

CREEK CARE

YOUR *stewardship* GUIDE

TO THE

ARROYO GRANDE CREEK WATERSHED



RESPONSIBLE CREEK PRACTICES FOR
RESIDENTS AND BUSINESS OWNERS

IT'S *your* WATERSHED

We all play a role in protecting our precious water resources.

SECTION 1 - WATERSHED AWARENESS..... 2
 Arroyo Grande Watershed..... 3
 What is a healthy creek? 5
 Healthy Creeks Make Healthy Communities..... 7
 The Riparian Corridor..... 8
 Stream Flow..... 9
 There's Fish In There..... 10
SECTION 2 - KNOWLEDGE IS POWER..... 11
 Common Problems and Solutions..... 11
 Don't Plant A Pest..... 13
 Low Impact Development..... 15
 Tips for Businesses..... 16
SECTION 3 - NEED HELP?..... 17
 Reporting a Creek Problem..... 17
 Technical Assistance..... 21
 Community Groups..... 22
 Regulations..... 22
 Do I need a permit?..... 23
SECTION 4 - CHANGES TO THE WATERSHED..... 24
 Get Involved..... 26
 Glossary..... 27

WATERSHED Awareness

GET TO KNOW THE ARROYO GRANDE CREEK WATERSHED

A WATERSHED IS THE AREA OF LAND THAT COLLECTS RAIN AND DRAINS TO A CREEK, LAKE, OR POND

The Arroyo Grande Creek Watershed is a special place that provides habitat for native plants and animals in addition to providing people with an assortment of recreational opportunities.

At the top of our watershed in the foothills of the Santa Lucia Mountains, seeps and springs join with rain water to form the headwaters of Arroyo Grande Creek and its tributaries. Water and sediment coming off the hills are captured by Lopez Dam, on Arroyo Grande Creek. Water is released from the dam for agricultural and wildlife uses. The creek then travels through areas of prime agriculture and urban development to the Pacific Ocean.

Our collective activities affect the land and water resources within our community, even if you don't live right next to a creek. Acting as a watershed steward you can protect Arroyo Grande Creek and help your neighbors to do the same.

AT A GLANCE

- ◇ Arroyo Grande Creek Watershed: **152 sq. mi.**
- ◇ City of Arroyo Grande: **5.9 sq. mi.**
- ◇ 3 Primary Tributaries:
Corbett Creek (Tally Ho Creek)
Tar Springs Creek
Los Berros Creek



www.arroyogrande.org
 300 E Branch St
 Arroyo Grande, CA 93420
 805.473.5400

This Guidebook will describe how to improve your business, home and landscaping activities to protect creeks and tributaries within the Arroyo Grande Creek Watershed, and how to become a watershed steward.

*Originally prepared by:
 Nicole Smith, CCSE*

*Updated by:
 Camilla Karamanlis
 City of Arroyo Grande*



Central Coast Salmon Enhancement

ARROYO GRANDE CREEK WATERSHED

152 TOTAL SQ MI

Los Padres National Forest



POLLUTION

PATHWAYS



3



STREET GUTTER



STORM DRAIN



ARROYO GRANDE CREEK



PACIFIC OCEAN

4

What is a HEALTHY CREEK?

The following are basic ingredients for healthy, well-functioning creek habitat:

- ◇ Stable, vegetated banks with native trees and shrubs.
- ◇ Clean water that includes plenty of dissolved oxygen.
- ◇ Dense vegetation which filters sunlight, reduces erosive forces, and provides food and cover for both aquatic and terrestrial wildlife species.
- ◇ Creek bed texture, such as fallen logs, gravel and cobble, and pools and riffles to enhance aquatic insect and fish reproduction and provide shelter, shade, and protection.
- ◇ For perennial creeks, sufficient summer water flow for year round survival of aquatic species and the animals that depend on them for food as well as cool temperatures which are critical for the survival of aquatic species such as steelhead trout.

riparian habitat and streambanks are sensitive to disturbance



Excessive removal of woody material decreases cover habitat for fish and other wildlife and can alter pool development. Bare, unstable creek bank areas with little or no plants contribute to bank erosion and do not provide adequate shade or wildlife cover.

UNHEALTHY CREEKS HAVE...

- ◇ Bare, unvegetated banks
- ◇ Invasive species of plants
- ◇ Little or no canopy cover and algal mats
- ◇ Actively eroding banks
- ◇ Warm water, few pools and riffles with pools filled with sediment.
- ◇ Yard waste or trash
- ◇ Concrete retaining walls

CREEK CARE *is everyone's job*

Creeks are a source of beauty and recreation for residents and visitors as well as essential habitats for fish and wildlife. Creeks also provide:

- ◇ Water supply
- ◇ Groundwater recharge
- ◇ Flood water conveyance

Whether crossing the swinging bridge, picnicking in Kiwanis Park or visiting a creek-side residence, we are constantly interacting with our creeks.

The majority of creek-side property is in **private ownership**, placing the responsibility for the health of creeks and the survival of creek-dependent fish and wildlife with **YOU**, the creek-side resident or business.

NATIVE PLANTS



Pink-flowering currant



California poppy



Coyote brush



Black cottonwood



Wild lilac



Wild grape



California sagebrush



Creek dogwood



Yarrow

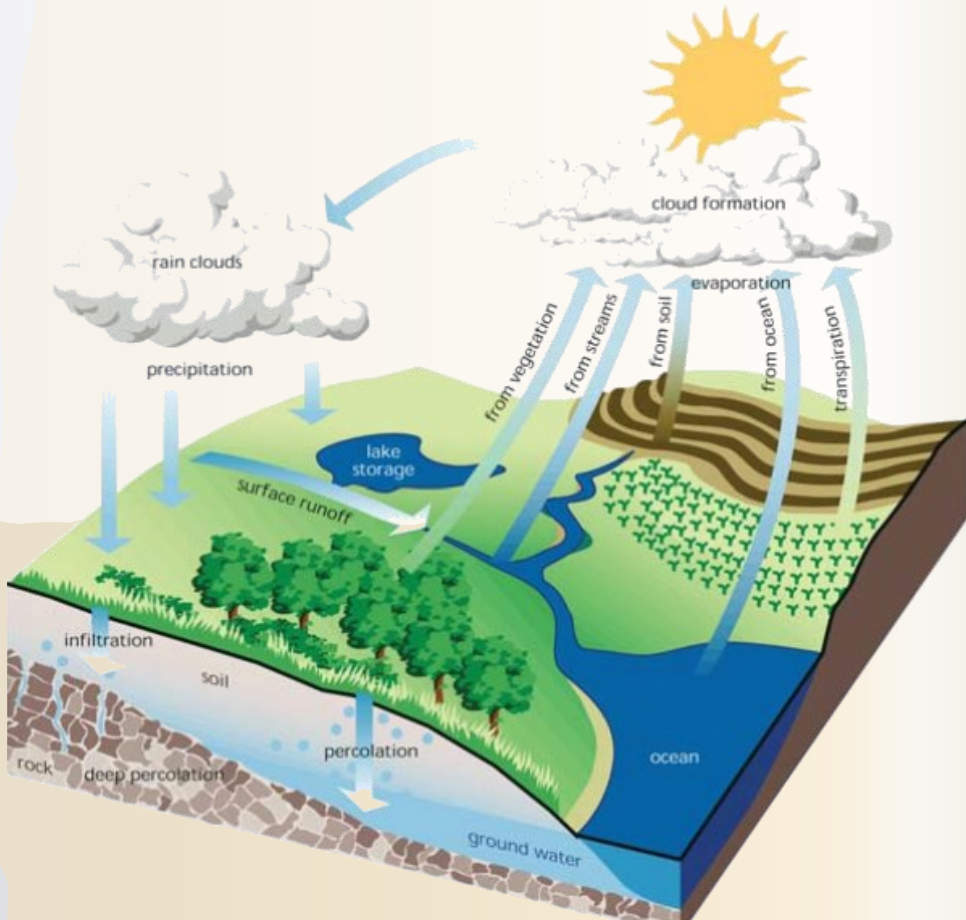


Fescue

HEALTHY CREEKS

make *healthy* communities

Cities and towns with creeks enjoy many benefits that strengthen the community. Protecting Lopez Lake, the creeks and the estuary in our watersheds can be likened to investing in health insurance, economic development and public services for the community.



Health Benefits

- ◇ Recreation
- ◇ Reduced stress & fatigue

Economic Development

- ◇ Tourist amenities
- ◇ Increased property values

Public Services

- ◇ Water filtration
- ◇ Erosion control



the riparian corridor

The riparian corridor is the interface between land and a creek. Riparian habitat is defined as vegetation growing close to a watercourse that is generally critical for wildlife cover, fish food organisms, stream nutrients and large organic debris, and for stream-bank stability.

Riparian corridors are important in:

- ◇ Keeping water temperatures cool
- ◇ Stabilizing soil of stream banks
- ◇ Providing flood protection
- ◇ Filtering pollutants
- ◇ Providing food, shelter and movement corridors for wild-life

STREAM FLOW

The stream flow, in terms of volume and duration, is also very important for a healthy creek. Our coastal creeks are variable in the amount of water that flows down them throughout the year and between years.

Flows are also flashy meaning that they move quickly through the watershed. When water flows are high, creek water flows to the ocean and filters into groundwater along the way. When water flows are low, groundwater filters back into the creek bed maintaining base flows.

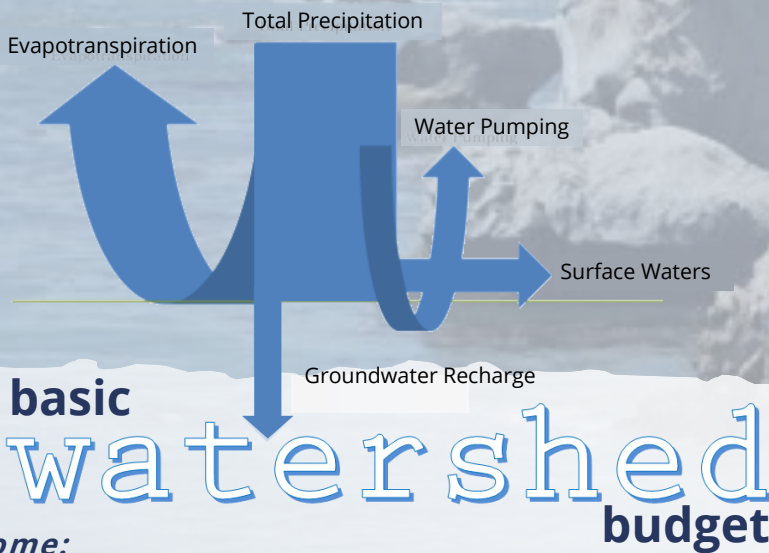
STREAM FLOW

(CONTINUED)

Stream flow is important in:

- ◇ Protecting water quality
- ◇ Maintaining groundwater supplies
- ◇ Providing aquatic habitat for fish and insects

Stream flow is just one part of a watershed's measurable in and out flows. A creek ecosystem can be thought of in terms of budget management with income, deposit, savings and expense.



Income:

- ◇ Annual precipitation continually resupplies the account.

Deposits:

- ◇ Precipitation is absorbed for groundwater supplies. It is important to save these water deposits, avoiding over-drafting and dewatering.

Expenditures:

- ◇ Impervious surfaces funnel water directly to creeks, bypassing the deposits necessary to balance our water budget.
- ◇ Seeps
- ◇ Evapotranspiration of plants
- ◇ Water pumping

there's



in there!

Steelhead trout are identical to rainbow trout, however, steelhead trout migrate out to the ocean while rainbow trout remain in fresh-water. Historically, Arroyo Grande Creek and its tributary Lopez Canyon Creek had significant steelhead runs with reports of 500 to 5,000 fish prior to the construction of Lopez Dam.

In 1997, steelhead trout were listed as a threatened species in our region. With this designation, fishing for steelhead trout is not permitted in our creeks, punishable with hefty fines.

Steelhead trout begin their lives in the freshwater of Arroyo Grande Creek, spending up to three years swimming and hiding and feeding on insects.

Juveniles can then migrate downstream to the estuary where they continue to grow and adapt to salt water. Juveniles, called smolts, then migrate out to sea spending one to three years off the Pacific coast. Adult steelhead migrate into coastal streams after winter rains from December to April to lay their eggs (spawn) in gravel nests called redds.

As a threatened species, it would be helpful to protect steelhead habitat whenever possible. These fish need cool, clear water, clean spawning gravels, deep pools and fast riffles. All of the creek stewardship solutions in this Guide protect these basic needs.



Source: USDA Forest Service

COMMON PROBLEMS *and* SOLUTIONS

problem: Lawn & thirsty landscapes

solution: Reduce lawn size & plant native plants

More than 50% of residential water use is for landscape irrigation. Reducing outdoor water demand increases the amount of water available to creeks.

Instead of lawn, use native, drought tolerant plants that are adapted to our dry Mediterranean climate— they need less water, fertilizers, and pesticides once established. Tips for planning your landscaping:

- ◇ Consider hydroscaping (grouping plants with similar water needs)
- ◇ Drip irrigation
- ◇ Mulching
- ◇ Seasonal water schedules



problem: Erosive stream banks

solution: Protect or restore native trees & shrubs

Removing trees and shrubs from stream banks destabilizes the soil and can result in eroded banks and loss of property—and it may also be **ILLEGAL**.

High levels of sediment in streams can fill in the creek bed, which affects water temperature, pools, and instream habitat.

Protecting or planting native trees and shrubs reinforces the stream bank, prevent undercutting, and bank collapse. Riparian plants also help protect water quality by slowing runoff and filtering sediment, nutrients, and other pollutants before entering the water.

problem: Pesticides & other harmful chemicals

solution: Choose safer alternatives

Excessive or incorrect use of toxic chemicals can lead to water

pollution in our creeks that can pose a serious threats to aquatic life. Some pesticides remain in the environment for a long time while others only become toxic when mixed with other compounds in the environment.

Reducing the use of toxic chemicals and choosing safer alternatives can greatly protect your family and watershed. Integrated pest management can also be useful in minimizing chemical use especially for agricultural operations.



Algae mat

problem: Excessive & polluted runoff

solution: Maintain water runoff on-site

Impervious surfaces cause water to runoff a developed site, unlike natural vegetated sites that allow water absorption into the groundwater table. Overwatering landscaping and washing driveways and cars can create dry weather runoff that eventually enters the creek.

To maintain water on your property during the dry season, follow irrigation schedules, sweep your driveway, and wash cars on unpaved surfaces. During the rainy season, allow roof gutters to drain to vegetated areas, and use rain gardens or rain barrels to capture the runoff.

problem: Wasteful water use

solution: Water conservation

We live in a dry region with limited water resources. The City of Arroyo Grande gets its domestic water supply from mainly Lopez Reservoir, and supplementary ground water sources. Conserving the water we have can greatly increase the availability of local water sources.

Consider replacing high water use toilets, shower heads, and washing machines with low flow alternatives. Always fix leaking faucets and irrigation sprinklers as soon as possible. Consider installing graywater systems to recycle and reuse water as much as possible.

DON'T PLANT A PEST!

The following plants are invasive species that should NOT be planted for landscaping and instead should be removed when time and money allows:



English/Algerian ivy (*Hedera helix/canariensis*)

Quickly forms a dense monoculture groundcover that suppresses and excludes other vegetation, and is unsuitable for most wildlife habitat.



Iceplant or Hottentot fig (*Carpobrotus edulis*)

Readily and rapidly spreads to form deep, dense mats which smother other low-growing native vegetation, especially in coastal habitats and can also cause changes to soil pH.



Periwinkle (*Vinca major*)

Spreads rapidly in riparian areas, creeks, and drainages and once established it forms a thick ground cover, choking out native plants and changing the ecology of the area and can alter local hydrology



Giant reed or giant cane (*Arundo donax*)

Aggressive species that reproduces quickly, allowing it to out-compete native plant species and dramatically alters ecological and successional processes by creating dense, monotypic stands up to 8 m tall.



Pampas grass (*Cortaderia jubata/selloana*)

Rapid growth and accumulation of aboveground and belowground biomass allows it to acquire light, moisture, and nutrients that would be used by other plants.

Fountain grass (*Pennisetum setaceum*)

Forms single-species stands that promote the spread of fire. After fire, it has shown the ability to rapidly colonize burned areas and prevent other plants from establishing.



Brooms (*Retama monosperma, Genista monspessulana, Cytisus striatus/scoparius, Spartium junceum*)

Form dense stands that displace native vegetation and wildlife. Flowers and seeds contain alkaloids and can be toxic to humans and livestock when ingested.



Cotoneaster (*Cotoneaster lacteus or pannosus*)

Self-seed abundantly with the help from birds and can supplant native plants in natural areas.



Blue gum eucalyptus (*Eucalyptus globulus*)

Can cause changes to hydrology, nutrient cycles and light availability, plant community dynamics and impacts higher trophic levels



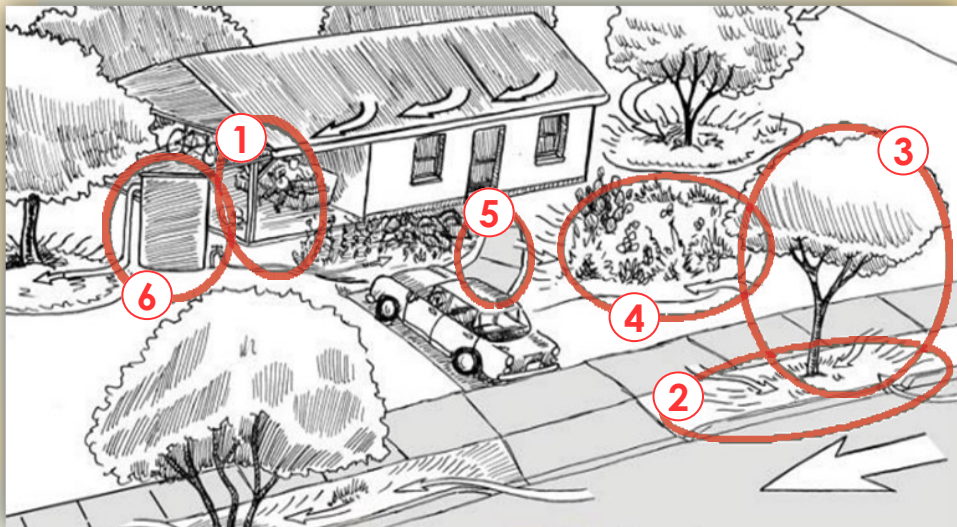
St. John's wort (*Hypericum perforatum*)

Poisonous at all growth stages, may cause photosensitization in livestock, and can decrease the amount of forage.



LOW IMPACT DEVELOPMENT (LID)

LID includes a variety of practices that mimic or preserve natural drainage processes to manage stormwater. LID practices typically retain rain water and encourage it to soak into the ground rather than allowing it to run off into the storm drain system where it would otherwise contribute to flooding and pollution problems, ultimately draining to the Arroyo Grande Creek and Pacific Ocean.



Residential LID examples:

1. Disconnected downspouts
2. Vegetated swales
3. Interceptor trees (biofiltration)
4. Rain gardens
5. Alternative paving materials (pervious pavers)
6. Rain barrels/cisterns
7. Soil amendments
8. Infiltration techniques

BENEFITS OF LID

- ◇ Reduce your water bill
- ◇ Capture water for passive and active irrigation
- ◇ Flush accumulated salts from the soils
- ◇ Add aesthetic interest to your yard
- ◇ Protect your community's natural resources
- ◇ Help your community by reducing off-site flooding

special TIPS FOR BUSINESSES

problem: Open or leaking dumpsters

solution: Cover and maintain dumpsters

Leaking dumpsters can cause water pollution. Locate dumpsters away from creeks and storm drains, and cover dumpsters at the end of the day or in rain.

Regularly inspect and repair leaks in dumpsters that are not water tight. Don't hose dumpsters down or clean them on site as this also creates water pollution. Instead have the trash hauler clean them.

problem: Grease, oil, or detergents in storm drain

solution: Dispose, recycle, and clean properly

Grease, oil, detergents and food scraps not only pollute our creeks when dumped in the storm drain, but oxygen needed by aquatic life decreases and creates a toxic environment. Grease and oil can be recycled, and some companies offer free recycling services and may even offer a rebate. Clean mops, mats, vents, trash cans, etc. in a utility sink or designated wash area — not in the parking lot. Check grease traps regularly for overflows.

problem: Facility maintenance & cleaning

solution: Capture all wash water and debris

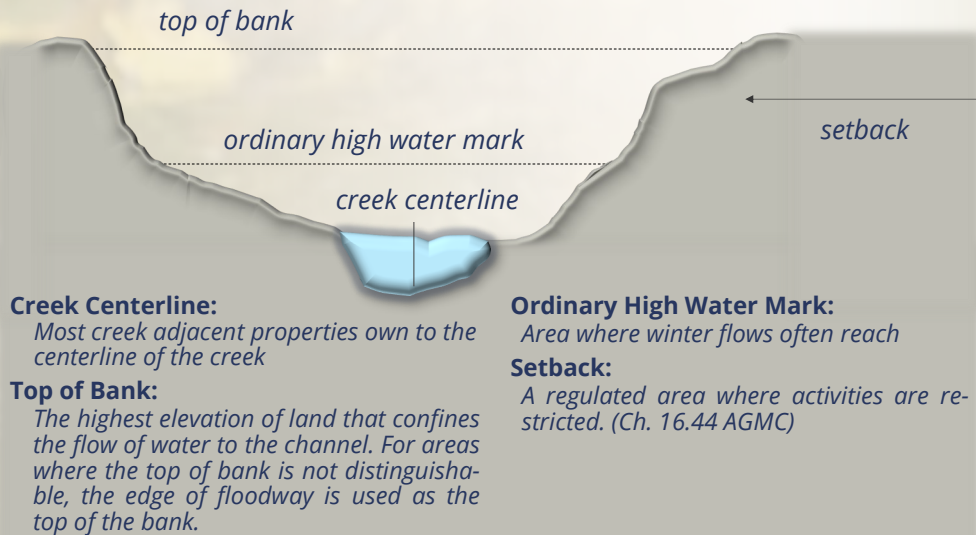
Major cleaning of exterior surfaces, including pressure washing buildings, roofs, awnings, and entryways, must include capturing **ALL** wash water and disposing of it properly. Wash water is **NOT** allowed to enter the street gutter or storm drains.

Regularly sweep exterior paved areas and place debris in a dumpster. When maintaining landscaping, sweep up green waste and place in the green waste bin — do not allow green waste to be blown into the street or gutter.

RESOURCES

Finding the right person to address your creek-related concerns can take a little time. We hope that the resources on the following pages help you to care for your creek.

Knowing some basic creek ownership terminology will help you to communicate effectively with regulators and community groups alike.



Reporting a Creek Problem

HAZARDOUS MATERIAL SPILL — For Emergencies call 911

Other calls can be referred to the Fire Department at (805) 473-5490 or City Code Enforcement at (805) 473-1112.

ILLICIT DISCHARGE OF UNKNOWN ORIGIN

City of Arroyo Grande Streets Division at (805) 473-5488 or
Central Coast Regional Water Quality Control Board at (805) 549-3147

A POACHER OR POLLUTER

1-888-DFG-CALTIP (1-888-334-2258), 24 hours a day, seven days a week

FALLEN TREE

Call property owner, if known.

Safety issue or flooding hazard:

City of Arroyo Grande Public Works Department at (805) 473-5460

City of Arroyo Grande Police Department at (805) 473-5100

FALLEN TREE REMOVAL

California Department of Fish and Wildlife Region 4

(559) 243-4005 ext. 151. or www.wildlife.ca.gov/Regions/4

If a tree falls in the creek

Trees in the creek are the responsibility of the property owner!

Fallen logs, tree stumps and branches provide cover, food, and shelter for fish and other aquatic animals, most notably young salmon and steelhead trout. As a natural component of a well-functioning water way system in our region, woody debris plays an important role in creating the diversity of habitats needed to support fish and other aquatic species. Pools form downstream of logs, branches provide shade as well as perches for birds and the insects that feed most aquatic creatures, and large pieces or clusters of woody material trap sediment and spawning gravels. **In general, unless there is a flooding or safety issue, woody debris should be left in place.**

If a large tree falls in the creek, there are several factors that need to be considered in order to determine a plan of action.

The first thing to do is to determine if there is an immediate safety issue or flooding hazard.

If the fallen tree is creating a safety issue or flooding hazard, contact the City of Arroyo Grande Public Works Department for assistance at (805) 473-5460. **If it is an emergency situation, call 911.**

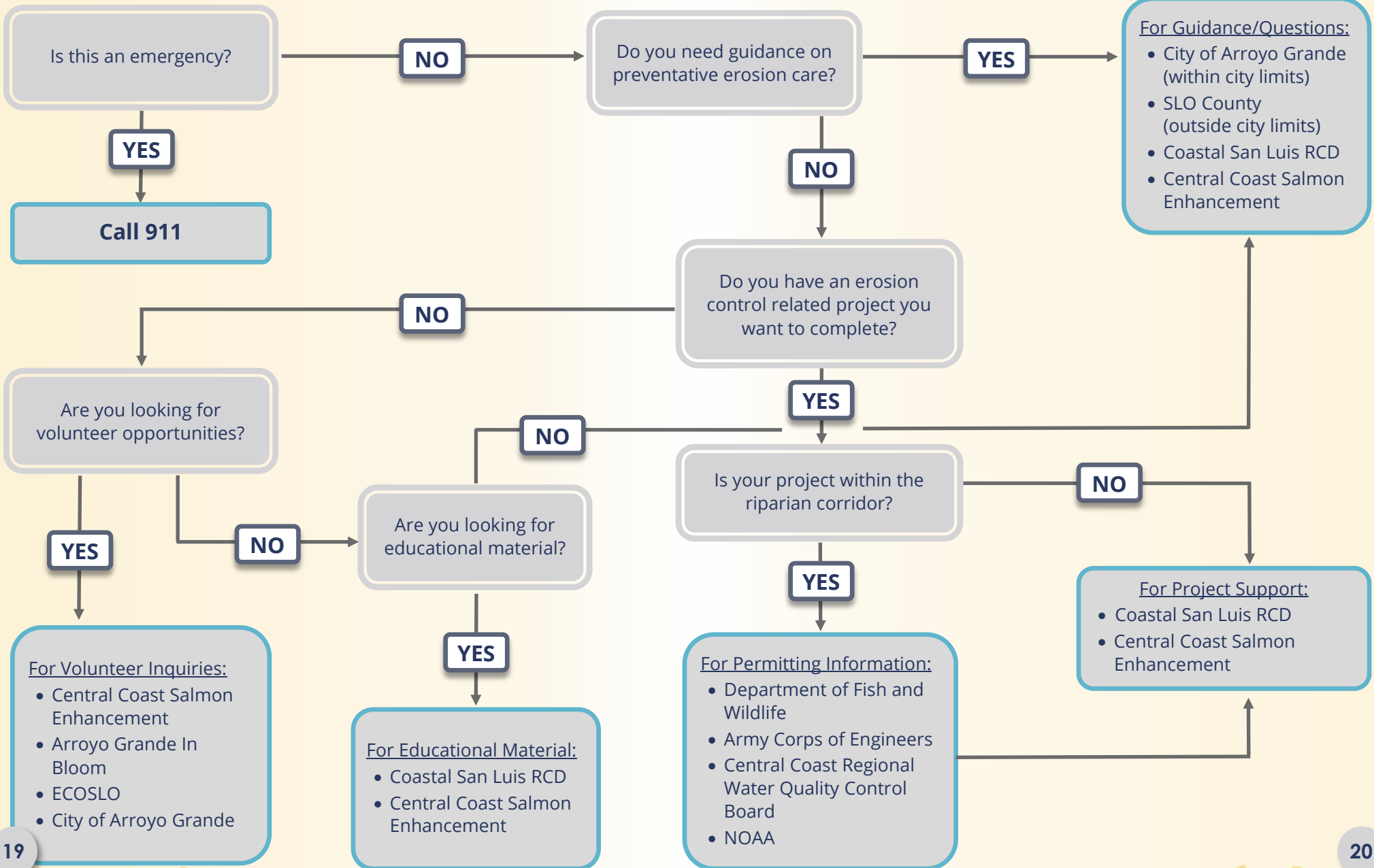
If the tree is not causing an immediate safety issue or flooding hazard, the next step is to identify if removing the tree would result in any of the following:

1. Substantially divert or obstruct the natural flow of any river, stream, or lake;
2. Substantially change or use any material from the bed, channel or bank of any river, stream or lake; or
3. Deposit debris, waste or other materials that could pass into any river, stream or lake.

This determination can be hard to make, and generally will require a biologist to come onsite. For information on removing trees from a creek bank, contact the Region 4 office for the California Department of Fish and Wildlife at www.wildlife.ca.gov/Regions/4 or by calling (559) 243-4005 ext. 151.

WHO DO I CALL?

SEE PAGE 21
for contact
information



technical assistance

State Regulatory Permits

California Department of Fish and Wildlife

P: (559) 243-4005 **W:** www.wildlife.ca.gov/Conservation/LSA

Regulates work on stream banks, channels, and diverted flows through the Lake and Streambed Alteration Permit.

Central Coast Regional Water Quality Control Board

P: (805) 549 3147 **W:** www.waterboards.ca.gov/centralcoast/water_issues/programs/401wqcert

Regulates work in stream channels through 401 Water Quality Certification.

U.S. Army Corps of Engineers

P: (213) 452-3333 **W:** www.spl.usace.army.mil/Missions/Regulatory

Regulates the discharge of dredged, excavated, or fill material in wetlands, streams, rivers, and other U.S. waters through Clean Water Act Section 404 Permits.

National Oceanic and Atmospheric Administration (NOAA) Fisheries

P: (562) 980-4000 **W:** www.westcoast.fisheries.noaa.gov/permits/esa_permits_authorizations.html

Regulates endangered species like Steelhead trout through Endangered Species Act (ESA) permits.

Non Regulatory Assistance

Coastal San Luis Resource Conservation District (LOCAL)

P: (805) 772-4391 **W:** www.coastalrcd.org

Provides technical assistance for agriculture land practices and creek restoration.

The Land Conservancy of San Luis Obispo (LOCAL)

P: (805) 544-9096 **W:** www.lcslo.org

Provides technical assistance and oversight for land conservation and easements.

Central Coast Salmon Enhancement (LOCAL)

P: (805) 473-8221 **W:** www.centralcoastsalmon.com

Provides creek restoration opportunities and community environmental education, as well as non-regulatory assistance.

COMMUNITY GROUPS

ECOSLO (LOCAL)

P: (805) 544-1777 **W:** www.ecoslo.org

The Environmental Center of San Luis Obispo (ECOSLO) is a local, non-profit organization that educates, advocates, and acts to protect and enhance the natural environment and human well-being of San Luis Obispo County.

California Native Plant Society

P: (916) 447-2677 **W:** www.cnps.org

A non-profit organization of amateurs and professionals with a common interest in California's native plants. They have a great list of native plants and local nurseries.

Arroyo Grande in Bloom (LOCAL)

P: (805) 710-4049 **W:** www.arroyograndeinbloom.org

A volunteer organization that provides a variety of clean up, planting and other beautification efforts throughout the City of Arroyo Grande.



city of arroyo grande REGULATIONS

City creek setback requirements do not allow impermeable surfaces within a setback. Creek setbacks are measured from top of bank or edge of vegetation. City setbacks are:

Arroyo Grande and Tally Ho Creek:	Minimum of 35 ft
Meadow and East Fork Meadow Creek:	Minimum of 50 ft
All other creeks and drainages:	Minimum of 25 ft

Properties within flood prone areas have additional requirements.

The City also has regulations relating to the discharge of water to storm drains through their Stormwater Management Plan found at www.arroyogrande.org

City of Arroyo Grande Community Development Department

P: (805) 473-5420

City of Arroyo Grande Public Works Department

P: (805) 473-5480

slo county regulations

Residents that live outside of the Arroyo Grande city limits, but within the Arroyo Grande Creek watershed should refer to County regulations. The following County creek setback requirements must be followed:

Coastal Zone: Minimum of 100 ft

Inland Areas in the County do not have setback requirements.

Properties within the flood prone region have additional requirements.

The County also has regulations relating to the discharge of water to storm drains through their Stormwater Management Plan found at www.slocounty.ca.gov/Departments/Public-Works/Our-Divisions/Stormwater.aspx

County of San Luis Obispo Planning & Building Department

P: 805-781-5600

County of San Luis Obispo Public Works Department

P: 805-781-5252

DO I NEED A PERMIT?

When living adjacent to a creek, all associated maintenance becomes the responsibility of the property owner. This includes removal of fallen trees and bank protection. Before undertaking any activities on the creek bank or in the creek, please review the permitting requirements from the Department of Fish and Wildlife (DFW) as well as any other agencies as detailed on page 19 of this guide. As a starting place, use the table below to determine if a permit is potentially required.

No Permit Required	Potential Permit Required
Trash/debris removal	Tree/stump removal
Minor dead/downed limb removal	Vegetation removal
	Gravel removal
	Alteration/armoring of banks
	Culvert placement

changes to the WATERSHED

According to the Environmental Protection Agency, the leading sources of stream degradation in California are unsustainable agriculture, non point sources of pollution, forestry activities, urban runoff, storm sewers and municipal point sources of pollution. Let's take a closer look at how our watershed has changed.



Throughout the watershed, our activities and the way we live changes the natural way water flows. We have increased impervious areas with roads, sidewalks, parking lots and roofs that do not allow water to filter into the soil and groundwater as it would in an undeveloped vegetated area.

changes to the WATERSHED

(continued)

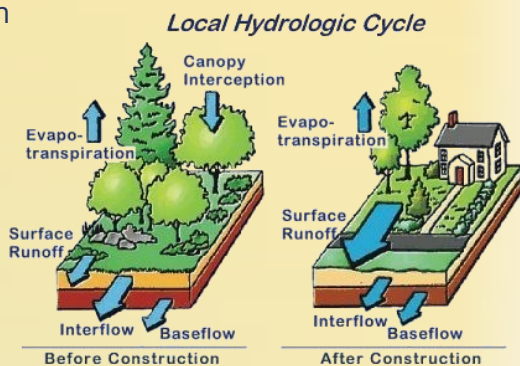
Human Activity	Result/Change
↓ Floodplain Area	↑ Flooding
↑ Impervious Surfaces	↓ Groundwater Recharge ↑ Erosion ↑ Flooding
↑ Population (cars, land use, etc)	↑ Pollutant Loading

Water runs off these impervious surfaces to drains and pipes that quickly remove storm water.

Altered flow volumes and timing/regimes results in:

- ◇ Increased sedimentation
- ◇ Wider and straighter stream channels
- ◇ Degraded instream habitat
- ◇ Warmer water temperatures
- ◇ Decreased fish and aquatic insect diversity

In addition, pollutants from illicit discharges that collect on impervious surfaces like oil, gas, antifreeze, fertilizer, and soap degrade water quality and are sometimes toxic.



GET INVOLVED!

Volunteering in the community is a great way to reach beyond your own yard and activities to protect local creeks.

The Resource Section of this guide provides a good starting place for information on community groups that may have volunteer opportunities such as invasive plant removal, creek riparian planting and environmental education.

Annual volunteer opportunities include:

Creek Day - a county-wide event to clean trash out of creeks before the winter rains.

Coastal Cleanup Day - a county-wide event to clean trash off our beaches.

Organizations are always looking for help! If you find one that you want to support, give them a call. Most organizations are excited to put enthusiastic volunteers to work helping their community.



Creek Day 2013



Volunteers removing English ivy

GLOSSARY

Ecosystem: a grouping of plants, animals, and other living things with non-living like soil and rocks that functions together. Streams are an ecosystem.

Erosion: the breakdown of soil and rocks by wind, water and other means.

Flow regime: a schedule or graph illustrating how much water is in the creek at different times of the year

Habitat: the food, water, shelter and space required for a plant or animal to survive

Low Impact Development (LID): includes a variety of practices that mimic or preserve natural drainage processes to manage storm-water

Redd: steelhead trout nest made of fist sized cobble on a streambed

Riparian Corridor: the interface between land and a creek

Sediment: soil that has eroded off the land and is deposited in streams

Setback: *A regulated area where activities are restricted. (Ch. 16.44 AGMC)*

Spawn: steelhead trout reproduction

Top of bank: The highest elevation of land that confines the flow of water to the channel. For areas where the top of bank is not distinguishable, the edge of floodway is used as the top of the bank.

Watershed: the area of land that catches rain and drains into a given body of water



acknowledgements

The information in this Guidebook is intended for education and not to meet regulatory requirements.

Portions of this Guidebook were modeled after the 'Guidebook for Living in the San Jacinto Watershed: A guide for residents of the San Jacinto Watershed and surrounding Communities,' on 'Basins of Relations: A citizen's guide to protecting and restoring our watersheds,' as well as the San Luis Obispo County 'Creek Stewardship Guide,' and the Prescott Creeks "Creek Care: Your Stewardship Guide to the Granite Creek Watershed."

