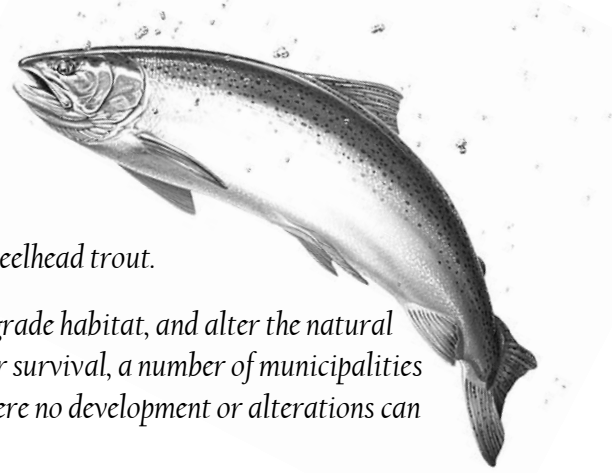
Fish-Friendly Guide



Many urban creeks in Marin support endangered Coho salmon and/or threatened Steelhead trout.

Development and other activities near creeks have the potential to pollute water, degrade habitat, and alter the natural flow of water. To protect our creeks, fish, and other wildlife that depend on creeks for survival, a number of municipalities throughout Marin have adopted "creek setback" requirements - i.e. a buffer area where no development or alterations can take place or where certain activities require permits and discretionary review.

This guide is intended to inform you about creek setbacks and what you can do to protect salmon populations!

Creek Setbacks

A creek **(or stream)** setback establishes a buffer area where certain activities are regulated to protect fish and wildlife, the creek and native plants. Creek setbacks also protect creekside landowners and their property from flooding and erosion.

In unincorporated Marin County, for instance, the protective creekside setbacks are called Stream Conservation Areas (SCAs) and apply to all creek types—perennial, intermittent, and ephemeral.

To comply with local requirements and to keep Marin "fish friendly", follow these guidelines:

- Visit the Creek Setback Requirements page at www.mcstoppp.org for information on local creek setbacks.
- Exclude all new development within the creek setback area.
- Do not construct or place anything in, over, or within a creek, its bank or within the setback area. "Anything" includes driveways, parking areas and roads, retaining walls, rip rap, concrete or other artificial slope protection, sheds, play structures, chicken coops, compost bins, fences, grass/tree clippings, other yard debris, or anything else having its foundation or support on or near the creek bank.
- Contact your local Planning or Public Works Department before doing any work in or next to a creek.
- Leave native creekside plants within the setback area. No vegetation should be removed from the creek bank if it'll expose the bank to increased erosion.
- Implement erosion and sediment control measures after removing invasive plant species from the creek bank.
- Check the "*Resources*" on the last page for more information and guidance. Also, contact your local Planning and/or Public Works Department.

Moving Dirt

Grading hillsides, trenching, and/or just leaving soil exposed on your property—especially during the wet season—invites erosion. Erosion can introduce fine sediment to creeks that can bury gravel used by spawning salmon, clog fish gills, and smother salmon eggs. Sediment also fills in pools used by salmon to survive hot summer months.

Solutions:

- Cover dirt piles with tarps secured in place with straw wattles or sandbags.
- Install erosion control blankets on any disturbed areas where the slope is equal to or greater than 2:1.
- Use rock, gravel, straw, wood chips or other appropriate materials as "energy dissipaters" that slow the force of moving water.
- Use straw, wood chips, or similar materials to suppress weeds and reduce evaporation and erosion.
- Plant **native** trees, shrubs, and fast-growing ground covers in areas with exposed soil—not just along creeks, but in upland areas as well.

Impacts from People, Pets and Livestock

People, pets and livestock can all disturb the land next to creeks. Erosion can be exacerbated by livestock, and by pets and people who walk on bare slopes or veer off maintained trails. These activities disturb vegetation and create ruts and trails that concentrate the flow of water and accelerate erosion.

Allowing pets and livestock to enter creeks can also create other problems: pets can stir up fine sediment that can cover fish eggs and suffocate them. They can trample the plants along the creek . Such plants can help trap dirt and provide a "filter" to reduce or eliminate some pollutants that would otherwise enter the creek. Livestock and pets contribute waste that contains bacteria and nutrients. Some types of bacteria can be harmful to humans. Nutrients can cause excessive algae growth in the creek. Too much algae can deplete the oxygen that fish need to survive.

Solutions:

- When hiking, use existing and maintained trails.
- Don't walk in the creek—especially during spawning season (Oct-May).
- Keep pets on a leash and dispose of waste in trash receptacles.
- Construct a fence to keep livestock from entering sensitive creek and wetland areas. Consider "wildlife-friendly fencing" - go to www.nswg.org/april05fencing.htm

Handling Rain and Runoff

Parking lots, roofs, roads, and other hard surfaces prevent water from soaking into the ground. This causes the volume and speed of stormwater runoff to increase. The water enters the creek with more power thereby exacerbating erosion and increasing the volume and concentration of pollutants.

Creek setbacks and vegetation offer the best protection against erosion because plants improve the soil's capacity to absorb and slow down water. Setbacks provide room for native plants to grow. Limiting paved surfaces and directing runoff to vegetated areas will protect fish, the creek and your property.

Solutions:

- Use permeable materials such as porous concrete, decomposed granite, inter-locking pavers, and flagstone to slow, sink and spread stormwater.
- If you're designing a construction project, preserve undisturbed land by clustering development, minimizing paved areas, and maximizing vegetated areas.

Vegetation Management

Existing vegetation on your property should be maintained or carefully modified for fire protection. The roots of plants hold topsoil and subsoil in place, reducing the potential for landslides. Vegetated areas regulate the speed of water flowing through and over soil and provide cover and food for wildlife.

The native plant community is well adapted to local soil and rainfall conditions. Native riparian plants **(i.e. those** along the creek) keep creeks cool. Their roots help hold the creek bank in place. Once native plant cover is removed or excessively thinned, wildlife habitat and shade is lost, water temperatures rise, and the soil becomes more susceptible to erosion.

Solutions:

- Maintain existing native vegetation along creeks and within the setback.
- When removing invasive plants along a creek (or elsewhere), stabilize the disturbed areas by planting natives, or where necessary, using erosion control blankets, straw or branch wattles, etc.
- Let woody debris (fallen trees and branches) stay on banks and in the creek as long as they don't impede creek flow or threaten property. Remember that woody debris provides spots for fish to hide and rest.
- Don't dump yard waste into the creek area—it is prohibited by local ordinances and decomposing material can reduce oxygen levels needed for fish to survive.

Clean Water

Washing vehicles next to a creek can contribute pollutants to the creek's waters. Automotive fluids are toxic to aquatic life. Heavy metals, oil and grease, along with soap, can pollute the creek and harm aquatic life—including endangered salmon. Pesticides (including herbicides) are also toxic to aquatic life.

Solutions:

- Whenever you can, use a commercial car wash to save water and to keep chemicals out of the creek.
- Don't wash your vehicle near the creek. Direct wash-water to a vegetated area to allow percolation through the soil.
- Repair automotive fluid leaks. Use a drip pan in the interim.
- Dispose of oil, filters and other hazardous waste properly. Call 485-6806. (Novato residents call 892-7344.)
- Select plants that attract beneficial insects (a natural pest control) to your garden.
- Pesticides should not be the first line of defense against pests; however, if you need a product, choose the least toxic available. Go to www.OurWaterOurWorld.org
- Don't release municipal water (e.g. drinking water) into a creek—it has additives that may kill fish!
- Before draining your swimming pool, contact your local sanitary agency and stormwater coordinator. Avoid using copper algaecides!

Keep Water in the Creek

Fish need water to survive the summer until they return to the ocean.

Solutions:

- Don't build summer dams in the creek that prevent water from reaching fish downstream.
- Don't catch protected fish in Marin creeks.
- Use drip irrigation or other water conserving measures for your landscape. Go to www.marinwater.org, www.nmwd.com or www.bayfriendlycoalition.org
- Look into establishing a rain catchment system to store rain water on site. Putting in a cistern – or even an oak barrel – can catch rainwater for later use. Go to www.spawnusa.org

Permits

Planning work near or within a creek? Permits may be needed from local, state, regional and/or federal agencies.

Depending on how extensive your proposed project is, you might need permits from your local Planning or Public Works Department, the Army Corps of Engineers, the San Francisco Bay Regional Water Quality Control Board, the Department of Fish and Game, and/or other agencies.

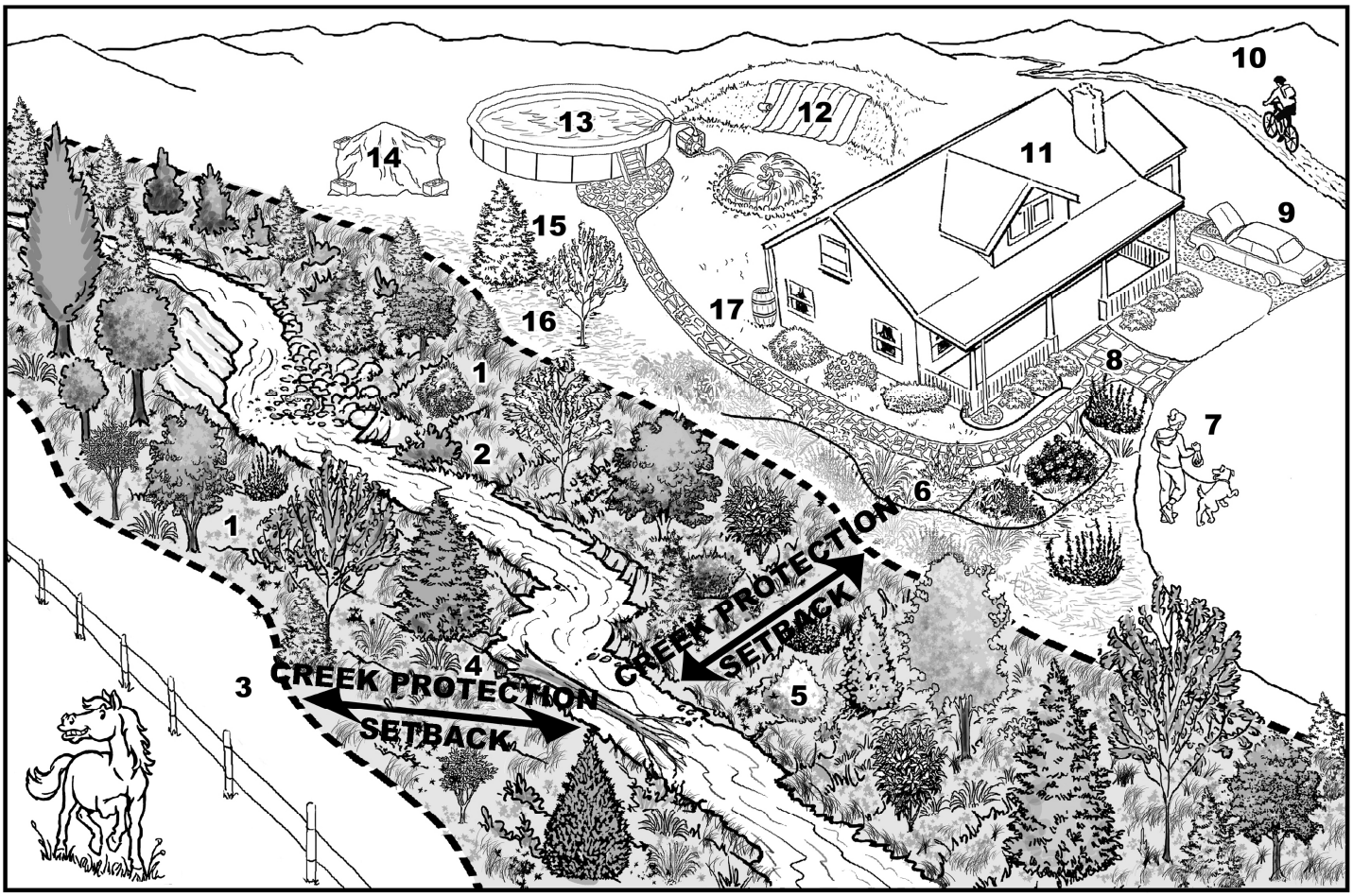
For many projects, the Bay Area Joint Aquatic Resources Permit Application (JARPA) can be used to apply for permits from participating regional, state and federal agencies . This application and the local creek permit application form can be obtained from your local Planning or Public Works Department.

Depending upon the proposed project, agencies involved, & permits required, the permit process can vary in length.

For more information on this subject:

- visit the Creek Permits page on the MCSTOPPP website at www.mcstoppp.org or call MCSTOPPP at 499-6528.
- review the Joint Aquatic Resources Permit Application (JARPA) **at** http://sfep.abag.ca.gov//projects/JARPA/JARPA.html .

Take a Fish-Friendly Approach in Your Home and Garden



"Creek Setbacks" establish a buffer where certain activities are regulated to protect fish and wildlife, the creek, and native plants from development and other activities.

1. According to local requirements, exclude development within the Creek Setback. Do not construct or place anything in over or within a creek or its bank without all required permits. Build driveways, parking areas, roads, retaining walls, sheds, play structures, chicken coops, compost bins, fences, etc., away from the creek and outside of the Creek Setback area. Visit the Creek Permits and Setback Requirements pages at www.mcstoppp.org for more information.

2. Don't walk in the creek or let your pets romp in it—especially during spawning season (October-May).

3. Construct a fence to keep livestock and horses from entering sensitive creek and wetland areas. For more information, go to www.nswg.org/april05fencing.htm

4. Let fallen trees and branches stay on banks and in the creek—as long as they don't threaten property. "Woody debris" provides spots for fish to hide and rest.

5. Leave existing native vegetation along creeks and do not dump grass/tree trimmings into a creek, creek bank, or setback area.

6. Implement water conservation practices—e.g. drip irrigation—and use municipal water supply for landscaping needs.

7. Keep pets on a leash and dispose of pet waste in a trash receptacle.

8. Use permeable materials such as rock, gravel, porous concrete, decomposed granite, interlocking pavers, and flagstone as energy dissipaters to slow, sink and spread stormwater on your property.

9. Get rid of old motor oil, antifreeze, pesticides, paint and other household hazardous waste at the ***free*** Household Hazardous Waste Facility at 565 Jacoby Street in San Rafael. For questions, call 485-6806. Novato residents should call 892-7344. Businesses will be charged a fee for using the facility. Call 485-5648 for information. In Novato, businesses should call 892-6395.

Use products that are safer for people, pets, and the environment, go to www.OurWaterOurWorld.org.

10. When hiking or biking use existing and maintained trails.

11. Parking lots, roofs, roads, and other hard surfaces prevent water from soaking into the ground. Increasing the volume and speed of runoff into the creek can exacerbate erosion and increase the pollutant load to the creek.

12. Install erosion control blankets on any disturbed area where the slope is equal or greater than 2:1.

13. Before draining your pool, contact your local sanitary agency to obtain a permit. If on septic, wait 5 to 7 days before you drain. Send water to a landscaped area. Avoid using copper algaecides.

14. Cover piles of dirt with tarps.

15. Plant native trees, shrubs, and fast-growing ground covers in areas with exposed soil along creeks and in upland areas.

16. Use straw, wood chips or other appropriate materials to suppress weeds and reduce evaporation and erosion.

17. Look into establishing a rain catchment system to store rainwater on site. Putting in a cistern—or even an oak barrel—can catch rainwater for later use. For more information, look under Water Conservation at www.spawnusa.org.

Local Stormwater Coordinators

Belvedere—435-3838
Corte Madera—927-5057
County Unincorporated—499-6528, press "0"
Fairfax—453-1584
Larkspur—927-5017
Mill Valley—388-4033
Novato—899-8246
Ross—453-1453, ext. 163
San Anselmo—258-4600
San Rafael—485-3355
Sausalito—289-4100, ext. 106
Tiburon—435-7399

Other Useful Websites

Choosing a "Bay-Friendly Landscape Professional"
www.mcstoppp.org (look under less toxic pest mgmt.)

Choosing an Eco-Friendly Structural Pest Control Co.
www.EcoWiseCertified.com

Field Guide to Water Quality Friendly Development
www.lcrep.org/fieldguide/techniques.htm

Fire Safe Marin
www.firesafemarin.org/

Green Building Guide
www.greenguide.com

Low Impact Development
www.coastal.ca.gov/nps/lid-factsheet.pdf

Marin County Coop Ext, Watershed Mgmt Prog—http://emarin.ucdavis.eduAgriculture_and_Natural_Resources123/Watershed_Management.htm

Marin County Watershed Program
http://www.marinwatersheds.org or call 415-499-7586

Marin Municipal Water District
www.marinwater.org

North Marin Water District
www.nmwd.com

Our Water—Our World (information on less toxic alternatives to pesticides)
www.OurWaterOurWorld.org

Porous Pavement Information
www.paversearch.com

Salmon Protection and Watershed Network (SPAWN)
415-663-8590 ▪ www.spawnusa.org and http://spawnusa.org/pages/page-134

Publications

Call 499-6528 to request copies of the following brochures—or go to "Resources" at www.mcstoppp.org

- *Choosing a Landscape Professional for Your Bay-Friendly Garden*
- *Clean It! A Guide to Using Less Toxics in the Home*
- *Creek Care: A Guide for Marin Residents*
- *Erosion/Sediment Control Measures for Small Construction Projects*
- *Fish Friendly Citizen Guide* (SPAWN) http://spawnusa.org/pages/page-135
- *FishNet 4C Roads Manual: Guidelines for Protecting Aquatic Habitat and Salmon Fisheries for County Road Maintenance*
- *Go Native! Plants for Yard, Patio and Creek*
- *Groundwork: A Handbook for Small-Scale Erosion Control in Coastal California* 2nd Edition
- *Healthy Home & Garden for People, Pets and the Environment*
- *Horse Manure Management: A Guide for Bay Area Horse Keepers*
- *How You Can Help Improve Coho Salmon and Steelhead Trout Habitat: Riparian Management for Healthy Creeks in Marin County*
- *Low Impact Development Techniques: Pervious Pavement*
- *Repairing Creek Bank Erosion*
- *Stormwater Quality Manual for Development Projects in Marin County: A Low Impact Development Approach*
- *Treating and Controlling Rainwater Onsite (using "rain gardens", "bio-retention facilities", "rain chains", rain catchment systems, etc.)*
- *Using Bio-retention on Residential Lots*
- *Yard Clippings and Your Creek Bank*

Join a Creek Group

Friends of Corte Madera Creek Watershed: 456-5052
Friends of Miller Creek: 472-4723
Friends of Novato Creek: 883-8339
Gallinas Watershed Council: 491-1540
Mill Valley Streamkeepers: 388-4187
Salmon Protection & Watershed Network (SPAWN): 488-0370
Tam Valley Watershed Group: 381-0875
Tomales Bay Watershed Council: 868-9081
Trout Unlimited, North Bay: nbtu@northbay-tu.org or 866-788-6332

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Funded by the Marin County Stormwater Pollution Prevention Program (MCSTOPPP)
415-499-6528 or mcstoppp@co.marin.ca.us
www.mcstoppp.org

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