

# SAN GERONIMO VALLEY

**FOREST  
KNOLLS**

**LAGUNITAS**

**SAN  
GERONIMO**

**WOODACRE**

0 0.25 0.5 0.75 1 Miles  
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**Legend**  
Community Plan Boundary



## PREPARATION OF A SITE ASSESSMENT FOR DEVELOPMENT LOCATED IN THE STREAM CONSERVATION AREA IN THE SAN GERONIMO VALLEY

September 17, 2021

*[Note: this document contains annotations]*

### Introduction

In accordance with the policy requirements of the Marin Countywide Plan and the Planning Application Submittal Checklist, a site assessment (SA) is required for any development located within the Stream Conservation Area (SCA) or where full compliance with all SCA criteria would not be met *[CWP BIO - 4.1]*. The SA requirement is most often identified in a “notice of project status” letter, typically issued by planning staff within one month after an application is submitted to the planning department. However, a SA may also be recommended prior to submittal of an application, such as during a Planning Consultation or Pre-application Review. A “notice of project status” letter typically provides a preliminary indication of potential issues that should be addressed in the SA.

The general objectives of a SA are to: (1) determine whether there are any sensitive biological resources such as wetlands, streams, or habitats for special status species in proximity to a proposed project; (2) accurately map any biological constraints on a project site plan; and (3) determine whether a project would result in potentially significant adverse biological impacts, pursuant to the California Environmental Quality Act (CEQA). Sensitive biological resources include the following: *[CWP BIO-4.1]*

- A. Plants or animals that are listed as rare, threatened, or endangered or as a species of special concern, pursuant to Federal or State law, and habitat essential to special-status species of plants and animals;
- B. Natural communities indicated as rare or threatened by the California Natural Diversity Data Base of the California Department of Fish and Wildlife; and
- C. Natural communities and associated buffers protected under the Marin Countywide Plan, including Wetland Conservation Areas (WCAs) and Stream Conservation Areas (SCAs).

### Conducting the Assessment

The scope of the SA should be limited to evaluating those areas that are within or near the proposed project and may reasonably be expected to be affected by any aspect of the project (i.e. new roads, construction areas and immediate surroundings, site grading, vegetation management, tree removal, etc.). The scope of the study should depend on the particular characteristics of the project and the area, and will often include an inventory of all plant communities on the site as well as a discussion of geological and hydrological features that are particularly relevant to biological resources. The consulting biologist should contact the planner assigned to the project to discuss the scope of the study prior to initiating any investigations. At a minimum, the scope of the study should include the following:

1. Review the “notice of project status” letter and any biological information provided by the Planning Division.

2. Review relevant biological protection policies contained in the Countywide Plan, as well as the biological protection policies of a local Community Plan.
3. Conduct a records search of the California Natural Diversity Data Base (CNDDDB) for the site and surrounding area as habitat conditions and regional species distributions dictate.
4. Review the book "Marin Flora" published by the California Academy of Sciences and California Native Plant Society (Howell et. al., 2007) for information on the location of special status plant species.
5. Review any biological assessments, arborist's reports, vegetation management plans, geotechnical reports, and hydrological reports recently prepared and available for the project, the site, and the surrounding area.
6. Visit the site to identify, evaluate, and map any sensitive biological resources that may be affected by the project.
7. Conduct a wetland delineation if wetland indicators are found within the study area. The wetland delineation should follow the Army Corps of Engineer's guidance for those projects located outside of the Coastal Zone.
8. For any stream, map the precise stream channel location, tops of bank and the extent of the Stream Conservation Area, including the upland extent of any riparian vegetation and riparian habitat found in the study area. Indicate if an additional buffer is necessary to protect riparian resources that extends beyond the SCA. *[CWP BIO-4.1]*
9. Identify riparian vegetation important to salmonids with common names, scientific names, and images *[FSEIR MM 5.1-1, Provision 4]*.
10. Identify any exotic or invasive plants.
11. Map ecological buffers that apply to the site, as defined in the Stream Conservation Area and Wetland Conservation Area policies of the Countywide Plan.
12. Determine whether any other biological studies should be conducted that evaluate the potential impacts of the project. Additional studies may be necessary to determine the extent of impacts to hydraulic capacity, habitat and water quality, including hydrological assessments, stream and riparian habitat studies, and stormwater analysis. A hydraulic and/or geomorphic assessment of on-site and downstream drainageways that are affected by project run-off may be required where there is evidence that significant current or impending channel instability is present, as determined by the County. The hydraulic and/or geomorphic assessment shall include an on-site channel or drainageway segments over which the applicant has control or access
13. Prepare a report, with attached photographs, field reports and maps as appropriate, describing the methods and findings of the SA. The findings of the report should be coordinated with all other technical studies and reports being prepared for the project.
14. Integrate maps of any sensitive biological resources that are found in the study area into project site plans that show other development constraints, landscaping and vegetation management, grading and erosion control, drainage and storm water control, site improvements and building construction

## Preparing the Report

The SA shall be prepared by a qualified professional with at least five years of experience assessing potential impacts to stream ecology, riparian ecology, hydrology, and the potential for impacts to anadromous salmonids from changes to these processes and conditions in coastal California. *[This complies with FSEIR Mitigation Measure 5.1-1, Provision 3]*. In partnership with the Marin Resource Conservation District, the County offers the expertise of the Urban Streams Coordinator to prepare the SA at the County's expense. Alternatively, the applicant may hire a qualified biologist at their own expense

In preparing the SA, the biologist should describe the methods used for the study and all sensitive biological resources that have been identified within the study area. In determining potential impacts, relevant policy documents and regulations should be consulted, including the CEQA Guidelines, Appendix G, Section IV. Biological Resources, which provides a list of sample questions that are intended to encourage thoughtful assessment of impacts in determining significance. In addition, per the Marin County EIR Guidelines, Appendix N, Criteria For Significance, the following questions regarding the determination of significance of impacts should be answered:

1. Would the project substantially reduce the number or restrict the range of a rare, endangered or threatened plant or animal?
2. would the project cause a fish or wildlife population to drop below self-sustaining levels?
3. Would the project adversely affect significant riparian lands, wetlands, marshes, and other significant wildlife habitats?

Based on the evidence collected and analyzed, the SA shall clearly recommend one of the following two conclusions regarding the project:

“The project will not result in any potentially significant adverse biological impacts to the environment.” or;

“The project could result in potentially significant adverse biological impacts to the environment.”

The Planning Division encourages early consultation with the Urban Streams Coordinator for guidance on incorporating elements that safeguard biological resources into the initial design of the project to help avoid any unintended environmental consequences. For example, if a property owner hires a biologist to map a Stream Conservation Area before preparing plans, it will be easier to design the project to avoid the sensitive area before submitting a formal development application that could require a SA. This type of preliminary biological research can reduce both the costs and time associated with the planning process.

If the SA recommends that the project could result in a potentially significant biological impact, then the Planning Division will require a peer review of the SA and/or a full biological assessment that identifies measures to mitigate the impacts of the project. The Planning Division will hire a qualified biologist to undertake any additional study, at the applicant's expense, unless this requirement is waived by the Director.

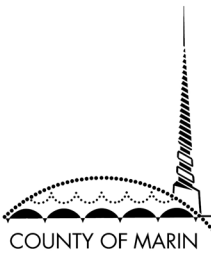
If the SA recommends that the project could result in potentially significant impacts to hydraulic capacity, habitat, or water quality, mitigation shall conform to the provisions below and shall be incorporated into the project or be required through conditions of approval. The SA shall present options for alternative mitigation that meet the following criteria:

- a. Include a schedule of mitigation work and development work. Mitigation shall be implemented prior to final inspection to minimize any short-term adverse impacts to hydraulic capacity, habitat, or water quality. Mitigation plans must, to the extent feasible, be designed so that mitigations are self-sustaining.
- b. Mitigation shall include measures that create a net environmental improvement over existing condition, in addition to local, state, and federal regulations. Such measures shall be commensurate with the nature and scope of the project and shall be determined at the site level.

The SA shall incorporate relevant *Standard Management Practices For Development Located Within the Stream Conservation Area in the San Geronimo Valley* unless the site-specific mitigation measures identified through the SA or environmental review would result in equal or greater environmental benefit.

## Appeals

The Site Assessment is a discretionary decision that may be appealed by an applicant or other concerned party in accordance with Marin County Development Code Chapter 22.114 – Appeals.



## DRAFT Standard Management Practices for Development Located in the Stream Conservation Area in the San Geronimo Valley

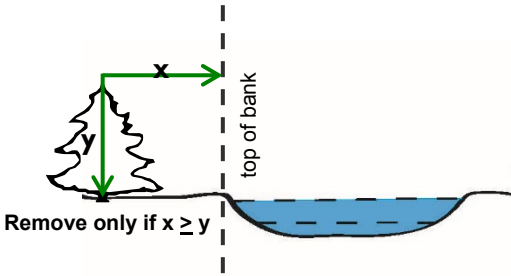
September 17, 2021

These Standard Management Practices (SMPs) shall apply to all development located within the Stream Conservation Area in the San Geronimo Valley for the protection of hydrologic processes, stream and riparian habitat, and water quality. Appropriate site specific SMPs would be identified through the site assessment unless mitigation measures identified through environmental review would result in equal or greater environmental benefit.

Please note other agencies at the local, regional, state, and federal level may require permits for work within or near a waterway

The California Department of Fish and Wildlife and/or National Marine Fisheries Service have reviewed these SMPs in compliance with FSEIR mitigation measure 5.1-1, Provision 4.

Riparian Vegetation and Habitat.			
Vegetation removal below top of bank may be subject to a Creek Permit from the Department of Public Works. ( <a href="http://www.marincounty.org/pw">http://www.marincounty.org/pw</a> )			
Distance (Top of Bank)	Management Practice	✓	Source
Stream channel	1. Retain large woody debris to protect and enhance fish habitat, except in cases where removal is essential to protect against property damage or to prevent safety hazards. A site assessment may be required to confirm the avoidance of woody riparian vegetation. <i>(See also #8).</i>	<input type="checkbox"/>	CWP BIO-4.1 & BIO-4.f
0-35 feet	2. Do not remove tree roots or grind stumps.	<input type="checkbox"/>	2013 SMP
0-15 feet	3. Do not remove any (native) riparian vegetation.	<input type="checkbox"/>	2013 SMP
15 feet to outer limits of SCA	4. Replace areas of herbaceous riparian vegetation that have been temporarily disturbed by construction using a native seed mix comprised of San Francisco Bay Area native species. Apply native seed mix at a rate of 40 lbs/acre.	<input type="checkbox"/>	2013 SMP
15-35 feet	5. Do not remove saplings or riparian shrubs $\geq$ 125 square feet in total canopy area.	<input type="checkbox"/>	2013 SMP
35 feet to limits of SCA	6. Do not remove saplings or riparian shrubs $\geq$ 250 square feet in total canopy area.	<input type="checkbox"/>	2013 SMP
Entire SCA	7. Identify all riparian vegetation (common names, scientific names, and images) important for salmonids	<input type="checkbox"/>	MM 5.2-1, Provision 4
Entire SCA	8. Minimize disturbance to woody and herbaceous riparian vegetation in SCAs and adjacent areas. A site assessment may be required to confirm the avoidance of woody riparian vegetation. <i>(See also #1).</i>	<input type="checkbox"/>	CWP BIO-4.1 & BIO-4.f
Entire SCA	9. <b>Restore Damaged Portions of SCAs.</b> Restore damaged portions of the Stream Conservation Area to its natural state wherever possible. Reestablish as quickly as possible any herbaceous and woody vegetation that must be removed, replicating the structure and species composition of indigenous	<input type="checkbox"/>	CWP BIO-4.8

		native riparian vegetation.		
Entire SCA	10.	<p><b>Tree or Shrub Removal.</b> Do not remove any tree or shrub if the distance from the base of the trunk to the top of stream bank is less than its overall height (a 1:1 ratio).<sup>1</sup></p> 	<input type="checkbox"/>	2013 SMP
Entire SCA	11.	<b>Tree Removal.</b> Do not remove more than two trees (not including saplings) <sup>1</sup> .	<input type="checkbox"/>	2013 SMP
Entire SCA	12.	<b>Replace Vegetation.</b> When removal of native riparian vegetation is unavoidable, replace with native trees, shrubs and ground covers on-site at a 2:1 ratio using species recommended in <a href="#">the San Geronimo Valley Salmon Enhancement Plan</a> at a rate sufficient to replicate, after a period of five years, the appropriate density and structure of vegetation removed. The replacement and enhancement planting shall be monitored for no less than five years and until the restored vegetation provides for a minimum replacement or enhancement ratio of 2:1.	<input type="checkbox"/>	CWP Program BIO-4.i
Entire SCA	13.	<p><b>Riparian Tree Replacement.</b> Replace riparian trees with native riparian trees on-site at a 2:1 ratio. If on-site mitigation is not feasible, riparian trees shall be replaced off-site at a 3:1 ratio in a functionally equivalent riparian area of San Geronimo Creek or its major tributaries (North fork San Geronimo Creek, Woodacre Creek, Montezuma Creek, Arroyo/Barranca/El Cerrito Complex, Larsen creek) within reaches accessible to anadromous salmonids.</p> <p>Replacement trees should be of the same species as the tree being removed and shall be irrigated as needed to ensure survival for a minimum of five years.</p> <ul style="list-style-type: none"> <li>• Broadleaf trees should be replaced by broadleaf trees using a #5 container.</li> <li>• Coniferous trees should be replaced by coniferous trees using a #15 container.</li> <li>• Willow trees should be replaced by willow trees using a 1- inch diameter, 4-foot length cutting.</li> </ul> <p>Trees that do not survive for a minimum of five years shall be replaced according to the above requirements.</p>	<input type="checkbox"/>	MM 5.1-1, Provision 4
Entire SCA	15.	Do not use heavy equipment (i.e., bobcats, tractors, dozers, etc.) for initial clearing of vegetation, leaf litter, and other debris.	<input type="checkbox"/>	2013 SMP
Entire SCA	16.	<b>Exterior Lighting.</b> For new outdoor lighting, use low-wattage fixtures that should be directed downward and shielded to direct light away from vegetated riparian areas. Do not use lighting, such as globe fixtures, that directs lighting in an upward or uncontrolled direction.	<input type="checkbox"/>	2013 SMP
<b>Water Quality &amp; Hydraulic Capacity</b>				
<b>Agencies at the local, regional, state, and federal level may require permits for work within or near any waterway.</b>				
Stream Channel	17.	<b>Retain Hydraulic Capacity.</b> Retain and, where possible, restore the hydraulic capacity and natural functions of stream channels. Discourage alteration of the bed or banks of the stream, including filling, grading, excavating, and installation of storm drains, French drains, and culverts. When feasible, replace impervious surfaces with pervious surfaces. In no case shall alterations that create barriers to fish migration be allowed.	<input type="checkbox"/>	CWP BIO-4.4
Stream Channel	18.	<b>Channel Alteration for Flood Control.</b> Alteration of channels for flood control shall be designed and constructed in a manner that retains and protects the riparian vegetation, allows for sufficient	<input type="checkbox"/>	CWP BIO-4.4

<sup>1</sup> A Tree Removal Permit is required for the removal of a “Protected Tree” or “Heritage Tree” within the SCA.

		capacity and natural channel migration, and allows for reestablishment of woody trees and shrubs without compromising the flood flow capacity where avoidance of existing riparian vegetation is not possible. Alteration of natural channels for flood control shall be designed and constructed in a manner that retains and protects the riparian vegetation, allows for sufficient capacity and natural channel migration, and allows for reestablishment of woody trees and shrubs without compromising the flood flow capacity where the removal of existing riparian vegetation cannot be avoided.		
Stream Channel	19.	<b>Channel and Flow Alteration.</b> Alteration of stream channels or reduction in flow volumes are only allowed after completion of environmental review, commitment to appropriate mitigation measures, and issuance of appropriate permits by jurisdictional agencies based on determination of adequate flows necessary to protect fish habitats, water quality, riparian vegetation, natural dynamics of stream functions, groundwater recharge areas, and downstream users.	<input type="checkbox"/>	CWP BIO - 4.16
Stream Channel	20.	<b>Maintain Channel Stability.</b> Improvements that would cause or exacerbate existing channel instabilities shall be coupled with a channel stabilization program that would maintain peak flows at pre-project levels, or less, in accordance with hydrological or geomorphic assessment, or comply with the mitigations generated during the required environmental review process. Mitigations shall include maintenance of peak flows at pre- and post-project levels, or less. Proposed stabilization measures shall anticipate project-related changes to the drainageway flow regime. All bank stabilization projects shall conform to FSEIR Mitigation Measure 5.1-2: Require Biotechnical Techniques and Salmonid Habitat Enhancement Elements For All Bank Stabilization Projects.	<input type="checkbox"/>	CWP BIO- 4.19
Stream Channel	21.	<b>Restore and Stabilize Stream Channels.</b> Restore streams through appropriate channel redesign where sufficient right-of-way exists that includes the following: a hydraulic design, a channel plan form, a composite channel cross-section that incorporates low flow and bankfull channels, removal and control of invasive exotic plant species, and biotechnical bank stabilization methods to promote quick establishment of riparian trees and other native vegetation. All bank stabilization projects shall conform to FSEIR Mitigation Measure 5.1-2: Require Biotechnical Techniques and Salmonid Habitat Enhancement Elements For All Bank Stabilization Projects.	<input type="checkbox"/>	CWP BIO-4.5
Stream Channel	22.	<b>Protect Riparian Vegetation.</b> Retain riparian vegetation for stabilization of streambanks, moderating water temperatures, trapping and filtering sediments and other water pollutants, allowing nutrient cycling, providing wildlife habitat, and for aesthetic purposes.	<input type="checkbox"/>	CWP BIO-4.7
Stream Channel	23.	<b>Control Exotic (Non-Native, Invasive) Vegetation.</b> Remove and replace invasive exotic plants with native plants as part of stream restoration projects.	<input type="checkbox"/>	CWP BIO-4.6
Entire SCA	24.	<b>Promote Natural Stream Function.</b> Permitted work shall not result in alterations that directly or indirectly create barriers to fish migration near or within streams mapped as currently and/or historically supporting salmonids.	<input type="checkbox"/>	CWP BIO-4.4
Entire SCA	25.	<b>Permeable Surfaces.</b> Incorporate permeable surfaces in project design, such as paver stones, turf block, and permeable asphalts and pavements for easy ways to manage runoff.	<input type="checkbox"/>	CWP BIO 4.18
Entire SCA	26.	<b>New or replaced impervious areas</b> (e.g., roofs, paving, or hardscape) shall not drain directly to storm drains or streams (i.e., run-off must disperse across a pervious, vegetated surface).	<input type="checkbox"/>	2013 SMP
Entire SCA	27.	<b>Disperse runoff from new or replaced impervious areas.</b> Such runoff shall be dispersed in accordance with <a href="#">Marin County Stormwater Pollution Prevention Program</a> requirements.	<input type="checkbox"/>	2013 SMP
Entire SCA	28.	If runoff from new or replaced impervious areas is not dispersed to pervious areas, it must be directed to a bioretention facility built to the design standard of NPDES Phase II permit Provision E.12. Refer to the <a href="#">Marin County Stormwater Pollution Prevention Program</a> for guidance.	<input type="checkbox"/>	2013 SMP
Entire SCA	29.	Underdrain and overflow from the bioretention facility shall be connected to an existing drainage system or dispersed downgradient using perforated pipe dissipaters. If overflow is discharged above surface, install energy dissipator at all outlets to reduce erosion.	<input type="checkbox"/>	2013 SMP
<b>Construction Phase – Pollution Prevention</b>				
Entire SCA	32.	<b>Erosion and Sediment Control.</b> Implement MCSTOPPP's " <a href="#">Minimum Erosion and Sediment Control Measures for Small Construction Projects</a> " and " <a href="#">Pollution Prevention: It's Part of the Plan.</a> "	<input type="checkbox"/>	2013 SMP



Entire SCA	33.	<b>Reduce Wet Weather Impacts.</b> Avoid construction activity adjacent to and affecting the Stream Conservation Area during wet weather, except for emergency repairs. Disturbed surfaces shall be stabilized and replanted, and areas where woody vegetation has been removed shall be replanted with suitable species, before the beginning of the rainy season.	<input type="checkbox"/>	CWP BIO-4.15
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### General Requirements

Entire SCA	34.	<p><b>Stormwater Management.</b> Improvements shall incorporate low impact development (LID) practices and designs that are demonstrated to prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event. This requirement applies to retention of the entire volume of each day's rainfall that does not achieve this total volume, and the first increment of rain up to this volume for those 24-hour periods whose rainfall exceeds this volume. Specifically, improvements that create or replace 500 square feet or more of impervious surface shall:</p> <ul style="list-style-type: none"> <li>• Complete a stormwater control plan that achieves retention of the 85th percentile, 24 - hour design storm for the newly created or replaced impervious surface, or for an equivalent area of previously unretained impervious surface on the same site. It is acceptable for the Stormwater Control Plan to use the existing runoff reduction measures as described in Appendix C of the Bay Area Stormwater Management Agencies Association (BASMAA) Post-Construction Manual (BASMAA 2014) to retain the 85th percentile, 24-hour design storm standard. It is also acceptable to use the bioretention sizing factor (0.04) described in Appendix D of the BASMAA Post-Construction Manual (BASMAA 2014) to retain the 85th percentile, 24-hour design storm standard.</li> <li>• complete a stormwater control plan that achieves retention of the 85th percentile, 24- hour design storm for the newly created or replaced impervious surface, or for an equivalent area of previously unretained impervious surface on the same site It is acceptable for the SCP to use the bioretention sizing factor (0.04) described in Appendix D of the BASMAA Post-Construction Manual (BASMAA 2014) to retain the 85th percentile, 24-hour design storm standard.</li> </ul>	<input type="checkbox"/>	MM 5.1-1, Provision 5
Entire SCA	35.	<b>Land Divisions.</b> Subdivisions shall be designed so that no future development will occur within the Stream Conservation Area. Where the Stream Conservation Area buffer is determined by the size of the lot, the buffer that applies to the lot prior to any subdivision shall apply to all subsequent lots that are created.	<input type="checkbox"/>	CWP BIO-4.3 & BIO-4.h
Entire SCA	36.	<p><b>Public Access.</b> Public access to publicly owned land within the Stream Conservation Area shall respect the environment and is prohibited if access will degrade or destroy riparian habitat. Acquire public lands adjacent to streams where possible to make resources more accessible and usable for passive recreation, and to protect and enhance streamside habitat.</p> <p><b>Locate Trails Appropriately.</b> Situate trails at adequate distances from streams to protect riparian and aquatic habitat and wildlife corridors. Trails may occasionally diverge close to the top of bank to provide visual access and opportunities for interpretive displays on the environmental sensitivity of creek habitats</p>	<input type="checkbox"/>	CWP BIO-4.13 and Program BIO-4.k
Entire SCA	37.	<b>Restore Culverted Streams.</b> Replace storm drains and culverts in Stream Conservation Areas with natural drainage and flood control channels wherever feasible. Reopening and restoring culverted reaches of natural drainages should be considered on parcels containing historic natural drainages where sufficient land area is available to accommodate both the reopened drainage and project objectives. Detailed hydrologic analysis may be required to address possible erosion and flooding implications of reopening the culverted reach, and to make appropriate design recommendations. Where culverts interfere with fish migration, but replacement is not possible, modify culverts to allow unobstructed fish passage.	<input type="checkbox"/>	CWP BIO-4.9

### New Roads (paved and unpaved) including Driveways

The following design criteria shall apply to all new roads, whether paved or unpaved, including driveways.

Entire SCA	39.	<b>New Roads.</b> Locate new roads and roadfill slopes outside the Stream Conservation Area, except at stream crossings, and consolidate new road crossings wherever possible to minimize disturbance in the SCA. Spoil from road construction shall be deposited outside the Stream Conservation Area. Stabilize all soil surfaces. Stream crossing should be channel spanning as to provide transport of bed materials, where feasible.	<input type="checkbox"/>	CWP BIO-4.14
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Entire SCA	<b>40. Surface Drainage</b>	<ul style="list-style-type: none"> <li>a. Road surfaces and ditches are hydrologically "disconnected" from streams and stream crossing culverts, with a maximum allowable hydrologic connectivity of 25% of the total new road surface and compacted shoulder area (paved and unpaved). To be considered disconnected, road surface runoff is dispersed, rather than collected and concentrated, and does not return to a connected ditch farther downstream.</li> <li>b. Fine sediment contributions from roads, cutbanks and ditches are minimized by utilizing seasonal closures and installing a variety of surface drainage techniques including berm removal, road surface shaping (i.e., outsloping, insloping, crowning), rolling dips, ditch relief culverts, waterbars and other measures to disperse road surface runoff and reduce or eliminate sediment delivery to the stream.</li> </ul>	<input type="checkbox"/>	MM 5.1-1, Provision 5
Entire SCA	<b>41. Stream crossings</b>	<ul style="list-style-type: none"> <li>a. Stream crossings have a drainage structure designed to pass the 100-year flood flow including appropriate sizing and configuration to accommodate predicted loads of woody debris and sediment.</li> <li>b. Stream crossings have no diversion potential (e.g., functional critical dips are in place).</li> <li>c. Culvert inlets have low plug potential (trash barriers or deflectors installed where needed).</li> <li>d. Approaching road surfaces and ditches are disconnected from streams and stream crossing culverts to the extent feasible, with a maximum allowable hydrologic connectivity of 25% of the total new road surface and compacted shoulder area, using road shaping and road drainage structures.</li> </ul> <p>Class I (fish-bearing) stream crossings meet California Department of Fish and Wildlife and National Marine Fisheries Service fish passage criteria. Where feasible, stream crossings should be channel-spanning as to provide transport of bed material.</p>	<input type="checkbox"/>	MM 5.1-1, Provision 5
Entire SCA	<b>42. Road fills</b>	<ul style="list-style-type: none"> <li>a. Unstable and potentially unstable road fills that could deliver sediment to a stream are excavated (removed) or structurally stabilized.</li> <li>b. Excavated spoil is placed in locations where eroded material will not enter a stream.</li> <li>c. Excavated spoil is placed where it will not cause a slope failure or landslide.</li> </ul>	<input type="checkbox"/>	MM 5.1-1, Provision 5
Entire SCA	<b>43. Off-site retrofits:</b>	<ul style="list-style-type: none"> <li>a. If on-site avoidance or minimization of surface runoff and sediment erosion is not feasible using the above Provision 5 criteria, off-site retrofit of existing impaired sites (e.g., stream crossings currently diverted or with diversion potential, culverts likely to plug or undersized culverts), would occur at a 2:1 ratio for total runoff area in a functionally equivalent riparian area of San Geronimo Creek or its major tributaries (North Fork San Geronimo Creek, Woodacre Creek, Montezuma Creek, Arroyo/Barranca/El Cerrito Complex, Larsen Creek) within reaches accessible to anadromous salmonids.</li> </ul> <p>If functionally equivalent off-site mitigation opportunities cannot be identified within these locations, then opportunities can be selected elsewhere in San Geronimo Valley and/or in the downstream Lagunitas Creek watershed using existing site-specific sediment source assessments.</p>	<input type="checkbox"/>	MM 5.1-1, Provision 5



# Attachment 1

## Native Plants Common to Riparian Areas in Marin County

Common Name	Scientific Name	Life Form
Lady fern	<i>Athyrium filix-femina</i>	Fern
California polypody	<i>Polypodium californicum</i>	Fern
Western sword fern	<i>Polystichum munitum</i>	Fern
Giant chain fern	<i>Woodwardia fimbriata</i>	Fern
Elk clover	<i>Aralia californica</i>	Shrub
Mugwort	<i>Artemisia douglasiana</i>	Shrub
Coyote brush	<i>Baccharis pilularis</i>	Shrub
Stream dogwood	<i>Cornus sericea</i>	Shrub
California hazelnut	<i>Corylus cornuta</i>	Shrub
Toyon	<i>Heteromeles arbutifolia</i>	Shrub
Ocean spray	<i>Holodiscus discolor</i>	Shrub
Twinberry	<i>Lonicera involucrata</i>	Shrub
Creek monkeyflower	<i>Erythranthe guttata</i>	Shrub
Wax myrtle	<i>Myrica californica</i>	Shrub
Ninebark	<i>Physocarpus capitatus</i>	Shrub
Coffeeberry	<i>Rhamnus californica</i>	Shrub
Fuchsia-flowering gooseberry	<i>Ribes californicum</i>	Shrub
Pink flowering currant	<i>Ribes sanguineum</i>	Shrub
Rose, California	<i>Rosa californica</i>	Shrub
Rose, Wood	<i>Rosa gymnocarpa</i>	Shrub
Thimbleberry	<i>Rubus parviflorus</i>	Shrub
Salmonberry	<i>Rubus spectabilis</i>	Shrub
California blackberry	<i>Rubus ursinus</i>	Shrub
Blue elderberry	<i>Sambucus cerulea</i>	Shrub
Red elderberry	<i>Sambucus racemosa</i>	Shrub
Snowberry	<i>Symphoricarpos albus</i>	Shrub
Poison oak	<i>Toxicodendron diversilobum</i>	Shrub
Pacific Madrone	<i>Arbutus menziesii</i>	Tree
Big leaf maple	<i>Acer macrophyllum</i>	Tree
Box elder	<i>Acer negundo var. californicum</i>	Tree
California buckeye	<i>Aesculus californica</i>	Tree
Alder, white or red	<i>Alnus spp.</i>	Tree
Oregon ash	<i>Fraxinus latifolia</i>	Tree
Coast live oak	<i>Quercus agrifolia</i>	Tree
California black oak	<i>Quercus kelloggii</i>	Tree
Valley oak	<i>Quercus lobata</i>	Tree
Arroyo willow	<i>Salix lasiolepis</i>	Shrub-like tree
Yellow willow	<i>Salix lucida lassianandra</i>	Tree
Coast redwood	<i>Sequoia sempervirens</i>	Tree

(this list excludes Tanoak and California bay laurel)

A. Allowable woody riparian tree species (primarily non-pyrophytic) for replanting in riparian areas include:

1. Broadleaf

- Bigleaf Maple (*Acer macrophyllum*);
- California Buckeye (*Aesculus californica*);
- White Alder (*Alnus rhombifolia*);
- Oregon Ash (*Fraxinus latifolia*);
- Coastal Live Oak (*Quercus agrifolia*);
- Arroyo Willow (*Salix lasiolepis*);
- Red Willow (*Salix laevigata*), and
- other species of native, fast-growing, shade-producing trees.

2. Coniferous

- Redwood (*Sequoia sempervirens*); and
- Douglas-fir (*Pseudotsuga menziesii*)\*

**Note: Tanoak, California Bay Laurel, Monterey pine, Eucalyptus, and Ghost Pine are excluded from the list of allowable woody riparian, as explained below:**

\* Douglas-fir is a California native species and is considered to be a fire-prone plant, as listed on the FIREsafe MARIN website <http://www.firesafemarin.org/plants/fire-prone>. Where planted, Douglas-fir should be set back from structures in compliance with Title 16 of the Marin County Municipal Code and the California Public Resources Code. Additionally, its potential to contribute to wildfire may be reduced through appropriate trimming, thinning, and removal of branches and shoots to reduce the density of woody plant material in the understory.

While tanoak is also a native riparian and understory species in the San Geronimo Valley, tanoak is highly vulnerable to Sudden Oak Death and therefore can increase the amount of dead and dry plant material (i.e., fuel) and the potential for wildfire.

The native riparian tree California Bay Laurel is currently considered to be a vector for Sudden Oak Death and is thus not included on the list of allowable woody riparian tree species for replanting in the Stream Conservation Area. Other tree species that may be native or non-native to the region but do not naturally occur in the riparian corridor and are pyrophytic-combustible, such as Monterey pine (*Pinus radiata*), Eucalyptus (*Eucalyptus globulus*), and Ghost pine (*Pinus sabiniana*), are also not included on the list of allowable woody riparian.

*[Source: Mitigation Measure 5.1-1, Provision 4]*



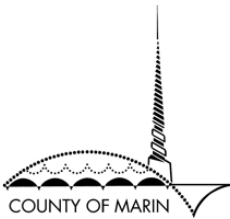
## OTHER RESOURCES

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- [Marin County Stormwater Pollution Prevention Program](#)
  - [Resources for Post-Construction Stormwater Requirements](#)
  - [Resources for Projects During Construction](#)
- [Marin Watershed Program](#)
  - [Creek Stewardship](#)
  - [Creek Care: A Guide for Marin Residents](#)
  - [Groundwork: a handbook for small scale-erosion control for homeowners](#)
  - [Fish Friendly Guide](#)
  - [Go Native: Using Native Plants for Your Yard, Patio, Creek](#)
  - [Marin County Guide for Creek and Wetland Permits](#)
  - [Environmental Permitting for Your Project: Permit Info](#)
- [Resources for Post-Construction Stormwater Requirements](#)
- [Grading and Creek Permit Information](#) and [applicable codes](#)
- [Slow it. Spread it. Sink it! Eco-friendly Solutions for Managing Rainwater on Your Property](#)
- [San Geronimo Valley Salmon Enhancement Plan](#)
  - [Homeowner specifications developed for the Salmon Enhancement Plan](#)

### [FireSAFE Marin](#)

- [Harden your home](#)
- [Create a fire smart yard](#)
- [Defensible space](#)
- [Firescaping](#)



**DRAFT**  
**STREAM CONSERVATION AREA ORDINANCE FOR THE SAN GERONIMO**  
**VALLEY FACT SHEET**  
**September 2021**

### Background

The Stream Conservation Area (SCA) Ordinance for the San Geronimo Valley implements the [2007 Marin Countywide Plan](#) (CWP) and the [2007 Marin Countywide Plan Final Supplemental EIR with a Focus on Potential Cumulative Impacts to Salmonids in the San Geronimo Valley](#) (FSEiR). The purpose of the SCA is to protect riparian systems, streams, and their riparian and woodland habitat, which provide essential water quality and flood control functions and habitat for wildlife, from development activities. The continued health and restoration of streams and riparian resources has become increasingly important policy objective with the designation of the coho salmon and steelhead trout as special-status species by the State and federal governments. The SCA Ordinance provides development review procedures and standards for stream conservation as part of an ongoing effort to create a well-balanced regulatory approach to protecting these important resources.

As part of the SCA Ordinance implementation, all lots within the San Geronimo Valley would be rezoned with the new SGV (San Geronimo Valley) Combining District. The purpose of this rezoning is to ensure uniform application of development standards within the SCA regardless of a lot's underlying zoning. These new standards would be contained in Marin County Development Code Section 22.30.045 – San Geronimo Valley Community Standards.

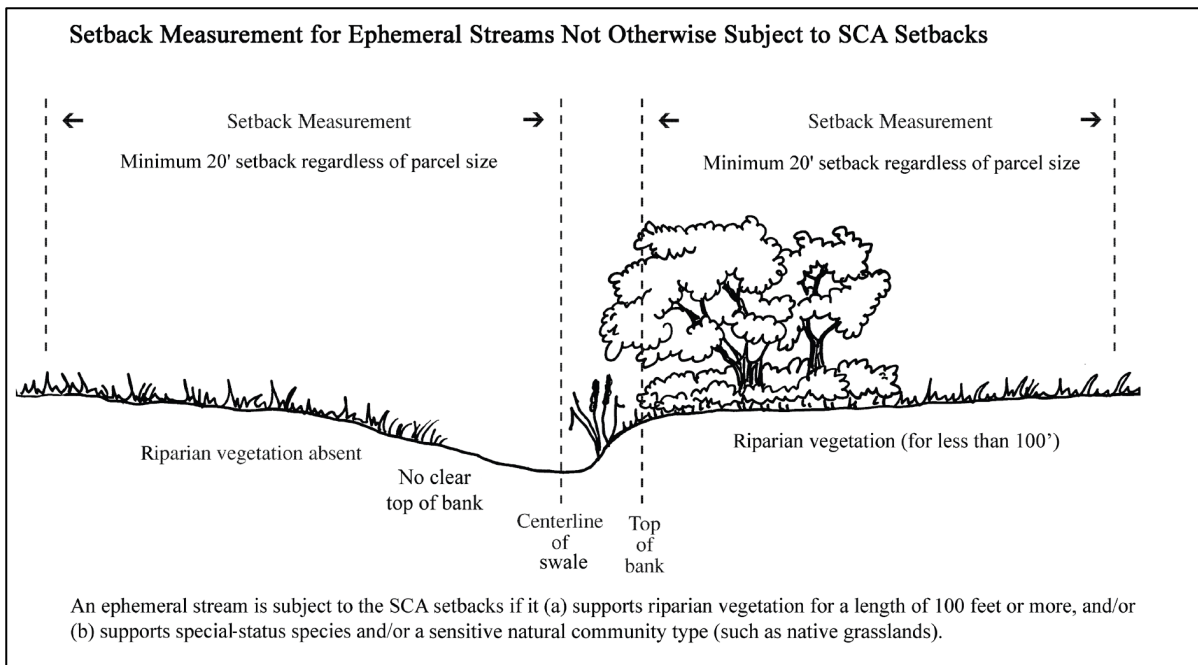
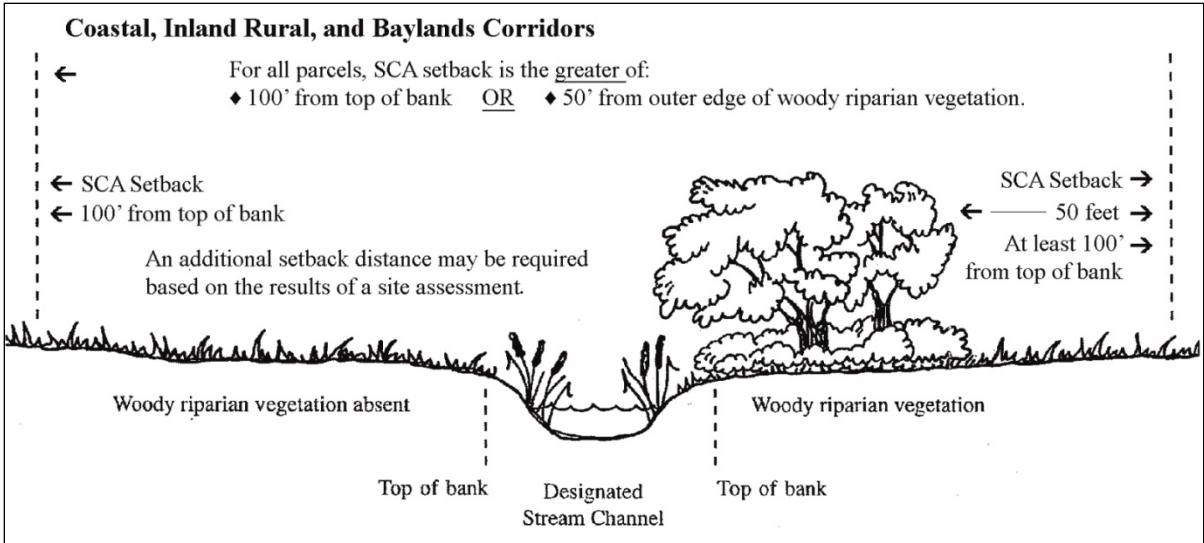
### San Geronimo Valley Community Standards

When development in a Stream Conservation Areas (SCA) is proposed within the San Geronimo Valley, Site Plan Review would be required. The Site Plan Review process involves the submittal of a Planning Application to the Community Development Agency - Planning Division (CDA) that includes plans depicting the proposed activities. These plans are reviewed by CDA staff for conformance with the development standards and Site Plan Review requirements. The following summarizes the San Geronimo Valley Community Standards:

- A. Stream Conservation Area.** A Stream Conservation Area (SCA) is a buffer established to protect the active channel, water quality and flood control functions, and associated fish and wildlife habitat values along streams. SCAs are designated along perennial, intermittent, and ephemeral streams, as defined by the CWP.

The SCA encompasses any jurisdictional wetland or unvegetated other waters within the stream channel, together with the adjacent uplands, and supersedes setback standards defined for Wetland Conservation Areas.





Note: These images are provided for illustration purposes only.

The SCA consists of the watercourse itself between the tops of the banks and a strip of land extending laterally outward from the top of both banks to the widths defined below:

1. **Measurement of the Stream Conservation Area.** The SCA buffers shall be measured as follows:
  - a. The SCA shall be measured on each side of the top of bank that is the greater of either:
    - (a) 50 feet landward from the outer edge of the canopy of woody riparian vegetation associated with the stream, or
    - (b) 100 feet landward from the top of bank.
  - b. An additional buffer may be required based on the results of a site assessment to

protect riparian habitat.

- c. For ephemeral streams, the SCA applies only if: (i) the stream supports riparian vegetation for a length of 100 feet or more, and/or (ii) supports special-status species and/or sensitive natural community type, such as native grasslands, regardless of the extent of riparian vegetation associated with the stream. For those ephemeral streams that do not meet these criteria, a minimum 20-foot development setback should be required.
2. **Site Assessment.** A Site Assessment is required when incursion into the SCA is proposed or when full compliance with the San Geronimo Community Standards would not be met. Refer to Attachment 1 for *Site Assessment Requirements for Development Located in the Stream Conservation Area in the San Geronimo Valley* for more information on the site assessment content requirements
  3. **Limitations on Uses.** Allowable land uses subject to the SGV combining district and located within the Stream Conservation Area shall be limited to the following:
    - a. Maintenance and repair of existing permitted structures;
    - b. Additions to existing permitted structures that do not increase the footprint within the Stream Conservation Area by a cumulative total of no more than 500 square feet of building area and that does not increase the existing horizontal encroachment into the Stream Conservation Area. The 500 square feet of cumulative building area shall be calculated following the effective date of the Development Code Amendments for the SCA Ordinance.
    - c. Restoration projects to improve fish and wildlife habitat;
    - d. Driveway, road and utility crossings, if no other location is feasible;
    - e. Water-monitoring installations;
    - f. Passive recreation that does not significantly disturb native species. Passive recreation is defined as a type of recreation that does not require the use of organized play areas. Examples may include wildlife observation, swimming, and kayaking;
    - g. Necessary water supply and flood control projects that minimize impacts to stream function and to fish and wildlife habitat;
    - h. Agricultural uses that do not result in any of the following:
      - (1) The removal of woody riparian vegetation;
      - (2) The installation of fencing within the SCA that prevents wildlife access to the riparian habitat within the Stream Conservation Area. In other words, fencing must be wildlife compatible in design and location;
      - (3) Animal confinement within the SCA; and
      - (4) A substantial increase in sedimentation.

Land uses and improvements not listed above are prohibited, unless such improvements and land use meet the criteria for an exception in subsection 4, below.

4. **Exceptions.** Exceptions to full compliance with all Stream Conservation Area criteria and standards may be allowed only if the following is true:



- a. A lot falls entirely within the SCA; or
- b. Development on the parcel entirely outside the SCA either is infeasible or would have greater impacts on water quality, wildlife habitat, other sensitive biological resources, or other environmental constraints than development within the SCA.

This finding would be supported by evidence on file for the proposed project, such as the site assessment.

**B . Standard Management Practices.** Development subject to the SGV combining district shall incorporate appropriate Standard Management Practices identified in the Site Assessment, unless site specific measures identified through environmental review would result in equal or greater environmental benefits. Refer to Attachment 2 for *Draft Standard Management Practices for Development Located in the Stream Conservation Area in the San Geronimo Valley*.

### **Site Plan Review**

A Site Plan Review is required for any activity, use of land, or other improvement that would: a) entail grading or otherwise disturb soil,; b) increase lot coverage or surface runoff; c) remove vegetation or woody riparian vegetation; or d) alter the bed, bank, or channel of any stream on a parcel within the Countywide Plan's Stream Conservation Area in the SGV combining district (within the San Geronimo Valley). Some activities are exempt from the Site Plan Review process. These include:

1. Accessory Dwelling Units (ADU) that qualify as Category 1 ADUs pursuant to Marin County Development Code Section 22.32.120 (A);
2. Signs;
3. Removal of dead, invasive, or exotic vegetation, including leaf litter, except for woody debris located below the stream top of bank;
4. Removal or trimming of pyrophytic combustible live trees and/or vegetation consistent with Title 16 – Provision 16.16.040, including tanoak, California bay laurel, and Douglas fir tree species;
5. Planting of non-pyrophytic native vegetation;
6. Voluntary creek restoration projects consistent with and authorized under the Marin Resource Conservation District's (RCD) Permit Coordination Program by RCD Board of Directors;
7. Repair and maintenance, including replacement of, existing septic systems that incorporate Marin County Stormwater Pollution Prevention Program (MCSTOPPP) minimum erosion and sediment controls and best management practices. Construction of a new septic system that is not replacing an existing degraded system would not be exempt; and
8. Subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use.

Meanwhile, other agencies at the local, regional, state, and federal level may require permits for work within or near a waterway.

### **Urban Streams Coordinator**

The Urban Streams Coordinator is available to provide permit assistance and support for San Geronimo Valley residents who are pursuing development and restoration projects along streams. Applicants are typically required to bear the cost of hiring a qualified professional to prepare the site assessment. However, the County is offering the expertise the Urban Streams Coordinator, who is qualified to prepare the site assessment, at the County's expense. Applicants are encouraged to consult with the Urban Streams Coordinator and the Community Development Agency customer service team while researching and preparing your project prior to submitting an application.

Additional information is available online regarding the [planning application process](#) or contact the Community Development Agency [customer service team](#) or call (415) 473-6290.

### **Mitigation Bank**

The County will consider establishing a mitigation bank program for mitigation sites within the San Geronimo Valley watershed. The program schedule and details have not been determined and would be developed as part of a separate public process.

### **ATTACHMENTS:**

1. Site Assessment Requirements for Development Located in the Stream Conservation Area in the San Geronimo Valley.
2. Standard Management Practices for Development Located in the Stream Conservation Area in the San Geronimo Valley.



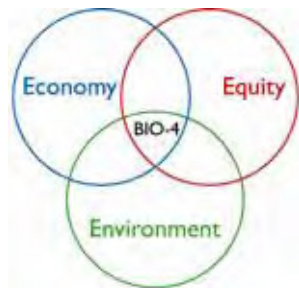


## MARIN COUNTYWIDE PLAN

**BIO-3.h** *Evaluate Wetlands Definitions.* Conduct a study to evaluate whether to continue to rely on the Army Corps of Engineers definition of wetlands outside of the Coastal Zone or to expand the use of the Coastal Zone (or “Cowardin”) definition to the entire county. The study should consider all of the following in developing a recommendation to the Board of Supervisors: (1) the effect of the expanded wetland definition when coupled with SCA and WCA requirements; (2) the extent of the geographic areas potentially affected by the expanded definition; (3) performance of wetland delineations for areas outside the Coastal Zone (in-house staff or consultants); (4) potential costs and workloads associated with delineations, administration, and appeals; (5) overall feasibility of implementation and enforcement responsibilities associated with an expanded definition; (6) benefits and challenges of a consistent definition throughout the county; (7) what percentage of wetlands would continue to be regulated by the Army Corps of Engineers; and (8) what percentage of cost could be paid for by the applicant.

### What Are the Desired Outcomes?

#### GOAL BIO-4



**Riparian Conservation.** Protect and, where possible, restore the natural structure and function of riparian systems.

#### Policies

**BIO-4.1 Restrict Land Use in Stream Conservation Areas.** A *Stream Conservation Area* (SCA) is established to protect the active channel, water quality and flood control functions, and associated fish and wildlife habitat values along streams. Development shall be set back to protect the stream and provide an upland buffer, which is important to protect

significant resources that may be present and provides a transitional protection zone. Best management practices<sup>1</sup> shall be adhered to in all designated SCAs. Best management practices are also strongly encouraged in ephemeral streams not defined as SCAs.

Exceptions to full compliance with all SCA criteria and standards may be allowed only if the following is true:

1. A parcel falls entirely within the SCA; or
2. Development on the parcel entirely outside the SCA either is infeasible or would have greater impacts on water quality, wildlife habitat, other sensitive biological resources, or other environmental constraints than development within the SCA.

SCAs are designated along perennial, intermittent, and ephemeral streams as defined in the Countywide Plan Glossary. Regardless of parcel size, a site assessment is required where incursion into an SCA is proposed or where full compliance with all

<sup>1</sup>Such as those outlined in *Start at the Source* and *Start at the Source Tools Handbook* (Bay Area Stormwater Managers Agencies Association).



## NATURAL SYSTEMS & AGRICULTURE ELEMENT

SCA criteria would not be met. An ephemeral stream is subject to the SCA policies if it: (a) supports riparian vegetation for a length of 100 feet or more, and/or (b) supports special-status species and/or a sensitive natural community type, such as native grasslands, regardless of the extent of riparian vegetation associated with the stream. For those ephemeral streams that do not meet these criteria, a minimum 20-foot development setback should be required.

SCAs consist of the watercourse itself between the tops of the banks and a strip of land extending laterally outward from the top of both banks to the widths defined below (see Figure 2-2). The SCA encompasses any jurisdictional wetland or unvegetated other waters within the stream channel, together with the adjacent uplands, and supersedes setback standards defined for WCAs. Human-made flood control channels under tidal influence are subject to the Bayland Conservation policies. The following criteria shall be used to evaluate proposed development projects that may impact riparian areas:

### *City-Centered Corridor:*

- ◆ For parcels more than 2 acres in size, provide a minimum 100-foot development setback on each side of the top of bank.
- ◆ For parcels between 2 and 0.5 acres in size, provide a minimum 50-foot development setback on each side of the top of bank.
- ◆ For parcels less than 0.5 acres in size, provide a minimum 20-foot development setback. The developed portion(s) of parcels (less than 0.5 acres in size) located behind an existing authorized flood control levee or dike are not subject to a development setback.
- ◆ Regardless of parcel size, an additional buffer may be required based on the results of a site assessment. A site assessment may be required to confirm the avoidance of woody riparian vegetation and to consider site constraints, presence of other sensitive biological resources, options for alternative mitigation, and determination of the precise setback. Site assessments will be required and conducted pursuant to Program BIO-4.g, *Require Site Assessment*.



*Woody riparian vegetation* includes plants that have tough, fibrous stems; vines; and branches covered with bark and composed largely of cellulose and lignin. Characteristic woody riparian species include willow, alder, box elder, big-leaf maple, cottonwood, dogwood, elderberry, elk clover, thimbleberry, and California blackberry, among others. See glossary for additional information on stream characteristics and definitions.



## MARIN COUNTYWIDE PLAN

### *Coastal, Inland Rural, and Baylands Corridors:*

- ◆ For all parcels, provide a development setback on each side of the top of bank that is the greater of either (a) 50 feet landward from the outer edge of woody riparian vegetation associated with the stream or (b) 100 feet landward from the top of bank. An additional setback distance may be required based on the results of a site assessment. A site assessment may be required to confirm the avoidance of woody riparian vegetation and to consider site constraints, presence of other sensitive biological resources, options for alternative mitigation, and determination of the precise setback. Site assessments will be required and conducted pursuant to Program BIO-4.g, *Require Site Assessment*. SCAs shall be measured as shown in Figure 2-2.

Allowable uses in SCAs in any corridor consist of the following, provided they conform to zoning and all relevant criteria and standards for SCAs:

- ◆ Existing permitted or legal nonconforming structures or improvements, their repair, and their retrofit within the existing footprint;
- ◆ Projects to improve fish and wildlife habitat;
- ◆ Driveway, road and utility crossings, if no other location is feasible;
- ◆ Water-monitoring installations;
- ◆ Passive recreation that does not significantly disturb native species;
- ◆ Necessary water supply and flood control projects that minimize impacts to stream function and to fish and wildlife habitat;
- ◆ Agricultural uses that do not result in any of the following:
  - a. The removal of woody riparian vegetation;
  - b. The installation of fencing within the SCA that prevents wildlife access to the riparian habitat within the SCA;
  - c. Animal confinement within the SCA; and
  - d. A substantial increase in sedimentation.

**BIO-4.2 Comply with SCA Regulations.** Implement established setback criteria for protection of SCAs through established discretionary permit review processes and/or through adoption of new ordinances. Environmental review shall be required where incursion into an SCA is proposed and a discretionary permit is required.

In determining whether allowable uses are compatible with SCA regulations, development applications shall not be permitted if the project does any of the following:

- ◆ Adversely alters hydraulic capacity;
- ◆ Causes a net loss in habitat acreage, value, or function;
- ◆ Degrades water quality.

**BIO-4.3 Manage SCAs Effectively.** Review proposed land divisions in SCAs to allow management of a stream by one property owner to the extent possible.



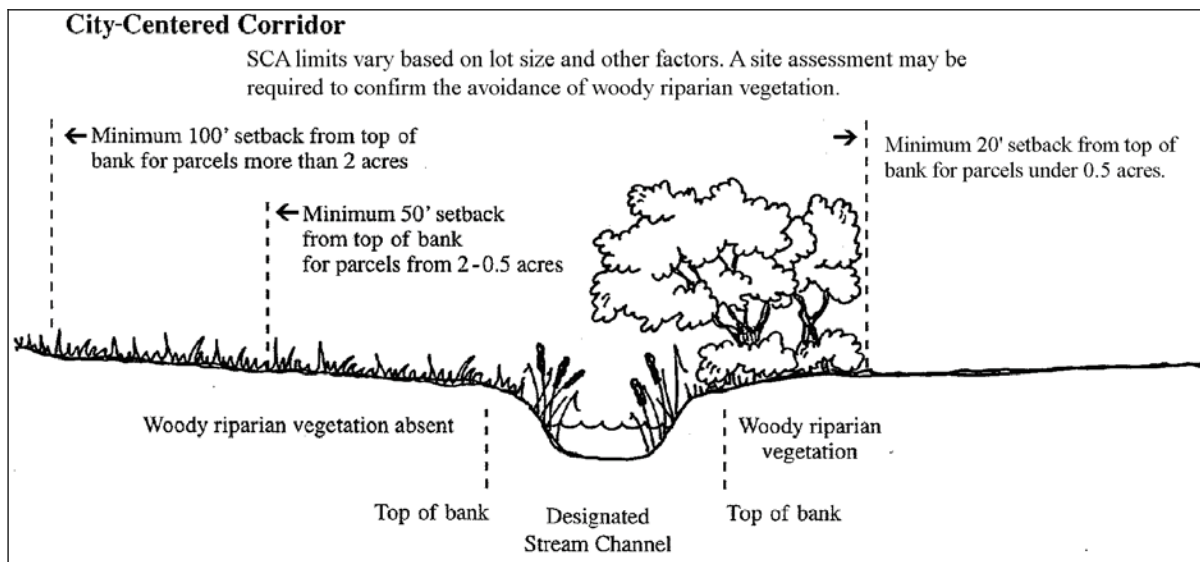


## NATURAL SYSTEMS & AGRICULTURE ELEMENT

**BIO-4.4 Promote Natural Stream Channel Function.** Retain and, where possible, restore the hydraulic capacity and natural functions of stream channels in SCAs. Discourage alteration of the bed or banks of the stream, including filling, grading, excavating, and installation of storm drains and culverts. When feasible, replace impervious surfaces with pervious surfaces. Protect and enhance fish habitat, including through retention of large woody debris, except in cases where removal is essential to protect against property damage or prevent safety hazards. In no case shall alterations that create barriers to fish migration be allowed on streams mapped as historically supporting salmonids. Alteration of natural channels within SCAs for flood control should be

designed and constructed in a manner that retains and protects the riparian vegetation, allows for sufficient capacity and natural channel migration, and allows for reestablishment of woody trees and shrubs without compromising the flood flow capacity where avoidance of existing riparian vegetation is not possible.

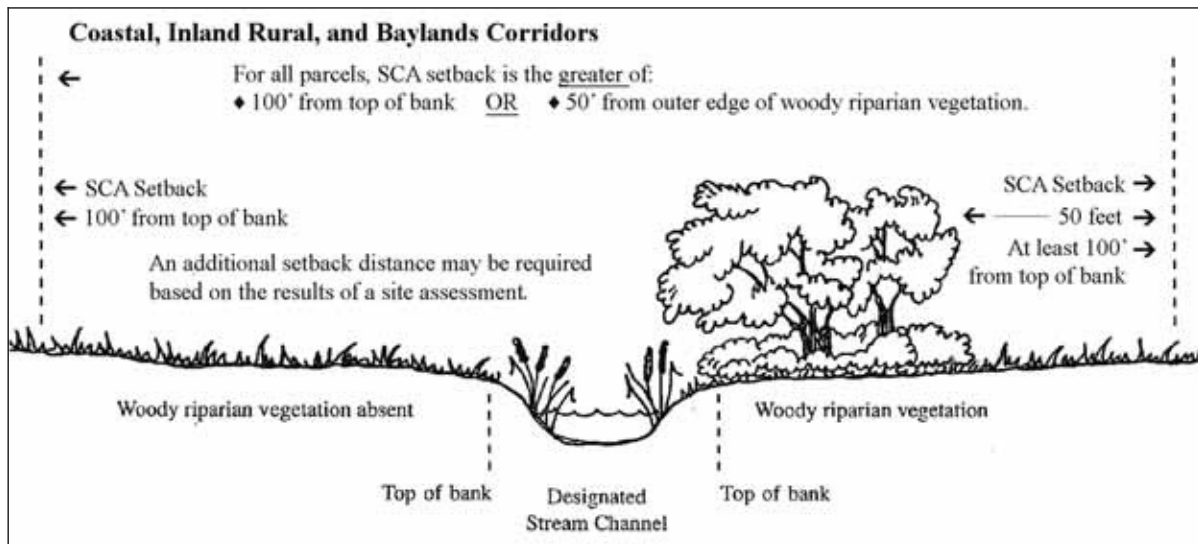
**Figure 2-2**  
**Typical Cross-Section of a Stream Conservation Zone**



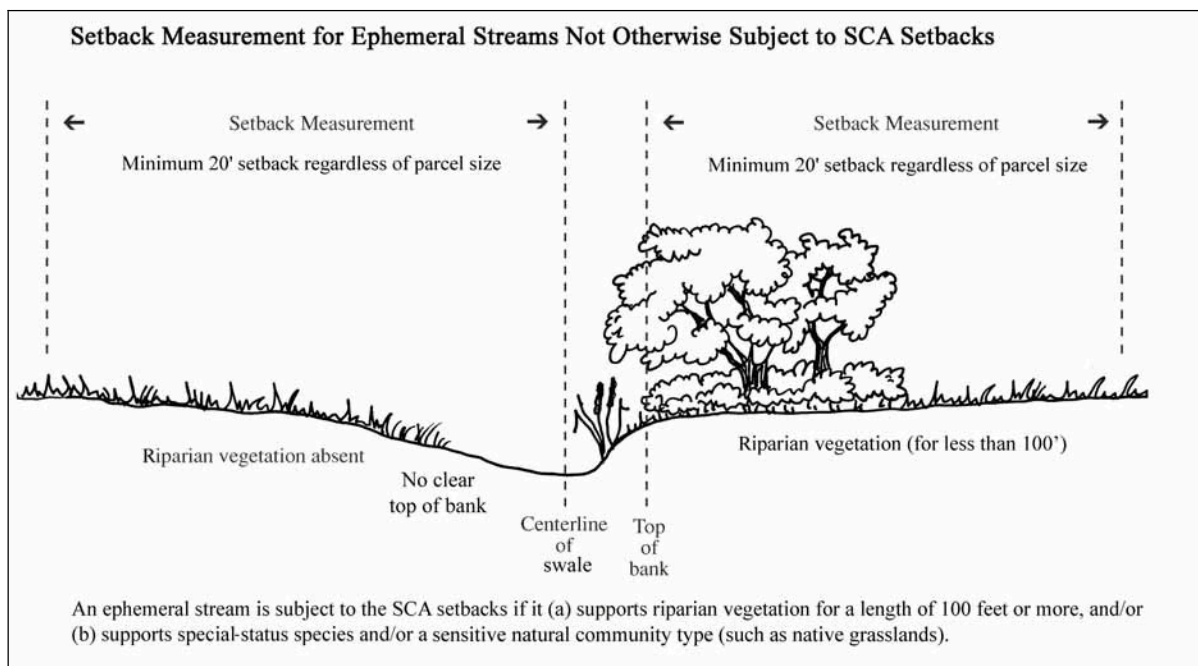
- ◆ Minimum setback distance of 100 feet from top of bank for parcels more than 2 acres.
- ◆ Minimum setback distance of 50 feet from top of bank for parcels between 2 and 0.5 acres.
- ◆ Minimum setback distance of 20 feet from top of bank for parcels less than 0.5 acres.
- ◆ A site assessment may be required to confirm the avoidance of woody riparian vegetation and to consider site constraints, presence of other sensitive biological resources, options for alternative mitigation, and determination of the precise setback. Site assessments will be required and conducted pursuant to Program BIO-4.g, *Require Site Assessment*.
- ◆ Regardless of parcel size, a site assessment is required where incursion into an SCA is proposed and where full compliance with all SCA criteria would not be met.



# MARIN COUNTYWIDE PLAN



- ◆ For all parcels, minimum setback distance is 50 feet from outer edge of woody riparian vegetation but no less than 100 feet from top of bank, unless an exception is allowed because parcel falls entirely within SCA, or development outside SCA is either infeasible or would have greater impacts.
- ◆ An additional setback distance may be required, based on the results of a site assessment, if such an assessment is determined to be necessary.
- ◆ Regardless of parcel size, a site assessment is required where incursion into an SCA is proposed and where full compliance with all SCA criteria would not be met.



- ◆ For all parcels, regardless of corridor, minimum setback distance is 20 feet.
- ◆ A site assessment is required where incursion into the setback is proposed.

**MITIGATION MONITORING AND REPORTING PROGRAM  
2007 MARIN COUNTYWIDE PLAN  
SUPPLEMENTAL EIR WITH A FOCUS  
ON POTENTIAL IMPACTS TO  
SALMONIDS IN SAN GERONIMO  
VALLEY (2019)**

**INTRODUCTION**

The California Environmental Quality Act (CEQA) requires a public agency to adopt a reporting or monitoring program when approving a project or changes to a project, in order to mitigate or avoid significant effects on the environment (Public Resources Code section 21081.6). The program is based on the findings and the required mitigation measures presented in an Environmental Impact Report (EIR) that has been prepared on the project and certified by the lead agency. The reporting or monitoring program must be designed to ensure compliance during project implementation.

Pursuant to the *State CEQA Guidelines*, a Mitigation Monitoring and Reporting Program (MMRP) must cover the following:

- The MMRP must identify the entity that is responsible for each monitoring and reporting task, be it Marin County (as lead agency), other agency (responsible or trustee agency), or a private entity (i.e., the project sponsor).
- The MMRP must be based on the project description and the required mitigation measures presented in the environmental document prepared for the project and certified by the lead agency.
- The MMRP must be approved by the lead agency at the same time of project entitlement action or approvals.

MMRP's are typically designed in chart and checklist format for ease of monitoring and reporting.

**LOCATION AND CUSTODIAN OF DOCUMENTS**

Consistent with the California Environmental Quality Act, the 2007 Marin Countywide Plan Supplemental EIR has been prepared in accordance with the decision of the Court of Appeal of the State of California First Appellate District Division Three, to set aside the County's certification of the 2007 Countywide Plan EIR with respect to San Geronimo Valley watershed only, pending preparation of a supplemental EIR with respect to the San Geronimo Valley watershed only, that analyzes potential cumulative impacts in conformity with Guidelines section 15130, subdivision (b) and the Court's opinion, and that describes mitigation measures in conformity with State CEQA Guidelines section 15126.4 the Court's opinion or makes other findings in conformity with State CEQA Guidelines section 15091. This document, entitled *2007 Marin Countywide Plan Supplemental EIR with a Focus on Potential Impacts to Salmonids in San Geronimo Valley* consists of three volumes (Draft SEIR dated April 2017, Final SEIR and Response to Comments dated July 2018, and Amendment to 2007 Marin Countywide Plan Supplemental EIR dated July 2019), and is on file with the Marin County Community Development Agency, along with all the other documents which constitute the record of proceedings.



## **PURPOSE AND USE OF THE MONITORING AND REPORTING PROGRAM**

The purpose of the monitoring and reporting program is to provide Marin County with a simple set of procedures to ensure that the mitigation measures required under the Final SEIR are implemented properly.

Each required mitigation measure is presented in a monitoring and reporting table that is attached to this report. The chart provides the following information and direction for use.

- 1) The required mitigation measures are listed in the first column, corresponding to the list of measures provided in the Final SEIR.
- 2) The second column lists the agency or entity responsible for implementing the mitigation measure.
- 3) The third column lists the timing when the mitigation measure is to be implemented.
- 4) The fourth column provides guidance on monitoring and reporting actions to ensure that implementation procedures are followed.

California Government Code section 65400 provides that after adoption of a plan (such as a county General Plan) planning agencies (such as Marin County) provide an annual report on the status of the plan and progress in its implementation, including the progress in meeting its share of regional housing needs.

The *State CEQA Guidelines* (section 15097) state in part where the project at issue is the adoption of a general plan, the monitoring plan shall apply to policies and any other portion of the plan that is a mitigation measure or adopted alternatives. The monitoring plan may consist of policies included in plan-level documents. The annual report on general plan status required pursuant to the Government Code is one example of a reporting program for adoption of a city or county general plan.

As listed in the fourth column of each of the attached tables, this MMRP relies on the county's General Plan Annual Report to report on the status of the policies and programs adopted in response to the Final SEIR mitigation measures.

Citations included in the attached tables are provided in the *2007 Marin Countywide Plan Supplemental EIR with a Focus on Potential Impacts to Salmonids in San Geronimo Valley*.

<b>Mitigation Measure</b>	<b>Implemented By</b>	<b>When Implemented</b>	<b>Monitoring or Reporting Action</b>
<b>Mitigation Measure 5.1-1: Expanded SCA Ordinance</b>			
<p>The County shall adopt an Expanded SCA Ordinance consistent with Goal BIO-4 and associated Implementing Programs under the Proposed Project. The County shall commence with development of the Expanded SCA Ordinance following certification of the Final SEIR and, barring unforeseen delays caused by continuing, new, or threatened litigation related to the SEIR process and/or the Ordinance, shall complete the Expanded SCA Ordinance within five years of Final SEIR certification. The County shall report on progress toward completing the Expanded SCA Ordinance to the Marin County Board of Supervisors no less than twice annually, and shall provide public noticing of the forthcoming Marin County Board of Supervisors meeting within 10 days prior to the meeting.</p> <p>The Expanded SCA Ordinance shall incorporate provisions that would:</p> <p><i>Provision 1</i></p> <p>Expand the set of development activities that require a discretionary permit and site assessment to include activities within the SCA that require vegetation clearing, increase impermeable area, increase surface runoff, result in exposed soil, or alter the bed, bank, or channel of any stream, with the following exemptions:</p> <p><b>Exemption 1:</b> Dead, invasive, or exotic vegetation, including leaf-litter, may be removed without a permit. Consistent with Policy BIO-4.4 of the Marin CWP (2007) and the San Geronimo Valley Salmon Enhancement Plan (SEP)<sup>1</sup>, woody debris located below the streamside top of bank is not exempt. Prior to removal of such woody debris, consultation is required with Marin County<sup>2</sup>, the California Department of Fish and Wildlife (CDFW), and/or Marin Municipal Water District (MMWD) to determine its potential to induce erosion or threaten health and safety (including fire safety), and thus whether a permit is needed to remove it. Top of bank shall be determined through a site inspection.</p>	<p>Marin County Board of Supervisors</p>	<p>Adopted as a part of the 2007 Marin Countywide Plan with respect to the San Geronimo watershed only.</p>	<p>Community Development Agency (CDA) would be responsible for monitoring implementation of program.</p> <p>CDA shall report on the implementation of this program as a part of the County’s General Plan Annual report.</p>

<sup>1</sup> Diameters and lengths defined in Table 1 (pp. 11) of Prunuske Chatham and SWS (2010).

<sup>2</sup> The current contact for woody debris consultation is Sarah Phillips – Marin Resource Conservation District Urban Streams Coordinator: <mailto:sarah@marinrcd.org>; phone: (415) 663-1170. For fire-related health and safety, contact the Marin County Fire Department Fire Marshall, Scott Alber: (415) 473-6566 or Fire Safe Marin: (415) 570-4FSM {4376}.

<b>Mitigation Measure</b>	<b>Implemented By</b>	<b>When Implemented</b>	<b>Monitoring or Reporting Action</b>
<p><b>Exemption 2:</b> Removal or trimming of pyrophytic<sup>3</sup> combustible live trees and/or vegetation consistent with Title 16–Provision 16.16.040 does not require a permit.</p> <p><b>Exemption 3:</b> Planting of non-pyrophytic native vegetation is exempt.</p> <p><b>Exemption 4:</b> Repairs or replacements of septic systems<sup>4</sup> that incorporate applicable Marin County Stormwater Pollution Prevention Program (MCSTOPPP) minimum erosion control, sediment control, and good housekeeping BMPs<sup>5</sup> are exempt.</p> <p><b>Exemption 5:</b> Landowners who partner with the Marin Resource Conservation District to voluntarily restore creeks on their property shall not be required to obtain a discretionary permit for work within the SCA, or a Creek Permit<sup>6</sup> for work below the streamside top of bank, providing that the proposed work is consistent with and authorized under the Marin Resource Conservation District’s Permit Coordination Program (<a href="http://www.marinrcd.org/pcp/">http://www.marinrcd.org/pcp/</a>) and the Resource Conservation District takes full responsibility for the work. Top of bank shall be determined through a site inspection.</p> <p><i>Provision 2</i></p> <p>Enact consistent permit and site assessment requirements for development in planned zoning districts and conventional zoning districts.</p> <p><i>Provision 3</i></p> <p>Require site assessments to be conducted by a qualified professional with at least five years of field experience assessing potential impacts to stream ecology, riparian ecology, and hydrology in coastal California, and the potential for impacts to anadromous salmonids from changes to these processes and conditions.</p>			

<sup>3</sup> For the purposes of Exemption 2, pyrophytic combustible trees and/or vegetation are defined as fire-prone plants listed on the FIRESafe MARIN website: <http://www.firesafemarin.org/plants/fire-prone>. The hardwood and coniferous riparian species Tanoak, California Bay Laurel, and Douglas-fir are considered to be pyrophytic combustible trees and thus are included in this exemption. However, these trees are California native species and their potential to contribute to wildfire may be reduced through appropriate fuel management, including trimming, thinning and removal of branches and shoots to reduce the amount of woody material in the understory, such that the trees themselves may not need to be removed in all cases. While tanoak is also a native riparian and understory species in the San Geronimo Valley, tanoak is highly vulnerable to Sudden Oak Death and therefore can create dead and dry plant material (i.e., fuel), thereby increasing potential effects on wildfire (Forrestel et al. 2015).

<sup>4</sup> Septic system is defined as an on-site sewage disposal system consisting of a septic tank, and a soil infiltration leach field, evapotranspiration mound, or other approved disposal facility. This captures all individual sewage disposal systems as defined in Title 18 of the Marin County Municipal Code of Ordinances.

<sup>5</sup> For information regarding MCSTOPPP, please see: <https://www.marincounty.org/depts/pw/divisions/creeks-bay-and-flood/mcstoppp>

<sup>6</sup> For information regarding Creek Permits, please see: <https://www.marincounty.org/depts/pw/divisions/creeks-bay-and-flood/mcstoppp/creek-permit-checklist>

<b>Mitigation Measure</b>	<b>Implemented By</b>	<b>When Implemented</b>	<b>Monitoring or Reporting Action</b>
<p><i>Provision 4</i></p> <p>Require Standard Management Practices (SMPs) to be incorporated into all development activities within the SCA, as defined in Provision 1, for the protection of hydrologic processes, stream and riparian habitat, and water quality. SMPs shall be reviewed and approved by CDFW or NMFS to ensure the SMPs are adequate to avoid or minimize impacts to salmonids.</p> <p>The SMPs will include, at a minimum, the following information:</p> <p><i>For Riparian Vegetation and Habitat:</i></p> <p>Identification (common names, scientific names, and images) of riparian vegetation important for salmonids;</p> <p>Requirements for replacement of riparian trees removed in association with development activities, including:</p> <ul style="list-style-type: none"> <li>- Riparian trees removed shall be replaced with native riparian trees on-site at a 2:1 ratio or, if on-site mitigation is not feasible, shall be replaced off-site at a 3:1 ratio in a functionally equivalent riparian area of San Geronimo Creek or its major tributaries (North Fork San Geronimo Creek, Woodacre Creek, Montezuma Creek, Arroyo/Barranca/El Cerrito Complex, Larsen Creek) within reaches accessible to anadromous salmonids.</li> <li>- Allowable woody riparian tree species (primarily non-pyrophytic) for replanting in riparian areas include:                     <ul style="list-style-type: none"> <li>▪ Broadleaf – Bigleaf Maple (<i>Acer macrophyllum</i>), California Buckeye (<i>Aesculus californica</i>), White Alder (<i>Alnus rhombifolia</i>), Oregon Ash (<i>Fraxinus latifolia</i>), Coastal Live Oak (<i>Quercus agrifolia</i>), Arroyo Willow (<i>Salix lasiolepis</i>), Red Willow (<i>Salix laevigata</i>), and other species of native, fast-growing, shade-producing trees.</li> <li>▪ Coniferous – Redwood (<i>Sequoia sempervirens</i>), Douglas-fir (<i>Pseudotsuga menziesii</i>)*.</li> </ul> </li> </ul> <p>* Douglas-fir is a California native species and is considered to be a fire-prone plant, as listed on the FIREsafe MARIN website <a href="http://www.firesafemarin.org/plants/fire-prone">http://www.firesafemarin.org/plants/fire-prone</a>. Where planted, Douglas-fir should be set back from structures in compliance with Title 16 of the Marin County Municipal Code and the California Public Resources Code. Additionally, its potential to contribute to wildfire may be reduced through appropriate trimming, thinning, and removal of branches and shoots to reduce the density of woody plant material in the understory. While tanoak is also a native riparian and understory species in the San Geronimo Valley, tanoak is highly vulnerable to Sudden Oak Death and therefore can increase the amount of dead and dry plant material (i.e., fuel) and the potential for wildfire (Forrestel et al. 2015). The native riparian tree California Bay</p>			



<b>Mitigation Measure</b>	<b>Implemented By</b>	<b>When Implemented</b>	<b>Monitoring or Reporting Action</b>
<p>Laurel is currently considered to be a vector for Sudden Oak Death and is thus not included on the list of allowable woody riparian tree species for replanting in the SCA. Other tree species that may be native or non-native to the region but do not naturally occur in the riparian corridor and are pyrophytic-combustible, such as Monterey pine (<i>Pinus radiata</i>), Eucalyptus (<i>Eucalyptus globulus</i>), and Ghost pine (<i>Pinus sabiniana</i>), are also not included on the list of allowable woody riparian tree species for replanting in the SCA.</p> <ul style="list-style-type: none"> <li>- Replacement trees should be of the same category as the tree being removed:                             <ul style="list-style-type: none"> <li>▪ Broadleaf trees should be replaced by broadleaf trees using a #5 container.</li> <li>▪ Coniferous trees should be replaced by coniferous trees using a #15 container.</li> <li>▪ Willow trees should be replaced by willow trees using a 1- inch diameter, 4-foot length cutting.</li> </ul> </li> <li>- Replacement trees shall be irrigated as needed and monitored to ensure survival for a minimum of two years.</li> <li>- Trees that do not survive for a minimum of two years shall be replaced according to the above requirements. Allowable vegetation removal and replacement techniques; and</li> </ul> <p>Allowable seasonal timing for vegetation removal.</p> <p><i>For Water Quality and Hydraulic Capacity:</i></p> <p>Drainage requirements for new or replaced impervious areas;</p> <p>Runoff dispersal requirements from new or replaced impervious areas;</p> <p>Bioretention facility design standards; and</p> <p>Bioretention facility underdrain and overflow requirements.</p> <p><i>For Pollution Prevention during Construction Phase:</i></p> <p>Erosion and sediment control requirements, such as MCSTOPPP “Minimum Erosion and Sediment Control Measures for Small Construction Projects” (2015); and</p> <p>Seasonal restrictions for construction activities.</p>			

<b>Mitigation Measure</b>	<b>Implemented By</b>	<b>When Implemented</b>	<b>Monitoring or Reporting Action</b>
<p><i>Provision 5</i></p> <p>Require that discretionary permits for development projects<sup>7</sup> within the SCA include low impact development (LID) practices and designs that are demonstrated to prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event. This requirement applies to retention of the entire volume of each day’s rainfall that does not achieve this total volume, and the first increment of rain up to this volume for those 24-hour periods whose rainfall exceeds this volume. Specifically:</p> <ul style="list-style-type: none"> <li>– Small projects, including single-family homes and driveways, that create or replace 500 ft<sup>2</sup> or more of impervious surface shall be required to complete a stormwater control plan (SCP) that achieves retention of the 85th percentile, 24-hour design storm for the newly created or replaced impervious surface, or for an equivalent area of previously unretained impervious surface on the same site. It is acceptable for the SCP to use the existing runoff reduction measures as described in Appendix C of the Bay Area Stormwater Management Agencies Association (BASMAA) Post-Construction Manual (BASMAA 2014) to retain the 85th percentile, 24-hour design storm standard.</li> <li>– Regulated projects shall be required to complete a stormwater control plan (SCP) that achieves retention of the 85th percentile, 24-hour design storm for the newly created or replaced impervious surface, or for an equivalent area of previously unretained impervious surface on the same site. It is acceptable for the SCP to use the bioretention sizing factor (0.04) described in Appendix D of the BASMAA Post-Construction Manual (BASMAA 2014) to retain the 85th percentile, 24-hour design storm standard.</li> <li>– New roads (paved and unpaved, including driveways) shall also be required to meet the following design criteria:                         <ul style="list-style-type: none"> <li>▪ Surface drainage:                                 <ul style="list-style-type: none"> <li>• Road surfaces and ditches are hydrologically "disconnected" from streams and stream crossing culverts, with a maximum allowable hydrologic connectivity of 25% of the total new road surface and compacted shoulder area (paved and unpaved). To be considered disconnected, road surface runoff is dispersed, rather than collected and concentrated, and does not return to a connected ditch farther downstream.</li> <li>• Fine sediment contributions from roads, cutbanks and ditches are minimized by utilizing seasonal closures and installing a variety of surface drainage techniques including berm removal, road surface shaping (i.e., outsloping, insloping,</li> </ul> </li> </ul> </li> </ul>			

<sup>7</sup> Includes paper streets (Marin County Municipal Code 24.04.627) and/or improvements to existing unpaved roads.

<b>Mitigation Measure</b>	<b>Implemented By</b>	<b>When Implemented</b>	<b>Monitoring or Reporting Action</b>
<p>crowning), rolling dips, ditch relief culverts, waterbars and other measures to disperse road surface runoff and reduce or eliminate sediment delivery to the stream.</p> <ul style="list-style-type: none"> <li>▪ Stream crossings:                             <ul style="list-style-type: none"> <li>• Stream crossings have a drainage structure designed to pass the 100-year flood flow including appropriate sizing and configuration to accommodate predicted loads of woody debris and sediment.</li> <li>• Stream crossings have no diversion potential (e.g., functional critical dips are in place).</li> <li>• Culvert inlets have low plug potential (trash barriers or deflectors installed where needed).</li> <li>• Approaching road surfaces and ditches are disconnected from streams and stream crossing culverts to the extent feasible, with a maximum allowable hydrologic connectivity of 25% of the total new road surface and compacted shoulder area, using road shaping and road drainage structures.</li> <li>• Class I (fish-bearing) stream crossings meet California Department of Fish and Wildlife and National Marine Fisheries Service fish passage criteria.</li> </ul> </li> <li>▪ Road fills:                             <ul style="list-style-type: none"> <li>• Unstable and potentially unstable road fills that could deliver sediment to a stream are excavated (removed) or structurally stabilized.</li> <li>• Excavated spoil is placed in locations where eroded material will not enter a stream.</li> <li>• Excavated spoil is placed where it will not cause a slope failure or landslide.</li> </ul> </li> <li>▪ Off-site retrofits                             <ul style="list-style-type: none"> <li>• If on-site avoidance or minimization of surface runoff and sediment erosion is not feasible using the above Provision 5 criteria, off-site retrofit of existing impaired sites (e.g., stream crossings currently diverted or with diversion potential, culverts likely to plug or undersized culverts), would occur at a 2:1 ratio for total runoff area in a functionally equivalent riparian area of San Geronimo Creek or its major tributaries</li> </ul> </li> </ul>			

<b>Mitigation Measure</b>	<b>Implemented By</b>	<b>When Implemented</b>	<b>Monitoring or Reporting Action</b>
<p>(North Fork San Geronimo Creek, Woodacre Creek, Montezuma Creek, Arroyo/Barranca/El Cerrito Complex, Larsen Creek) within reaches accessible to anadromous salmonids. If functionally equivalent off-site mitigation opportunities cannot be identified within these locations, then opportunities can be selected elsewhere in San Geronimo Valley and/or in the downstream Lagunitas Creek watershed using existing site-specific sediment source assessments (e.g., San Geronimo Valley Non-County Maintained Roads Erosion Assessment and Implementation, Marin County, California, 2010; Lagunitas Creek Watershed Unpaved Roads Sediment Source Site Assessment, 2013).</p>			



<b>Mitigation Measure</b>	<b>Implemented By</b>	<b>When Implemented</b>	<b>Monitoring or Reporting Action</b>
<b>Mitigation Measure 5.1-2: Require Biotechnical Techniques and Salmonid Habitat Enhancement Elements for All Bank Stabilization Projects</b>			
<p>Marin County shall require that biotechnical techniques and salmonid habitat enhancement elements be included for all bank stabilization projects. Biotechnical techniques provide structural and surface erosion protection through the use of vegetation and wood to reproduce elements of the natural system, thus providing beneficial ecosystem functions and habitat features (Wells 2002, WDFW 2003). Specific criteria, design specifications, and guidelines for individual bank stabilization and instream habitat enhancement projects shall be developed in coordination with and approved by CDFW, with input from agencies such as NMFS and other willing participants, as appropriate for project permitting.</p> <p>Bank stabilization projects shall adhere to the following provisions:</p> <ul style="list-style-type: none"> <li>• All stream bank stabilization work shall include biotechnical techniques, such as those described in Appendix H of the Salmonid Enhancement Plan (PCI 2010) and the Creek Bank Restoration and Repair Guidance available at: <a href="https://www.marincounty.org/depts/pw/divisions/creeks-bay-and-flood/mcstoppp/general-public/creeks-and-watersheds">https://www.marincounty.org/depts/pw/divisions/creeks-bay-and-flood/mcstoppp/general-public/creeks-and-watersheds</a></li> <li>• Stream bank stabilization structures that involve riprap, rock, or other structural components used to prevent localized stream erosion, sediment transport, or movement shall be used only in unusual circumstances and shall require justification in order to receive a permit. However, rock used to facilitate natural stream processes and dynamics with the purpose of achieving stream equilibrium between erosional and depositional processes shall be allowed, providing the proposed design is justified and approved by the appropriate resource agencies.</li> <li>• All stream bank stabilization work shall also incorporate salmonid habitat enhancement elements such as anchored tree or branch bundles, overhanging woody vegetation, cobble/boulder substrate, or other features that improve the shelter complexity rating of each affected stream habitat unit by at least 20% or by a percentage equal to half the affected percentage of the bank length of each habitat unit, whichever is greater<sup>8</sup>. Habitat units and instream shelter complexity ratings shall be identified and determined before initiation of bank stabilization work and after completion of the work, and shall be identified and determined by a qualified professional according to the protocols described in the California Salmonid Stream Habitat Restoration Manual (Flosi et al. 2010, or most recent edition). The qualified</li> </ul>	<p>Marin County Board of Supervisors</p>	<p>Adopted as a part of the 2007 Marin Countywide Plan with respect to the San Geronimo watershed only.</p>	<p>Community Development Agency (CDA) would be responsible for monitoring implementation of program.</p> <p>CDA shall report on the implementation of this program as a part of the County’s General Plan Annual report.</p>

<sup>8</sup> For example, a bank stabilization project that affects 60% of the bank length of a given stream habitat unit (e.g., a pool, riffle, or run) must provide instream habitat enhancement that increases the shelter complexity rating of the affected habitat unit by 30% (i.e., half of 60%). A project that affects 25% of the bank length of a given habitat unit must provide instream habitat enhancement that increases the shelter complexity rating of the affected habitat unit by 20%.

<b>Mitigation Measure</b>	<b>Implemented By</b>	<b>When Implemented</b>	<b>Monitoring or Reporting Action</b>
<p>professional conducting the identification of habitat units and instream shelter complexity ratings will possess field experience assessing potential impacts to stream ecology, riparian ecology, and hydrology in coastal California, and the potential for impacts to anadromous salmonids from changes to these processes and conditions.</p> <ul style="list-style-type: none"> <li>Habitat enhancement elements incorporated into bank stabilization projects must be stable (non-mobile) in the channel and provide instream shelter for salmonids at summer baseflow and bankfull flow, as determined by a qualified professional (see above) using protocols described in the California Salmonid Stream Habitat Restoration Manual (Flosi et al. 2010, or most recent edition).</li> </ul>			

<b>Mitigation Measure</b>	<b>Implemented By</b>	<b>When Implemented</b>	<b>Monitoring or Reporting Action</b>
<b><u>Mitigation Measure 5.2-1: Control and Reduce Production and Delivery of Fine Sediment to Streams</u></b>			
<p>The provisions of the Expanded SCA Ordinance described under Mitigation Measure 5.1-1 will avoid or minimize the hydrologic effects and stream sedimentation associated with potential future development in the SCA, helping reduce the potential for redd scour and degradation of salmonid winter rearing habitat.</p> <p>In addition, the County shall adopt changes to existing stormwater, LID, erosion and sediment control requirements within the San Geronimo watershed and outside of the SCA consistent with the following:</p> <ul style="list-style-type: none"> <li>• Development projects requiring a permit shall be required to adhere to LID practices and designs specified in Mitigation Measure 5.1-1.</li> <li>• Projects subject to a grading permit (Marin County Municipal Code 23.08.025, 23.08.026) shall not be conducted during the rainy season (October 15–April 15). No exceptions to this requirement shall be given by the Director of Marin DPW or by other parties except in cases of imminent threat to life or property.</li> <li>• New roads (paved and unpaved) shall be required to adhere to design criteria specified in Mitigation Measure 5.1-1.</li> </ul> <p>These actions would occur in addition to ongoing implementation of measures to control and reduce production and delivery of fine sediment to streams from existing development, including applicable waste discharge requirements (WDRs) or waiver of WDRs, in keeping with the requirements of the Basin Plan Amendment (SFBRWQCB 2014b) which establishes the TMDL for fine sediment in the Lagunitas Creek watershed.</p>	<p>Marin County Board of Supervisors</p>	<p>Adopted as a part of the <i>2007 Marin Countywide Plan</i> with respect to the San Geronimo watershed only.</p>	<p>Community Development Agency (CDA) would be responsible for monitoring implementation of program.</p> <p>CDA shall report on the implementation of this program as a part of the County’s General Plan Annual report.</p>



## NATURAL SYSTEMS & AGRICULTURE ELEMENT

- BIO-4.5** **Restore and Stabilize Stream Channels.** Pursue stream restoration and appropriate channel redesign where sufficient right-of-way exists that includes the following: a hydraulic design, a channel plan form, a composite channel cross-section that incorporates low flow and bankfull channels, removal and control of invasive exotic plant species, and biotechnical bank stabilization methods to promote quick establishment of riparian trees and other native vegetation.
- BIO-4.6** **Control Exotic Vegetation.** Remove and replace invasive exotic plants with native plants as part of stream restoration projects and as a condition of site-specific development approval in an SCA, and include monitoring to prevent reestablishment.
- BIO-4.7** **Protect Riparian Vegetation.** Retain riparian vegetation for stabilization of streambanks and floodplains, moderating water temperatures, trapping and filtering sediments and other water pollutants, providing wildlife habitat, and aesthetic reasons.
- BIO-4.8** **Reclaim Damaged Portions of SCAs.** Restore damaged portions of SCAs to their natural state wherever possible, and reestablish as quickly as possible any herbaceous and woody vegetation that must be removed within an SCA, replicating the structure and species composition of indigenous native riparian vegetation.
- BIO-4.9** **Restore Culverted Streams.** Replace storm drains and culverts in SCAs with natural drainage and flood control channels wherever feasible. Reopening and restoring culverted reaches of natural drainages should be considered part of review of development applications on parcels containing historic natural drainages where sufficient land area is available to accommodate both the reopened drainage and project objectives. Detailed hydrologic analysis may be required to address possible erosion and flooding implications of reopening the culverted reach, and to make appropriate design recommendations. Incentives should be provided to landowners in restoring culverted, channelized, or degraded stream segments. Where culverts interfere with fish migration but replacement is not possible, modify culverts to allow unobstructed fish passage.
- BIO-4.10** **Promote Interagency Cooperation.** Work in close cooperation with flood control districts, water districts, and wildlife agencies in the design and choice of materials for construction and alterations within SCAs.
- BIO-4.11** **Promote Riparian Protection.** Support agencies, organizations, and programs in Marin County that protect, enhance, and restore riparian areas.
- BIO-4.12** **Support and Provide Riparian Education Efforts.** Educate the public and County staff about the values, functions, and importance of riparian areas. Landowner education regarding the sensitivity of riparian corridors will be provided as part of the Natural Resource Information Program called for in Program BIO-1.c. An emphasis will be placed on public outreach to owners of developed properties encompassing or adjacent to SCAs where minimum setback distances are not provided. Information on regulations protecting riparian corridors should be available, together with general





## MARIN COUNTYWIDE PLAN

methods to minimize disturbance and improve habitat values. An updated list of regulatory agencies and their contact information should be maintained as part of the Natural Resource Information Program.

- BIO-4.13 Provide Appropriate Access in SCAs.** Ensure that public access to publicly owned land within SCAs respects the environment, and prohibit access if it will degrade or destroy riparian habitat. Acquire public lands adjacent to streams where possible to make resources more accessible and usable for passive recreation, and to protect and enhance streamside habitat.
- BIO-4.14 Reduce Road Impacts in SCAs.** Locate new roads and roadfill slopes outside SCAs, except at stream crossings, and consolidate new road crossings wherever possible to minimize disturbance in the SCA. Require spoil from road construction to be deposited outside the SCA, and take special care to stabilize soil surfaces.
- BIO-4.15 Reduce Wet Weather Impacts.** Ensure that development work adjacent to and potentially affecting SCAs is not done during the wet weather or when water is flowing through streams, except for emergency repairs, and that disturbed soils are stabilized and replanted, and areas where woody vegetation has been removed are replanted with suitable species before the beginning of the rainy season.
- BIO-4.16 Regulate Channel and Flow Alteration.** Allow alteration of stream channels or reduction in flow volumes only after completion of environmental review, commitment to appropriate mitigation measures, and issuance of appropriate permits by jurisdictional agencies based on determination of adequate flows necessary to protect fish habitats, water quality, riparian vegetation, natural dynamics of stream functions, groundwater recharge areas, and downstream users.
- BIO-4.17 Continue Collaboration with the Marin Resource Conservation District.** Continue to collaborate with, support, and participate in programs provided by the Marin Resource Conservation District and the Natural Resource Conservation Service to encourage agricultural operators who conduct farm or ranch activities within a Streamside Conservation Area to minimize sedimentation and erosion to enhance habitat values.
- BIO-4.18 Promote the Use of Permeable Surfaces When Hardscapes Are Unavoidable in the SCA and WCA.** Permeable surfaces rather than impermeable surfaces shall be required wherever feasible in the SCA and WCA.
- BIO-4.19 Maintain Channel Stability.** Applicants for development projects may be required to prepare a hydraulic and/or geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff. This assessment should be required where evidence that significant current or impending channel instability is present, such as documented channel bed incision, lateral erosion of banks (e.g., sloughing or landsliding), tree collapse due to streambank undermining and/or soil loss, or severe in-channel sedimentation, as determined by the County.



## NATURAL SYSTEMS & AGRICULTURE ELEMENT

Characteristics pertinent to channel stability would include hillslope erosion, bank erosion, excessive bed scour or sediment deposition, bed slope adjustments, lateral channel migration or bifurcation, channel capacity, and the condition of riparian vegetation. The hydraulic and/or geomorphic assessment shall include on-site channel or drainageway segments over which the applicant has control or access. In the event that project development would result in or further exacerbate existing channel instabilities, the applicant could either propose his/her own channel stabilization program subject to County approval or defer to the mitigations generated during the required environmental review for the project, which could include maintenance of peak flows at pre- and post-project levels, or less. Proposed stabilization measures shall anticipate project-related changes to the drainageway flow regime.

All project improvements should be designed to minimize flood hydrograph peak flow or flood volume increases into drainage courses. To this end, design features such as porous pavement, pavers, maximizing overall permeability, drainage infiltration, disconnected impervious surfaces, swales, bioretention, green roofs, etc., should be integrated into projects as appropriate.

For projects subject to discretionary review, the applicant may be required, as appropriate, to submit a pre-and post-project hydrology and hydraulic report detailing the amount of new impervious surface area and accompanying surface runoff from all improvement areas, including driveways — with a goal of zero increase in runoff (no net increase in peak off-site runoff). The applicant may be required to participate in a peak stormwater runoff management program developed pursuant to new Program BIO-4.20.

**BIO-4.20** **Minimize Runoff.** In order to decrease stormwater runoff, the feasibility of developing a peak stormwater management program shall be evaluated to provide mitigation opportunities such as removal of impervious surface or increased stormwater detention in the watershed.

### *Why is this important?*

Riparian habitats are irreplaceable, vital biological systems that provide critical functions for water purification, flood control, fish and wildlife movement, and native habitat. However, large portions of existing riparian systems have been eliminated by past stream channelization, agricultural expansion, and urban development.

**Environment:** Preserving and restoring riparian habitats is essential to maintaining habitat connectivity and improving degraded conditions for fish and wildlife species. Adequate setbacks and limitations on uses within designated Stream Conservation Areas are needed to minimize disturbance to sensitive resources and to maintain and improve wildlife habitat, flood protection, and water purification.

**Economy:** Maintaining healthy waterways and natural habitat areas is critical to the economic health and vitality of the county. Protecting and restoring native vegetation along riparian corridors minimizes



## MARIN COUNTYWIDE PLAN

potential erosion, downstream sedimentation, and water quality degradation. Directing development out of floodways reduces potential costly flood damage and loss.

**Equity:** Protecting and restoring riparian corridors provide an opportunity to link urban and natural areas to benefit human beings as well as native plants and wildlife. This expands the network of open space lands, areas for healthy recreation and exercise, an appreciation of natural systems, and aesthetic benefits.

### *How will results be achieved?*

## Implementing Programs

- BIO-4.a**      ***Adopt Expanded SCA Ordinance.*** Adopt a new SCA ordinance that would implement the SCA standards for parcels traversed by or adjacent to a mapped anadromous fish stream and tributary. Such an ordinance could, by way of example, require compliance with the incorporation of best management practices into the proposed project and could consider modest additions to existing buildings that would not result in significant impact to riparian resources, such as additions that do not exceed 500 square feet of total floor area and that do not increase the existing horizontal encroachment into the SCA, provided a site assessment first confirms the absence of adverse impacts to riparian habitats. As part of the new ordinance, consider including additional incentives, such as reduced fees or other similar incentives, to reduce the extent of existing development within an SCA or improve conditions that may be impacting sensitive resources.
- BIO-4.b**      ***Reevaluate SCA Boundaries.*** Beginning with the City-Centered Corridor and smaller parcels, conduct a comprehensive study to reevaluate standards used to protect SCAs and regulate development adjacent to streams. The study shall consider available data on stream protection and management standards, their effectiveness, and the effectiveness of the current standards used in Marin County, including the 50- and 100-foot setback distances (plus additional setbacks from the edge of riparian vegetation where applicable). The study shall consider stream functions on a watershed-level basis, and include input from professionals such as a fluvial geomorphologist, hydrologist, wildlife biologist, and vegetation ecologist, together with resource agencies and interested members of the public. Each SCA should encompass all woody riparian vegetation and be of sufficient width to filter sediments and other pollutants before they enter the stream channel. Careful study may be needed to distinguish woody riparian vegetation from other types of woodland or forest vegetation in some areas.
- BIO-4.c**      ***Prepare County Stream Map.*** Use the County GIS to map perennial, intermittent, and, where feasible, ephemeral streams subject to SCA policies. Use the resulting mapping in conjunction with USGS maps and the “ephemeral stream” definition to confirm SCAs on parcels proposed for development. Add to and update the map on an ongoing basis as additional streams are surveyed.



## NATURAL SYSTEMS & AGRICULTURE ELEMENT

- BIO-4.d**      ***Establish Functional Criteria for Land Uses in SCAs.*** Develop detailed criteria for protection of riparian functions, and identify methods for their use in evaluating proposed development.
- BIO-4.e**      ***Identify Proposals Within SCAs.*** Determine whether a proposed development falls wholly or partially within an SCA, through agency review by County staff, and as necessary by a qualified professional, of discretionary application materials and site inspection.
- BIO-4.f**      ***Identify Potential Impacts to Riparian Systems.*** At the time of a development application, evaluate potential impacts on riparian vegetation and aquatic habitat, and incorporate measures to protect riparian systems into the project design and construction. Retain and minimize disturbance to woody and herbaceous riparian vegetation in SCAs and adjacent areas. (Tree growth may be cleared from the stream channel where removal is essential to protect against property damage or prevent safety hazards.)
- BIO-4.g**      ***Require Site Assessment.*** Require development applications to include the submittal of a site assessment prepared by a qualified professional where incursions into the SCA are proposed, or adverse impacts to riparian resources may otherwise occur. Unless waived, the qualified professional shall be hired by Marin County. The site assessment shall be paid for by the applicant and considered in determining whether any adverse direct or indirect impacts on riparian resources would occur as a result of the proposed development, whether SCA criteria and standards are being met, and to identify measures necessary to mitigate any significant impacts. The site assessment may also serve as a basis for the County to apply restrictions in addition to those required by State and federal regulations.
- BIO-4.h**      ***Comply with SCA Criteria and Standards.*** All development permit applications shall be reviewed for conformity with these SCA policies, criteria, and standards and in accordance with the California Environmental Quality Act. Proposals that do not conform to SCA policies, and cannot be modified or mitigated to conform, shall be denied. If a proposal involves the creation of a new parcel that is wholly or partially in an SCA, the land division shall be designed to ensure that no development occurs within the SCA.
- BIO-4.i**      ***Replace Vegetation in SCAs.*** When removal of *native* riparian vegetation is unavoidable in an SCA, and mitigation is required, require establishment of native trees, shrubs, and ground covers within a period of five years at a rate sufficient to replicate, after a period of five years, the appropriate density and structure of vegetation removed. Require replacement and enhancement planting to be monitored and maintained until successful establishment provides for a minimum replacement or enhancement ratio of 2:1.



## MARIN COUNTYWIDE PLAN

- BIO-4.j** *Continue Funding Fencing of Sensitive Stream Areas.* Encourage continued funding in conjunction with the Marin Resource Conservation District, the Natural Resource and Conservation Service, and other relevant agencies, to pay the cost of fencing sensitive streamside areas (on both public lands and private property) that could be impacted by cattle grazing.
- BIO-4.k** *Locate Trails Appropriately.* Situate trails at adequate distances from streams to protect riparian and aquatic habitat and wildlife corridors. Trails may occasionally diverge close to the top of bank to provide visual access and opportunities for interpretive displays on the environmental sensitivity of creek habitats. (See policies and programs in the Trails Section of this Element.)
- BIO-4.l** *Monitor Stream Conservation Areas.* Establish a system of monitoring SCAs, which may include mapping fenced streams and stream restoration areas to ensure the protection of vegetation, soils, water quality, and wildlife habitat along streams.
- BIO-4.m** *Encourage Conservation Plans Within the Stream Conservation Area.* Continue to collaborate with the Marin Resource Conservation District to encourage and support the continued implementation of the Marin Coastal Watersheds Permit Coordination Program, especially the preparation of management and conservation plans where appropriate for agricultural activities within the Stream Conservation Areas.
- BIO-4.n** *Provide Information to Reduce Soil Erosion and Sedimentation.* Provide information and fact sheets on programs offered by the Marin Resource Conservation District at the Community Development Agency front counter to landowners and applicants who submit development proposals within the Streamside Conservation Area in the Stemple, Walker, and Lagunitas creek watersheds.
- BIO-4.o** *Consider Culvert Restoration.* As part of the expanded SCA ordinance, consider additional policy language to encourage reopening culverted reaches and restoring channelized reaches of natural drainages. This may include adjustments in minimum standard setback distances where site constraints prevent complete compliance along the restored or enhanced channel reach. A detailed analysis may be required to demonstrate restoration feasibility and address possible effects on erosion and flooding potential. Incentives may be available to landowners to encourage restoration and enhancement efforts.
- BIO-4.p** *Implement NPDES Phase II.* Continue to implement NPDES Phase II permit requirements relating to peak flow controls to ensure that project related and cumulative impacts to peak flows are minimized or avoided through conditions on project approval as required by the ordinances.
- BIO-4.q** *Develop Standards Promoting Use of Permeable Materials.* Review existing permit requirements for development in SCAs and WCAs, and recommend additional standards for project review and corrective measures as needed to protect SCAs and WCAs from inappropriate ministerial and discretionary development. Develop





## NATURAL SYSTEMS & AGRICULTURE ELEMENT

additional standards for requiring the use of best management practices, including measures such as the use of permeable materials in the SCA and WCA. A checklist of Best Management Practices should be made available to applicants.

- BIO-4.r**     ***Review Septic System Setbacks in SCA and WCA.*** Review existing septic requirements within SCAs and WCAs, and revise requirements as necessary to provide monitoring and to protect SCAs and WCAs from impacts associated with septic systems. Consider adopting larger setback standards applied to new development for septic systems and their associated leachfields.
  
- BIO-4.s**     ***Continue Collaboration with the Marin Resource Conservation District and Agricultural Commissioner.*** Continue to collaborate with, support, and participate in programs provided by the Marin Resource Conservation District, the Natural Resource Conservation Service, and the Agricultural Commissioner’s Office to encourage agricultural operators who conduct farm or ranch activities within a Streamside Conservation Area to minimize pesticide use and activities that cause sedimentation and erosion, to enhance habitat values.
  
- BIO-4.t**     ***Collaborate with Groups to Address Implementation of Protections to SCAs and WCAs.*** Collaborate with local, regional, State, and federal organizations (Marin Organic, MALT, SPAWN, Marin Audubon, RCD, Fish and Game, RWQCB, Sierra Club, Farm Bureau, Trout Unlimited, and affected property owners) to address long term habitat protection and develop funding mechanisms to address the issue.
  
- BIO-4.u**     ***Investigate Tax Delinquent Properties.*** Investigate conversion of tax delinquent properties in SCAs into public ownership.

### What Are the Desired Outcomes?

#### GOAL BIO-5

**Baylands Conservation.** Preserve and enhance the diversity of the baylands ecosystem, including tidal marshes and adjacent uplands, seasonal marshes and wetlands, rocky shorelines, lagoons, agricultural lands, and low-lying grasslands overlying historical marshlands.

The Baylands Corridor is described in Maps 2-5a and 2-5b. While the mapped areas include lands within incorporated cities, the policies, programs, and implementation measures related to the Baylands Corridor apply only within unincorporated Marin County.

The Baylands Corridor consists of areas previously included in the Bayfront Conservation Zones in the 1994 Countywide Plan, as well as all areas included in Bayfront Conservation Zone overlays adopted since the 1994 Countywide Plan. The Baylands Corridor consists of land containing historic bay marshlands based on maps prepared by the San Francisco Estuary Institute. Based upon information contained in studies completed during the preparation of this Plan,

