as pending and/or approved include the 311 units on identified on Table 3-4 (page 3-14) of the DEIR and other hotel rooms in other areas of the City that were pending or approved at the time the DEIR was prepared. Because these hotels were within buildout estimates of commercial square footage, they were not separated out as the hotels in the Beach subarea as explained in Response to Comment13-3. In addition to the 311 rooms identified in the DEIR, there are currently 242 other hotel rooms in approved projects (Fairfield Inn, Hyatt Place, and a small facility on Ocean Street). The typo reference on Table 3-3 has been corrected; see CHANGES TO DRAFT EIR (Chapter 3.0) of this document.

13-6 Local Coastal Plan (LCP). The comment requests that the Final EIR discuss *General Plan 2030* changes to the coastal zone, but does not address analyses in the DEIR. The updated LCP will identify updated and/or changes to policies and land uses in the coastal zone. The *General Plan 2030* does not change land uses in the coastal zone, except for the Swenson property, which currently is not part of the City's certified LCP. The Swenson property is considered a "white hole" by the California Coastal Commission (CCC) since nothing has ever been certified for the site. When the City submits the draft LCP to the CCC, it will ask that the CCC certify the land use designation the same as what is proposed in the *General Plan 2030*.

13-7 Zoning Ordinance Amendments. The comment asks whether the Zoning Ordinance needs to be updated to assure consistency with the General Plan 2030. The Zoning Ordinance will need to be amended to include the new mixed-use zone districts, as well as in response to some policies that call for a Zoning Ordinance change, such as Action HA2.2.4 that calls for amending the Zoning Ordinance to encourage and allow for the development of arts and cultural facilities in a variety of zoning designations.

13-8 Regional Solid Waste Plans. The comment asks whether mandated solid waste plans should be mentioned in the General Plan 2030. The Santa Cruz County Countywide Integrated Waste Management Plan was adopted in 1996. It incorporated the mandatory Source Reduction and Recycling Elements (SRREs) adopted by each city and the county. Periodic reviews and revisions are required on this countywide plan. . The last review was in 2009, which basically found that no significant changes to the Countywide Integrated Waste Management Plan were needed. The next review is due 2014. As discussed on page 4.6-27 of the DEIR, the City has met its mandated solid waste reduction goals. The DEIR text has been expanded to describe the plan and project consistency; see the CHANGES TO DRAFT EIR (Chapter 3.0) of this document.

The City does participate in the Countywide Integrated Solid Waste Task Force, which meets quarterly. One City Council member and a staff member are on the Task Force and each has an alternate. This task force reviews major changes planned by any of the entities, and also jointly works on issues related to solid waste, waste reduction and recycling – like ordinances (plastic bags, polystyrene foam, electronic waste, etc.) and cooperative programs (such as fluorescent bulb take-back at local businesses). There is no formal "regional" solid waste planning at a level above the county at this time.

At a city level, the City is required to prepare an annual report on the City's compliance with the Integrated Waste Management Act that reviews the City's progress toward meeting the SRRE goals and objectives, as well as disposal diversion requirements. Currently, CalRecycle reviews the reports every two to four years for compliance, depending on prior compliance status. The City has always been in compliance (Arman, personal communication, February 2012). In addition, the City's permit to operate the Resource Recovery Facility requires the City to prepare and submit a large Joint Technical Document (JTD) every five years that updates the City's programs at the Resource Recovery Facility at Dimeo Lane, any changes to operations that are within the scope of the permit, life expectancy of the landfill, and any plans that are on the horizon.

13-9 Basis for Estimated General Plan Buildout Estimates. The comment asks for the basis of the buildout estimates for the existing general plan. The methodology for the buildout estimates is described on pages 3-12 and 4.1-17 to 4.1-18 of the DEIR and more fully detailed in Appendix B of the DEIR. See Response to Comment13-3 regarding potential future hotel development.

13-10 Beach/South of Laurel Plan (B/SOL Plan). The comment asks how the B/SOL Plan policies could be certified by the California Coastal Commission, but not be included in the LCP. The adopted B/SOL Plan does not contain policies and the actual plan document is not part of the LCP. A separate set of policies were developed and certified by the Coastal Commission, which are the LCP policies for the area.

13-11 Mixed Use Commercial. See Response to Comment 13-2 regarding estimates of hotel rooms.

13-12 Prospect Heights Neighborhood Commercial. The comment questions where location and impacts of neighborhood commercial uses within the Prospect Heights neighborhood. The draft General Plan does not add a new neighborhood commercial designation in the Prospect Heights area. City staff indicated that during the GPAC review, this policy was added to encourage neighborhood commercial near Soquel Avenue.

13-13 Transit Center Impacts. The comment asks why the DEIR does not analyze potential impacts of a transit center along the rail corridor in the Golf Club Drive area. The referenced Table 4.1-5 identifies potential future development as referenced in the draft General Plan. However, Action LU1.1.5 calls for the "evaluation" of a future rail transit stop in the Area Plan analysis; approval of an Area Plan would be required for high density development in this area as discussed in Response to Comment 13-1. Should the evaluation lead to a future proposal for a transit center, site-specific environmental review would be conducted. As discussed in Response to Comment 13-1, impacts in this EIR have been addressed at a program-level appropriate for a General Plan, and policies and actions provide protection and/or guidance for future development siting. A rail transit center could result in some additional localized traffic, but a transit center in the Golf Club Drive area could result in reduced auto travel in the City's circulation system. It is also noted that the rail line in this area is privately owned at this time.

13-14 Incompatible Land Uses. The comment questions the compatibility of higher density residential development planned in the General Plan for the Golf Club Drive area, including a possible transit center, with the nearby Pogonip, its existing and planned uses and traditional agricultural production in the area. City does not consider residential development in and of itself to be incompatible with open space and recreational uses as such uses coexist throughout the City. Higher density development may result in potential aesthetic or noise impacts to adjacent uses, which are addressed in those sections of the DEIR. See Response to Comment 13-13 regarding a potential development of rail transit center in the area. The referenced Golf Club Drive area is not designated for agricultural uses; see also Response to Comments 13-1 and 13-28.
The comment also states there are potential incompatibilities along mixed-use corridors with adjacent residential development in terms of height and density, and reference to policies is insufficient. The introduction of potentially incompatible land uses along mixed-used corridors is addressed in the DEIR on pages 4.1-23 and 4.1-24 as well as in the Aesthetics section (pages 4.3-17 to 4.3-19). As discussed on page 4.1-23 of the DEIR, the mixed-use residential densities are similar to existing commercial zoning densities, and the areas where the residential densities are proposed to be higher are located adjacent to areas that are designated commercial and medium-density residential, the latter of which allows a density up to 55 units per acre. Other potential issues of compatibility that relate to mass and height are addressed in the Aesthetics section of the DEIR. As a "program" EIR, it is appropriate to cite the various proposed policies and actions intended to provide project-level guidance for future development. These policies and actions are summarized in the above cited sections. In particular, CD2.14 calls for establishment of development standards in mixed-used corridors as part of a Zoning Ordinance amendment to "ensure that siting, massing and scale of infill and intensified development are sensitive to existing neighborhood districts." The DEIR recommends adding height standards as well (see page 4.3-19 of the DEIR). Zoning

Ordinance amendments would be subject to future environmental review, as would specific development projects.

13-15 Conflicts with Applicable Plans. Table 3-5 (page 3-18) identifies the plans that were specifically adopted as part of the General Plan or LCP, i.e. with a General Plan or LCP amendment. The existing 2005 General Plan includes policy summaries of all adopted plans. All adopted plans will remain in effect, independent of the General Plan, and are "incorporated by reference" in the General Plan 2030, but are not a physical component of the General Plan 2030, unless they were specifically adopted as part of the General Plan. See Response to Comment 13-10 regarding the Beach/South of Laurel Plan.

13-16 Beach/South of Laurel Design Guidelines. The comment questions whether the DEIR should have mentioned that the B/SOL Plan guidelines will no longer be in force under the General Plan 2030. As indicated above in Response to Comment 13-15, all adopted plans remain in effect with adoption of the proposed General Plan, and thus, the B/SOL Plan Design Guidelines will continue to be in effect for the area covered by the Design Guidelines.

13-17 Scenic Views. The comment suggests that the development in Golf Club Drive, including rail transit center could have an impact to and from Pogonip. Figure 4.3-1 of the DEIR identifies panoramic views from Pogonip, which generally consist of views of Monterey Bay and distant Monterey Peninsula hilltops with panoramic views of the City of Santa Cruz in the foreground. The Golf Club Drive area is largely screened from view by existing tree cover, and where the area is potentially visible from limited trail segments, it is also part of the urban landscape and not part of scenic views of the bay and distant mountains. (See DEIR pages 4.3-3 to 4.3-5 for a discussion of scenic views.) Future development in the area would be subject to preparation of an Area Plan and site-specific environmental review, at which time, the potential impacts of the development scale and massing on the surrounding visual character of the area would be evaluated. The General Plan contains policies and actions to assure that scenic views and resources and visual character of areas are protected as summarized on Table 4.3-1 (pages 4.3-15 and 4.3-16) of the DEIR, which at a programmatic level of analysis serve to mitigate potential aesthetic impacts of future development. The DEIR text has been expanded (Impact 4.3-3) to note potential impacts on the visual character of the surrounding Golf Club Drive area with future development. See the CHANGES TO DRAFT EIR (Chapter 3.0) of this document. See also Response to Comment 13-4 regarding a transit center.

13-18 Hotel Development Estimates. See Response to Comment 13-3.

13-19 Western/High Intersection. The comment asks whether signalization for the intersection of Western and High is anticipated. The traffic analysis did not assume that this intersection would be signalized, and it was one of the eight identified intersections that would continue to operate at unacceptable levels as discussed in the DEIR. Signalization was not recommended at this intersection because signalization would increase the overall delay at this location. At this time and into the future, the only delay experienced is for the left turn movement from Western Drive onto High Street, and

signalization was not recommended as it would add delay to the major movement on High street in order to serve the minor movement on Western. .

13-20 Recommended Revisions to General Plan 2030. The comment asks for the status of the recommended revisions to Policy M3.1.4. All policy and action changes recommended in the EIR will be attached to the Draft Plan that goes to hearing and if adopted will be included in the final printing of the adopted plan. With regards to Policy M3.14, the policy was already included in the draft plan and specifically references regional intersections; the added language provides additional clarification to an existing policy to provide guidance as to when allowing a lower level of service or more congestion at a major regional intersection would be acceptable. The referenced action provides City decision-makers with flexibility to evaluate at a project-level whether or not improvements at "major regional" intersections should be implemented or a lower level of service accepted. Since this would be limited to only major regional intersections where existing development and/or topography may preclude implementation of improvements without a significant cost or impact (i.e., acquisition of existing businesses or residences).

13-21 Updated Water Supply Analysis. See Master Response WS-1 regarding the 2010 Urban Water Management Plan update and updated EIR text in the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document. The comment also asks for clarification status of previously developed plans and studies, but does not specifically indicate what parts of the text appear unclear. The discussion on pages 4.5-16 through 4.5-22 describe past water planning efforts and why various water supply alternatives were eliminated from further consideration or recommended for further study.

13-22 Parks Classifications. The upper portion of Nearly Lagoon with the tennis court and tot lot is part of the larger Neary Lagoon park, and the City does not separate out facilities from parks. See also Response to Comment 11A-4 and 11C-3. Upon reconsideration, City staff determined that West Cliff Drive is not a neighborhood park and it has been moved to the community park classification on Table 4.6-1. See the CHANGES TO DRAFT EIR (Chapter 3.0) section of this EIR.

13-23 School Enrollment Projections. The comment questions school capacity and enrollment numbers on page 4.6-21. The numbers in Table 4.6-2 were provided by the School District in 2011 as part of the preparation of the DEIR and are considered the most current numbers. The numbers cited in the paragraph following this table were taken from older studies (2006) conducted for impact fees. The 2011 date has been added to the citation on the table; see the CHANGES TO DRAFT EIR (Chapter 3.0) section of this document.

13-24 Biological Impacts of Development in the Golf Club Drive Area. The comment states the DEIR should include additional biological analysis of the potential impacts of over 200 proposed dwelling units in the Golf Club Drive area. The *General Plan 2030* is a planning document, and the EIR evaluates impacts on a program level, not at a site-specific development level. As indicated on pages 4.8-39, 4.8-40, and 4.8-43 of the DEIR, the draft General Plan includes policies and actions, in addition to other adopted plans, such as the Creeks and Wetlands Management Plan, that call for measures to

protect specific resources, which would be evaluated at the time a specific development project were proposed. Potential biological resources in the Golf Club Drive area are addressed on pages 4.8-38 and 4.8-43 of the Draft EIR.

13-25 Air Quality – Particulate Matter. The comment asks how exceedances in the particulate matter plan can be due to sea salt. The referenced citation to particulates from naturally occurring sea salt is taken directly from the Air District's particulate matter study as cited in the DEIR on page 4.11-13. The study as indicates that background PM_{10} can be expected to consist of naturally occurring aerosols such as sea salt, fugitive dust from wind storms, volcanic dust, small amounts of nitrates and ammonia for decay of naturally occurring organic matter in the soil and smoke from wildfires. It also indicates that at times, background levels can exceed the District's standards as demonstrated by District measurements of sea salt at the coastal stations. Thus, the EIR reports a finding from the documents of the regional agency responsible for air quality management.

13-26 Air Quality Management Plan. The comment asks whether it is correct that the estimated buildout under the General Plan 2030 would add 39% more housing units than forecasted by AMBAG. It is correct that the estimated buildout accommodated by the proposed General Plan 2030 would result in development of 3,350 residential units compared to 2,413 units forecast by AMBAG as cited on page 4.11-16. As indicated on page 4.11-17, the increase in housing units estimated under the General Plan is less than the historic average annual rate of housing unit increase within the City. The issue of consistency with the Air Quality Management Plan was reviewed by City and Air District staff in February 2011. As indicated on page 4.11-16, the opportunity for future review and revisions with regional plans was reviewed, and the Air District staff concurred with this approach. As regional plans and population projections are periodically revised and emission levels change, it is appropriate that future plan revisions can incorporate updated population projections.

13-27 Exposure to Noise. The commenter believes that elimination of noise standards is a significant impact. Proposed policies and actions (HZ3.2 and HZ3.2.1) call for application of noise compatibility standards as part of review of future development proposals, and thus, the impact would not be considered significant. The DEIR adds the recommendation (see page 4.13-18 of the DEIR) to revise the action to specifically reference the land use-noise compatibility standards table as it is included in the existing General Plan.

13-28 Agricultural Uses and Designations in the Golf Club Drive Area. The comment requests information on the agricultural history of the Golf Club Drive area and whether the soil type would quality as prime agricultural land. CEQA does not require a historical review of the agricultural uses within the City or on a given property. It is acknowledged that small-scale farming operations have occurred in the area in the past. The current standard for review of impacts to agricultural land is the State Farmland Mapping system in which the Golf Club Drive area is not designated as having prime or other agricultural lands. The majority of the soils in the area are designated as Class III in the Soil Conservation Survey for Santa Cruz County (1980);

under this classification, Class I and Class II soils are typically considered prime agricultural soils.

13-29 Cumulative Wastewater Generation Impacts. The comment addresses cumulative wastewater generation and water use at UCSC. See Response to Comment 13-2.

13-30 Cumulative Impacts Related to Global Climate Change. The comment questions whether GHG emissions in the unincorporated and UCSC areas of the General Plan planning area would exceed significance criteria. As discussed on page 5-12 of the DEIR, development potential within the General Plan planning area outside the City and its existing sphere of influence and without UCSC, is limited. While there may be some residential infill development in the Graham Hill Road area of the County, potential GHG emissions would not likely exceed the per capita significance criteria identified in the DEIR as existing and project levels are below the threshold. As indicated on page 5-21 of the DEIR, addition of UCSC GHG emissions in combination with those identified in the DEIR for the project (and as revised in this document), would not exceed the per capita significance criteria.

13-31 Population Growth with UCSC. The comment indicates that future growth in the North Campus area of UCSC could significantly increase the City's projected growth rate above historical levels. As discussed on pages 5-22 through 5-24, this is the conclusion of the DEIR. With UCSC growth and if the North Campus area is annexed to the City, City population growth could average an average annual rate of 1.3% in the year 2030, which is considered a significant cumulative impact to which the project's (General Plan) incremental effect is cumulatively considered as concluded on page 5-24 and summarized on pages 2-5 and 5-3 of the DEIR.

13-32 Project Alternatives and Meeting Project Objectives. The comment questions the basis for determining how project objectives are met in the alternatives analysis. The objectives are outlined and numbered on page 5-39 of the DEIR. Each alternative discussion references which objectives are fully or partially met, not met or not relevant with descriptions. The comment does not provide a specific reference to which a more specific response can be made.

Ken Thomas
City of Santa Cruz Planning Department
809 Center Street
Nov. 14, 2011

Re: Draft EIR General Plan 2030

Dear Ken,

Following are several comments on the Draft EIR for the 2030 General Plan:

14-1 Section 4.4 Transportation and Traffic recognizes the potential for the location and density of development as well as Transportation Demand Management(TDM) to reduce traffic related impacts such as Vehicle Miles Traveled(VMTs) and Green House Gasses(GHGs) associated with the development anticipated in the 2030 General Plan.

However the anticipated reductions in these impacts expected to result from the proposed General Plan Policies listed in Table 4.4 are not readily apparent in the body of the EIR. Appendix C explains the traffic analysis methodology and the reductions in trip generation that were calculated for 4 factors; Mix of land uses; Presence of local serving retail; Bicycle and pedestrian accessibility and Transit service accessibility.

14-2 Table 1 shows the calculation of trip reductions for the 4 Mixed Use Corridors.

It is appropriate that these trip reductions be calculated for the Golf Club Drive Property trip generation analysis as well, if it has not already been done.

Transit service on Hwy 9/River St. is currently within walking distance from Golf Club Drive. Several bus stops are located within a 4 minute walk. Golf Club Drive is located adjacent to the rail line. The General Plan requires that the feasibility of a rail stop will be evaluated as part of an Area Plan.

A new bike path links the property underneath Hwy 1 via the levy to downtown. A new bicycle/pedestrian bridge connects this bike path to the east side of the river. A second bicycle/pedestrian bridge links the Golf Club Drive to the downtown via Coral St. in Harvey west and crosses over the freeway into the Holy Cross Church area on High Street. The rail line currently operates as a significant pedestrian pathway between the Golf Club Drive area, Harvey West and Downtown. It is well traveled.

The Golf Club Drive area is immediately adjacent to Harvey West Industrial Park in which not only a significant number of jobs are located but also Costco and potentially other large retailers on the planned 7 acres site. Shopping along River Street is within biking/walking distance. Downtown can be reached in less than a 10 minute bike ride .

14-3 There appears to be no reduction in trips applied to the trip generation numbers attributable to the various TDM policies outlined in Table 4.4-4. This may be appropriate given the uncertainty of such projections. However there is a discernable increase in our community in car sharing and a corresponding reduction in VMTs. Increasing numbers of people are working at home and/or telecommuting.

Currently a small but committed number of people are making a personal choice to minimize, if not eliminate, their auto use through a very intensive and personal form of TDM (Transportation Demand Management). Car "light"and car free developments are being developed throughout the world.

14-4 The General Plan and EIR should begin to recognize and establish a regulatory mechanism for individuals and larger developments to voluntarily limit the use of autos. Currently the City Parking Ordinance , Traffic Impact Fees , and Design Guidelines treat all development as if car ownership is intrinsic to residency. Given the reality of our car centric recent past this has been an appropriately conservative approach to avoid potential parking and congestion issues.

However now is the time to devise the appropriate legal measures to ensure that car "light" or car free developments, when voluntarily chosen as deliberate lifestyle options, can be realized in our community. Incentives for this lifestyle should be developed since it benefits the entire community in reduced VMTs, reduced GHG, reduced congestion, etc. Reductions in parking requirements; reductions in Traffic Impact Fees, broadening the definitions of offsite parking to include "remote" parking; reductions in required parking for car sharing and density bonuses for permanent, enforceable commitments for reduced car ownership are examples of such incentives which should be considered. Such incentives could substantially decrease the amount of traffic and other related impacts that are projected in the EIR.

14-4 The EIR and General Plan recognize the importance and value of increasing densities along the major east/west corridors. Several years ago a study was conducted by a consulting architect to evaluate the design constraints/opportunities/ potential to achieve these densities. The most significant conclusion was that parking for the numerous small parcels along these corridors needs to be consolidated in communal parking structures. Absent the development of parking structures the required parking for the increased density cannot be accommodated on the individual parcels. The City needs to explore the formation of parking districts or other financing mechanisms to facilitate the development of public parking structures on these east-west corridors. The establishment of public parking facilities combined with a reevaluation of parking requirements and the option for car free or car "light" development may make the increased densities along the corridors proposed in the General Plan a realistic possibility.

Thanks for considering these comments.

John Swift
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459-9992

LETTER 14 – JOHN SWIFT

14-1 Trip Reduction Resulting from General Plan Policies. The comment questions how development intensity and transportation demand management measures outlined in Table 4.4-4 have been factored into the impact analysis. Specific trip reduction factors and trip rates incorporated into the traffic model for the EIR analysis are described in Appendix C. The DEIR acknowledges that implementation of policies and actions to reduce vehicle trips could result in further reduction of intersection impacts, but other than the above trip reduction factors, the reduction in intersection impacts have not been quantified in the EIR. For impacts at intersections where acceptable levels of service cannot be achieved with improvements, the DEIR concluded that the impact is significant and unavoidable.

14-2 Trip Reduction in Golf Club Drive Area. The comment indicates that trip reductions used for the mixed-use corridors should be applied to the Golf Club Drive area. The mixed use corridor analysis procedures are applied in central areas of the City with significant transit, and local retail options. The cited area is at the outskirts of the City, has very limited hourly transit service, low pedestrian and bicycle accessibility relative to the areas analyzed, and limited local retail service likelihood. At such time as a rail station may be developed in this area, trip generation estimates could be reduced based on the prevailing conditions. At this time a more realistic worst case scenario has been described to avoid underestimating potential traffic impacts. The EIR has identified a realistic worst case scenario for traffic impacts to avoid underestimating the impacts.

14-3 Trip Reduction. See Response to Comment 14-1.

14-4 Limit Use of Autos. The comment indicates that the General Plan and EIR should establish a regulatory mechanism to voluntarily limit use of autos. The comment is noted, but does not address analyses in the DEIR, and no response is necessary.

14-5 Parking. The comment suggest that the City explore formation of parking districts to facilitate development of public parking structures along major corridors to consolidate parking for higher density development on numerous smaller parcels. The comment is noted and referred to the City staff and decision-makers, but does not address analyses contained in the DEIR, and no further response is necessary.

APPENDIX A

MITIGATION MONITORING
and
REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

City of Santa Cruz General Plan 2030

This Mitigation Monitoring and Reporting Program (MMRP) for the City of Santa Cruz *General Plan 2030* has been prepared pursuant to the California Environmental Quality Act (CEQA – Public Resources Code, Section 21000 *et seq*.) and the CEQA Guidelines (Cal. Code Regs., Title 14, Chapter 3, Sections 15074 and 15097). A master copy of this MMRP shall be kept in the office of the Zoning Administrator and shall be available for viewing upon request.

Project Description. The proposed City of Santa Cruz Draft *General Plan 2030* (dated February 27, 2009) is an update of the City's existing *General Plan and Local Coastal Plan 1990- 2005*. Pursuant to State law, the proposed General Plan includes the following elements required by state low: Land Use, Circulation, Conservation, Open Space, Safety, and Noise, and also includes optional subjects set forth in the State General Plan Guidelines related to community design and economic development. Goals, policies and actions are provided for each element. The General Plan also includes a Land Use Map as required by State law, which identifies land use designations and graphically depicts the arrangement and location of land uses throughout the City. To aid the environmental analysis, a "buildout" projection was developed, which considers the development potential of land permitted under the proposed General Plan that is estimated to occur in Santa Cruz by the year 2030.

MMRP. This MMRP includes mitigation measures in the Mitigation Monitoring and Reporting Matrix on the following pages that correspond to the final environmental impact report (EIR) for the project. The matrix lists each mitigation measure or series of mitigation measures by environmental topic. For each mitigation measure, the frequency of monitoring and the responsible monitoring entity is identified.

Mitigation Measure	Implementation Actions	Monitoring / Reporting Responsibility	Timing Requirements	Reporting Requirements	Verification of Compliance
Transportation and Traffic					
Recommended Revisions to the *Draft General Plan 2030* Revise or add policies/actions as indicated below. Deleted text is shown in ~~strikeout~~ typeface, and new text is shown in <u>underlined</u> typeface. M3.1.4 Accept a lower level of service and higher congestion at major regional intersections if necessary improvements would be ~~too~~ <u>prohibitively</u> costly or result in significant, <u>unacceptable</u> environmental impacts.	City Council is responsible for including measure in the final adopted General Plan.	The Planning & Community Development Department is responsible for including measure in final adopted version of the General Plan upon adoption by the City Council.	• At time of adoption by City Council to include measure in the General Plan. • Upon adoption, the Planning Dept. shall publish a final adopted version of the General Plan 2030 with the measure included.	None.	
Cultural Resources					
MITIGATION 4.9-1. Add Action HA1.2.2 that establishes a procedure for preparing archaeological investigations as follows: *HA1.2.2* <u>Require preparation of archaeological investigations on sites proposed for development within areas identified as "Highly Sensitive" or "Sensitive" on the "Areas of Archaeological Sensitivity" and "Historical Archaeology Sensitivity" maps, except for exempt uses within "Sensitive" areas as described below, prior to approval of development permits. The investigation shall include archival research, site surveys and necessary supplemental testing as may be required, conducted by a qualified archaeologist. The</u>	City Council is responsible for including measure in the final adopted General Plan.	The Planning & Community Development Department is responsible for including measure in final adopted version of the General Plan upon adoption by the City Council.	• At time of adoption by City Council to include measure in the General Plan. • Upon adoption, the Planning Dept. shall publish a final adopted version of the General Plan 2030 with the measure	None.	

Mitigation Measure	Implementation Actions	Monitoring / Reporting Responsibility	Timing Requirements	Reporting Requirements	Verification of Compliance
significance of identified resources shall be ascertained in accordance with CEQA definitions, and impacts and mitigation measures outlined if significant impacts are identified, including, but not limited to recovery options and onsite monitoring by an archaeologist during excavation activities. A written report describing the archeological findings of the research or survey shall be provided to the City. Allow minor projects with little excavation to be exempt from this requirement for preparation of an archaeological assessment within designated "Sensitive" areas, but not within the "High Sensitivity" areas. Minor projects generally involve spot excavation to a depth of 12 inches or less below existing grade, or uses that have virtually no potential of resulting in significant impacts to archaeological deposits. Exempt projects may include: building additions, outdoor decks, or excavation in soil that can be documented as previously disturbed.			included.		
MITIGATION 4.9-2. Add Action HA1.2.3 that establishes a procedure for preparing archaeological investigations as follows: *HA1.2.3* The City shall notify applicants within paleontologically sensitive areas of the potential for encountering such resources during construction and condition approvals that work will be halted and resources examined in the event of encountering paleontological resources during construction. If the find is significant, the City should require the treatment of the find in	City Council is responsible for including measure in the final adopted General Plan.	The Planning & Community Development Department is responsible for including measure in final adopted version of the General Plan upon adoption by the City Council.	• At time of adoption by City Council to include measure in the General Plan. • Upon adoption, the Planning Dept. shall publish a final adopted version	None.	

Mitigation Measure	Implementation Actions	Monitoring / Reporting Responsibility	Timing Requirements	Reporting Requirements	Verification of Compliance
accordance with the recommendations of the evaluating paleontologist. Treatment may include, but is not limited to, specimen recovery and curation or thorough documentation.			of the General Plan 2030 with the measure included.		
Air Quality					
MITIGATION 4.11-1. The City shall work with the MBUAPCD and AMBAG and request that AMBAG's next population and housing forecast for the city of Santa Cruz and MBUAPCD's next *Air Quality Management Plan* be updated to reflect potential growth that could be accommodated by the General Plan 2030.	Action is specified in the measure.	The Planning & Community Development Department staff is responsible for coordinating review of population projections with AMBAG staff.	At the time AMBAB initiates population and housing projection updates.	City Planning staff shall report outcome to Planning Director.	

APPENDIX B

UPDATED AIR QUALITY STANDARDS

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15.0 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	53 ppb (100 µg/m^3) (see footnote 8)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m^3)		100 ppb (188 µg/m^3) (see footnote 8)	None	
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 µg/m^3)	Ultraviolet Fluorescence	—	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)[9]
	3 Hour	—		—	0.5 ppm (1300 µg/m^3) (see footnote 9)	
	1 Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3) (see footnote 9)	—	
Lead[10]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[11]	—		0.15 µg/m^3		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[10]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page …

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

8. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the EPA standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.

9. On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older pararosaniline methods until the new FRM have adequately permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO_2 standard of 0.14 ppm and the annual primary SO_2 standard of 0.030 ppm, effective August 23, 2010. The secondary SO_2 standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

10. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

11. National lead standard, rolling 3-month average: final rule signed October 15, 2008.

APPENDIX C

REVISED DEIR APPENDIX E

GREENHOUSE GAS & AIR QUALITY EMISSIONS CALCULATIONS

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MEMORANDUM

To: Stephanie Strelow

From: Don Ballanti

Date: February 24, 2012

Subject: Santa Cruz GP GHG Emissions

This memorandum updates my previous memorandum dated April 6, 2011.

I applied the URBEMIS program and the Bay Greenhouse Model (BGM) to the incremental growth expected by 2030. The trip rates used were adjusted trip rates accounting for interactivity between land uses and smart growth factors (enhanced mixed uses, local serving retail, transit/bike/pedestrian accessibility).[1]

Greenhouse gas emissions were estimated using the BGM Model developed by the Bay Area Air Quality Management District.[2] The Bay Area Air Quality Management District's (BAAQMD's) Greenhouse Gas Model (BGM) is an Excel spreadsheet program that allows users to estimate operational greenhouse gas (GHG) emissions from land development projects. BGM reads URBEMIS-2007 project files to generate a portion of a project's GHG emission estimates.

URBEMIS-2007 is a land-use based program. Inputs are land use type, amount of each land use, a trip generation rate. The general plan growth increments by land use were input along with adjusted daily trip rates. URBEMIS-2007 has no Single Room Occupancy land use category, so the land use "low rise apartment" was substituted.

[1] Memorandum to Chris Schneiter from Ron Marquez, General Plan Traffic Analysis Methodology, August 29, 1011.
[2] Bay Area Air Quality Management District, *Draft Bay Area Air Quality Management District Greenhouse Gas Model User's Manua*l, April 29, 2010.

My emissions estimates for General Plan Growth should be directly comparable to the inventory of GHG for the City of Santa Cruz CAP. Because the inventory only includes vehicle emissions within the Santa Cruz city limits, a 2.2 mile average trip length for all trip types was used. This average trip distance was based on studies of peak hour VMT and trip generation prepared in 2003.

The project build-out year is 2030. URBEMIS-2007 and BGM were run for this year. A second URBEMIS-2007 and BGM run was made for the same land use/trip inputs but for the year 2008. Comparison of the two sets of results revealed the BGM includes the effects of vehicle fleet changes and California fuel rules, as transportation emissions from the same land use inputs drop 30% between 2008 and 2030. It also revealed that BGM makes no adjustments for future energy efficiency as area sources, electricity use and natural gas emissions were identical for the 2008 and 2030 model runs. BGM assumes that homes and businesses in 2030 would be no more energy efficient in 2030 than homes and businesses in 2008. Therefore, the URBEMIS-2007/BGM results needed adjustment to reflect the State regulations and AB 32 programs, as described below.

Future buildings will be more energy efficient than existing buildings, so the BGM results had to be modified to reflect that fact. The Bay Area Air Quality Management District recently performed an analysis of GHG emission reductions that are anticipated to occur from implementation of the State regulations and AB 32 programs. Measures such as the Renewable Portfolio Standard, improvements in energy efficiency through periodic updates to Title 24, Solar Roofs program and other measures were determined to account for an estimated 9.5% reduction in natural gas GHG emissions and a 38.2% percent reduction in GHG emissions from electricity by 2020.[3] These reductions have been applied to the BGM emission calculations.

The results are shown in Table 1. Future improvements in water efficiency and solid waste generation reductions would also reduce water/wastewater and solid waste emissions, but BGM cannot take this into account. Therefore, the emissions projections shown in Table 1 should be considered as conservative estimates.

The URBEMIS-2007 and BGM outputs are attached.

[3] Bay Area Air Quality Management District, BAAQMD CEQA Guidelines, Appendix D, June 2010.

Table 1: General Plan Growth GHG Emissions, in CO_2 Equivalent Metric Tons/Year

Source	2008	2030
Transportation	34,455.86	24,417.30
Area Sources	910.69	910.69
Electricity	14,722.23	9,098.34
Natural Gas	6,656.74	6,024.35
Water and Wastewater Treatment	640.58	600.02
Solid Waste	6,285.00	6,281.74
Total	63,671.10	47,332.44

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MEMORANDUM

To: Stephanie Strelow

From: Don Ballanti

Date: February 24, 2012

Subject: Santa Cruz GP Criteria Pollutant Emissions Trends

The following analysis provides an analysis of emission trends for the City of Santa Cruz with growth accommodated by the Santa Cruz General Plan 2030. I have prepared an inventory of vehicular and area source emissions for the year 2008 and 2030.

For vehicular emissions, the methodology involved developing estimates of Vehicle Miles Travelled (VMT) within city limits and multiplying by an annual average emission factor derived from the EMFAC-2007 program.

For area sources the baseline emissions were developed from ARB county-wide emission inventories. The additional area source emissions by 2030 were estimated using the URBEMS-2007 program.

2008 Inventory

Vehicle travel on local roads within city limits were provided by Caltrans' Highway Performance Modeling System (HPMS) Data Library[1], which showed that total daily VMT within the Santa Cruz City limits was 566,070 in 2008. The EMFAC 2007 program was used to generate emissions factors for the Santa Cruz County vehicle fleet in the years 2008 under the following assumptions:

[1] http://www.dot.ca.gov/hq/tsip/hpms/datalibrary.php

Average Vehicle Speed: 30 mph
Temperature: 60 degrees F
Relative Humidity: 50%

The California Air Resources Board provides estimates of emission inventories for past and future years on a county, air basin and state basis. City-wide area source emissions in 2008 were estimate by adding the following source categories in the 2008 Santa Cruz Emissions Inventory:

Consumer Products
Residential Fuel Combustion
Architectural Coatings

These emissions were apportioned to the City of Santa Cruz based on population. Since 22% of the county population resides in the City of Santa Cruz, 22% of the emission inventory was apportioned to the City.

2030 Inventory

The URBEMIS-2007 analysis of projected growth through 2030 estimated that anticipate growth would increase daily VMT within city limits by 200,371 to a total of 766,441. Year 2030 EMFAC 2007 emission factors were multiplied by the year 2030 VMT to generate forecasted 2030 emission estimates. The EMFAC 2007 program was used to generate emissions factors for the Santa Cruz County vehicle fleet in the years 2030 under the operation assumptions as for 2008.

Year 2030 area sources were calculated as year 2008 emissions plus forecast new area source emissions generated by URBEMIS-2007.

Results

The results are shown in Table 1. Ozone precursor emissions (ROG and NO_x)would be reduced, with ROG emissions almost unchanged and NO_x showing a substantial reduction. CO also shows a substantial reduction by 2030.

PM_{10} emissions are expected to increase slightly by 2030. Vehicular emissions for this pollutant are not expected to decrease in the future as fast other criteria pollutants. This is because it has two components: exhaust and tire wear. While exhaust emissions will decrease over time, tire wear does not. Even so, the anticipated increase is less about 38 pounds per day, an amount that would not measurably change air quality and would represent a less-than-significant air quality impact.

Table 1: City-Wide Existing and Future Criteria Pollutant Emissions, in Pounds Per Day

Year	Daily Average Emissions in Pounds/Day			
	ROG	**CO**	**NO_x**	**PM_{10}**
2008				
Vehicles	328.6	6,854.1	1,194.6	40.0
Area Sources	1540.0	6810.0	330.0	990.0
Total	1868.6	13,664.1	1527.6	1030.0
2030				
Vehicles	67.6	1,194.6	319.7	44.0
Area Source	1804.7	7,074.1	380.1	1024.4
Total	1,872.3	8,268.7	699.8	1068.4
Change	3.7	-5,395.4	-827.8	+38.4

APPENDIX D

REVISED DEIR APPENDIX F-1
BIOLOGICAL RESOURCES STUDY

AVAILABLE ON CD & CITY WEBSITE

http://www.cityofsantacruz.org

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BIOLOGICAL RESOURCES FOR THE CITY OF SANTA CRUZ GENERAL PLAN UPDATE

Prepared for

The City of Santa Cruz
Department of Planning and Community Development
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Prepared by

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January 2009
(Revised February 2012)

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INTRODUCTION

EcoSystems West Consulting Group (EcoSystems West) was contracted by the City of Santa Cruz (City) Department of Planning and Community Development to update existing biological resource background data for the development of the City of Santa Cruz General Plan. The focus of this effort was to update information on special-status plant and wildlife species (as defined by CEQA) and sensitive habitats within the City's planning jurisdiction, excluding the University of Santa Cruz and City lands outside of the City proper. To this end, EcoSystems West reviewed all available documents on these resources, consulted with local experts, and groundtruthed existing data where possible. In addition, as requested by the City of Santa Cruz, EcoSystems West conducted surveys of monarch butterfly habitat, seabird roosts and rookeries, and 172 vacant parcels that were at least 6,000 square feet (0.14 acres), to update information on these resources. This report is a summary of findings, including tables and narratives of special-status species, sensitive habitats, and a summary of the results of focused surveys. An accompanying geographic information system (GIS) database (geodatabase) provides spatial data created or updated as part of our work.

METHODS

Document Review and Consultation with Local Experts

EcoSystems West met with City staff, reviewed all available data, technical studies, documents, EIRs, and the draft Citywide Habitat Conservation Plan (HCP) (unpublished) (Entrix 2004a,b; H.T. Harvey and Associates 2004). We reviewed the vegetation communities, sensitive species and habitat characterization of the City's existing GIS database, as well as more detailed information presented in the City's open space management plans and master plans.

Up-to-date status information for species listed as 'Threatened' or 'Endangered' under the federal Endangered Species Act (ESA), and federal 'Proposed' and 'Candidate' species was obtained from U.S. Fish and Wildlife Service (USFWS). Up-to-date status information for State of California listed species was obtained from the California Department of Fish and Game (CDFG). For special-status plants we also reviewed the current California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* electronic database (CNPS 2012). Distribution and habitat information in standard regional floras (Munz and Keck 1973; Thomas 1960; and Hickman 1993) was reviewed. Status information was also obtained from Tibor (2001) for CNPS-listed species, including species on CNPS Lists 1 and 2 that are legally protected under the California Environmental Quality Act (CEQA).

EcoSystems West reviewed current California Natural Diversity Database (CNDDB) records for occurrences of special-status species recorded in that database. In addition, we consulted with the following experts and organizations on local biological resources to identify additional occurrences of sensitive species: the local chapter of the California Native Plant Society, Dr. Richard Arnold and his Buggy Database regarding invertebrates, John Dayton and Tim Hyland on monarch butterflies, David Suddjian and Steve Gerow of the Santa Cruz Bird Club, as well as Brian Walton of the Santa Cruz Predatory Bird Research Group, in an effort to acquire updates on nesting birds, as well as preferred foraging and nesting locations of special-status birds.

Based on this review, we identified all known sensitive habitats, special-status plants and animals documented within the Santa Cruz City. We prepared a special-status resource summary table and field maps showing distribution of special-status species and habitats identified based on the synthesis of existing information.

Field Surveys

Habitat Types

Field reconnaissance surveys were used to verify and update the field maps prepared from existing data. These maps, including high resolution (6 inch pixel), recent (2005) aerial imagery of the City, and the existing habitat layer, were examined in the field and in the GIS to identify differences between existing data and current conditions and to more precisely delimit the boundaries of habitat types. The habitat type classification used was the same as that used in the existing habitat mapping, which featured main habitat types and subtypes. Changes to the existing habitat layer were made through heads up digitizing using ArcGIS 9.1.

General data was recorded on physiognomy of the vegetation and on dominant and characteristic species for the habitat types recognized. The generalized vegetation classification schemes for

California of Holland (1986) Sawyer and Keeler-Wolf (1995), and CDFG (2003a) were consulted in classifying the vegetation types within the City Limits. The final classification and characterization of the vegetation of the study area was based on field observations and was developed in consultation with City Planners and the Parks and Recreation biologist.

Sensitive Habitats

During efforts to update the habitat classification for the City, we also identified and refined the boundaries of occurrences of sensitive habitat types within the City. Sensitive habitats include coastal prairie portions of grassland habitat, riparian aquatic habitats, habitats for legally protected species and CDFG 'Species of Special Concern', areas of high biological diversity, areas providing important wildlife habitat and corridor routes, and CNDDB "high priority" habitats. Most of the modifications made to the existing habitat layer for the City included delimiting relatively small (<10 acres) occurrences of patchy sensitive habitats that were not delimited in the original layer, such as patches of freshwater marsh mapped originally as aquatic habitat or patches of riparian habitat within developed areas.

Seabird Roosts and Rookeries Survey

Seabird rookeries are considered sensitive, based on the high biological diversity and importance of the habitat. EcoSystems West ornithologist, Bill Henry, conducted a coastal bird survey as part of the effort to update information on sensitive habitats, to refine the accuracy of the previous mapping for coastal breeding bird habitat, and to supplement existing data. Prior to conducting field surveys, bird experts were consulted for any local nest survey data. Focused nest surveys were conducted in order to observe birds in the nest and fledglings. Nest colony sites were documented on maps and heads up-digitized into the GIS database, which identifies the species observed and the season of use of the site for roosting and/or breeding birds. Due to the small size nests and roost site occurrences, error associated with mapping could be 10 m.

Dispersal Corridors

Disperal corridors may be considered sensitive habitats. In the urban/rural interface dispersal corridors provide important habitat and are often areas of high biological diversity relative to the surrounding developed environment. Movement of wildlife through dispersal corridors is protected under the California Environmental Quality Act (CEQA). Using the high resolution aerial imagery of the City and reconnaissance surveys, potential dispersal corridors within the City of Santa Cruz were identified and mapped in the project geodatabase.

Monarch Surveys

During the fall and early winter, EcoSystems West biologists conducted reconnaissance surveys of historical, current, and potential over-wintering monarch butterfly roosts within the City limits. Potential roosts included stands of eucalyptus identified during habitat mapping. All sites found to be hosting roosting monarchs (temporary or over-wintering) were delineated. In an effort to determine whether the roost sites provide "temporary habitat" (i.e., roosting for periods of a few days to a month) or "over-wintering habitat" (i.e., provide roosting for periods of one to six months), all occupied roost sites were revisited into December.

Surveys assessed the size, extent, and specific location of the population (if present) within each of the roost areas. In all roost areas, biologists evaluated the quality of the habitat in terms of essential resource features, including density of the foliage, exposure to sunlight, protection from wind and other disturbances by insulating trees and vegetation, and key nectar sources. Ecosystems West biologists documented their survey observations with the *Over-wintering Monarch Butterfly Project Site Specific Data Sheet* (Xerces Society 2004). Abiotic data, such as cloud/fog cover (%), wind speed and direction, and air temperature (˚F/˚C) were collected for each survey. The biotic data collected by biologists included the number of butterflies and butterfly clusters, species' of tree being utilized, the tree height at the location of the cluster, the clusters' aspect to the sun, and general behavior (i.e., sunning). Nearby sources of water and food (nectar) were also documented.

Monarch roost sites were heads up digitized from field maps into a separate feature class within the project geodatabase, which includes an attribute table describing the habitat features and occurrence information for each site.

Vacant Parcel Survey

EcoSystems West biologists conducted reconnaissance surveys to determine the potential for vacant parcels within the City to provide habitat for special-status species or sensitive habitats. During the survey, we used existing public access in attempt to examine 172 parcels identified in the existing assessor parcel database as vacant that were at least 6,000 square feet (0.14 acres). Existing conditions, including habitat types, the potential for special-status resources, and current land-use activities were noted. Where appropriate, biotic assessments are recommended in the event of future development of those parcels. Where vacant parcels were not accessible, we attempted to identify potential biological resources from adjacent properties and through analysis of high resolution aerial imagery, and noted where a pre-site assessment is recommended in the event of future development. Available information about observed or potential biotic resources within each parcel and recommendations for further evaluation were included in a database file joined to the vacant parcel layer within the project geodatabase.

REGULATORY SETTING

Local, state, and federal regulations have been enacted to provide for the protection and management of sensitive biological and wetland resources. At the federal level, the United States Fish and Wildlife Service (USFWS) are responsible for the protection of terrestrial and freshwater organisms through the federal Endangered Species Act and the Migratory Bird Treaty Act, while the National Marine Fisheries Service (NOAA Fisheries) is responsible for protection of anadromous fish (fish that live most of their adult life in saltwater but spawn in freshwater) and marine wildlife. Marine mammals are protected under the Marine Mammal Protection Act (MMPA). The U.S. Army Corps of Engineers (Corps) has primary responsibility for protecting wetlands and jurisdictional "other waters of the U.S." under Section 404 of the Clean Water Act. At the state level, the California Department of Fish and Game (CDFG) administers the California Endangered Species Act (CESA), and protects streams and water bodies through the Streambed Alteration Agreement under Section 1600 of the California Fish and Game Code (CFGC 2005). Certification by the State Water Resources Control Board (SWRCB) is also required when a proposed activity may result in discharge into navigable waters, pursuant to Section 401 of the Clean Water Act and the U.S. Environmental Protection Agency (EPA) Section 404(b) (1) Guidelines.

Federal Special-Status Species

Federal Endangered Species Act. The federal Endangered Species Act (ESA) of 1973 (Title 16 United States Code, Section 1531 *et seq*., as amended) prohibits federal agencies from authorizing, permitting or funding any action that would result in biological jeopardy to a species listed as Threatened or Endangered under the ESA. Listed species are taxa for which proposed and final rules have been published in the Federal Register (USFWS 2007a, b, c, d, e).

The U.S. Fish and Wildlife Service's responsibilities include administering the ESA including sections 7, 9, and 10. Section 9 of the ESA, prohibits the take of animal species that are federally listed as endangered or threatened. Section 3(18) of the ESA defines "take" to mean to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Service regulations (50 CFR 17.3) define "harm" to include significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering. "Harassment" is defined by the Service as an intentional or negligent action that creates the likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.

Exemptions to the prohibitions against take may be obtained through coordination with the Service in two ways: 1) through interagency consultation for projects with federal involvement (i.e., funded, authorized, or carried out by a Federal agency) pursuant to section 7; or 2) through the issuance of an incidental take permit under section 10(a)(1)(B) of the ESA. The ESA or its implementing regulations do not prohibit take of listed plant species. However, federal agencies cannot undertake activities that would jeopardize the continued existence of a threatened or endangered plant or animal species. In addition, the removal of threatened or endangered plants

may be a violation of the Act under certain circumstances, if the action is not in compliance with state law.

If "Critical Habitat" is determined and published in the Federal Register as a formal rule, that designated critical habitat (plant or animal) receives protection under section 7 of the ESA, through the prohibition of destruction or adverse modification of critical habitat by actions carried out, funded, or authorized by a Federal Agency (i.e., FHWA funding of the multi-use trail). Consultation under section 7 does not apply to activities on private or other non-federal lands that do not involve a Federal nexus. Therefore, the critical habitat designation would not afford any additional regulatory protections under the ESA with regard to those activities.

Migratory Bird Treaty Act. All migratory birds and their nests are federally protected under the Migratory Bird Treaty Act of 1918 (MBTA) (Title 16 United States Code, Section 703-712 as amended; 50 Code of Federal Regulations Section 21; and 50 Code of Federal Regulations Section 13) and by CDFG codes that support the act. The MBTA makes it unlawful to "take" any migratory bird or raptor listed in the 50 Code of Federal Regulations Section 10, including their nests, eggs or products (USFWS 1918).

Marine Mammal Protection Act. All marine mammals are protected under the Marine Mammal Protection Act (MMPA) (Title 16 United States Code, §§ 1361-1421h, October 21, 1972, as amended 1973, 1976-1978, 1980-1982, 1984, 1986, 1988, 1990, 1992-1994 and 1996)(NOAA NMFS 2004). The MMPA prohibits, with certain exceptions, the take of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S.

State of California Special-Status Species

California Endangered Species Act. The 1984 CESA [CFGC 2005 (Section 2050-2098)] prohibits the "take" of State-listed threatened and endangered species. The Habitat Conservation Planning Branch of the CDFG administers the State's rare species program. The CDFG maintains lists of designated Endangered, Threatened and Rare plant and animal species (CDFG 2007a, b), as designated by the California Fish and Game Commission or under the California Native Plant Protection Act (NPPA). In addition to recognizing three levels of endangerment, the CDFG can afford interim protection to candidate species while the Fish and Game Commission is reviewing them. Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code; however, the CDFG has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification…" (CFGC 2005).

California Native Plant Protection. Act Project permitting and approval requires compliance with the 1977 NPPA [CFGC 2005 (Section 2050-2098)]. Along with the CESA, the act authorizes the California Fish and Game Commission to designate Endangered, Threatened, and Rare plant species and to regulate the taking of these species. In addition to the Endangered and Threatened categories established by CESA, the NPPA establishes a "Rare" category for plant species only.

CDFG Species of Special Concern, Watch List Bird Species, and Fully Protected Species. In addition to lists of designated Endangered, Threatened, and Rare plant and animal species, the CDFG maintains a list of animal "Species of Special Concern," (CDFG 2011) most of which are species whose breeding populations in California may face extirpation, or are rare or restricted within their ranges.[1] Although these species have no legal status under the CESA, the CDFG recommends considering these species during analysis of proposed project impacts to protect declining populations, and to avoid the need to list them as threatened or endangered in the future. These species may "be considered rare or endangered [under CEQA] if the species can be shown to meet the criteria". Additionally, the California Fish and Game Code contains lists of vertebrate species designated as "Fully Protected" [CFGC 2005 (Section 3511)] [birds], 4700[mammals], 5050 [reptiles and amphibians], and 5515 [fish]. Such species may not be taken or possessed without a permit and are also considered under CEQA.

CEQA Guidelines Section 15380. Under provisions of Section 15380 of the *CEQA Guidelines*, plants and animals with the following protected status must be addressed for proposed development projects: federally-listed Endangered or Threatened species under the ESA, species listed by the State as Endangered, Threatened, or Rare under CESA or NPPA, and other non-listed species that meet the CEQA Guidelines definition of endangered or rare.

Under Section 15380(d) of the *CEQA Guidelines*, a species not included on any list recognized by the State "shall nevertheless be considered rare or endangered if the species can be shown to meet the criteria" for listing. The CDFG, USFWS and U.S. Forest Service all maintain independent lists of species with designated conservation status that meet the *CEQA Guidelines* criterion for consideration. Under provisions of Section 15380(d) of the *CEQA Guidelines*, the project lead agency and CDFG, in making a determination of significance, must treat non-listed plant and animal species as equivalent to listed species if such species satisfy the minimum biological criteria for listing.

The CEQA Guidelines Environmental Checklist identifies potential impacts to a sensitive natural community as one of six biological topics to be reviewed. Where determined to be significant under CEQA, the potential impact would require mitigation through avoidance, minimization of disturbance or loss, or some type of compensatory mitigation when unavoidable.

CNDDB maintains a working list of "high priority" habitats for inventory (i.e., those habitats that are rare or endangered within the borders of California) (Holland 1986; CDFG 2003a). CNDDB "high priority" habitats are generally considered sensitive habitats under CEQA. CNDDB also ranks special status wildlife based on their global and state status, and on the status of any subspecies its range. Species ranked by the CNDDB may be protected under CEQA if they are shown to meet the criteria for listing.

California Native Plant Society Inventory of Rare and Endangered Vascular Plants of California. In general, the CDFG qualifies plant species on List 1B (Plants Rare, Threatened, or Endangered in California and Elsewhere) or List 2 (Plants Rare, Threatened, or Endangered in

[1] "Extirpate" = to destroy completely; to pull up by the root; exterminate (Merriam-Webster).

California, But More Common Elsewhere) of the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (Tibor 2001; CNPS 2012) for legal protection under CEQA. Species on CNPS List 3 (Plants About Which We Need More Information--A Review List) or List 4 (Plants of Limited Distribution--A Watch List) may, but generally do not, qualify for protection under CEQA.

Western Bat Working Group Listings. The CDFG maintains a list of bat species designated as "High Priority" by the Western Bat Working Group (WBWG). Species designated as "High Priority" are defined as "imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats (CDFG, 2006b). These species qualify for legal protection under Section 15380(d) of the *CEQA Guidelines*.

Sensitive Natural Communities

Sensitive habitats include: riparian corridors, wetlands, habitats for legally protected species and CDFG Species of Special Concern, areas of high biological diversity, areas providing important wildlife habitat, and unusual or regionally restricted habitat types. Habitat types considered sensitive include those listed on the CNDDB working list of "high priority" habitats for inventory (i.e., those habitats that are rare or endangered within the borders of California) (Holland 1986 and CDFG 2003a; 2010).

Wetlands and Waters of the U.S

Wetlands are areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level because of their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration, and purification functions. The Corps and the USFWS have developed technical standards for delineating wetlands through consideration of three criteria: hydrology, soils, and vegetation.

Under Section 404 of the Clean Water Act, the Corps is responsible for regulating the discharge of fill material into waters of the United States. The term "waters" includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations. In general, a permit must be obtained before fill can be placed in wetlands or other waters of the U.S. The type of permit depends on the amount of acreage and the purpose of the proposed fill, subject to discretion of the Corps.

Jurisdictional authority of the CDFG over wetland areas is established under Section 1600 of the Fish and Game Code (2005), which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake without notifying the CDFG, incorporating necessary mitigation, and obtaining a Streambed Alteration Agreement. The California Wetlands Conservation Policy of the CDFG states that the Fish and Game Commission will strongly discourage development in or conversion of wetlands, unless, at a minimum, project mitigation assures that there will be no net loss of either wetland habitat values or acreage. The CDFG is

also responsible for commenting on projects requiring Corps permits under the Fish and Wildlife Coordination Act of 1958.

Wetlands which fall within the coastal zone are subject to the jurisdiction of the California Coastal Commission (CCC). Certification by the State Water Resources Control Board (SWRCB) is also required when a proposed activity may result in discharge into a wetland.

City of Santa Cruz Riparian Setback Guidelines

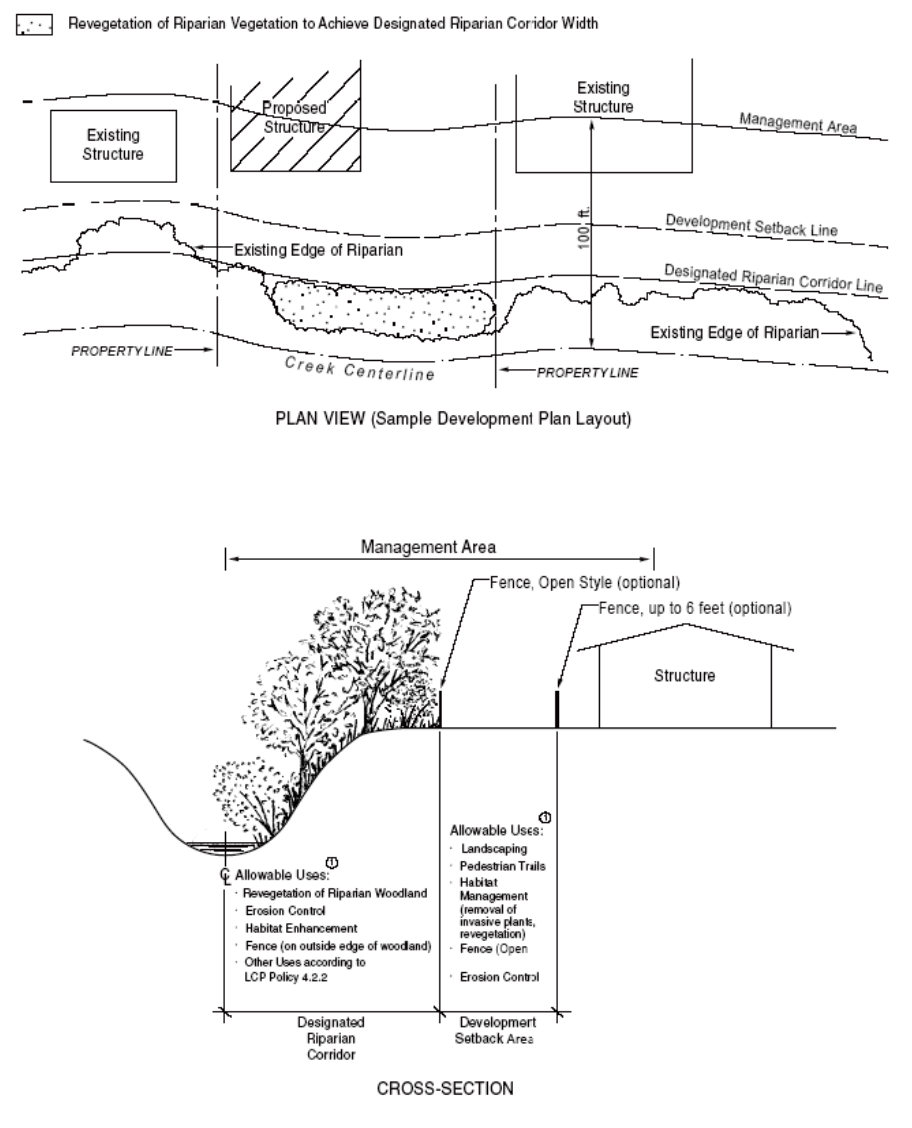
The *City-wide Creeks and Wetlands Management Plan* (Santa Cruz Department of Planning and Community Development 2006) was adopted by the City Council to provide a comprehensive approach to managing all creeks and wetlands within the City. The long-term goals of the *Management Plan* are to reduce and/or eliminate pollutants discharged to aquatic bodies; improve water quality; improve and restore natural habitat; increase biodiversity; lower water temperatures; and increase public awareness of the value of watershed quality.

The *Management Plan* recommends specific setback requirements based on biological, hydrological, and land use characteristics for various watercourse types within the City. The recommended setbacks within a designated management area include a riparian corridor, a development setback area, and an additional area that extends from the outward edge of the development area. The riparian corridor[2] is adjacent to the watercourse and is the width of a riparian and/or immediate watercourse influence area and is measured from the centerline of the watercourse. The development setback area[3] is the area outward from the edge of the designated riparian corridor where development is restricted, providing a buffer between the riparian corridor and development. The management area, riparian corridor, and development setback area distances vary depending on the watercourse area and its categorization[4]. All distances are measured from the centerline of the watercourse outward.

[2] The riparian corridor is intended to provide an adequate riparian width to maintain or enhance habitat and water quality values. Allowable uses within the riparian corridor are limited.

[3] The development setback width is intended to provide an appropriate water quality and habitat buffer between the riparian corridor and development within the remaining management area. New development generally would be limited in this area to landscaping and limited pervious surfaces.

[4] The 25 feet outward from the edge of the development setback is intended to provide an adequate area for permit review and to be consistent with the *Management Plan* goals and City of Santa General Plan/LCP policies to maintain or enhance water quality or riparian habitat values.



SOURCE: Biotic Resource Group (2001).

Figure 1. City of Santa Cruz riparian setback requirements (Santa Cruz Department of Planning and Community Development 2006).

Tree Protection and Preservation Ordinance

The City of Santa Cruz also provides for regulation of Heritage Trees and Shrubs through a Heritage Tree Ordinance (Santa Cruz Department of Planning and Community Development 2003b). The ordinance is intended to protect trees on private property by controlling tree removal while allowing for reasonable enjoyment of private property rights and property development. The ordinance defines parameters for tree protection, tree removal permits, and permit exceptions. A permit is typically required when the tree is to be cut down, destroyed, trimmed by topping, removed, or when trenching, grading, or filling is proposed within the dripline. The Heritage Tree Ordinance defines "heritage trees" as follows:

> Any tree, grove of trees, shrub or group of shrubs, growing on public or private property within the city limits of the city of Santa Cruz which meet(s) the following criteria shall have the "heritage" designation:
>
> (a) Any tree that has a trunk with a circumference of forty-four inches (approximately fourteen inches in diameter or more), measured at fifty-four inches above existing grade
>
> (1) (b) Any tree, grove of trees, shrub or group of shrubs which have historical significance, including but not limited to those which were/are:Planted as a commemorative; (2) Planted during a particularly significant historical era; or (3) Marking the spot of an historical event.
>
> (c) Any tree, grove of trees, shrub or group of shrubs which have horticultural significance, including but not limited to those which are:
>
> (1) Unusually beautiful or distinctive; (2) Old (determined by comparing the age of the tree or shrub in question with other trees or shrubs of its species within the city); (3) Distinctive specimen in size or structure for its species (determined by comparing the tree or shrub to average trees and shrubs of its species within the city); (4) A rare or unusual species for the Santa Cruz area (to be determined by the number of similar trees of the same species within the city); (5) Providing a valuable habitat; or (6) Identified by the city council as having significant arboricultural value to the citizens of the city.

RESULTS

Narrative descriptions of habitat types, sensitive habitats, and special-status plants and wildlife are provided in the sections below. Results from EcoSystems West 2006 surveys of monarch habitat, seabird roosts and rookeries, and vacant parcels are also summarized. Occurrences of breeding birds (protected under MBTA and CEQA) within the City of Santa Cruz are listed in Appendix A, while special-status wildlife not likely to require protection under CEQA is listed in Appendix B.

The accompanying GIS database (geodatabase) contains up-to-date spatial information for many of the biological resources within the City of Santa Cruz listed above. The geodatabase contains nine feature classes, each of which contains polygons representing the locations of resources, and an associated attribute table that provides information about each occurrence (Table 1). The exception is the CNDDB-point layer which contains points (rather than polygons) to identify locations of biological resources. Each feature class also contains metadata—a description of the data, including what it represents and how it was created.

Table 1. City of Santa Cruz biological resource data contained in nine feature classes within the project geodatabase.

Feature Class	Description	Origin
habitat types	Habitat types including vegetation communities.	Data compiled for Habitat Conservation Plan (HCP) (Entrix 2004a) and modified based on assessment for General Plan Update.
sensitive habitats	Sensitive habitats including: riparian, aquatic, freshwater wetland, saltmarsh, and coastal prairie.	Excerpted from vegetation layer, as modified for General Plan Update.
seabird roosts and rookeries	Seabird roosting and nesting sites along the coast.	Based on assessment for General Plan Update.
dispersal corridors	Potential dispersal corridors connecting otherwise disjunct habitat.	Based on assessment for General Plan Update.
monarch butterflies	Condition and use status of habitat (primarily eucalyptus groves) suitable for monarch butterflies.	Based on assessment for General Plan Update.
rare species occurrences	Habitat for three endangered species not fully represented within the California Natural Diversity Database (CNDDB).	Compilation of HCP data and expert observations.
CNDDB (points)	Rare species point occurrences reported as of August 2007.	Excerpted from CDFG database.
CNDDB (polygons)	Rare species and community occurrences reported as of August 2007.	Excerpted from CDFG database.
vacant parcels	Biological resource information for 172 vacant parcels.	Based on assessment for General Plan Update.

Habitat Types

The mapping of habitat types is modified from a previous citywide vegetation mapping conducted by H. T. Harvey & Associates. EcoSystems West botanist Roy Buck ground truthed the mapping in areas where discrepancies were discernible on maps and aerial imagery developed during document review. In developing the classification of vegetation presented here, we also consulted the generalized classification schemes for California vegetation of Holland (1986); Sawyer and Keeler-Wolf (1995); and California Department of Fish and Game (2003a).

Aquatic. Aquatic habitats are areas of permanent, fresh or brackish open water. The water may be either flowing (e.g., the San Lorenzo River) or ponded (e.g., Neary Lagoon, Antonelli Pond). Aquatic habitats generally lack vegetation other than algae except along the shorelines, where moisture-loving plant species may grow partially in the water. Large emergent monocots characteristic of freshwater wetland habitats (below) occasionally grow in shallow water in aquatic habitats, and aquatic habitats sometimes intergrade with permanently inundated freshwater wetlands.

Ponded or partially ponded aquatic habitats within the city include Antonelli Pond and several other ponds and lagoons in the southwestern portion of the city, including Natural Bridges State Park; Neary Lagoon; and the Santa Cruz Small Craft Harbor (Woods Lagoon). The Small Craft Harbor aquatic habitat has been greatly modified by construction and maintenance of the harbor. The San Lorenzo River is the major aquatic habitat with flowing water within the city. Some segments of Branciforte Creek are also broad enough to be mapped separately as aquatic habitat; some of these are partially ponded. Just outside of the City limits, on the University of California Santa Cruz (UCSC) coastal lands, Younger Lagoon is also an aquatic habitat.

Salt marsh. Salt marshes occur in low-lying, relatively sheltered areas adjacent to the immediate coast that are subject to tidal inundation. Except around their uppermost margins, salt marshes are periodically inundated by salt water. The frequency and duration of inundation often vary considerably within a given salt marsh due to slight differences in elevation. This often results in pronounced zonation of the species composition within the marsh, with differing amounts of inundation favoring different species. Salt marshes are dominated by salt-tolerant native herbs and subshrubs, many of them at least somewhat succulent. These include pickleweed (*Salicornia virginica*), saltgrass (*Distichlis spicata*), alkali heath (*Frankenia salina*), marsh jaumea (*Jaumea carnosa*), marsh gum plant (*Grindelia stricta* var. *angustifolia*), spearscale (*Atriplex triangularis*), and salt marsh dodder (*Cuscuta salina* var. *major*).

The only mapped area of salt marsh in the city is within Natural Bridges State Beach, on the west side of Moore Creek just inland of the beach. Topographic conditions suitable for salt marshes do not occur elsewhere in the city except in areas that are now intensively developed.

Freshwater wetland. Freshwater wetland habitats are developed on permanently or seasonally inundated sites. If the inundation is seasonal, the water table is high enough to provide abundant moisture to the vegetation year round. Even where permanently inundated, the water in freshwater wetland habitats is shallow enough to allow emergent vegetation to be rooted on the bottom. The species composition of freshwater wetlands is variable, in part due to variation in the length and depth of inundation. Where inundation is permanent or prolonged, the

characteristic dominants of freshwater wetlands are tall perennial emergent monocots, particularly cattails (*Typha* spp.) and tules (*Scirpus* spp., e.g. *Scirpus californicus*). Where the period of seasonal inundation is relatively short, or where soils are merely saturated for much of the season, dominants may include such species as panicled bulrush (*Scirpus microcarpus*), willow-herb (*Epilobium ciliatum* ssp. *ciliatum*), water smartweed (*Polygonum punctatum*), Pacific silverweed (*Potentilla anserina* ssp. *pacifica*), bog rush (*Juncus effusus* vars. *brunneus* and *pacificus*), Pacific oenanthe (*Oenanthe sarmentosa*), prairie bulrush (*Scirpus maritimus*), and pale spike-rush (*Eleocharis macrostachya*). Some of these species may also be associated with cattails or tules in areas where those species are dominant, but where inundation is not permanent.

Sizable freshwater wetland habitats occur in the extreme southwestern portion of the city (e.g. at Natural Bridges State Park, around the upper margins of Antonelli Pond, and beyond the City limits, on the UCSC coastal lands) and at Neary Lagoon. Smaller, more localized freshwater wetlands occur at scattered locations elsewhere in the city; for example, in the small city park adjacent to Jessie Street, and in lower Hagemann Gulch near the upper end of the Small Craft Harbor.

Riparian forest and scrub. Riparian forest and scrub habitats are developed on sites where the root systems of moisture-loving woody species (trees and shrubs) can obtain abundant subsurface moisture year-round. The largest and best developed riparian forest habitats are generally on floodplain alluvial terraces bordering permanent or intermittent streams. Riparian forest may also occur on lower slopes adjacent to stream courses or canyon bottoms and in isolated upland areas in locations where sufficient subsurface moisture is available. Stands located away from stream courses and canyons are typically small. Riparian scrub is basically an early successional habitat type that develops in areas with abundant subsurface moisture following disturbance. Riparian scrub typically occurs in and adjacent to the channels of rivers and larger streams in areas frequently disturbed by flooding.

Riparian forest habitats are dominated by moisture-loving, mostly deciduous trees and large, arborescent shrubs. The canopy is typically dense, and the density of woody stems is often high enough that stands are virtually impenetrable. In the Santa Cruz area, as in much of lowland California, the most abundant and widespread dominant species in riparian forest stands is arroyo willow (*Salix lasiolepis*), typically a large, arborescent shrub rather than a tree. Arroyo willow is often the only tree-sized species in smaller, more isolated stands of riparian forest. Associated tree species, most commonly occurring in larger, better developed riparian forests on and adjacent to floodplains, may include shining willow (*Salix lucida* ssp. *lasiandra*), black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), box elder (*Acer negundo* var. *californicum*), red alder (*Alnus rubra*), red willow (*Salix laevigata*), and white alder (*Alnus rhombifolia*). All of these species may be locally dominant or codominant. Coast live oak (*Quercus agrifolia*) and California bay (*Umbellularia californica*), species that are widespread in upland habitats, may also be locally important in riparian forests.

Due to the dense shade and high density of woody stems, understory vegetation in riparian forests is often poorly developed and sometimes nearly absent. Large shrubs that are sometimes present include American dogwood (*Cornus sericea*), coffeeberry (*Rhamnus californica* ssp. *californica*), and straggly gooseberry (*Ribes divaricatum* var. *pubiflorum*). The native woody

vine Pacific blackberry (*Rubus ursinus*) and poison-oak (*Toxicodendron diversilobum*), a native species that may be a small to medium-sized shrub or a vine, are sometimes locally abundant. The invasive non-native vines Himalayan blackberry (*Rubus discolor*) and cape-ivy (*Senecio mikanioides* [= *Delairea odorata*]) are also sometimes locally abundant. The tall native herb American stinging nettle (*Urtica dioica* ssp. *gracilis*) is probably the most widespread herb species in the riparian forest understory in the Santa Cruz area. Other herbs present may include such species as the native species of bracken fern (*Pteridium aquilinum* var. *pubescens*), goose grass or cleavers (*Galium aparine*, possibly non-native), and the non-native herb poison-hemlock (*Conium maculatum*). These generally occur in more open areas in the riparian forest understory, and are of only local importance.

Riparian scrub is generally relatively open, with individuals of large woody species relatively well spaced. Woody species may include relatively small individuals of the tree species characteristic of riparian forests, as well as moisture-loving woody or semi-woody species such as Douglas' baccharis or false willow (*Baccharis douglasii*). A diverse assortment of herbaceous species may occur in between the woody species, although overall herb density is often low.

Extensive riparian forests occur at and near the bottoms of larger canyons and along larger streams within the city, including Moore Creek and its tributaries; Meder Canyon and its tributaries; Carbonera Creek; Branciforte Creek; and Arana Gulch. Extensive riparian forests also occur adjacent to Neary Lagoon. Extensive stands of riparian forest probably once occurred along the San Lorenzo River within the city; however, these were eliminated or greatly altered due to urban development and the channelization of the river, and riparian forest stands now occupy relatively narrow zones inside the levees along the river. The San Lorenzo River channel also supports the only substantial areas of riparian scrub within the city. Smaller stands of riparian forest occur along smaller streams and drainages within the city, as well as at isolated upland locations.

Coastal scrub. Coastal scrub is generally developed on relatively exposed, coast-facing slopes, sometimes extending onto nearly level uplands or lowlands. Coastal scrub habitats range from relatively dry to relatively moist. They are dominated by medium-sized to large shrubs, mostly evergreen sclerophyllous (having relatively small, thick, leathery leaves) species.

Species composition in coastal scrub stands varies considerably, largely in response to soil and moisture conditions and disturbance history. Shrub cover ranges from dense and more or less impenetrable to open. The most abundant and widespread shrub species in coastal scrub habitats in the Santa Cruz area is coyote brush (*Baccharis pilularis*). Associated shrubs may include California sagebrush (*Artemisia californica*), sticky monkeyflower (*Mimulus aurantiacus*), poison-oak (a deciduous species), coffeeberry, and, near the immediate coast, lizard tail (*Eriophyllum staechadifolium*). Associated species often include the subshrub deerweed (*Lotus scoparius*), the woody vine Pacific blackberry, and the herbaceous vines western morning-glory (*Calystegia purpurata* ssp. *purpurata*) and wild cucumber (*Marah fabaceus*).

A diverse assortment of herbaceous species may occur in well developed coastal scrub habitats, growing up through the shrubs or in openings between shrubs. Characteristic species include California bee-plant (*Scrophularia californica*), cudweed (*Gnaphalium* spp.), yarrow (*Achillea millefolium*), bracken fern, climbing bedstraw (*Galium porrigens* var. *porrigens*), cow-parsnip

(*Heracleum lanatum*), California aster (*Aster chilensis*), soap plant (*Chlorogalum pomeridianum*), California corethrogyne (*Lessingia filaginifolia* var. *californica*), and many others. A variety of weedy non-native herb species may also be locally abundant in coastal scrub habitats. Near the immediate coast, a somewhat distinctive suite of herbaceous species is often prominent in coastal scrub; these include seaside daisy (*Erigeron glaucus*), coast buckwheat (*Eriogonum latifolium*), sea lettuce (*Dudleya caespitosa*), piperias (*Piperia* spp.), and sea thrift (*Armeria maritima*).

In addition to successionally stable coastal scrub habitats, scrub in which coyote brush is the only shrub species, or is overwhelmingly dominant, is widespread in and around Santa Cruz. This scrub type, which may be called "coyote brush scrub", appears to be early successional, having developed when coyote brush colonized grasslands or formerly disturbed areas. It often intergrades with annual grassland (below). Along with the shrub component, the native herb component is generally much less diverse than in successionally stable coastal scrub. The characteristic grass and herb species in this scrub are often mostly non-native, often species also characteristic of annual grassland.

Within the city limits, successionally stable coastal scrub is largely confined to the western part of the city, in and near the Moore Creek Preserve, in Meder Canyon, and on the UCSC Long Marine Laboratory coastal lands. Elsewhere in the city, coastal scrub habitats are mostly small and fragmentary, and often represent the early successional "coyote brush scrub" type.

Redwood forest. Redwood forest is the most extensive habitat type in the Santa Cruz Mountains. Redwood forests occur in areas that receive abundant summer fog, but generally do not occur along the immediate coast or on sites with direct coastal exposure. Although redwood forests in the Santa Cruz area may occur on all slope positions and all aspects, they are most extensive and best developed on relatively moist, sheltered sites, including north- and east-facing slopes, canyon bottoms, and lower canyon slopes. It should be noted that redwood forests intergrade so extensively with mixed evergreen forests (below) in the Santa Cruz area that the boundaries between these habitat types are often indistinct, and mapped boundaries are often largely arbitrary.

Where well developed, this habitat type is typically a dense forest, with the canopy closed or nearly so. The principal dominant tree is the coniferous species redwood (*Sequoia sempervirens*). All redwood forest stands within the Santa Cruz city limits are second-growth; that is, the present forest canopy has developed following heavy logging at some time in the past. Individual old-growth redwood trees are, however, occasionally present. Associated tree species, which may be codominants, especially in areas transitional to mixed evergreen forest, include the conifer Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*) and the broadleaved species tanbark oak (tanoak) (*Lithocarpus densiflora*), California bay (*Umbellularia californica*), Pacific madrone (*Arbutus menziesii*), bigleaf maple (*Acer macrophyllum*), coast live oak (*Quercus agrifolia*), and Shreve oak (interior live oak) (*Quercus parvula* var. *shrevei*). The shrub layer in redwood forest habitats is generally sparse and uneven. The large shrub California hazelnut (*Corylus cornuta* var. *californica*) is widespread in redwood forests in the Santa Cruz area, generally occurring as scattered individuals. Evergreen huckleberry (*Vaccinium ovatum*) is another medium-sized to large shrub that is occasionally present. The low shrub creeping snowberry (*Symphoricarpos*

mollis), the woody vine Pacific blackberry, and poison-oak, occurring both as a shrub and as a vine, are widespread and locally abundant.

Redwood forests are typically characterized by deep shade and thick, acidic duff, which tend to inhibit the success of understory species. The forest floor in dense, well developed redwood forest is often nearly devoid of understory vegetation. Nevertheless, a number of herbaceous species are particularly characteristic of redwood forests (although some of these species may occasionally occur in moist mixed evergreen forest as well). These include sword fern (*Polystichum munitum*), redwood sorrel (*Oxalis oregana*), star-flower (*Trientalis latifolia*), trail plant (*Adenocaulon bicolor*), western wake-robin (*Trillium ovatum* ssp. *ovatum*) and two-eyed violet (*Viola ocellata*). Many of the characteristic herbs of the mixed evergreen forest (below) are also widespread in redwood forests, typically in more open areas with relatively thin duff.

Redwood forests occur only in the northern third of the city, on the lower slopes of the Santa Cruz Mountains proper in those portions of the city farthest from the immediate coast, and not on the coastal terraces and intervening canyons of the southern two-thirds of the city. The most extensive redwood forest areas within the city limits are in the northwestern portion of the city, on the UCSC campus and in Pogonip Park. More limited, but still sizable, areas of redwood forest occur in the canyons of Branciforte and Carbonera creeks in the Isbel Drive-Carbonera Drive area and in DeLaveaga Park.

Redwood – Douglas-fir/tanbark oak forest. This habitat type is an intermediate type between the redwood forest and mixed evergreen forest habitat types, and occurs on sites that are somewhat drier than those supporting typical redwood forests. Compared to typical redwood forest, the proportion of redwood in the forest canopy is lower and the proportion of Douglas-fir is higher. Broadleaved evergreen species such as tanbark oak, coast live oak, Shreve oak, and California bay are also more abundant than in typical redwood forest. Shrub and herb associates are primarily those characteristic of the mixed evergreen forest (below).

The only mapped area of redwood – Douglas-fir/tanbark oak forest within the city limits is located in the northern portion of the Moore Creek Preserve. Other areas referable to this habitat type may occur in Pogonip Park, on the UCSC campus, and elsewhere in the northern portion of the city, mapped as redwood forest or mixed evergreen forest.

Mixed evergreen forest. The mixed evergreen forest habitat type is developed on slopes, typically on drier sites than those supporting redwood forests, although mixed evergreen forest habitats are often relatively moist. Mixed evergreen forests are more extensive on south- and west-facing slopes, and often, but not always, occur upslope of redwood forest. As previously noted, mixed evergreen forest and redwood forest intergrade extensively in the Santa Cruz area, often reflecting a continuous moisture gradient.

Mixed evergreen forests range from dense, closed-canopy forests to relatively open forest with large canopy gaps, and may be savanna-like bordering grasslands, with scattered trees and large openings vegetated with typical grassland species. The dominant trees are predominantly broadleaved evergreen species. The most widespread dominant tree in mixed evergreen forests in the Santa Cruz area is coast live oak. In drier, more exposed areas particularly, coast live oak may be essentially the only canopy species, and the distinction between the mixed evergreen

forest and mixed evergreen forest (oak woodland) (below) habitat types is not always consistent in the mapping. Shreve oak is also widespread in mixed evergreen forests in the Santa Cruz area, and locally replaces coast live oak in northern parts of the city, although the two species sometimes occur together. Other tree species that are often dominants or important associates in mixed evergreen forests, especially on relatively moist sites, include California bay, Pacific madrone, Douglas-fir, tanbark oak, and redwood.

The shrub and vine component of mixed evergreen forests is typically similar to, but sometimes denser than, that of redwood forests. California hazelnut is frequent in the understory, and poison-oak, creeping snowberry, Pacific blackberry, and the woody vine hairy honeysuckle (*Lonicera hispidula* var. *vacillans*) are widespread and often locally abundant. A large number of native herbs are particularly characteristic of mixed evergreen forest habitats, although many of them also occur in redwood forests. Species include wood fern (*Dryopteris arguta*), yerba buena (*Satureja douglasii*), California hedge nettle (*Stachys bullata*), wood strawberry (*Fragaria vesca*), bracken fern, California brome (*Bromus carinatus* var. *carinatus*), Pacific sanicle (*Sanicula crassicaulis*), and others.

Mixed evergreen forests are widespread in the northern portions of the city, in Pogonip Park; in the Isbel Drive-Carbonera Drive area; in DeLaveaga Park; bordering Arana Gulch north of Highway 1, and especially on the UCSC campus. A large area of mixed evergreen forest extends southward from Pogonip Park into the area west of Harvey West Park and the Encinal Street area. Only fragmentary remnants of mixed evergreen forest occur elsewhere in the city.

Mixed evergreen forest (oak woodland). This habitat type is similar to mixed evergreen forest and may be regarded as a phase developed on relatively dry sites, often upper slopes. The tree canopy is overwhelmingly dominated by coast live oak, which may be virtually the only tree species present. Overall tree canopy density is typically less than in mixed evergreen forest on moister sites, and savanna-like areas, with large openings between trees containing grassland species, are common. The shrub, vine, and herb components of this habitat type are similar to that in mixed evergreen forest on moister sites, but is often less diverse.

A large area of mixed evergreen forest (oak woodland) is mapped on the slopes of a tributary canyon in the Moore Creek Preserve. Strips of coast live oak-dominated forest referable to this habitat type also occur bordering lower Arana Gulch and Hagemann Gulch. As noted previously, mapping of this habitat type is not consistent, and other areas mapped as “mixed evergreen forest” are referable to this habitat type.

Grassland. All grassland habitats within the city are here recognized as a single habitat type, grassland, with three subtypes, ‘coastal prairie’, ‘annual grassland/coastal prairie’ and ‘annual grassland’; the last two are discussed together. As discussed in more detail below, coastal prairie is characterized by dominance of native perennial bunchgrasses with an assortment of native herb associates (non-native species are generally also present); while annual grassland (California annual grassland) is largely dominated by non-native, mostly annual grasses, although native grasses and herbs are often also present. Although the distinction between these two grassland types is sometimes not sharp in the field, true coastal prairie, where found, represents a remnant of the original presettlement grassland in coastal northern and central California, and is a sensitive habitat type. Within the city limits, true coastal prairie is currently

mapped only in Pogonip Park, but it is likely that other grassland areas referable to coastal prairie occur elsewhere, within areas currently mapped as annual grassland/coastal prairie.

Coastal prairie. Several areas of grassland in Pogonip Park are mapped as coastal prairie (also referred to as coastal terrace prairie) (Santa Cruz Parks and Recreation Department 1998). Coastal prairie is the original, presettlement grassland type in the near-coastal areas of northern and central California (Heady et al. 1977). Coastal prairie is characterized by dominance of native perennial bunchgrasses, with a large suite of associated native annual and perennial herbs. However, grasses that are non-native and mostly annual have largely replaced the native perennial bunchgrasses in most of the remaining coastal grasslands, and such grasslands are referable to the annual grassland habitat type (below). Heady et al. (1977) lists the four major reasons for the decline of coastal prairie habitats as overgrazing; the introduction of aggressive, weedy non-native species; the cessation of frequent fires; and cultivation. Much coastal prairie habitat has also been lost, and much of the remainder fragmented, by urban development. The term "coastal prairie" is restricted to grasslands that retain the original dominance of native perennial bunchgrasses. In the Santa Cruz area, the principal native perennial bunchgrasses are purple needlegrass (*Nassella pulchra*) and California oatgrass (*Danthonia californica*). A variety of native herbs are associated with these bunchgrasses, including, at Pogonip Park, the special-status species San Francisco popcorn flower (*Plagiobothrys diffusus*), Santa Cruz clover (*Trifolium buckwestiorum*), and Gairdner's yampah (*Perideridia gairdneri* ssp. *gairdneri*). The coastal prairie areas at Pogonip Park are described more fully in Habitat Restoration Group's (HRG) Pogonip biotic assessment (1996b).

Annual grassland/coastal prairie and annual grassland. These two mapped habitat types are discussed together because there is often little or no difference between them and mapping is inconsistent. Annual grassland (also referred to as California annual grassland and non-native grassland) is the predominant grassland type in the Santa Cruz area. It occurs on all slope positions and all aspects, although generally on more or less exposed sites. It also occurs in nearly level upland areas and on coastal terraces. Although most areas of grassland in the Santa Cruz area are presumed to have been disturbed at least by heavy grazing at some time in the past, larger areas of grassland, such as the extensive grasslands on the UCSC campus, Pogonip Park, Arana Gulch, Lighthouse Field, Delavega Park and the Moore Creek Preserve, are probably "natural" in the sense that they were grasslands prior to European settlement of the area and were not created by artificial removal of woody vegetation, although the species composition of most of these grasslands has been greatly altered by grazing, other disturbances, and the introduction of weedy non-native species. Smaller areas of grassland within the city may either be remnants of "natural" grassland or grasslands that have developed following intensive disturbance.

Annual grassland is characterized by dominance of grasses that are primarily annual and non-native. In the Santa Cruz area, these include some combination of slender wild oat (*Avena barbata*), Italian rye grass (*Lolium multiflorum*, sometimes biennial), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), rattlesnake grass (*Briza maxima*), hare barley (*Hordeum murinum* ssp. *leporinum*), purple false brome (*Brachypodium distachyon*), dogtail grass (*Cynosurus echinatus*), six-weeks fescue (*Vulpia bromoides*), and rattail fescue (*Vulpia myuros*). A few non-native perennial grasses, such as Harding grass (*Phalaris aquatica*) and tall fescue (*Festuca arundinacea*), are occasionally dominant or abundant.

The native perennial bunchgrasses purple needlegrass and California oatgrass often occur in grassland areas mapped as annual grassland and annual grassland/coastal prairie, and occasionally one or both of these grasses is dominant. Purple needlegrass is the more abundant and widespread of these native bunchgrasses. Although the two species often occur intermixed, purple needlegrass typically grows on drier sites with better-drained soil, while California oatgrass tends to occupy moister sites, often with less well-drained soil. Areas dominated by one or both of these grasses may be regarded as remnants of the original perennial bunchgrass-dominated coastal prairie grassland of the Santa Cruz area, or as degraded coastal prairie, especially if the diversity of native coastal prairie-associated herbs is high.

Some annual grassland areas, especially, smaller, more isolated areas in the central portions of the city as well as elsewhere, show evidence of intensive and repeated past disturbance and are more or less ruderal[5] in character. In these areas, the vegetation is composed almost entirely of non-native grasses and weedy annual and perennial non-native herbs, and native species are few and uncommon. Where the grasslands have less disturbance history, an assortment of native herb species, many of them more or less associated with coastal prairies, is often present. Characteristic non-native herbs, found more or less throughout the grasslands in the Santa Cruz area, include hairy cat's-ear (*Hypocharis radicata*), long-beaked filaree (*Erodium botrys*), white-stemmed filaree (*Erodium moschatum*), English plantain (*Plantago lanceolata*), common vetch (*Vicia sativa*), wild radish (*Raphanus sativus*), Italian thistle (*Carduus pycnocephalus*), black mustard (*Brassica nigra*), narrow-leaved clover (*Trifolium angustifolium*), and others. Characteristic native species, most abundant and most diverse in larger, less disturbed grassland areas, include California poppy (*Eschscholzia californica*), blue-eyed grass (*Sisyrinchium bellum*), checker bloom (*Sidalcea malvaeflora* cf. ssp. *malvaeflora*), sky lupine (*Lupinus nanus*), sun cups (*Camissonia ovata*), coast tarplant (*Madia sativa*), Johnny-jump-up (*Viola pedunculata*), and golden brodiaea (*Triteleia ixioides*).

Coyote brush frequently invades grasslands in the Santa Cruz Mountains, and there are many areas intermediate between grassland and the coyote brush scrub phase of coastal scrub. Some of these areas may be actively succeeding from grassland to scrub as coyote brush expands in cover and density. This successional trend may be related to prolonged absence of fire, which would largely eliminate invading coyote brush.

Sandy beach. Sandy beaches are often unvegetated. Where vegetated, if native species are present, sandy beaches are referable to the coastal strand habitat type. There is a nearly continuous strip of sandy beach over a mile long in the eastern portion of the city, on both sides of the mouth of the San Lorenzo River. This includes the main city beach adjacent to the Beach Street area. Small, isolated sandy beaches (pocket beaches) occur interspersed with sea cliffs in the western portion of the city, most notably at Natural Bridges State Park and at Younger Lagoon on the UCSC Long Marine Laboratory site. Many of the beach areas within the city are heavily disturbed, primarily by recreational use. These areas are typically either unvegetated or support mostly weedy non-native species. Some areas do support characteristic native coastal strand species, including beach-bur (*Ambrosia chamissonis*), beach evening-primrose

5 "Ruderal" = disturbed by human activities

(*Camissonia cheiranthifolia* ssp. *cheiranthifolia*), beach morning glory (*Calystegia soldanella*), pink sand verbena (*Abronia umbellata* ssp. *umbellata*), and yellow sand verbena (*Abronia latifolia*).

Cliff. The cliff habitat type is used for coastal bluffs directly facing the ocean and for areas of thin, sometimes rocky soil immediately adjacent to the tops of the coastal bluffs. Many areas of this habitat type within the city have a long history of extensive disturbance, and are often dominated by weedy non-native species. The mat-forming non-native succulents ice plant (*Carpobrotus edulis*) and sea fig (*Carpobrotus chilensis*) dominate extensive areas. Native species characteristic of undisturbed coastal bluff habitats, such as the shrub lizard tail (*Eriophyllum staechadifolium*) and herb species such as coast buckwheat (*Eriogonum latifolium*), seaside daisy (*Erigeron glaucus*), yarrow (*Achillea millefolium*), and sea lettuce (*Dudleya caespitosa*), are also often present and are locally dominant, especially in areas protected from disturbance by the steep topography.

The only areas mapped as "cliff" within the city are along the coastal bluffs in the extreme western portion of the city. Other areas referable to this habitat type may occur within areas mapped as "developed" in the vicinity of West Cliff Drive in the western portion of the city and East Cliff Drive in the eastern portion of the city.

Ruderal/landscaped/ornamental. Areas mapped as ruderal/landscaped/ornamental are heterogeneous in character, but all are characterized by some form of development, past or ongoing heavy disturbance or dominance of non-native plant species. This habitat type is not entirely distinct from the developed habitat type (below). The most extensive areas mapped as ruderal/landscaped/ornamental are areas dominated by non-native tree species that are large enough and have a dense enough tree canopy to be considered forests. The most widespread non-native tree in these stands, which often dominates sizable areas, is blue gum eucalyptus (*Eucalyptus globulus*). Other important, and sometimes dominant, non-native trees include Monterey pine (*Pinus radiata*, native to small areas on the coast, including and northwestern Santa Cruz County, but naturalized in the vicinity of Santa Cruz), Monterey cypress (*Cupressus macrocarpa*, native to the Monterey area, but naturalized in the vicinity of Santa Cruz), and acacias or wattles (*Acacia* spp., several species). In some canyons in DeLaveaga Park mapped as this habitat type, English elm (*Ulmus minor*) is the dominant non-native tree species. Native tree species such as coast live oak sometimes occur in these stands, but are never dominant. Other areas mapped as ruderal/landscaped/ornamental include some areas with residential development; some prominent landscaped areas; and some purely ruderal areas (heavily disturbed areas with mostly weedy vegetation).

Agricultural. Exclusive of private gardens, there are only a few small areas within the city limits where crops are cultivated (e.g., off Shaffer Road in the southwestern portion of the city and in the Golf Club Drive area). These are mapped as "developed".

Developed. The developed habitat designation is used for all the heavily urbanized core areas of the city as well as most areas of residential or other development in outlying portions of the city (some are mapped as ruderal/landscaped/ornamental). Developed areas are mostly occupied by buildings, streets, driveways, parking areas, lawns, and landscaped areas, and include many heavily disturbed ruderal sites, including small areas which may be considered ruderal annual

grassland. Many landscaped city park areas are included in this habitat designation. Most of the vegetation in such areas, exclusive of landscaping species, consists of weedy non-native species, although native trees such as coast live oak and redwood are widespread in developed areas, where they have often been planted.

Sensitive Habitats

Five of the habitat types described as occurring within the City of Santa Cruz are recognized as sensitive habitat types: aquatic, salt marsh, freshwater wetland, riparian forest and scrub, and coastal prairie. Except for aquatic habitat and freshwater wetland, these habitat types correspond to habitat types that the California Natural Diversity Data Base (CNDDB) has designated as "high priority" for inventory (CDFG 2003a), as discussed below. In addition, coastal bird rookeries and dispersal corridors may be considered sensitive habitats.

Aquatic. Habitats for listed species are recognized as sensitve. Several aquatic environments within the City of Santa Cruz provide habitat for federally listed species, including the San Lorenzo River for the tidewater goby, steelhead, and coho salmon; and Arana Gulch and the Yacht Harbor for steelhead and the southern sea otter.

Freshwater wetland. Freshwater wetlands are recognized as sensitive habitats because they are subject to the jurisdiction of U.S. Army Corps of Engineers under Section 404 of the federal Clean Water Act (33 U.S.C. 1344) (Environmental Laboratory 1987) and because they provide important wildlife habitat. In the classification scheme of CDFG (2003a; 2010), the freshwater wetlands within the city mostly correspond to marsh habitat types that are not all designated as "high priority" by CNDDB. However, some freshwater wetlands dominated by tules (bulrushes; *Bulboschoenus* spp., *Schoenoplectus* spp.) are referable to alliances of CDFG (2010), which are recognized as CNDDB "high priority" habitat types.

Salt marsh. The salt marsh located within the city corresponds mostly to the *Sarcocornia pacifica* (*Salicornia depressa*) [=*Salicornia virginica*] (pickleweed mats) alliance, which is recognized as a "high priority" habitat type by CNDDB (2010). The only mapped area of salt marsh in the city is within Natural Bridges State Beach, on the west side of Moore Creek just inland of the beach.

Riparian forest and scrub. The riparian forest and scrub habitats within the city mostly correspond to CNDDB "high priority" habitat types (CDFG 2003a, 2010). The most widespread riparian forest type within the city, dominated by arroyo willow, is referable to the CNDDB "high priority" arroyo willow riparian forests and woodlands alliance. Depending on the dominant tree species, other riparian forests are referable to the *Salix lucida* (shining willow groves), mixed willow riparian forests and woodlands, *Populus trichocarpa* [= *Populus balsamifera* ssp. *trichocarpa*] (black cottonwood forest), and *Alnus rubra* (red alder forest) alliances. (The red alder forest alliance is not specifically designated as a CNDDB "high priority" habitat type, but most associations recognized under this alliance by CDFG (2003a, 2010) are recognized as "high priority".) Riparian scrub within the city, which occurs mostly in the San Lorenzo River channel, corresponds to the central coast riparian scrub alliance of CDFG (2003a), which is recognized as a "high priority" habitat type.

Coastal prairie. Coastal prairie in the Santa Cruz area corresponds to the coastal terrace prairie alliance of CDFG (2003a; 2010), previously recognized by Holland (1986), which is designated as a CNDDB "high priority" habitat type. The only areas within the city specifically mapped as coastal prairie by any previous study are those mapped in Pogonip Park (Santa Cruz Parks and Recreation Department 1998). Other areas referable to coastal prairie may occur in grassland areas within the city, but have not been mapped. Distinguishing coastal prairie from annual grassland is often problematical because some local grassland areas may be partly dominated by native perennial bunchgrasses and contain other native coastal prairie species, but also be heavily invaded by non-native species. To be considered coastal prairie, a stand of grassland should be essentially dominated by native perennial bunchgrasses and have a predominance of native over non-native herb species.

Coastal bird habitat. The bluffs, cliffs, seastacks, rock outcrops, and small coastal islands along the shoreline from Cowell's Beach to Younger Lagoon provide roosting and perching, foraging, and breeding habitat for numerous coastal bird species. Structures on the Santa Cruz Municipal Wharf and Santa Cruz Yacht Harbor also provide communal roosting habitat, while other birds nest in the trees and scrub that line the city's aquatic environments. These areas provide suitable breeding habitat because they lie beyond the reach of waves and high tide marks, offer protection from predators, and provide perches for resting and drying out. They are located near the biologically diverse surroundings of estuarine and riverine environments, lagoons and ponds, sandy beaches, and shallow ocean waters. A variety of food sources are available, including insects, fish, crustaceans, mollusks, and aquatic invertebrates, as well as amphibians, small birds and mammals. A number of bird species are known to roost and breed within the coastal habitat of the City of Santa Cruz, including the following special-status birds: brown pelican (*Pelecanus occidentalis*), double-crested cormorant (*Phalacrocorax auritus*), black-crowned night heron (*Nycticorax nycticorax*), and black oystercatcher (*Haemotopus bachmani*); as well as other cormorant (*Phalacrocorax sp.*) and heron species, gulls (*Larus sp.)*, the great egret (*Ardea albus*), the common merganser (*Mergus merganser*), and the pigeon guillemot (*Cepphus Columba*).

During the 2006 summer survey of the coastline within the city that EcoSystems West conducted as part of General Plan Update, we identified 28 nest colonies and communal roost locations. The 'seabirds' feature class within the geodatabase created as part of the project identifies their location, species of birds, and seasonality of the sites' use. Surveys conducted in additional years would likely reveal additional roosting and nesting locations along the coast. Thirteen of the sites observed in 2006 support breeding seabirds. The remaining sites were observed to support roosting seabirds.

The birds identified during the 2006 survey are listed in the Table 2. Occurrences of birds breeding and roosting in coastal habitat compiled from other data sources are also noted.

Table 2. Birds Known to Utilize Coastal Habitat for Roosting and/or Breeding within the City of Santa Cruz.

Common Name *Scientific Name*	**Special-Status**	**General Location**
Brown Pelican *Pelecanus occidentalis*	x	Shoreline from Lighthouse Point to (Younger Lagoon)[1&2] Municipal Wharf[3] San Lorenzo River[4].
Pelagic Cormorant *Phalacrocoraxpelagicus*		Natural Bridges (Younger Lagoon)[1]
Brandt's Cormorant *Phalacrocorax penicillatus*		Natural Bridges Lighthouse Point Area[1]
Double-crested Cormorant *Phalacrocorax auritus*	x	Shoreline from Lighthouse Point to Natural Bridges Antonelli Pond Neary Lagoon Westlake Pond San Lorenzo River Arana Gulch Santa Cruz Yacht Harbor (Schwan Lagoon)[1&2]
Great Egret *Ardea albus*		lower Branciforte Arana Gulch Santa Cruz Yacht Harbor[2]
Great Blue Heron *Ardea herodias*		Pogonip lower Branciforte Creek[2] Arana Gulch Santa Cruz Yacht Harbor[1, 2, & 5]
Green Heron *Butorides virescens*		Antonelli Pond lower Moore Creek San Lorenzo River lower Branciforte Creek[2]
Black-crowned Night Heron *Nycticorax nycticorax*	x	Antonelli Pond Neary Lagoon lower San Lorenzo River Branciforte Creek upper Santa Cruz Yacht Harbor[2]
Common Merganser *Mergus merganser*		lower San Lorenzo River[2]
Black Oystercatcher *Haemotopus bachmani*	x	Shoreline from Cowell's Beach to (Younger Lagoon)[1&2]
Heerman's Gull *Larus heermanni*		Natural Bridges Lighthouse Point Area[1]
Western Gull *Larus occidentalis*		Shoreline and private residences from Cowell's Beach to (Younger Lagoon) Municipal Wharf[2]
Pigeon Guillemot *Cepphus columba*		Shoreline from Cowell's Beach to (Younger Lagoon) Municipal Wharf[1&2]

Notes:
( ) = Locations outside of the city limits.
1 2006 Surveys conducted by EcoSystems West
2 Gerow (2006)
3 Entrix (2004a)
4 Swanson et al. 2002
5 Santa Cruz Parks and Recreation Department 2006

Dispersal Corridors

Dispersal corridors, also called movement corridors, wildlife corridors or landscape linkages, are features whose primary function is to connect at least two isolated habitat areas (Bond 2003). In 1992, Beier and Loe provided a basic description of the functions of corridors:

> Corridors provide avenues along which (1) wide ranging animals can travel, migrate, and meet mates…(2) plants can propagate…(3) genetic interchange can occur…(4) populations can respond to environmental change…[and] (5) locally extirpated populations can be replaced from other areas.

Hilty, Lidicker, and Merenlender (2006) define corridors as any space identifiable by species using it that facilitates the movement of animals and plants over time between two or more otherwise disjunct habitats (Lidicker 1999). In the urban/open space interface, corridors provide links between different types of habitat areas, including core habitat, supportive natural landscapes or habitat patches, and linear habitats, as described below.

Many undeveloped or natural areas serve as core habitats for a variety of plant and wildlife species. Core habitat areas are generally considered to support the viability of rare plant or animal species or consist of exemplary natural communities. Providing functional connectivity between core habitats through corridors is essential to sustaining healthy plants and wildlife populations and allowing for the continued dispersal of native plant and animal species.

Other areas may lack the requisite structural or spatial heterogeneity to be considered core habitat; but still provide relictual habitat for rare plants as well as opportunities to wildlife for forage, cover, and shelter. These areas may be considered habitat patches or supportive natural landscapes. Habitat patches may provide opportunities to manage and enhance rare plant populations.

Riparian corridors and streamside buffers in agricultural or developed landscapes provide habitat for plants, canopy cover, opportunities for foraging, and refuge from predators for wildlife species; in addition, riparian corridors and buffers offer plants and wildlife the opportunity to disperse (Beier and Loe 1992). In these ways, creeks and creekside buffers serve as both linear habitats and corridors. Because riparian corridors support a disproportionate amount of biodiversity compared to other landscapes (Harris et al. 1996), retaining adequate riparian buffers enhances species richness by providing additional habitat (Hilty, Lidicker, and Merenlender 2006) with high quality habitat features. Often the boundaries between riparian corridors and buffers are ecotones or edge habitats, where two or more habitat types share a common boundary, potentially increasing available resources for wildlife. When riparian corridors and buffers serve to link core habitats and habitat patches (and thus allow movement between otherwise separate populations) the persistence of wildlife populations increases (Hilty, Lidicker, and Merenlender 2006). Links between core habitats and supportive natural landscapes also serve as dispersal corridors for plant species, through seed and vegetative dissemination or wildlife transport. Together, corridors, linear habitats, and supportive natural landscape areas help maintain ecological integrity and enhance core habitat.

Interferences to the movement patterns of wildlife through dispersal corridors are considered significant under CEQA. Determining the frequency of wildlife passing through proposed development sites, and determining the buffer width needed to maintain corridor utility should be considered in the planning process of parcels located along potential wildlife dispersal routes. Corridors can be incorporated into the design of a development project by conserving an existing landscape or restoring habitat to function as a connection between larger undeveloped or natural areas (Bond 2003).

Core habitats within the City of Santa Cruz include the open, undeveloped, and natural areas, such as UCSC campus lands, Moore Creek Preserve and Meder Canyon, Pogonip, and Delaveaga Park. Arana Gulch is considered a supportive natural landscape or habitat patch. Many of the undeveloped parcels within the City provide linear habitat or supportive natural landscapes for plants and animals and may fall within dispersal corridors. The City's watercourses serve both as linear habitats and provide dispersal to and from the core habitats and habitat patches listed above. Using the high resolution aerial imagery of the city in the project GIS, we identified three main landscape linkages that could provide connectivity between habitats within or adjacent to the city:

Western Corridor. Intact riparian vegetation along Moore Creek, along with adjacent intact grasslands and forests, could provide a link between core habitat areas on the western portion of the city, including habitat located on UC Santa Cruz campus, Moore Creek Preserve, Natural Bridges and Younger Lagoon (also a part of the UC Santa Cruz Campus). This western corridor includes a mosaic of largely intact vegetation located along the adjacent drainage east of the upper reach portion of Moore Creek. For some wildlife species, Highway 1 could present a barrier to migration, while other species might find this relatively narrow section of the Highway somewhat permeable.

Central Corridor. The San Lorenzo River and two of its main tributaries, Branciforte Creek and Carbonera Creek, create a potential dispersal corridor in the central portion of the city. Here, a relatively narrow strip of riparian habitat could provide opportunities for wildlife movement between the San Lorenzo River lagoon region and core habitat located within and adjacent Pogonip, UC Santa Cruz, and Henry Cowell (via the San Lorenzo River) and De Laveaga Park, via Branciforte and Carbonera Creeks. The majority of this corridor occurs near the western portion of De Laveaga park around Carbonera and Branciforte Creeks.

Eastern Corridor. Intact riparian, grassland, and other native forest along with dense eucalyptus groves located along Arana Gulch create a potential corridor for wildlife movement on the eastern portion of the city. For some species, such as birds, this corridor could link habitat near the mouth of the Yacht Harbor with core habitat on the eastern edge of De Laveaga Park. Other species, including most mammals, are unlikely to be able to migrate between the northern and southern portions of this corridor, which is bisected by Highway 1—a two lane highway that is currently being widened to three lanes in this region.

No studies have been conducted to determine which species utilize the linear habitats and dispersal corridors within the city, the frequency of wildlife movement through corridors, or the buffer width necessary to maintain corridor utility. More research would be needed to obtain this data.

Special-status Plants

Special-status species include species listed as Threatened or Endangered under provisions of the federal ESA (USFWS 2007a); and species listed as Rare, Threatened, or Endangered by the state of California under provisions of the CESA and NPPA (CDFG 2007a). Species formally Proposed for federal listing by the USFWS (2007b) are afforded limited legal protection under ESA. The Natural Heritage Division of CDFG administers the state rare species program and maintains the list of designated Endangered, Threatened, and Rare species.

Other special-status species are those on List 1A, List 1B, or List 2 CNPS *Inventory* (Tibor 2001 and CNPS 2012). These species are subject to state regulatory authority under CEQA.

Also considered as special-status species are those included on List 3 and List 4 of the CNPS *Inventory*. These species are considered to be of lower sensitivity, and generally do not fall under specific state or federal regulatory authority. Specific mitigation considerations are generally not required for species in these categories but are recommended. Table 3 summarizes the habitats and locations of special-status plants known to occur in the City of Santa Cruz.

Santa Cruz manzanita (*Arctostaphylos andersonii*). Santa Cruz manzanita is listed on List 1B of the CNPS *Inventory* (Tibor 2001 and CNPS 2012) and, therefore, falls under CEQA regulatory authority. It has no other federal or state status. Santa Cruz manzanita is a medium-sized to large shrub in the heath family (Ericaceae). It has the smooth, reddish-brown bark characteristic of all manzanita species. The leaves have no petiole (stalk) or only a very short petiole, more or less clasp the stem, and are more or less auriculate (having ear-like projections) at the base of the leaves. These leaf characteristics separate Santa Cruz manzanita from other manzanita species with which it grows, although some other species with similar leaves (all of them also special-status species) have ranges bordering the range of Santa Cruz manzanita. Clusters of white, urn-shaped flowers are produced from November to April. Santa Cruz manzanita apparently does not reproduce except following fire or other disturbances. Unlike some manzanita species, it has no basal burl that can sprout following fire, and so regenerates itself only from seed.

Santa Cruz manzanita grows in maritime chaparral in Santa Cruz, Santa Clara, and southern San Mateo counties (Hickman 1993; Tibor 2001; Baldwin et al. 2012; CNPS 2012). Earlier reports of it ranging into northern San Mateo County and San Francisco (Thomas 1960; Munz and Keck 1973) are based on confusion of this species with closely related but distinct species, especially Kings Mountain manzanita (*Arctostaphylos regismontana*). Santa Cruz manzanita is locally relatively abundant in the central Santa Cruz Mountains. The CNDDB has records for 21 occurrences in Santa Cruz County, some of which may represent portions of larger, extended single occurrences.

Within the city limits of Santa Cruz, EcoSystems West biologist Nick Fisher observed a single individual of Santa Cruz manzanita growing at the top of the cliff on the north side of Kalkar Quarry in fall 2006. Santa Cruz manzanita is also widespread on the U.C. Santa Cruz campus (EcoSystems West 2004), mostly on the northern portion of the campus but extending into the portion of the campus within the city limits. The U.C. Santa Cruz occurrence of Santa Cruz manzanita is CNDDB Occurrence No. 25. Isolated individuals or small colonies of Santa Cruz manzanita may occur at Pogonip Park, Delaveaga Park or in other northern portions of the city.

Table 3. Status, habitat, and location of special-status plants occuring in the City of Santa Cruz, California.

Species Common Name[1]	USFWS Listing[2]	State Status[3]	CNPS Status[4]	Habitat Type[5]	Flowering Period	Occurrence
Arctostaphylos andersonii Santa Cruz manzanita	None	None	List 1B.2	Chaparral; openings in and edges of broadleafed upland forest and north coast coniferous forest	November-April	Kalkar Quarry[6 & 7] Pogonip (P)[8] Delaveaga (P)[8] (UCSC[10])[9]
Chorizanthe robusta var. *robusta* robust spineflower	Endangered	None	List 1B.1	Coastal dunes, coastal scrub, openings in cismontane woodland, in sandy or gravelly soil	April-September	Pogonip[7 & 11] Private Parcel-Market St
Holocarpha macradenia Santa Cruz tarplant	Threatened	Endangered	List 1B.1	Coastal prairie, valley and foothill grassland, coastal scrub, often in clay or sandy soils	June-October	Arana Gulch[7] Delaveaga Park[7]
Perideridia gairdneri ssp. *gairdneri* Gairdner's yampah	None	None	List 4.2	Moist sites in coastal prairie, broadleafed upland forest, chaparral, valley and foothill grassland, vernal pools	June-October	Pogonip[9]
Plagiobothrys chorisianus var. chorisianus Choris's popcorn-flower	None	None	List 1B.2	Moist places in chaparral, coastal prairie, coastal scrub	March-June	Lighthouse Field[12] Arana Gulch[13]
Plagiobothrys chorisianus var. *hickmanii* Hickman's popcorn-flower	None	None	List 4.2	Moist places in closed-cone coniferous forest, chaparral, coastal scrub, marshes and swamps, vernal pools	April-June	Arana Gulch[13]
Plagiobothrys diffusus San Francisco popcornflower	None	Endangered	List 1B.1	Coastal prairie; valley and foothill grassland	March-June	Moore Creek Preserve[7, 14 & 15] Private Parcel- Meder St[14] Pogonip[7 & 9]
Trifolium buckwestiorum Santa Cruz clover	None	None	List 1B.1	Coastal prairie; margins of broadleafed upland forest, cismontane woodland	April-October	Pogonip[7]

Notes:
[1] Nomenclature follows Tibor (2001), Baldwin et al. (2012) and California Native Plant Society (2012).
[2] U.S. Fish and Wildlife Service (2006a,b,c).
[3] Section 1904, California Fish and Game Code (California Department of Fish and Game 2006a)
[4] Tibor (2001) and California Native Plant Society (2012)
CNPS Lists: List 1B: Rare, Threatened, or Endangered in California and elsewhere. List 4: Plants of limited distribution: a watch list
Threat Code extensions: .1: Seriously endangered in California. .2: Fairly endangered in California.
[5] Thomas (1960), Munz and Keck (1973), Hickman (1993), Tibor (2001), Morgan et al. (2005), Baldwin et al. (2012), California Native Plant Society (2012), and unpublished information
[6] EcoSystems West (ESW) 2006 Surveys
[7] CNDDB (2007)
[8] (P) = Potential Habitat
[9] ( ) = Locations outside of the city limits
[10] EcoSystems West (2004)
[11] Santa Cruz Parks and Recreation Department (1998)
[12] Strelow Consulting (2003b)
[13] Brady/LSA (1999)
[14] Santa Cruz Parks and Recreation Department (2002)
[15] Biotic Resources Group with Dana Bland and Associates (2001)

Robust spineflower (*Chorizanthe robusta* var. *robusta*). Robust spineflower was listed as Endangered by the USFWS in 1994 (USFWS 1994, 2007a). It is also listed on List 1B of the CNPS *Inventory* (Tibor 2001 and CNPS 2012). On May 28, 2002, pursuant to the Endangered Species Act of 1973, the USFWS designated critical habitat for robust spineflower (USFWS 2002a). In 2004, USFWS published a recovery plan for the species (USFWS 2004). This recovery plan details actions that are believed by USFWS to be required to recover and protect the species, and establishes criteria for determining the success of recovery.

Robust spineflower is a small, branched, erect to decumbent annual herb in the buckwheat family (Polygonaceae). It germinates following the onset of winter rains and produces a rosette of oblanceolate basal leaves. The plants bolt (produce flowering stems) in the spring and flower primarily from April to June, although some flowers may be present until September or later. The stem leaves (actually bracts) are small and relatively few. The herbage is soft-hairy and generally grayish or reddish in color. The small white (to pale pink) flowers are arranged in dense rounded heads. Each flower, or pair of flowers, is subtended by a six-lobed involucre whose margins are translucent white (rarely pinkish) and whose lobes are tipped by small hooked awns. Each flower produces a single seed. The species is self-compatible and will self-fertilize to some extent in the absence of insect pollination; however, seed set has been shown to be much higher when flowers are pollinated by insects (Murphy 2003). Murphy observed a wide variety of insects that appeared to be effective pollinators of robust spineflower, including members of 13 families in four insect orders. The order Hymenoptera (five families, including solitary bees, social bees, and wasps, were the most frequent visitors; flies (order Diptera, three families), beetles (order Coleoptera, two families), and butterflies (order Lepidoptera, three families) were also important apparent pollinators. Seeds are set in late summer and fall. The involucral awns may be important in facilitating animal dispersal of seed.

The common habitat factor for all known robust spineflower sites is sandy soil (Munz and Keck 1973; Hickman 1993; USFWS 1994, 2002a, 2004; Tibor 2001; Baldwin et al. 2012; CNPS 2012). The substrate can be active dune sands near the immediate coast or old marine sand deposits somewhat further inland. The species occurs on active dunes and in openings within scrub, maritime chaparral, or oak woodland habitats. The relatively nutrient-poor sandy soils on which it grows tend to limit the abundance of competing species, creating relatively open habitat.

Robust spineflower (or forms closely related to it) is known historically from near the coast and around San Francisco Bay from Alameda and San Mateo counties to northern Monterey County, and extending southward into the Salinas Valley in interior Monterey County (Munz and Keck 1973; Hickman 1993; USFWS 1994, 2002a; Tibor 2001; CNDDB 2007; Baldwin et al. 2012; CNPS 2012;). Some botanists familiar with this group of spineflowers have questioned whether the Alameda County and Salinas Valley populations, and one extant population in northern Monterey County, represent "true" *Chorizanthe robusta* var. *robusta* (USFWS 2002a). Several populations of spineflower identified as *Chorizanthe robusta* var. *robusta* have also been found in recent years in Point Reyes National Seashore in Marin County (USFWS 2004 and CNDDB 2007), but the identity of these populations has also been questioned.

Within the city limits of Santa Cruz, robust spineflower is known from two locations at Pogonip Park and from a site on private land between Market Street and Branciforte Creek, just north of Highway 1. The two sites at Pogonip Park are CNDDB Occurrence Nos. 6 and 7, and together are designated (along with surrounding unoccupied habitat) as the Pogonip critical habitat unit,

or Unit A, by USFWS (2002a). Both of these colonies occupy limited areas in open sites with sandy soil (Santa Cruz Parks and Recreation Department 1998 and USFWS 2002a). The larger colony is located off the Pogonip Creek Trail, and the smaller colony is located south of the Brayshaw Trail.

The Market Street/Branciforte Creek population of robust spineflower is not recorded in the CNDDB, but has been designated by USFWS (2002a) as the Branciforte critical habitat unit, or Unit B. On this site, robust spineflower occurs in grassland on a moderate south- to southwest-facing slope, in sandy soil mapped as Baywood loamy sand and Elder sandy loam (Bowman and Estrada 1980; Alexander 2006). Based on surveys and mappings conducted in different years since 2000, it appears that the area occupied by robust spineflower on the site varies somewhat from year to year, while the reported numbers of plants has differed substantially in different years. USFWS (2002a) states that approximately 500 individuals were present in 2001; while USFWS (2004) states that this population "numbers between 1,000 and 2,000 individuals". Harvey & Associates (2004) estimated that approximately 250 spineflower plants were present on the site in 2002. Although no census was conducted, it was estimated that at least 250 plants were present in 2005, and that over a thousand plants were present in 2006 (RBF Consulting 2006). This site is currently proposed for a residential housing development; however, project plans call for the robust spineflower habitat to be preserved as permanent open space and for a management plan to be prepared (RBF Consulting 2006).

Santa Cruz tarplant (*Holocarpha macradenia*). Santa Cruz tarplant was listed as Threatened by USFWS in 2000 (USFWS 2000, 2007a) and was state listed as Endangered in 1979 (CDFG 2007a). It is also listed on List 1B of the CNPS *Inventory* (Tibor 2001 and CNPS 2012). The USFWS designated critical habitat for Santa Cruz tarplant on October 16, 2002 (USFWS 2002b). A recovery plan for this species has not been published to date.

Santa Cruz tarplant is a small to medium-sized, annual herb in the sunflower family (Asteraceae) that glandular, aromatic, and more or less sticky to the touch, and produces solitary or clustered flower heads with short but prominent yellow ray flowers. The lower leaves are broadly linear with slender remote teeth. The upper leaves are narrower and shorter, often crowded or clustered, and tipped by a prominent cup-shaped open pit gland. The flower heads occur singly or in tight clusters of a few heads each at the tips of the branches, and sometimes are also more or less sessile along the upper branches. The heads are subtended by a subglobose involucre composed of a single series of narrow phyllaries (bracts). Each phyllary has about 25 stout gland-tipped projections, and is also tipped by an open pit gland. The rays (outer flowers, simulating petals) are about 8-16 in number, yellow, and three-lobed at the apex, and are more or less enveloped by the phyllaries. The less prominent disk flowers in the center of the head are yellow with black anthers.

Plants germinate following winter rains and produce a basal rosette. The plants bolt in late spring and flower from June to October. The leaves at the base of the plant are mostly lost before flowering. Santa Cruz tarplant is self-incompatible; that is, it cannot produce seed without cross-pollination between different individual plants, generally effected by insects (USFWS 2002b). Seed is set in the fall, and the sticky-glandular phyllaries surrounding the achenes (dry, hard, one-seeded fruits) produced by the ray flowers and presumably aid in the dispersal of the ray-achenes by animals. Numbers of flower heads, and thus the number of seeds produced per plant, varies greatly from plant to plant. Achenes produced by the disk flowers germinate readily but

appear to lose viability within about 18 months, while the ray-achenes germinate much less readily, but remain viable for many years (USFWS 2002b). The disk-achenes thus typically mostly reproduce the population from year to year, while the ray-achenes provide a persistent seed bank whose seeds will germinate slowly over a period of years, and provide some insurance against catastrophic population failure due to one or a few years of unfavorable environmental conditions.

Santa Cruz tarplant occurs, and historically occurred, in grasslands located on coastal terraces and alluvial flats near the coast below 100 meters (330 feet) elevation (Palmer 1987; USFWS 2000, 2002b). Historically, these grasslands belonged to the coastal prairie (coastal terrace prairie) habitat type (Heady et al. 1977), characterized by dominance of native perennial bunchgrasses. Although sites currently supporting Santa Cruz tarplant may retain characteristics of the original coastal prairie grasslands, the native perennial bunchgrasses on most of these sites have largely been replaced by non-native annual grasses characteristic of the California annual grassland habitat type. A wide variety of non-native herb species have also become abundant in these grasslands.

Santa Cruz tarplant occurs both at very low elevation on relatively young coastal terraces near the ocean and on older coastal terraces located slightly more inland and at slightly higher elevations. The species appears to be mostly restricted to certain soil types, especially loams and sandy loams of the Watsonville, Tierra, Elkhorn, Santa Inez, and Pinto soil series (USFWS 2002b). These soils typically have a subsurface clay-rich layer, and therefore hold moisture for relatively late in the growing season.

There is considerable evidence indicating that Santa Cruz tarplant is a poor competitor against aggressive weedy non-native grasses and herbs (USFWS 2000, 2002b; Hayes 2002, 2003; Bainbridge 2003; BMP Ecosciences 2006). Under present-day conditions, grazing or some other periodic disturbance may be required to reduce competition from non-native species and maintain habitat conditions suitable for Santa Cruz tarplant. A variety of active management techniques attempting to enhance habitat for Santa Cruz tarplant, including mowing, raking to remove thatch, scraping of the surface soil, and controlled burns, have been tried, both experimentally (Hayes 2002, 2003; Bainbridge 2003) and as part of actual management regimes (Brady/LSA 1999), often with some success.

Santa Cruz tarplant historically occurred around the northern and eastern sides of San Francisco Bay from Marin County to Alameda County, and around the northern end of Monterey Bay from Santa Cruz to extreme northern Monterey County (Palmer 1987; USFWS 2000, 2002b; Tibor 2001; CNPS 2012). All known historic native populations in the San Francisco Bay area are now extirpated. The only remaining populations in that area are artificially established populations on sites in Contra Costa County that did not historically support the species (USFWS 2000, 2002b). According to CNDDB records, about 24 Santa Cruz tarplant populations were known historically from Santa Cruz County, with one additional population in Monterey County (CNDDB 2007). CNDDB records indicate that at least 11 of the Santa Cruz County populations are extirpated or possibly extirpated. As of 2002, approximately 12 Santa Cruz County populations and the one Monterey County population were known to be extant or had been observed since 1990 (USFWS 2002b). Seven of these populations are located in the vicinity of Santa Cruz and Soquel, and the remaining six are located in the vicinity of Watsonville in southern Santa Cruz and northwestern

Monterey counties. Most of those populations have declined substantially since the early 1990s, apparently due to cessation of grazing and other changes in grassland management practices.

Santa Cruz tarplant is known from two locations within the Santa Cruz city limits: the Arana Gulch Open Space Preserve and within DeLaveaga Park. The Arana Gulch occurrence is CNDDB Occurrence No. 6 and is designated by USFWS (2002b) as the Arana Gulch critical habitat unit, or Unit D. It is located in a grassland area on a low, young coastal terrace on Elkhorn sandy loam soil (Bowman and Estrada 1980). The plants in the Arana Gulch population differ from those in other populations of the species by chromosome arm arrangements (Palmer 1987), making this population especially important for conservation of the genetic diversity of the species. This occurrence has been observed and monitored extensively since its discovery in 1977 or earlier (Stone 1989; HRG 1993, 1996a; Brady/LSA 1999; BMP Ecosciences 2006; Santa Cruz Parks and Recreation Department 2006). Originally, four distinct sub-populations were present, designated as areas A, B, C, and D. Numbers of plants observed fluctuated greatly, from 50-100 in 1977 to approximately 115,000 in 1986 (HRG 1996a and CNDDB 2007). Sometime between 1986 and 1988, cattle grazing on the site ceased. Between 1989 and 1995, Santa Cruz tarplant numbers on the site declined precipitously. In 1993, only 131 plants were present in area D and 2 plants were present in area A, with no plants in the other two historic colonies (HRG 1993), and, in 1994 and 1995, no plants were observed anywhere on the site (HRG 1996).

In 1995, following acquisition of the site by the City of Santa Cruz in 1994, it was decided to undertake intensive management efforts to attempt to revive the Santa Cruz tarplant population on the site by stimulating germination and growth of dormant seed in the soil. Scraping, mowing, weed-whipping, raking, and prescribed burns were used sporadically in area A between 1996 and 1999 (in addition to a 1996 arson fire), and small portions area D were hand scraped in 1996 and 1997. Approximate tarplant numbers in Area A between 1996 and 2005 have ranged from 619 to over 10,000, but have mostly been less than 2,500 (Brady/LSA 1999; BMP Ecosciences 2006; Santa Cruz Parks and Recreation Department 2006). Between 1997 and 2004, numbers of plants in area D have ranged from 1 to 156; none were present in 2005. Since 1999, no management, or only small-scale experimental treatments, has occurred in areas A and D. Areas B and C have never received any management other than periodic mowing, and no plants have been observed in those areas since 1989, except for 1998, when 5 plants were observed in area B and 20 plants were observed in area C. No plants were observed in any of the sub-populations in 2006 (Santa Cruz Parks and Recreation Department 2006). A management plan, prescribing a series of active management measures as well as monitoring and continued experimental research, has been prepared for Santa Cruz tarplant at the Arana Gulch site (BMP Ecosciences 2006).

The DeLaveaga Park occurrence of Santa Cruz tarplant is CNDDB Occurrence No. 47 and is designated by USFWS (2002b) as the DeLaveaga critical habitat unit, or Unit C. It is located in grassland north of the California Army National Guard armory, on a higher, older coastal terrace, on Watsonville loam soil (Bowman and Estrada 1980). Although it is surrounded by the city-owned DeLaveaga Park, the land on which this occurrence is located is owned and managed by the California Army National Guard. This occurrence has been monitored much less extensively than the Arana Gulch occurrence, and has not received any active management. In the last year for which data are available, 2001, this population supported “several thousand” Santa Cruz tarplant individuals (USFWS 2002b).

Gairdner's yampah (*Perideridia gairdneri* ssp. *gairdneri*). Gairdner's yampah is listed on List 4 of the CNPS *Inventory* (Tibor 2001 and CNPS 2012). It has no state or federal status. Gairdner's yampah is a small to medium-sized perennial herb in the carrot or parsley family (Apiaceae). The aerial stems are annual, i.e., the plant dies back to the ground at the end of every season. The species is perennial from a small underground tuber. During the rainy season, it produces a rosette of basal leaves that are divided into long, narrowly linear segments resembling blades of grass. The plant bolts in late spring and flowers from June to October. It produces a flat-topped cluster (umbel) of small white flowers, similar to that of many members of the carrot or parsley family. The basal leaves wither before or shortly after flowering, and the stem leaves are relatively small and inconspicuous, giving the flowering plant a nearly leafless appearance. Seed is set and dispersed in the fall.

Gairdner's yampah occurs, or historically occurred, in most coastal and near-coastal counties in California from San Diego County to Del Norte County, although it is now uncommon south of Monterey County and is believed to be extirpated in some southern California counties in which it historically occurred (Munz and Keck 1973; Hickman 1993; Tibor 2001; Baldwin et al. 2012; CNPS 2012). It grows in seasonally moist, open areas in grasslands and in forest and scrub openings. In northern and central California, it is especially associated with coastal prairie grasslands, or grasslands that were coastal prairies before invasion of weedy non-native grasses.

Within the City of Santa Cruz, Gairdner's yampah is known only from Pogonip Park. Eight distinct colonies of Gairdner's yampah have been mapped in grassland areas throughout the park (Santa Cruz Parks and Recreation Department 1998), some of them within large grassland areas and some in relatively small areas of grassland surrounded by forest. No information is available about numbers of plants or year-to-year fluctuations in these colonies.

Choris's popcorn-flower (*Plagiobothrys chorisianus* var. *chorisianus*) and Hickman's popcorn-flower (*Plagiobothrys chorisianus* var. *hickmanii*). These two taxa are treated together because, for one of the two reported occurrences of *Plagiobothrys chorisianus* within the city limits of Santa Cruz, it is not known which taxon is represented. Choris's popcorn-flower is listed on List 1B of the CNPS *Inventory* (Tibor 2001 and CNPS 2012) and, therefore, falls under CEQA regulatory authority. It has no other federal or state status. Hickman's popcorn-flower is listed on List 4 of the CNPS *Inventory*, and has no state or federal status.

Choris's popcorn-flower and Hickman's popcorn-flower are small annual herbs in the borage family (Boraginaceae). Both have stems that are prostrate to sometimes (in Choris's popcorn-flower) erect. Seeds germinate following the onset of winter rains, and the plants grow vegetatively until the onset of flowering. The leaves are narrowly oblong, opposite on the lower portion of the stem, and alternate above. Plants flower between March and June, and, as in other popcorn-flower species, the flowers are relatively small, white, and radially symmetrical. Seed is set and dispersed following flowering. Technical characteristics of the nutlets (fruits) are important for distinguishing popcorn-flower species, including Choris's popcorn-flower and Hickman's popcorn-flower. Although the taxonomic distinction between them has been questioned (Hickman 1993), Choris's popcorn-flower and Hickman's popcorn-flower are separated from each other by growth habit, characteristics of the lower leaf bases, and flower size (Munz and Keck 1973; Hickman 1993; Baldwin et al. 2012). Choris's popcorn-flower tends to have more erect stems and has lower leaf bases that are fused and prominently sheathing the stems and flowers that are 6-10 mm (0.2-0.4 inches) wide. The stems of Hickman's popcorn-

flower are generally strictly prostrate, the lower leaf bases are separate or nearly so and not or only slightly sheathing, and the flowers are 5-6 mm (approximately 0.2 inches) wide.

Both taxa grow in seasonally wet marshes and other low, moist or seasonally moist, more or less open places within a variety of plant communities (Thomas 1960; Munz and Keck 1973; Hickman 1993; Tibor 2001; Baldwin et al. 2012; CNPS 2012). Choris's popcorn-flower occurs near the coast in the Santa Cruz Mountains region, from San Francisco to southern Santa Cruz County, and may also occur, or had historically occurred, in Alameda County (Munz and Keck 1973; Hickman 1993; Tibor 2001; Baldwin et al. 2012; CNPS 2012). Hickman's popcorn-flower occurs from Santa Cruz and Santa Clara counties south to San Luis Obispo County. Both taxa have a number of known extant or historic localities in Santa Cruz County (Thomas 1960 and Morgan et al. 2005). There are four Santa Cruz County occurrences of Choris's popcorn-flower in CNDDB records, all of them presumed extant. One is located in the Watsonville area, one is in Scotts Valley, and two are in the Swanton area in northern Santa Cruz County. The CNDDB does not maintain occurrence records for Hickman's popcorn-flower.

Forms of *Plagiobothrys chorisianus* have been reported from two locations within the Santa Cruz city limits. There are no CNDDB records for either location. Choris's popcorn-flower has been reported from the grassland at the southwestern corner of Lighthouse Field State Beach (Strelow Consulting 2003b). It is not known when this observation was made, and Choris's popcorn-flower was not found on the site during botanical surveys conducted in spring 2002. A form of *Plagiobothrys chorisianus* was also observed by local California Native Plant Society representatives at Arana Gulch Open Space Preserve in 1998, occurring in the grassland within Santa Cruz tarplant area A (above) (Brady/LSA 1999). These plants could not be positively identified as either Choris's popcorn-flower or Hickman's popcorn-flower (R. Morgan, pers. comm. 2006). This species has apparently not been observed on the site since 1998.

San Francisco popcorn-flower (*Plagiobothrys diffusus*). San Francisco popcorn-flower was state listed as Endangered in 1979 (CDFG 2007a). It is also listed on List 1B of the CNPS *Inventory* (Tibor 2001; CNPS 2012). San Francisco popcorn-flower is a low, often prostrate annual herb in the borage family (Boraginaceae). It is generally similar to Choris's popcorn-flower and Hickman's popcorn-flower, with narrow leaves that are opposite below and alternate above, and small white flowers. Seeds germinate following winter rains, and the plant grows vegetatively until it flowers, from March to June. Seed is set in the summer. As with other species of popcorn-flower, positive identification of this species depends on technical characteristics of the nutlets (fruits). The taxonomic distinctiveness of San Francisco popcorn-flower from netted popcornflower (*Plagiobothrys reticulatus* var. *rossianorum*) has been questioned (Messick 1993), and further research is needed to clarify the issue.

San Francisco popcorn-flower occurs in seasonally moist areas in grassland and possibly in coastal scrub (Thomas 1960; Munz and Keck 1973; Hickman 1993; Tibor 2001; Baldwin et al. 2012; CNPS 2012). It was once thought to have occurred only in San Francisco (Thomas 1960; Munz and Keck 1973) and was thought to be extinct. In recent decades, populations identified as San Francisco popcorn-flower have been found in Alameda, San Mateo, and Santa Cruz counties (Tibor 2001; CNDDB 2007; CNPS 2012). The CNDDB has occurrence records for 12 occurrences that are known or presumed to be extant; nine of these occurrences are in Santa Cruz County.

San Francisco popcorn-flower is known from two areas within the City of Santa Cruz: from the western portion of the city, in and near the Moore Creek Preserve (Santa Cruz Parks and Recreation Department 2002; Biotic Resources Group 2001) and from Pogonip Park (Santa Cruz Parks and Recreation Department 1998). San Francisco popcorn-flower in the Moore Creek Preserve comprises CNDDB Occurrence Nos. 8 and 9. These two CNDDB occurrences apparently are for opposite sides of the West Branch Moore Creek canyon, but San Francisco popcorn-flower is probably best regarded as having one occurrence in this area, with numerous individual colonies. San Francisco popcorn-flower was first discovered in 1989 in the area that became Moore Creek Preserve (Santa Cruz Parks and Recreation Department 2002).

San Francisco popcorn-flower also occurs on a large private parcel, known as the Poliski-Gross property, south of Meder Street and east of the Moore Creek Preserve boundary. In 2000 and 2001, Biotic Resources Group (2001) mapped a total of six distinct colonies of San Francisco popcorn-flower on the Poliski-Gross property. Numbers of plants observed were not reported.

The San Francisco popcorn-flower occurrence at Pogonip Park is CNDDB Occurrence No. 10. San Francisco popcorn-flower occurs in the eastern portion of the Haunted Meadow grassland in the northern portion of the park (Santa Cruz Parks and Recreation Department 1998).

Santa Cruz clover (*Trifolium buckwestiorum*). Santa Cruz clover is listed on List 1B of the CNPS *Inventory* (Tibor 2001 and CNPS 2012) and, therefore, falls under CEQA regulatory authority. It has no other federal or state status.

Santa Cruz clover is a small, decumbent to ascending annual herb in the legume family (Fabaceae). Seeds germinate following the onset of winter rains, and the plant grows vegetatively until flowering, generally from April to June, but sometimes flowering into October. Seed is set and dispersed in the summer and fall. Like most clovers, Santa Cruz clover has leaves that are divided into three leaflets. The very small white to pinkish flowers are borne in heads. Early heads are few-flowered, have no peduncle (stalk) or only a short peduncle, lack an involucre (a disk, made up of fused bracts, at the base of the head), and have cleistogamous flowers (flowers that never open). Later heads have more flowers, are on peduncles several times the length of the head, are subtended by an involucre, and have flowers that open. (No other native California clover has this distinction between early and late flower heads, although one species that is introduced in the state has this characteristic.) The lobes of the calyx (the outer, green portion of the flower) are finely toothed, and are unlike the calyx-lobes of any other involucrate clover. The occurrence of cleistogamous flowers in this species, as well as the generally small size and inconspicuous coloration of the flowers, suggest that the species is largely self-pollinating.

Santa Cruz clover occurs in seasonally moist areas in grassland, and sometimes in disturbed areas (Hickman 1993; Best et al. 1996; Tibor 2001; Baldwin et al. 2012; CNPS 2012). This species was not described in the botanical literature until 1992 (Isely 1992), so all distribution records for this species are relatively recent. It is currently known from Monterey, Santa Cruz, Santa Clara, and San Mateo counties south of San Francisco Bay and from Sonoma and Mendocino counties north of San Francisco Bay (Hickman 1993; Tibor 2001; Baldwin et al. 2012; CNPS 2012; and R. Buck, pers. comm. 2006). The CNDDB has records for six occurrences in Santa Cruz County.

Within the city limits of Santa Cruz, Santa Cruz clover is known to occur only in the Haunted Meadow grassland in the northern portion of Pogonip Park (Santa Cruz Parks and Recreation Department 1998). This is CNDDB Occurrence No. 5. Santa Cruz clover is mapped as occurring in the extreme northeast corner of the Haunted Meadow. Numbers of plants observed were not reported.

Special-Status and Senstive Wildlife Protected Under CEQA

A number of wildlife species that occur within the City of Santa Cruz are considered under CEQA. Those with special status are listed in Table 4 along with their locations and described in the sections below. Nesting birds are protected under the MBTA and CEQA. Birds that are known to nest within the city are listed in Appendix A. Marine mammals are protected under the MMPA. Marine mammals that occur within the City in the San Lorenzo River and the Yacht Harbor include the southern sea otter (*Enhydra lutris neries*), the Pacific harbor seal (*Phoca vitulina richardsi*), and California sea lion (*Zalophus californianus californianus*). These species are included in the table below. Special-status wildlife whose activities within the city limits are unlikely to require protection under CEQA are listed in Appendix B.

Invertebrates

Ohlone Tiger Beetle (*Cicindela ohlone*). The Ohlone Tiger beetle is listed as Federally Endangered. The beetle is listed by the CNDDB as G1S1. The CNDDB ranking indicates global and state status of extremely Endangered (CDFG 2011CDFG 2011).

The Ohlone tiger beetle is associated with coastal prairie, although it has also been found in degraded prairie remnants that are characterized by a mix of annual grasses and other ruderal plants. The beetle often occurs on Watsonville loams (Bowman et al.1980). Other factors that influence habitat suitability include soil particle size, moisture, and depth (D. Arnold pers. comm. 2006).

This species excavates ground burrows in areas that are sparsely vegetated or barren. Adults hunt above ground, preying on smaller, soft bodies insects and invertebrates (Larochelle 1974), while the larvae are found underground. The entrance hole of the burrow is constructed such that the hole goes straight down and is approximately the size of a pencil. The Ohlone tiger beetle‘s activity period is winter-spring (Nagano 1980).

The Ohlone tiger beetle has been known to occupy a varying montage of polygons within the City of Santa Cruz limits, in the Pogonip, on Moore Creek Preserve (R. Arnold pers. comm. 2007) and the adjacent undeveloped Kinzli (Hayes 2000) and Poliski-Gross (Biotic Resource Group with Dana Bland and Associates 2001) properties and at the western end of Meder Street. The beetle also occurs just outside of city limits on nearby UCSC campus lands. Presence of the beetle is assumed in areas that provide potential habitat until the presence and distribution of the beetle are determined.

Table 4. Status, habitat requirements, and location of special-status wildlife occuring in the City of Santa Cruz, California.

Common Name *Scientific Name*	Status[1] Federal/State/Other	Habitat Requirements	Location[2]
Invertebrates			
Ohlone tiger beetle *Cicindela ohlone*	E/--/G1S1	Coastal prairie and open grassland with barren areas for burrow construction.	Pogonip[3] Moore Creek Preserve[4] Private Parcels near Moore Creek Preserve and Meder St[5] (UCSC[6])
Monarch butterfly (wintering sites) *Danaus plexippus*	--/--/G5S3, L	Eucalyptus, Monterey Pine, or Monterey Cypress tree groves.	Lighthouse Field[7] Natural Bridges[7] Lower Branciforte Creek[8]
Fish			
Coho Salmon (Central CA ESU) *Oncorhynchus kisutch*	E/E/G4S2?	Spends the first few years of its life in fresh water before migrating to the ocean. Adults will later return to the freshwater location where they were spawned to breed.	San Lorenzo River[9] (H)
Steelhead (Central CA DPS) *Oncorhynchus mykiss irideus*	T/--/G5S2	Spends the first few years of its life in fresh water before migrating to the ocean. Adults will later return to the freshwater location where they were spawned to breed.	Carbonera Creek[10] Branciforte Creek[10] Arana Gulch[10] San Lorenzo River[10]
Tidewater goby *Eucyclogobius newberryi*	E/SC/G3S2S3	Coastal lagoons and creeks up to 3 miles with protected still water areas.	Moore Creek[11] San Lorenzo River[12] (Younger Lagoon[13])
North American green sturgeon (Southern DPS) Acipenser medirostirs	FT/SC/G3S1S2	Spend the majority of their lives in nearshore oceanic waters, bays, and estuaries. Spawning and early-life stages (less than 4 years old) occur in fresh water.	HP, CHP
Amphibians and Reptiles			
California red-legged frog Rana draytonii	T/SC/G4T2T3S2S3	Requires the presence of surface water until mid to late summer for reproduction; occupies ephemeral and/or perennial water with standing or slow moving flows; upland habitat includes leaf litter and small mammal burrows; adults are known to travel up to 2 miles overland between aquatic sites.	Moore Creek[14 & 15] (B) Antonelli Pond[16] Natural Bridges Marsh[16] (UCSC coastal lands[13 & 17]) (UCSC Arboretum Pond[18 & 19]) (B)
Western pond turtle *Emmys marmorata*	--/SC/G3G4S3	Found in ponds, marshes, rivers, streams, and irrigation ditches containing aquatic vegetation; usually seen sunning on logs, banks, or rocks. Moves up to 3-4 miles within a creek system, especially during "walk-abouts" before a female lays eggs; nests in burrows in upland areas up to several hundred feet away from aquatic habitat, in woodlands, grasslands, or open forest.	Antonelli Pond[20] Neary Lagoon[14] Moore Creek[19 & 21] Natural Bridges Marsh[19] Pogonip-San Lorenzo River[22] (UCSC Arboretum Pond[14])
Birds (protected activity/habitat)			
Brown pelican (communal roosts and rookeries) *Pelecanus occidentalis californicus*	Delisted/Delisted, FP/G4T3S1S2	Nest in large colonies mostly on small coastal islands. Preferred nesting sites provide protection from mammal predators, and sufficient elevation to prevent widescale flooding of nests (USFWS Division of Endangered Species 2007). The nests occur on the ground, in bushes, or in the tops of trees.	Cliffs from Lighthouse Point to (Younger Lagoon[23 & 24]) Municipal Wharf [25] San Lorenzo River [26]
Double-crested cormorant (rookeries) (*Phalacrocorax auritus*)	--/WL/G5S3	Marine and inland aquatic habitats, such as ponds, lakes, rivers, lagoons, estuaries, and open coastline.	San Lorenzo River[24](H) (Schwan Lagoon[24])

Table 4. (continued)

Common Name *Scientific Name*	Status[1] Federal/State/Other	Habitat Requirements	Location[2]
Black-crowned night heron (rookeries) (*Nycticorax nycticorax*)	--/--/G5S3	Roosts among the dense foliage of trees (that are not always adjacent to water). It will also roost within fresh or brackish emergent wetlands, as well as on piers, and pilings (Grinnell and Miller 1944).	Branciforte Creek[24] (H) Neary Lagoon[27] (P)
Sharp-shinned hawk (nesting) *Accipiter striatus*	--/WL/G5S3	Nests in deciduous riparian forest associated with dense stands of smaller conifers.	Arana Gulch[28](P) Meder Canyon[29](P) Pogonip[3] (P) (UCSC[24])
Cooper's hawk (nesting) *Accipiter cooperi*	--/WL/G5S3-	Nests in deciduous riparian forest, live oak, or second growth conifers usually near stream courses with dense canopy cover and open understory.	Moore Creek[30] Pogonip[24] Harvey West Park[24] DeLaveaga[24] (UCSC[24])
Golden eagle (nesting & wintering) Aquila chrysaetos	--/WL, FP/G5S3	Resident in open mountains, foothills, canyons, or plains. Nests in a mass of sticks on cliffs or in trees. Is frequently observed foraging over nearby open fields of UCSC and Moore Creek Preserve lands.	Pogonip[3 & 24] Rincon Gorge[24] (unconfirmed) (UCSC[24])
Ferruginous hawk (wintering) (*Buteo regalis*)	BCC/WL/G5S3S4	Grasslands, agricultural areas, sagebrush flats, low foothills, and desert scrub (Garrett and Dunn 1981).	Antonelli Pond[20]
White-tailed kite *Elanus leucurus*	--/FP/F5S3	Nests in conifers on the margins of open areas including grasslands and sloughs containing a high abundance of small mammals and lizards.	Pogonip[24 & 29] Natural Bridges[30] (UCSC[6])
Merlin (wintering) *Falco columbarius*	--/WL/G5S3	Utilizes a wide variety of habitats, from annual grasslands to ponderosa pine and montane hardwood-conifer habitats. Also favors coastlines, lakeshores, and wetlands. Forages along shorelines in winter, to hunt for shorebirds (CDFG 2005).	Arana Gulch[28 & 31] Lighthouse Field[32] Meder Canyon[29] Antonelli Pond[20] (UCSC Marine Science lands[33])
Black oystercatcher (nesting) *Haemotopus bachmani*	BCC/--/G5S2	Rocky shores of marine habitats, and on adjacent islands. Requires cliffs, rock outcrops, offshore rocky islets, jetties and similar features of coastal rocky intertidal habitats for roosting at high tide.	Natural Bridges/De Anza[23 & 24]
Long-eared owl (nesting) *Asio otus*	--/SC/G5S3	Utilizes abandoned stick nests of other large birds or squirrel nests in a variety of wooded areas, including orchards and usually near aquatic and open areas for foraging; forages mostly on rodents.	Neary Lagoon[27] (P) Pogonip[3] (P)
Burrowing owl (burrow and wintering sites) *Athene cunicularia*	--/SC/G4S2	Open grassland habitats for foraging and nesting. Suitable habitat has low-growing vegetation interspersed with bare ground; and hillocks, berms, fence posts or other slightly elevated objects available for resting/perching.	Pogonip[3] (P) Moore Creek[21] (P) Private parcels adjacent to Moore Creek[21] (P) (UCSC[24])
Vaux's swift (nesting) *Chaetura vauxi*	--/SC/G5S3	Nest in hollow trees in forested environments. Nest made of conifer needles are glued together with salvia and attached to inside wall of hallow tree usually near the bottom. Post breeding flocks up to several hundred may roost together in chimney like tree hollows.	Residential neighborhoods near Natural Bridges, Spring Street and (UCSC Arboretum)[24]
Black swift (nesting) *Cypseloides niger*	--/SC/G4S2	Breeds along coastal bluffs and mountains.	Mitchell's Cove[24] (H) Lighthouse Point[24 & 32] (H)
Loggerhead shrike (nesting) *Lanius ludovicianus*	BCC/SC/G4S4	Grassland and shrub habitats with small reptiles and insects.	Pogonip (P) Moore Creek (P) Private parcels adjacent to Moore Creek[21] (P)

Table 4. (continued)

Common Name *Scientific Name*	Status[1] Federal/State/Other	Habitat Requirements	Location[2]
California horned lark *Eremophila alpestris actia*	--/WL/G5T3QS3	Open, level or gently-sloping California habitats, including sage scrub, grassland, chaparral, alkali playa, as well as agricultural and residential lands. (Grinnell and Miller 1944). Builds a grass-lined nest in a depression on the ground out in the open.	Pogonip[22] Moore Creek (P) Private parcels adjacent to Moore Creek[21] (P)
Oak titmouse (nesting) *Baeolophus inornatus*	BCC/--/G5S3?	Warm, dry oak, pine, or oak-pine woodlands. The breeding pair builds a nest of grass, moss, mud, hair, feathers, and fur (Harrison 1978) in a woodpecker hole, natural cavity, or nest box.	Lighthouse Field[24] Neary Lagoon[24] Garfield Park[24] Westside residential areas[24] lower Branciforte Creek[24] Oceanview Park[24] Jesse Street Marsh area[24] San Lorenzo River (N of Hwy 1) [24] Natural Bridges[24] (unconfirmed)
Yellow warbler *Dendroica petechia brewsteri*	BCC/SC/G5T3?S2	Nests in deciduous riparian woodland with open canopy along streams or other watercourses; forages in dense understory of riparian woodland.	Arana Gulch Neary Lagoon Moore Creek Preserve Antonelli Pond Carbonera Creek Branciforte Creek Westlake Pond San Lorenzo River (H) (P)
Hermit warbler (nesting) *Dendroica occidentali*	BCC/--/G4G5S3?	Mature stands of conifers (ie., Douglas-fir, redwood, and montane hardwood-conifer habitats), with open to dense canopy for breeding and other activities.	Pogonip[24] (UCSC[24])
Saltmarsh common yellowthroat[38] *Geothlypis trichas sinuosa*	BCC/SC/G5T2S2	Nests in overgrown fields with scrub, on the margins of woodlands, and freshwater and saltwater marshes. Builds well-concealed open-cup nests, typically near the ground in grasses, herbaceous vegetation, cattails, tules, and scrub (including coyote brush) (Gardali and Evens date).	Neary Lagoon[27& 34] San Lorenzo River[26] (Younger Lagoon[35])
Yellow-breasted chat (nesting) *Icteria virens*	--/SC/G5S3	Dense riparian vegetation 1-8 ft. above the ground, with a well-developed understory.	San Lorenzo River (H)
Chipping sparrow (nesting) *Spizella passerina*	--/--/G5S3S4	Open wooded habitats with a sparse or low herbaceous layer and few shrubs. Prefers trees for nesting, resting, singing, and other cover, but will also utilize shrubs and ground herbage. Also known to breed or winter in orchards (Grinnell and Miller 1944, McCaskie et al. 1979, Garrett and Dunn 1981).	Moore Creek[24] Pogonip[24] (UCSC[24])
Grasshopper sparrow *Ammodramus savannarum*	--/SC/G5S2	Occurs in dry, dense grasslands, especially in those with a variety of grasses, tall forbs, and scattered shrubs (Grinnell and Miller 1944; McCaskie et al. 1979 and Garrett and Dunn 1981). Builds nests composed of grasses and forbs, located in a slight depression in ground at the base of an overhanging clump of grasses or forbs (Harrison 1978).	Moore Creek[24] Pogonip[24]
Tricolored blackbird (nesting colonies) *Agelaius tricolor*	BCC/SC/G2G3S2	Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Their nests are usually located near fresh water, and tend to be hidden on the ground among low vegetation (Orians 1960).	Neary Lagoon[24] (H) Antonelli Pond[24] (H)

Table 4. (continued)

Mammals			
Townsend's western big-eared bat *Corynorhinus [Plecotus] townsendii townsendii*	--/SC/HP; G4S2S3	Roost sites are highly associated w/ caves and mines; buildings must offer "cave-like" features; known to roost in tree hollows and under bridges.	Pogonip Clubhouse[37] undeveloped lands and open spaces (P)
Pallid bat *Antrozous pallida*	--/SC/HP; G5S3	Roost sites are primarily associated with oak, redwood, ponderosa pine, and giant sequoia forests. Will also roost under bridges and in buildings and rock outcrops.	undeveloped lands and open spaces (P)
Western red bat *Lasiurus blossevillii*	--/SC/HP; G5S3	Roosts in foliage primarily in riparian and wooded habitats.	Arana Gulch[31] undeveloped lands and open spaces (P)
Fringed myotis *Myotis thysanoides*	--/**/HP; G4G5S4	Roosts sites in California are primarily in buildings or mines; will also roost in large conifer snags and in caves.	undeveloped lands and open spaces (P)
Long-legged myotis *Myotis volans*	--/**/HP; G5S4?	Roosts primarily in large hollow tree snags, or live trees with exfoliating bark; also uses rock crevices, mines, and buildings.	undeveloped lands and open spaces (P)
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	--/SC/--	Associated with riparian, oak woodland and redwood forest habitats. Builds stick nests under or in buildings, hollow trees, or in tree canopy.	undeveloped lands and open spaces
American badger *Taxidea taxus*	--/SC/--	Drier open stages of most shrub, forest, and herbaceous habitats, that are composed of friable soils. American badgers dig burrows in friable soil for cover, frequently reusing old burrows. They are also known to dig a new den each night (especially in summer) (Messick and Hornocker 1981).	undeveloped lands and open spaces (P) (UCSC[14 & 19])
Southern sea otter *Enhydra lutris nereis*	T, MMPA/FP/--	Inhabit nearshore coastal waters, bays, harbors, and estuaries along the central California coast, and are often associated with rocky substrate. Most remain inshore of the outer kelp edge, and foraging activity is generally restricted to water depths of 25 meters or less.	Yacht Harbor[39]
California sea lion *Zalophus californianus*	MMPA /--/--	California sea lions reside in shallow coastal and estuarine waters. They haul out on sandy beaches, marina docks as well as jetties and buoys.	Yacht Harbor, Santa Cruz Wharf[39]
Eastern Pacific harbor seal *Phoca vitulina richardsi*	MMPA /--/--	Occur in nearshore coastal California waters, rivers, bays, harbors and estuaries. Hauls out on rock outcroppings, beaches, mudflats, and docks that have easy access to water.	Yacht Harbor[39]

NOTES:

1 **Federal Status (USFWS 2007b, c, d; CDFG 2011)**

E = Endangered: Any species, which is in danger of extinction throughout all, or a significant portion of its range.
T = Threatened: Any species, which is likely to become an endangered species within the foreseeable future throughout all, or a significant portion of its range.
BCC = Considered by Fish and Wildlife Service as a 'Bird of Conservation Concern' with a high priority to study and take action to protect.
MMPA = Marine Mammal Protection Act protects all marine mammals and haul out sites (NOAA NMFS 2004).

State Status (CDFG 2011)

E = Endangered: A native species or subspecies of animal which is in serious danger of becoming extinct throughout all, or a significant portion of its range, due to loss of habitat, change in habitat, over exploitation, predation, competition and/or disease.
T = Threatened: A native species or subspecies that, although no presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts.
SC = CDFG Species of Special Concern are taxa given special consideration because they are biologically rare, very restricted in distribution, declining throughout their range, or at a critical stage in their life cycle when residing in California or taxa that are closely associated with a habitat that is declining in California (e.g., wetlands)
WL = CDFG Watch List Birds are a new category created in the 2008 California Bird Species of Special Concern (CDFG et al. 2008). The birds on this watch list are 1) not on the current Special Concern list but were on previous lists; 2) were previously but are not currently state or federally listed; or 3) are on the list of "Fully Protected" species.
FP = Fully Protected: This classification was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.
** = Included on preliminary list of revised CDFG Mammal Species of Special Concern (CDFG 1996)

Other

L = Local; protected by existing City General Plan (Santa Cruz Department of Planning and Community Development 2003a)
HP = Considered "High Priority" on the Western Bat Working Group's (WBWG) Western Bat Species Regional Priority Matrix (1998)

Table 4. (continued)

NOTES (continued):

CNDDB Ranking (CDFG 2011; NatureServe 2009):
G = Global (worldwide status of a full species): G1 to G5
T = Status of a subspecies throughout its range: T1 to T5
S = State (statewide status of a full species or a subspecies): S1 to S5

where:
1 = Extremely endangered
2 = Endangered
3 = Restricted Range, Rare
4 = Apparently secure
5 = Demonstrably secure: commonly found throughout its historical range
? = Inexact Numeric Rank

2 ( ) = Locations outside of the city limits.
H = Historical Observation
B = Breeding Habitat (except birds—locations correspond to protected activity only—listed by species name)
P = Potential Habitat

3 Santa Cruz Parks and Recreation Department (1998)
4 R. Arnold, pers. comm. (2007)
5 Hayes (2000) and Biotic Resource Group with Dana Bland and Associates (2001)
6 EcoSystems West (2004)
7 T. Hyland pers. comm. (2006), ESW 2006 Surveys, and CNDDB
8 ESW 2006 Surveys; CNDDB 2007
9 Smith 1982
10 Entrix (2004b); HRG (1996); and DWA (2000 and 2002)
11 Smith and Welch (1996); Smith (2001)
12 C. Swift pers. comm. (2005)
13 EcoSystems West (2002a)
14 K. Glinka pers. comm. (2007)
15 Bulger (1999), M. Fusari pers. comm. (2000); and M. Allaback pers. comm. (2000)
16 M. Westphall pers. comm. (1997)
17 Mori (1997); G. Gray pers. comm. (1998)
18 M. Fusari pers. comm. (2000); M. Allaback pers. comm. (2001)
19 CNDDB (2007)
20 LTSCC (2001)
21 Biotic Resource Group with Dana Bland and Associates (2001)
22 Brady LSA (1998)
23 ESW 2006 Surveys
24 Gerow (2006)
25 Entrix (2004a)
26 Swanson Hydrology and Geomorphology et al. (2002)
27 David J. Powers and Associates, Inc. (1998)
28 HRG (1996); Strelow Consulting and EcoSystems West (2000)
29 John Gilchrist and Associates (1998)
30 Strelow Consulting (2002a)
31 Santa Cruz Parks and Recreation Department (2006)
32 Strelow (2003b)
33 Tyler (1987)
34 Jones and Stokes (1992)
35 EcoSystems West (2002b)
36 Suddjian (1990)
37 P. Heady pers. comm. (2006)
38 It is a question of debate in the ornithological community whether the birds identified within the City of Santa Cruz represent the common yellowthroat (*Geothlypis trichas)* or the special-status sub-species, the saltmarsh common yellowthroat (*Geothlypis trichas sinuosa).*
39E. McGinty pers. comm. (2009), P. Clark pers. comm. (2008) and Andrew Church pers. comm. (2007).

Monarch Butterfly (*Danaus plexippus)* (over-wintering sites). The over-wintering sites of the monarch butterfly are given a CNDDB Ranking of G5S3. The CNDDB state ranking indicates a restricted range for the butterfly, and rare based on the number of individuals per area of occupied habitat (CDFG 2011). Over-wintering sites, adequate buffers around the sites, and nectar sources are protected by the local City of Santa Cruz General Plan policy (Santa Cruz Department of Planning and Community Development 2003a).

The monarch butterfly is known for its vast, seasonal, multigenerational migrations, with wintering roost sites providing a vulnerable link in the migratory path (J. Dayton pers. comm. 2007). Two distinct populations of monarchs are recognized in North America, based on two separate migratory routes. The eastern monarch butterfly population overwinters in Mexico, and breeds in regions east of the Rocky Mountains. The western population of the monarch overwinters in a narrow band along the California coast and breeds during the summer in a broader geographic range west of the Rocky Mountains (Dayton and Bell 1992).

Stands of eucalyptus (*Eucalyptus* spp.), Monterey pine (*Pinus radiata*), and Monterey cypress (*Cupressus macrocarpa*) are commonly utilized as over-wintering sites in California (Dayton and Bell 1992). The larval stage of this species feeds upon milkweed, and is capable of incorporating the milkweed toxins into their bodies to acts as a deterrent to predators. Adult monarchs rely soley on the nectar of flowers for nourishment, and aposematic (warning) coloration as protection from potential predators (J. Dayton pers. comm. 2007).

Monarchs are sensitive to even the slightest changes in wind conditions, temperature, and noise disturbance. Location characteristics such as southeast aspect, wind protection, proximity to nectaries, and other abiotic and biotic factors determine habitat suitability for monarchs. In addition, populations may fluctuate widely from year to year, depending upon a number of factors, including the timing of winter rains, winter temperatures, and adequate food supply for larva (J. Dayton pers. comm. 2007). Overall, populations appear to be declining due to general trends of climate change, urban development (San Diego Union Tribune 2006), and farming practices such as herbicide use, which have reduced milkweed populations (J. Dayton pers. comm. 2007).

Both fluctuations in population and changes in location characteristics affect the selection of wintering roost sites from year to year. A site may serve as an autumnal roost in low population years and as an over-wintering site in years with greater numbers of butterflies. Changes in the canopy density of a tree stand may cause a shift in a site from an over-wintering site to autumnal roost. In general, there is great variability from year to year, in terms of which sites will be occupied. For example, within the City of Santa Cruz, in previous years, Lighthouse Field was used by monarchs as an autumnal roosting site, was later unoccupied, and currently supports a large number of over-wintering butterflies (J. Dayton pers. comm. 2007).

Monarch 2006 Survey Results

During our assessment conducted during fall and winter of 2006, we observed suitable monarch butterfly habitat within 36 locations. The majority of these sites consisted of eucalyptus groves,

located primarily on the perimeter of the city. The sites ranged in size from 0.25 to 32.5 acres, with an average size of only 4.5 acres.

Of the 36 areas identified as having suitable habitat, we identified 18 as confirmed monarch butterfly roost sites based on prior records or observations, or our own observations of roosting butterflies during our assessment.

Monarch butterflies were observed flying in the vicinity of 2 of the other 18 sites, which we were unable to conclude as known monarch butterfly sites. We did not observe monarch butterflies during the fall/winter of 2006 within 11 sites which we were able to access. However, we note that monarch butterfly populations were low state-wide during the 2006 fall/winter season (J. Dayton pers. comm. 2007). Finally, we were unable to access the remaining 5 habitat areas, so additional surveys are recommended.

The two main over-wintering sites within the limits of the City of Santa Cruz are at Lighthouse Field and Natural Bridges (EcoSystems West [ESW] 2006 Surveys; Hyland pers. comm. 2006; CNDDB 2007). Lower Branciforte Creek, across from Ocean View Park provides another important over-wintering site, with butterflies numbering in the hundreds during the 2006 survey (T. Hyland pers. comm. 2006; ESW 2006 Surveys; and CNDDB 2007). Autumnal roosting sites include the Home of Peace Cemetery (ESW 2006 Surveys and CNDDB 2007); Kalkar Quarry (Dayton 2001c and CNDDB 2007); Pogonip Creek above Evergreen Cemetery (CNDDB 2007); the Depot Park railroad crossing (Dayton 2001a and Strelow 2002b); Moore Creek north of Highway One (Santa Cruz Parks and Recreation Department 1987 and CNDDB 2007); 515 Highland Way (Dayton 2001b), and Delaveaga Park (CNDDB 2007). Sites that have been occupied in past years, include eucalyptus or cypress groves in the vicinity of Moore Creek, Meder Canyon (Arroyo Seco) (John Gilchrist and Associates 1998 and CNDDB 2007), Graham Hill road, Arana Gulch (Strelow 2003a and Swanson Hydrology and Geomorphology et al. 2002), Murray Street Bridge, and areas adjacent to 515 Highland Way (CNDDB 2007; Santa Cruz Parks and Recreation Department 1987; ESW 2006 Surveys). A number of eucalyptus or cypress groves in residential neighborhoods scattered throughout the city limits provide suitable roosting/ over-wintering habitat (ESW 2006 Surveys).

Fish

Coho Salmon (*Oncorhynchus kisutch*). The central California Evolutionary Significant Unit (ESU) is listed as Federally Endangered, for naturally spawning populations in streams between Punta Gorda in Humboldt County, and the San Lorenzo River in Santa Cruz County. This species is state listed as Endangered (populations south of the San Francisco Bay). The CNDDB Global Ranking for this species is G4S2?. The CNDDB State Ranking indicates an inexact Endangered status for the fish (CDFG 2011).

Coho occur in freshwater pools with extensive cover, adequate food supply, and optimal water temperatures from 54º to 57º F. Coho salmon migrate from the ocean to spawning grounds in freshwater after the first big rains in late fall or winter (Entrix 2004b). Coho spawn once before they die. Eggs are layed in redds constructed by the females in gravels and small cobbles near the head of a riffle (Entrix 2004b). Hatching occurs after four to eight weeks. Hatchlings remain in the gravel

for two to four weeks before emerging as fry. Fry spend there first year in freshwater streams and then one to two years in the ocean before returning to their spawning grounds (Shapovalov and Taft 1954 as cited in Entrix 2004b). Central California represents the southern margin of the species' natural distribution, and coastal streams of Santa Cruz County constitute the southernmost extent of coho distribution (CDFG 2003b).

The coho salmon occurred in the San Lorenzo River historically. The river was stocked with fry from the 1950's to the mid-1970's (DWA 2000), but coho have not been observed in the San Lorenzo since 1981 (Smith 1982 as cited in Entrix 2004b). The draft Recovery Strategy for the Coho Salmon is being initiated by CDFG in response to the documented critical condition of coho (CDFG 2003b). This Strategy estimates that there are approximately 6 miles of mainstem rearing habitat for coho in the San Lorenzo River, and approximately 21 miles of potential rearing habitat in the associated tributaries. Coho are known to occur in streams and creeks north of the City of Santa Cruz limits (Entrix 2004b).

Steelhead (*Oncorhynchus mykiss irideus*) (Central California Coast Distinct Population Segment). The USFWS categorizes watersheds between Aptos Creek in Santa Cruz County and the Russian River to the north in Sonoma County as the Central California Coast Steelhead Distinct Population Segment (DPS) (Federal Register 2006). The City of Santa Cruz falls within this DPS. The steelhead occurring in the Central California Coast DPS is listed as Threatened under the federal Endangered Species Act. The CNDDB Global Ranking for this species is G5S2. The CNDDB State Ranking indicates an Endangered status for the fish (CDFG 2011).

The steelhead migrates from the freshwater location where it was spawned to the ocean. The adult fish will later return to this spawning ground to breed. Steelhead spend their first few years of life in fresh water until they undergo smoltification, which physiologically transforms them into saltwater-adapted fish. Migrations to lagoons and the open ocean offer smolt and juveniles foraging opportunities for rapid growth, enabling them to become reproductive adults. Unlike coho, steelhead are capable of spawning more than once (Shapovalov and Taft 1954 as cited in Entrix 2004b).

Spawning sites require loose gravels mixed with a minimum amount of fine sand and silt that is continually exposed to flowing clean water. Eggs are laid in spawning gravels or coarse sand where water infusion and oxygenation of the substrate is maximized and streambed scour is minimized. Eggs require four to six weeks to incubate and hatchlings (sac-fry) spend another 1 to 2 weeks in the gravel before emerging. Canopies of shoreline and upland vegetation and eddies created by instream structures (e.g., logs, boulders, or emergent vegetation) offer necessary cover, shade, and refuge for steelhead (Entrix 2004b).

Steelhead are known to occur within the City of Santa Cruz limits in Carbonera and Branciforte Creeks, Arana Gulch, and the San Lorenzo River. (Entrix 2004b; HRG 1996; DWA 2000, 2002).

Tidewater goby (*Eucyclogobius newberryi*). The Tidewater goby is listed as Federally Endangered by the USFWS, and designated as a Species of Special Concern by the CDFG. The CNDDB Ranking for this species is G3S2S3. The CNDDB State Ranking indicates a Restricted

Range, Rare to an Endangered status for the fish. This species is also listed as Endangered by the American Fisheries Society (CDFG 2011).

The tidewater goby occupies calm, tidally-influenced creek areas, such as coastal lagoons that are seasonally cut off from the ocean by beach sand bars (Entrix 2004b). This species is also known to occupy creeks up to five river miles inland (Irwin and Soltz 1984 as cited in USFWS 2005a). The fish is a bottom-dweller which typically occupies waters of depths up to 3 feet (Entrix 2004b). Backwater marshes and annual sandbar formation are requisite habitat conditions for the goby. Emergent vegetation is critical for winter survival while open areas are required for spawning (Moyle 2002 as cited in Entrix 2004b). The goby spawns year round, but most often late April to early May, in burrows dug 4 to 8 inches deep in coarse sand. The tidewater goby's life span is approximately one year (Entrix 2004b).

The tidewater goby occurs within the City of Santa Cruz limits in Moore Creek (Smith and Welch 1996 and Smith 2001), and in the lower San Lorenzo River (C. Swift pers. comm. 2005). Despite a 1984 CNDDB record of the goby in Arana Gulch, based on 2004 surveys by Entrix, no suitable habitat for the fish is present in Arana Creek. "Although re-colonization of Arana Creek is possible, current habitat conditions [dredging of the Santa Cruz Yacht Harbor and lack of sandbar formation] make the establishment of a resident population unlikely" (Entrix 2004c). The tidewater goby occurs just outside of the city limits in Younger Lagoon (EcoSystems West 2002b).

North American green sturgeon (*Acipenser medirostirs*) (Southern Distinct Population Segment) (DPS). The North American green sturgeon is listed as Federally Threatened by the USFWS, and designated as a Species of Special Concern by the CDFG. The CNDDB Ranking for this species is G3S1S2. The CNDDB State Ranking indicates an Extremely Endangered to Endangered status for the fish (NOAA 2011a).

Green sturgeon are believed to spend the majority of their lives in nearshore oceanic waters, bays, and estuaries. Early life-history stages (1-4 years) reside in fresh and estuarine water, before dispersing widely in the ocean. Adults return to freshwater to spawn when they are more than 15 years of age and more than 4 feet (1.3 m) in size. Green sturgeon spawn in deep pools or "holes" in large, turbulent, freshwater river mainstems (NOAA 2011a).

The green sturgeon is known to occupy the coastal marine area of the Monterey Bay. The Monterey Bay falls within the designated coastal marine area of the green sturgeon's critical habitat; however no streams, rivers, or estuarine areas within the Monterey Bay are considered critical habitat. The closest riverine habitat occurs within the San Francisco Bay Delta and the San Joaquin/Sacramento River system and green sturgeon are believed to spawn in the Sacramento River (NOAA 2009).

Reptiles and Amphibians

California Red-Legged Frog (*Rana draytonii*). The California red-legged frog (CRLF) is listed as Threatened by the US Fish and Wildlife Service under the federal Endangered Species Act, and as a Species of Special Concern by the State (CDFG 2011). The CNDDB Ranking for the frog is

G4T2T3S2S3. The CNDDB State Ranking indicates a Restricted Range, Rare to an Endangered status for the subspecies throughout its range (CDFG 2011).

The CRLF occurs in a variety of natural and manmade habitats including pools next to or in streams, marshlands, sag ponds, and springs; as well as cattle stockponds, secondary and tertiary sewage treatment ponds, wells, canals, golf course ponds, irrigation ponds, sand and gravel pits (containing water), and large reservoirs (Jennings 1988). In addition, California red-legged frogs are known to occur and reproduce in tidally-influenced coastal marshes under certain conditions (Reis 1999). The key to the presence of CRLF in these habitats is the presence of perennial water and the general lack of introduced predators such as centrarchid fishes (e.g., large mouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanellus*), and bluegill (*L. macrochirus*)) and introduced bullfrogs (*Rana catesbiana*). As long as there is standing water present of at least several inches in depth and introduced aquatic predators are rare or nonexistent, CRLF have a chance of being present (H.T. Harvey and Assoc. 1997). If the aquatic habitat hosts introduced aquatic predators, then the CRLF will probably disappear over time unless there is a nearby breeding site available that favors the CRLF and excludes introduced predators (H.T. Harvey and Associates 1997). CRLF and introduced aquatic predators have been observed co-existing in large reservoirs provided microhabitats are available that favor the CRLF, such as isolated pools or small coves containing adequate escape cover (e.g., submerged algae mats, stands of cattails (*Typha* spp.), bulrushes (*Scirpus* spp.) willow (*Salix* sp.), and/or root wads, undercut banks, submerged crevices, or boulders (Cook 1997 and K. Glinka personal observation 2002).

CRLF reproduction occurs at night in ponds, slack water pools of streams, or in pools of intermittent streams isolated from aquatic predators during the winter and early spring (late November through April) after the onset of seasonal rains (Storer 1925; Hayes and Jennings 1989; Jennings and Hayes 1994). Egg masses are attached to emergent vegetation such as cattails, bulrushes, roots, or twigs, at depths of 3-4 inches (Storer 1925). Eggmasses have also been observed loosely attached to floating mats of vegetation in still water conditions (Reis 1999). Typically, CRLF tadpoles require aquatic habitat of water depths greater than 2 feet (0.7 meters) (Hayes and Jennings 1989) for at least 7 months, but are known to occur in minimum water depths of 10 inches (25 centimeters) during their development (Reis 1999 and USFWS 2002). In isolated pond environments containing water year-round, tadpoles are known to overwinter in a larval form (Fellers et al. 2001).

After development, CRLF subadults and adults are known to migrate overland up to 2 miles (3.2 km) between breeding and aquatic sites to forage and/ or breed (Bulger 1998; USFWS 2002). Transient frogs have been observed in a variety of upland areas considered unsuitable for frogs such as open grasslands, croplands, and roads (H.T. Harvey & Associates 1997). They have also been observed in environments providing more available cover and refuge opportunities, in dense thickets of shrub-like vegetation, leaf litter, slash/debris piles, stockpiled boulders/rip-rap, and riparian forests (USFWS 2006). The CRLF is active year-round along the California coast, but may aestivate from late summer to early winter in small mammal and rodent burrows as well as in cracks and crevices in the ground, especially if their associated aquatic habitat becomes dry (Jennings and Hayes 1994).

Within the City of Santa Cruz limits, CRLF are known to occur and reproduce in Moore Creek (K. Glinka pers. comm. 2007; Bulger 1999; M. Fusari pers. comm. 2000; and M. Allaback pers. comm. 2000), and frogs have been observed at Antonelli Pond (Westphal pers. comm. 1997), and the marsh at Natural Bridges (M. Westphal pers. comm. 1997). Two historical records exist for the frog in Branciforte Creek (Museum of Vertebrate Zoology 1959 and California Academy of Sciences 1893). Just outside the city limits the frog is known to occur on the UCSC coastal lands north of the city (Mori 1997 and EcoSystems West 2002a) and in Younger Lagoon (G. Gray pers. comm. 1998 and B. Mori pers. comm. 1997), and known to occur and breed at the UCSC Arboretum pond (CNDDB 2007; M. Allaback pers. comm. 2001; and M. Fusari pers. comm. 2000). Adult frogs have also been observed in the mist houses of the Arboretum (M. Allaback pers. comm. 2001 and M. Fusari pers. comm. 2000).

Western pond turtle [*Emys marmorata*]. The western pond turtle (WPT) is designated as a Species of Special Concern by the California Department of Fish and Game. The CNDDB Ranking for the turtle is G3G4S3. The CNDDB ranking indicates a status from Apparently Secure to Restricted Range; Rare. The State Ranking indicates a Restricted Range, Rare; to Endangered status for the subspecies, and an Endangered status for the species (CDFG 2011).

The WPT is found in ponds, marshes, rivers, streams, and irrigation ditches containing aquatic vegetation. It is usually seen sunning on logs, banks, or rocks near banks. The reproduction of WPT occurs along the banks and upper terraces of slow-moving streams and rivers. During the spring or early summer, females move overland up to 100m to find suitable egg-laying sites in loose sandy substrate or dense vegetation cover (Rathbun et al. 1992). Eggs are laid from March to August depending on local conditions, and hatchlings emerge up to approximately 80 days later (Feldman 1982). Individuals are active all year where climates are warm, but hibernate during cold periods in other seasonal areas of California (Bury and Holland 1994). The turtle nests in burrows in woodlands, grasslands, and open forest up to several hundred feet away from river or pond banks (Bury and Holland 1994).

The WPT has been known to occur within the City of Santa Cruz limits in Antonelli Pond (LTSCC 2001), Neary Lagoon (K. Glinka pers. comm. 2007), Moore Creek (Biotic Resource Group with Dana Bland and Associates 2001, CNDDB 2007)), the marsh at Natural Bridges (CNDDB 2007) and in the Pogonip along the San Lorenzo River north and south of the picnic area at the Sycamore Grove (Brady LSA 1998). A historic occurrence record exists for Westlake Pond (Strelow Consulting 2002a). Potential habitat exists in Meder Canyon and Arana Gulch. Just outside of the City of Santa Cruz limits, a pond turtle was observed at the UCSC Arboretum Pond (K. Glinka pers. comm. 2007).

Birds

Brown Pelican (*Pelecanus occidentalis*) (nesting and communal roosts). Nesting and communal roosts of the brown pelican were previously federally and state-listed as Endangered, but have been delisted at both federal and state levels. The CDFG lists the nesting and communal roosting activities of the brown pelican as Fully Protected. These activities are ranked by the CNDDB as G4T3S1S2. The CNDDB state ranking indicates an Endangered to Extremely Endangered status (CDFG 2011).

The habitat of the brown pelican includes coastal areas such as sandy beaches, lagoons, waterfronts and marinas (Nature Works New Hampshire Public Television 2007). Sand spits and offshore sand bars are used extensively for roosting (USFWS 2007f). Pelicans live in flocks made up of males and females (Nature Works New Hampshire Public Televison 2007). Feeding occurs primarily in shallow estuarine waters with the birds seldom venturing more than 20 miles out to sea (USFWS 2007f). Common prey items include: menhaden, herring, mullet, sheepshead, silversides as well as other fish species, and crustaceans (Nature Works New Hampshire Public Television 2007).

Brown pelicans nest in large colonies mostly on small coastal islands. Preferred nesting sites provide protection from mammal predators, and sufficient elevation to prevent widescale flooding of nests (USFWS 2007f). The nests occur on the ground, in bushes, or in the tops of trees. In most of the pelican's U.S. nesting range peak egg-laying occurs in March and April. A clutch of two or three eggs hatch in approximately 1 month after laying. Both parents incubate the eggs and care for the young. Average age at first flight is 75 days (USFWS 2007f).

Within the City of Santa Cruz limits, communal roost sites are located along West Cliff from Lighthouse Point to Younger Lagoon (Gerow 2006 and ESW 2006 Surveys). The brown pelican is also known to roost on the Santa Cruz Municipal Wharf (Entrix 2004a) and along the San Lorenzo River (Swanson Hydrology and Geomorphology et al. 2002). The brown pelican forages along the city coastline.

Double-crested Cormorant (*Phalacrocorax auritus*) (rookeries). The rookeries of the double-crested cormorant are listed on CDFG's Bird Species of Special Concern Taxa to Watch (CDFG, PRBO Conservation Science, and Western Field Ornithologists 2008). The double-crested cormorant rookeries are ranked by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range and rare based on the number of individuals per area of occupied habitat.

The double-crested cormorant is found in a variety of marine and inland aquatic habitats, such as ponds, lakes, rivers, lagoons, estuaries, and open coastline. This species requires shallow water for feeding, as well as nearby perches, such as rocks, sandbars, pilings, shipwrecks, wires, trees or docks for resting, and drying out during the day). Double-crested cormorants feed (often in large flocks) primarily on fish, but will also eat insects, crustaceans and amphibians (Cornell 2007).

Double-crested cormorants breed in colonies between April and August, with peak activity occurring in May through July. The nests typically built on the ground, but are occasionally built in trees. The female usually lays 3-4 eggs which hatch asynchronously after 25 to 28 days. Both parents incubate the eggs, and care for the young. The chicks become completely independent of their parents by 10 weeks of age. Double-crested cormorants do not breed until they are at least two years old (Kirschbaum and Ward 2000).

The double-crested cormorant has been know to breed in previous years along the San Lorenzo River within the City of Santa Cruz limits and currently breeds at nearby Schwan Lagoon. Potential breeding habitat for the bird is located in the upper Santa Cruz Yacht Harbor. The

species roosts on bluffs and seastacks along West Cliff Drive between Lighthouse Point and Natural Bridges State Park. The bird also roosts along the lower San Lorenzo River, at Neary Lagoon, Antonelli Pond, Westlake Pond, Arana Gulch and other locations in the vicinity of the Santa Cruz Yacht Harbor (Gerow 2006).

Black-crowned Night Heron (*Nycticorax nycticorax*) (rookeries). The rookeries of the black-crowned night heron are ranked by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range for the bird's rookeries and rare based on the number of individuals per area of occupied habitat.

The black-crowned night heron roosts among the dense foliage of trees (that are not always adjacent to water). It will also roost within fresh or brackish emergent wetlands, as well as on piers, and pilings (Grinnell and Miller 1944). Black-crowned night herons feed along the margins of lacustrine, large riverine, and fresh and saline emergent habitats as well as (rarely) on kelp beds in marine subtidal habitats. The black-crowned night heron's highly variable diet consists of fishes, crustaceans, aquatic insects and other invertebrates; as well as amphibians, reptiles, small mammals, and (rarely) young birds (Palmer 1962; Wolford and Boag 1971).
The breeding season for the black-crowned night heron is mainly February to July (Cogswell 1977). This monogamous species nests in large colonies within dense-foliaged trees and shrubbery, vine tangles, as well as dense (fresh or brackish) emergent wetlands (Cogswell 1977). This night heron will lay a clutch of 3-4 eggs in nests built of twigs and/or marsh plants (Gill 1977). The eggs are incubated for 24-26 days, and the young are subsequently tended by both parents. Young are able to fly at six weeks of age, but are not independent until some time later (Palmer 1962 and Harrison 1978).

The black-crowned night heron was known to breed historically within the City of Santa Cruz limits along Branciforte Creek (Gerow 2006). The bird was observed roosting at Antonelli Pond, along the lower San Lorenzo River, along the upper Santa Cruz Yacht Harbor and at Neary Lagoon in 2006 (Gerow 2006). Neary Lagoon provides potential nesting habitat (David J. Powers and Associates, Inc. 1998).

Sharp-shinned Hawk (*Accipiter striatus*) (nesting). The nesting sharp-shinned hawk is listed on CDFG's Bird Species of Special Concern Taxa to Watch (CDFG, PRBO Conservation Science, and Western Field Ornithologists 2008). The sharp-shinned hawk is ranked by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range for the bird and rare based on the number of individuals per area of occupied habitat.

The sharp-shinned hawk is commonly associated with dense stands of smaller conifers, but can nest in a variety of habitats, including deciduous riparian forest (Zeiner et al. 1990). The hawk often hunts near openings in the foliage, using adjacent woodland for cover. Sharp-shinned hawks formerly bred only in small numbers in California. Currently their breeding population appears to be greatly reduced to even smaller numbers, although data are lacking (Remsen 1978).

The sharp-shinned hawk is known to occur in Arana Gulch (HRG 1996 and Strelow Consulting and EcoSystems West 2000), Meder Canyon (John Gilchrist and Associates 1998), Neary Lagoon (David J. Powers and Associates, Inc. 1998 and Jones and Stokes 1992), and Antonelli

Pond (LTSSC 2001). The first two of these locations provide potential breeding habitat within the city limits of Santa Cruz. Potential breeding habitat also exists in the Pogonip (Santa Cruz Parks and Recreation Department 1998). A nest site was confirmed and a begging juvenile observed just outside of the city limits on the North UCSC campus. Adults were also sighted during breeding season in the same area (Gerow 2006).

Cooper's Hawk (*Accipiter cooperi*) (nesting). The nesting Cooper's hawk is listed on CDFG's Bird Species of Special Concern Taxa to Watch (CDFG, PRBO Conservation Science, and Western Field Ornithologists 2008). The nesting Cooper's Hawk is ranked by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range for the bird and rare based on the number of individuals per area of occupied habitat.

Cooper's hawk nesting habitats include deciduous riparian woodland, live oak, or second-growth conifers, usually near stream courses in dense stands with a relatively high crown closure and open understory (Call 1978, Zeiner et al. 1990). Accipiters partition food on the basis of size and prey type: Cooper's hawks prey on equal proportions of medium-sized birds and small mammals. (Reynolds 1989). Egg laying typically occurs in late April or early May, and young fledge in July (Call 1978).

Although rare throughout their range (Remsen 1978), Cooper's hawks are known to nest within Santa Cruz County (R. Cull pers. observation 1996). Within the city limits of Santa Cruz, nest sites are confirmed in Moore Creek (Strelow 2002a), Pogonip, Harvey West Park near the Pogonip, and De Laveaga Park (Gerow 2006). Another possible nest site occur in upper Redwood Creek also in the Pogonip (Gerow 2006). Potential habitat exists on the Poliski-Gross property adjacent to Moore Creek Preserve, in Meder Canyon on Arroyo Seco Creek and on Arana Creek. A Cooper's hawk was observed at Antonelli Pond (LTSCC 2001). A nest site is confirmed just outside of the city limits on the north UCSC campus (Gerow 2006).

Golden Eagle (*Aquila chrysaetos*) (nesting and wintering). The nesting and wintering golden eagle is listed on CDFG's Bird Species of Special Concern Taxa to Watch (CDFG, PRBO Conservation Science, and Western Field Ornithologists 2008) and Fully Protected by the CDFG. The golden eagle is ranked by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range for the bird and rare based on the number of individuals per area of occupied habitat. This species is also considered a Bird of Conservation Concern by the USFWS.

The golden eagle perches in stands of trees, on rock outcrops, or ridges overlooking open foraging areas. Foraging habitat consists of grassland, oak savanna, open woodland, and chaparral habitats. The golden eagle primarily forages for reptiles, California ground squirrels, small mammals and carrion. The breeding season for golden eagles begins as early as late January and lasts through July, peaking between March and June (Call 1978). Nest sites are constructed in large trees, on cliff ledges and rock outcrops and require solitude and freedom from human and other noise disturbance (Palmer 1988). Golden eagles maintain alternate nest sites and reuse old nest sites from year to year.

A pair of golden eagles forages over UCSC and the Pogonip (Gerow 2006 and Santa Cruz Parks and Recreation Department 1998). A juvenile was observed in the lower UCSC meadows in

2006 (Gerow 2006). A pair of golden eagles likely breeds in Rincon Gorge in the San Lorenzo Watershed, but nesting is not confirmed (Gerow 2006).

Ferruginous Hawk (*Buteo regalis*) (wintering). The wintering ferruginous hawk is listed on CDFG's Bird Species of Special Concern Taxa to Watch (CDFG, PRBO Conservation Science, and Western Field Ornithologists 2008). This species also has a CNDDB Ranking of G4S3S4, indicating a state CNDDB ranking between Restricted Range/Rare; and Apparently Secure. This bird is also considered a Bird of Conservation Concern by the USFWS.

The ferruginous hawk is a migratory winter resident to California, generally arriving in September and departing by mid-April. This hawk is known to frequent a variety of open habitats, including grasslands, agricultural areas, sagebrush flats, low foothills, and desert scrub (Garrett and Dunn 1981). The ferruginous hawk is a "sit-and-wait" predator that is known to hunt cooperatively. This species searches for prey via low flights over open, treeless areas, sometimes hovering or hunting from high mound perches. Their primary prey species are rabbits, ground squirrels, and prairie dogs, but they will also take mice, birds, reptiles, and amphibians (Bent 1937, Olendorff 1973, Call 1978).

This species has been observed within city limits at Antonelli Pond (LTSCC 2001).

White-tailed Kite (*Elanus leucurus*) (nesting). The white-tailed kite (formerly known as black-shoulder kite) is listed by the CDFG as Fully Protected and by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range for the bird and rare based on the number of individuals per area of occupied habitat.

The white-tailed kite feeds on rodents, lizards, birds, and insects. Nests are located in herbaceous open stages of most habitats. Stick nests are made near the tops of trees, camouflaged from below but open on top. Breeding season occurs from late February to early August. Occasionally kites will double brood in a single season (Faanes and Howard 1987). Nest sites may be used from year to year with 4 to 5 eggs laid (Ehrlich et al. 1988). Under favorable conditions, kites may nest semi-colonially (Ehrlich et al. 1988). Males feed both the females and young during nesting season (Ehrlich et al. 1988 and B. Walton pers. comm. 1996).

Multiple white-tailed kite nests are located within the city limits in the Pogonip, with the meadows providing foraging territory (John Gilchrist and Associates 1998 and Gerow 2006). White-tailed kites are known to nest in Natural Bridges (Strelow 2002a). White-tailed kites have been observed on Moore Creek Preserve, Neary Lagoon, Antonelli Pond and, occasionally Lighthouse Field. These locations provide foraging and roosting habitat, with Moore Creek Preserve providing potential nesting habitat. Potential habitat also exists in Arana Gulch, Meder Canyon and on the Poliski-Gross property adjacent to Moore Creek Preserve. Outside of the city limits, a white-tailed kite nest was observed on the north UCSC campus (EcoSystems West 2004). Also outside of the city limits, a nest is likely located near Cave Gulch, west of Empire Grade, with Inclusion Area A and the Great Meadow on the UCSC campus providing foraging territory, and another nest is likely located west of the city limits. A pair was observed using the coastal UCSC fields for foraging, and was joined in late summer by two juveniles in 2006

(Gerow 2006). Kites have been observed foraging over this same area in previous years (EcoSystems West 2002b).

Merlin (*Falco columbarius*) (wintering). The wintering merlin i listed on CDFG's Bird Species of Special Concern Taxa to Watch (CDFG, PRBO Conservation Science, and Western Field Ornithologists 2008). The wintering species is listed by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range for the bird and rare based on the number of individuals per area of occupied habitat (CDFG 2011).

The merlin is an uncommon winter migrant to California from September to May. The adult merlin appears to have large home ranges during the winter (e.g., 196 ha in Saskatoon) (Warkentin and Oliphant 1990). The merlin utilizes a wide variety of habitats, from annual grasslands to ponderosa pine and montane hardwood-conifer habitats. The bird also favors coastlines, lakeshores, and wetlands and is often observed in open habitats at low elevations near water. The merlin utilizes dense strands of trees for cover. The merlin feeds primarily on small birds, but will eat small mammals and insects as well. The merlin also forages along shorelines in winter, to hunt for shorebirds (CDFG 2005).

Merlins have been observed within the city limits of Santa Cruz at Arana Gulch (HRG 1996 and Santa Cruz Parks and Recreation Department 2006), Lighthouse Field (Strelow 2003b), Meder Canyon (John Gilchrist and Associates 1998) and Antonelli Pond (LTSCC 2001). Just north of the City of Santa Cruz limits, the species has been observed on the coastal UCSC lands (Tyler 1987).

Black Oystercatcher (*Haemotopus bachmani*) (nesting). The CNDDB ranking for the bird is G5S2, indicating a state ranking of Endangered. The nesting black oystercatcher is considered a Bird of Conservation Concern by the USFWS (CDFG 2006s).

The black oystercatcher is a permanent resident on rocky shores of marine habitats along almost the entire California coast, and on adjacent islands. It requires cliffs, rock outcrops, offshore rocky islets, jetties and similar features of coastal rocky intertidal habitats for roosting at high tide. This oystercatcher is found along the rocky shoreline of the Pacific Coast, but can also be observed on nearby mudflats in the winter (National Audubon Society 2002). This oystercatcher feeds mostly on the invertebrates of rocky intertidal areas, such as mussels, but its diet also includes limpets, whelks, and other marine organisms. They forage primarily at low tide and then rest at high tide (National Audubon Society 2002).

The black oystercatcher breeds on undisturbed, rocky, open ocean shores, beyond the reach of waves and terrestrial predators. They begin egg-laying in early May, and by late September most chicks will have fledged (Ainley et al. 1971-1980; Hunt et al. 1979). Both sexes incubate a typical clutch of 2-3 eggs, which hatch after about four weeks (National Audubon Society 2002). Both parents care for the chicks, which are able to accompany parents to nearby feeding areas, one week after hatching (Hartwick 1974 and CDFG 2005).

Courtship displays by the black oystercatcher have been observed within the City of Santa Cruz limits in the Natural Bridges/De Anza area (Gerow 2006). The birds roost along the rocky

shoreline from Cowell's Beach to Younger Lagoon. An exceptional roost site is located on the seastack (previously the natural bridge) just offshore from Natural Bridges State Beach (ESW 2006 Surveys).

Long-eared Owl (*Asio otus*) (nesting). The nesting long-eared owl is a State Species of Special Concern. The nesting long-eared owl is ranked by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range and rare based on the number of individuals per area of occupied habitat.

The long-eared owl occurs in a variety of wooded habitats. The bird typically uses abandoned nests of other raptors and tree squirrels, occasionally nesting in tree cavities, and rarely in hollows on the ground (Harrison 1978). The local breeding season spans February through July.

This species is a rare breeding species in Santa Cruz County. A long-eared owl was observed at Neary Lagoon in 1992 (Jones and Stokes 1992). Potential breeding habitat for the owl is located at Neary Lagoon (David J. Powers and Associates, Inc. 1998) and in the Pogonip (Santa Cruz Parks and Recreation Department 1998).

Burrowing Owl (*Athene cunicularia*) (burrow sites and wintering observations). Breeding and wintering populations of burrowing owls are California Species of Special Concern. The CNDDB ranking for the bird is G5S2, indicating a state ranking of Endangered. This species is also considered a Bird of Conservation Concern by the USFWS (CDFG 2011).

The burrowing owl uses open grassland habitats for foraging and nesting. Suitable habitat has low-growing vegetation interspersed with bare ground; and hillocks, berms, fence posts or other slightly elevated objects available for resting/perching. Burrowing owls are primarily crepuscular foragers, but hunting has been observed over 24 hours (Thomsen 1971 and Marti 1974). Insects are the usual prey during daylight hours, while small mammals are taken more often after dark (Marti 1974; Plumpton 1992; Thomsen 1971).

Burrowing owls use abandoned burrows, especially of ground squirrels, as roost and nest sites. Under pressures from urban development burrowing owls have been known to use less than optimal habitat, including man-made structures such as culverts. Breeding occurs from March to August, and clutches average five to six eggs (Bent 1938).

Potential habitat for the burrowing owl exists on the Pogonip (Santa Cruz Parks and Recreation Department 1998), on Moore Creek Preserve, and on the Poliski-Gross property adjacent to Moore Creek Preserve (Biotic Resource Group with Dana Bland and Associates 2001). Burrowing owls were observed foraging and breeding outside the city limits at UCSC in 2006, along the upper main bike path and below the East Remote Parking Lot (Gerow 2006).

Vaux's Swift (*Chaetura vauxi*) (nesting). The nesting Vaux's swift is a State Species of Special Concern. The bird is listed by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range for the bird and rare based on the number of individuals per area of occupied habitat (CDFG 2011).

The Vaux's swift is a summer resident of northern California as well as a fairly common migrant throughout most of the California in April, May, August and September. The Vaux's swift prefers redwood, Douglas-fir, and other coniferous habitats (Bent 1940). The bird feeds exclusively on flying insects taken in long, continuous foraging flights. It generally feeds high in the air over most terrains and habitats, but also feeds commonly at lower levels in forest openings, above burns, and especially over rivers (Grinnell and Miller 1944) and lakes (Terres 1980). Flocks of Vaux's swifts roost in hollow trees and snags, and occasionally in chimneys and buildings (Bent 1940). Nests are typically built on the vertical inner wall of a large, hollow tree or snag, especially tall stubs charred by fire (Bent 1940). The swift will also nest in chimneys and buildings. Solitary nesting appears to be typical for this species, that breeds from early May to mid-August. Their normal clutch of 4-5 eggs incubates for 18-20 days. The young are tended by both parents, then leave the nesting tree at about 28 days (Harrison 1978).

Confirmed nesting took place within the City of Santa Cruz limits in chimneys in a residential neighborhood near Natural Bridges State Park in 2005 and 2006. Vaux's swifts have been regularly present in several other neighborhoods suggesting nesting in chimneys in those areas as well: the Spring Street area adjacent to UCSC and the Pogonip and the rural-residential area south of the UCSC Arboretum. Birds have been observed foraging over Moore Creek Preserve. Although Douglas-fir snags may provide natural nest sites, no evidence of nesting in the Preserve was observed (Gerow 2006). Vaux's swifts have also been observed at Arana Gulch (HRG 1996a and CNDDB 2007), Antonelli Pond (LTSCC 2001) and Meder Canyon (John Gilchrist and Associates 1998).

Black Swift (*Cypseloides niger*) (nesting). The nesting black swift is a State Species of Special Concern. The CNDDB ranking for the bird is G4S2, indicating a state ranking of Endangered. This species is also considered a Bird of Conservation Concern by the USFWS (CDFG 2011).

The black swift breeds along coastal bluffs and mountains and migrate south for the winter and are mostly absent from California from October through April. The home range for black swifts is considered very large (Bent 1940; Grinnell and Miller 1944). If there are suitable nest sites for breeding, the black swift will forage over almost any terrain and habitat. The bird forages widely, feeding exclusively on flying insects captured in sustained, long-distance foraging flights (Bent 1940).

The breeding season for the black swift occurs from early June to late August. It usually nests in small colonies, constructing nests of mud mixed with moss, ferns, seaweed, or other plant materials. Nests are built in moist crevices or caves on sea cliffs above the surf, or on cliffs adjacent to waterfalls in deep canyons (Bent 1940). The swift lays only one large egg per year (Harrison 1978), and incubates it for 24-27 days. The young leave the nest after about 45 days, but the nestling period is probably highly variable, as it is for other swifts (Hunter and Baldwin 1962 and Foerster 1987).

Black swifts were known to nest within the City of Santa Cruz limits in the early 1990's in the cliffs along West Cliff (Gerow 2006) and were also observed at Neary Lagoon in 1992 (Jones and Stokes 1992). Known nesting sites were located southwest of Mitchell's Cove along the bluffs (Gerow 2006) and at Lighthouse Point (Gerow 2006 and Strelow 2003). These sites still

provide suitable nesting habitat. Birds were observed all along the West Cliff coastline in 2006 including observations of interactions with previous nest sites and apparent courtship activities, but no recent nesting has been confirmed (Gerow 2006). Black swifts were also observed foraging over the grassland at Moore Creek Preserve in 2006 (Gerow 2006). Just north of the City of Santa Cruz limits, the species has been observed on the coastal UCSC lands (Tyler 1987).

Loggerhead Shrike (*Lanius ludovicianus*) (nesting). The nesting loggerhead shrike is a State Species of Special Concern. This species is also considered a Bird of Conservation Concern by the USFWS (CDFG 2011).

A common resident of lowlands and foothills, this species prefers open habitats with scattered shrubs, trees, fences, or other lookout posts. The loggerhead shrikes occurs only rarely in heavily urbanized areas. The bird hunts insects, snakes, small birds, and rodents, which they often impale on thorns or barbed wire while they eat. Eggs are laid from March to May, with a clutch size of four to seven eggs (Porter et al. 1975), in shrubs and trees with dense vegetation for concealment (Bent 1950 and Miller 1931).

Potential habitat for the shrike is located on the Pogonip, Moore Creek Preserve, and on the Poliski-Gross property adjacent to Moore Creek Preserve (Biotic Resource Group with Dana Bland and Associates 2001). Just north of the City of Santa Cruz limits, the species has been observed on the coastal UCSC lands (Tyler 1987).

California Horned Lark (*Eremophila alpestris actia*). The California horned lark is listed on CDFG's Bird Species of Special Concern Taxa to Watch (CDFG, PRBO Conservation Science, and Western Field Ornithologists 2008). This lark also has a CNDDB Ranking of G5T3S3, indicating a state ranking of Restricted Range; Rare for the species and this subspecies, throughout its entire range (CDFG 2011).

The California horned is a common resident to a variety of open California habitats (Zeiner et al. 1990). The California horned lark breeds in level or gently-sloping shortgrass prairie, montane meadows, "bald" hills, open coastal plains, fallow grain fields, and alkali flats (Grinnell and Miller 1944). This bird utilizes grasses, shrubs, forbs, rocks, litter, clods of soil, and other surface irregularities for cover in these habitats. The horned lark forages individually on the ground in unvegetated areas and agricultural fields with short vegetation (Beason 1995). It consumes mostly insects, snails, and spiders during breeding season, and supplement its diet with plant matter (e.g., grass and forb seeds) during other seasons (Bent 1942).

The California horned lark builds a grass-lined nest in a depression on the ground out in the open. Breeding pairs nest solitarily, and are monogamous within a given breeding season (Beason 1995). This species frequently raises two broods in a season (Bent 1942), usually between March and July. The horned lark lays a clutch of two to five eggs (Beason 1995), that are incubated for 10-14 days. The young are tended by both parents, then leave the nest at 9-12 days (Harrison 1978).

The horned lark is known to occur as a migrant in the Pogonip (Brady/LSA 1998). There is potential for the California horned lark to occur in Moore Creek Preserve, in Meder Canyon, and in Poliski-Gross Property (Biotic Resource Group with Dana Bland and Associates 2001).

Oak Titmouse (*Baeolophus inornatus*) (nesting). The nesting activities of the oak titmouse have a CNDDB ranking of G5S3?, indicating a questionable state status of restricted range and rare . This species is also considered a Bird of Conservation Concern by the USFWS (CDFG 2011).

The oak titmouse is a common year-round resident of warm, dry woodlands in portions of the western United States. The oak titmouse occupies low- to mid-elevation habitats such as oak or oak-pine woodlands (Block 1989, 1990) and open pine forests (Johnson and Cicero 1985). The oak titmouse has a varied diet that is composed of plant and animal foods. The main plant materials consumed by this species include: willow catkins, leaf buds, galls, and berries, cultivated fruits, and seeds (e.g., pines, oats, thistles, weeds, and poison oak) (Bent 1946; Martin et al. 1951; Csuti et al. 1997; and Beal 1907). This species also consumes a variety of invertebrates (e.g., leafhoppers, aphids, caterpillars, beetles, ants, wasps, and spiders (Bent 1946, Martin et al. 1951, Csuti et al. 1997). The oak titmouse breeds from March into July, with peak activity in April and May. This species forms pair bonds during the first breeding season and mates for life. The oak titmouse is a solitary nester that defends its territory year-round. The breeding pair builds a nest of grass, moss, mud, hair, feathers, and fur (Harrison 1978) in a woodpecker hole, natural cavity, or nest box. The pair is also known to partially excavate cavities (Bent 1946). This species lays a clutch of six to eight eggs, which are incubated for 14-16 days (usually by the female). The young are tended by both parents in the nest for about 20 days, and for another three to four weeks after leaving the nest hole (Harrison 1978; Erlich et al. 1988).
The oak titmouse is confirmed as nesting at Lighthouse Field, Neary Lagoon, Garfield Park, in Westside residential areas, on lower Branciforte Creek and Oceanview Park, in the Jesse Street Marsh area, and along the San Lorenzo River (north of Highway One). The bird is likely to be nesting at Natural Bridges (Gerow 2006).

Yellow Warbler (*Dendroica petechia brewsteri*) (nesting). The nesting yellow warbler is a State species of special concern. The CNDDB ranking for the bird is G5T3?S2, indicating a CNDDB state ranking of Endangered. This species is also considered a Bird of Conservation Concern by the USFWS (CDFG 2011).

The yellow warbler forages and breeds in a variety of habitats (Zeiner et al. 1990), but primarily in deciduous riparian woodlands and shrub habitats with open riparian canopy along streams and lakes. The bird prefers dense canopies for inconspicuous nesting and for gleaning insects from foliage (Ficken and Ficken 1966; Bent 1953; Ehrlich et al. 1988).

The yellow warbler has been documented nesting in previous years (until the mid 1990's) along Arana Gulch Creek (HRG 1996; Strelow 2002a; and Gerow 2006), Neary Lagoon (Strelow 2002b; Gerow 2006), Antonelli Pond (LTSCC 2001; Gerow 2006), Moore Creek Preserve (Gerow 2006), Carbonera and Branciforte Creeks (Strelow 2002), and Westlake Pond (Strelow 2002). The yellow warbler, including territorial and nesting birds, has been observed along the San Lorenzo River north of Water Street in previous years (Santa Cruz Parks and Recreation

Department 1998, Strelow 2002 and Gerow 2006). The species was also observed in Meder Canyon (John Gilchrist and Associates 1998). While the species is still known to occur in these locations and while potential nesting habitat exists (David J. Powers and Associates, Inc 1998 and Santa Cruz Parks and Recreation Department 2006), Suddjian (2000) has observed a noticeable decline in nesting yellow warblers in Santa Cruz County. The Pogonip (Santa Cruz Parks and Recreation Department 1998) and the Poliski-Gross property adjacent to Moore Creek Preserve (Biotic Resource Group with Dana Bland and Associates 2001) also provides potential nesting habitat for the bird while Natural Bridges and other open spaces with deciduous trees provide foraging habitat for migrating birds (Gerow 2006).

Hermit Warbler (*Dendroica occidentali*) (nesting). The nesting hermit warbler is listed by the CNDDB as G4G5S3?. The CNDDB state ranking indicates a questionable restricted range for the nesting bird and rare based on the number of individuals per area of occupied habitat (CDFG 2011). This species is also considered a Bird of Conservation Concern by the USFWS (CDFG 2011).

The hermit warbler frequents mature stands of conifers (ie., Douglas-fir, redwood, and montane hardwood-conifer habitats), with open to dense canopy for breeding and other activities. The bird feeds upon insects and spiders gleaned from foliage in the middle to upper canopy (Morrison 1982). The hermit warbler breeds from late April into early July, with peak activity in June. This species usually builds nests 7.6 to 15 m (25-50 ft) above the ground, on a horizontal branch of a conifer (Harrison 1978). The female lays 3-5 eggs per clutch. The hermit warbler adult and its eggs are subject to predation by accipiters and small mammals (Verner and Ritter 1983).

The hermit warbler likely nests in the Pogonip within the City of Santa Cruz limits; two pairs of territorial singing males were observed in 2003 (Gerow 2006). Breeding has been confirmed at UCSC (Gerow 2006). The hermit warbler also occurs in Meder Canyon (John Gilchrist and Associates 1998). This location provides potential nesting habitat as do other open spaces within the city that provide woodland habitat for the bird.

Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*). The saltmarsh common yellowthroat is a State Species of Special Concern. The bird is listed by the CNDDB as G5T2S2, indicating that the subspecies is listed by the CNDDB as Endangered throughout its range and Endangered in the state. This subspecies is also considered a Bird of Conservation Concern by the USFWS (CDFG 2011).

The saltmarsh common yellowthroat breeds in saltwater marshes of the San Francisco Bay area (California) but exact breeding range has not been delimited (Marshall and Dedrick 1994). The saltmarsh common yellowthroat nests in overgrown fields with scrub, on the margins of woodlands, and freshwater and saltwater marshes. The bird uses small and relatively isolated patches of habitat, such as swales and seeps, where groundwater is close to the surface (Hobson et al. 1986). The bird forages on insects gleaned from vegetation, largely spiders, and occasionally takes insects from the ground and seeds. The yellowthroat builds well-concealed open-cup nests, typically near the ground in grasses, herbaceous vegetation, cattails, tules, and scrub (Menges 1998).

Common yellowthroats were observed within the City of Santa Cruz limits in Neary Lagoon (David J. Powers and Associates 1998 and Jones and Stokes 1992) and along the San Lorenzo River (Swanson Hydrology and Geomorphology et al. 2002). Saltmarsh common yellowthroats were observed nesting or showing nesting behaviors outside the city limits at UCSC's Younger Lagoon in 1988 (Tyler 1987), and during 2001 and 2002 surveys (EcoSystems West 2002b). It is a question of debate in the ornithological community whether the birds identified in the vicinity represent the common yellowthroat (*Geothlypis trichas)* or the special-status sub-species, the saltmarsh common yellowthroat (*Geothlypis trichas sinuosa)*.

Yellow breasted chat (*Icteria virens*) (nesting). The nesting yellow breasted chat is a State Species of Special Concern. The bird is listed by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range for the bird and rare based on the number of individuals per area of occupied habitat (CDFG 2011).

The yellow-breasted chat is associated with dense riparian habitats with well-developed under story (Roberson 1985). The bird forages at various heights by gleaning insects from leaves and bark, and feeding on small fruits. Typically, nests are formed in dense riparian vegetation 1-8 feet above the ground (Harrison 1978 and Ehrlich et al. 1988).

The yellow breasted-chat may be extirpated as a breeder in the County of Santa Cruz (Strelow 2002). Historically, the species likely nested along the San Lorenzo River (Suddjian 1990). The species is known to occur at Neary Lagoon (David J. Powers and Associates, Inc 1998) and may occur in other sites providing suitable riparian habitat such as Arana Gulch (Strelow and Ecosystems West 2000) and Moore Creek Preserve.

Chipping Sparrow (*Spizella passerina*) (nesting). The CNDDB Ranking for the chipping sparrow is G5S3S4, indicating that the nesting areas for this species have a ranking between Restricted Range / Rare; and Apparently Secure (CDFG 2011).

The chipping sparrow prefers open wooded habitats with a sparse or low herbaceous layer and few shrubs. It prefers trees for nesting, resting, singing, and other cover, but will also utilize shrubs and ground herbage. The chipping sparrow is also known to breed or winter in orchards (Grinnell and Miller 1944; McCaskie et al. 1979; Garrett and Dunn 1981). The chipping sparrows often forages in nearby herbaceous and open shrub habitats, including dry margins of wet meadows.

The chipping sparrow eats mostly insects and spiders in the breeding season, and mostly grass and forb seeds the remainder of year (Martin et al. 1961). The bird may forage in small flocks in winter with juncos, Brewer's sparrows, and other sparrows (Ehrlich et al. 1988). In California, the chipping sparrow usually nests in conifers, but will also utilize deciduous trees or shrub (Grinnell and Miller 1944). The chipping sparrow's nests are usually concealed in dense foliage near the end of branch. The chipping sparrow is a monogamous, solitary nester who normally lays a clutch of three to five eggs. The female incubates the eggs for 11-14 days. The young are tended by both parents, then leave the nest at 9-12 days, but do not fly until about 14 days.

Within the City of Santa Cruz limits, the chipping sparrow is known to nest in Moore Creek Preserve and the Pogonip, although confirmed nesting locations vary from year to year. Just outside of the city limits, the bird is a confirmed nester at UCSC, in Inclusion Area A and the north campus (Gerow 2006).

Grasshopper Sparrow (*Ammodramus savannarum*). The grasshopper sparrow is a State Species of Special Concern. The CNDDB ranking for the bird is G5S2, indicating a CNDDB state ranking of Endangered (CDFG 2011).

The grasshopper sparrow occurs in dry, dense grasslands, especially in those with a variety of grasses, tall forbs, and scattered shrubs (Grinnell and Miller 1944; McCaskie et al. 1979 and Garrett and Dunn 1981). The grasshopper sparrow feeds primarily on insects, but will also consume other invertebrates, as well as grass and seeds (Bent 1968). This sparrow build nests composed of grasses and forbs, located in a slight depression in ground at the base of an overhanging clump of grasses or forbs. This species breeds from early April to mid-July, with a peak in May and June. Grasshopper sparrow pairs are known to be solitarily nesters. They usually lay a clutch of four or five eggs, and raise two or three broods per year. The female incubates the eggs for 11-12 days, and is the parent who tends the young (Harrison 1978).

The grasshopper sparrow is a confirmed nester at Moore Creek Preserve. Territorial behavior was also observed at Pogonip (Gerow 2006). Just outside of the city limits a possible nesting site occurs at UCSC in Inclusion Area A (Gerow 2006).

Tricolored Blackbird (*Agelaius tricolor*) (nesting colonies). The tricolored blackbird is a State Species of Special Concern. The CNDDB ranking for the bird is G2G3S2, indicating a global ranking from restricted range; rare to Endangered, and a state ranking of Endangered. This species is also considered a Bird of Conservation Concern by the USFWS.

Large flocks of tricolored blackbirds roost in emergent wetland vegetation, especially cattails and tules, but will also utilize trees and shrubs (Terres 1980). The tricolored blackbird diet is composed mostly of insects and spiders in the spring and summer (Crase and DeHaven 1978). Seeds and cultivated grains compose most of their fall and winter diets. Tricolored blackbirds forage on the ground in croplands, grassy fields, flooded land, and along edges of ponds.

This species breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Their nests are usually located near fresh water, and tend to be hidden on the ground among low vegetation. The normal breeding season for this species is mid-April into late July, but active breeding has also been reported in October and November in the Sacramento Valley (Orians 1960). Tricolored blackbirds are polygynous, with each male having several mates nesting in his small territory. These blackbirds usually clutch 3-4 eggs, and may raise two broods per year (Terres 1980). The incubation period lasts about 11 days, and the young are tended by the female or by both parents. The young blackbirds leave the nest after about 13 days (Harrison 1978). Dense breeding colonies of tricolored blackbirds are vulnerable to massive nest destruction by mammalian and avian predators, including Swainson's hawks (Bent 1958).

Tricolored blackbirds were known to nest historically within the city limits of Santa Cruz at Neary Lagoon and Antonelli Pond (Jones and Stokes 1992 and Strelow 2002). The bird is still known to occur at both locations (LTSCC 2001 and D. Laabs pers. comm. 2001). Just north of the City of Santa Cruz limits, the species has been observed on the upland terrace of coastal UCSC lands (Tyler 1987).

Mammals

Insufficient data is available to determine the presence or absence of bats within the City of Santa Cruz limits. All of the special-status bats listed below are known to occur in the vicinity as noted below. Bats are assumed to be present in suitable habitat until surveys can be conducted.

Townsend's Big-eared Bat (*Corynorhinus townsendii*). The Townsend's big-eared bat is a California Species of Special Concern. This species is included on 1998 Western Bat Working Groups preliminary list of revised Mammal Species of Special Concern (CDFG 2011). The Townsend's big-eared bat also has a CNDDB ranking of G4S2S3, which indicates a state status that is between Endangered, and Restricted Range; Rare based on the number of individuals per area of occupied habitat.

The Townsend's big-eared bat is a year-round resident in California occurring from low desert to mid-elevation montane habitats. It is found primarily in rural settings from inland deserts to coastal redwoods, oak woodland of the inner Coast Ranges and Sierra foothills, and low to mid-elevation mixed coniferous-deciduous forests.

The Townsend's big-eared bat typically roosts during the day in caves and mines, but can roost in buildings that offer suitable conditions (Kunz and Martin 1982). Night roosts are in more open settings and include bridges. The bat hibernates in mixed sex aggregations of a few to several hundred individuals for prolonged periods in colder areas and intermittently in non-freezing areas. It arouses periodically and moves to alternative roosts, and actively forages and drinks throughout the winter.

A single young is born per year between May and July. Females form maternity colonies of 35 to 200 individuals, while males roost individually (Kunz and Martin 1982). The Townsend's big-eared bat feeds primarily on small moths that are gleaned from vegetation. Suitable habitat includes "mature" and "medium aged" oak woodland and redwood forest habitats with large cavity structures.

The Townsend's Big-eared bat is known to occur within the City of Santa Cruz limits in the Pogonip clubhouse (P. Heady pers. comm. 2006) and potential habitat for the bat exists along Moore Creek (Strelow 2002); the San Lorenzo River (Strelow 2002); along Branciforte and Carbonera Creeks (Strelow 2002); and Arana Creek (Strelow 2002; Strelow and EcoSystems West 2000). In general, potential roosting sites exists for the bat in bridges and buildings near water courses (Santa Cruz Parks and Recreation Department 2006).

Pallid Bat (*Antrozous pallidus*). The pallid bat is a California Species of Special Concern. The pallid bat is included on 1998 Western Bat Working Groups preliminary list of revised Mammal

Species of Special Concern. The bat is also listed by the CNDDB as G5S3. The CNDDB state ranking indicates a Restricted Range; Rare based on the number of individuals per area of occupied habitat (CDFG 2011).

The pallid bat is a year round resident in California. It is found in arid desert areas, grasslands and oak savanna, coastal forested areas, and coniferous forests of the mountain regions of California. Roost sites are typically rock outcrops, caves, hollow trees, mines, buildings and bridges (Hermanson and O'Shea 1983; Wilkins 1989). The pallid bat makes use of similar structures for night roosts and will use more open sites such as eaves, awnings, and open areas under bridges for feeding roosts. The pallid bat is largely inactive in the winter months. There is evidence for both hibernation and migration. Hibernation aggregations tend to be much smaller than in the summer. The pallid bat has been observed foraging during the winter when prey is available (Hermanson and O'Shea 1983). The pallid bat feeds on large insects and arachnids (20 to 70mm in length). Prey is most often caught on the ground. Jerusalem crickets, scorpions and beetles make up most of the diet of pallid bat in central California.

Copulation occurs in the fall, October through December. The female stores the sperm and ovulation occurs the following spring. Embryonic development usually takes about nine weeks with birth occurring in May or June. Twins are the norm in northern California but in other areas the pallid bat is known to have triplets. Maternity colonies range from 20 to 200 individual adult bats. The male roosts in much smaller groupings (Hermanson and O'Shea 1983).

Potential habitat for the pallid bat exists within the City of Santa Cruz limits in Arana Gulch (Santa Cruz Parks and Recreation Department 2006; Strelow and EcoSystems West 2000), Pogonip (Santa Cruz Parks and Recreation Department 1998), in Meder Canyon, along Moore Creek, the San Lorenzo River, in DeLaveaga Park, along Branciforte and Carbonera Creeks, and the Poliski-Gross property adjacent to Moore Creek Preserve (Biotic Resource Group with Dana Bland and Associates 2001). In general, potential roosting sites exists for the bat in mature woodlands and forests that provide hollows and crevices for roosting as well as in bridges and buildings, especially near water courses. The nearest occurrence record for the pallid bat is located near Summit Road in the headwaters of Soquel Creek (CNDDB 2007).

Fringed Myotis (*Myotis thysanodes*). The fringed myotis is included on 1998 Western Bat Working Groups preliminary list of revised Mammal Species of Special Concern (CDFG 2011).

The fringed myotis is found in western North America from British Columbia to Veracruz and Chiapas. Over most of its range this bat occurs at middle elevations. It has been found at higher elevations in New Mexico and was found in the Sequoia National Forest above 6000 feet (CCBRG 2004). Along the West Coast this bat is found at lower elevations (O'Farrell and Studier 1980) and is associated with redwood forests (CCBRG 2004).

Maternity colonies are large, up to 300 individuals (Nagorsen and Brigham 1993) with the males roosting separately from the maternity colonies. These colonies are in caves, mines, and buildings. Given this bat's association with redwood forests in coastal California, it likely uses redwood hollows. Night roosts are in similar features. In portions of the range of fringed myotis, the bat migrates to lower elevations or more southern locations where they can be active during

the winter months (O'Farrell and Studier 1980). In Coastal California such migrations may not be necessary.

Only one young per year is the norm for the fringed myotis. Little is known of the reproductive cycle of this species. Ovulation and fertilization occur in late spring, May to May 15, with implantation occurring from June 25 to July 7 (O'Farrell and Studier 1980). Young are capable of limited flight at 16 days and are adult size by 21 days. The fringed myotis primarily eats beetles (73%) (O'Farrell and Studier 1980) moths, flies, leafhoppers, lacewings, crickets, and harvestmen. The presence of flightless insects in its diet suggests that some of its prey is gleaned from foliage (Nagorsen and Brigham 1993). Suitable roosting and foraging habitat for the fringed myotis occurs in the oak woodland, redwood forests and riparian habitats.

Potential habitat for the bat exists within the City of Santa Cruz at Arana Gulch (Strelow and EcoSystems West 2000), in Meder Canyon, along Moore Creek, the San Lorenzo River, in DeLaveaga Park, and along Branciforte and Carbonera Creeks. In general, potential roosting sites exists for the bat in mature woodlands and forests that provide hollows and crevices for roosting as well as in bridges and buildings, especially near water courses. The nearest record for the fringed myotis is from UCSC north campus (EcoSystems West 2004).

Long-legged Myotis (*Myotis volans*). The long-legged myotis is included on the 1998 Western Bat Working Group's preliminary list of revised Mammal Species of Special Concern (CDFG 2011).

The long-legged myotis inhabits western North America from southeast Alaska to central Mexico. It is found in an elevation range from sea level to 3,770 m. The long-legged myotis is primarily a coniferous forest bat although it may also be found in riparian and desert habitats (Findley et al. 1975). Suitable roosting and foraging habitat for the long-legged myotis occurs in oak woodland, redwood and mixed-evergreen forests, and riparian habitats (Warner and Czaplewski 1984).

The long-legged myotis is known to live 21 years in the wild (Warner and Czaplewski 1984). This bat feeds primarily on moths but is also known to feed on other soft-bodied prey such as flies, termites, lacewings, wasps, bugs, leafhoppers, and small beetles. The long-legged myotis is a rapid, direct flier pursuing its prey over relatively long distances through, around, under and over forest canopy (Warner and Czaplewski 1984).

Maternity colonies can be up to 300 individuals. Maternity roosts are found in buildings, rock crevices, and under exfoliating bark. Males roost singly or in small numbers in rock crevices, buildings and under tree bark. Night roosts are found under bridges, in caves and mines, and buildings (Nagorsen and Brigham 1993). In the northern reaches of the long-legged myotis' range, hibernation is common (Jones 1965). It is unknown whether this bat migrates in the portion of its range where winters are less severe.

Mating takes in the fall and sperm is stored over winter. Ovulation and fertilization take place from March to May and implantation occurs from May to August. There is extensive variation in

the timing of reproductive activity in this species. California records show pregnant females as late as early July (N. Fisher, personal observation 2006).

Potential habitat for the bat exists within the City of Santa Cruz at Arana Gulch (Strelow and EcoSystems West 2000), in Meder Canyon, along Moore Creek, the San Lorenzo River, in DeLaveaga Park, and along Branciforte and Carbonera Creeks. In general, potential roosting sites exists for the bat in mature woodlands and forests that provide hollows and crevices for roosting as well as in bridges and buildings, especially near water courses. The nearest record for the long-legged myotis is from UCSC north campus (EcoSystems West 2004).

Western Red Bat (*Lasiurus blossevillii*). The western red bat is included on the 1998 Western Bat Working Group's preliminary list of revised Mammal Species of Special Concern (CDFG 2011). This species also has a CNDDB ranking of G4S2S3, which indicates a state status that is between Endangered, and Restricted Range; Rare based on the number of individuals per area of occupied habitat.

The range of the Western red bat is from British Columbia to Central and South America. Migration occurs throughout its range and bats of Canada move into the coastal lowlands of California. The California bats are thought to winter in Central America (Nagorsen and Brigham 1993).

Suitable roosting and foraging habitat for the western red bat occurs in woodlands, forests, and riparian habitats. The Western red bat is a solitary foliage roosting bat. *Lasiurus* designates this species as a member of the hairy tailed bat genera. These bats are adapted for exposed roosting behavior with their hairy tail membrane and small ears. In California, this bat is known to roost in cottonwood trees and willows. Roost height ranges from 3 to 15 meters (Pierson and Heady 1997). Large moths are the primary prey of the Western red bat. This bat is a fast flyer, foraging in straight flights or large circles (Nagorsen and Brigham 1993).
Mating takes place in late summer and fall; sperm is stored over winter and fertilization occurs in early spring. The gestation period is 80 to 90 days and one to four young are born in late May to early July. The young are born small, naked, and under-developed (Nowak 1994). Females leave the young at the roosting site while foraging but will carry them when moving to a new roosting site. Young are capable of sustained flight at six weeks.

A western red bat was observed flying over Arana Creek during surveys for the Arana Gulch Master Plan and EIR (EcoSystems West 2006). Potential habitat for the bat exists within the City of Santa Cruz in Meder Canyon (John Gilchrist and Associates 1998), along Moore Creek, the San Lorenzo River, in DeLaveaga Park, and along Branciforte and Carbonera Creeks. In general, potential roosting sites exists for the bat in woodland, forest, and riparian habitats.

San Francisco Dusky-Footed (*Neotoma fuscipes annectens*). The San Francisco dusky-footed woodrat is a State Species of Special Concern. The CNDDB ranking for the species is G5T2T3S2S3, indicating CNDDB state and subspecies rankings from Endangered to Rare with a Restricted Range (CDFG 2011).

The San Francisco dusky-footed woodrat occurs generally along the Coast Range of California, from the San Francisco Bay Area south to the Pajaro River watershed. It is associated with riparian, oak woodland and redwood forest habitats and builds stick nests to heights of approximately one meter (three to four feet) on the ground, under or in buildings or bridges, and above the ground in trees or shrubs. These nests can be used by multiple generations of the woodrat, and some may be colonized and recolonized over decades (Linsdale and Tevis 1956).

The San Francisco dusky-footed woodrat is known or likely to occur in open spaces with the City of Santa Cruz limits, including Pogonip, Moore Creek Preserve, Meder Canyon, Arana Gulch, DeLaveaga Park, Natural Bridges, Neary Lagoon, Antonelli Pond, along the San Lorenzo River, and on undeveloped parcels or undeveloped portions of larger parcels that provide potential habitat.

American Badger (*Taxidea taxus*). The American badger is a State Species of Special Concern (CDFG 2011).

The American badger is an uncommon, permanent resident found throughout most of the state, with the exception of the northern North Coast area (Grinnell et al. 1937). This species is most abundant in drier open stages of most shrub, forest, and herbaceous habitats, that are composed of friable soils. American badgers dig burrows in friable soil for cover, frequently reusing old burrows. They are also known to dig a new den each night (especially in summer) (Messick and Hornocker 1981). This species is nocturnal and diurnal, and undergoes variable periods of torpor in winter (Long 1973). American badgers are non-migratory, and the area used during winter months is smaller than at other seasons. Home range estimates vary widely by season and geographic region. Fall and winter home ranges as small as 137 ha (338ac), and as large as 627 ha (1549 ac) have been reported for American badgers in Utah and Idaho (Lindzey 1978; Messick and Hornocker 1981). Members of a particular badger family may share the territory of a given female (Seton 1929). Male badgers are generally solitary, except during the breeding season (Messick and Hornocker 1981).

American badgers are carnivorous, with a diet composed of fossorial rodents: rats, mice, chipmunks, and especially ground squirrels and pocket gophers. They also eat various reptiles, insects, earthworms, eggs, birds, and carrion. Their diet shifts seasonally and yearly in response to the availability of prey. American badgers mate in summer and early fall, with a gestation period that varies from 183-265 days (including delayed implantation). The embryo implants about 45 days prior to birth. Badger young are born in burrows that are dug in relatively dry, often sandy soil, that are usually in areas with sparse overstory cover. Their average litter size of 2-3 young are born usually in March and April (Long 1973). Some female badgers have been known to breed in their first year, but males are not sexually mature until their second year. Badgers may live to be 11-15 years old (Flower 1931; Jackson 1961; Long 1973; Messick and Hornocker 1981).

An American badger carcass was found on the UCSC north campus (K. Glinka, pers. comm. 2007 and CNDDB 2007), indicating the presence of the species in the vicinity of the City of Santa Cruz. Because of the large home range and uncommon nature of the badger, the larger open spaces within the city can be assumed to provide potential habitat, including the Pogonip (Santa Cruz Parks and Recreation Department 1998), Moore Creek Preserve, Arana Gulch, and DeLaveaga Park, as well as larger undeveloped parcels adjoining open spaces.

Southern Sea Otter (*Enhydra lutris nereis).* The southern sea otter is federally-listed as Threatened, State-listed as California Fully Protected and is listed under the MMPA as a depleted species.

Southern sea otters inhabit nearshore coastal waters, bays, harbors, and estuaries along the central California coast, from Half Moon Bay to Point Conception, and are often associated with rocky substrate. Most remain inshore of the outer kelp edge, and foraging activity is generally restricted to water depths of 25 meters or less.

Sea otters feed primarily on a variety of large invertebrates, including sea urchins, abalone, rock crabs, kelp crabs, and clams. Their ability to use tools to break open their food makes them unique among marine mammals. Reproduction occurs throughout the year. Most adult female sea otters give birth to one pup each year (USFWS 2007f).

Sea otters are sited regularly in the waters of the Yacht Harbor (P. Clark pers. comm. 2008; A. Church pers. comm. 2007). It is possible that they may also inhabit the estuarine environment of the San Lorenzo River.

California Sea Lion (*Zalophus californianus*). The California sea lion is protected under the MMPA.

California sea lions occur in shallow coastal waters, from the Pacific coast of Central Mexico north to British Columbia, Canada. Haul-outs are located on sandy beaches, offshore rock outcroppings, beaches, jetties, docks, and buoys with a nearby food supply, and easy access to water. They are known to sometimes travel up rivers, bays, and harbors (NOAA 2011b).

California sea lions feed mainly in upwelling areas on a variety of prey such as squid anchovies, mackerel, rockfish, and sardines. They also take fish from commercial fishing gear, sport-fishing lines, and at fish passage facilities at dams and rivers (NOAA 2011b).

California sea lions are sited regularly in the waters of the Yacht Harbor, along the City's coast, and under the Municipal Wharf, and hauled out on Yacht Harbor docks and Wharf structural supports (E. McGinty pers. comm. 2009; P. Clark pers. comm. 2008).

Eastern Pacific Harbor Seal (*Phoca vitulina richardsi*). The Eastern Pacific harbor seal is protected under the MMPA.

The Eastern Pacific harbor seal occur in nearshore coastal waters, rivers, bays, harbors and estuaries from the coastal and estuarine waters off Baja, California, north to British Columbia, west through the Gulf of Alaska and in the Bering Sea. Haul outs are located on rock outcroppings, beaches, mudflats, and docks that have easy access to water. Harbor seals eat a variety of prey consisting mainly of fish, shellfish, and crustaceans (NOAA 2011c).

Harbor seals are regularly sited in the waters of the Yacht Harbor and along the City's coast (E. McGinty pers. comm. 2009; P. Clark pers. comm. 2008).

Vacant Parcel Survey

We examined 172 parcels identified by City Planners as being vacant that were at least 6,000 square feet in size. These parcels ranged from 0.14 acres to 49.49 acres, with a median size of just 0.31 acres. The following summarizes our results of the parcel-specific assessment, which are provided in the attribute table of the vacant parcels feature class within the project geodatabase.

Twelve of the parcels assessed featured some type of development, including agriculture, pavement, or structures. Twelve parcels could not be accessed during the reconnaissance survey and were therefore not examined. We recommend a survey or pre-site assessment be conducted prior to development of 110 of the parcels examined.

Located primarily on the perimeter of the city, 63 vacant parcels feature one or more sensitive habitats, with 40 parcels supporting riparian habitat, 27 parcels supporting grasslands, and two supporting wetlands. Evidence of San Francisco dusky-footed woodrat was observed in 6 parcels, while 2 parcels were observed to support western red bats. Of the 51 sensitive species considered in this assessment, 36 species are thought to have some potential to occur within one or more of the vacant parcels, with a total of 760 potential sensitive species occurrences within the 172 parcels. Located primarily in the center of the city where they are surrounded by development, we found 37 vacant parcels that are unlikely to feature sensitive species or habitats.

Seventy three of the vacant parcels were located at least partially within one of three potential dispersal corridors identified as part of our assessment.

CONSTRAINTS

Constraints on development are regulated by federal, state, and local agencies (as outlined in the Regulatory Setting) for the protection and management of sensitive biological and wetland resources. Much of the land within the City that supports sensitive habitats and special status plants and wildlife is already protected and managed in the City's open spaces by the Parks and Recreation Department. An additional portion of land that provides important habitat falls within the City's riparian corridors, and is regulated by the City-wide Creeks and Wetlands Management Plan. The remaining areas for consideration include vacant parcels and larger parcels that are only partially developed, especially those adjoining open spaces or riparian corridors.

Vacant or partially-developed parcels that lie within a potential dispersal corridor are notable because of the key biological functions that these corridors perform as conduits for plants and wildlife between open spaces in an otherwise developed landscape. In the urban and suburban landscape, dispersal corridors may be considered sensitive habitats; they are areas of high biological diversity and provide important wildlife habitat. In addition, interferences to movement patterns of wildlife through dispersal corridors are considered under CEQA. The City-wide Creeks and Wetlands Management Plan's established buffers along riparian corridors that protect the creek environment and its functions as a corridor, both for the dissemination of plants and seeds, and for wildlife; however, lands adjacent to the riparian corridor may also contribute to riparian corridor functions, both for dispersal between larger open spaces and habitat areas, and by providing linear habitat, including resources for forage, shelter, and cover. These functions are discussed in greater detail in the Dispersal Corridor section of the text.

The following table summarizes assessment protocols to determine if a sensitive biological resource is present and lists constraints on future development when such resources are found to occur or assumed to be present.

Table 5. Constraints on development of lands supporting sensitive biological resources within the City of Santa Cruz.

RESOURCE	REGULATORY AUTHORITY	ASSESSMENT (to determine presence)	CONSTRAINT[1] (if resource is present)
Sensitive Habitats and Dispersal Corridors			
Aquatic	City of Santa Cruz California Coastal Commission (CCC) State Water Resources Control Board (SWRCB) CDFG CEQA Review Army Corps of Engineers (Corps)	Determination of jurisdiction.	Avoid impacts to the extent possible and/or consult with the appropriate jurisdictional agency(s) for review and to determine mitigation. City of Santa Cruz - City setback requirements. CCC- Coastal zone jurisdiction (CCC *Procedures*). SWRCB- Minimize water quality impacts per agency review. CDFG - Streambed Alteration Agreement (1600). Corps- Permit required if jurisdictional.
Freshwater Wetland	City of Santa Cruz California Coastal Commission (CCC) State Water Resources Control Board (SWRCB) California Wetlands Conservation Policy (CDFG) CEQA Review Army Corps of Engineers (Corps)	Wetland delineation and determination of jurisdiction.	No net loss of wetland area or quality. Avoid impacts to the extent possible and/or consult with the appropriate jurisdictional agency(s) for review and to determine mitigation, such as buffers, restoration or enhancement, banking, replacement or enhancement of alternate in kind habitat, and monitoring of mitigation efforts. City of Santa Cruz - City setback requirements. CCC- Coastal zone jurisdiction (CCC *Procedures*). SWRCB- Minimize water quality impacts per agency review. CDFG - Streambed Alteration Agreement (1600). Corps- Permit required for fill or excavation, if jurisdictional.
Saltmarsh	CEQA Review	Habitat characterization	Avoid impacts to the extent possible. Consult with CDFG. Develop management plan and replace or enhance alternate habitat at CDFG approved ratio.
Riparian Forest and Scrub	City of Santa Cruz CEQA Review	Habitat characterization	City setback requirements. Avoid impacts to the extent possible. Consult with CDFG. Develop management plan and replace or enhance alternate habitat at CDFG approved ratio.
Coastal Prairie	CEQA Review	Habitat characterization	See CONSTRAINT for saltmarsh
Coastal Bird Rookeries	CEQA Review Division of Migratory Birds (USFWS)	Habitat characterization Breeding bird survey	Avoid direct impacts. If possible, conduct project activities outside of nesting season to avoid indirect impacts. If project activities will take place during nesting season, establish appropriate buffers based on USFWS and CDFG guidance.
Dispersal Corridors	City of Santa Cruz CEQA Review	Wildlife movement study. Determine buffer width for corridor utility.	City setback requirements when dispersal corridor coincides with riparian corridor. Avoid impacts to the extent possible: Buffer corridors from disturbances such as noise and light, and to retain corridor functions[2]. If avoidance is not possible, mitigate through replacement or enhancement of alternate habitat in consultation with CDFG.

Special-Status Plants			
Arctostaphylos andersonii Santa Cruz manzanita	CEQA Review	Botanical survey	Design plans to avoid removal of individuals and habitat. Plan for long term viability of species (species can carry on normal reproductive cycles given natural seasonal and climatic fluctuations) Develop management plan, such as: buffered habitat units, maintenance of suitable habitat conditions through practices such as controlled burning.
Chorizanthe robusta var. *robusta* robust spineflower	CEQA Review	Botanical survey during flowering period.	Design plans to avoid removal of individuals and habitat. Plan for long term viability of species (species can carry on normal reproductive cycles given natural seasonal and climatic fluctuations) Develop management plan, such as: buffered habitat units, maintenance of suitable habitat conditions through practices such as noxious weed management, mowing, grazing, and/or controlled burning.
Holocarpha macradenia Santa Cruz tarplant	CESA and NPPA (CFGC)	Botanical survey during flowering period.	Design plans to avoid removal of individuals and habitat or consultation with and MOU[3] from CDFG and USFWS for appropriate mitigation.
Perideridia gairdneri ssp. *gairdneri* Gairdner's yampah	None	Botanical survey during flowering period.	Avoidance and/or mitigation recommended.
Plagiobothrys chorisianus *var. chorisianus* Choris's popcorn-flower	CEQA Review	Botanical survey during flowering period.	See CONSTRAINT for robust spineflower.
Plagiobothrys chorisianus var. *hickmanii* Hickman's popcorn-flower	None	Botanical survey during flowering period.	Avoidance and/or mitigation recommended.
Plagiobothrys diffusus San Francisco popcorn-flower	CESA and NPPA (CFGC)	Botanical survey during flowering period.	See CONSTRAINT for Santa Cruz tarplant.
Trifolium buckwestiorum Santa Cruz clover	CEQA Review	Botanical survey during flowering period.	See CONSTRAINT for robust spineflower.

Special-Status Wildlife			
Invertebrates			
Ohlone tiger beetle *Cicindela ohlone*	ESA (USFWS)	Habitat assessment Survey during emergence season.	Design plans to avoid take of individuals and habitat or consultation with USFWS. Take permit through: Section 10 (a) (1) (B) and HCP[4] process (no federal nexus) or Section 7 (federal nexus). Issuance of a Biological Opinion[5].
Monarch butterfly (wintering sites) *Danaus plexippus*	City general plan policy CEQA Review	Habitat assessment Multi-year surveys during winter roosting season.	Design plans to avoid impacts to individuals and habitat, including appropriate buffers to maintain suitable habitat conditions[6]. Conduct project activities outside of winter roosting season or develop appropriate mitigation such as buffers to avoid disturbance such as smoke and fumes.
Fish			
Coho Salmon (Central CA ESU[7]) *Oncorhynchus kisutch*	ESA (NOAA NMFS[8]) CESA (CDFG)	Habitat assessment	Design plans to avoid take or: consultation with NOAA NMFS via: (Section 10 (a) (1) (B) and HCP process (no federal nexus) or Corps (i.e. if project activities occur below bankfull elevation[9]) and Section 7 (federal nexus). Issuance of a Biological Opinion.
Steelhead (Central CA DPS) *Oncorhynchus mykiss irideus*	ESA (NOAA NMFS)	Habitat assessment	See CONSTRAINT for coho salmon.
Tidewater goby *Eucyclogobius newberryi*	ESA (USFWS)	Habitat assessment Protocol level survey (USFWS 2005a Appendix F) during sandbar formation [permit required under Section 10 (a) (1) (A) or Section 7]	Design plans to avoid take or consultation with USFWS. Take permit through: Section 10 (a) (1) (B) and HCP process (no federal nexus) or Section 7 (federal nexus). Issuance of a Biological Opinion. Consultation with CWQRCB for appropriation of water from streams providing habitat. Management plan and consultation with CCC for breaching sandbars (coastal estuaries). Consultation with CDFG for Streambed Alteration Agreement (1600).
North American green sturgeon (Southern DPS) (*Acipenser medirostirs*)	ESA (USFWS)	Assumed present in Bay	Design plans to avoid take or: consultation with NOAA NMFS via: (Section 10 (a) (1) (B) and HCP process (no federal nexus) and Section 7 (federal nexus). Issuance of a Biological Opinion.

Amphibians and Reptiles			
California red-legged frog *Rana draytonii*	ESA (USFWS)	Habitat assessment Protocol Level Survey (USFWS 2005b) or Assume Presence	Avoid take of individuals and impacts to aquatic habitat. Consultation with USFWS. Take permit through: Section 10 (a) (1) (B) and HCP process (no federal nexus) or Section 7 (federal nexus). Issuance of a Biological Opinion Mitigations such as: biological monitoring and wildlife barriers.
Western pond turtle *Emmys marmorata*	CEQA Review (CDFG)	Habitat assessment Focused Surveys	Avoid impacts to individuals in aquatic and upland habitat. Mitigations such as: biological monitoring and wildlife barriers
Birds*			
Brown pelican (communal roosts and rookeries) *Pelecanus occidentalis*	CEQA Review (CDFG)	Habitat assessment Communal roosting/breeding bird survey	Avoid take of individuals and impacts to roosting and nesting habitat. Consultation with USFWS. Take permit through: Section 10 (a) (1) (B) and HCP process (no federal nexus) or Section 7 (federal nexus). Issuance of a Biological Opinion Conduct project activities outside of nesting season. Establish appropriate buffers (based on USFWS and CDFG guidance).
Double-crested cormorant (rookeries) (*Phalacrocorax auritus*)	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	Avoid direct impacts to nesting birds, occupied nests, eggs, and young. If possible, conduct project activities outside of nesting season or develop appropriate mitigation, such as buffers and biological monitoring (based on CDFG guidance).
Black-crowned night heron (rookeries) (*Nycticorax nycticorax*)	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Sharp-shinned hawk (nesting) *Accipiter striatus*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Cooper's hawk (nesting) *Accipiter cooperi*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Golden eagle (nesting and/or wintering) Aquila chrysaetos	CEQA Review (CDFG) Division of Migratory Birds (USFWS)	Habitat assessment Wintering/breeding bird survey	Consultation with USFWS (unoccupied nest). Avoid direct impacts to habitat and individuals, including, nests, eggs, and young. If possible, conduct project activities outside of nesting season or develop appropriate mitigation, such as buffers and biological monitoring (based on CDFG guidance).
Ferruginous hawk (wintering) (*Buteo regalis*)	CEQA Review (CDFG)	Wintering habitat assessment and bird survey	Consultation with CDFG.
White-tailed kite *Elanus leucurus*	CEQA Review (CDFG)	Habitat assessment Wintering/breeding bird survey	Avoid direct impacts to habitat and individuals, including occupied nests, eggs, and young. To avoid indirect impacts, develop appropriate mitigation, such as buffers and biological monitoring (based on CDFG guidance).

Merlin (wintering) *Falco columbarius*	CEQA Review (CDFG)	Wintering habitat assessment and bird survey	Consultation with CDFG.
Black oystercatcher (nesting) *Haemotopus bachmani*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Long-eared owl (nesting) *Asio otus*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Burrowing owl (burrow and wintering sites) *Athene cunicularia*	CEQA Review (CDFG)	Habitat assessment Wintering/breeding bird/nest survey	Avoid direct impacts to habitat and individuals, including occupied burrows. To avoid indirect impacts, develop appropriate mitigation, such as buffers and biological monitoring (based on CDFG guidance).
Vaux's swift (nesting) *Chaetura vauxi*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Black swift (nesting) *Cypseloides niger*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Loggerhead shrike (nesting) *Lanius ludovicianus*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
California horned lark *Eremophila alpestris actia*	CEQA Review (CDFG)	Habitat assessment Bird survey	Avoid direct impacts to habitat and individuals, including occupied nests, eggs, and young. To avoid indirect impacts, develop appropriate mitigation, such as buffers and biological monitoring (based on CDFG guidance).
Oak titmouse (nesting) *Baeolophus inornatus*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Yellow warbler (nesting) *Dendroica petechia brewsteri*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Hermit warbler (nesting) *Dendroica occidentali*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	CEQA Review (CDFG)	Habitat assessment Bird survey	Avoid direct impacts to habitat and individuals, including occupied nests, eggs, and young. To avoid indirect impacts, develop appropriate mitigation, such as buffers and biological monitoring (based on CDFG guidance).
Yellow-breasted chat (nesting) *Icteria virens*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Chipping sparrow (nesting) *Spizella passerina*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Grasshopper sparrow (nesting) *Ammodramus savannarum*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.
Tricolored blackbird (nesting colonies) *Agelaius tricolor*	CEQA Review (CDFG)	Habitat assessment Breeding bird survey	See CONSTRAINT for double-crested cormorant.

Mammals			
Special-status bats	CEQA Review (CDFG)	Habitat assessment Emergence and nighttime acoustic surveys	Avoid direct impacts to roosting bats; a qualified biologist must obtain an MOU from CDFG to relocate roosting bats. Conduct project activities outside of maternal roost season or coordinate with CDFG to exclude bats prior to maternal roost season.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	CEQA Review (CDFG)	Habitat assessment Nest survey	Avoid disturbance of nests and appropriate buffer zone (based on CDFG guidance). Coordinate with CDFG to relocate nests to suitable habitat not already occupied by colonies.
American Badger *Taxidea taxus*	CEQA Review (CDFG)	Habitat assessment Focused survey (burrow, sign, and prey base)	Avoid disturbance to den and buffer zone (based on CDFG guidance). Coordinate with CDFG; a qualified biologist must obtain an MOU from CDFG to relocate.
Southern sea otter *Enhydra lutris nereis*	ESA and MMPA (USFWS and NOAA NMFS)	Survey for presence	Consultation with USFWS and NOAA NMFS via: (Section 10 (a) (1) (B) and HCP process (no federal nexus) or Corps (i.e. if project activities occur in jurisdictional waters) and Section 7 (federal nexus). Issuance of a Biological Opinion. Mitigations such as reduction of noise to non-harmful levels, establishment of a safety zone and biological monitoring.
Nesting Raptors	Division of Migratory Birds- MBTA (USFWS) Fish and Game Codes (CDFG)	Habitat assessment Breeding bird survey	Avoid direct impacts to nesting birds, occupied nests, eggs, and young. If possible, conduct project activities outside of nesting season or develop appropriate mitigation, such as buffers and biological monitoring (based on USFWS and CDFG guidance).
Nesting Birds	Division of Migratory Birds- MBTA (USFWS)	Habitat assessment Breeding bird survey	Avoid direct impacts to nesting birds, occupied nests, eggs, and young. If possible, conduct project activities outside of nesting season or develop appropriate mitigation, such as buffers and biological monitoring (based on USFWS and CDFG guidance).
Marine Mammals	MMPA (NOAA NMFS)	Survey for presence	Consultation with NOAA NMFS. Mitigations such as reduction of noise to non-harmful levels, establishment of a safety zone and biological monitoring.

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[1] Consultation with the appropriate agency is strongly encouraged prior to developing detailed project plans (S. de Leon, pers. comm. 2007).

[2] Corridor functions include connecting otherwise disjunct habitat such that animals can migrate, plants can propagate, genetic interchange can occur, populations can respond to environmental change and locally extirpated populations can be replaced from other areas (Hilty, et al. 2006; Lidicker 1999; Beier and Loe 1992).

[3] MOU = Memorandum of Understanding.

[4] Habitat Conservation Plan

[5] Section 7 of the Endangered Species Act [16 U.S.C 1531 *et seq*.] outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitats. Federal nexus = federal agency is present to enact Section 7.
Biological Opinion = a document prepared by the USFWS that presents their effects determination for federally listed species. The Biological Opinion will provide measures to avoid and minimize effects to a species and discuss compensatory mitigation options. Issuance of a Biological Opinion by the U.S. Fish and Wildlife Service typically concludes formal consultation under Section 7 of the Endangered Species Act.

[6] Suitable habitat conditions include southeast aspect, wind protection, and proximity to nectarines.

[7] Evolutionarily Significant Unit (ESU): Pacific salmon population or group of populations that is substantially reproductively isolated from other conspecific populations and that represents an important component of the evolutionary legacy of the species. The ESU policy for Pacific salmon defines the criteria for identifying a Pacific salmon population as a distinct population segment (DPS), which can be listed under the ESA.

[8] NOAA = National Oceanic and Atmosperic Administration
NMFS = National Marine Fisheries Service

[9] Bankfull elevation – the level at which water begins to leave the channel and move into the floodplain and is reached at a discharge which generally has a recurrence interval of one to two years on the annual flood series (NOAA 2005).

GAPS IN THE EXISTING DATA

Coastal Prairie

The data for the characterization of habitat and identification of sensitive plant communities was extracted from a vegetation survey conducted by H. T. Harvey and Associates for the City of Santa Cruz HCP (Entrix 2004a). This data was modified based on aerial imagery and some ground-truthing. Additional surveys would be required to obtain detailed information about the presence of Coastal Prairie within the grassland communities of the City of Santa Cruz.

Dispersal Corridors

Surveys to determine the frequency of wildlife movement through potential corridors within the City of Santa Cruz and the buffer width needed to maintain corridor utility were beyond the scope of this evaluation. These studies are recommended prior to any further development of parcels located along a potential dispersal route.

Monarch Butterflies

Fluctuations in monarch populations as well as changes in roost site characteristics affect the selection of over-wintering roost sites from year to year. Further, monarch butterfly populations were low state-wide during the 2006 fall/winter season (J. Dayton pers. comm. 2007). Therefore, it is possible that sites used for autumnal roosts and/or that were unoccupied during 2006 will be used for overwintering in other years. EcoSystems West recommends on-going monitoring of known monarch butterfly roost sites as well as suitable potential habitat within the City of Santa Cruz.

Birds

EcoSystems West was unable to obtain comprehensive breeding bird data from the Santa Cruz Bird Club during the course of this evaluation. We recommend that the City of Santa Cruz arrange an independent contract with David Suddjian to supplement the database provided by EcoSystems West.

Bats

Insufficient data is available to determine the presence of absence of bats within the City of Santa Cruz. All special status bats listed in Table 4 are known to occur in the vicinity. Surveys of potential habitat, and emergence and nighttime acoustic surveys in locations where suitable habitat features are found, are recommended to determine the presence of special-status bats.

Vacant Parcel Survey

EcoSystems West recommends pre-site assessments to determine the potential for sensitive species or habitats prior to development of vacant parcel that were not accessible during 2006 surveys. Biotic assessments prior to development are recommended for all sites where special-status species have potential or are known to occur.

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APPENDIX A.

Nesting Birds
(Protected under the MBTA and CEQA)

This list includes birds that are known to nest within the City of Santa Cruz; however, this list is not comprehensive. All nesting activities of native birds are protected by the Migratory Bird Treaty Act and CEQA.

Pied-billed Grebe (*Podilymbus podiceps*). Nesting sites located at Kalkar Quarry, Westlake Pond, Antonelli Pond (LTSCC 2001), Neary Lagoon, and along the San Lorenzo River (Gerow 2006).

Brandt's Cormorant (*Phalacrocorax penicillatus*). Nesting occurs at Natural Bridges State Park (ESW 2006 Surveys and Gerow 2006), the bluff just east of Natural Bridges State Park (ESW 2006 Surveys) and on the seastack off Lighthouse Field (Gerow 2006). Nesting sites located just outside of the city limits at Younger Lagoon (ESW 2006 Surveys and Gerow 2006).

Great Egret (*Ardea albus*). One breeding pair is located in the eucalyptus grove on the east side of the Santa Cruz Yacht Harbor (Gerow 2006); historical breeding took place in the eucalyptus grove along lower Branciforte Creek across from Ocean View Park (Gerow 2006).

Great Blue Heron (*Ardea herodias*). Rookeries exist on the east side of Arana Gulch, on the west side of the Santa Cruz Yacht Harbor north of the Murray Street Bridge (Strelow Consulting and EcoSystems West 2000 and Gerow 2006); historical breeding in the eucalyptus grove along lower Branciforte Creek across from Ocean View Park and in the Pogonip (Gerow 2006).

Green Heron (*Butorides virescens*). Nesting sites are located downtown in a tree behind Logos bookstore, along the San Lorenzo River from the rivermouth to the north edge of the city limits at the sycamore grove, along lower Moore Creek from Hwy 1 to Natural Bridges State Park and at Antonelli Pond, and on lower Branciforte Creek across from Ocean View Park (Gerow 2006). In previous years nesting occurred on the Westside of Santa Cruz and in the eucalyptus grove near the base of High Street at the Highway 1 footbridge (Gerow 2006).

Wood Duck (*Aix sponsa*). Breeding occurs at Neary Lagoon and along the San Lorenzo River, just above Water Street (Gerow 2006).

Mallard (*Anas platyrhynchos*). Nesting sites are located along the San Lorenzo River, in Neary Lagoon, at Antonelli Pond, at the butterfly-pond at Natural Bridges State Park, Kalkar Quarry Pond, Westlake Pond, and lower Arana Gulch (Gerow 2006). Outside of the city limits breeding takes place at Younger Lagoon (Gerow 2006).

Cinnamon Teal (*Anas cyanoptera*). Uncommon observation of confirmed breeding in Moore Creek in Natural Bridges State Park (Gerow 2006).

Common Merganser (*Mergus merganser*). Confirmed breeding along the lower San Lorenzo River (Gerow 2006).

Red-shouldered Hawk (*Buteo lineatus*). Probable nesting occurs near Antonelli Pond, at the Pogonip, Harvey West Park, and (possibly more than one pair) in DeLaveaga Park (Gerow

2006). Possible nesting in Meder Canyon (John Gilchrist and Associates 1998). Just outside of the city limits, nesting birds on the UCSC campus, at the Arboretum and the upper campus.

Red-tailed Hawk (*Buteo jamaicensis*). Nesting in Moore Creek Preserve, the upper end of Meder Canyon, DeLaveaga Park, and Arana Gulch (Gerow 2006). Likely nesting in the Moore Creek drainage between Moore Creek Preserve and UCSC and in the Pogonip. Outside the city, likely nesting of more than one pair at UCSC (Gerow 2006).

Peregrine Falcon (*Falco peregrinus anatum*) Adults regularly observed foraging along lower San Lorenzo and coastal areas; and possible nest site within or close to city limits (Gerow 2006). Breeding at the hack site on UCSC Long Marine Lab (Gerow 2006).

American Kestrel (*Falco sparvarius*) Nest sites located in the Pogonip (Santa Cruz Parks and Recreation Department 1998) and in Meder Canyon (John Gilchrist and Associates 1998).

California Quail (*Callipepla californica*). Confirmed breeding in Moore Creek Preserve and adjacent areas in the Moore Creek drainage and Meder Canyon. Population occurs in the eastern portion of DeLaveaga Park. Confirmed breeding on lower UCSC campus (Gerow 2006).

American Coot (*Fulica americana*). At least one breeding pair at Westlake Pond and one or two pairs at Neary Lagoon (Gerow 2006).

Killdeer (C*haradrius vociferous*). Breeding along railroad tracks southeast of Neary Lagoon, at the UCSC Marine Science Center (Terrace Point), and along the San Lorenzo River (Gerow 2006).

Spotted Sandpiper (*Actitis macularia*) Historical breeding along the lower San Lorenzo River, especially along the bluffs (Gerow 2006).

Western Gull (*Larus occidentalis*). Numerous nests at Natural Bridges State Park on the cliffs and on the seastacks, one on top of a nearby chimney structure on West Cliff Drive, on rooftops of private residences all along West Cliff, on the roofs of buildings at the Municipal Wharf, and another nest on a dredging boat at the Yacht Harbor near the Murray Street Bridge. Unconfirmed nesting further inland (ESW 2006 Surveys and Gerow 2006).

Pigeon Guillemot (*Cepphus columba*). Numerous nests along the cliffs and rocky points between Cowell's Cove and Natural Bridges State Park. One or two pairs nesting below the Municipal Wharf. Nesting in the area of the coastal UCSC lands along the cliffs west of Younger Lagoon, just outside of the city limits (ESW 2006 Surveys and Gerow 2006).

Band-tailed Pigeon (*Columba fasciata*). Likely breeder with large foraging areas so difficult to determine actual nest sites. Widespread in evergreen forest and woodlands within the city limits such as Moore Creek Preserve, Meder Canyon, lower Branciforte Creek (across from Ocean View Park) and Arana Gulch. Regular in the residential areas north of King Street and near the north side of Neary Lagoon (Gerow 2006).

Mourning Dove (*Zenaida macroura*). Common and widespread breeder (Gerow 2006).

Barn Owl (*Tyto alba*). Potential nest sites in the Pogonip (Santa Cruz Parks and Recreation Department 1998), Arana Gulch (Strelow and EcoSystems West 2000), and Meder Canyon (John Gilchrist and Associates 1998).

Great Horned Owl (*Bubo virginianus*). Successful nesting at Natural Bridges State Park (Gerow 2006), Meder Canyon (John Gilchrist and Associates 1998), and likely nesting of two or more pairs in Moore Creek Preserve (Gerow 2006). Potential nesting habitat in Pogonip (Santa Cruz Parks and Recreation Department 1998) and Arana Gulch (CNDDB 2007; Strelow and EcoSystems West 2000; and HRG 1996a).

White-throated Swift (*Aeronautes saxatalis*). A few apparent breeding pairs at the UCSC Upper Quarry and one pair at Kalkar Quarry (Gerow 2006).

Allen's Hummingbird (*Selasphorus sasin*). Confirmed nesting at Antonelli Pond (LTSCC 2001) and Meder Canyon (John Gilchrist and Associates 1998). Fairly common to common (likely nesting) in various forested and riparian areas including: Moore Creek Preserve, Natural Bridges, Pogonip, Harvey West Park, the San Lorenzo River (mostly north of Hwy1), DeLaveaga Park, and Arana Gulch. Outside of the city, fairly common to common at UCSC; abundant at the UCSC Arboretum (Gerow 2006).

Belted Kingfisher (*Ceryle alcyon*). One or two nesting pairs likely nesting along the San Lorenzo just north of the city limits (Gerow 2006).

Acorn Woodpecker (*Melanerpes formicivorus*). Present (likely breeder) at Pogonip, DeLaveaga Park, and in Branciforte Creek close to DeLaveaga Park. Colonies in Moore Creek Preserve, and south of Meder Street between the two branches of Moore Creek (Gerow 2006). Present at UCSC (Gerow 2006).

Nuttall's Woodpecker *(Picoides nuttallii*). Nested in previous years at the Sycamore Grove along the San Lorenzo River (north of Highway 1) (Gerow 2006). Occurs at Meder Canyon (John Gilchrist and Associates 1998) and Antonelli Pond (LTSCC 2001).

Downy Woodpecker (*Picoides pubescens*). Along the San Lorenzo River nesting confirmed north of the Highway 1 bridge. Nesting likely south of the bridge in the large riparian trees adjacent to San Lorenzo Park and on the lower Branciforte Creek (across from Ocean View Park). Possible nesting in moister evergreen forest areas of Pogonip, Harvey West Park, Moore Creek Preserve and in some suburban areas, such as the neighborhood north of Lighthouse Field (a territorial pair was noted), along Escalona Street, and along Branciforte Creek near Water Street (Gerow 2006). Possible nesting at UCSC.

Hairy Woodpecker (*Picoides villosus*). Nesting pair in the dead Monterey Pines along the east border of Natural Bridges, in suburban neighborhood near Escalona and Alta Vista Streets; one or two pairs in Meder Canyon and one or two pairs in Arana Gulch. Likely nesting pair in the suburban neighborhood near Columbia and Bay Street, west of Neary Lagoon (Gerow 2006).

Northern Flicker (*Colaptes auratus*). Nesting pair at Natural Bridges State Park, two on the Moore Creek Preserve. Likely breeding on upper UCSC campus, in DeLaveaga Park, and Pogonip (Gerow 2006).

Olive-sided flycatcher (*Contopus cooperi*). Nesting in areas with fairly tall conifers or blue gum eucalyptus groves in Pogonip, Harvey West Park, Evergreen Cemetery, Meder Canyon (also John Gilchrist and Associates 1998), Arana Gulch, Moore Creek Preserve, the west branch of Moore Creek near Meder Street, and Westview Court off Western Drive (Gerow 2006). Scattered territorial birds in upper UCSC campus (Gerow 2006).

Western Wood-peewee (*Contopus Sordidulus*). Nesting near Meder Canyon at the Home of Peace Cemetery, above Evergreen Cemetary, and in Harvey West Park. Territories along the San Lorenzo River from the Sycamore grove to the Hwy 1 bridge. Probable nesting in Moore Creek in the Moore Creek Preserve, on the east branch of Moore Creek near Meder Street, on Westview Court off Western Drive. Fairly common in DeLaveaga Park (Gerow 2006).

Pacific-slope Flycatcher (*Empidonax difficillus*). Confirmed nesting at Antonelli Pond (LTSCC 2001), on lower Branciforte Creek across from Ocean View Park (Gerow 2006). Possible nesting in the walkway of Upper Bay Street, and along the small creeks near Escalona Street (Gerow 2006). Several pairs are likely to be nesting in Meder Canyon, Arana Gulch, and Neary Lagoon (Gerow 2006).

Black Phoebe (*Sayornis nigricans*). Confirmed nesting at Antonelli Pond (LTSCC 2001), along the San Lorenzo River, at Natural Bridges State Park, Neary Lagoon, Arana Gulch and in the vicinity of the Santa Cruz Yacht Harbor, the bluffs along Westcliff Drive, and the Pogonip Club Building (Gerow 2006).

Ash-throated Flycatcher (*Myiarchus cinerascens*). Confirmed nesting at Moore Creek Preserve (on the east branch of Moore Creek), and Meder Canyon. Two possibly-nesting pairs at the Pogonip (Gerow 2006). Nesting at the UCSC Arboretum (Gerow 2006).

Warbling Vireo (*Vireo gilvus*). Confirmed nesting along Brookwood Drive in Delaveaga Park and likely to be nesting in southern Delaveaga Park. Possible nesting (breeding pairs) along the San Lorenzo River (Sycamore Grove area)(Gerow 2006). Historical breeding at Antonelli Pond (LTSCC 2001). Breeding pair at the UCSC Arboretum along Moore Creek

Hutton's Vireo (*Vireo huttoni*). Confirmed nesting common to the Moore Creek Preserve. Possible nesting at Neary Lagoon. Pair likely to be nesting in the Natural Bridges portion of Moore Creek. Territorial display observed in Meder Canyon (Gerow 2006).

Steller's Jay (*Cyanocitta stelleri*). Probable nesting in the vicinity of Lighthouse Field, and in a residential neighborhood on the Westside of the city (Gerow 2006).

Western Scrub Jay (*Aphelocoma californica*). Breeding at Antonelli Pond (LTSCC 2001).

Common Raven (*Corvus corax*). Territorial pairs and possible nesting in the Natural Bridges State Park area, the Pogonip (Gerow 2006). Possible nesting on the upper UCSC campus (Gerow 2006).

American Crow (*Corvus brachyrhynchos*). Confirmed nesting at Natural Bridges State Park, Lighthouse Field, and in tree at corner of Fair and Ingalls Streets. Possible nesting at several locations on lower Westside, downtown, and lower Eastside areas (Gerow 2006).

Northern Rough-winged Swallow (S*telgidopteryx serripennis*). Twelve to fifteen pairs confirmed nesting along the San Lorenzo River Gerow 2006).Breeding at Antonelli Pond (LTSCC 2001). Possible nesting at Kalkar Quarry, Moore Creek, along Westcliff Drive (near surfer statue), Delaveaga Park (old quarry in the southwest corner), and the Santa Cruz Yacht Harbor (south of Murray) (Gerow 2006).

Violet-green Swallow (*Tachycineta thalassina*). Confirmed nesting in woodpecker holes in trees at Natural Bridges State Park, Moore Creek Preserve, restroom building at Delaveaga Park, under roof tiles in building on Mission Street Extension, a hotel building on Beach Street, at houses on Isbel Drive, and other locations within the city (Gerow 2006). This bird in also known to breed at Antonelli Pond (LTSCC 2001).

Tree Swallow (*Tachycineta bicolor*). Confirmed nesting in nest box at Neary Lagoon. Pair likely to be nesting at Antonelli Pond (Gerow 2006).

Cliff Swallow (*Petrochelidon pyrrhonota*). Confirmed nesting on the Raytek buildings on Shaffer Road (100+ nests), the San Lorenzo River bridges, along Westcliff Drive (eastern portion south of Manor Avenue), on the cliffs at Lighthouse Point and the Lighthouse (Gerow 2006).

Barn Swallow (*Hirundo rustica*). Confirmed nesting widespread throughout the city, including the buildings in the Terrace Point area, houses and sewer plant structures near Neary Lagoon, under the eaves of warehouses on the Westside, and houses in the neighborhood just south of UCSC (Gerow 2006).

Chestnut-backed Chickadee (*Poecile rufescens*). Breeding at Antonelli Pond (LTSCC 2001).

Bushtit (*Psaltriparus minimus*). Breeding at Antonelli Pond (LTSCC 2001).

Red-breasted Nuthatch (*Sitta canadensis*)**.** Likely to be nesting at UCSC campus (Gerow 2006).

Pygmy Nuthatch (*Sitta pygmaea*)
Confirmed nesting in Pogonip, Harvey West Park, Delaveaga Park, Moore Creek Preserve, Natural Bridges State Park, Western Drive, various Westside industrial areas, Meder Canyon, Bay Street, Lighthouse Field, in the vicinity of Neary Lagoon, lower Branciforte Creek across from Ocean View Park, Arana Gulch, and other locations within the city limits. Confirmed nesting at scattered locations at the UCSC campus (Gerow 2006).

Brown Creeper (*Certhia americana*)
Confirmed nesting at the cemetery on Meder Street, Meder Canyon, Arana Gulch, Delaveaga Park, Moore Creek (near Western Drive), along the San Lorenzo River just north of Highway One, in Natural Bridges State Park, and Lighthouse Field (Gerow 2006).

Winter Wren (*Troglodytes troglodytes*)
Confirmed nesting at the Pogonip. Possible nesting in Harvey West Park. Breeding behavior observed along Carbonera Creek and Branciforte Creeks. Confirmed nesting at UCSC (Gerow 2006).

Marsh Wren (*Cistothorus palustris*). Breeding population confirmed at Neary Lagoon (Gerow 2006).

Wrentit (*Chamaea fasciata*). Confirmed nesting at and in the vicinity of Antonelli Pond (LTSCC 2001 and Gerow 2006), Natural Bridges State Park, Meder Canyon, Delaveaga Park, and Arana Gulch. Confirmed nesting at UCSC (along Moore Creek and tributaries, the Great Meadow and the Arboretum) (Gerow 2006).

Golden-crowned Kinglet (*Regulus satrapa*)**.** Confirmed nesting at Pogonip. Confirmed nesting on the upper UCSC campus (Gerow 2006).

American Robin (*Turdus migratorius*)**.** Confirmed nesting common and widespread in most residential areas and parks throughout the city (Gerow 2006), including Antonelli Pond (LTSCC 2001).

Swainson's Thrush (*Catharus ustulatus*). Confiemed breeding at Antonelli Pond (LTSCC 2001). Territorial pairs and possible nesting in Meder Canyon, Neary Lagoon, along Pogonip Creek, along the Moore Creek drainage (the Moore Creek Preserve, the east branch of Moore Creek near Western Drive, Natural Bridges State Park, along the San Lorenzo River (north of Highway 1), Delaveaga Park, and Arana Gulch. Possible nesting in the UCSC Arboretum area (Gerow 2006).

Hermit Thrush (*Catharus guttatus*). Possible nesting in Pogonip (northwestern portion and the along Redwood Creek. Likely to be nesting in the upper UCSC campus (Gerow 2006).

Northern Mockingbird (*Mimus Polyglottos*). Confirmed breeding at Antonelli Pond (LTSCC 2001).

California Thrasher (*Toxostoma redivivum*). Confirmed nesting in Meder Canyon (John Gilchrist and Associates 1998 and Gerow 2006). Pairs likely to be nesting in Moore Creek Preserve and Delaveaga Park. Residential pairs at the UCSC Arboretum and on upper UCSC campus (Gerow 2006).

Orange-crowned Warbler (*Vermivora celata*). Confirmed nesting on Moore Creek (Natural Bridges section)**.** Pairs likely to be nesting in Meder Canyon and Arana Gulch. Territorial behavior observed at Neary Lagoon (Gerow 2006).

Black-throated Gray Warbler (*Dendroica nigrescens*). A pair is likely nesting in Pogonip. Territorial behavior by several birds was also observed at the upper UCSC campus (Gerow 2006).

Wilson's Warbler (*Wilsonia pusilla*). Confirmed nesting at Pogonip, Harvey West Park, upper Branciforte and Carbonera Creeks, Delaveaga Park, Arana Gulch, Moore Creek Preserve, Moore Creek (between Mission Street Extension and Antonelli Pond), Natural Bridges State Park, and Neary Lagoon. Possible nesting at Meder Canyon and along the San Lorenzo River (below the Sycamore Grove). Nesting at UCSC. (Gerow 2006).

Black-headed Grosbeak (*Pheucticus melanocephalus*). Confirmed nesting in the Moore Creek drainage (in the vicinity of the UCSC Arboretum and Moore Creek Preserves), Antonelli Pond, Natural Bridges State Park, Meder Canyon, Pogonip, Harvey West Park, the San Lorenzo River (north of Highway 1), Branciforte Creek, Delaveaga Park, and along Arana Gulch. Likely to be nesting in Neary Lagoon. Confirmed nesting in the upper UCSC campus (Gerow 2006).

Spotted Towhee (*Pipilo maculatus*). Confirmed nesting in Moore Creek Preserve, the Moore Creek drainage to Natural Bridges State Park, Meder Canyon, San Lorenzo River (north of Water Street), the Arana Gulch area, lower Branciforte Creek across from Ocean View Park, and in the vicinity of Escalona Street. Confirmed nesting in the entire forest belt north of the city. (Gerow 2006).

Calfornia Towhee (*Pipilo crissalis*). Confirmed nesting common and widespread in residential areas, parks throughout the city (Gerow 2006).

Savannah Sparrow (*Passerculus sandwichensis*). Confirmed nesting at the Moore Creek Preserve, UCSC (Inclusion Area A). Territorial behavior and possible nesting at UCSC (East Field) (Gerow 2006).

Lark Sparrow (*Chondestes grammacus*). Possible nesting at the Moore Creek Preserve (northwest portion) (Gerow 2006).

W**hite-crowned Sparrow** (*Zonotrichia albicollis*). Confirmed nesting at Younger Lagoon and the Long Marine Lab Complex (Gerow 2006).

Song Sparrow (*Melospiza melodia*). Confirmed nesting at Terrace Point, Moore Creek, Meder Canyon, Arana Gulch, Neary Lagoon, and San Lorenzo River, and other small drainages and wetlands (Gerow 2006).

Dark-eyed Junco (*Junco hyemalis*). Confirmed nesting at Moore Creek and tributary canyons on the Preserve, Meder Canyon (upper canyon spring area). Possible nesting in the Arana Gulch

area (Arana and Hagemann Gulches), Santa Cruz Yacht Harbor (upper harbor area and western end of Murray Street Bridge) (Gerow 2006).

Western Meadowlark (*Sturnella neglecta*). Confirmed nesting at the Pogonip, UCSC (East Field area and Inclusion Area A), and Moore Creek Preserve (Gerow 2006).

Red-winged Blackbird (*Agelaius phoeniceus*). Confirmed nesting at Neary Lagoon, Antonelli Pond, a ditch on Delaware Avenue (in vicinity of Lipton building), Kalkar Quarry Pond, Natural Bridges State Park (at pond in butterfly area), San Lorenzo River (south of San Lorenzo Park footbridge), and Westlake Pond. Likely to be nesting at Lighthouse Field (Gerow 2006).

Brewer's Blackbird (*Euphagus cyanocephalus*). Confirmed nesting common and widespread in wooded, suburban and urban areas throughout the city (Gerow 2006).

Bullock's Oriole (*Icterus bullockii*). Territorial behavior and possible nesting in vicinity of upper Western Drive and Meder Street (east of the Moore Creek Preserve and south of the UCSC Arboretum) (Gerow 2006).

Hooded Oriole (*Icterus cucullatus*).Confirmed nesting widespread throughout city in palm fans. Territorial behavior observed along Isbel Drive (Gerow 2006).

Purple Finch (*Carpodacus purpureus*). Confirmed nesting UCSC, Moore Creek Preserve, Pogonip, Harvey West Park, Delaveaga, the Carbonera Heights area, and Neary Lagoon. Possible nesting at the UCSC Arboretum and along the San Lorenzo River (Gerow 2006).

Pine Siskin (*Carduelis pinus*). Confirmed nesting at Delaveaga Park. Possible nesting at UCSC, Pogonip, Harvey West Park, Carbonera Heights / Isbel Drive area, and upper Meder Canyon (Gerow 2006).

Lesser Goldfinch (*Carduelis psaltria*). Confirmed nesting on the Westside (north Mission Street) and the Eastside (Water Street). Apparent breeding on Moore Creek Preserve, Meder Canyon, Pogonip, and Delaveaga Park. Apparent breeding on lower UCSC campus (Gerow 2006).

American Goldfinch (*Carduelis tristis*)
Confirmed nesting at Antonelli Pond (LTSCC 2001 and Gerow 2006), Natural Bridges State Park, Bethany Curve Park, and on the Westside (in the riparian area at the western border of the city limits). Confirmed nesting at and in the vicinity of Younger Lagoon (Gerow 2006).

APPENDIX B.

Special-Status and Sensitive Birds Species Known to Occur but Unlikely to Require Protection Under CEQA within the City Limits of Santa Cruz

This list includes special-status birds that are known to occur in the city limits but whose activities in the vicinity are not likely to warrant require protection from future development; such as, migrating birds whose wintering activities are protected but the birds are rare visitors to Santa Cruz; or birds whose nesting activities are protected under CEQA, but whose nesting ranges lie outside of the City of Santa Cruz, or who are not known to nest within the city due to the rarity of the bird or lack of suitable habitat. These species may occur within the city for wintering, foraging, or roosting activities, or during migrations.

Common Loon (*Gavia immer*) (nesting). The nesting common loon is a State Species of Special Concern. The bird is ranked by the CNDDB as G3S1. The CNDDB state ranking indicates a status of Extremely Endangered.

The common loon winters in the vicinity. Its nesting range lies in the northern United States and Canada. This species has been observed at Antonelli Pond (LTSCC 2001).

American White Pelican (*Pelicanus erythrorhynchus*) (nesting colony)**.** The nesting white pelican is a State Species of Special Concern. The bird is ranked by the CNDDB as G3S1. The CNDDB state ranking indicates a status of Extremely Endangered.

The nesting range of the white pelican lies outside of the vicinity and region of Santa Cruz. This species has been observed at Neary Lagoon (Jones and Stokes 1992).

Northern Harrier Hawk (*Circus cyaneus*) (nesting). The nesting northern harrier (also known as marsh hawk) is a State Species of Special Concern. The bird is ranked by the CNDDB as G5S3. The CNDDB ranking indicates a state status of Restricted Range; Rare based on the number of individuals per area of occupied habitat.

The northern harrier hawk is not known to nest within the city limits. Northern harriers are observed foraging and roosting at Neary Lagoon (David J. Powers and Associates, Inc. 1998 and Jones and Stokes 1992), Antonelli Pond (LTSCC 2001), and Meder Canyon (John Gilchrist and Associates 1998). Potential foraging habitat exists on the Pogonip (Santa Cruz Parks and Recreation Department 1998), Moore Creek Preserve and the adjacent Poliski-Gross undeveloped parcel (Biotic Resource Group with Dana Bland and Associates 2001). A nesting pair and juveniles are regularly observed foraging just north of the city limits over coastal UCSC lands (EcoSystems West 2002b and Gerow 2006).

Bald Eagle (*Haliaeetus leucocephalus*) (nesting & wintering). The nesting and wintering bald eagle has a CESA listing of Endangered. The CNDDB Ranking of G4S2 also reflects this state status of Endangered for this species. The (nesting and wintering) bald eagle has also been given a Fully Protected classification by the CDFG

This species has been observed on rare occasions within city limits at Antonelli Pond (LTSCC 2001).

Osprey (*Pandion haliaetus*) (nesting). The nesting osprey is a California Species of Special Concern. The nesting bird is listed by the CNDDB as G5S3. The CNDDB state ranking indicates

a restricted range for the nesting bird and rare based on the number of individuals per area of occupied habitat.

The City of Santa Cruz lies outside of the breeding range of the Osprey. Ospreys have been observed in Arana Gulch (HRG 1996a and CNDDB 2007), Neary Lagoon (Jones and Stokes 1992 and David J. Powers and Associates Inc., Environmental Consultants and Planners 1998), and Antonelli Pond (LTSCC 2001). There is potential habitat at the Pogonip (Santa Cruz Parks and Recreation Department 1998).

Prairie Falcon (*Falco mexicanus*) (nesting). The nesting prairie falcon is a California Species of Special Concern. The nesting bird is also listed by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range for the nesting bird and rare based on the number of individuals per area of occupied habitat. This species is also considered a Bird of Conservation Concern by the USFWS.

The prairie falcon is not known to nest within the Santa Cruz County. This species has been observed within the city limits at Antonelli Pond (LTSCC 2001).

Western Snowy Plover (*Charadrius alexandrinus nivosus*) (nesting). The nesting western snowy plover is federally-listed as Threatened and is a State Species of Special Concern. The CNDDB ranking for the bird is G4T3S2, indicating an Endangered state status for the species and a Restricted Range; Rare status for the subspecies throughout its range. This bird is also considered a Bird of Conservation Concern by the USFWS.

The western snowy plover bred historically on Main Beach (David J. Powers and Associates, Inc. Environmental Consultants and Planners 1998)**.** A regular wintering flock is regularly observed at Seabright Beach (Entrix 2004; Gerow 2006; ESW 2006 Surveys). This species is also occasionally observed foraging at Main Beach, and rarely at Natural Bridges (Gerow 2006).

California Gull (*Larus californicus*) (nesting colonies). The nesting colonies of the California gull are listed as California Species of Special Concern. The CNDDB ranking for the bird is G5S2, indicating a state ranking of Endangered.

The City of Santa Cruz lies outside of the breeding range of the California gull. This species has been observed at Neary Lagoon (Jones and Stokes 1992 and David J. Powers and Associates, Inc. Environmental Consultants and Planners 1998), Antonelli Pond (LTSCC 2001), and Meder Canyon (Arroyo Seco) (John Gilchrist and Associates 1998). There is also potential for California gulls to occur on the Poliski-Gross property (Biotic Resource Group with Dana Bland and Associates 2001).

Marbled Murrelet (*Brachyramphus marmoratus*) (nesting). The nesting marbled murrelet is Federally Threatened and State Endangered. The nesting bird is listed by the CNDDB as G3G4S1. The CNDDB state ranking indicates a status of extremely Endangered.

The marbled murrelet is not known to nest within the city limits, but is observed foraging offshore along the city coastline (e.g., Mitchell's Cove). This species has also been observed flying over UCSC (Entrix 2004).

Short-eared owl (*Asio flammeus*) (nesting). The nesting short-eared owl is a California Species of Special Concern. The nesting short-eared owl is ranked by the CNDDB as G5S3. The CNDDB state ranking indicates a restricted range and rare based on the number of individuals per area of occupied habitat.

The short-eared owl is a winter migrant in Santa Cruz; the City of Santa Cruz lies outside of the breeding range of the bird. Wintering/migrating short-eared owls have been observed on the UCSC campus and in the Peasley Gulch area of Wilder Ranch State Park during the fall season and along Moore Ranch Road in the winter (Suddjian 2000, 2001). This species has been observed within the city limits at Neary Lagoon (Jones and Stokes 1992 and David J. Powers and Associates, Inc. Environmental Consultants and Planners 1998) and Antonelli Pond (LTSCC 2001).

Costa's Hummingbird (*Calypte costae*) (nesting). The Costa's hummingbird is ranked by the CNDDB as G5S3? This CNDDB ranking indicates a state status that is best described as Restricted Range; Rare based on the number of individuals per area of occupied habitat.

Costa's hummingbird is a rare visitor to the area. Its breeding range lies south and east of Santa Cruz. There is potential habitat for this species at the Pogonip (Santa Cruz Parks and Recreation Department 1998).

Rufous Hummingbird (*Selasphorus rufus*) (nesting). The nesting bird is listed by the CNDDB as G5S1S2. The CNDDB ranking indicates a state status from Endangered to extremely Endangered. This species is also considered a Bird of Conservation Concern by the USFWS.

The rufous hummingbird is a migrant in Santa Cruz. Its nesting habitat is in the northwestern United States and northwestern Canada. This species has been observed at the Pogonip (Santa Cruz Parks and Recreation Department 1998), and Meder Canyon (Arroyo Seco) (John Gilchrist and Associates 1998).

Willow Flycatcher (*Empidonax traillii*) (nesting). The nesting willow flycatcher is a State Species of Special Concern. This species is also considered a Bird of Conservation Concern by the USFWS.

The City of Santa Cruz lies outside of the breeding range of the willow flycatcher. This species has been observed at Neary Lagoon (Jones and Stokes 1992 and David J. Powers and Associates, Inc. Environmental Consultants and Planners 1998), Antonelli Pond (LTSCC 2001), Meder Canyon (Arroyo Seco) (John Gilchrist and Associates 1998). In addition, there is potential for this species to occur at Arana Gulch (Strelow Consulting and EcoSystems West 2000).

Least Bell's Vireo (*Vireo bellii pusillus*) (nesting). The nesting least Bell's vireo has federal and California state ESA listings of Endangered. The CNDDB Ranking of G5T2S2 also reflects this

state status of Endangered for this species, and the subspecies throughout its entire range. This vireo is also considered a Bird of Conservation Concern by the USFWS.

The Least Bell's vireo is not known to nest within the city limits. There is a potential for this species to occur at Arana Gulch (Strelow Consulting and EcoSystems West 2000).

Bank Swallow (*Riparia riparia*) (nesting). The nesting bank swallow is state-listed as Threatened. The bird is listed by the CNDDB as G5S2S3. The CNDDB state ranking indicates a restricted range; rare to Endangered status for the nesting bird, based on the number of individuals per area of occupied habitat.

The Bank swallow is not known to presently breed within the city limits. This species has been observed at Antonelli Pond (LTSCC 2001) and Neary Lagoon (Jones and Stokes 1992 and David J. Powers and Associates Inc., Environmental Consultants and Planners 1998).

Virginia's Warbler (*Vermivora virginiae*) (nesting). The nesting Virginia's warbler is a State Species of Special Concern. The CNDDB Ranking for this species is G5S2S3. This state ranking indicates a status of Restricted Range; Rare; to Endangered status for the nesting bird, based on the number of individuals per area of occupied habitat. This warbler is also considered a Bird of Conservation Concern by the USFWS.

The Virginia's warbler is a rare visitor in Santa Cruz. Its breeding range lies inland in the southwestern United States. This species has been observed at Neary Lagoon (Jones and Stokes 1992 and David J. Powers and Associates Inc., Environmental Consultants and Planners 1998).

Summer Tanager (*Piranga rubra*) (nesting). The nesting summer tanager is a State Species of Special Concern. The CNDDB ranking for this species is G5S2, indicating a state status of Endangered.

The City of Santa Cruz lies outside of the breeding range of the summer tanager. This species has been observed at Antonelli Pond (LTSCC 2001).