

# Landowner Resource Guide: For Properties Near Streams in San Geronimo Valley

Marin County Community Development Agency

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## Introduction

In July 2022, the Board of Supervisors adopted new rules and development standards for properties within San Geronimo Valley to protect streams as an important environmental resource. This guide is intended to support the new [Stream Conservation Area \(SCA\) regulations](#), which carry out the [Marin Countywide Plan \(CWP\)](#) stream and riparian protection policies. More information is available at [www.marincounty.org/SCA](http://www.marincounty.org/SCA).

## Developing Near a Stream

If your property is located within the Stream Conservation Area (SCA), it is your responsibility to gain an understanding of all the requirements that apply and how to meet them before beginning a project. The Planning Division's various guides and fact sheets provide useful information, such as the [Planning Application Guide](#), which includes a step by step overview of the permit process, while the [SCA Fact Sheet](#) summarizes the key stream regulations..

All proposed projects within the SCA will be subject to discretionary review and will be evaluated for consistency with various County policies, regulations, and guidelines. Further, proposed projects must specific "findings" as part of the Site Plan Review land use permit in order to be approved.

The CWP establishes SCAs to protect stream and streamside habitats from the impacts of development by providing:

- Habitat areas for aquatic species (such as fish and invertebrates), land animals (such as birds, reptiles, and mammals), herptiles (frogs, toads, turtles, newts, and salamanders), insects, and rare and native plant species.

- An area for absorption and infiltration of water runoff from adjacent rooftops, driveways, patios, and other hard (impermeable) surfaces. This absorption slows erosion along creek banks and prevents harmful pollutants from entering waterways.
- Floodplain and overflow areas to distribute flood waters and help prevent damage to structures, property, and natural habitat during large flood events.

Refer to Appendix D for a summary of the relevant CWP riparian protection policies.

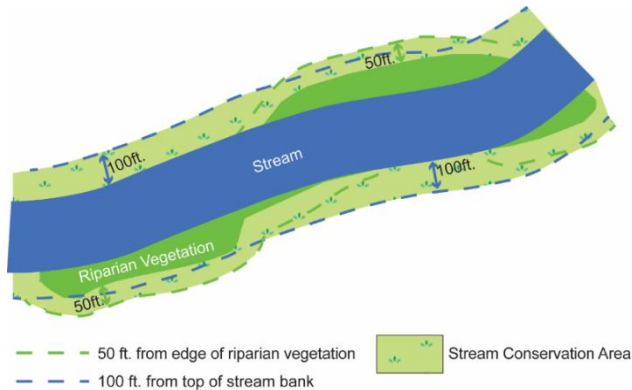
## The Stream Conservation Area (SCA)

The SCA is a buffer along all perennial, intermittent, and ephemeral streams within San Geronimo Valley. The SCA includes the creek itself and extends 100 feet laterally from the top of the creek bank, or 50 feet laterally from the outer edge of riparian vegetation, whichever is greater. This buffer may be increased based on the results of a [site assessment](#). Figure 1 illustrates the correct way to measure the SCA.

The first 35 feet of the SCA buffer is considered a special resource zone where no new development is allowed. However, limited development may be allowed within the rest of the SCA, which would be subject to discretionary review and approval.

This document will help you understand what policies and codes apply for proposed development located within the SCA.

**Figure 1. Lateral Measurement of the SCA**



## Applicability of the SCA

The CWP SCA policies require discretionary entitlements (also known as Planning Permits, such as Site Plan Review) for projects in the SCA. Specifically, a Site Plan Review land use permit is required for any activity, use of land, or improvement in the SCA that would:

- a. Entail grading or expose soil;
- b. Increase lot coverage or surface runoff;
- c. Remove vegetation and/or woody riparian vegetation, or
- d. Alter the bed, bank, or channel of any stream.

In addition, the regulations require a Site Plan Review land use permit on properties outside the SCA for new roads and driveways and when an activity would create or replace 500 square feet or more of lot coverage. These measures are intended

Certain improvements within the SCA are exempt from the Site Plan Review land use permit, although Building Permits or other permits may still be needed. Information on exemptions and other SCA regulations are provided in “Questions and Answers about the SCA in San Geronimo Valley” starting on page 3.

## CEQA Basics

CEQA stands for the “California Environmental Quality Act.” CEQA applies to all discretionary projects proposed to be conducted or approved by a California public agency, including private projects requiring discretionary government approval. The purposes of CEQA are to:

- Disclose to the public the significant environmental effects of a proposed project, through an Initial Study (IS), Negative Declaration (ND), or Environmental Impact Report (EIR).
- Prevent or minimize damage to the environment through development of project alternatives, mitigation measures, and mitigation monitoring.
- Disclose to the public the agency decision making process to approve discretionary projects through findings and statements of consideration.
- Enhance public participation in the environmental review process.
- Improve interagency coordination through early consultations, scoping meetings, notices of preparation, and State Clearinghouse review.
- The time for projects that trigger CEQA review is prolonged six to twelve months or more depending on the level of environmental review that is required. Refer to the Community Development Agency’s [Environmental Review](https://www.marincounty.org/depts/cd/divisions/environmental-review) website (<https://www.marincounty.org/depts/cd/divisions/environmental-review>), for additional information or contact the Agency’s Permit Center at (415) 473-6269.

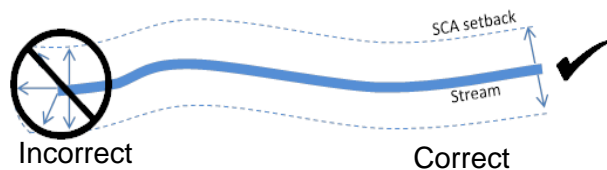
## Questions and Answers about the SCA in San Geronimo Valley

### 1. Where does the SCA apply?

The SCA applies to all perennial, intermittent, and ephemeral streams as mapped on the most recent appropriate USGS National Hydrography dataset. The County's online Geographic Information System map viewer, [MarinMap](http://www.marinmap.org), ([www.marinmap.org](http://www.marinmap.org)), shows the location of these streams, which are listed under the "Hydrology" layer tab.

### 2. How is the SCA measured?

The SCA is measured 100 feet laterally outward (perpendicular) from the top of both creek banks, or 50 feet laterally from the outer edge of riparian vegetation, whichever is greater. See Figure 2. The buffer may be extended based on the results of a site assessment, which decides the precise extent of the SCA. For those ephemeral streams with no clear top of bank, the SCA is measured from the centerline of swale.



**Figure 2: Lateral Measurement of the SCA**

The [MarinMap](http://www.marinmap.org) map viewer includes a Distance Tool on the Analysis Tab that can be used to measure an approximate location of the SCA. However, the precise location of the SCA would be mapped as part of the Site Assessment, described in Question #6 (What is a Site Assessment).

### 3. When does the SCA apply? What permit will I need?

A Site Plan Review land use permit is required for development located in the SCA. Specifically, Development Code [Section 22.52.020.F](#) requires Site Plan Review when an activity, use of land, or other improvement would:

- Entail grading or expose soil;
- Increase lot coverage;
- Increase surface runoff;
- Remove vegetation or woody riparian vegetation; or
- Alter the bed, bank, or channel of any stream.

### 4. Can the SCA buffer be reduced?

No, While the Site Plan Review land use permit would consider limited development within the SCA, a reduction of the buffer is not allowed.

### 5. I do not have an SCA on my property. Do the SCA regulations apply?

The new regulations ensure robust Low Impact Development (LID) and stormwater requirements are applied throughout the entire San Geronimo Valley watershed, not just within the SCA. Specifically, Site Plan Review is required when proposed development would:

- Create new roads or driveways; or
- Create or replace 500 square feet or more of lot coverage.

These measures are intended to control and reduce the production and delivery of fine sediment to streams and avoid or minimize the frequency and magnitude of flows into the stream to prevent redd

scour (a redd is nest of salmon eggs in the gravel) and degradation of salmonid winter rearing habitat.

Other land use permits may be required depending on the scope of your proposed project.

## **6. What is a Site Assessment? Is it true the County will cover the costs to prepare it?**

A [Site Assessment](#) is required as part of a Site Plan Review land use permit application when development is proposed within the SCA.

The purpose of the Site Assessment is to map the precise boundary of the SCA; confirm the avoidance of woody riparian vegetation; identify the presence of any sensitive biological resources; and determine site appropriate Standard Management Practices to incorporate into the project design, among other things.

The Site Assessment must 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. To this end, the County has partnered with the Marin Resource Conservation District to have the Urban Streams Coordinator (USC) prepare the mandated Site Assessment at the County's expense. That's right – the County will cover this cost! Alternatively, an applicant may hire a qualified professional at their own expense and, consistent with current practice, the County retains the ability to

arrange for peer review if there are questions about findings.

For more cost information, refer to Question #16 (What will it cost to follow the SCA regulations?)

## **7. What are Standard Management Practices (SMPs)?**

Every project must incorporate relevant best practices from a checklist of [Standard Management Practices](#), or "SMPs." The SMPs consist of vegetation, stormwater runoff control, and construction management best practices designed to directly offset or avoid impacts to hydraulic capacity, riparian habitat, and water quality. The Site Assessment will recommend suitable SMPs based on the project scope.

## **8. What activities in the SCA would not require Site Plan Review?**

Certain activities are exempt from the Site Plan Review land use permit requirements, including:

- a. Interior remodeling that does not: result in an increase in the gross floor area within the structure; change the permitted use; and change the exterior appearance of the structure (e.g., kitchen or bath remodel).
- b. Ordinary repairs and maintenance of an existing improvement, provided that the work does not change the approved land use and expand or enlarge the improvement (e.g., roof repair/replacement, exterior painting).
- c. Improvements necessary to meet accessibility requirements.

- d. Category 1 [Accessory Dwelling Units](#).
- e. Signs.
- f. Removal of dead, invasive, or exotic vegetation, including leaf litter, except for woody debris located below the stream top of bank.
- g. Removal or trimming of pyrophytic (fire prone) combustible live trees and/or vegetation consistent with Marin County Fire Code Title 16, [Section 16.16.040](#), including tanoak, California bay laurel, and Douglas fir tree species.
- h. Planting of non-pyrophytic native vegetation.
- i. Voluntary creek restoration projects authorized under the [Marin Resource Conservation District Permit Coordination Program](#).
- j. Repair and maintenance, including the replacement, of existing degraded septic systems that incorporate MCSTOPPP [Minimum Control Measures for Small Construction Projects](#).
- k. Subdivision per 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; and
- l. Development that is permitted pursuant to [Marin County Code Chapter 11.08](#) (Watercourse Division or Obstruction).

These exemptions are called out in Development Code [Section 22.05.050](#) (Exemptions from Land Use Permit Requirements) and [Section 22.52.030](#) (Site

Plan Review Exemptions).

## Streams

### 9. What other County regulations apply to streams?

The following regulations also apply to development in or near streams:

- [Chapter 11.08](#) (Watercourse Division or Obstruction)- regulates stream obstructions and construction in a stream, including retaining walls, bulkheads, artificial slope protection, conduits, bridges, and other structures.
- [Chapter 23.08](#) (Excavating, Grading and Filling) regulates grading, and specifically requires erosion control measures for grading within 100 feet from top of any water course in the Inland-Rural Corridor, which includes San Geronimo Valley.
- [Section 24.04.560](#) (Drainage Setbacks) requires a minimum 20-foot setback from top of bank, or 20 feet plus twice the channel depth measured from the toe of the near embankment, whichever is greater, from all creeks, channels, or other major waterways.

Consult with the Marin County Department of Public Works prior to starting any activity within or near a creek.

### 10. What is hydraulic capacity?

Hydraulic capacity measures an area's ability to drain or infiltrate water into the ground. Hydraulic capacity is affected by the amount of impervious surfaces. For example, a site covered in a material like asphalt or concrete generates more runoff (without mediation) during a storm

than the site in its vegetated soil condition.

**11. What is habitat function?**

Habitat function refers to the chemical, physical, and biological processes that allow an ecosystem to exist and maintain its integrity. Examples include food, water, and shelter functions; migration corridors; spawning, breeding, or nesting sites; and shade and nutrient cycling.

**12. What is habitat value?**

Habitat values are those aspects of the habitat valued by society but not necessarily for the existence and function of the ecological unit. These include recreational, aesthetic, flood control, groundwater recharge functions.

**13. What is water quality?**

Water quality refers to the chemical, physical, and biological characteristics of a stream that can be measured by various indicators including pH, temperature, conductivity, suspended and dissolved solids (turbidity), color, concentration of pollutants, and the prevalence of certain bacteria or insects.

**14. What is meant by “no net habitat loss”?**

“No net habitat loss” means complete replacement of equivalent habitat acreage, value, and function with native vegetation at a 2:1 ratio, which must be monitored for a period of no less than five years to ensure effective replacement.

**15. How are impacts to habitat value, habitat function, and water quality determined?**

These impacts would be determined through the Site Assessment, the contents of which are briefly described in Question #7 (What are Standard Management Practices).

**Development in the SCA**

**16. What will it cost to follow the SCA regulations?**

The Board of Supervisors adopted reduced fees for certain permits and services to incentivize compliance and ensure landowner efforts to follow the stream provisions remains affordable. The Site Plan Review permit application fee has been reduced to a flat rate of \$2,000. However, be aware that other permits may be needed depending on your project’s scope. In addition, Moreover, the environmental review deposit fee for an Initial Study is reduced to \$5,000 deposit, if needed. The above fee reductions are scheduled to sunset within five years from the effective date of the ordinance (August 18, 2022) and only apply for projects located in the SCA in San Geronimo Valley.

As provided in Question #6 (What is a Site Assessment and is it true the County will cover the costs to prepare it?), the County will cover the cost of the mandated Site Assessment.

**17. Is it true that I cannot use or improve the SCA on my property?**

No. You can continue to use your property. The SCA regulations will require that new development be located outside the SCA when feasible.



However, new activities within the SCA will need to follow the SCA regulations and obtain a permit (unless exempt – see Questions #3 (When does the SCA apply) and #8 (What activities in the SCA would not require Site Plan Review?) to ensure the activity meets development standards and would not adversely impact water quality, increase run-off, or affect the habitat functions or values associated with the stream.

**18. What land uses are allowed within the first 35 feet of the SCA?**

The SCA regulations limit uses within the first 35 feet of the SCA to the following:

- a. Maintenance and repair of existing permitted structures within the existing footprint.
- b. Driveway, road, and utility crossings, if no other location that avoids encroaching into the buffer is feasible and the crossing is sited to minimize environmental impacts.
- c. Projects to improve fish and wildlife habitat.
- d. Water monitoring installations.
- e. Passive recreation that does not disturb native species; and
- f. Necessary water supply and flood control projects that minimize impacts to stream function and to fish and wildlife habitat.

**19. What land uses are allowed outside the 35-foot buffer within the rest of the SCA?**

Allowable land uses include those same uses allowed within the buffer's first 35 feet, as well as proposed additions to existing permitted structures that do not:

- a. Increase the lot coverage within the SCA by more than a cumulative total of 300 square feet; or

- b. Increase the horizontal encroachment into the SCA.

Vertical additions to existing permitted structures that do not expand the existing structural footprint are excluded from the 300 square foot cumulative lot coverage allowance. In other words, building “up” and adding a second story is preferred to building “out” and expanding the building footprint. Once exhausted, no more lot coverage is allowed unless an equivalent amount of existing lot coverage is removed (and restored) for each proposed square foot of new lot coverage.

Notwithstanding, state law may allow certain other uses and/or development that is not otherwise allowed by the SCA regulations, such as development subject to [Senate Bills 9](#) and [35](#) and Category 1 [Accessory Dwelling Units](#).

**20. What is meant by “lot coverage”?**

Development Code Section 22.130.030 defines Lot Coverage as “the percentage of total site occupied by buildings and other structures, impervious paving and other hard surfaces that have a water runoff factor of 0.5 or more according to the Bay Area Storm Water Management Agencies Association guidelines. Structure/building coverage includes the primary structure, all accessory structures (e.g., carports, garages, patio covers, storage sheds, trash dumpster enclosures, etc.) and architectural features (e.g., chimneys, balconies, decks, porches, stairs, etc.). Structure/building coverage is measured from exterior wall to exterior wall.”

**21. The language says that a proposed addition must not increase the “horizontal encroachment” in the SCA. What does this mean?**

This means that no part of the proposed addition is allowed to be located closer towards the stream than any portion of the existing structure or any structure removed, whichever is more restrictive.

**22. Would the repair and maintenance of a septic system need to comply with the SCA?**

The repair and/or replacement of an existing failing septic system would not require discretionary review if the project incorporates applicable MCSTOPPP [Minimum Control Measures for Small Construction Projects](#). Regardless, [Environmental Health Services \(EHS\)](#) approval and a separate [septic permit](#) is required for any repair, modification, or replacement of a septic system

Construction of a new sewage/disposal system on an undeveloped or developed lot that is not replacing a degraded system would require Site Plan Review, in addition to EHS approval, to protect salmonids from adverse land disturbance impacts.

**23. What about existing structures that were legally constructed without permits prior to adoption of the stream regulations?**

Certain types of structures may have been previously exempt from planning and/or building requirements that would now require Site Plan Review under the new SCA rules. These structures are defined as nonconforming and may be allowed to continue being used, repaired, and maintained unless or until the structure is demolished.

**24. Can I rebuild an existing structure located in the SCA if it is destroyed by a natural disaster?**

A structure within the SCA that is destroyed by a natural disaster may be rebuilt subject to the requirements for nonconforming structures in [Development Code Section 22.112.020.E](#) provided the structure is built on the same location, maintains the same footprint, and is not enlarged or expanded.

**25. Is the repair of a retaining wall delineating the top of the creek bank allowed in the SCA?**

The retaining wall repair may be subject to Site Plan Review for any portion of the retaining wall that is located within the SCA. However, the regulations exempt work subject to the [Creek Permit](#) described in [Development Code Section 24.04.560](#) (Drainage Setbacks). You should contact the [Marin County Department of Public Works](#) Land Development team to clarify requirements since the repair may not be allowed within 20 feet from top of bank, nor within the creek banks.

**26. Will I have to pay the Habitat Restoration Fee?**

This is a development impact fee that is required when onsite mitigation is not feasible or appropriate. The fee will go into a fund for habitat and riparian restoration projects within San Geronimo Valley. The Board of Supervisors will consider the fee amount and other program details at a future public hearing.

## Riparian Vegetation

### 27. What is riparian vegetation?

Riparian vegetation is defined as vegetation associated with a watercourse and relies on the higher level of water provided by the watercourse and includes trees, shrubs, and/or herbaceous plants. The [San Geronimo Valley Landowner Resources](#) includes a plant identification guide with photos, names, and descriptions of riparian vegetation (and woody riparian vegetation) that are common in Marin's streams, as well as a handbook for small-scale erosion control, among other resources.

### 28. What is woody riparian vegetation?

Woody riparian vegetation is distinguished from herbaceous vegetation by the presence of "tough, fibrous stems and branches covered with bark," such as trees, shrubs, and vines. Common examples found within San Geronimo Valley include willow, alder, big-leaf maple, and California blackberry. You can learn more about riparian vegetation and other native species at [Berkeley CalPhoto](#).

### 29. Do the SCA rules prohibit the removal of woody riparian vegetation?

The SCA rules apply to removal of any woody riparian vegetation. While removal of woody riparian vegetation may qualify for an exemption under certain circumstances (such as if the plant poses a threat to public health or safety), in most cases it would likely require Site Plan Review.

## Landscaping and Vegetation Management

### 30. What is considered landscaping, and is landscaping regulated within the SCA?

Landscaping refers to vegetated areas that are planted, maintained, and/or cultivated for the use or enjoyment of the property owner or occupant, such as lawns (turf or groundcover), gardens, swales, planting beds, water features, and the like.

You can continue to maintain existing landscaping and encouraged to plant non-pyrophytic native vegetation. However, the displacement or removal of native vegetation within the SCA with ornamental plants, lawns, gardens, planting beds, and water features are discouraged and would also require Site Plan Review.

### 31. Is vegetation removal allowed in the SCA?

Removal vegetation within the SCA will require Site Plan Review unless the vegetation is considered dead, invasive, or exotic. This type of vegetation are exempt from the Site Plan Review land use permit. Live pyrophytic combustible vegetation may also be removed. See also Question #8 (What activities in the SCA would not require Site Plan Review?).

The County recommends a property owner obtain a report from a licensed arborist or verify the status of the tree or vegetation to be removed with photographs to document the applicability to remove vegetation in compliance with the SCA regulations.

**32. Can I trim and prune bushes and trees?**

A land use permit is not needed to trim and prune bushes and trees within the SCA. However, be aware that altering the shade cover or ecosystem functions by thinning or pruning vegetation in or adjacent to a stream or riparian area will require a permit and/or notification to the Regional Water Quality Control Board, among other agencies.

**33. How can I manage vegetation on my property for fire safety?**

As mentioned in Question #18 (What land uses are allowed outside the 35-foot buffer within the rest of the SCA?), the SCA regulations exempt removal of pyrophytic (fire-prone) vegetation from Site Plan Review as long as such removal is consistent with Marin County Fire Code [Section 16.16.040](#) and Development Code [Chapter 22.62](#) regarding Tree Removal Permits. However, the removal of any live tree or vegetation that is greater than six inches in diameter at breast height and below top of stream bank is not exempt unless the tree or vegetation presents an immediate hazard to public safety.

[Fire Safe Marin](#) provides guidance for managing vegetation for fire safety, while the [Marin Wildfire Prevention Authority](#) recommends best practices to guide wildfire risk reduction in

[Ecologically Sound Practices for Vegetation Management](#).

**34. How do I know if vegetation is pyrophytic (fire prone)?**

For the purposes of the exemption, pyrophytic combustible trees and/or vegetation are defined as fire-prone plants listed as "[fire-hazardous](#)" by Fire Safe Marin.

**35. How does the County ensure my project will meet defensible space requirements?**

Most, if not all, of San Geronimo Valley is within the wildland urban interface (WUI) and faces high fire hazard potential. Staff will refer any Site Plan Review application involving vegetation removal in the WUI to Marin County Fire for review, which would require a landscape or vegetation management plan to manage the landscaping design, installation, and maintenance and to address vegetation management for defensible space requirements.

**36. Is mowing grass subject to the SCA?**

No. [Fire Safe Marin](#) advises to use hand pulling or string trimmers (vs lawn mowers) for clearing weeds, grasses, or other fine vegetation. If mowing is necessary, mow annual grasses and weeds to about 4 – 6 inches tall, ideally before 10 am and not on hot or windy days.

## Appendix A:

### Reference Tools for Homeowners, Residents, and Contractors

A variety of information is available for residents, landowners, and contractors to identify best management practices for developing near streams. The most comprehensive source is the Marin Watersheds program online [Landowner Resources Library](#)<sup>1</sup>, including the user friendly “how to” guides, technical information, and resource manuals about:

- erosion control
- fire management
- fish habitat improvements and stream bank restoration
- invasive weeds
- pest control
- native plant restoration,
- rainwater harvesting, and
- project planning and permitting.

Below is a list of useful resources for residents and landowners that are available online via the [Landowner Resources Library](#) link above. The basics of healthy creeks, erosion control and erosion prevention, stormwater runoff management, and native plant species are provided along with some common-sense management practices, including many that can be employed at little or no additional cost.

#### 1. Stormwater Management Resources

The Federal Clean Water Act requires jurisdictions to manage stormwater and create a stormwater management plan. As part of this effort, the Marin County Stormwater Pollution Prevention Program, [MCSTOPPP \(www.MCSTOPPP.org\)](#), a joint

effort of Marin's cities, towns and the County work collaboratively to:

- Prevent stormwater pollution
- Protect and enhance water quality in creeks and wetlands
- Preserve beneficial uses of local waterways
- Comply with State and Federal regulations

View the [Marin County Guide to Creek and Wetland Permits](#) for information on wetland and creek permit requirements. Other MCSTOPPP resources include:

- [Post-construction requirements and Low Impact Development guidance](#)
- [Stormwater best management practices for construction projects](#)
- [Marin project coordination meetings](#)
- [Pollution prevention tips for the public](#)
- [Report an illegal discharge or dumping into storm drain or waterway](#)

#### 2. Creek Care: A Guide for Marin Residents

In Marin County, all storm drains flow to local creeks and/or the Bay without treatment. Recognizing how individuals impact Marin County waterways is the first step to creek care and stewardship. The [Creek Care Guide](#):

- Defines healthy creeks, riparian corridors, fish habitat needs, storm drain connections, and how to identify a potential creek problem. Diagrams illustrate the

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<sup>1</sup> <https://marinflooddistrict.org/landowner-resources-for-creek-stewardship/>

relationship between the stream corridor, riparian zone, and upland areas.

- Provides guidelines for improving creek health through landscaping, yard and home maintenance, erosion control, runoff management, and septic care. The guide also includes contact information for county, city, and other important permitting agencies.
- Provides an extensive resource directory for more information and assistance.

### 3. **Groundwork: A Handbook for Small-Scale Erosion Control in Coastal California**

Erosion is a natural process that shapes hillsides, valleys, rivers and streams, helps to distribute nutrients throughout watersheds, and provides sediments necessary to support habitats for fish, wildlife and plants. In many watersheds, human land use choices accelerate erosion rates resulting in negative impacts. These include fine soil particles filling in spawning gravels, reducing oxygen levels, smothering redds (salmonid nests), and physically changes stream depth and width.

[Groundwork: A Handbook for Small-Scale Erosion Control in Coastal California](#) helps landowners and land managers better understand erosion processes and describes practices for repairing common small-scale erosion problems. The handbook provides five basic rules for preventing common erosion problems:

- Protect bare soil surfaces.
- Don't concentrate water flow unless necessary.

- Limit livestock and human use of vulnerable areas
- Disturb existing vegetation as little as possible.
- Encourage infiltration with permeable surfaces.

In addition to prevention guidelines, the handbook provides information and illustrations to explain the process of channel erosion and practical tips and guidance for addressing erosion problems. This is a useful information resource for landowners that may also be provided to contractors for their reference in planning an erosion control project.

### 4. **Slow It. Spread It. Sink It!**

[Slow it. Spread it. Sink it!](#) is a homeowner and landowner's guide to beneficial stormwater management. This guide explains common sources and problems associated with stormwater resources, and practical "best management practices" to prevent property and environmental damage. The guide calls for property owners to slow runoff, spread it out in flow-through planters, raingardens, bioswales or over other pervious surfaces, and sink it back into the ground for groundwater recharge and pollutant filtration.

### 5. **Fish Friendly Guide for Marin Residents**

Many creeks in Marin's neighborhoods and communities support endangered coho salmon and/or threatened steelhead trout and/or chinook salmon. Development and other activities near creeks can cause water pollution, degrade habitat, and alter the natural water flow. The [Fish Friendly Guide for Marin Residents](#) provides information on

how residents can protect salmonid populations by managing stormwater runoff and existing vegetation along creeks, and avoiding water pollution from homeowner activities (i.e. car washing, pet waste, fertilizer and pesticide use).

## 6. Go Native: Using Plants for your Yard, Patio, Creek

Native plants are adapted to local climate and soil conditions and provide important habitat resources for birds, butterflies, and beneficial insects. Natives also require less irrigation and are resistant to many pests and diseases that can afflict imported species. You can learn about appropriate native species at [Berkeley CalPhoto](#), [CalFlora](#), [The California Native Plant Society](#), and [Mostly Native Nursery](#). [Go Native: Using Plants for your Yard, Patio, Creek](#) is a local publication that provides information about Marin's native species. This guide provides information about local nurseries and the best time periods to plant native species. Special lists for deer-resistant, drought-tolerant and fire-resistant plants are provided for reference, as is a list of harmful invasive species to be avoided. Importantly, the guide provides a list of plant species appropriate for planting near creeks as shown in Appendix C: Native Plants Common to Riparian Areas in Marin County.

## 7. Fire and Vegetation Management.

[Fire SAFE Marin](#) ([www.firesafemarin.org](http://www.firesafemarin.org)) provides Marin residents resources to reduce fire hazards, increase fire safety awareness,

and adapt and prepare for wildfires, including:

- Tips to [prepare yourself](#) and your home for wildfire.
- [Homeowners Guide to Wildfire Preparedness](#). Pamphlet of simple strategies for wildfire preparedness.
- [Harden your home](#). Steps to improve the chances of your home and structures withstand ignition by wildfire.
- [Create a fire smart yard](#). Use fire-resistant and drought-tolerant plants, materials, and designs to prevent the spread of fire to your home.
- [Home evaluation program](#).
- Create and maintain [defensible space](#).
- Use [fire-resistant landscape design](#).
- [Plant and tree spacing](#).
- How to [choose the right plants](#) for a fire-smart landscape.
- [Ecologically Sound Practices for Vegetation Management](#).

Marin County Fire also provides a variety of [defensible space](#) resources.

## 8. San Geronimo Valley Salmon Enhancement Plan.

The [San Geronimo Valley Salmon Enhancement Plan](#) provides guidance on ways landowners may improve and maintain habitat conditions to support viable populations of salmon and steelhead trout in San Geronimo Valley while providing for fire safety. These include:

- ✓ Protect and maintain healthy native vegetation as much as possible. Well-maintained, healthy riparian

plants are likely to be less flammable than unhealthy or diseased plants. Plants growing next to perennial creeks tend to have higher moisture content because their roots have access to year-round water.

- ✓ Plant low-flammable species in the reduced fuel zone. Research on flammability of plant species is incomplete and somewhat controversial. However, it is generally agreed that plants that have a high moisture content (typically broad, supple leaves), a low resin content (i.e., without strong-smelling oils), and that do not accumulate much dead material are likely to be less flammable. Low-growing species are also less likely to contribute to a wildfire. The following native riparian species are just a few examples of those that have less-flammable characteristics:
  - bigleaf maple, alder, Oregon ash, dogwood.
  - ferns (e.g., western sword fern, lady fern, giant chain fern).
  - sedges, rushes.
  - low-growing forms of some native shrubs (e.g., snowberry).
- ✓ When removing plants to create “defensible space,” prioritize invasive non-native species. Many non-native invasive species in San

Geronimo Valley are also among the more flammable plants; removing these can provide both fire protection and habitat improvement benefits. These plants include eucalyptus, acacia, broom, and pampas grass.

- ✓ Maintain canopy cover, which is important to riparian health, where possible. In some cases, pruning lower limbs of native riparian trees may be a reasonable alternative to thinning the trees themselves. For conifers, limbs should not be pruned up more than 2/3 of the tree’s total height. For deciduous trees, such as oaks and bays, prune no more than ¼ of the tree’s crown.
- ✓ Leaf litter is an important element of the forest ecosystem and should not be removed completely. Bare soil will be more susceptible to erosion and invasion by invasive species and is less likely to support the regeneration of native species.
- ✓ Where possible, allow denser vegetation to remain on the north-facing slopes (i.e., the southern side) of a creek. Shading on the south side is especially important for moderating creek temperatures for fish, and north-facing slopes tend to be cooler and moister.

Instead of removing all downed wood, prune off small branches and clear away flammable grasses or brush from around them.



## Appendix B: Protected Trees and Heritage Trees

<b>Common Name</b>	<b>Botanical Name</b>	<b>Protected Size</b> (Diameter at Breast Height)	<b>Heritage Size</b> (Diameter at Breast Height)
Arroyo willow	<i>Salix lasiolepis</i>	6 inches	18 inches
Big-leaf maple	<i>Acer macrophyllum</i>	10 inches	30 inches
Bishop pine	<i>Pinus muricata</i>	10 inches	30 inches
Blue oak	<i>Quercus douglasii</i>	6 inches	18 inches
Box elder	<i>Acer negundo</i> var. <i>californicum</i>	10 inches	30 inches
California bay	<i>Umbellularia californica</i>	10 inches	30 inches
California black oak	<i>Quercus kelloggii</i>	6 inches	18 inches
California buckeye	<i>Aesculus californica</i>	10 inches	30 inches
California nutmeg	<i>Torreya californica</i>	10 inches	30 inches
Canyon live oak	<i>Quercus chrysolepis</i>	6 inches	18 inches
Chaparral oak	<i>Quercus wislizeni</i>	6 inches	18 inches
Coast live oak	<i>Quercus agrifolia</i>	6 inches	18 inches
Coast redwood	<i>Sequoia sempervirens</i>	10 inches	30 inches
Douglas-fir	<i>Pseudotsuga menziesii</i>	10 inches	30 inches
Giant Chinquapin	<i>Castanopsis chrysophylla</i>	10 inches	30 inches
Hawthorn	<i>Crataegus douglasii</i>	10 inches	30 inches
Mountain-mahogany	<i>Cercocarpus betuloides</i>	10 inches	30 inches
Narrow leaved willow	<i>Salix exigua</i>	6 inches	18 inches
Shreve's Oak	<i>Quercus parvula</i> var. <i>shrevei</i>	6 inches	18 inches
Oregon ash	<i>Fraxinus latifolia</i>	10 inches	30 inches
Oregon oak	<i>Quercus garryana</i>	6 inches	18 inches
Pacific madrone	<i>Arbutus menziesii</i>	6 inches	18 inches
Pacific yew	<i>Taxus brevifolia</i>	10 inches	30 inches
Red alder	<i>Alnus rubra</i>	10 inches	30 inches
Red elderberry	<i>Sambucus callicarpa</i>	10 inches	30 inches
Red willow	<i>Salix laevigata</i>	6 inches	18 inches
Sargent cypress	<i>Cupressus sargentii</i>	6 inches	18 inches
Scouler's willow	<i>Salix scouleriana</i>	6 inches	18 inches
Service-berry	<i>Amelanchier alnifolia</i>	10 inches	30 inches
Shining willow	<i>Salix lucida</i> ssp. <i>lasiandra</i>	6 inches	18 inches
Silk tassel	<i>Garrya elliptica</i>	10 inches	30 inches
Sitka willow	<i>Salix sitchensis</i>	6 inches	18 inches
Tanbark oak	<i>Lithocarpus densiflorus</i>	10 inches	30 inches
Valley oak	<i>Quercus lobata</i>	6 inches	18 inches
Wax myrtle	<i>Myrica californica</i>	10 inches	30 inches
White alder	<i>Alnus rhombifolia</i>	10 inches	30 inches

## Appendix C:

### Native Plants Common to Riparian Areas in Marin County

<b>Common Name</b>	<b>Scientific Name</b>	<b>Type</b>
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 involucrate</i>	Shrub
Creek monkeyflower	<i>Mimulus guttatus</i>	Shrub
Wax myrtle	<i>Myrica californica</i>	Shrub
Ninebark	<i>Physocarpus capitatus</i>	Shrub
Coffeeberry	<i>Frangula 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 spp.</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
Tanoak	<i>Lithocarpus densiflorus</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

<b>Common Name</b>	<b>Scientific Name</b>	<b>Type</b>
Yellow willow	<i>Salix lucida lasiandra</i>	<i>Tree</i>
Coast redwood	<i>Sequoia sempervirens</i>	<i>Tree</i>

## Appendix D: Relevant Marin Countywide Plan Policies and Programs – Abridged

**BIO-4.1 Restrict Land Use in SCAs.** This policy establishes the Stream Conservation Area to protect the active channel, water quality and flood control functions, and associated fish and wildlife habitat. The policy describes how the SCA is measured, calls out limitations on allowable land uses and site assessment requirements, and further identifies exceptions to full policy compliance.

**BIO-4.a Adopt Expanded SCA Ordinance.** This program calls for the adoption of a new SCA Ordinance to implement the SCA standards and require compliance with the incorporation of best management practices into proposed projects. It would also allow modest additions to existing structures that would not result in significant impact to riparian resources.

**BIO-4.f Identify Potential Impacts to Riparian Systems.** Under this program all projects must evaluate potential impacts on riparian vegetation and aquatic habitat and incorporate measures to protect riparian systems into the project design and construction. Furthermore, projects must retain and minimize disturbance to woody and herbaceous riparian vegetation in SCAs and adjacent areas.

**BIO-4.g Require Site Assessment.** Require development applications to include the submittal of a site assessment where incursions in the SCA are proposed, or adverse impacts to riparian resources may otherwise occur. The site assessment shall be considered in evaluating whether any adverse direct or indirect impacts on riparian resources would occur because of

the proposed development, whether SCA criteria and standards are being met, and to identify appropriate mitigation measures to avoid 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-4.2 Comply with SCA regulations.** This policy addresses implementing setback criteria for protection of SCAs through established discretionary permit review processes and/or through adoption of new ordinances. 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; and
- Degrades water quality.

**BIO-4.4 Promote Natural Stream Channel Function.** This policy aims to retain and restore stream channels and discourages filling, grading, excavating, and installing storm drains and culverts, or other barriers to fish migration. The policy calls for habitat improvements including replacing impervious surfaces with pervious surfaces and retaining large woody debris and riparian vegetation.

**BIO-4.8 Reclaim Damaged Portions of SCA.** This policy directs the restoration of damaged portions of SCAs to their natural state wherever possible, and to reestablish as quickly as possible any herbaceous and

woody vegetation by replicating the structure and species composition of indigenous native riparian vegetation.

**BIO-4.14 Reduce Road Impacts in SCAs.**

This policy mandates locating new roads and roadfill slopes outside SCAs, except at stream crossings. New road crossings should be consolidated wherever possible to minimize disturbance in the SCA.

**BIO-4.18 Promote the Use of Permeable Surfaces in the SCA.** This policy requires the use permeable surfaces wherever feasible.

**WR-1.f Require Stream Restoration Projects.** This policy requires stream restoration in conjunction with associated land use approvals to improve groundwater recharge and filtration and to ensure high-quality water. Restoration projects should follow the design principles of natural channel restoration utilizing geomorphic concepts.

**EH-3.2 Retain Natural Conditions.** Ensure that flow capacity is maintained in stream

channels and floodplains, and achieve flood control using biotechnical techniques instead of storm drains, culverts, and riprap, and other forms of structural stabilization.

**EH-3.f Require Hydrologic Studies.**

Continue to require submission of detailed hydrologic and geologic studies for any proposed development that could increase sedimentation of a watercourse or alter natural drainage patterns.

**PFS-2.o Assess Project Impacts to Surface Water and Groundwater.** This policy requires documentation that new development projects (including wells) with the potential to harm surface water or groundwater resources will not adversely affect a basin or sub-basin.

**PFS-2.t Manage Groundwater.** This policy discusses discretionary permitting and methods to protect groundwater recharge and stream conservation areas from urban encroachment.