

CITY OF SANTA CRUZ
**Notice of Intent to
Adopt a Negative Declaration**

The Administrator of Environmental Quality of the City of Santa Cruz is preparing to issue a Negative Declaration of environmental impact for the following proposed project:

Project: Cooperative Water Transfer, Groundwater Recharge, and Resource Management Pilot Project (Project)

Project Location: The existing Santa Cruz Water Department (City) facilities involved in transferring water to the District include intakes on Majors Creek and Liddell Springs, north coast piping, the coast pump station, Graham Hill Water Treatment Plant (GHWTP), and the City transmission system. The existing Soquel Creek Water District (District) facilities involved in transferring and receiving water from the City include the recently completed O'Neill Ranch intertie and two other existing interties, which are located between the Live Oak area of Santa Cruz County and the City of Capitola

Project Applicant: City of Santa Cruz Water Department

Project Description: The City and District are proposing to enter into a 5-year agreement under which the City will transfer available winter supply from Majors Creek and Liddell Springs to the District under a resource management pilot program. The Project also considers potential future extension of the agreement beyond the 5-year pilot period. Under certain conditions, winter water will be directed from existing intakes on Liddell Spring and/or Majors Creek through the City's system (north coast piping, coast pump station, GHWTP, and potable water distribution system) and then to existing metered interties with the District. No physical improvements to the City's or District's systems are required for this Project. Additionally, the source water is from the City's pre-1914 appropriative water rights, and the amount of water transferred will be within the range of what has been delivered to and used in the City in the past.

Based on the hydraulic capacity of the interties and recent modelling conducted of the City's system, the City could transfer an average of approximately 115 million gallons (mg), during the winter months (November through April) to the District via the above existing system. However, the range of transfer volumes on an annual basis will vary widely depending upon the water year type (i.e., critically dry, dry, normal, wet) and any instream flow agreements in place between the City and the resource agencies. The quantity and availability of water supplied by the City shall be based on the draft agreement terms and conditions and at the sole discretion of the Director of the Water Department of the City.

Significant Effects on the Environment: None.

The Administrator of Environmental Quality of the City of Santa Cruz has reviewed the Project and has determined that the Project will not have a significant effect on the environment and no mitigation measures are required.

A copy of the Negative Declaration document may be reviewed on the City's website at www.cityofsantacruz.com or may be reviewed or obtained at:

City of Santa Cruz Water Department
212 Locust Street, Suite C
Santa Cruz, CA 95060

Comments on the Negative Declaration should be in writing to Kevin Crossley at the Water Department address listed above or at KCrossley@cityofsantacruz.com from **December 9, 2015 to January 9, 2016**. The City Council is tentatively scheduled to consider the proposed Negative Declaration at a public hearing following the comment period.

If you have any questions or comments, please contact Kevin Crossley at (831) 420-5210.

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**City of Santa Cruz
Environmental Checklist Form/Initial Study**

I. Background

1. Project Title:

Cooperative Water Transfer, Groundwater Recharge, and Resource Management Pilot Project (Project)

2. Lead Agency Name and Address:

City of Santa Cruz Water Department
212 Locust Street, Suite C
Santa Cruz, CA 95060

3. Contact Person and Phone Number:

Kevin Crossley P.E., Senior Civil Engineer
831-420-5210

4. Project Location:

The existing water facilities required to treat and deliver water to Soquel Creek Water District (District) are located in the City and County of Santa Cruz. The existing Santa Cruz Water Department (City) facilities include intakes on Majors Creek and Liddell Springs, north coast piping, the coast pump station, Graham Hill Water Treatment Plant (GHWTP), and the City transmission system. The existing District facilities involved in transferring and receiving water from the City include the recently completed O'Neill Ranch intertie and two other existing interties, which are located between the Live Oak area of Santa Cruz County and the City of Capitola (Figure 1).

5. Project Applicant's/Sponsor's Name and Address:

City of Santa Cruz
Water Department
212 Locust Street, Suite C
Santa Cruz, CA 95060

Kevin Crossley P.E., Senior Civil Engineer
831-420-5210

6. General Plan Designation:

Not Applicable. The Project does not involve the construction or operation of new infrastructure on any project site and therefore there are no General Plan designations that apply to the Project.

7. Zoning:

Not Applicable. The Project does not involve the construction or operation of new infrastructure on any project site and therefore there are no zoning districts that apply to the Project.

8. Description of the Project:

Project Overview. The City and the District are pursuing an Agreement for the Cooperative Water Transfer, Groundwater Recharge, and Resource Management Pilot Project (Project). The Project will facilitate transfer of water from the City's existing sources to the District under certain terms and conditions for an initial pilot period of five years. Purchasing and using this treated surface water to meet some part of the District's winter demand will enable the District to reduce its groundwater pumping in the Soquel-Aptos Basin, decrease the potential for accelerating seawater intrusion, and support an assessment of the technical and financial feasibility of a longer-term process to use water transfers and water exchanges to ameliorate the overdraft condition of the groundwater basin that impacts both the District and the City and other pumpers of groundwater from the Soquel-Aptos Basin. Currently the City and the District are engaged in efforts focused on the sustainable management of ground water with representatives actively participating in the formation of a Groundwater Sustainability Agency.

Project Background. Development of the Project to transfer water between the City and the District began several years ago. The main objective of the water transfer is that the water purchased by the District from the City will be used to serve some portion of the District's normal winter demand, thereby, allowing them to rest some of the District groundwater wells. City staff had previously been unable to make this recommendation to the City Council due to a variety of factors including lack of adequately sized and metered interconnections between the two utilities, and winter conditions that were substantially drier than normal.

In anticipation of a potentially wet winter associated with a strong El Niño event, the City and the District determined that it is appropriate to begin pursuing a pilot water transfer project. The transfer of water is now possible without any physical improvements as metered interties were installed between the City and the District water systems on the site of the District's newly completed O'Neill Ranch well, as well as at Bain Avenue and at Jade Street. City staff supports the sale of water to Soquel during the winter subject to certain terms and conditions described further below and in the pending agreement (Appendix A).

To determine the volume of water that could be available for transfer to the District, water supply modeling of the City's system sources was completed (see Appendix B). The resulting water supply system modeling data was then used to evaluate the potential environmental impact on fisheries habitat in the City water source where

production changes will likely occur with the Project and potential future extension of the pilot agreement. Appendix C provides detailed information on the anticipated fisheries habitat effects.

Proposed Project. The City and District are proposing to enter into a 5-year agreement under which the City will transfer available winter supply from Majors and Liddell Springs to the District under a resource management pilot program. Under certain conditions, winter water will be directed from existing intakes on Liddell Spring and/or Majors Creek through the City's system (north coast piping, coast pump station, GHWTP, and potable water distribution system) and then to existing metered interties with the District. Of the three interties located between the City and District the Jade Street and Bain Avenue interties are not functioning at full capacity currently and therefore, only the intertie located at the O'Neill Ranch well site will be used to transfer water, at least initially. In the future, the Bain Avenue or Jade Street interties could also be used if they are restored to full capacity. No physical improvements to the City's or District's system are required for this Project. The source water is from the City's pre-1914 appropriative water rights, and the amount of water transferred will be within the range of what has been delivered to and used in the City in the past. The City will make-up the difference for City use from the Tait Street Diversion on the San Lorenzo River.

Based on the hydraulic capacity of the interties and recent modelling conducted of the City's system (see Appendix B), the City could transfer an average of approximately 115 million gallons (mg), during the winter months (November through April) to the District via the above existing system. However, the range of transfer volumes on an annual basis, will vary widely depending upon the water year type (i.e., critically dry, dry, normal, wet) and any instream flow agreements in place between the City and the resource agencies. Generally, in wet years, more water will be available for transfer and in critically dry and dry years, less water will be available for transfer.

In the proposed agreement, the quantity and availability of water supplied by the City shall be based on the following conditions and at the sole discretion of the Director of the Water Department of the City. In determining whether supply can be provided, the City may take into account any or all of the following factors. The City's proposed revisions to the draft agreement terms are included below in **bold** as part of the Project:

- The City has not declared, and is not operating under, any mandatory water curtailment stage of its 2009 Water Shortage Contingency Plan, as it may be amended, updated, or replaced by the City from time to time.
- Loch Lomond Reservoir is full and is spilling, or if not spilling is projected to be full by April 1 of the water year during which water will be provided to the District. The calculation of the potential for the Loch Lomond Reservoir to fill

shall be based on the City's short-term streamflow modeling tools used to conduct the City's annual water supply forecast, as those tools or other measures to forecast water supply may be amended, updated, or replaced from time to time by City.

- The City is providing flow for aquatic resources that meet regulatory requirements, **or other requirements agreed to in writing with the fisheries agencies.**
- On a monthly basis, the volume of water delivered to the District shall be less than or equal to the amount diverted from the City's Liddell Springs and/or Majors Creek supplies as reported to the state of California.
- The daily volume of water supplied shall not exceed the hydraulic capacity of the interties between the City's system and the District's system located at the District's O'Neill Ranch well site and at Jade Street and Bain Avenue. The hydraulic capacity of these interties is estimated to be **1.5 million gallons per day (mgd) during normal operations and up to 2 mgd on an emergency basis**, and is a function of the pressure difference between the City and District water systems at that point.
- The City has not determined, in its discretion, that the supply of water to the District must be suspended or discontinued due to unusual or unanticipated circumstances, which suspension or discontinuation shall not be implemented without providing at least 3 days' advance written notice, except in the case of an emergency, in which event the City shall endeavor to provide District notice as soon as reasonably possible after the emergency determination has been made.

During this pilot project, the City and the District intend to use this opportunity to collect information related to: 1) the physical operating system issues; 2) system water quality; 3) response of groundwater levels from in-lieu recharge; and 4) the potential opportunity of developing a longer-term agreement in which the groundwater basin will be used for a combined in-lieu and aquifer storage and recovery program that will help resolve the basin overdraft that will protect City and District wells from additional seawater intrusion and provide needed drought storage for the City.

This Initial Study addresses potential future extension of the pilot agreement beyond 2020. However, it does not contemplate a combined in-lieu and aquifer storage and recovery program or project that involves infrastructure improvements. Such a program or project will require additional review under the California Environmental Quality Act (CEQA).

9. Other public agencies whose approval is required:

The Project will require an amendment to the District's existing Drinking Water Permit from the State Water Resources Control Board, Department of Drinking Water, to include water received from the Project.

II. Environmental Setting

Two water supply systems will be participating in the Project. Information on the populations served and the water sources of these systems is provided below.

Santa Cruz Water Department

Water Service Area. Santa Cruz Water Department (SCWD) serves the City of Santa Cruz, part of the City of Capitola, adjacent unincorporated Santa Cruz County areas including the communities of Live Oak, Paradise Park, Santa Cruz Gardens, Delaveaga, Branciforte, Carbonera Estates, Pasatiempo, Rolling Woods, and Graham Hill areas and agricultural lands north of the City of Santa Cruz. The service area is approximately 20 square miles.

The SCWD serves an estimated population of nearly 91,300 people who reside in the water service area, based on the 2010 U.S. Census. Almost 60,000 people live inside the City and over 30,000 outside the City limits. This population is served through approximately 24,350 service connections, of which 89 percent are residential, and the remaining 11 percent are business and industry, including the University of California Santa Cruz, large landscape irrigation, coastal agriculture, and municipal water accounts.

Water Supply Sources. The City water system is comprised of four main water supply sources: 1) the North Coast sources; 2) the San Lorenzo River; 3) Loch Lomond Reservoir; and 4) the Live Oak Wells. The system relies entirely on rainfall, surface runoff, and groundwater infiltration occurring within watersheds located in Santa Cruz County. No water is purchased from State or federal sources or imported to the region.

Recently, diversions from the City's surface water sources have been limited by Endangered Species Act (ESA) concerns. All of the streams from which the City diverts water, including the North Coast sources, San Lorenzo River, and Newell Creek, currently support steelhead trout, which are listed under the federal ESA as threatened. For the last ten years, the City has been in the process of developing a Habitat Conservation Plan (HCP), which is a minimization and mitigation plan prepared under Section 10 of the ESA by nonfederal parties seeking to obtain a permit for incidental take of federally-listed threatened and endangered species. In 2007, the City began voluntarily diverting less from the North Coast system on an interim basis in connection with the ongoing pursuit of an incidental take permit. The City anticipates providing substantially higher flows in the future from the North Coast sources and from the San Lorenzo River, within the scope of the applicable water rights, once an

agreement with regulatory agencies has been negotiated. Each of the City's sources is described below.

North Coast Creeks and Springs. The North Coast sources consist of surface diversions from three coastal streams and a natural spring located approximately six to eight miles northwest of downtown Santa Cruz. These sources are: Majors Creek, Laguna Creek, Reggiardo Creek, and Liddell Spring. The use of these sources by the City dates back as far as 1890. The City also holds the senior appropriative rights on the streams and owns all downstream rights for these sources. Diversions from these sources have historically been limited only by natural flows.

San Lorenzo River. The San Lorenzo River is the City's largest source of water supply. The main surface water diversion is located at Tait Street near the City limits, just north of Highway 1, and dates back to the 1920s. The Tait Street Diversion is supplemented by two shallow, auxiliary wells located across the river, which are considered to be hydraulically connected to the river and tied to the City's water right at Tait. Although the City is the largest user of water from the San Lorenzo River Basin, three other water districts, several private water companies, and numerous individual property owners share the San Lorenzo River watershed as their primary source for drinking water supply.

Newell Creek and Loch Lomond Reservoir. Loch Lomond Reservoir is located near the town of Ben Lomond in the Santa Cruz Mountains. During the summer and fall, when the City's flowing sources are inadequate to meet peak-season daily demands, supplemental water is brought in from Loch Lomond Reservoir. Withdrawals are also made from Loch Lomond during the winter season when the North Coast and San Lorenzo sources become difficult to treat with existing treatment facilities that cannot treat high-turbidity storm runoff.

Live Oak Wells. The Live Oak Well system consists of three groundwater production wells and a treatment plant located in the southeastern portion of the City's water service area. Collectively this groundwater system is referred to as the Live Oak system or Live Oak wells; each well and the treatment plant are individually referred to as Beltz. During the summer and fall, groundwater from these wells is used to supplement the surface water sources. Even though groundwater constitutes a small percentage of the entire City water supply, it has been a crucial component of the water system for meeting peak-season demands, maintaining pressure in the eastern portion of the distribution system, and for weathering periods of drought.

Water System Operations and Production. In general, the City's water system has been historically managed to take advantage of the better quality and least expensive sources as a first priority, and to retain the maximum amount of water possible in Loch

Lomond Reservoir to safeguard against future droughts. In addition to considerations for cost, water quality, and storage, legal constraints on the diversion of surface waters contained in the City's water rights govern the operation of the water system, described in detail in the City Urban Water Management Plan (City 2011a).

Water supplies are generally prioritized to meet daily demands in the following order: North Coast, San Lorenzo River, Live Oak Wells, and Loch Lomond Reservoir. Due to the excellent water quality and lowest production cost, the North Coast sources have historically been used to the greatest extent possible. As indicated above, the North Coast diversions are based on water rights, which allow for water transfers with the least transactional time and cost. Additional water needed to meet City daily demands is pumped from the San Lorenzo River at Tait Street. During the summer and fall, when the City's flowing sources are inadequate to meet peak-season daily demands, supplemental water is brought in from the Live Oak Wells and from Loch Lomond Reservoir. The Felton Diversion is operated intermittently as needed, normally in the winter months of dry years to augment storage in Loch Lomond.

Between 2006 and 2010, gross production from the North Coast sources averaged 1,065 million gallons per year (mgy), or 30 percent of the total supply, while the San Lorenzo River supply has averaged 1,889 mgy, or about 54 percent of the total supply. Together, these flowing sources provide over 80 percent of the City's yearly water needs. Water supplied from Loch Lomond Reservoir averaged 419 mgy, or 12 percent. Groundwater from the Live Oak Wells provided an average of 156 mgy, or about 4 percent of the City's total supply. However, the aforementioned ESA concerns have affected the priority of source selection and the relative contribution of each source to overall production. Production from the North Coast sources has decreased since about 2012, which resulted in greater production from the City's other sources. The City intends to restore diversions from the North Coast sources to the extent feasible when final instream flows are determined.

Soquel Creek Water District

Water Service Area. The District is a nonprofit, local government agency formed under the County Water District Law (Water Code, Division 12, Section 30000 et. seq.) that provides potable water service and groundwater resource management within its service area. The District's service area encompasses seven miles of shoreline along Monterey Bay, and extends from one to three miles inland into the foothills of the Santa Cruz Mountains, essentially following the County Urban Services Line (see Figure 1). The City of Capitola is the only incorporated area in the District. Unincorporated communities include Aptos, La Selva Beach, Rio Del Mar, Seascape, Seacliff Beach, and Soquel.

The District serves a population of about 37,720, based on information from AMBAG, through approximately 15,420 service connections in four service subareas within mid-Santa Cruz County. Approximately 93 percent of the District connections are

residential. The remaining seven percent are comprised of commercial, institutional, dedicated irrigation, and District connections used for facility operations and maintenance. There are currently no agricultural or industrial connections to the District distribution system.

Water Supply Sources and Production. As reported on in the District's Urban Water Management Plan (UWMP), the District currently relies solely on groundwater from aquifers underlying the Soquel-Aptos area. The aquifers within the District service area are located within two geologic formations. The Purisima formation (Purisima) provides approximately two-thirds of the District's annual production and serves the communities of Capitola, Soquel, Seacliff Beach, and Aptos. The Aromas Red Sands (Aromas) aquifer provides the remaining one-third of the District's annual production, and mainly serves the communities of Seascape, Rio Del Mar, and La Selva Beach (District, 2011).

The District extracts groundwater from the deep water-bearing zones within the Purisima. The Purisima consists of at least nine distinct geologic units that vary in thickness and hydrogeologic characteristics. Some of the units in this formation transmit and store groundwater more effectively than others. The Unit A Aquifer is the most consistently coarse-grained aquifer in the Purisima, and is distinct and highly permeable. Several District wells are located in this unit; however, the District also operates production wells in the other units as well (District, 2011).

The District extracts groundwater from the semi-confined and unconfined units of the Aromas, a 400-foot-thick aquifer divided into two units. The uppermost unit is about 225 feet thick, and the lowermost unit is about 175 feet thick. All of the District production wells in the Aromas are located in the lowermost unit. The Aromas aquifer is composed of interbedded layers of silt and clay, and it overlies the Purisima in portions of the District service area (District, 2011). The District's average winter (November – April) production, based on a ten-year average, is approximately 580 mg.

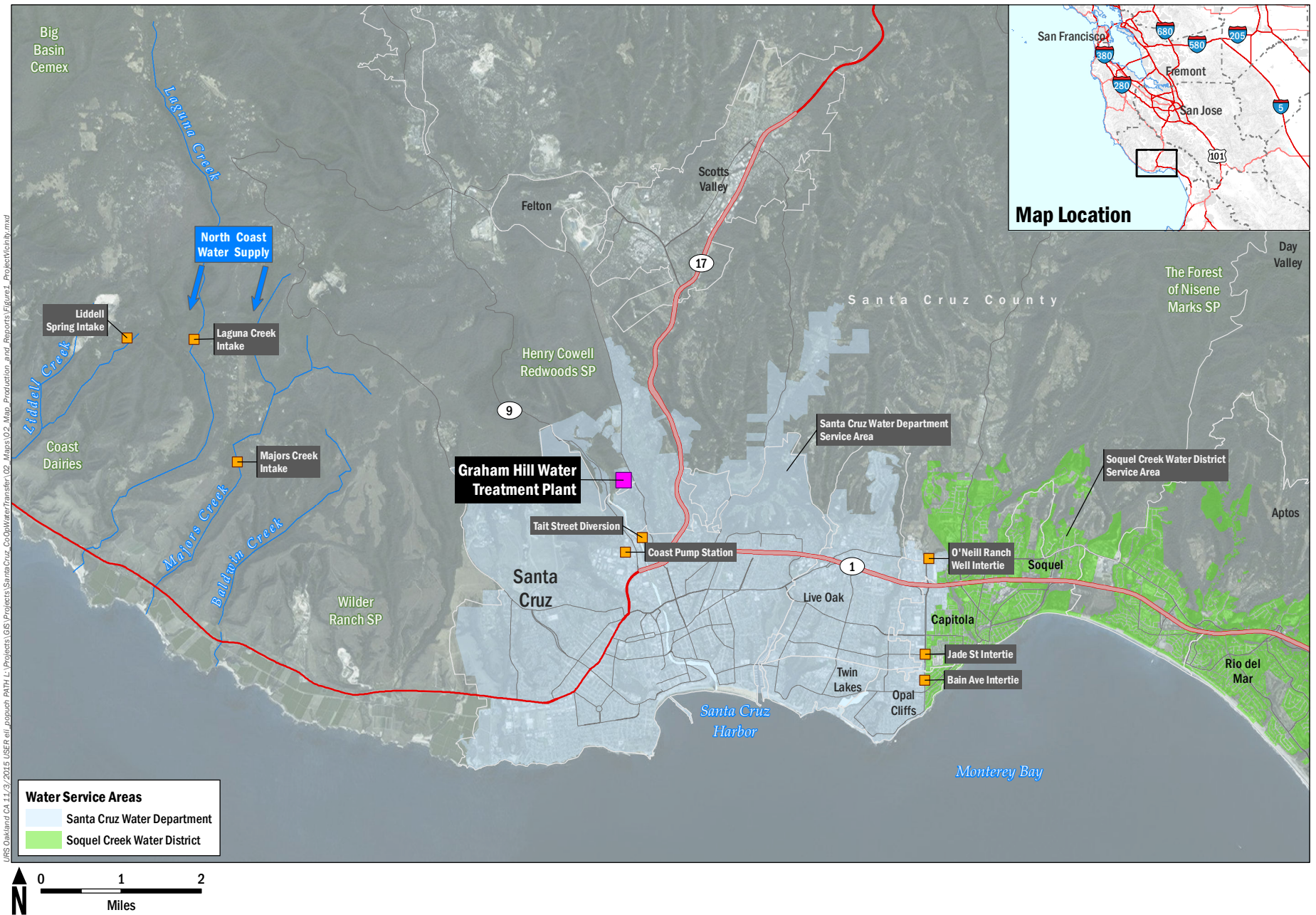


FIGURE 1
Regional and Project Vicinity Map

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III. Environmental Checklist

Environmental Factors Potentially Affected by the Project: The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics		Agriculture & Forest Resources		Air Quality
	Biological Resources		Cultural Resources		Geology / Soils
	Greenhouse Gas Emissions		Hazards & Hazardous Materials		Hydrology / Water Quality
	Land Use / Planning		Mineral Resources		Noise
	Population / Housing		Public Services		Recreation
	Transportation / Traffic		Utilities / Service Systems		Mandatory Findings of Significance

Instructions:

1. A brief explanation is required (see VI. "Explanation of Environmental Checklist Responses") for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question (see V. Source List, attached). A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, and then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that any effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier Analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case a discussion should identify the following on attached sheets:
 - a) *Earlier Analysis used.* Identify earlier analyses and state where they are available for review.

- b) *Impacts adequately addressed.* Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) *Mitigation measures.* For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8. The explanation of each issue should identify:
 - a) The significance criteria or threshold, if any, used to evaluation each question; and
 - b) The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X
2. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				X
3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute to an existing or projected air quality violation?			X	

ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?				X
e) Create objectionable odors affecting a substantial number of people?			X	
4. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
5. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?				X

ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X
6. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?				X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
7. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X

ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
8. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X
9. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (for example, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X

ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				X
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?				X
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood-hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood-hazard area structures which would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X
10. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan?				X
11. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X

ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X
12. NOISE. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?				X
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?				X
c) Substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
13. POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
14. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or need for new or physical altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
a) Fire protection?				X

ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Police protection?				X
c) Schools?				X
d) Parks?				X
e) Other public facilities?				X
15. RECREATION. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X
16. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?				X
b) Conflict with an applicable congestion management program, including, but not limited to level of service standard and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment)?				X
e) Result in inadequate emergency access?				X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (for example, bus turnouts, bicycle racks)?				X

ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
17. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			X	
17. MANDATORY FINDINGS OF SIGNIFICANCE. Does the project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of the past projects, the effects of other current projects, and the effects of probable future projects.)			X	
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

DISCUSSION OF ENVIRONMENTAL EVALUATION

Section VI--ENVIRONMENTAL EVALUATION for discussion.

IV. DETERMINATION:

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	X
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	
I find that the proposed project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT is required.	
I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	

for Muriel R. Hickenbach
Rosemary Menard
City of Santa Cruz Water Director

12/8/2015
December 8, 2015

V. Source List

City of Santa Cruz Water Department (SCWD), 2005-2014. "*Production Annual Reports.*"

City of Santa Cruz Water Department, 2014. "*City of Santa Cruz Water Department Consumer Confidence Report 2014.*"

City of Santa Cruz, 2011a. "*City of Santa Cruz 2010 Urban Water Management Plan,*" prepared by City of Santa Cruz Water Department, December 2011.

City of Santa Cruz, 2011b. "*Draft City of Santa Cruz Habitat Conservation Plan, Conservation Strategy for Steelhead and Coho Salmon,*" August 10, 2011.

City of Santa Cruz, 2012. "*City of Santa Cruz Draft Operations and Maintenance Plan Habitat Conservation Plan.*" August 2012.

Hagar Environmental Science (HES), 2011. "*Assessment of Stream flow Effects on Migration, Spawning, and Rearing Habitat for Anadromous Salmonids in Streams Influenced by City of Santa Cruz Water Diversions including Newell Creek,*" prepared for City of Santa Cruz Water Department, August 11, 2011.

Kennedy/Jenks Consultants, 2013. "*Water Transfer Infrastructure Summary Report,*" prepared for Santa Cruz Water Department, County of Santa Cruz Environmental Health Services and Regional Water Management Foundation. October 25, 2013.

Soquel Creek Water District (District), 2011. "*Urban Water Management Plan 2010,*" prepared for the California Department of Water Resources, adopted by the Soquel Creek Water District Board of Directors, September 20, 2011.

Soquel Creek Water District, 2014. "*Soquel Creek Water District 2014 Consumer Confidence / Water Quality Report.*"

Soquel Creek Water District, 2015. "*Monthly Total System Production 2003-2015.*" May 2015.

VI. Explanation of Environmental Checklist Responses

This Initial Study/Negative Declaration (IS/ND) for the proposed Project and potential future extension of the pilot agreement includes a comprehensive project-level analysis of all CEQA impact categories.

1. AESTHETICS. Would the project:

a) Have a substantial adverse effect on a scenic vista?

No Impact. Public views and vistas are areas that provide the public with clear, panoramic views of significant features, such as beaches, waterways, mountains, or pastoral lands that comprise the overall visual landscape of the region. The Project and potential future extension of the pilot agreement will use existing infrastructure to transfer water and will not result in new construction or physical alteration of existing City and District facilities. Therefore, no impacts to public scenic vistas will result with the Project.

b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The Project and potential future extension of the pilot agreement will use existing infrastructure to transfer water and will not result in new construction or physical alteration of existing City and District facilities. Therefore, no impacts to scenic resources will result with the Project.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact. The Project and potential future extension of the pilot agreement will use existing infrastructure to transfer water and will not result in new construction or physical alteration of existing City and District facilities. Therefore, no impacts to the existing visual character will result with the Project.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. Implementation of the Project and potential future extension of the pilot agreement will not result in new construction or physical

alteration of existing City and District facilities that will introduce a new source of light and adversely affect day or nighttime views. Therefore, no impacts to light or glare will result with the Project.

2. AGRICULTURAL RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

No Impact. The Project and potential future extension of the agreement will use existing infrastructure and will not result in new construction or physical alteration of existing City and District facilities. Therefore, implementation of the Project will not result in the conversion of farmland to nonagricultural land use.

- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

No Impact. See Response 2a above.

- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

No Impact. See Response 2a above.

- d) Result in the loss of forest land or conversion of forest land to non-forest use?**

No Impact. See Response 2a above.

- e) **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?**

No Impact. The Project and potential future extension of the pilot agreement will result in the transfer of water from the North Coast sources at Liddell Springs and Majors Creek to the District during the winter, under certain terms and conditions. The City of Santa Cruz does provide water to agricultural customers on the North Coast. In the winter, however, agricultural demand is minimal. While that is the case, the modelling conducted in Appendix B determined the likely water volume available for transfer, accounts for agricultural use. Provision of water to agricultural users on the North Coast will not change with the implementation of the Project. As the Project will not reduce the availability of water for coastal agricultural uses, it does not have the potential to convert land to non-agricultural uses. There will be no impact.

3. **AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:**

- a) **Conflict with or obstruct implementation of the applicable air quality plan?**

Less-Than-Significant Impact. The Project and potential future extension of the pilot agreement will not result in any construction-related emissions of criteria air pollutants. Project operations will not result in new vehicle trips or stationary sources of criteria air pollutants. The Project will not conflict with or obstruct implementation of the air plan or contribute to or result in a violation of any air quality standard. The impact will be less than significant.

- b) **Violate any air quality standard or contribute to an existing or projected air quality violation?**

Less-Than-Significant Impact. See Response 3a above.

- c) **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**

Less-Than-Significant Impact. See Response 3a above.

- d) **Expose sensitive receptors to substantial pollutant concentrations?**

No Impact. Implementation of the Project and potential future extension of the pilot agreement will not generate short-term construction or long-term operational emissions of criteria air pollutants or toxic air contaminants. Therefore, the Project will not expose sensitive receptors to substantial pollutant concentrations. There will be no impact.

- e) **Create objectionable odors affecting a substantial number of people?**

Less-Than-Significant Impact. Implementation of the Project and potential future extension of the pilot agreement will result in an increase in treatment of water at the GHWTP, as the water that will be transferred to the District will be treated prior to being directed to the District. Treatment of additional water at the GHWTP will not increase odor emissions above those existing without the Project. The impact will be less than significant.

4. BIOLOGICAL RESOURCES. Would the project:

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

Less-Than-Significant Impact. The City's water supplies come predominantly from waterways such as Liddell Spring (associated with Liddell Creek), Laguna Creek, Majors Creek, Newell Creek and the San Lorenzo River. These waterways are important habitat for special-status species, including coho salmon (*Oncorhynchus kisutch*) and steelhead trout (*Oncorhynchus mykiss irideus*). Other special-status species that are known to inhabit some or all of the waters above include Tidewater goby (*Eucyclogobius newberryi*), Pacific lamprey (*Lampetra tridentata*),

California red-legged frog (*Rana draytonii*), and Western pond turtle (*Actinemys marmorata*). The effects of the Project on all of these species are further discussed below.

Steelhead and Coho Salmon. Both steelhead and coho salmon are in the anadromous salmonid family. Anadromous fish are those that make migratory movements from marine to fresh waters to spawn. Coho within these waterways are part of the Central California Coast Evolutionarily Significant Unit (ESU) which is listed as endangered under the Federal Endangered Species Act (ESA) and the California ESA. Steelhead in these waterways are part of the Central California Coast Distinct Population Segment (DPS), which is listed as federally threatened.

All of the streams in the City's North Coast system, including Majors Creek and Liddell Creek, as well as the San Lorenzo River support steelhead. The San Lorenzo River potentially supports coho salmon, but Liddell Creek, Majors Creek, and Laguna Creek are not considered potential habitat for coho salmon under current conditions, although coho have been observed in Laguna Creek as recently as 2005 (City 2011). Appendix C of this Initial Study was prepared to evaluate the effects of the Project on instream habitat for steelhead and coho salmon. The results of that analysis are presented below.

Implementation of the Project and potential future extension of the pilot agreement will allow the City to transfer water from Majors Creek and Liddell Spring on the North Coast in winters (November through April), under certain terms and conditions. Based on the hydraulic capacity of the interties and recent modelling conducted of the City's system (see Appendix B), the City could transfer an average of approximately 115 mg of water during the winter season, but the range will vary widely depending on water year type and any instream flow agreements in place between the City and the fisheries agencies (National Marine Fisheries Service and California Department of Fish and Wildlife).

The Project will not result in the construction or expansion of any facilities or infrastructure. Given that production on the North Coast is typically maximized under existing conditions, the Project will not result in increased production from these North Coast sources. As a result, the Project will not result in direct or indirect impacts to instream habitat for steelhead in Liddell Creek or Majors Creek.

The source production impact of the Project for the City is increased flow diversions at the Tait Street Diversion on the San Lorenzo River to offset the water being directed to the District from Majors and Liddell during the winter (November through April). The effects analysis provided in Appendix C was therefore based on daily flows in the San Lorenzo River downstream of Tait Street as well as output from the modelling provided in Appendix B.

The habitat evaluation uses flow/habitat relationship models previously developed as part of the City's anadromous fisheries Habitat Conservation Planning process (HES, 2011). A summary evaluation of the effects of the Project on the different life stages of steelhead and coho is provided below. See Appendix B for further details.

Adult Migration. Upstream adult migration generally begins when early winter storms breach the sand bar that has formed at the San Lorenzo River Lagoon during the dry season. Once this occurs, migration thresholds are based on the amount of flow needed to achieve fish passage depth at critical riffles. The number of days when flows are sufficient for steelhead and coho migration is generally high in the San Lorenzo River. Even the driest conditions (April of a critically dry year) have migration flows for at least half of the days in the month. There are small reductions in the frequency of adequate flows for adult steelhead and coho migration with the Project, under the worst-case flows conditions. These reductions occur primarily in December and January of drier years. The largest change is on the order of two days per month or less than 10% reduction in the frequency of adequate migration flows. The changes due to the Project will not significantly affect adult steelhead or coho migration in the San Lorenzo River.

Spawning/Egg Incubation. The reach of the San Lorenzo River downstream of Tait Street does not support spawning for steelhead or coho salmon. Therefore, the Project will not result in significant impacts on spawning.

Smolt Migration. Smolt are juvenile salmonids transitioning to the marine environment during out-migration). As described in Appendix C, the Project will have little or no effect on flows for

smolt migration. Therefore, the Project will not result in significant impacts on steelhead or coho smolt migration.

Rearing. Rearing base flows are provided at any time flows for other life stages (adult migration, spawning/incubation, smolt migration) are not being provided. The effect of flows on steelhead rearing habitat will be minimally influenced by the Project, as described in Appendix C. Of these minimal influences, the largest changes in flows are in November and December and these are not critical months for rearing, as temperature, activity levels, and food requirements for juvenile salmonids are low. The Project would not operate in the dry season (May through October), when rearing habitat is most limited. The Project will not result in significant impacts on steelhead or coho rearing.

Summary Impact Conclusion. The Project will not result in the construction or expansion of any facilities or infrastructure. The increase in production at the Tait Street diversion with the Project, will not result in significant effects on steelhead and coho salmon adult migration, smolt migration, or juvenile rearing in the San Lorenzo River. Under the terms of the agreement between the City and the District that is the subject of this Project, the City will provide flows for aquatic resources that meet regulatory requirements, if any, or other requirements agreed to in writing with the fisheries agencies. Given the results of the habitat modelling in Appendix C and the conditions of the proposed agreement, the Project will not, either directly or through habitat modifications, result in significant impacts to these special-status fish species. Project impacts on steelhead and coho salmon will be less than significant.

Other Special-Status Species. The following discussion addresses the other special-status species that are or may be present in the City's water sources that are involved in the Project. The species information provided is based on data compiled in the City of Santa Cruz's Draft Operations and Maintenance Habitat Conservation Plan (City 2012).

Pacific lamprey. The Pacific lamprey is not currently listed as threatened or endangered under the Federal or State ESAs, but is a species of special concern in California as designated by

California Department of Fish and Wildlife (CDFW). Pacific lampreys are present in several areas of the San Lorenzo River watershed including the lagoon and lower river, but are not reported present in any of the City's other flowing sources, including Liddell Creek and Majors Creek.

Pacific lamprey are anadromous, spending four to seven years in freshwater and one to two years in the ocean. Spawning lamprey, like steelhead, are dependent on winter storms providing sufficient streamflow to open the mouth of the lagoon to the ocean, and to provide adequate streamflow to allow for upstream migration. Adults usually move up into spawning streams between early March and late June. However, upstream movements in January and February have also been observed in some streams.

The Project will not result in the construction or expansion of any facilities or infrastructure. The minor changes in winter flows with the Project in the San Lorenzo River below Tait Street will not result in adverse impacts to instream habitat for lamprey in the San Lorenzo River, which have habitat needs similar to steelhead and coho salmon. The Project will not, either directly or through habitat modifications, result in significant impacts to lamprey. Project impacts on lamprey will be less than significant.

Tidewater goby. Tidewater gobies are a small, short-lived California endemic species that inhabits coastal brackish water habitats entirely within California. This species is listed as endangered under the Federal ESA and a species of special concern in California. Tidewater gobies are known to inhabit the coastal lagoon of the San Lorenzo River and suitable habitat for the goby has also been identified in Majors lagoon. None of these sources are included in the critical habitat designation for the species.

Tidewater goby abundance fluctuates with goby populations decreasing during the rainy season when lagoons are open and influenced by flood events, and then recovering during the following summer.

The Project will not result in the construction or expansion of any facilities or infrastructure. Given that production on the North Coast is typically maximized under existing conditions, the Project will not result in increased production from Majors Creek or Liddell Springs. As a result, the Project will not modify winter conditions in Majors lagoon or otherwise result in direct or indirect impacts to instream habitat for goby in Majors lagoon, which has suitable habitat for this species.

The minor changes in winter flows with the Project in the San Lorenzo River below Tait Street will not result in adverse impacts to instream habitat for goby in the San Lorenzo River lagoon. As goby populations decrease during the rainy season when lagoons are open and influenced by flood events, the minor reductions in winter flows with the Project should not result in significant changes to habitat conditions. The Project will not, either directly or through habitat modifications, result in significant impacts to tidewater goby. Project impacts on tidewater goby will be less than significant.

California Red-legged Frog. The California red-legged frog is listed as threatened under the Federal ESA and is a California Species of Special Concern. Critical habitat for this species includes central coast watersheds from Wilder Creek north into San Mateo County. California red-legged frogs occur in all the coastal creeks north of Santa Cruz, including but not limited to Majors Creek and Liddell Creek. Very few California red-legged frog records exist from the San Lorenzo River basin and those records are in tributary creeks well above the Tait Street Diversion.

The Project will not result in the construction or expansion of any facilities or infrastructure. Given that production on the North Coast is typically maximized under existing conditions, the Project will not result in increased production from Majors Creek or Liddell Springs and therefore will not modify winter conditions in Majors and Liddell or otherwise result in direct or indirect impacts to habitat for this species. Given the lack of known occurrences in the lower San Lorenzo River, the changes in production at the Tait Street Diversion will not result in impacts to this species.

Western Pond Turtle. Western pond turtle is listed as a California species of special concern by the Department of Fish and Wildlife, and is the only native aquatic turtle in the state. The streams and associated terrestrial habitat within the North Coast watersheds provide breeding, aquatic, and wintering habitat for western pond turtles. There are no known occurrences in Majors Creek or Liddell Creek; however, habitat for the species likely exists in these locations and there are known occurrences in nearby watersheds, such as Wilder Creek and ponds in the Yellow Bank and Moore Creek watersheds.

The San Lorenzo River watershed offers moderate quality breeding, foraging, and overwintering habitat for the turtles in various locations including Sycamore Grove, Highlands Park near Ben Lomond, and Newell Creek and Loch Lomond Reservoir. There are no known occurrences in the San Lorenzo River below the Tait Street Diversion; however, habitat for the species likely exists in this location.

The Project will not result in the construction or expansion of any facilities or infrastructure. Given that production on the North Coast is typically maximized under existing conditions, the Project will not result in increased production from Majors Creek or Liddell Springs and therefore will not modify winter conditions in Majors and Liddell or otherwise result in direct or indirect impacts to habitat for this species.

The minor reductions in winter flows with the Project will not result in significant changes to habitat conditions for western pond turtle, such as the presence of pools, open banks, or riparian vegetation along the lower San Lorenzo River. The species breeds and nests in the spring and summer when the water transfers will not be occurring. The Project will not, either directly or through habitat modifications, result in significant impacts to western pond turtle. Project impacts on western pond turtle will be less than significant.

- b) **Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

Less-Than-Significant Impact. No riparian habitat or other sensitive natural community will be directly altered or removed, as the Project will not result in the construction or expansion of any facilities or infrastructure. The increased production at the Tait Street Diversion on the San Lorenzo River will not have a substantial adverse effect on riparian habitat downstream of this diversion point given that the change in production will be small and the production changes will occur during the winter when flows are typically higher. Further, the Project is unlikely to reduce flooding or flood frequency in the Lower San Lorenzo River. Therefore, the impact on riparian habitat or other sensitive community will be less than significant.

- c) **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Less-Than-Significant Impact. No wetlands or Waters of the U.S. or State will be directly altered or removed, as the Project will not result in the construction or expansion of any facilities or infrastructure. The increased production at the Tait Street Diversion on the San Lorenzo River will not have a substantial adverse effect on Waters of the U.S. or State downstream of this diversion point given that the change in production will be small and the production changes will occur during the winter when flows are typically higher. Therefore, the impact on wetlands or Waters of the U.S. or State will be less than significant.

- d) **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

Less-Than-Significant Impact. See Response 4a above for information about steelhead and coho migration. The Project will not impact the movement or migration of other species. The impact will be less than significant.

- e) **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

No Impact. The Project and potential future extension of the pilot agreement will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. There will be not impacts due to conflicts with local policies.

- f) **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

No Impact. There is no adopted Habitat Conservation Plans (HCP) or Natural Community Conservation Plans that apply to the Project. As such, there will be no impacts due to conflicts with the provision of such plans.

However, the City has been in the process of developing a HCP under Section 10 of the Federal Endangered Species Act by nonfederal parties seeking to obtain a permit for incidental take of federally-listed threatened and endangered species. While no such plan is in place yet, the City is working cooperatively with the fisheries agencies towards completion of such a plan. In the interim, the City has been voluntarily providing fish bypass flows to work toward an agreement that balances the City's water needs and those of the species. Under the terms of the pilot agreement between the City and the District for this Project, the City will provide flows for aquatic resources that meet regulatory requirements, if any, or other requirements agreed to in writing with the fisheries agencies. This condition of the agreement acknowledges the continuation of the short-term flow agreements that the City has been developing with the fisheries agencies.

5. CULTURAL RESOURCES. Would the project:

- a) **Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?**

No Impact. The Project and potential future extension of the pilot agreement will not impact any cultural resources. No ground disturbing activities will occur and therefore there is no potential for disturbing cultural resources or human remains. There will be no impacts.

- b) **Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?**

No Impact. See Response 5a above.

- c) **Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

No Impact. The Project and potential future extension of the pilot agreement will not impact unique paleontological resources or unique geologic features. No ground disturbing activities will occur and therefore there is no potential for disturbing paleontological resources. There will be no impacts.

- d) **Disturb any human remains, including those interred outside of formal cemeteries?**

No Impact. See Response 5a above.

6. GEOLOGY AND SOILS.

- a) **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

ii) **Strong seismic ground shaking?**

iii) **Seismic-related ground failure, including liquefaction?**

iv) **Landslides?**

No Impact. The Project and potential future extension of the pilot agreement will not involve any construction activity or physical improvements that will expose people or structures to any earthquake faults or other adverse effects due to seismic ground shaking, landslide, or liquefaction. There will be no impacts.

- b) **Result in substantial soil erosion or the loss of topsoil?**

No Impact. The Project and potential future extension of the pilot agreement will not involve any ground disturbing activity that could cause erosion. There will be no impacts.

- c) **Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

No Impact. The Project and potential future extension of the pilot agreement will not involve any construction activity or physical improvements to the City and District facilities. There will be no impacts.

- d) **Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

No Impact. See Response 6c above.

- e) **Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?**

No Impact. The Project and potential future extension of the pilot agreement will not include installation of septic tanks or alternative wastewater disposal systems. There will be no impacts.

7. GREENHOUSE GAS EMISSIONS. Would the project:

- a) **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Less-Than-Significant Impact. The Project and potential future extension of the pilot agreement will not result in any construction-related greenhouse gas (GHG) emissions, as no facility construction will result with the Project. Overall energy use associated with the Project will not likely increase substantially with the Project. While City distribution, pumping, and treatment of water and associated energy use will increase with the Project, District groundwater pumping and treatment and associated energy use will decrease with the Project. Given that, there is unlikely to be a substantial net increase in emissions over and above the GHG emissions associated with existing water system operations in the City and District. Impacts will be less than significant.

- b) **Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

No Impact. The Project and potential future extension of the pilot agreement will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs in the project area.

8. HAZARDS AND HAZARDOUS MATERIALS. Would the project:

- a) **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Less-Than-Significant Impact. The Project and potential future extension of the pilot agreement does not involve any construction activity and no use or transport of any construction-related hazardous materials will be required. As more water will be treated at the GHWTP with the Project during the winter, there will be an incremental increase in the use of typical chemicals used in the treatment process, some of which may be categorized as hazardous materials. However, the GHWTP will not require expansion and will continue to operate under normal operating procedures. All applicable local and state regulations related to the use, storage and transport of hazardous materials will continue to be complied with and therefore the Project will not result in a significant hazard to the public or environment. The impact will be less than significant.

- b) **Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Less-Than-Significant Impact. See Response 8a above.

- c) **Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?**

No Impact. The Project and potential future extension of the pilot agreement will use existing infrastructure to transfer water and will not result in new construction or physical alteration of existing City and District facilities. There will be no impacts to existing or proposed schools.

- d) **Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section**

65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The Project and potential future extension of the pilot agreement will use existing infrastructure and there will be no new site development. There will be no impacts.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

No Impact. See Response 8d above.

- f) **For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

No Impact. See Response 8d above.

- g) **Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

No Impact. See Response 8d above.

- h) **Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

No Impact. See Response 8d above.

9. HYDROLOGY AND WATER QUALITY. Would the project:

- a) **Violate any water quality standards or waste discharge requirements?**

Less-Than-Significant Impact. The Project and potential future extension of the pilot agreement will not involve any construction activity resulting in waste discharges or new sources of contamination. Project operational activities are related to transfer of water via existing infrastructure and will not result in any degradation of water quality due to waste discharges.

In accordance with federal and state requirements, the City and the District regularly monitor their domestic water supply. Water quality test results are compiled in an annual report and distributed to the public. The 2014 Consumer Confidence Reports for both the City and the District indicate that both water supplies are of high quality, and met all United States Environmental Protection Agency and California drinking water health standards (SCWD 2014, District 2014). With the Project, the City and District will continue to regularly monitor their systems to ensure that all drinking water standards are met. Therefore, the impact of the Project on water quality is less than significant.

- b) **Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (for example, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?**

No Impact. The Project and potential future extension of the pilot agreement will transfer water from Majors and Liddell Creeks in the City's system to the District. This will enable the District to reduce its groundwater pumping in the Soquel-Aptos Basin, reduce the potential for accelerating seawater intrusion, and contribute to the beginnings of a longer-term process to ameliorate the overdraft condition of the groundwater basin that impacts both the City and the District and other pumpers of the Soquel-Aptos Basin. The Project will not result in adverse impacts to groundwater. The impact of the Project on groundwater has the potential to be beneficial.

- c) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?**

Less-Than-Significant Impact. The Project and potential future extension of the pilot agreement will not involve any ground disturbing activity that will alter drainage patterns or create new sources of runoff. Implementation of the Project and future extension may result in minor changes in winter water flows in the San Lorenzo River below the Tait Street Diversion; however, such changes will not cause substantial erosion or siltation. Impacts will be less than significant.

- d) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

No Impact. The Project and potential future extension of the pilot agreement will not involve any ground disturbing activity that will alter drainage patterns or create new sources of runoff. Implementation of the Project may result in minor changes in winter water flows in the San Lorenzo River below the Tait Street Diversion; however, changes will not result in flooding. There will be no flooding impacts.

- e) **Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?**

No Impact. The Project and potential future extension of the pilot agreement does not involve any ground disturbing activity or uses that will create new sources of runoff or exceed the capacity of existing or planned storm water drainage system. There will be no impacts.

- f) **Otherwise substantially degrade water quality?**

Less-Than-Significant Impact. See Response 9a above.

- g) **Place housing within a 100-year flood-hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

No Impact. No housing units are proposed as part of the Project and potential future extension of the pilot agreement. There will be no impacts.

- h) **Place within a 100-year flood-hazard area structures which would impede or redirect flood flows?**

No Impact. No structures are proposed as part of the Project and potential future extension of the pilot agreement. There will be no impacts.

- i) **Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?**

No Impact. See Responses 9d and 9g above.

j) **Inundation by seiche, tsunami, or mudflow?**

No Impact. The Project and potential future extension of the pilot agreement will use existing infrastructure to transfer water and will not change any existing conditions with regard to inundation tsunami, mudflow, or seiche. There will be no impacts.

10. **LAND USE AND PLANNING. Would the project:**

a) **Physically divide an established community?**

No Impact. The Project and potential future extension of the pilot agreement will transfer water from the City to the District through existing infrastructure and will not divide any established community. There will be no impacts.

b) **Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

No Impact. The Project and potential future extension of the pilot agreement will transfer water from the City to the District under a Cooperative Water Transfer and Purchase Agreement and will not conflict with any land use plans or policies. There will be no impacts.

c) **Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan?**

No Impact. See Response 4f above.

11. **MINERAL RESOURCES. Would the project:**

a) **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

No Impact. The Project and potential future extension of the pilot agreement will transfer water from the City to the District through existing infrastructure. As no new or expanded facilities are required, there will be no impacts to mineral resources.

- b) **Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

No Impact. See Response 11a above.

12. NOISE. Would the project result in:

- a) **Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?**

No Impact. The Project and potential future extension of the pilot agreement will transfer water from the City to the District through existing infrastructure. No construction or physical alteration of existing City and District facilities will occur and no new noise or vibration sources will be introduced as part of the Project. There will be no impacts.

- b) **Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?**

No Impact. See Response 12a above.

- c) **Substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

No Impact. See Response 12a above.

- d) **A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

No Impact. See Response 12a above.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

No impact. See Response 12a above.

- f) **For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**

No impact. See Response 12a above.

13. POPULATION AND HOUSING. Would the project:

- a) **Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

Less-Than-Significant Impact. A project is considered growth-inducing if it will directly or indirectly foster substantial economic or population growth or the construction of additional housing. Implementation of the Project and potential future extension of the pilot agreement will result in the transfer of water to the District during winters, under certain conditions, to allow the District to reduce pumping of its groundwater wells. As indicated in Appendix B, the average available transfer volumes will provide for 24 to 32 percent of the District's winter demand, which will allow the District to reduce groundwater pumping by an equal amount. The Project will not indirectly support new population growth given that: (1) the objective of the water transfers is to allow the District to reduce groundwater pumping; (2) the transfers will not provide a year-round supply of water that could support new growth; and (3) the transfers are limited by numerous conditions in the agreement making it an unreliable source of water for new development within the District's service area. Therefore, no new population growth will occur directly or indirectly as a result of the Project and the impact will be less than significant.

- b) **Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

No Impact. The Project and potential future extension of the pilot agreement will use existing infrastructure to transfer water and not result in new construction that could displace existing housing. There will be no impacts.

- c) **Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

No Impact. See Response 13b above.

14. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or need for new or physical altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or

other performance objectives for any of the public services: a) fire protection; b) police protection; c) schools; d) parks; and e) other public facilities?

No Impact. The proposed transfer of water with the Project and potential future extension of the pilot agreement will rely on existing infrastructure to transfer water and will not result in new construction or operations. Implementation of the Project and future extension will not result in an increase in population that will, in turn, increase demand for new or expanded levels of public services. There will be no impacts.

15. RECREATION. Would the project:

- a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

No Impact. The proposed transfer of water with the Project will rely on existing infrastructure and will not result in new construction or operations. Implementation of the Project and future extension will not result in an increase in population that will, in turn, increase the use of existing parks and recreational facilities. There will be no impacts.

- b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

No Impact. See Response 15a above.

16. TRANSPORTATION/TRAFFIC. Would the project:

- a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

No Impact. The Project and potential future extension of the pilot agreement will use existing infrastructure and will not require physical alteration of existing City and District facilities that will require new temporary or permanent workers. As a result, there will be no

construction or operational trips generated with the Project that could cause traffic impacts. Therefore, there will be no conflicts with transportation plans, ordinances, or policies. There will be no impacts.

- b) **Conflict with an applicable congestion management program, including, but not limited to level of service standard and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

No Impact. See Response 16a above.

- c) **Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

No Impact. See Response 16a above.

- d) **Substantially increase hazards due to a design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment)?**

No Impact. See Response 16a above.

- e) **Result in inadequate emergency access?**

No Impact. See Response 16a above.

- f) **Conflict with adopted policies, plans, or programs supporting alternative transportation (for example, bus turnouts, bicycle racks)?**

No Impact. See Response 16a above.

17. UTILITIES AND SERVICE SYSTEMS. Would the project:

- a) **Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

Less-Than-Significant Impact. The implementation of the Project and potential future extension of the pilot agreement will not cause an exceedance of wastewater treatment requirements of the applicable Regional Water Quality Control Board.

While the Project will increase the discharge of wastewater to the City of Santa Cruz Wastewater Treatment Facility during the winter due to the

increase in the volume of water treated at the GHWTP, the Project will not exceed the permitted effluent limitations defined in the existing GHWTP City of Santa Cruz Wastewater Discharge Permit, therefore the impact will be less than significant.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction or which could cause significant environmental effects?

Less-Than-Significant Impact. The Project and potential future extension of the pilot agreement will result in an increase in the volume of water directed to the GHWTP for treatment during the winter. The City's GHWTP has a current winter-time production capacity of approximately 10 mgd (Kennedy/Jenks 2013). This production capacity is based on meeting State and Federal drinking water regulations with the current treatment process. The current winter-time demands at the GHWTP typically range from approximately 8 mgd to 10 mgd (Kennedy/Jenks 2013). The amount of water that can be transferred to the District cannot exceed 1.5 mgd during normal operations and up to 2 mgd on an emergency basis, based on the hydraulic capacity of the interties between the City and the District service areas. The ability to treat additional water for the Project will largely depend on the water treatment demands of the City and cannot exceed the capacity of the GHWTP. If the City water treatment demands are at the capacity of the treatment facility (10 mg), then water will not be available for transfer to the District during those days.

The current treatment process at the GHWTP is limited to treating source water with turbidity levels less than approximately 10 to 15 nephelometric turbidity units (NTU). During winter-time storms and high flows in the San Lorenzo River and the North Coast sources, the turbidity levels increase significantly above the 10 NTU limit for the GHWTP, and the GHWTP must limit or stop water withdrawal from the San Lorenzo River until the turbidity levels drop (Kennedy/Jenks 2013). If the turbidity levels exceed 10 NTU, no water will be transferred to the District with the Project and potential future extension of the pilot agreement. No new or expanded water treatment facilities will be required and water will only be transferred as long as the limitations of the GHWTP are met for treatment

capacity and treatment quality. The impact on water treatment will be less than significant.

- c) **Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

No Impact. The Project and potential future extension of the pilot agreement will not involve new construction or other activities. No stormwater will be generated and no new or expanded stormwater facilities will be required. There will be no impacts.

- d) **Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

Less-Than-Significant Impact. Implementation of the Project and potential future extension of the pilot agreement will result in transfer of treated water from the City to the District under a Cooperative Water Transfer and Purchase Agreement. This will increase water supply reliability for the District and allow the District to reduce pumping of its groundwater wells. The Agreement stipulates the conditions for water transfer including but not limited to the City having available surface water from its pre-1914 North Coast water rights, specifically from Liddell Creek and Majors Creek. No new or expanded entitlements are required to allow for the Project.

Production on the North Coast is typically maximized under existing conditions, and therefore the Project will not result in increased production from the North Coast sources (Liddell Creek and Majors Creek). The source production impact of the Project for the City is increased production at the Tait Street Diversion on the San Lorenzo River to offset the water being directed to the District from Majors and Liddell. The modelling of the City's water supply system provided in Appendix B demonstrates that the City's water supply needs can be met in most cases, while still allowing for the transfer of some varying amount of water to the District. The amount available for transfer will depend on the water year type (i.e., critically dry, dry, normal, wet) and any instream flow agreements in place between the City and the fisheries agencies. The terms and conditions of the pilot agreement will provide the basis for

continued water supply reliability for the City. The impact of the Project on water supply is less than significant.

- e) **Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

Less-Than-Significant Impact. See Response 17a above.

- f) **Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

Less-Than-Significant Impact. Implementation of the Project and potential future extension of the pilot agreement will not result in the generation of substantial additional volume of solid waste. The impact will be less than significant.

- g) **Comply with federal, state, and local statutes and regulations related to solid waste?**

Less-Than-Significant Impact. See Response 17f above.

18. MANDATORY FINDINGS OF SIGNIFICANCE. Does the project:

- a) **Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

Less-Than-Significant Impact. The Project and potential future extension of the pilot agreement will not involve any construction activity or physical improvements that will substantially degrade the quality of the environment; reduce the habitat, population, or range of a plant or animal species; or eliminate important examples of California history or prehistory. The water will be transferred to the District only under certain conditions, as outline in Section I, Background and Appendix A. Under the terms of the agreement between the City and the District, the City will provide flows for aquatic resources that meet regulatory requirements, if any, or other requirements agreed to in writing with the fisheries

agencies. As described in Response 4a, given the results of the habitat modelling in Appendix C and the conditions of the proposed agreement, the Project will not, either directly or through habitat modifications, result in significant impacts to special-status fish species. The impacts of the Project will be less than significant.

- b) **Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of the past projects, the effects of other current projects, and the effects of probable future projects.)**

Less-Than-Significant Impact. The *CEQA Guidelines* require a discussion of significant environmental impacts that will result from project-related actions in combination with “closely related past, present, and probable future projects” located in the immediate vicinity (CEQA Guidelines Section 15130[b][1][A]). Cumulative environmental impacts are those impacts that by themselves are not significant, but when considered with impacts occurring from other projects in the vicinity will result in a cumulative impact. Related projects considered to have the potential of creating cumulative impacts in association with the Project consist of projects that are reasonably foreseeable and that will be constructed or operated during the life of the Project.

Based on the analyses presented in Section VI, implementation of the Project and potential future extension of the pilot agreement will have no impacts or less than significant impacts on cultural and historical resources, land use and planning, mineral resources, population and housing, public services, hazards and hazardous materials, and transportation systems. Therefore, the Project and future water transfer will not make a considerable contribution towards a cumulative impact. Additionally, the Project will not generate a significant amount of greenhouse gas emissions and will therefore not result in a cumulatively considerable impact related to global climate change. The impact of the Project related to cumulative impacts is less than significant.

- c) **Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

Less-Than-Significant Impact. As described in this IS/ND, the Project and potential future extension of the pilot agreement will not result in

environmental effects that will cause substantial adverse direct or indirect effects on human beings. The environmental impact of the Project on human beings will be less than significant.

Appendix A

Draft Agreement for Cooperative Water Transfer and Purchase



CITY COUNCIL AGENDA REPORT

DATE: 9/3/2015

AGENDA OF: 9/8/2015

DEPARTMENT: Water

SUBJECT: Agreement for Cooperative Water Transfer and Purchase; City of Santa Cruz and Soquel Creek Water District. (WT)

RECOMMENDATION: Motion to authorize the City Manager to execute the Agreement for the Cooperative Water Transfer and Purchase and Resource Management Pilot Project between the City of Santa Cruz and Soquel Creek Water District in a form approved by the City Attorney, and authorize staff to complete the environmental review process.

BACKGROUND: For several years the Soquel Creek Water District has been inquiring about the potential for the City of Santa Cruz to sell them water during the winter. Water sold from the City to the District would be used to serve some portion of the District's normal winter demand, which would allow them to rest their wells.

Up to this point City staff has been unable to recommend to Council that the City sell water to the District due to a variety of factors including lack of an adequately sized and metered interconnections between the two utilities, other City projects that required the staff's attention and, for the last two years, winter conditions that were substantially drier than normal, which meant that little water was available to sell.

Metered interties between the Santa Cruz and the Soquel Creek water systems now exist on the site of the District's newly completed O'Neill Ranch well as well as at Bain Street and Jade Street. And, in anticipation of the potential for more normal winters in future years, City staff now believe that it makes sense for the City to sell water to Soquel during the winter subject to certain terms and conditions.

DISCUSSION: The attached agreement to authorize the City to sell water to the district has been developed jointly with the staff of the Soquel Creek Water District. The terms of the agreement are purposefully focused on the simplest version of a potential transaction between the City and the District with the idea being that this approach can get done with existing infrastructure and within provisions of quantities of water available from the City's Liddell Springs and Majors Creek pre-1914 water rights and changes thereto in compliance with the law. In addition, the agreement is purposefully designed to help both agencies work together to learn how an in lieu recharge program that could potentially be scaled up in the future might work. The experience gained in this smaller effort would be used to inform any potential longer term agreement.

The infrastructure necessary to support the transfer of water contemplated in the agreement exists and no other permits are required. Under these conditions, City staff has been advised that it is the City Council's action to approve this agreement that triggers the environmental review process per the California Environmental Quality Act, or CEQA review. Thus, in addition to recommending the Council approve the agreement, staff is asking the Council to direct staff to initiate the CEQA process. This process would need to be completed prior to beginning to sell water to the District in the coming winter and spring seasons, should conditions allow us to do so.

FISCAL IMPACT: No new funding is needed to execute this agreement. Funding to finalize the permitting work associated with this agreement is available in the FY 2016 Water Department budget. Potential revenues are difficult to determine at this time due to uncertainty regarding the amount of water the City will be able to sell the District under the terms of the agreement. Not recognizing new water sales revenue from this agreement is the fiscally prudent approach until the Department has more experience with the new arrangement.

Prepared by:
Rosemary Menard
Director

Submitted by:
Rosemary Menard
Director

Approved by:
Marin Bernal
City Manager

ATTACHMENTS:
Cooperative Water Transfer and Purchase Agreement

**COOPERATIVE WATER TRANSFER AND PURCHASE AGREEMENT
AND RESOURCE MANAGEMENT PILOT PROJECT
BETWEEN CITY OF SANTA CRUZ AND SOQUEL CREEK WATER DISTRICT**

The parties to this Agreement are the CITY OF SANTA CRUZ, hereafter referred to as "CITY", and the SOQUEL CREEK WATER DISTRICT", hereafter referred to as "DISTRICT".

RECITALS

- A. The CITY of Santa Cruz is charter city which owns and operates a municipal water system in the City of Santa Cruz and in portions of County of Santa Cruz adjoining the District water system.
- B. The DISTRICT is a special district which operates a water system, adjacent to the eastern service boundary of the CITY, and provides water service to a significant portion of mid-Santa Cruz County.
- C. A shared groundwater basin that the DISTRICT relies upon for a significant portion of its water supply, and from which the CITY obtains a small portion of its water supply, has been in a state of overdraft since the 1980s and is at risk of additional seawater intrusion.
- D. The DISTRICT and the CITY cooperatively manage groundwater in the over-drafted basin and would benefit from this agreement.
- E. The CITY and the DISTRICT have established three metered interties located at the DISTRICT's O'Neill Ranch well site, at Jade Street and at Bain Street.
- F. During the winter and spring, the CITY may have available surface water from its pre-1914 North Coast water rights that could be treated and delivered to the DISTRICT for purchase.
- G. Purchasing and using this treated surface water to meet some part of the DISTRICT's demand would enable the DISTRICT to reduce its groundwater pumping, reduce the potential for accelerating seawater intrusion, and contribute to the beginnings of a longer term process to ameliorate the overdraft condition of the groundwater basin that impacts both entities and other pumpers of groundwater from the Soquel-Aptos basin.
- H. The period during which this agreement operates can be viewed as an opportunity to begin to assess the effects of reduced pumping of the basin by the DISTRICT on the shared groundwater basin. During this pilot project, the CITY and the DISTRICT intend to use this opportunity to collect information related to: 1) the physical operating system issues, 2) system water quality 3) response of groundwater levels from in-lieu recharge, and 4) the potential opportunity of developing a longer term agreement in which the groundwater basin would be used for a combined in lieu and aquifer storage and recovery program that would help resolve the basin overdraft that would protect CITY and DISTRICT wells from addition seawater intrusion and provide needed drought storage for the CITY.
- I. The CITY and DISTRICT recognize that a fair and appropriate agreement can benefit both parties, the community, and provide better management of locally available water resources.

NOW, THEREFORE, IT IS HEREBY AGREED:

1. AGREEMENT TERM:

Except as provided in Paragraph 11 hereafter, the term of this Agreement shall be for the period commencing at the completion of the CEQA process or November 1, 2015, whichever date is later and ending approximately five years later on December 31, 2020. This Agreement shall not extend beyond said date unless the governing bodies of both the CITY and the DISTRICT so agree in writing.

2. TERMS AND CONDITIONS FOR PROVIDING WATER:

Contingent upon the CITY securing all necessary permits and completion of the environmental review process in accordance with Paragraphs 4 and 5 below, water supplied by the CITY will be made available to the DISTRICT for purchase within the scope of the CITY's valid pre-1914 appropriative water rights and changes thereto in compliance with the law. The quantity and availability of water supplied by the CITY under the terms of this agreement shall be based on the following conditions and at the sole discretion of the Director of the Water Department of the CITY. In determining whether supply can be provided, the CITY may take into account any or all of the following factors:

- a. The CITY has not declared, and is not operating under, any mandatory water curtailment stage of its 2009 Water Shortage Contingency Plan, as it may be amended, updated, or replaced by the CITY from time to time.¹
- b. Loch Lomond Reservoir is full and is spilling, or if not spilling is projected to be full by April 1 of the water year during which water will be provided to the DISTRICT. The calculation of the potential for the Loch Lomond Reservoir to fill shall be based on the City's short term streamflow modeling tools used to conduct the City's annual water supply forecast, as those tools or other measures to forecast water supply may be amended, updated, or replaced from time to time by CITY.
- c. The CITY is providing flow for aquatic resources that meet regulatory requirements.
- d. On a monthly basis, the volume of water delivered to the DISTRICT shall be less than or equal to the amount diverted from the CITY's Liddell Springs and/or Majors Creek supplies as reported to the state of California.
- e. The daily volume of water supplied shall not exceed the hydraulic capacity of the interties between the CITY's system and the DISTRICT's system located at the District's O'Neill Ranch well site and at Jade Street and Bain Street. The hydraulic capacity of these interties is estimated to be 2 million gallons per day (mgd) and is a function of the pressure difference between the CITY and DISTRICT water systems at that point.
- f. The CITY has not determined, in its discretion, that the supply of water to DISTRICT must be suspended or discontinued due to unusual or unanticipated circumstances, which suspension or

¹ Mandatory curtailments begin with Stage 2 of the 2009 plan.

discontinuation shall not be implemented without providing at least 3 days' advance written notice, except in the case of an emergency, in which event the City shall endeavor to provide DISTRICT notice as soon as reasonably possible after the emergency determination has been made.

3. PRICE

The CITY agrees to sell to the DISTRICT treated water delivered to the CITY-DISTRICT interties located on the DISTRICT's O'Neill Ranch well site and at Jade Street and Bain Street under the terms and conditions described hereof at a price that is equal to:

- the Santa Cruz Water Department's FY 2013 actual average annual cost of producing water plus
- the Soquel Creek Water District's FY 2013 actual average annual avoided cost of production for a total of (insert figure) per million gallons, or a pro rata amount thereof based on actual volume provided.

The CITY shall bill the DISTRICT on a monthly basis for water delivered to the DISTRICT based on the meter installed at the above specified intertie connections between the CITY and the DISTRICT.

4. REGULATORY COMPLIANCE – CEQA

The CITY shall be the designated lead agency for the purposes of California Environmental Quality Act (CEQA) compliance. Cost of CEQA compliance, including preparation of an initial study and any negative declaration, mitigated negative declaration or environmental impact report, and implementation of mitigation measures identified therein and agreed to by the CITY will be equally split between the parties, with the District's share shall be billed on a quarterly basis for the duration of this agreement.

CEQA compliance shall address the agreement herein to implement pilot testing of the transfer of water under certain conditions from the CITY to the DISTRICT commencing approximately November 1, 2015 and ending approximately five years later on December 31, 2020. Given that the agreement may potentially be extended beyond said date if both the CITY and the DISTRICT so agree in writing, CEQA shall also address the long-term transfer of water that may occur under such an extended agreement.

5. REGULATORY COMPLIANCE -- PERMITTING

The CITY shall be responsible for obtaining any other permits or approvals required to support providing water to the district under this agreement, and shall be responsible for compliance with all laws, as necessary to make water available for purchase or to transfer pursuant to this Agreement.

6. REGULATORY COMPLIANCE – TREATED WATER DELIVERIES

Delivered water shall be in compliance with all drinking water regulatory requirements at the intertie point of delivery. Once the water has been delivered the DISTRICT shall be responsible in all respects for that water, and its delivery and use, including without limitation compliance with any distribution system requirements, and any relevant water quality regulations.

7. OPERATIONS PLAN –

Prior to initiating the proposed water transfer, the CITY and the DISTRICT agree to jointly prepare and then implement an Operations Plan as the basis for joint operation. The CITY and the DISTRICT may amend the Operations Plan by written joint consent without needing to otherwise amend this agreement.

8. NOTIFICATION OF STARTING AND STOPPING WATER DELIVERIES

The water to be delivered hereunder shall be delivered to the DISTRICT on an interruptible basis, depending upon the availability of water and the terms and conditions described in paragraph 2 of this agreement. A determination that the delivery of water to the DISTRICT must be interrupted shall be at the sole discretion of the CITY Water Director, which determination shall be conclusive upon the DISTRICT. The CITY shall give the DISTRICT notice of interruption or cessation of the transfer of water in accordance with Paragraph 2(g), above.

9. DATA COLLECTION, MONITORING, AND ANALYSIS

The CITY and the DISTRICT shall jointly share the cost to develop, and implement, a data collection, monitoring, and analysis program to further characterize the benefits of the proposed water transfer and identify any potential issues. This program shall include, but not be limited to, monitoring and analyzing groundwater levels from existing wells in the vicinity of wells that the DISTRICT takes offline due to the available of water from an alternate water source, and distribution system water quality to assess any impacts from surface water being distributed through pipes that have only been used solely for groundwater distribution in the past. The plan shall be developed and implemented by the CITY and DISTRICT prior to commencing any sale of water.

10. NOTIFICATIONS AND RECORD KEEPING

For the purposes of this agreement, the parties shall abide by the record keeping and notification provisions in the Operations Plan included as Attachment B to this agreement

11. NATURE OF AGREEMENT

It is understood and acknowledged by the DISTRICT and the CITY that this Agreement is only for the term specified herein, that no obligations are imposed on the parties beyond the term hereof, that the water rights of the CITY are not impacted, and that the water during the term hereof is solely dependent on the availability of surplus water as stated in this agreement.

This agreement makes no assumption about the availability or quantity of water to be delivered back to the CITY for use as a drought supply.

11. EFFECTIVE DATE:

This Agreement shall become effective only upon its approval by the governing bodies of each party hereto.

12. TERMINATION ON THIRTY-DAY NOTICE

This Agreement may be terminated by either party hereto upon the furnishing to the other party by United States Mail, first class, a thirty (30) day notice of intent to terminate or with an email notification that is acknowledged by the receiving party provided, however that DISTRICT'S obligations to pay for water delivered and indemnify, defend and hold CITY harmless pursuant to paragraph 13, below, shall survive termination.

13. RELEASE AND INDEMNITY

DISTRICT agrees to indemnify, defend and hold harmless CITY, and any agency or instrumentality thereof, and its elected and appointed officials, officers, employees and agents from and against all liabilities, claims, actions, causes of action, proceedings, suits, damages, judgments, liens, levies, costs and expenses of whatever nature, including reasonable attorneys' fees and disbursements (collectively "Claims") arising out of any actions taken by the City in the implementation of this agreement, or any environmental review conducted under the California Environmental Quality Act (CEQA) in connection with this agreement.

CITY OF SANTA CRUZ

Dated: _____

By: _____
City Manager of City of Santa Cruz

SOQUEL CREEK WATER DISTRICT

Dated: _____

By: _____
President of the Board of Directors

APPROVED AS TO FORM:

CITY Attorney

DISTRICT Counsel

Appendix B

Water System Modelling for Cooperative Water Transfer Purchase and
Resource Management Pilot Project



GARY FISKE AND ASSOCIATES, INC.
Water Resources Planning and Management

Date: November 16, 2015
From: Gary Fiske
To: Kevin Crossley, Katie Moore, Ann Sansevero
Cc: Rosemary Menard, Chris Berry, Heidi Luckenbach, Jeff Hagar
Re: Cooperative Water Transfer Purchase and Resource Management Pilot Project

The City of Santa Cruz (City) and the Soquel Creek Water District (District) are pursuing an Agreement for the Cooperative Water Transfer Purchase and Resource Management Pilot Project (Project). The Project will facilitate the transfer of water from the City's existing sources to the District under certain terms and conditions for a period of up to five years. Winter water will be directed from existing intakes on Liddell Spring and/or Majors Creek through the City's system (north coast piping, coast pump station, GHWTP, and potable water distribution system) and then to existing interties with the District. The District will use this water to meet part of its winter demand, which would enable the District to reduce its groundwater pumping and thereby reduce the potential for seawater intrusion into the City's and the District's production wells. This memorandum was prepared to provide an estimate of the volumes that could be transferred to the District under various water year and flow conditions.

Modeling Assumptions

The Confluence® model was used to estimate the Liddell and Majors volumes available for transfer to the District. Confluence has been used in Santa Cruz since the preparation of the Integrated Water Plan (IWP) in 2003. Confluence has also been used to assist Santa Cruz Water Department (SCWD) staff in analyzing the impacts of various other water resource issues that have arisen, including those arising from reductions in available flows associated with ongoing Habitat Conservation Plan negotiations with state and federal resource agencies, water rights, potential water transfers to neighboring districts, and various changes in system operations. The instream flow sets that have been used in the Confluence modelling more recently as part of the Habitat Conservation Planning and water supply planning include:

1. Natural flows, which assume no instream requirements beyond current water rights
2. City Proposed flows
3. DFG-5 flows

All of these flow sets are based on historic hydrology. The second and third of these flow sets are the two HCP flow assumptions which bound the current discussions with the California Department of Fish and Wildlife and the National Marine Fisheries Service.¹ The City has been voluntarily providing interim

¹ The "City Proposed flows" were presented in a July 18, 2012 letter from the City of Santa Cruz Water Department to the fisheries agencies. "DFG-5" is based on a September 18, 2012 letter from California Department of Fish & Wildlife (CDFW) to the City, as well as, subsequent correspondence.

flows to work toward a production agreement that balances the City's water needs and those of the species.

Estimates of available transfer volumes were generated using flow assumptions under the DFG-5 and City Proposed flow scenarios. These instream flow conditions are more restrictive on diversions by the City than the current instream flow requirements based on current water rights. This means that there will be less water available for transfer. All other modeling assumptions are consistent with those used to develop the final Water Supply Advisory Committee (WSAC) results.²

There are currently three interties between the City and District with a combined capacity of 2 MGD. Of the three interties, only the 8" intertie at the O'Neil Ranch Well Site is equipped for regular operation as would be required for the Project. The other two are presently set up for emergency purposes only. Based on previous hydraulic analysis³ and field testing, the capacity of the 8" intertie between the City and District is estimated to be 1.5 MGD under normal operating conditions. Therefore for this analysis, 1.5 MGD was assumed as the conveyance capacity between the two systems.

District water demands were provided by the District and are shown in Table 1.⁴

**Table 1. Soquel Creek Water District 2014
Monthly Demands (mg)**

Month	Demand (mg)
Nov	76
Dec	73
Jan	98
Feb	73
Mar	83
Apr	86
Winter Season Total	488
May	112
Jun	117
Jul	118
Aug	108
Sep	98
Oct	93
ANNUAL TOTAL	1,133

² See final WSAC report at <http://www.santacruzwatersupply.com/sites/default/files/resource-files/WSAC%20Final%20Report%20October%202015.pdf>

³ Intertie Capacity Analysis, Akel Engineering Group Inc, February 2014

⁴ Soquel Creek Water District Monthly Total System Production 2003-2015, May 2015.

In the Confluence model, water diverted from Liddell and Majors creeks was allowed to be sent to the District in the winter season months of November-April. Under current system operations, the North Coast diversions are the first dispatched to serve Santa Cruz demands and diversions from these sources are typically maximized. To make water available for this transfer while not adversely affecting water supply reliability for Santa Cruz, the dispatch order of the City's various supplies was modified for modeling purposes as shown in Table 2.

Table 2. Current and Modified Dispatch to Serve Demands⁵

Current Dispatch	Modified Dispatch
1. Laguna, Liddell, Majors (to North Coast and then to Santa Cruz)	1. Laguna (to North Coast and then to Santa Cruz)
2. Tait Street to Santa Cruz	2. Tait Street to Santa Cruz
3. Beltz Wells to Santa Cruz	3. Liddell and Majors (to Santa Cruz and then to Soquel Creek)
4. Loch Lomond to Santa Cruz	4. Beltz Wells to Santa Cruz
	5. Loch Lomond to Santa Cruz

Transfer Volumes

The estimated transfer volumes available under each flow scenario are the maximum amounts that will not adversely affect the reliability of water deliveries to the City's customers. The transfer volumes on any day are limited to the 1.5 mgd conveyance capacity to the District.⁶

Table 3 shows the average, maximum, and minimum annual transfers for different year types assuming DFG-5 flows. Table 4 shows the same information for City Proposed flows. In the driest years, the transfer volume with DFG-5 flows is near zero. The average annual transfer across all year types is about 40 mg higher with City Proposed flows than with DFG-5 flows. The average transfer across all year types ranges from 24% (DFG-5 flows) to 32% (City Proposed flows) of 2014 District winter demand.

Table 3. Annual Transfer Volumes: DFG-5 Flows

Year Type	Average	Max	Min
Crit Dry	110	174	11
Dry	130	217	42
Normal	108	217	38
Wet	115	181	67
All Years	115	217	11

⁵ Felton, which is not dispatched to directly serve demands, is not shown in this table.

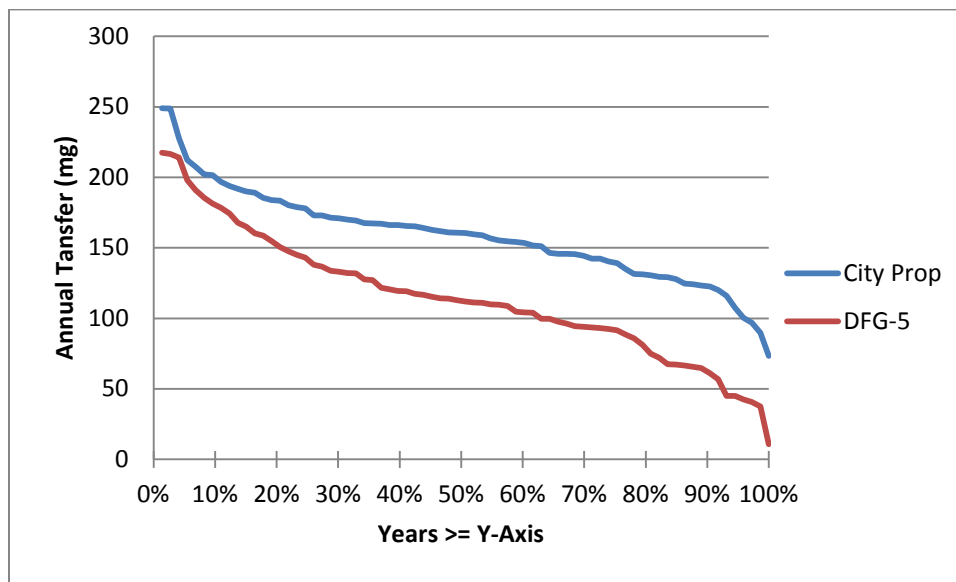
⁶ Note that District demands do not constrain deliveries since they exceed 1.5 mgd over the entire off-peak season.

Table 4. Annual Transfer Volumes: City-Proposed Flows

Year Type	Average	Max	Min
Crit Dry	171	249	73
Dry	148	202	90
Normal	159	228	100
Wet	157	249	97
All Years	158	249	73

The duration curves in Figure 1 show the complete distributions of these annual transfers. The duration curves show the percentage of time that the modeling results show that annual water transfers will equal or exceed a particular volume. For example, the City Proposed (blue) curve shows that 150 mg or more will be transferred in about 60% of the water years modeled. The DFG-5 curve shows that the same volume will be transferred in only about 20% of the modeled water years.

Figure 1. Duration Curves of Annual Transfers



Production Volumes

The source production impact of the Project for the City is increased production at the Tait Street Diversion to offset the water being directed to the District. Figure 2 compares the with- and without-transfer annual Tait Street production volume distributions with DFG-5 flows. Figure 3 shows those distributions with City Proposed flows.

Figure 2. Tait Street Annual Production Duration Curves: DFG-5 Flows

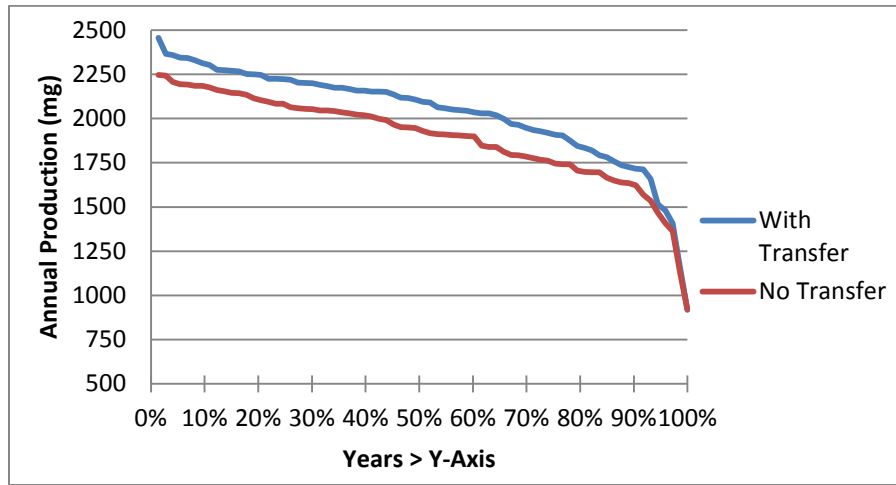


Figure 3. Tait Street Annual Production Duration Curves: City Proposed Flows

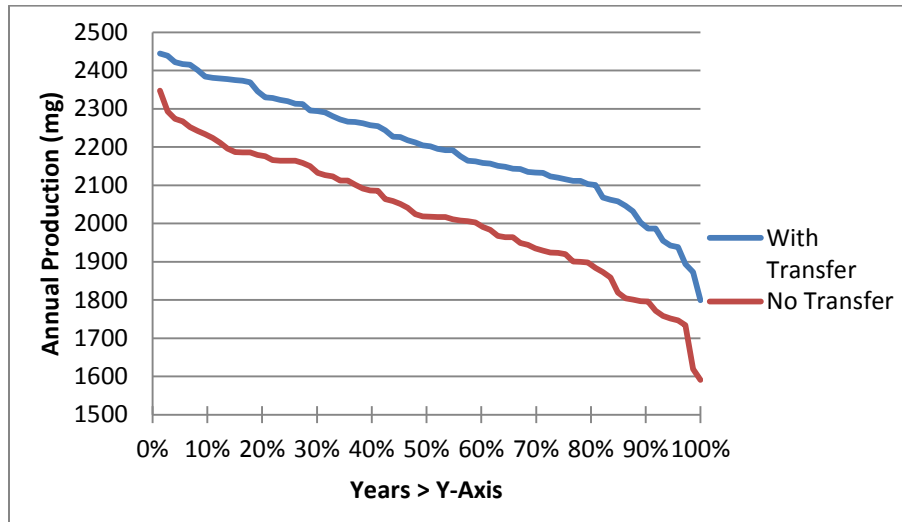


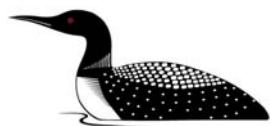
Table 5 summarizes the key statistics of these distributions.

Table 5. Tait Street Annual Production Comparative Statistics (mg)

	DFG-5			City Proposal		
	No Transfer	With Transfer	Percent Difference	No Transfer	With Transfer	Percent Difference
Mean	1891	2028	7%	2020	2199	9%
Max	2247	2457	9%	2348	2444	4%
Min	920	919	0%	1591	1800	13%

Appendix C

Analysis of Effects of Cooperative Water Transfer Purchase and Resource Management Pilot Project



Hagar Environmental Science

Date: November 18, 2015
From: Jeff Hagar
To: Kevin Crossley, Katie Moore, Ann Sansevero
CC: Rosemary Menard, Chris Berry, Heidi Luckenbach, Gary Fiske
Re: Analysis of Effects of Cooperative Water Transfer Purchase and Resource Management Pilot Project

The City of Santa Cruz (City) and the Soquel Creek Water District (District) are pursuing an Agreement for the Cooperative Water Transfer Purchase and Resource Management Pilot Project (Project). The Project will facilitate the transfer of water from the City's existing sources to the District under certain terms and conditions for a period of up to five years. Winter water will be directed from existing intakes on Liddell Spring and/or Majors Creek through the City's system (north coast piping, coast pump station, GHWTP, and potable water distribution system) and then to existing interties with the District. The District will use this water to meet part of its winter demand, which would enable the District to reduce its groundwater pumping and thereby reduce the potential for seawater intrusion into the City's and the District's production wells.

This memorandum was prepared to evaluate the effects of the Project on instream habitat for steelhead and coho salmon. The analysis will support the California Environmental Quality Act (CEQA) document being prepared for the Project and will be used as the basis for determining whether there could be a potentially significant impact under CEQA standards of significance.

The source production impact of the Project for the City is increased production at the Tait Street Diversion to offset the water being directed to the District from Majors and Liddell. The effects analysis was therefore based on daily flows in the San Lorenzo River downstream of Tait Street as output from the Confluence model runs provided by Gary Fiske and Associates, Inc. Modelling was based on the historic flow record and modelling assumptions were consistent with those used to develop the final Water Supply Advisory Committee (WSAC) results.¹

For the water transfer analysis, up to 1.5 mgd (2.3 cfs) of available water after meeting City needs and instream flow requirements is transferred during the off-peak season (November through April). City needs are first met from Laguna Creek, then the San Lorenzo River, then

¹ See final WSAC report at <http://www.santacruzwatersupply.com/sites/default/files/resource-files/WSAC%20Final%20Report%20October%202015.pdf>

Liddell and Majors Creeks. Any flow left over is available for transfer after taking into consideration likely instream flow requirements, as further described below.

Water available for City supply or transfer to the District is constrained by instream flow requirements for anadromous salmonids. Instream flow requirements are presently being negotiated in the context of the City's Habitat Conservation Planning (HCP) process. Two flow scenarios, the City proposed flows and DFG-5 flows, bound the current discussions with the California Department of Fish and Wildlife and the National Marine Fisheries Service². The City has been voluntarily providing interim flows to work toward a production agreement that balances the City's water needs and those of the species.

Estimates of available transfer volumes were generated using flow assumptions under the DFG-5 and City Proposed flow scenarios. These instream flow conditions are more restrictive on diversions by the City than the current instream flow requirements based on current water rights. The DFG-5 flows provide more water instream for fish habitat in the San Lorenzo River than the City proposed flows. Each of the two proposals was modelled both with and without the transfer project to elucidate the potential effects of the transfer project.

Effects on instream habitat were evaluated for the San Lorenzo River downstream of Tait Street since this is the only area where instream flows are potentially impacted by the Project. Under the City's present operations, the North Coast streams are drawn on first and the river is only used when these sources do not meet supply needs. With the Project, the river would be drawn on after Laguna Creek and any available water in Liddell and Majors Creeks could be transferred to the District. Either way, production from Liddell and Majors Creeks is usually maximized.

The Project has the potential to alter habitat conditions in the San Lorenzo River downstream of Tait Street since more water could be removed during the off-peak season to replace water that would otherwise come from Liddell and Majors Creeks. Although both the City and DFG-5 proposals would provide habitat that is generally better than under historical diversions, habitat conditions without any diversions are better than either proposal. In that reach of river, for the species and lifestages we are looking at, more flow generally provides better habitat. The habitat evaluation uses flow/habitat relationship models previously developed by HES (HES 2011). These, as all model results, are simplifications of complex ecological processes and incorporate numerous assumptions. The modelling results have only as much validity as the underlying assumptions.

² The "City Proposed flows" were presented in a July 18, 2012 letter from the City of Santa Cruz Water Department to the fisheries agencies. "DFG-5" is based on a September 18, 2012 letter from California Department of Fish & Wildlife (CDFW) to the City, as well as, subsequent correspondence.

Habitat Effects Evaluation

Adult Migration

Migration thresholds were determined based on the amount of flow needed to achieve passage depth at critical riffles. These estimates are presented as a range since there is some imprecision in modelling the underlying biological process. In the San Lorenzo River downstream of Tait Street, the lower migration threshold is 17 cfs and the upper threshold is 25.2 cfs. If mean daily flow absent City diversion equals or exceeds the lower migration threshold, the diversion will not be operated to reduce flows below the upper migration threshold. Diversions may resume at flows higher than the upper migration threshold or lower than the lower migration threshold.

Under the City proposed flows adult migration flows are provided during December through April under 0% to 60% exceedance conditions³. The DFG-5 proposal is similar except that migration flows are provided under all exceedance conditions. However, if storage in Loch Lomond Reservoir falls below certain levels, requirements for migration flows are reduced. Migration flow requirements are reduced to 3 consecutive days per week when reservoir storage levels fall below the following:

Dec	1900 MG
Jan	2000 MG
Feb	2100 MG
Mar	2200 MG

Migration flow requirements are further reduced to 5 consecutive days after each storm event that exceeds 17 cfs when storage levels fall below the following:

Dec	1600 MG
Jan	1700 MG
Feb	1800 MG
Mar	1900 MG

Spawning/Egg Incubation

The reach of the San Lorenzo River downstream of Tait Street does not support spawning for steelhead or coho salmon. Therefore, spawning is not further discussed in this memorandum.

³ Both the City proposed flows and DFG-5 flows use a subdivision of the hydrologic record into five equal parts based on cumulative runoff. Each month in the hydrologic record is categorized from 1 to 5 with 1 representing the wettest portion of the record (0% to 20% exceedance probability) and 5 representing the driest portion of the record (80% to 100% exceedance probability).

Rearing

Rearing base flows are provided at any time flows for other lifestages (adult migration, spawning/incubation, smolt migration) are not being provided. Both the City proposed flows and DFG-5 flows have rearing base flows that provide approximately 80% of the rearing habitat index that would occur in the absence of City diversions in the San Lorenzo River below Tait Street in wetter years (0-60% exceedance conditions). In drier years (60%-100% exceedance conditions) the City proposed flows represent a balance between habitat needs and supply needs while the DFG-5 flows provide an 8 cfs minimum flow during these conditions.

Model Results

Adult Migration

There are small reductions in the frequency of flows for adult steelhead migration with the Project with City Proposed flows. These occur primarily in December and January of drier years (Figure 1). The largest change is on the order of two days per month or less than 10%. With DFG-5 flows there is very little effect of the Project on the number of days with potential steelhead migration flows. The greater effect with City Proposed flows as compared to DFG-5 flows is that the City proposed flows do not require migration flows during drier years (60% to 100% exceedance conditions) while the DFG-5 flows have migration flows under all exceedance conditions.

The number of days when flows are sufficient for steelhead migration is generally high in the San Lorenzo River. Even the driest conditions (April of a critically dry year) have migration flows for at least half of the days in the month. The changes due to the Project are not likely to be large enough to significantly affect adult steelhead migration.

The effects of the Project on flows suitable for coho migration are similar to the effects on steelhead (Figure 2). Therefore, as for steelhead, the Project is not likely to significantly affect flows suitable for coho migration.

Smolt Migration

Flows for smolt migration are virtually unaltered by the Project (Figure 3), with City Proposed flows or with DFG-5 flows.



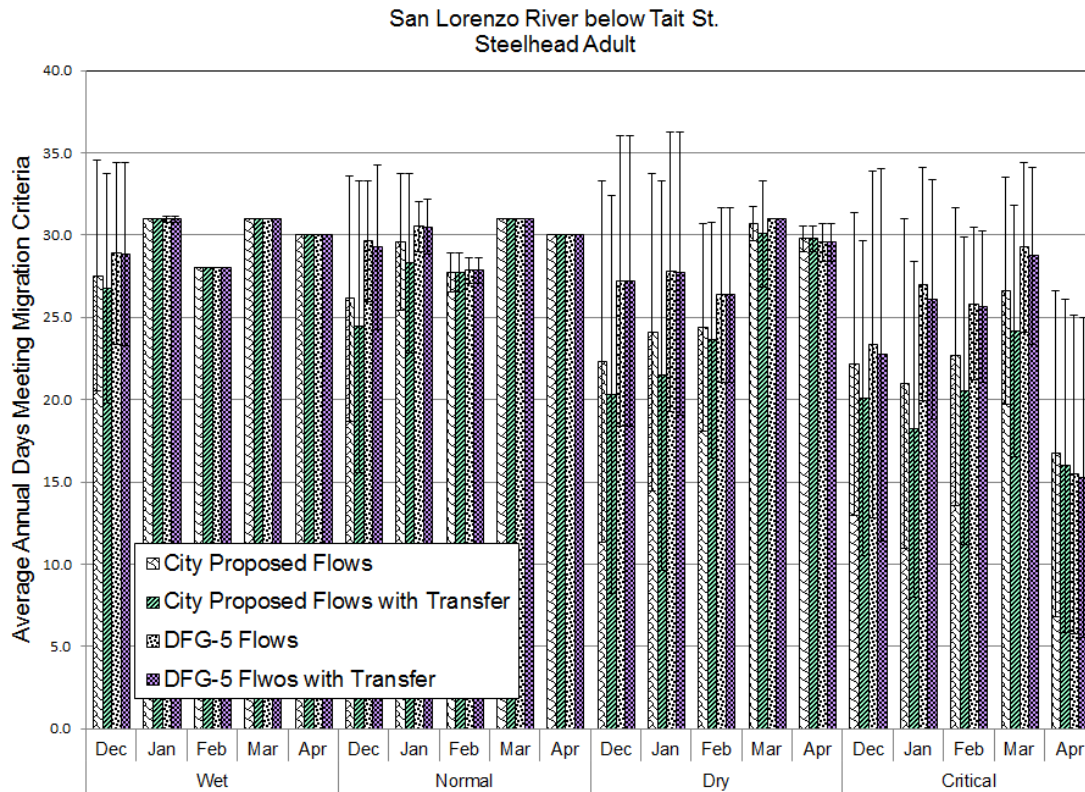


Figure 1. Steelhead adult migration, days (with standard error).

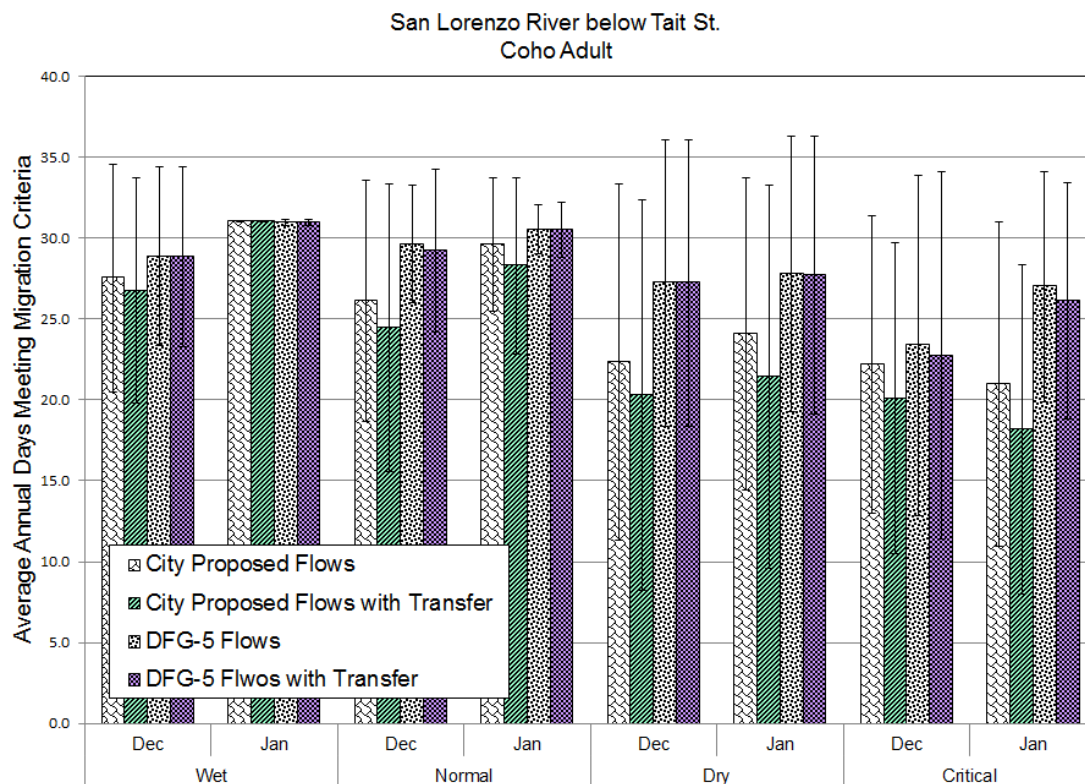


Figure 2. Coho adult migration, days (with standard error).

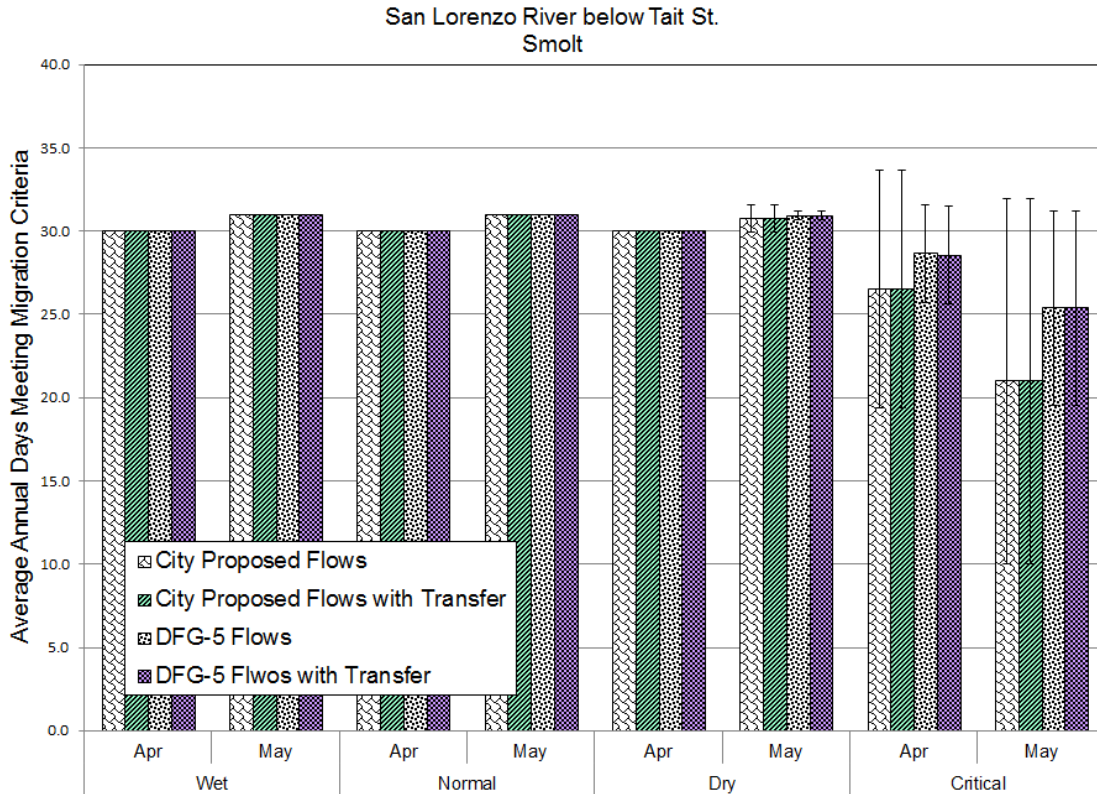


Figure 3. Smolt migration, days (with standard error).

Juvenile Rearing

Flows for steelhead rearing would be minimally influenced by the Project (Figures 4-7). The largest changes in the rearing habitat index are in November and December with City proposed flows. These are not critical rearing months as temperatures, activity levels, and food requirements are low. The rearing habitat index is well above the summer minimum levels during these months. The largest changes show less than a 3% reduction in the habitat index. This level of change is not likely to be biologically significant.

Summary Conclusions

The Project, and the associated increase in production at the Tait Street diversion, would not result in significant effects on adult migration, smolt migration, or juvenile rearing in the San Lorenzo River downstream of Tait Street. Effects are minimized by either the City proposed flows or the DFG-5 flow though the DFG-5 flows are slightly more protective of salmonid habitat. Effects on rearing are minimized because the Project would not operate in the peak season (May through October), when rearing habitat is most limited.

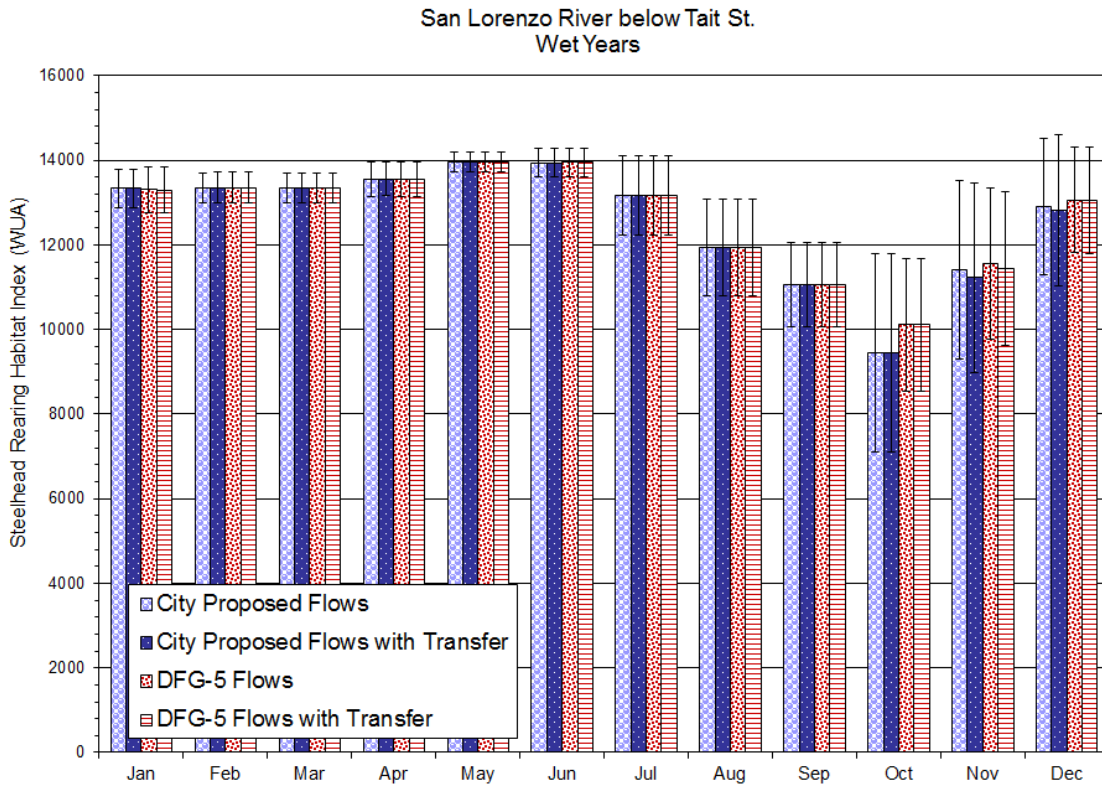


Figure 4. Juvenile steelhead rearing habitat index, wet years with standard error.

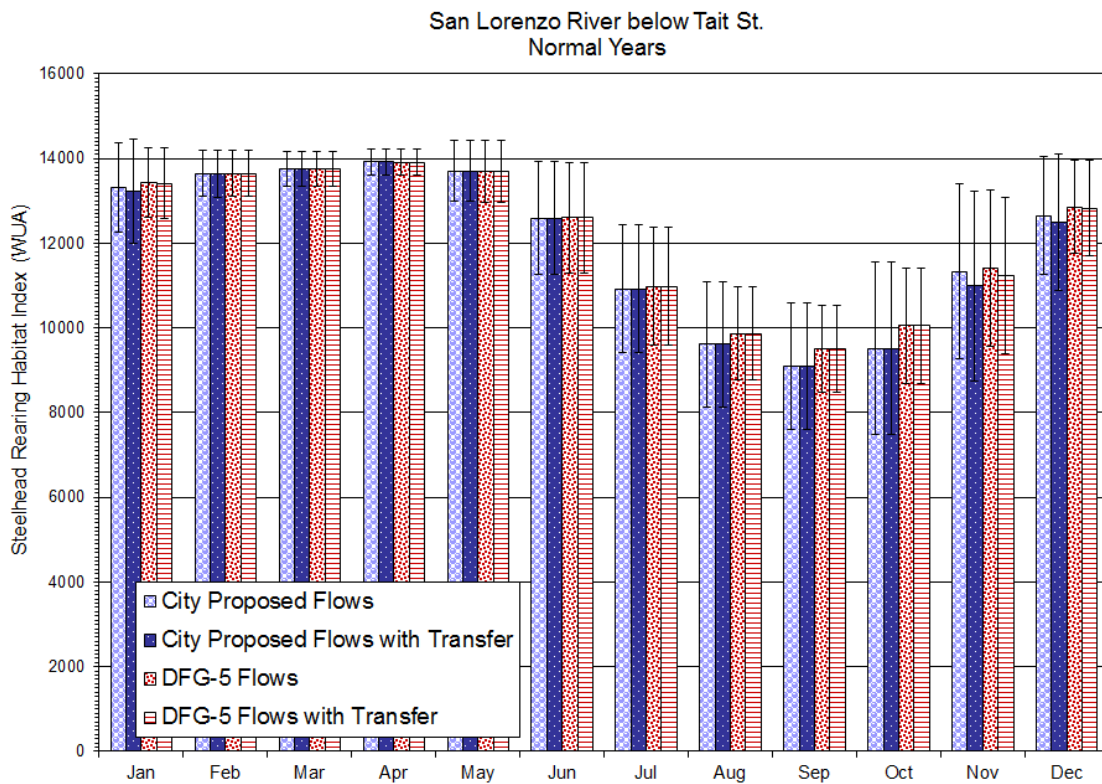


Figure 5. Juvenile steelhead rearing habitat index, normal years with standard error.

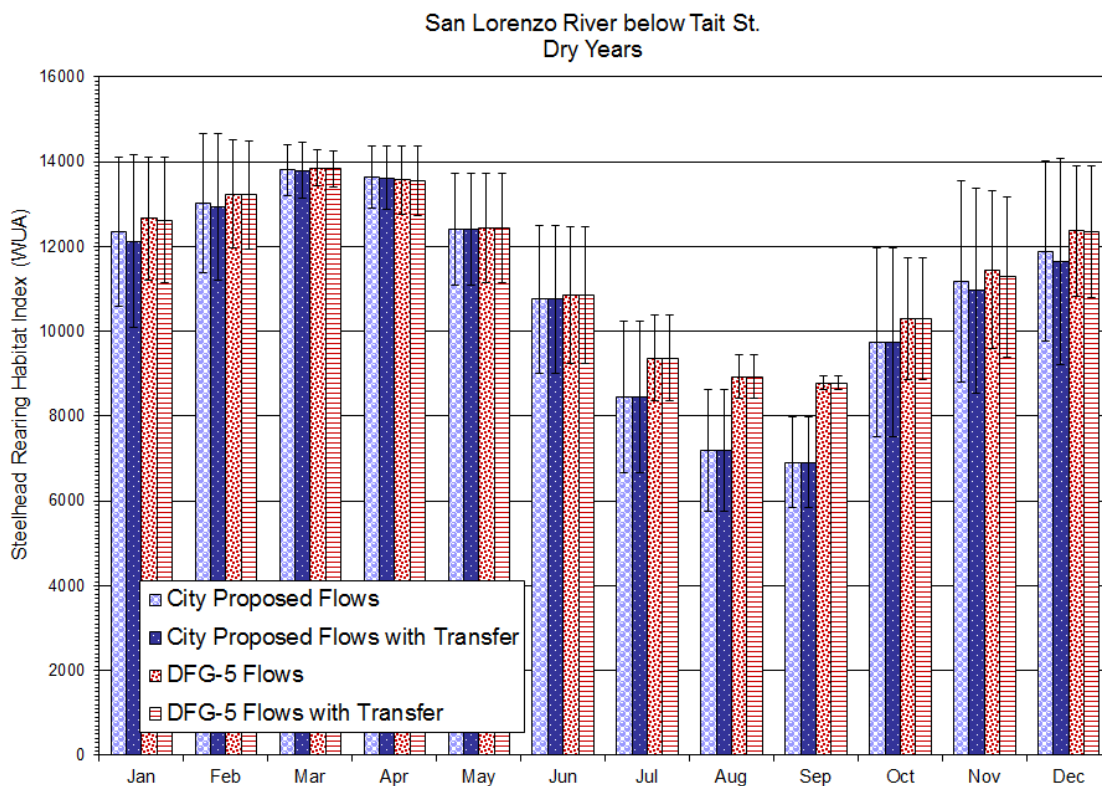


Figure 6. Juvenile steelhead rearing habitat index, dry years with standard error.

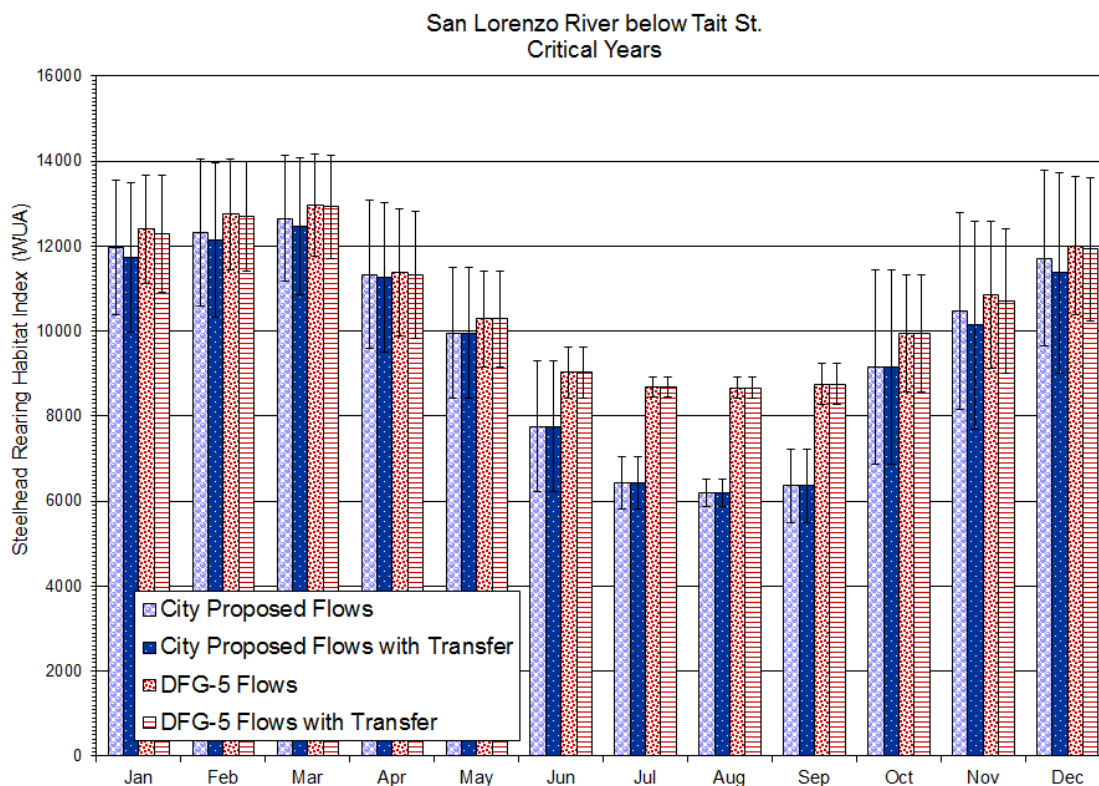


Figure 7. Juvenile steelhead rearing habitat index, critical years with standard error.

References

California Department of Fish and Wildlife (CDFW). 2012. Letter to Mr. Bill Kocher Dated September 18, 2012. Subject: City of Santa Cruz Instream Water Diversions.

Hagar Environmental Science (HES). 2011. Assessment of Stream flow Effects on Migration, Spawning, and Rearing Habitat for Anadromous Salmonids in Streams Influenced by City of Santa Cruz Water Diversions including Newell Creek. Prepared for City of Santa Cruz Water Department. Prepared by Hagar Environmental Science, Richmond, California. August 11, 2011.