

# San Lorenzo River Riparian Conservation Program



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**Developed by:**

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## Introduction

The San Lorenzo River Riparian Conservation Program is a shared goal of the City of Santa Cruz, the County of Santa Cruz, the Resource Conservation District of Santa Cruz County, San Lorenzo Valley Water District, state and federal resource agencies, and local conservation organizations including Coastal Watershed Council and the San Lorenzo Valley Women's Club. The program is focused on the area adjacent to the river and streams in the San Lorenzo watershed and includes the shrubs and woodlands known to occur along these areas. The riparian zone includes both the river banks and floodplains adjacent to the watercourse.

*The goal of the San Lorenzo River Riparian Conservation Program is to protect and restore riparian corridors for fish and wildlife, groundwater recharge, stream bank protection, and water quality. The program provides ways for the community to be engaged and active in protecting local creeks and the river.*

Recent conservation plans prepared for the watershed frame the need for such a program. Steelhead and coho salmon are the primary species of focus to benefit from such a program, however proper management of riparian habitats along stream corridors also plays an important role in protecting private and public properties and infrastructure from erosion, assists in absorbing impacts to streamside properties during heavy rain and flood events, and provides water quality benefits for both public and private water supply systems. Riparian corridors also provide aesthetic values to communities and private properties and are essential habitat for birds, mammals, amphibians, reptiles and invertebrates.

The success of a San Lorenzo River Riparian Conservation Program will depend on cooperative efforts including gathering data and assessing the conditions of the riparian corridor of the river, regular and productive relationships with public and private landowners, sound local policies that protect riparian areas, and education and outreach throughout the watershed. It is recognized that the Conservation Program will need to respond to funding availability and other priorities in the watershed that partners may be engaged in. This document outlines the San Lorenzo River Riparian Conservation Program as an on-going program with four activity areas that can be implemented to protect and improve the riparian areas of the San Lorenzo River.

## Existing Policy Framework for Riparian Conservation and Protection

Riparian habitat conservation and protection is a stated objective of local government, local water districts, the Resource Conservation District of Santa Cruz County, state, and federal agencies. At each level these agencies and jurisdictions provide both guidance and regulation to protect and restore riparian habitats. Appendix C includes excerpts from County of Santa Cruz and City of Santa Cruz ordinances and regulations, as well as policy recommendations from the *Santa Cruz County Conservation Blueprint* and the *National Marine Fisheries Service Coho Recovery Plan*. The *San Lorenzo Valley Watershed Sanitary Survey* also recommends improved enforcement to protect existing riparian areas and strengthening of existing ordinances in water supply watersheds including the San Lorenzo River.

Local policy and regulations at both the county and city level provide clear and consistent definitions for riparian and sensitive habitat. The regulations minimize and prevent development activities in the riparian corridor and prevent removal or conversion of vegetation in riparian corridors and creeks and wetlands. Exemptions and exceptions are provided in the County of Santa Cruz Code. Inspection and compliance is included in the County Code as is the process for violations and appeals. City regulations similarly require compliance through inspections as well as regulate stream buffers along every waterway in the City. Both jurisdictions encourage restoration of riparian habitat by private landowners and through public programs.

Policy recommendations in the *Santa Cruz County Conservation Blueprint* and *Coho Recovery Plan* focus on conservation, protection and restoration of riparian corridors. These plans are consistent with county and city regulation and offer specifics regarding tools to accomplish implementation of riparian conservation objectives. Tools worth noting in these plans include active restoration, a conservation easement program for riparian properties, water rights acquisitions, and a mitigation fund.

In summary, local government policy and natural resource plans support a riparian conservation program in the San Lorenzo River. Regulations and policy have been established and vetted actively in public processes from the early 2000s through 2015. The Santa Cruz County Board of Supervisors endorsed the most recent articulation of establishing a riparian protection strategy in 2015 with the adoption of the *County of Santa Cruz Steelhead and Coho Conservation Strategy*. This strategy identifies priority actions from federal and state fisheries conservation plans and prioritizes these actions for implementation by local government and through community partnerships.

## Existing Conditions of the Riparian Habitat in San Lorenzo River

Efforts to document conditions of the riparian zones of the San Lorenzo River watershed began in the early 2000s with the listing of salmonid and amphibian species in the watershed and as a response to water quality goals related to nutrients and sediment and erosion in the river and its tributaries. According to the *2004 San Lorenzo River Salmonid Enhancement Plan*) there is a lack of data describing the historic and present condition of riparian corridors in the San Lorenzo River watershed. In 2004 the County of Santa Cruz and consultants completed an examination of “gaps” in the riparian corridor of the San Lorenzo River using high-resolution digital aerial photography. The data used for the analysis was 2-meter resolution color aerial photographs flown in June 2000. Riparian corridors were identified using USGS 1:24,000 blue lines. This analysis identified a total of 281.6 miles of riparian corridor in the San Lorenzo River watershed. Of that total 13.6 miles of gaps were identified or 4.8% of the total miles of the riparian corridor. The highest percent of gaps were located in the middle and lower river areas. Gaps, as identified in the *Salmonid Enhancement Plan*, were not qualified by condition or habitat quality, nor was the data appropriate for prioritization of areas for restoration.

The 2004 information has been further expanded during annual salmonid juvenile surveys conducted through a partnership of the County of Santa Cruz, the City of Santa Cruz, and the San Lorenzo Valley Water District over the past 13 years. This monitoring is consistent with Recommendation GR-4 of the *Salmonid Enhancement Plan*. These surveys are accompanied in some years by wood surveys in specific reaches in the San Lorenzo River (reach 14a in lower Bean Creek and reach 13i in Upper Zayante Creek). These wood surveys focus on gathering information on (a) in-channel (bankfull) structural wood density, (b) perched riparian wood density, (c) riparian wood density beyond the perched zone, and (d) upslope wood density. This information is useful in understanding the structure of existing riparian areas as well as future contributions from the riparian zone to instream habitat conditions specifically for estimating structural in-channel wood. Structure forming in-channel wood densities are important to understand and monitor in order to improve instream habitat for salmonids in the San Lorenzo River.

Over the past five years, the County and partners have studied riparian conditions within specific San Lorenzo River Watershed streamside neighborhoods where development occurred prior to 1978. As part of these studies, riparian assessment and inventory methods have been developed in order to document current riparian conditions. These assessments and inventories verify that many properties have homes, yards or other development uses within the protected riparian corridor. While many of this development pre-dates the County’s 1978 ordinance, further encroachment continues to occur and degrade riparian habitats.

Riparian Rapid Assessment Method (RipRAM). The Central Coast Wetlands Group (CCWG) partnered with the County to develop a Riparian Rapid Assessment Method (RipRAM) applicable to Santa Cruz County watersheds. In 2014, CCWG helped the County develop a prototype method that was used in the Zayante and Bean watersheds. In 2015, the CCWG revised the method and has completed two additional seasons of riparian assessments in the San Lorenzo River watershed and RipRAM data is available for Branciforte Creek, Zayante Creek, Bear Creek, Boulder Creek and mainstem San Lorenzo.

Riparian Inventories. The condition of riparian areas in the San Lorenzo River watershed have not been well documented. The composition and presence of invasive and non-native species also has not been systematically documented in the watershed. The *Salmonid Enhancement Plan included this as Recommendation GR-8*. Impacts of residential development and invasive non-native species on the riparian zone are just beginning to be documented in the San Lorenzo River. The Weed Management area for Santa Cruz County has recently been reactivated and this effort can help document riparian conditions through the on-line database CalFlora.

Two riparian inventories have recently been completed in an effort to better understand riparian corridor conditions. In 2014, an inventory was completed for Zayante Creek in the reach upstream of Lompico Creek. In June and July 2017, a more detailed riparian inventory was completed for Paradise Park on the San Lorenzo River. These inventories confirm a range of conditions within the riparian zone including homes, yards, removal of native vegetation, and the occurrence of non-native and invasive plants. Maps and data are currently being developed. The Paradise Park riparian inventory will serve as a baseline for a cooperative riparian enhancement pilot project in this streamside neighborhood.

There is an active data set that is beginning to characterize conditions of the San Lorenzo River riparian corridor. This data has largely been developed by the County of Santa Cruz in partnership with the Central Coast Wetlands Group. Understanding of and access to available data or data summaries is necessary for the development and implementation of a San Lorenzo River Riparian Conservation Program. Data compilation and conditions documentation will help to identify priority conservation areas and document improvements to riparian conditions within the watershed over time. The baseline conditions documented through these efforts can be used to pilot the feasibility and effectiveness of cooperative riparian enhancement in targeted streamside neighborhoods.

Updated Flood Modeling. An additional modeling effort that would help further characterize the threats to riparian habitats is a flood hazard evaluation. One of the primary challenges to improved stream habitat and riparian corridor protection is the fear of flooding in riparian and floodplain neighborhoods. A better understanding of the relationship between stream wood, riparian vegetation and flood risk would help to

address neighborhood concerns and provide a quantified way of discussing any increased risk of flooding due to improved stream habitat condition.

Multi-Benefit Conservation Values. The 2011 the *Santa Cruz County Conservation Blueprint* conducted additional geospatial analysis of Santa Cruz County “multi-benefit conservation areas” and associated “critical” watersheds that supported biodiversity as well as watershed function and resilience for climate change. Critical watersheds also support working lands and recreation. The San Lorenzo River was broken up into 24 subwatersheds as part of an assessment of Important Streams for Riverine Biodiversity Conservation for the Blueprint. San Lorenzo River subwatersheds ranked highest (score either 4 or 5) for conservation of biodiversity included Upper Zayante, Lower San Lorenzo, San Lorenzo Lagoon, Bean Creek, Branciforte and Mid-Zayante. These rankings were based on existing data and local expert opinion. Results and recommendations of the *Santa Cruz County Conservation Blueprint* are included in Appendix A.

## Model Programs Reviewed for Program Development

Several watershed level efforts were reviewed for programmatic approaches to riparian conservation in developed watersheds. Programs on the Carmel River, San Geronimo Watershed in Marin County, Russian River, Napa River, Mattole River, and the San Diego River were reviewed for common themes and program activities. Four common activities that showed up throughout reviewed programs were monitoring and assessment, regulatory compliance and oversight, restoration and protection, and education and outreach. A review of existing San Lorenzo River efforts led by the County of Santa Cruz, the Resource Conservation District, the San Lorenzo Valley Water District, Coastal Watershed Council and the City of Santa Cruz reveal that many of these activities are occurring but there is no overall vision for a more comprehensive program with identified priorities and metrics to measure success from.

The goal of the San Lorenzo River Riparian Conservation Program is to protect and enhance the riparian corridor immediately adjacent to the stream zone. By focusing on the riparian corridor, the program seeks to encourage natural stream processes and improve the habitat integrity of these corridors. The program will utilize data driven priorities and program metrics to begin phased implementation of program actions. This report provides an initial set of program metrics that can be utilized to assess implementation activities and outcomes (Appendix A). With successful implementation over time the program will achieve the following objectives:

- ✓ Sustain and enhance existing terrestrial and aquatic habitat of the riparian zone
- ✓ Maintain healthy riparian zones for improved water quality
- ✓ Protect streamside areas from erosion
- ✓ Provide areas for flood waters to be absorbed
- ✓ Increase groundwater infiltration
- ✓ Provide stream temperature reduction for aquatic species
- ✓ Sequester carbon in existing and restored riparian corridors



## Recommended Activities of a Riparian Conservation Program

The San Lorenzo River Riparian Conservation Program will be implemented through several concurrent activities. The four primary activities are outlined below. These activities are already initiated in some cases, but a partnership with a focus on all four activities simultaneously could bolster the effectiveness and impact of the program over the long term.

Funding for these programs can be pursued from the Wildlife Conservation Board Riparian Conservation Program, Coastal Conservancy, California Department of Fish and Game, California Department of Water Resources Urban Streams Restoration Program, California's Greenhouse Gas Reduction Fund, and National Marine Fisheries Service. Table 1 below lists these opportunities for further consideration. These grant programs vary in annual priorities, timing of funding solicitations, and grant award amounts but these programs are sustained long term programs of these agencies. It is recommended that partners for the Riparian Conservation Program meet twice annually to review these opportunities for the four primary activity areas of the program and specific projects.

**Table 1**  
**Funding Sources to Support San Lorenzo River**  
**Riparian Conservation Program Activities**

<b>Grant Program</b>	<b>Agency and Website Reference</b>
<ul style="list-style-type: none"><li>• Riparian Conservation Program</li></ul>	Wildlife Conservation Board <a href="https://wcb.ca.gov/Programs/Riparian">https://wcb.ca.gov/Programs/Riparian</a>
<ul style="list-style-type: none"><li>• Integrated Watershed Restoration Program</li><li>• Climate Ready Program</li><li>• Proposition 1 Grant Program</li></ul>	Coastal Conservancy <a href="http://scc.ca.gov/grants/">http://scc.ca.gov/grants/</a>
<ul style="list-style-type: none"><li>• Proposition 1 Habitat Restoration Grants</li><li>• Endangered Species Conservation and Recovery Program Grants</li><li>• Fisheries Restoration Grant Program</li><li>• GGRF – Wetlands and Watershed Restoration</li></ul>	California Department of Fish and Game <a href="https://www.wildlife.ca.gov/Grants">https://www.wildlife.ca.gov/Grants</a> <a href="https://www.wildlife.ca.gov/Conservation/Watersheds/Greenhouse-Gas-Reduction">https://www.wildlife.ca.gov/Conservation/Watersheds/Greenhouse-Gas-Reduction</a>
<ul style="list-style-type: none"><li>• Urban Stream Restoration Grant Program</li></ul>	Department of Water Resources <a href="https://www.water.ca.gov/urbanstreams/">https://www.water.ca.gov/urbanstreams/</a>

Greenhouse Gas Reduction Fund – Urban Greening Program	Air Resources Board <a href="https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/ggrfprogrampage.htm#ResourcesandWaste">https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/ggrfprogrampage.htm#ResourcesandWaste</a>
Community-based Restoration Program	National Marine Fisheries Service <a href="https://www.fisheries.noaa.gov/grant/coastal-and-marine-habitat-restoration-grants">https://www.fisheries.noaa.gov/grant/coastal-and-marine-habitat-restoration-grants</a>

## I. Establish Existing Conditions and Assessment Data and Mapping

Assessments and mapping efforts by the County of Santa Cruz are providing baseline conditions of riparian habitats in the San Lorenzo River. Additional information regarding flood hazard evaluation and invasives and non-natives would be helpful to develop as resources allow. Baseline conditions and associated data are a necessary step in identifying a prioritization scheme for activities related to riparian conservation as well as a way to measure success for such conservation efforts.

It is recommended that existing data be organized by subwatershed and a data catalog be developed to understand what is available by subwatershed with regards to riparian extent, condition, structural wood density, development encroachment, invasives and non-natives, and flood hazard. Reporting of such data should be in GIS form available to project partners and by reach nomenclature used in previous studies as appropriate.

The San Lorenzo River 2025 Partnership should agree on an overall data development and access strategy so as to develop both baseline condition assessment as well as prioritization categories. Projects can then be driven by this information as well as assessed over time for stated program goals and project objectives.

## II. Protect Remaining Habitat by Implementing Existing Policies

Protection of the remaining riparian habitats of the San Lorenzo River is an important immediate focus of the riparian conservation program. As discussed previously, city and county codes currently include riparian protection requirements and are consistent with existing water quality, water supply, and habitat policies and regulatory programs. Maintenance of enforcement activity is always necessary but operates with capacity limitations. It is recommended that the following initial priorities be pursued as part of the riparian conservation program to build a sound protection strategy for remaining riparian habitats in the river.

Riparian Enforcement. The County of Santa Cruz has a Resource Planner with responsibilities for enforcement of the Riparian Corridor and Wetlands Protection Ordinance. This position has increased timely and effective response to code violation

complaints. In addition, the County will soon have the ability to levy fines for violations, which should improve the responsiveness of violators. However, enforcement will continue to be limited by enforcement tools available to the County and the cooperation of the property owners. Support for maintaining regular investigation of violations within the San Lorenzo River is recommended.

Code Compliance Roundtable. Support the County of Santa Cruz to continue the Code Compliance Roundtable, an inter-agency forum to discuss and address environmental code compliance in Santa Cruz County. As of January 2018, the Roundtable meetings will be structured around either specific topics or by watershed, which is intended to increase effective use of meeting time and attendees.

Riparian Corridor Protection Ordinance Policy Review. The County of Santa Cruz Planning Department will continue to consider an update to the Riparian Corridor Protection Ordinance. Possible additions to add to the ordinance include karst protection policy, fines schedule, and alignment with current cannabis regulation both at state and local levels. The 2018 Santa Cruz County Strategic Plan may provide a platform for evaluating environmental goals like the Riparian Protection Ordinance in the next several years.

### **III. Riparian Habitat Protection and Restoration**

Voluntary riparian conservation projects may include protection of riparian habitat through conservation easements or license agreements, water rights purchases or licenses, and restoration of riparian habitat throughout the watershed. Active conservation projects could be funded through state and federal grants for priority areas. Conservation projects may also be supported through a mitigation fund as part of the City of Santa Cruz Habitat Conservation Plan. Regional advanced mitigation programs are now allowable under California law and should be reviewed for applicability to the San Lorenzo River watershed. Development or code compliance related mitigation could also be used to generate a fund to use for projects, such as an incentives match for landowners, and possible match for state and federal grants.

### **IV. Education and Outreach**

Education and outreach efforts are key to the success of the riparian conservation program. Pooling resources, as well as coordinating on educational products and outreach events will provide for a more comprehensive approach to encouraging riparian conservation in the San Lorenzo River.

Several excellent products exist already which could be reprinted and distributed including the Santa Cruz County Stream Care Guide, stream wood brochures, and other products developed by San Lorenzo River 2025 Partners. The Stream Care Guide was

sent to all County streamside property owners in 2002. Efforts to identify funding to repeat this distribution or postcard are a priority in the near term.

Education and outreach that is targeted at landowners and provides technical advice and information would be a focus immediately. The idea of creating “Streamside Neighborhoods” has been discussed by the County of Santa Cruz to better align outreach within specific neighborhoods. Creative ways of engaging neighborhoods and doing place-based outreach for specific issues such as invasive plants could be an initial approach rather than depending on more passive outreach. Additional outreach could be staged at nurseries and garden centers, through homeowner associations, farmers markets, and classes and workshops. Consistency in materials, interpretation of information including existing resource protection policies and codes, should be included in education and outreach materials so as to prevent further decline of native riparian areas.

Careful and intentional creation of educational messages to effect certain behavior change should be considered so that each element of the education and outreach campaign has an associated desired action for river neighbors or others. While an initial focus would likely be on landowners nearest the river, the education and outreach program would ideally identify opportunities across the watershed as well. Youth play a key role in shaping family attitudes and behaviors, in addition to representing the next generation of environmental stewards. City of Santa Cruz Schools leaders are currently developing an environmental literacy plan. Education materials for adults can ideally mirror and therefore reinforce the school curriculum so that youth and family messaging is consistently received by families in the watershed.

A list of education and outreach opportunities that can serve as a match for restoration projects could also be created. As funding streams vary for each type of project, identifying ways to pair these efforts provides opportunities to inform the public of the watershed improvement projects so that education efforts and restoration projects complement one another. The public’s awareness of the need for watershed improvements and the effort and progress being made, will affect their willingness to support additional efforts in the long run.

Additional ideas for this particular activity may include:

Riparian Plants Information. Since many streamside residents are unfamiliar with basic riparian plants and the role and function of riparian corridors, develop materials on improving riparian corridors with local, native riparian plants. The County has begun working with a botanist to develop planting palettes for 3-5 typical habitat types. Products completed by the Marin County Watershed Program include a landowner portal on the [marinwatersheds.org](http://marinwatersheds.org) website under the title San Geronimo Valley Landowner Assistance Program.

Riparian Demonstration Garden. Design and install a demonstration garden that includes native riparian plants that have good landscape qualities. This demonstration garden can be used to educate and show property owners what native riparian plants look like. The Felton Library has been identified as a potential site for a demonstration garden and has received support from the Felton Library Friends and the County of Santa Cruz Parks who will be responsible for maintenance. Parks improvement projects along the lower San Lorenzo River (San Lorenzo Park and the Santa Cruz Riverwalk) also represent opportunities for demonstration plots and tours by the community.

## Roles for San Lorenzo River 2025 Partners and Community Organizations

The four activities of the San Lorenzo Riparian Conservation Program include:

- Data Collection and Assessment Reporting
- Protect Remaining Habitat by Implementing Existing Policies
- Riparian Habitat Protection and Restoration
- Education and Outreach

These activities have been ranked for priority by partners to establish a starting point for the Riparian Conservation Program (see Appendix B). These priorities are meant to provide initial guidance and should be revisited annually based on funding availability and project partner resources.

San Lorenzo 2025 partners and community organizations have potential roles that may be defined as the following.

ACTIVITIES	ORGANIZATIONS
<b>Data Collection and Assessment Reporting</b>	
Riparian condition inventories	✓ County of Santa Cruz
Riparian quality assessment (i.e., RipRAM)	✓ County of Santa Cruz
Juvenile steelhead and stream habitat monitoring	✓ County of Santa Cruz City of Santa Cruz ✓ San Lorenzo Valley Water District ✓ Scott Valley Water District
Invasives and non-native inventory and mapping	✓ County of Santa Cruz Weed Management Area
Flood hazard evaluation – mapping update	✓ County of Santa Cruz
<b>Protect Remaining Habitat by Implementing Existing Policies</b>	
Code compliance	✓ County of Santa Cruz ✓ City of Santa Cruz ✓ CDFW ✓ NMFS ✓ RWQCB
Cooperative stewardship with public and private	✓ County of Santa Cruz

landowners to enhance riparian areas	
Stream wood program – evaluation, outreach and modification of stream if necessary	✓ County of Santa Cruz
Riparian Corridor Protection Ordinance review and update (i.e., LWD, flows, karst protection, etc.)	✓ County of Santa Cruz
Riparian violations database	✓ County of Santa Cruz
Required mitigation tracking	✓ County of Santa Cruz
<b>Riparian Habitat Protection and Restoration</b>	
San Lorenzo River floodplain easement program development	✓ RCD ✓ County of Santa Cruz
Develop framework for water rights, licensing, and forbearance agreements	✓ RCD ✓ City of Santa Cruz ✓ Trout Unlimited ✓ CDFW ✓ NMFS ✓ SWRCB
Develop framework for Riparian Mitigation Bank	✓ County of Santa Cruz City of Santa Cruz ✓ San Lorenzo Valley Water District ✓ RCD
Prioritize future restoration sites	✓ RCD
Paradise Park Riparian and River Corridor Management Plan	✓ County of Santa Cruz
Alignment of riparian goals with flood maintenance activities and homeless camps	✓ All
Develop riparian plant nursery to serve other program activities	✓ City of Santa Cruz
<b>Education and Outreach</b>	
“Streamside Neighborhood” outreach and education - focus areas include: <ul style="list-style-type: none"> <li>• Zayante Creek</li> <li>• Bean Creek</li> <li>• Happy Valley</li> <li>• Felton Grove</li> <li>• Paradise Park</li> </ul>	✓ Valley Women’s Club ✓ Coastal Watershed Council ✓ RCD
Riparian plant provision, sample planting palettes, planting demonstrations	✓ County of Santa Cruz ✓ RCD ✓ City of Santa Cruz
Riparian demonstration garden (e.g., Felton Library)	✓ Santa Cruz County Parks ✓ San Lorenzo Valley Water

	District ✓ County of Santa Cruz ✓ RCD
Reprint Santa Cruz County Stream Care Guide	✓ All
Increase riparian educational materials and web-based information – brand and co-distribute – target youth and families	✓ All
Increase outreach events (including at public gatherings and fairs and nurseries)	✓ All
Landowner Assistance Program – invasives, erosion, streambank stabilization, etc.	✓ RCD
Youth outreach and education	✓ Coastal Watershed Council



## Current and Potential Riparian Projects

### Watershed-wide

**Riparian Enhancement.** The County of Santa Cruz Fish and Wildlife Advisory Commission has approved a \$2500 grant to the Water Resources Program to purchase riparian plants for private property owners to enhance riparian corridors. The grant will first focus on implementing the Paradise Park Pilot Project, which consists of planting native riparian vegetation in 3 acres. In a second effort, property owners contacted through the Stream Wood Program and riparian inventories will be asked to participate in this program.

**Riparian Mitigation Bank.** Establish a Riparian Mitigation Bank that could be used to fund both minor and major projects for riparian improvement. Mitigation funding would come from public agencies and private property owners who are unable to meet mitigation requirements on-site. RCD or other groups could use the mitigation bank to fund riparian improvement projects on public and private property that would include minor (planting a few trees) to moderate size projects. As part of the Branciforte Fish Passage Study, several property owners expressed interest and willingness to improve riparian conditions along the stream. These property owners could be contacted again when funding is available.

**Identify Floodplain areas for conservation.** Many of the floodplain areas along the San Lorenzo River are now residential neighborhoods. Floodplain areas that have a low resident density could be productive areas for conservation, including protection through easements, and restoration. The project goal is to study floodplain areas along the San Lorenzo River and identify areas that have a low parcel density and lack of residential development within the floodplain.

**Floodplain Neighborhoods - Focused Stream Wood Outreach.** Develop more comprehensive outreach effort for floodplain neighborhoods. As stream wood moves downstream along the San Lorenzo River, it accumulates on floodplain areas as flows drop. Along these floodplain areas, stream wood accumulates, transports downstream at high flows, and accumulates again. Unfortunately, these stream wood accumulations occur in neighborhoods where residents are concerned about flooding. Resident attitudes range from acceptance of this stream wood flux to an extreme concern and desire to manage the wood.

### Lower San Lorenzo River

**Paradise Park Riparian Inventory.** Prepare a study of existing uses within the protected riparian corridor through Paradise Park. The study would include (1) surveying and mapping mean-high water throughout the Paradise Park reach, (2) measuring and mapping the protected riparian corridor and (3) conducting an inventory of riparian

conditions and land use within the protected riparian corridor including native and non-native plants, bank stabilization and bank erosion, cleared yards, patios, fences, driveways and houses. The study would include a map showing the location of the riparian corridor and existing uses within it, in addition to summary tables. The long-term goal would be to develop a Paradise Park River Management Plan that includes actions to protect and enhance stream and riparian habitat while also providing actions that protect existing homes and infrastructure, such as the historic bridge.

The San Lorenzo Urban River Plan and Activating the San Lorenzo Riverway (now named the Santa Cruz Riverwalk) both identify projects and programming that represent multi-benefit approaches to improving parks along the river. Elements include recreational trails to showcase habitat (including demonstration sites), seating, pocket parks and access nodes, recreational equipment, and interpretive signage educating visitors about the history, geology, hydrology, public health, flood control, drinking water supply, recreational, economic and critical habitat values and benefits of the lower river ecosystem and levee system. Engaging opportunities for families along the lower river represents an additional education and outreach opportunity and complements efforts to enhance the health of the river. Opportunities for engaging river neighbors in a variety of pro-social activities, including habitat restoration, will require a revisiting of existing vegetation management practices along the levees.

### **Zayante Subwatershed**

**Zayante Creek Outreach Program.** Most of Zayante Creek is bordered by residential development that impact the creek through reduced riparian corridor width, bank stabilization structures and a high occurrence of invasive ivy. An outreach program would share the value of Zayante Creek for the San Lorenzo Watershed steelhead and coho salmon recovery and start exploring opportunities to improve riparian habitat. At the 2015 RCD Winter Preparedness Workshop, about 5 property owners on Zayante Creek expressed interest in removing ivy.

**Bean Creek Valley Outreach.** Conduct an outreach effort for the Bean Creek Valley neighborhood that occupies the historic floodplain of Bean Creek near Lockhart Gulch. Outreach would include sending out a packet with a description of the program, the Stream Care Guide, Stream Wood brochure and any other announcements for workshops or events. The goal of the outreach project would be to increase awareness of natural resources within this neighborhood and to solicit willing landowners to improve streambank stabilization projects.

**Bean Creek Streambank Habitat Projects.** Work with 4-8 property owners to remove and improve existing legacy bank stabilization projects to (1) provide improved bank protection for property owners during intense storms and (2) to improve instream habitat complexity for steelhead and coho salmon.

**Dufour Conservation Easement.** Negotiate a conservation easement over the floodplain habitat at 125 Lockhart Gulch Road, APN 070 261 54.

**Bean Creek Stream Corridor Conservation Easement.** Communicate with property owners upstream of Bean Creek Valley neighborhood about the value of the stream and riparian corridor resources on their property. This area has some large stream wood and intact riparian corridors. These include parcels: 070-311-02, 022-631-22, 070-131-21 and 070-131-17. Consider purchasing easements if needed. Consider working with Land Trust of Santa Cruz County (022-631-22) on this outreach/easement effort.

**Support the Santa Margarita Groundwater Sustainability Agency.** The Santa Margarita and Lompico groundwater aquifers provide flow to Bean Creek. Support actions to improve sustainability and enhancement of the groundwater to improve perennial flow to Bean Creek.

### **Branciforte Subwatershed**

**Happy Valley Conference Center Riparian Enhancement.** Work with Happy Valley Conference Center to design and implement projects to improve the health and width of the riparian corridor on their property. Actions could include the removal of 2 legacy flashboard dams and removal of concrete slabs in the creek.

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## **APPENDIX A: Sample Metrics for Program Evaluation**

### **Data Collection and Assessment Reporting**

- Create and implement consistent (rapid) assessment methodology that informs management (both prioritization and effectiveness)
- Prioritize actions based on assessment methodology
- Annual reports that communicate condition to a wide audience – include stream miles evaluated per year, number of landowners granting access for data collection, summary report of results and recommendations
- Rotational assessment that covers main stem and key tributaries on a rotational basis (i.e., every 5 years)
- Flood hazard evaluation mapping added to rapid assessment findings
- CalFlora reporting for invasive species active in watershed

### **Protect Remaining Habitat by Implementing Existing Policies**

- Number of enforcement actions (by level: informal, formal)
- Number of riparian violations resolved
- Number of voluntary restoration activities
- Number of Stream Wood Program contacts with private landowners
- Number of reported problematic logjams not removed privately outside of program
- % increase in riparian condition towards project goals for restoration projects
- Total fine money distributed to the FWAC annually related to DFW enforcement of riparian-related violations

### **Riparian Habitat Protection and Restoration**

- Number of restoration projects
- Specific actions of projects implemented (sq. ft, # of plants, etc.)
- Number of easements
- Number of water rights, licenses and forbearance agreements
- Amount of funding secured for restoration annually
- Riparian conditions resulting from protection and restoration activities (e.g.,)
  - Riparian zone width
  - Canopy cover
  - Streamside plant cover and structural diversity
  - Stream condition (e.g. embeddedness)
  - Wood density (or other metric to measure wood)
  - Conifer demography
  - LWD recruitment potential
  - Avg dbh streamside trees (within 1 channel width of low flow channel)

- Instream LWD characteristics
- Air/Water Temperature
- Macroinvertebrate density/diversity

### **Education and Outreach**

- Number of riparian planting guides and Stream Care Guides distributed
- Number of participants from target subwatershed reached annually
- Number of demonstration garden visitors annually
- Number of plants donated annually
- Number of demonstration tours annually
- Number of landowner technical assistance requests
- Pre/post education riparian literacy improvement of >20% (measured by online survey, etc.)
- Develop funding of neighborhood outreach for Bean Creek at Lockhart Gulch
- Riparian campaign activities and products distributed.

### Sample Project Priority Decision Matrix

Priority Decision Matrix for Riparian Conservation Actions (rank each 1-5 with 5 being highest value)			
Project Name:		CREEK RESTORATION PROJECT	
Metric	Points	Notes	Total
Coho recovery priority subwatershed		"Pass thru" coho habitat, good steelhead spawning and rearing adjacent	
Habitat condition – note if assessment has been conducted		Conditions assessment completed in 2017	
Physical processes outcomes		Streambank protection	
Water supply subwatershed		Just upstream of Tait St Diversion	
Partners/Leverage potential		City partnership, grant from FWAC	
Cost		Low >\$25K	
Social benefits		Active neighborhood	
Reduce flood risk		Intact floodplain	
Is there data supporting prioritization existing?		Steelhead, ongoing problem area in the watershed	
Addresses limiting factors		temperature	
Degree of disturbance		Highly disturbed	
Location in relation to scale of impact (cumulative)		Lower watershed	
Can desired condition changes be measured?		Yes, plantings, invasives, erosion conditions etc.	
		Total	=

## APPENDIX B: Program Action Rankings

Riparian Conservation Program ACTIVITIES	Priority 1	Priority 2	Priority 3
<b>Data Collection and Assessment Reporting</b>			
Confirm methodologies to evaluate riparian condition to inform management and detect meaningful changes in condition. Implement program on main stem and key tributaries.	X		
Confirm method and detection for condition change: Riparian Condition Inventories		X	
Confirm method and detection for condition change: RipRAM Index of Riparian Quality or other		X	
Juvenile Steelhead and Stream Habitat Monitoring - evaluation of existing methods to identify possible new program	X		
Invasive and non-native inventory and mapping		X	
Flood hazard evaluation – mapping update		X	
<b>Protect Remaining Habitat by Implementing Existing Policies</b>			
Code compliance	X		
Cooperative stewardship with public and private landowners to enhance riparian areas	X		
Stream Wood Program – evaluation, outreach and modification of stream wood if necessary	X		
Riparian Corridor Protection Ordinance review and update (i.e., LWD, flows, karst protection, etc.)		X	
Riparian violations database			X
Required mitigation tracking		X	
<b>Riparian Habitat Protection and Restoration</b>			
Development of a San Lorenzo River Floodplain Easement Program to include assessment of needs, potential projects, and identity of implementation partners		X	
Develop framework for pursuing water rights, licensing, and forbearance agreements	X		
Develop framework for Riparian Mitigation Bank	X		
Prioritize future restoration sites		X	
Paradise Park Riparian and River Corridor Management Plan			X
Alignment of riparian goals with flood maintenance activities and homeless camps		X	
Develop riparian plant nursery to serve other program activities			X
<b>Education and Outreach</b>	<b>Priority 1</b>	<b>Priority 2</b>	<b>Priority 3</b>
“Streamside Neighborhood” Outreach and Education - focus	X		



areas include Zayante Creek, Bean Creek, Happy Valley, Felton Grove, Paradise Park			
Riparian plant provision, sample planting palettes, planting demonstrations	X		
Riparian demonstration garden (e.g., Felton Library)		X	
Reprint Santa Cruz County Stream Care Guide		X	
Increase riparian educational materials and web-based information – brand and co-distribute		X	
Increase outreach events (including at public gatherings and fairs and nurseries)		X	
Landowner Assistance Program (invasives, erosion, streambank stabilization, water rights, permitting, etc.)	X		
Youth outreach and education		X	

## APPENDIX C: Selected excerpts from local codes and ordinances and policy documents

### Santa Cruz County Code

#### Chapter 16.30 RIPARIAN CORRIDOR AND WETLANDS PROTECTION

##### 16.30.010 Purpose.

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The purpose of this chapter is to minimize and to eliminate any development activities in the riparian corridor, preserve, protect, and restore riparian corridors for: protection of wildlife habitat; protection of water quality; protection of aquatic habitat; protection of open space, cultural, historical, archaeological and paleontological, and aesthetic values; transportation and storage of floodwaters; prevention of erosion; and to implement the policies of the General Plan and the Local Coastal Program Land Use Plan. [Ord. 3335 § 1, 1982; Ord. 2460, 1977].

##### 16.30.020 Scope.

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This chapter sets forth rules and regulations to limit development activities in riparian corridors; establishes the administrative procedure for the granting of exceptions from such limitations; and establishes a procedure for dealing with violations of this chapter. This chapter shall apply to both private and public activities including those of the County and other such government agencies as are not exempted therefrom by State or Federal law. Any person doing work in nonconformance with this chapter must also abide by all other pertinent local, State and Federal laws and regulations. [Ord. 4166 § 3, 1991; Ord. 4027 § 5, 1989; Ord. 3335 § 1, 1982; Ord. 2460, 1977].

##### 16.30.025 Amendment.

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Any revision to this chapter which applies to the Coastal Zone shall be reviewed by the Executive Director of the California Coastal Commission to determine whether it constitutes an amendment to the Local Coastal Program. When an ordinance revision constitutes an amendment to the Local Coastal Program such revision shall be processed pursuant to the hearing and notification provisions of Chapter [13.03](#) SCCC and shall be subject to approval by the California Coastal Commission. [Ord. 3335 § 1, 1982].

##### 16.30.030 Definitions.

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All definitions shall be as defined in the General Plan or Local Coastal Plan glossaries, except as noted below:

“Agricultural use” means routine annual agricultural activities such as clearing, planting, harvesting, plowing, harrowing, disking, ridging, listing, land planning and similar operations to prepare a field for a crop.

"Arroyo" means a gully, ravine or canyon created by a perennial, intermittent or ephemeral stream, with characteristic steep slopes frequently covered with vegetation. An arroyo includes the area between the top of the arroyo banks defined by a discernible break in the slope rising from the arroyo bottom. Where there is no break in slope, the extent of the arroyo may be defined as the edge of the 100-year floodplain.

"Body of standing water" means any area designated as standing water on the largest scale U.S. Geological Survey topographic map most recently published, including, but not limited to, wetlands, estuaries, lakes, marshes, lagoons, and manmade ponds which now support riparian biota.

"Buffer" means the area abutting an arroyo where development is limited in order to protect riparian corridor or wetland. The width of the buffer is defined in SCCC 16.30.040(B).

"Development activities" shall include:

- (1) "Grading" means excavating or filling or a combination thereof; dredging or disposal of dredge material; mining; installation of riprap.
- (2) "Land clearing" means the removal of vegetation down to bare soil.
- (3) "Building and paving" means the construction or alteration of any structure or part thereof, including access to and construction of parking areas, such as to require a building permit.
- (4) "Tree and shrub removal" means the topping or felling of any standing vegetation greater than eight feet in height.
- (5) The deposition of refuse or debris.
- (6) The use of herbicides, pesticides, or any toxic chemical substances.
- (7) Any other activities determined by the Planning Director to have significant impacts on the riparian corridor.

"Disturbed area" means an area determined by the Planning Director to have experienced significant alteration from its natural condition. Such disturbance may typically consist of clearing, grading, paving, landscaping, construction, etc.

"Director" means the Planning Director or his or her designee.

"Emergency" means a sudden unexpected occurrence involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of or damage to life, health, property, or essential public services.

"Ephemeral stream" means a natural watercourse or portion thereof which flows only in direct response to precipitation, as identified through field investigations.

"Intermittent stream" means any watercourse designated by a dash-and-dots symbol on the largest scale U.S. Geological Survey topographic map most recently published, or when it has been field determined that a watercourse either:

- (1) Has a significant waterflow 30 days after the last significant storm; or
- (2) Has a well-defined channel, free of soil and debris.

"Minor proposal" means building remodels or additions less than 500 square feet or grading less than 100 cubic yards which takes place within a previously developed or disturbed area; tree removal or trimming for the purpose of mitigating hazardous conditions or allowing solar access; drainage structures (e.g., culverts, downdrains, etc.); erosion control structures (e.g., retaining walls, riprap, checkdams, etc.); emergency measures requiring prompt action; resource management programs carried out under the auspices of a government agency; development activities within buffer which do not require a discretionary permit; other projects of similar nature determined by the Planning Director to cause minimal land disturbance and/or benefit the riparian corridor.

"Perennial stream" means any watercourse designated by a solid line symbol on the largest scale U.S. Geological Survey topographic map most recently published or verified by field investigation as a stream that normally flows throughout the year.

"Riparian corridor" means any of the following:

- (1) Lands within a stream channel, including the stream and the area between the mean rainy season (bankfull) flowlines;
- (2) Lands extending 50 feet (measured horizontally) out from each side of a perennial stream. Distance shall be measured from the mean rainy season (bankfull) flowline;
- (3) Lands extending 30 feet (measured horizontally) out from each side of an intermittent stream. Distance shall be measured from the mean rainy season (bankfull) flowline;
- (4) Lands extending 100 feet (measured horizontally) from the high water mark of a lake, wetland, estuary, lagoon or natural body of standing water;
- (5) Lands within an arroyo located within the urban services line, or the rural services line;

- (6) Lands containing a riparian woodland.

"Riparian vegetation/woodland" means those plant species that typically occur in wet areas along streams or marshes. A woodland is a plant community that includes these woody plant species that typically occur in wet areas along streams or marshes. Characteristic species are: Black Cottonwood (*Populus trichocarpa*), Red Alder (*Alnus oregona*), White Alder (*Alnus rhombifolia*), Sycamore (*Plantanus racemosa*), Box Elder (*Acer negundo*), Creek Dogwood (*Cornus californica*), Willow (*Salix*).

"Vegetation" means any species of plant. [Ord. 4346 § 69, 1994; Ord. 3601 § 1, 1984; Ord. 3441 § 1, 1983; Ord. 3335 § 1, 1982; Ord. 2800, 1979; Ord. 2536, 1978; Ord. 2535, 1978].

#### **16.30.040 Protection.**

No person shall undertake any development activities other than those allowed through exemptions and exceptions as defined below within the following areas:

- (A) Riparian corridors.

- (B) Areas within the urban services line or rural services line which are within a buffer zone as measured from the top of the arroyo. All projects located on properties abutting an arroyo shall be subject to review by the Planning Director. The width of the buffer shall be determined according to the following criteria:

#### **CRITERIA FOR DETERMINING BUFFER FROM ARROYOS**

<b>Character of Vegetation in Buffer</b>						
	<b>Riparian Vegetation</b>			<b>Live Oak or Other Woodland</b>		
Average slope within 30 feet of edge	20—30%	10—20%	0—10%	20—30%	10—20%	0—10%
Buffer distance (feet) from: perennial streams	50	50	50	50	40	30
Buffer distance (feet) from: intermittent streams	50	40	30	30	30	20
Buffer distance (feet) from: ephemeral streams	30	30	20	20	20	20

The buffer shall always extend 50 feet from the edge of riparian woodland and 20 feet beyond the edge of other woody vegetation as determined by the drip-line, except as provided for in SCCC 16.30.060. Once the buffer is determined, a 10-foot setback from the edge of the buffer is required for all structures, to allow for construction equipment and use of yard area.

See allowable density credits within the General Plan.

### CRITERIA FOR DETERMINING BUFFER FROM ARROYOS

Character of Vegetation in Buffer						
	Grassland or Other			Buffer Area Is Developed or Otherwise Disturbed (does not include recent clearing)		
Average slope within 30 feet of edge	20—30%	10—20%	0—10%	20—30%	10—20%	0—10%
Buffer distance (feet) from: perennial streams, bodies of water	50	30	20	30	20	20
Buffer distance (feet) from: intermittent streams	30	20	10	20	10	10
Buffer distance (feet) from: ephemeral streams	20	10	10	20	10	10

The buffer shall always extend 50 feet from the edge of riparian woodland and 20 feet beyond the edge of other woody vegetation as determined by the drip-line, except as provided for in SCCC 16.30.060. Once the buffer is determined, a 10-foot setback from the edge of the buffer is required for all structures, to allow for construction equipment and use of yard area.

See allowable density credits within the General Plan.

[Ord. 4346 § 70, 1994; Ord. 3335 § 1, 1982; Ord. 2460, 1977].

#### **16.30.050 Exemptions.**

The following activities shall be exempt from the provisions of this chapter.

(A) The continuance of any preexisting nonagricultural use, provided such use has not lapsed for a period of one year or more. This shall include change of uses which do not significantly increase the degree of encroachment into or impact on the riparian corridor as determined by the Planning Director.

- (B) The continuance of any pre-existing agricultural use, provided such use has been exercised within the last five years.
- (C) All activities listed in the California Food and Agriculture Code pursuant to the control and eradication of a pest as defined in Section [5006](#), Food and Agriculture Code, as required or authorized by the County Agricultural Commissioner.
- (D) Drainage, erosion control, or habitat restoration measures required as a condition of County approval of a permitted project. Plans for such measures shall be reviewed and approved by the Planning Director.
- (E) In areas outside of the Coastal Zone, the operation, repair, and maintenance of the Pajaro River and Salsipuedes Creek levees and the areas within the levees, for the purpose of restoring flood conveyance capacity, including bench excavation, sediment removal, and similar projects, if all of the following conditions are met:
- (1) The work is conducted by or under the direction of the Department of Public Works;
  - (2) The work is in accordance with a streambed alteration agreement approved by the California Department of Fish and Game, to the extent that such an agreement is required; and
  - (3) The project has been subjected to environmental review with the County of Santa Cruz serving as the lead agency. [Ord. 4790 § 2, 2005; Ord. 4577 § 12, 1999; Ord. 4474-C § 5, 1998; Ord. 4374 § 2, 1995; Ord. 3335 § 1, 1982; Ord. 2537, 1978; Ord. 2460, 1977].

#### **16.30.060 Exceptions.**

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Exceptions and conditioned exceptions to the provisions of this chapter may be authorized in accordance with the following procedures:

- (A) Application. Application for an exception granted pursuant to this chapter shall be made in accordance with the requirements of Chapter [18.10](#) SCCC, Level III or V, and shall include the following:
- (1) Applicant's name, address, and telephone number.
  - (2) Property description. The Assessor's parcel number, the location of the property and the street address if any.
  - (3) Project description. A full statement of the activities to be undertaken, mitigation measures which shall be taken, the reasons for granting such an exception, and any other information pertinent to the findings prerequisite to the granting of an exception pursuant to this section.

(4) Two sets of plans indicating the nature and extent of the work proposed. The plans shall depict property lines, landmarks and distance to existing watercourse; proposed development activities, alterations to topography and drainage channels; mitigation measures, including details of erosion control or drainage structures, and the extent of areas to be revegetated. Plans shall be a minimum size of 18 inches by 24 inches, except that plans for minor proposals may be a minimum size of eight and one-half inches by 11 inches.

(5) Applicant's property interest or written permission of the owner to make application.

(6) Requested information. Such further information as the Planning Director may require.

(7) Fees. The required filing fee, set by resolution of the Board of Supervisors, shall accompany the application.

(B) Notice. Notices of all actions taken pursuant to this chapter shall be in accordance with the requirements of Chapter [18.10](#) SCCC.

(C) Proposals for minor riparian exceptions may be acted upon at Level III and proposals for major riparian exceptions may be acted upon at Level V pursuant to Chapter [18.10](#) SCCC.

(D) Findings. Prior to the approval of any exception, the Zoning Administrator shall make the following findings:

(1) That there are special circumstances or conditions affecting the property;

(2) That the exception is necessary for the proper design and function of some permitted or existing activity on the property;

(3) That the granting of the exception will not be detrimental to the public welfare or injurious to other property downstream or in the area in which the project is located;

(4) That the granting of the exception, in the Coastal Zone, will not reduce or adversely impact the riparian corridor, and there is no feasible less environmentally damaging alternative; and

(5) That the granting of the exception is in accordance with the purpose of this chapter, and with the objectives of the General Plan and elements thereof, and the Local Coastal Program Land Use Plan.

(E) Conditions. The granting of an exception may be conditioned by the requirement of certain measures to ensure compliance with the purpose of this chapter. Required measures may include, but are not limited to:

(1) Maintenance of a protective strip of vegetation between the activity and a stream, or body of standing water.



The strip should have sufficient filter capacity to prevent significant degradation of water quality, and sufficient width to provide value for wildlife habitat, as determined by the Zoning Administrator.

- (2) Installation and maintenance of water breaks.
- (3) Surface treatment to prevent erosion or slope instabilities.
- (4) Installation and maintenance of drainage facilities.
- (5) Seeding or planting of bare soil.
- (6) Installation and maintenance of a structure between toe of the fill and the high water mark.
- (7) Installation and maintenance of sediment catch basins.

(F) Concurrent Processing of Related Permits. An application for exception may be processed concurrently with applications for discretionary permits required for the activity in question. No ministerial permit(s) for the activities in question shall be issued until an exception has been authorized. All discretionary permits for the activity in question shall include all conditions included in the exception.

Where associated discretionary permits are authorized by the Planning Commission or Board of Supervisors, that body shall be authorized to act in place of the Zoning Administrator in considering an application for an exception if the applications are considered concurrently.

(G) Expiration. Unless otherwise specified, exceptions issued pursuant to this chapter shall expire one year from the date of issuance if not exercised. Where an exception has been issued in conjunction with a development permit granted pursuant to Chapter [18.10](#) SCCC, the exception shall expire in accordance with the provisions of Chapter [18.10](#) SCCC. [Ord. 3441 § 2, 1983; Ord. 3335 § 1, 1982; Ord. 2800, 1979; Ord. 2506, 1977; Ord. 2460, 1977].

#### **16.30.070 Inspection and compliance.**

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The Planning Director may conduct inspections to ensure compliance with this chapter.

(A) Inspection. The following inspections may be performed by the Director:

- (1) A pre-site inspection to determine the suitability of the proposed activity and to develop necessary conditions for an exception.
- (2) A final inspection to determine compliance with conditions, plans and specifications.

These inspections may take place concurrent with inspections required by any permits necessary for the activities in question.

(B) Notification. The permittee shall notify the Director 24 hours prior to start of the authorized work and also 24 hours prior to the time he or she desires a required inspection.

(C) Right of Entry. The application for exception constitutes a grant of permission for the County to enter the permit area for the purpose of administering this chapter from the date of the application to the termination of any erosion control maintenance period. If necessary, the Director shall be supplied with a key or lock combination or be permitted to install a County lock. [Ord. 3335 § 1, 1982; Ord. 2800, 1979; Ord. 2506, 1977; Ord. 2460, 1977].

#### **16.30.080 Violations.**

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(A) It shall be unlawful for any person to do, cause, permit, aid, abet, suffer or furnish equipment or labor for any development activity within a riparian corridor as defined in SCCC 16.30.030 unless either (1) a development permit has been obtained and is in effect which authorizes the development activity as an exception; or (2) the activity is exempt from the requirement for a development permit by the provisions of SCCC 16.30.050.

(B) It shall be unlawful for any person to do, cause, permit, aid, abet, suffer or furnish equipment or labor for any development activity within a buffer zone of an arroyo as defined in SCCC 16.30.030 and as prescribed by the provisions of SCCC 16.30.040(B) unless either (1) a development permit has been obtained and is in effect which authorizes the development activity as an exception; or (2) the activity is exempt from the requirement for a development permit by the provisions of SCCC 16.30.050.

(C) It shall be unlawful for any person to exercise a development permit authorizing development activity as an exception without complying with all of the conditions of such permit.

(D) It shall be unlawful for any person to knowingly do, cause, permit, aid, abet or furnish equipment or labor for any work in violation of a stop work notice from and after the date it is posted on the site until the stop work notice is authorized to be removed by the Planning Director. [Ord. 3451-A § 18, 1983; Ord. 3335 § 1, 1982; Ord. 2800, 1979; Ord. 2506, 1977; Ord. 2460, 1977].

#### **16.30.110 Appeals.**

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All appeals of actions taken pursuant to the provisions of this chapter shall be made in conformance to the procedures of Chapter [18.10](#) SCCC. [Ord. 3441 § 3, 1983; Ord. 3335 § 1, 1982; Ord. 2800, 1979; Ord. 2506, 1977; Ord. 2460, 1977].

## **Santa Cruz County Code**

### **Chapter 16.32 SENSITIVE HABITAT PROTECTION**

#### **16.32.010 Purposes.**

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The purposes of this chapter are to minimize the disturbance of biotic communities which are rare or especially valuable because of their special nature or role in an ecosystem, and which could be easily disturbed or degraded by human activity; to protect and preserve these biotic resources for their genetic, scientific, and educational values; and to implement policies of the General Plan and the Local Coastal Program Land Use Plan. [Ord. 3442 § 1, 1983; Ord. 3342 § 1, 1982].

#### **16.32.020 Scope.**

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This chapter sets forth rules and regulations for evaluating the impacts of development activities on sensitive habitats; establishes the administrative procedures for determining whether and what type of limitations to development activities are necessary to protect sensitive habitats; and establishes a procedure for dealing with violations of this chapter. This chapter shall apply to both private and public activities including those of the County and other such government agencies where not exempted therefrom by State or Federal law. Any person doing work in conformance with this chapter must also abide by all other pertinent local, State and Federal laws and regulations. [Ord. 4166 § 4, 1991; Ord. 4027 § 6, 1989; Ord. 3442 § 1, 1983; Ord. 3342 § 1, 1982].

#### **16.32.040 Definitions.**

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All terms used in this chapter shall be as defined in the General Plan and Local Coastal Program Land Use Plan and as follows:

“Development/development activity” means, on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including but not limited to subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; reconstruction, demolition, alteration or improvement of any structure in excess of 50 percent of the existing structure's fair market value, including any facility of any private, public or municipal utility; the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973; the disturbance of any rare, endangered, or locally unique plant or animal or its habitat.

Sensitive Habitat. An area is defined as a “sensitive habitat” if it meets one or more of the following criteria:

- (1) Areas of special biological significance as identified by the State Water Resources Control Board.
- (2) Areas which provide habitat for locally unique biotic species/communities including but not limited to: oak woodlands, coastal scrub, maritime chaparral, native rhododendrons and associated Elkgrass, indigenous Ponderosa Pine,

indigenous Monterey Pine, mapped grassland in the Coastal Zone and sand parkland; and special forests including San Andreas Oak Woodlands, indigenous Ponderosa Pine, indigenous Monterey Pine and ancient forests.

(3) Areas adjacent to essential habitats of rare, endangered or threatened species as defined in subsections (5) and (6) of this definition.

(4) Areas which provide habitat for species of special concern as listed by the California Department of Fish and Game in the special animals list, natural diversity database.

(5) Areas which provide habitat for rare or endangered species which meet the definition of Section 15380 of the California Environmental Quality Act guidelines.

(6) Areas which provide habitat for rare, endangered or threatened species as designated by the State Fish and Game Commission, United States Fish and Wildlife Service or California Native Plant Society.

(7) Nearshore reefs, rocky intertidal areas, seacaves, islets, offshore rocks, kelp beds, marine mammal hauling grounds, sandy beaches, shorebird roosting, resting and nesting areas, cliff nesting areas and marine, wildlife or educational/research reserves.

(8) Dune plant habitats.

(9) All lakes, wetlands, estuaries, lagoons, streams and rivers.

(10) Riparian corridors.

#### **16.32.060 Approval required.**

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(A) Except as provided in subsection (B) of this section, no person shall commence any development activity within an area of biotic concern until a biotic approval has been issued unless such activity has been reviewed for biotic concerns concurrently with the review of a development or land-division application pursuant to Chapter [18.10](#) SCCC, Level III.

#### **16.32.090 Approval conditions.**

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(A) Conditions of approval shall be determined by the Environmental Coordinator through the environmental review process. These conditions may be based on the recommendations of the biotic assessment or biotic report and shall become conditions of any subsequent approval issued for the property. Such conditions shall also apply to all development activities engaged in on the property. Any additional measures deemed necessary by the Decision-Making Body shall also become development permit conditions. Exceptions may be granted by the Decision-Making Body subject to the provisions of SCCC 16.32.100.

(B) The following conditions shall be applied to all development within any sensitive habitat area:

- (1) All development shall mitigate significant environmental impacts, as determined by the Environmental Coordinator.
- (2) Dedication of an open space or conservation easement or an equivalent measure shall be required as necessary to protect the portion of a sensitive habitat which is undisturbed by the proposed development activity or to protect a sensitive habitat on an adjacent parcel.
- (3) Restoration of any area which is a degraded sensitive habitat or has caused or is causing the degradation of a sensitive habitat shall be required; provided, that any restoration required shall be commensurate with the scale of the proposed development.

#### **16.32.105 Exemption.**

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Existing commercial agricultural operations and related activities, but not establishment or expansion of any biomedical livestock operation, shall be exempt from the provisions of SCCC 16.32.060. Any development activity which has received a riparian exception approved according to the provisions of Chapter [16.30](#) SCCC (Riparian Corridors and Wetlands Protection) may be exempted from the provisions of this chapter if the Planning Director determines that such development activity has received a review, in connection with the granting of the riparian exception, equivalent to the review that would be required by this chapter. [Ord. 4474-C § 8, 1998; Ord. 3442 § 1, 1983; Ord. 3342 § 1, 1982].

#### **16.32.130 Violations.**

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(A) It shall be unlawful for any person at any time to do, cause, permit, aid, abet, suffer or furnish equipment or labor for any development activity within an area of biotic concern as defined in SCCC 16.32.040 unless: (1) a development permit has been obtained and is in effect which authorizes such development activity; or (2) the development activity has been reviewed for biotic concerns concurrently with the discretionary review of an approved permit required by SCCC Title [13](#) or [14](#), and a permit is in effect which authorizes the development activity within such area; or (3) the activity is exempt from the requirement for a development permit by the provisions of SCCC 16.32.105 and from the requirements for a coastal permit by the provisions of Chapter [13.20](#) SCCC.

(B) It shall be unlawful for any person to exercise a development permit which authorizes development activity within an area of biotic concern without complying with all of the conditions of such permit.

(C) It shall be unlawful for any person to use, cause, permit, aid, abet, suffer or furnish equipment or labor to use any toxic chemical substance in a sensitive habitat in such a way as to have a deleterious effect on the habitat unless: (1) an

emergency has been declared by a Federal, State, or County agency, or (2) such use has been deemed necessary by the California Department of Fish and Game to eliminate or reduce a threat to the habitat itself; or (3) a substantial risk to public health will exist if the toxic chemical substance is not used.

(D) It shall be unlawful for any person to refuse or fail to carry out measures as required by a notice of violation issued by the Planning Director under the provisions of SCCC 16.32.131.

(E) It shall be unlawful for any person to knowingly do, cause, permit, aid, abet or furnish equipment or labor for any work in violation of a stop work notice from and after the date it is posted on the site until the stop work notice is authorized to be removed by the Planning Director. [Ord. 3451-A § 20, 1983; Ord. 3442 § 1, 1983; Ord. 3342 § 1, 1982].

## **County of Santa Cruz**

### **2015 Steelhead and Coho Salmon Conservation Strategy**

In 2015, the County of Santa Cruz Board of Supervisors approved the Steelhead and Coho Conservation Strategy. The 19 high priority actions reflect County-related actions identified in the 3 local recovery plans for Central California Coast coho salmon, Central California Coast and South Central California Coast steelhead. One of the highest priority actions is for Riparian Corridors :

Develop a strategy pertaining to existing development within riparian corridors to enhance riparian and stream habitat. The strategy could include a combination of public outreach and education, incentives and enforcement for both developed properties that pre-date the ordinance and properties with issued permits and exceptions.

Both the Health Services Agency's Water Resources Program and Planning are currently working to develop a cooperative stewardship program to enhance riparian habitat within residential areas. In 2018, the Water Resources Program implemented the first pilot project at Paradise Park, which consisted of planting 3 small areas with native riparian vegetation.

### **San Lorenzo River Salmonid Enhancement Plan (2004)**

#### **Sediment Recommendations**

Recommendation S-5: Increase the width of no-impact riparian buffers where appropriate to protect aquatic habitat from excessive sedimentation.

In 2001, the County assessed the feasibility of increasing the width of riparian corridors in response to a recommendation from FishNet 4C (Central California Coastal Counties). At that time, it was determined that altering the existing Riparian Corridor Protection Ordinance to include geomorphic floodplain would be a challenging and expensive process that may result in non-conforming development and an ordinance more difficult to implement. Instead, implementation of the existing ordinance can be strengthened through revisions, clarifying guidelines for issuing exceptions, and creation of a riparian corridor inventory showing existing conditions.

#### **Large Woody Material Recommendations**

Recommendation WD-5: Encourage mixed stands of conifer and deciduous riparian forest.

## **City of Santa Cruz General Plan 2030**

### **GOAL NRC1 Protected, enhanced, and sustainably managed creek systems, riparian environments, and wetlands**

NRC1.1 Protect the city's river and wetland areas while increasing and enhancing public access where appropriate.

NRC1.1.1 Require setbacks and implementation of standards and guidelines for development and improvements within the city and adjacent to creeks and wetlands as set forth in the *City-wide Creeks and Wetlands Management Plan*.

NRC1.1.4 Re-vegetate plants native to the specific habitat in buffer/setback areas adjacent to creeks and wetlands.

NRC1.1.5 Where appropriate, provide educational signs about water conservation practices and plantings.

NRC1.2 Encourage low impact uses and practices in watershed lands upstream of the city's riverine, stream, and riparian environments.

NRC1.2.1 Evaluate new uses for potential impacts to watershed, riverine, stream, and riparian environments.

NRC1.2.2 Work with local and regional agencies to implement strategies to reduce or mitigate impacts of uses and development within the City's watershed lands.

NRC1.3 Encourage the restoration and enhancement of existing riparian corridors, wetlands, and water resources.

NRC1.3.1 Conserve creek, riparian, and wetland resources in accordance with the adopted *City-wide Creeks and Wetlands Management Plan* and the San Lorenzo River Plan.

### **GOAL NRC2 Protected, enhanced, and sustainable native and natural plant and animal communities and habitats**

NRC2.2 Protect sensitive habitat areas and important vegetation communities and wildlife habitat, to include riparian, wetland (salt marsh and freshwater



wetland), coastal prairie, coastal bird habitat, and habitat that support special status species, as well as, sensitive and edge habitats (“ecotones”).

NRC2.2.1 As part of the CEQA review process for development projects, evaluate and mitigate potential impacts to sensitive habitat (including special-status species) for sites located within or adjacent to these areas.

## **City of Santa Cruz**

### **Title 24: Zoning**

#### **Chapter 24.14 Environmental Resource Management**

##### **24.14.080 WILDLIFE HABITATS AND PLANT COMMUNITIES.**

1. Applicability. The provisions of this section shall apply to Wildlife Habitat Areas and Plant Communities identified in Maps EQ-8 and EQ-9 of the Environmental Quality Element of the General Plan and Coastal Land Use Plan or as designated as part of an environmental review process.
2. Precise Boundaries of Designated Areas. Except for areas defined by the City-wide Creeks and Wetlands Management Plan, the precise boundary of areas identified in subsection (1), above shall be determined on a case-by-case basis by a biologist with relevant academic training and experience in instances of uncertainty.
3. Wildlife Habitats and Plant Communities. Construction, grading or removal of vegetation shall be permitted within wildlife habitats and plant communities where:
  - a. The development or project is in conformance with Section [24.08.2100](#) and with the policies of the City-wide Creeks and Management Plan.
  - b. Existing vegetation is preserved to the maximum extent possible;
  - c. The integrity of the area as a habitat is not compromised;
  - d. Landscaping is designed to provide a natural buffer and provide native food-bearing plant species to the greatest extent feasible;
  - e. Protected species under the federal Endangered Species Act, the California Endangered Species Act, and the California Native Plant Protection Act are not present or jurisdictional permits from the appropriate state or federal agency have been received for their removal.
4. Preservation of Vegetation. In conjunction with any of the above-listed uses, the following shall apply with regard to the preservation of existing vegetation:
  - a. Removal or planting of vegetation shall be in conformance with Section [24.08.2100](#) and with the policies of the City-wide Creeks and Wetlands

Management Plan.

- b. Existing vegetation shall be preserved to the maximum extent possible.
- c. Existing trees or tree stands located on a site for which a discretionary permit is required shall not be removed until such a permit is approved by the decision-making body.
- d. Trees subject to the Heritage Tree Ordinance and other trees designated for protection by a development proposal shall be protected through the use of barricades or other appropriate methods during the construction phases.
- e. Landscaping, grading and building design shall ensure ongoing viability of remaining vegetation.
- f. Wherever removal of vegetation is necessitated by any of the above uses, replacement vegetation of an equivalent kind, quality and quantity shall be provided

## **Santa Cruz County Conservation Blueprint**

### **4.5.2 Water Resources**

1. Focus land conservation partnerships in watersheds that protect critical drinking water supplies and protect groundwater recharge areas.
2. Protect large blocks of interconnected public and private conservation lands to capture the widest range of hydrologic functions and processes (fog drip, recruitment of large woody debris, water purification, flood control, groundwater recharge) to buffer against changing climate conditions.
3. Coordinate efforts to link land conservation projects with regional water supply and water quality enhancement projects through the Integrated Regional Water Management Plans and the Watershed Restoration Program.
4. Prepare comprehensive watershed assessments to identify habitat restoration and water quality enhancement priorities and work with the Integrated Watershed Restoration Program (IWRP) to implement projects in the Lower Pajaro River and Watsonville Sloughs, San Lorenzo River, with emphasis on Zayante and Bean creeks, and Soquel, Corralitos, San Vicente and Laguna creeks.
5. Develop a program using easements or other landowner incentives to protect undeveloped floodplains with intact riparian vegetation for biodiversity, flood protection and water quality.
6. Encourage reduced agricultural water use and implement water-saving conservation practices through incentive programs, conservation easements and funding from conservation grant programs.
7. Support efforts by the County, Resource Conservation District and regulatory agencies to implement offstream water storage and recharge ponds.

8. Explore the feasibility and potential benefits of establishing a watershed restoration mitigation bank, where mitigation payments collected by local agencies could be used to fund land conservation and stewardship projects.

### **6.3.2 Water Rights**

#### *Strategy 1A: Protect Surface and Groundwater Supplies.*

**1.A.5 Riparian Areas.** Protect streams and associated floodplains and riparian habitats to maximize recharge potential, water quality protection, and flood attenuation that occurs in these areas. Coordinate efforts between land conservation organizations and local agencies to establish a Riparian Conservation Easement Program that complements existing riparian protection ordinances through landowner incentives and education.

#### *Strategy 2A: Protect significant water resource areas.*

**2.A.1 Land Conservation.** Work with willing sellers to acquire fee title or conservation easements, or enter into long-term management agreements, to protect lakes, riparian areas, wetlands, and other water resources, especially where there are opportunities to protect areas critical for biodiversity (Chapter 5). Strive to protect natural buffer areas adjacent to water resources to capture and filter pollutants before they enter these waters.

**2.A.2 Coordinated Management.** Seek funding to implement and prepare comprehensive management plans for critical water resources, including wetland complexes, riparian corridors, and areas located immediately upstream or upgradient of intakes used for public water supplies. Work with water purveyors to explore the benefits of conservation easements or other tools to help protect designated Surface Water Protection Zones.

**2.A.5 Effective Policies and Programs.** Support existing water resource policies and programs that establish protections for riparian corridors and wetlands, limit development in sensitive water resource areas, and address protection of surface and groundwater quality.

#### *Strategy 3A: Protect Watershed Integrity.*

**3.A.3 Stream, Floodplain, and Wetland Restoration.** Protect and restore streams, riparian corridors, floodplains, and wetlands to mitigate against anticipated increases in seasonal flooding and inundation under conservative climate projections. Expand use of NRCS Floodplain Easement and Wetland Reserve Programs to help secure funding for these sites.

3.A.4 **Effective Policies.** Support policies and programs that protect water supply watersheds, floodplains, riparian and wetland areas, and critical coastal streams.

**National Marine Fisheries Service Recovery Plan for the Evolutionary Significant Unit of Central Coast California Coho Salmon. 2012**

**8. Restoration- Riparian**

8.1. Objective: Address the present or threatened destruction, modification, or curtailment of habitat or range

8.1.1. Recovery Action: Implement ESU and population level recovery actions for Riparian Vegetation

**13. Threat - Channel Modification**

13.1. Objective: Address inadequacies of regulatory mechanisms

13.1.1. Recovery Action: Reduce adverse impacts to watershed processes

13.1.1.1. Action Step: Stream channel and estuarine habitats of four populations in the Stratum are impacted by channel modification. Projects should institute a net gain for these habitats and prevent further impairment.