FEDERAL AGENCIES

The following subsection includes comments and responses to the following federal agencies.

FA-1 U.S. Department of the Army – U.S. Army Corps of Engineers
FA-2 U.S. Department of Commerce – National Marine Fisheries
FA-3 U.S. Department of the Interior – Fish and Wildlife Serve

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1398

REPLY TO
ATTENTION OF
Regulatory Division

SUBJECT: File Number 2010-00020S

Ken Thomas
City of Santa Cruz Planning and Community Development Dept.
809 Center Street, Room 107
Santa Cruz, California 95060

Dear Mr. Thomas:

This letter is in response to a request for comments on the "Draft Environmental Impact Report- City of Santa Cruz Sphere of Influence Amendment (To Include Part of the UCSC North Campus) and Provision of Extraterritorial Water and Sewer Service (To Part of the UCSC North Campus)," dated November 2009, concerning expansion plans for UC Santa Cruz, in Santa Cruz County, California. Since this activity involves potential impacts to Corps jurisdictional waters of the U.S., including wetlands, the Corps of Engineers will need to review those portions of your project.

1 After reviewing the Draft EIR, an issue that that the Corps would like to address is that of the use of localized delineations of waters of the U.S. for individual projects within the planning area as they come up without conducting a large scale delineation of the entire area studied for the EIR. The Corps does not view this as an acceptable practice, since smaller individual impacts would not be viewed within the context of one another. As a policy, the Corps does not allow the use of multiple Nationwide permits to entitle individual pieces of a project without looking at the project as a whole. Therefore, in order to review any projects associated with the actions reviewed in the EIR, the Corps would request that a delineation covering the entire project area be conducted.

One large-scale delineation would enable the planning of impacts and associated mitigation to be conducted on a larger scale and more efficiently than if they were planned without knowing what resources exist within the entire project area. It is not advisable to make assumptions about which areas or landscape features the Corps would or would not take jurisdiction over. This could lead to project delays or unanticipated changes to proposed project designs.

A jurisdictional survey should be illustrated on a scaled topographic map or site plan and submitted for verification of the limits of Corps jurisdiction. If wetlands comprise a portion of the Corps jurisdiction on your property, the 1987 Corps Wetland Delineation Manual with amendments should be used to identify the limits of our jurisdiction. Please contact the Corps representative identified below for current guidance regarding wetland jurisdictional delineation

requirements. Corps staff will do the jurisdictional mapping, if you so choose. But due to the current project backlog, it may take several months to complete the necessary field work. Many consultants now offer expertise in Corps jurisdictional and permitting requirements, including alternative analysis. It is generally prudent to involve such expertise when developing plans for activities that may require a Corps permit. It is also prudent to check the consultant's references and demonstrated expertise.

Should you have any questions regarding this matter, please contact Ian Liffmann of our Regulatory Division by email at ian.liffmann@usace.army.mil or by phone at (415) 503-6769. Please address all correspondence to the Regulatory Division and refer to the File Number at the head of this letter.

Sincerely,

Jane M. Hicks
Chief, Regulatory Division

Copy Furnished:

CA RWQCB, Oakland, CA

LETTER FA-1 – U.S. DEPARTMENT OF ARMY

U.S. Army Corps of Engineers

FA-1-1 Wetland Delineations. The comment indicates that the Corps does not allow the use of multiple Nationwide permits to entitle individual pieces of a project without looking at the project as a whole, and requests that a wetland delineation cover the entire project area. As indicated in the DEIR (pages 5-38 and 5-39), the project actions would expand the City of Santa Cruz' Sphere of Influence and allow provision of extraterritorial water and sewer service to a portion of the UCSC North Campus in which the University has planned future development as set forth in its adopted 2005 Long Range Development Plan (LRDP). The proposed project does not include any site-specific development proposals, and any future development would be within the jurisdiction of the University of California to analyze and approve. However, secondary impacts related to UCSC growth that would be accommodated by the project are addressed in Chapter 5.0 of the DEIR.

Potential indirect, secondary impacts of future planned development on wetlands are addressed on pages 5-38 and 5-39 of the DEIR. As indicated, the 2005 LRDP EIR LRDP Mitigation Measures BIO-3A through -3D require site wetlands reconnaissance, delineation, avoidance and, if jurisdictional wetlands cannot be avoided, wetlands restoration or creation based on permitting consultation with regulatory agencies. Comments received on the 2005 LRDP DEIR requested further analysis of wetland resources and impacts, including preparation of a jurisdictional wetlands delineation. The University

As indicated in the LRDP FEIR (Section 5.1.1, Master Response Bio-2 Wetlands), a formal delineation of wetland and aquatic resources was not conducted because these resources are dynamic and their precise boundaries are likely to change over the 15-year term of the 2005 LRDP. Due to the dynamic nature of aquatic resources, delineations of waters of the U.S. are considered valid to meet requirements under the Clean Water Act for only three to five years from the date of their verification. Therefore, as discussed in the LRDP FEIR, the University has elected to formally delineate aquatic resources within individual project areas at the time that detailed environmental analyses are conducted for each project. However, the LRDP FEIR estimated the potential wetland acreage and wetland type that is present within development areas that would be developed, general descriptions of the locations, which found that out of the 4.7 potential acres of wetland on the North Campus, approximately 1.6 acres could be lost as a result of development proposed under the 2005 LRDP and would require mitigation as identified above (University of California Santa Cruz, September 2006, LRDP EIR, Volume V).

As discussed in the LRDP EIR, any direct or indirect impacts to jurisdictional aquatic resources will require permits from the responsible agencies, which may include the

U.S. Army Corps of Engineers (ACOE), Central Coast Regional Water Quality Control Board (CCRWQCB), and California Department of Fish and Game (CDFG). The University will be required to comply with federal regulations and protocols regarding wetland delineations and avoidance of impacts if or when it proposes any specific development projects in the North Campus area.

The comment is noted and referred to University of California planners for consideration in future development projects in the North Campus.

LETTER FA-2

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

January 8, 2010

In response refer to:
151422SWR2002SR6260:DB

Ken Thomas, Principal Planner
City of Santa Cruz
Planning Department
809 Center Street, Room 107
Santa Cruz, California 95060

Dear Mr. Thomas:

1 Thank you for the opportunity to review and comment on the Draft Environmental Impact Report (DEIR) for the City of Santa Cruz Sphere of Influence Amendment (SOI) and Provision of Extraterritorial Water & Sewer Service submitted by the City of Santa Cruz Planning & Community Development Department (City). The DEIR evaluates the impacts related to increasing the City's SOI to provide extraterritorial water and sewer service to University of California Santa Cruz's (UCSC) North Campus. The project site is located in coastal Santa Cruz County, California.

The objective of the SOI is to determine the impacts of increasing the water supply demand on the City's existing water supply from the incorporation of 374 acres of UCSC land into the City's SOI. In most normal and wet years, when rainfall and runoff are normal to abundant, the City's water supply system is capable of meeting current total annual water supply requirements. The system is vulnerable and has shortages, particularly during dry and critically dry years. The problem is due in large part to a lack of water storage capacity and heavy dependence on surface water sources from San Lorenzo River and coastal streams in the northern portion of Santa Cruz County. The City's current plans estimate that water demand under normal conditions will exceed water system supply some time between 2025 and 2030.

Surface water sources currently used by the City also maintain populations of Central California Coast (CCC) Distinct Population Segment (DPS) steelhead (*Oncorhynchus mykiss*) listed as a threatened species on August 18, 1997 (62 FR 43937), pursuant to the Federal Endangered Species Act (ESA) of 1973, as amended. Regulations deemed necessary and advisable for their conservation were adopted under section 4(d) of the ESA and went into effect on September 8, 2000. In addition, CCC Evolutionarily Significant Unit (ESU) coho salmon (*O. kisutch*) are present or were recently present in many of the streams subject to the City's ongoing water diversions. CCC coho salmon were listed as a threatened species on October 31, 1996, and

regulations deemed necessary and advisable for their conservation were also adopted on October 31, 1996 (61 FR 56138). The listing status of CCC ESU 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. NOAA's National Marine Fisheries Service (NMFS) is extremely concerned that this species is close to extirpation and significant conservation actions will be necessary to halt and reverse their decline. The San Lorenzo River watershed will likely be identified as a priority watershed for recovery of CCC ESU coho salmon.

NMFS' review of the DEIR focused on: 1) biological/ecological impacts on listed CCC ESU coho salmon and CCC DPS steelhead trout, and 2) water availability. Incorporation of UCSC's North Campus will likely have both direct and indirect cumulative impacts to coho salmon and steelhead. Furthermore, the SOI will potentially have impacts to the hydrologic cycles of the North Coast Resources (Liddell Spring, Laguna Creek, Reggiardo Creek, and Majors Creek), the San Lorenzo River, and Newell Creek (Loch Lomond Reservoir) as these are the primary surface flow sources (79%) of water supply for the City of Santa Cruz. We feel that the DEIR inaccurately assesses the impacts from the incorporation of the North Campus on the biological resources and overestimates the water available for the SOI.

2 We are concerned that the DEIR fails to link the cumulative impacts, both direct and indirect, of growth inducement on the status of coho salmon and steelhead and the habitat conditions necessary to support these ESA listed species. The SOI is correlated to the UCSC Long Range Development Plan (LRDP) and insufficiently defines how the cumulative impacts of the expansion of the North Campus will have on listed species. Instead, the DEIR claims that steelhead habitat is not likely to be affected and flows will not be altered to the degree that downstream flows will be reduced.

Alterations to the rate or amount of surface runoff, impairment of water quality, and development of roads are targeted threats to coho salmon and steelhead. The expansion of the UCSC's North Campus will occur in the Cave Gulch watershed, a tributary to Wilder Creek which is known to support steelhead. The impacts to the Cave Gulch watershed have great significance to the biological resources, especially in the development of an estimated 54 acres of impervious surfaces that could result in substantial erosion. The impervious surfaces include the construction of roads to connect Empire Grade Road, as well as the network of roads for the North Campus expansion. UCSC has identified mitigation measures in the Long Range Development Plan (LRDP) EIR to address the impacts from the development, though it is unknown if these measures are sufficient to stabilize the channel, address existing erosion problems, and accommodate additional impacts from the development of new impervious surfaces within the watershed. The [Draft] EIR concludes that the impact could be significant and unavoidable despite implementation of these mitigation measures because project-specific data are not available at this time for all future projects and it cannot be determined whether, for all future projects in the affected watersheds, feasible design measures will be available that would decrease the volume of flow to the extent needed to avoid all increases in erosion (City of Santa Cruz, 2009).

Modification to surface runoff and road development are threats to coho salmon. Roads can contribute sediment (Hagans, *et al.*, 1986) and increase surface runoff (Beyerlein, D., and Broscher, J., 1998; Homer, R., and May, C., 1998). Surface runoff can have a mixture of toxic contaminants that affect the productive viability of coho salmon and steelhead that typically migrate during winter storm events (McCarthy, *et al.*, 2008; Sandhal, *et al.*, 2004). NMFS supports the storm water drainage system improvements, yet feels that the DEIR does not address the interaction of increased soil erosion, surface runoff, and flow alteration to coho salmon or steelhead. We believe that expansion of the road system and the increase to peak flows merits further analysis and evaluation.

3 The recovery of coho and steelhead is contingent on providing suitable habitat conditions, primarily in the form of in-stream flow restoration for adults, juveniles, and smolts (NMFS, 2009). The information provided in the DEIR lends the reader to believe there is sufficient water availability for the SOI during normal years and future growth of the City of Santa Cruz to 2020. We feel this is an overestimation. In critically dry years the City of Santa Cruz currently does not have enough water to supply the City's current district base. Retention of surface flows will be of greater significance in critically dry years to coho and steelhead as rearing juveniles will likely be constrained to portions of the San Lorenzo River, unable to rear in smaller tributaries.

4 NMFS continues to support the City's goal of augmenting water supply to the City's customers through water conservation, customer curtailment, and supply augmentation with the construction of a 2.5 million gallon per day (mgd) desalination plant to meet current and projected water needs. We believe the desalination plant offers 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.

5 Due to the lack of water supply in all water year types, NMFS believes additional in-stream diversions to accommodate the proposed expansion will result in a level of impact that may preclude the recovery of both coho salmon and steelhead in Santa Cruz County. Rather than assessing the impacts in an encompassing evaluation, the City is proposing to employ individual mitigation efforts to offset specific projects as they are developed. This approach is insufficient and inadequate. The City must evaluate the cumulative total of the proposed action and evaluate it against the impacts to and status of steelhead and coho salmon. Project specific mitigation – often separated in time by many years – will fail to address the chronic ongoing impacts of water diversion and development to threatened steelhead and imperiled coho salmon.

6 As stated previously, between the year 2015 and 2020, the City will exceed water availability under normal conditions. A Habitat Conservation Plan (HCP) is being developed by the City of Santa Cruz that outlines how the City proposes to minimize or mitigate impacts to ESA listed species. NMFS recommends that the City thoroughly and accurately evaluate the current water supply, weighing the outcomes of the HCP, with the effects of the SOI. We do not believe that under the current operations the City has sufficient water availability, even under normal years, to provide sufficient flows to support coho salmon or steelhead, while expanding the service base to incorporate UCSC North Campus expansion.

NMFS appreciates the opportunity to comment on the City's Draft EIR. 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
Santa Rosa Area Office Supervisor
Protected Resources Division

cc: Chad Mitcham, USFWS, Ventura
Suzanne Deleon, CDFG, Yountville
Phil Hammer, CCRWQCB, San Luis Obispo
Bill Kocher, City of Santa Cruz Water Department, Santa Cruz

Sources Cited

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LETTER FA-2 – U.S. DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration (NOAA)
National Marine Fisheries Services (NMFS)

FA-2-1 Water Supply & Fisheries. The comment indicates that the NMFS feels that the DEIR inaccurately assesses the impacts of development in the North Campus area on biological resources and overestimates the water available for the SOI, both of which could have impacts to federally listed steelhead and coho salmon species. See Response to Comment FA-2-2 below regarding North Campus impacts. See also Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding the City's water supply (including adequacy for fisheries), as well as, responses to specific comments below that further address specific comments related to these concerns.

FA-2-2 Cave Gulch Watershed Impacts. The comment expresses concerns regarding direct and indirect impacts to coho salmon and steelhead due to development on the UCSC campus. The comment asserts that development of UCSC's North Campus, and in the Cave Gulch watershed in particular, will have direct and indirect cumulative impacts to coho salmon and steelhead due to substantial changes to the rate and amount of surface water runoff, which will in turn increase erosion, impair water quality and thereby harm steelhead and coho salmon.

Future UCSC development would have no direct impacts on steelhead in Wilder Creek as there are no planned direct diversions or alterations to Wilder Creek. The Wilder Creek watershed is not included in the recently released public draft "Recovery Plan for the Evolutionarily Significant Unit of Central California Coast Coho Salmon" (National Marine Fisheries Service, March 2010). As indicated on page 5-42 of the DEIR, North Campus development, particularly in the Cave Gulch watershed would not result in increases of stormwater that would indirectly affect downstream flows into Wilder Creek; downstream flows are not expected to be change as peak flows would not exceed pre-development levels with the implementation of previously adopted mitigation measures for the 2005 LRDP.

It is agreed that development, if not properly executed and mitigated, can result in erosion and other water quality effects that could indirectly adversely affect downstream habitats. Erosion and water quality impact s are discussed on pages 5-50 to 5-53 of the DEIR. Erosion issues in Cave Gulch have been a concern. However, the implementation of LRDP Mitigation Measures (including HYD-3B related to road improvements) and BMPs in the Storm Water Management Plan approved by the State Regional Water Quality Control Board as part of the campus NPDES permit approval, would avoid or minimize such impacts. See Master Response GI-3 – Cave Gulch Erosion regarding potential erosion issues, and see Master Response CC-1 –

Significant Unavoidable Impacts regarding the potential significant erosion impacts in the Cave Gulch watershed.

As indicated in Master Response PD-1 – Project Overview, Purpose & Objectives, the proposed project would indirectly support the planned UCSC North Campus growth as envisioned in its adopted 2005 LRDP and further conditioned in the Comprehensive Settlement Agreement. The environmental effects of future development under the 2005 LRDP were previously analyzed at a programmatic level in the University-prepared EIR for the 2005 LRDP. This area is in the exclusive control of the University of California. The project description for this EIR does not include any specific new development projects on the UCSC campus. The LRDP EIR addressed the potential for LRDP implementation to impact species in Wilder Creek, and indicated that no water quantity or quality impacts are anticipated downstream of the campus, and thus, there would be no impacts to downstream species, including steelhead (University of California Santa Cruz, September 2006, LRDP EIR, Volume V).

FA-2-3 Water Supply & Fisheries Habitat. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding adequacy of the existing City water supply sources.

FA-2-4 Desalination Facility Support. The comment indicates that NMFS continues to support the City's goal of augmenting water supply through conservation, customer curtailment and supply augmentation with construction of a desalination plant and believes that the desalination plant offers opportunities to decrease the City's reliance on summer surface water diversions that will lead to improvements in in-stream water quality and quantity. Comment is noted, but no further response is necessary, as NMFS does not offer criticism of the DEIR on this point or provide any new information that would warrant a change to the DEIR text.

FA-2-5 In-stream Diversions. NMFS believes that "additional in-stream diversions to accommodate the proposed expansion" will result in impacts that will preclude recovery of coho salmon and steelhead in Santa Cruz County. However, the proposed project does not involve or require changes to the City's existing water supply sources or infrastructure. No new additional in-stream diversions are proposed to serve the project. The City does not propose additional in-stream diversions, either as part of the proposed project or as part of its overall water system operation. The comments may misunderstand the petition to change the City's Loch Lomond diversion from storage to direct diversion as requesting additional diversions, which is not the case. The petition, if granted, would only change the purpose of the diversion, not the volume or place, as noted on page 4.1-12 of the DEIR. See also Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding the City's water rights petitions.

FA-2-6 Adequacy of Water Supply. NMFS does not believe that under current operations the City has sufficient water availability, even under normal years, to provide sufficient flows to support coho salmon or steelhead. Comment is so noted and acknowledged. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
81440-2010-TA-0150

January 19, 2010

Ken Thomas
Principal Planner
City of Santa Cruz
809 Center Street, Room 107
Santa Cruz, California 95060

Subject: Comment Letter for the Notice of Availability of a Draft Environmental Impact Report for the City of Santa Cruz Sphere of Influence Amendment and Provision of Extraterritorial Water and Sewer Service, Santa Cruz County, California

Dear Mr. Thomas:

1 We have reviewed the Draft Environmental Impact Report (DEIR) (City of Santa Cruz 2009) for the City of Santa Cruz Sphere of Influence Amendment and Provision of Extraterritorial Water and Sewer Service (project) for the 374-acre portion of the University of California Santa Cruz (UCSC) known as the "North Campus," in Santa Cruz County, California. The City of Santa Cruz (City) submitted an application to the Santa Cruz Local Agency Formation Commission (LAFCO) to amend the City's Sphere of Influence (SOI) to include UCSC's North Campus. UCSC concurrently submitted an application to LAFCO for extraterritorial water and sewer service to be provided by the City. The applications to LAFCO were made by the City and UCSC in accordance with provisions of the "Comprehensive Settlement Agreement" (Agreement) regarding UCSC's 2005 Long Range Development Plan (LRDP). The objective of the project is to implement the City's obligations set forth in the Agreement with regards to provision of water and sewer services to UCSC's North Campus. Pursuant to the Agreement, the City agreed to continue to provide water service to the campus to assist UCSC with achieving its on-campus housing commitment. Furthermore, the City agreed to submit an application to LAFCO to amend its SOI to include most of the North Campus concurrent with UCSC submitting its own application request to LAFCO for provision of extraterritorial water and sewer service to the project area for development of up to 3,175,000 gross square feet of building space in this area as set forth in the 2005 LRDP.

The U.S. Fish and Wildlife Service's (Service) responsibilities include administering the Endangered Species Act of 1973, as amended (Act), including sections 7, 9, and 10. Section 9 of the Act prohibits the taking of any federally listed endangered or threatened species. Section 3(18) of the Act 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, feeding, or sheltering. Harassment is defined by the Service as an intentional or negligent action that creates the likelihood of injury to wildlife 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. The Act provides for civil and criminal penalties for the unlawful taking of listed species. Exemptions to the prohibitions against take may be obtained through coordination with the Service in two ways: through interagency consultations for projects with Federal involvement pursuant to section 7 of the Act or through the issuance of an incidental take permit under section 10(a)(1)(B) of the Act.

As it is not our primary responsibility to comment on documents prepared pursuant to the California Environmental Quality Act (CEQA), our comments on the DEIR do not constitute a full review of project impacts. We are providing our comments based upon a review of sections addressing biological resources, project activities that have the potential to affect federally listed species, and our concerns for listed species within our jurisdiction related to our mandates under the Act.

2 We are concerned that the DEIR does not take into consideration the several federally listed species that are also reliant upon the City's water supply sources and management actions to ensure their continued existence. The federally threatened California red-legged frog (*Rana aurora draytonii*) and its designated critical habitat (71 FR 19243), the threatened Santa Cruz tarplant (*Holocarpha macradenia*) and its designated critical habitat (67 FR 63967), the endangered tidewater goby (*Eucyclogobius newberryi*) and its designated critical habitat (73 FR 5920), and the endangered Ohlone tiger beetle (*Cicindela ohlone*) all occur within either the City's current or proposed SOI or the Service believes has the potential to be affected by the project as a result of water withdrawals.

The Service is concerned that the DEIR discusses the project's potential impacts to water resources throughout the City's current and proposed SOI, yet fails to have any meaningful discussion and analysis of the project's potential impacts to the federally listed species that are also reliant upon these water resources for their survival. These concerns are based on conclusions reached in the DEIR; one of which that states "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 adequate long-term supplies during normal years potentially at some time after the year 2025" (City of Santa Cruz 2009).

The City has four primary water sources which include: North Coast Stream Diversions (25 percent), San Lorenzo River Diversions (47 percent), Loch Lomond Reservoir (24 percent), and the Live Oak Well system (4 percent) (Erler and Kalinowski, Inc. 2009).

3 **North Coast Sources and the California Red-Legged Frog**

The North Coast sources consist of surface diversions from three coastal streams and a natural spring located approximately 6 to 8 miles northwest of downtown Santa Cruz. These sources are Liddell Spring, Laguna Creek, Reggiardo Creek and Majors Creek; all of which are located within California red-legged frog designated critical habitat unit SCZ-1 (71 FR 19243). Diversion from these sources is limited primarily by flows (City of Santa Cruz Water Department 2006 in City of Santa Cruz 2009).

The California red-legged frog critical habitat final rule recognizes that "threats that may require special management in this unit (SCZ-1) include water diversions, which could dewater portions of aquatic habitat, and thereby lead to desiccation of egg masses or temporal loss of aquatic habitat." Considering that the City currently extracts 25 percent of its water from the North Coast sources it remains their responsibility to ensure that their actions are not taking California red-legged frogs that also rely upon these water sources for their continued survival. The Service recommends that the City complete an effects analysis of each of the (above mentioned) affected streams and springs to determine what effects their actions currently have on California red-legged frogs and their habitat in these areas. Furthermore, as the City is now proposing to increase their SOI, the Service recommends that the City also analyze the project's potential impacts to California red-legged frogs and their habitat in regards to the North Coast sources.

4 **North Campus and the California Red-Legged Frog**

California red-legged frogs occur south of the project area on the UCSC campus and are also known to occur 0.4 mile northwest of the project area; locations that are both well within the known dispersal distance of the subspecies. The DEIR estimates that 4.7 acres of wetland habitat currently exists within the project area. This information leads the Service to believe that the project area likely constitutes upland and dispersal habitat for California red-legged frogs, and may also contain appropriate breeding habitat for the subspecies. The DEIR only recognizes and attempts to address impacts to the subspecies within the Moore Creek watershed while anticipating that "the proposed 2005 LRDP would not result in take of threatened or endangered species or their habitat in other areas of the campus." We are unclear how this conclusion was reached when protocol surveys for the species have not been conducted within the North Campus area. We request that the City or UCSC conduct protocol level surveys for California red-legged frogs within the North Campus area in order to properly plan for future growth at UCSC by taking into consideration the needs of listed species that also utilize these resources.

5 **Live Oak Well System**

The City's Water Supply Assessment (WSA) concludes that water supplies are sufficient to meet the City's existing and project water demands in a normal year through the year 2030 based on a 0.4 percent annual increase in customer classes (City of Santa Cruz 2009). We note that from 1921 to 2008, the City experienced 28 years (32 percent) of either dry or critically dry years (City of Santa Cruz Water Department 2009). Additionally, during wet or normal years

historical ground water production at the Live Oak Well System provides the City with 91 million gallons per year (mgy) and 119 mgy respectively. However, during dry or critically dry years that production increases to 188 mgy and 260 mgy respectively (Erler and Kalinowski 2009).

Although ground water constitutes only four percent of the City's normal year water supply, it is a critical component for meeting peak season and dry year demands. The City currently produces water through the Live Oak Well System which extracts ground water from one of the water bearing units of the Purisima Formation. Ground water level data collected over the past 15 years indicate that water levels across the Purisima Formation have been lowered by a combination of changes in recharge and the gradual increase in overall ground water production from the aquifer (City of Santa Cruz 2009).

Wetlands are sensitive to the effects of ground water pumping as a result of progressive lowering of the water table and by increased seasonal changes in the altitude of the water table. The persistence of wetness for many wetlands is dependent on a relatively stable influx of ground water throughout changing seasonal and annual climatic cycles. Characterizing ground water discharge to wetlands and its relation to environmental factors, such as moisture content and chemistry in the root zone of wetland plants, is a critical but difficult to characterize aspect of wetlands hydrology (USGS 1999).

As stated previously, the Service is concerned that the DEIR does not take into consideration potential impacts resulting from the project on federally listed species and their habitat throughout the City's SOI, and at water source locations. This concern is highlighted by LRDP Impact HYD-8, contained in Volume II of the DEIR (UCSC 2006) which states that "The City has also evaluated the cumulative impact on the aquifer from withdrawal of ground water and determined that the cumulative impact on ground water storage and saltwater intrusion would be significant."

The primary responsibility of the Service is the conservation of public fish and wildlife resources and their habitats. In order for the Service to determine if the proposed project would impact these species or their habitat we offer the additional following information and recommendations that the Service believes should be thoroughly addressed in the final EIR.

6 **Ohlone Tiger Beetle**

The Ohlone tiger beetle is endemic to Santa Cruz County, where it is known only from coastal terraces supporting patches of native grassland habitat. Since the final listing rule in 2001 (63 FR 50340), the known distribution of the Ohlone tiger beetle has decreased from 5 geographic areas with 16 occurrences to 3 geographic areas with 7 occurrences. Three historical occurrences are on property owned by the City, two of which have been determined as potentially extirpated, while six historical occurrences are on property owned by UCSC, three of which have not been detected in 5 or more years. Threats to the Ohlone tiger beetle, including habitat fragmentation and destruction due to urban development, habitat degradation due to

invasion of nonnative plants, potential threats due to collection, pesticides, and recreational use of habitat, and vulnerability to random local extirpations continue to imperil the continued existence of this species. The DEIR recognizes that development under the LRDP could result in a substantial adverse impact on the species as a result from increased bicycle use on trails and obstruction of potential movement corridors. Measures contained in the LRDP are intended to reduce these potential impacts to a less than significant level; however, this can only be determined with appropriate coordination with the Service. We recommend that the City and UCSC take these factors into consideration to ensure direct and indirect impacts to the species and its habitat is avoided.

7 **Santa Cruz Tarplant**

The Santa Cruz tarplant and its designated critical habitat occur within the City's SOI. A special management consideration identified in the critical habitat final rule (67 FR 63967) states that the hydrologic regime of the area surrounding Santa Cruz tarplant habitat should be maintained to provide for the seasonally moist soils that the species favors. Increasing or decreasing surface and subsurface water flow to these areas though habitat alteration that either artificially adds or reduces water could decrease the suitability of these areas to support the species.

The Service recognizes the City's previous conservation and management efforts regarding the Santa Cruz tarplant; such as management efforts at the Arana Gulch Open Space Preserve. However, habitat that has been set aside in preserves, conservation easements, and open spaces also suffers secondary impacts such as changes in hydrology. In particular, smaller preserve areas with Santa Cruz tarplant suffer because they are cut off from many ecosystem functions dependent upon soil and hydrologic characteristics that would be present in larger, more contiguous sites. More often, these smaller areas are left as open spaces, but without the benefit of the grassland management needed to sustain them (67 FR 63967). As such, the Service recommends that the City discuss and analyze the project's potential impacts on the Santa Cruz tarplant and its critical habitat.

8 **Tidewater Goby**

Historically, concern about ground water in coastal regions has focused on seawater intrusion into coastal aquifers. More recently, ground water has been recognized as a key contributor of nutrients and contaminants to coastal waters. Likewise, plant and wildlife communities adapted to particular environmental conditions in coastal areas can be affected by changes in the flow and quality of ground water discharges to the marine environment (USGS 1999). Tidewater gobies occur in lagoons, estuaries, backwater marshes, and in freshwater streams to brackish habitats. Tidewater goby critical habitat has been designated at 44 units, 3 of which may be affected by the project. These units include: 1) SC-1 (Laguna Creek), a North Coast Diversion source located approximately 7.5 miles west of the City; 2) SC-2 (Baldwin Creek), which is located approximately 6 miles west of the City; and 3) SC-3 (Corcoran Lagoon), which is located adjacent to the east of the City. The species has been also known to occur at several locations within this range including at the San Lorenzo River and Woods Lagoon, both of which are

within the City's SOI. Threats relevant to the project and identified within the critical habitat final rule include: 1) coastal development projects that result in the loss or alteration of coastal wetland habitat; 2) water diversions and alterations of water flows upstream of coastal lagoons that negatively impact the species breeding and foraging activities; and, 3) ground water overdrafting that results in reduction of flows and negatively impacts the species breeding and foraging activities. These threats combined with drought conditions, which is the most significant natural factor adversely affecting the species, have degraded coastal and riparian ecosystems and have created extremely stressful conditions for most aquatic species including the tidewater goby (73 FR 5920). The Service recommends that the City consider these factors and conduct an effects analysis at known tidewater goby occurrence locations that are currently impacted, or will be impacted, by the City's continued water diversions.

Other Considerations

9 The WSA (Erler and Kalinowski 2009) indicates that in response to the City's existing dry year supply shortfalls the City has been implementing water conservation programs and has initiated studies for the development of a desalination project. The City anticipates being able to reduce the water supply deficit in a worst case scenario, as in the 1976 to 1977 drought event, from over 50 percent at peak times to a maximum of 15 percent. Plans for achieving this 15 percent curtailment are outlined in the City's updated Water Shortage Contingency Plan (WCSP) (City of Santa Cruz Water Department 2009). However, the WSCP identifies several issues regarding implementation of the plan which include: 1) A major capital improvement affecting the City's water supply is the renovation of the Live Oak well system which includes upgrades to wells, treatment plant, and the distribution system to restore production capacity back to its full 2 million gallons per day (mgd) level that was in operation during the 1987 to 1992 drought. This assumes the entire ground water basin is not compromised by continued regional over-pumping of the Purisima aquifer; 2) The City is pursuing an Endangered Species Act section 10 permit (habitat conservation plan). Long-term requirements for in-stream flow releases affecting the City's surface water diversions have yet to be determined. It is expected that the City will lose more water as a result of regulatory actions at the state or Federal level for the protection of listed species; and, 3) The City is also involved in two water rights matters pending before the State Water Resources Control Board that could affect future operations of the Felton Diversion and Loch Lomond Reservoir.

The Service is concerned that despite the acknowledgment that long-term requirements for in-stream flow releases have yet to be determined (in regards to a section 10 permit), the City has proposed to move forward with expanding their water service area. We request that the final EIR include substantive discussion regarding the potential effects of the project in regards to projected in-stream flow release limitations, which should be determined coordination with the Service and the National Marine Fisheries Service.

Summary

10 The Service is concerned that approval of the project would not only result in impacts to federally listed species occurring within UCSC's North Campus area, but to federally listed species occurring throughout the City's SOI, which are also dependent on the City's water management actions for their survival. This is derived from the fact that ground water and surface water supplies are inexorably linked, and as a result, plant and animal species that are dependent on these water supplies will also continue to be affected by the City's water management decisions. The Service recognizes the City's difficulty in understanding how their water management actions may affect federally listed species occurring in this area; however, irrespective of these difficulties it remains the City's responsibility to ensure their actions do not result in effects to these species.

Thank you for the opportunity to comment on the Notice of Availability of a Draft Environmental Impact Report for the City of Santa Cruz Sphere of Influence Amendment and Provision of Extraterritorial Water and Sewer Service. If you have any questions, please contact Chad Mitcham of our staff at (805) 644-1766, extension 335.

Sincerely,

David M. Pereksta
Assistant Field Supervisor

REFERENCES

City of Santa Cruz. 2009. Draft Environmental Impact Report for the City of Santa Cruz Sphere of Influence Amendment and Provision of Extraterritorial Water and Sewer Service. Prepared for the City of Santa Cruz. (SCH No. 2008102108).

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University of California Santa Cruz. 2006. University of California, Santa Cruz 2005-2020 Long-Range Development Plan Final Environmental Impact Report. (SCH No. 2005012113).

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LETTER FA-3 – U.S. DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service (USFWS)

FA-3-1 General Comment. The comment provides a summary of the description and the Agency's comments. No response is required.

FA-3-2 Federally Listed Species. The comment expresses concern about four federally listed species and habitat are within the City's current or proposed SOI or the commenter believes has the potential to be affected by the project as a result of water withdrawals. The species include California red-legged frog, tarplant, tidewater goby, and the Ohlone tiger beetle. The project does not include changes to the City's water system operations, and federally listed species are being addressed in a HCP the City Water Department is in the process of preparing with regards to its water system and operations. See page 4.1-11 of the DEIR, Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding the HCP process, and CHANGES TO THE DRAFT EIR (Chapter 3.0) of this document for further clarification of the HCP process. See Response to Comments FA-3-3,4, 6, 7 and 8, below regarding specific comments on the species cited in this comment.

FA-3-3 City North Coast Water Sources and California Red-Legged Frog. The comment suggests that the City complete an analysis of the effects of its actions on the California Red-Legged Frog. As described on page 4.1-11 of the DEIR, the City has been working with the UWFWS in developing a Habitat Conservation Plan (HCP) for City Water Department activities and operations that may adversely affect federally listed species, including the California red-legged frog. See also Master Response WS-1 – Water Supply Adequacy & Potential Reductions.

FA-3-4 North Campus and California Red-Legged Frog. The comment suggests that the North Campus may provide appropriate breeding habitat for the California red-legged frog due to presence of seasonal wetlands and questions the methodology for identifying the presence of species in the 2005 LRDP EIR. According to information provided in the 2005 LRDP EIR, the list of special status species and habitats potentially present on the campus was based on literature review, current special status species databases (CNDDB, USFWS, CDFG, CNPS, WBWG), historical data on occurrences on the campus, standard natural history references, and consultation with locals familiar with resources of this area. For the 2005 LRDP EIR, then-current campus baseline biological data were updated with new records searches, and literature and data-base reviews, and an extensive suite of biological field surveys (University of California Santa Cruz, September 2006, 2005 LRDP EIR, Volume I).

Regarding protocol-level surveys, numerous biological surveys have been conducted of the campus overall and of the North Campus study area, including

protocol-level surveys for College 9/10, at the south margin of the area. According to the University, protocol level surveys generally are only undertaken in conjunction with planning for a specific proposed project once a proposed project footprint has been delineated, since it is only at this point in project development that it can be determined where impacts potentially could occur (Fitch, University of California Santa Cruz, personal communication, March 2010). Further, had a protocol level survey been undertaken for the LRDP program, it likely would be out of date by the time a specific project was proposed and delineated, since protocol level survey results typically are good for only about 2 years. Program-level assessments were based on extensive review of occurrence data and other relevant literature, and on a series of field surveys to delineate potential habitat and to gather additional occurrence data. As noted in current USFWS protocol for CRLF, "…two procedures are recommended…to accurately assess the likelihood of CRF presence in the vicinity of a project site: (1) an assessment of CRF locality records and potential CRF habitat in and around the project area and, (2) focused field surveys of breeding pools and other associated habitat to determine whether CRF are likely to be present." Studies for UCSC (EcoSystems West Consulting Group, 2000, "Draft University of California Santa Cruz, California Red-Legged Frog Site Assessment") indicates that the USFWS Guidance for CRLF survey goes on to note,

> "Because CRF are known to use aquatic, riparian, and upland habitat, they may be present in any of these habitat types, depending on the time of year, on any given property. For sites with no suitable aquatic breeding habitat, but where suitable upland dispersal habitat exists, it is difficult to support a negative funding with the results of any survey guidance. Therefore, this Guidance focuses on site assessments and surveys conducted in and around aquatic and riparian habitat."

The 2005 LRDP EIR relies on data on known occurrences, and surveys of campus aquatic habitat and other areas in the vicinity of known occurrences, and takes into account topography and other natural corridors and barriers, and potential connections between known breeding sites to provide a reasonable assessment of the likelihood for CRLF to be present in LRDP-envisioned development areas and to be affected by development in these areas. Mitigation is identified only for those areas of the campus where CRLF are considered likely to occur. As environmental documents are prepared for specific developments under the 2005 LRDP, additional biological site assessments will be undertaken for each specific project. If a future site-specific assessment identifies a site as potential CRLF or OTB habitat, protocol level surveys will be undertaken, and appropriate mitigation measures imposed as described in LRDP Mitigation Measures BIO-7 and BIO-9, above. UCSC will consult with USFWS on a project-by-project basis and will develop additional mitigation

measures as appropriate (University of California Santa Cruz, September 2006, 2005 LRDP EIR, Volume V [Response to Comment OPA-4-4].

FA-3-5 Live Oak Well System. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding the City's groundwater supplies. The comment is correct in noting that from 1921 to 2008 the City experienced 28 years (32%) as dry or critically dry per data in the City's "Water Shortage Contingency Plan". The City's existing wells are located within an urban area. The reference to wetlands being sensitive to groundwater pumping is unclear in the context of the DEIR analysis. Federally listed species in the project area are addressed on pages 5-34-5-35 and 5-39 to5-42 of the DEIR. See Response to Comment FA-3-3 regarding federally listed species that may be affected by the City's water system operations. The comment notes a conclusion from the 2005 LRDP that cumulative groundwater impacts related to storage and saltwater intrusion would be significant. The conclusion is cited from the City's Integrated Water Plan EIR, which considers groundwater pumping within the Purisima Formation that includes Soquel Creek Water District.

FA-3-6 Ohlone Tiger Beetle (OTB). The comment notes LRDP mitigation measures and recommends that the City and UCSC take these into consideration, and the comment is so noted and acknowledged. As discussed in Comment SA-4a-11 (and its response), the campus has suspended the closure of trails on Marshall Field in consultation with the USFWS. According to UCSC staff, the campus continues to conduct annual surveys for OTB in the area, and will apply additional measures to manage OTB habitat based on the results of the ongoing adaptive management studies conducted as part of the Ranch View Terrace HCP.

FA-3-7 Santa Cruz Tarplant. Santa Cruz tarplant is not known to exist in the project area (University of California Santa Cruz, September 2006, LRDP EIR, Volume 1, Table 4.4).

FA-3-8 Tidewater Goby. There is no suitable habitat for tidewater goby on the UCSC main campus. The threats to the species described in the comment (coastal development, diversion of water and alteration of flows in waters upstream from habitat, and groundwater overdrafting) are not related to development on the North Campus, but addresses coastal development and water diversions. As indicated in the DEIR, the City of Santa Cruz is in the process of preparing a HCP that includes all listed federal species in areas of City water system and other operations. The tidewater goby will be included.

FA-3-9 Water Supply. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions.

FA-3-10 Impacts to Federally Listed Species. The USFWS expresses concern regarding impacts to federally listed species throughout the City's sphere of influence that depend on and will be affected by the City's water management decisions. The proposed project does not include changes to the City's water supplies or water system operations. The City is preparing a HCP to address federally listed species affected by water and public works operations. Species being studied include anadromous salmonids (coho and steelhead), Mount Hermon June beetle, California red-legged frog, and Western pond turtle. It should be noted that the City's water service area extends beyond the City limits and existing sphere of influence as described on page 3-3 of the DEIR.