Urban Creek Care Guide

Responsible Practices for Russian River Watershed Residents
Welcome

The Russian River is a source of economic, social, and environmental vitality for Sonoma and Mendocino Counties and provides over half a million people with clean drinking water. Though most residents of the approximately 1,500 square mile watershed do not live next to the Russian River, most live near storm drains, ditches, or creeks that flow directly into the river. Everyone living, working, and visiting the Russian River watershed can play an important role in protecting the river and its creeks.

A creek flowing near your home adds aesthetic value, recreational possibilities, groundwater recharge, wildlife habitat, and flood protection. Even if your property is not located near a creek, runoff from your roof, street, driveway, lawn, and other surfaces will reach nearby creeks through the storm drain system. Sediment, pesticides, car fluids, and litter are just some of the contaminants which pollute creeks via the storm drain system.

This guide is designed to provide urban homeowners and residents with practical information on how you can maintain healthy creeks and our watershed by engaging in creek-friendly day-to-day activities.

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What is a Watershed?

A watershed is an area of land where all the water drains to a single water body such as a river, lake, or the ocean. Watersheds are often named after the river or creek that they drain into. For instance, the Russian River watershed is named after the Russian River. Watersheds are divided from each other by elevated land features such as hills and mountain ridges. Watersheds vary in shape, size, climate, vegetation, and many other physical characteristics, making each one a unique hydrologic system that stores and conveys water.

The health of a watershed depends on how we as residents use the land within it. Our daily practices affect water quality and the ecosystems that rely on it. Though many residents do not realize it, our cities and towns are essentially connected to creeks the same way rural land is, through a network of drainages. Artificial drainages such as street gutters, ditches, and storm drains are prevalent in urban landscapes and convey water, sediment, and pollutants just like natural drainages. Both urban and rural landscape drainages in our watershed have the same destination: creeks and the Russian River.

The Russian River Watershed and its Creeks

The Russian River watershed consists of all the land that naturally contributes water to the Russian River. The mainstem of the Russian River flows 110 miles from the headwaters near Redwood and Potter Valleys in Mendocino County and discharges to the Pacific Ocean near Jenner. More than 150 tributary creeks flow into the Russian River. Most urban areas in the watershed have posted identification signs along roadways and path crossings at many of these creeks. Each of these creeks, along with their own tributaries, creates a “subwatershed” of the Russian River watershed.

The Russian River is the second largest river flowing through the Greater San Francisco Bay Region. The mainstem of the Russian River is 110 miles long and there are almost 2,000 miles of creeks within the watershed that flow into it. Take action and help protect this important and unique water resource.

Look for these creek identification signs in your neighborhood!

The Russian River watershed consists of approximately 1,500 square miles of rich and diverse forests, agricultural lands, and urban areas within Sonoma and Mendocino Counties and is home to approximately 400,000 residents.

Urban areas within the watershed include Ukiah, Cloverdale, Healdsburg, Windsor, Santa Rosa, Sebastopol, Rohnert Park, Cotati, and unincorporated residential and commercial areas such as Guerneville, Forestville, and Redwood Valley.

For additional watershed information: rrwatershed.org/map
Many plant and animal species are supported by the Russian River watershed. The river is home to over 30 species of fish, including three threatened or endangered salmonid species (Chinook salmon, coho salmon, steelhead), as well as river otters, turtles, salamanders, frogs, freshwater shrimp, shellfish, and snails.

### A Healthy Creek

Gaining an awareness of creek characteristics is the first step to understanding creek health. Many urban creeks have been channelized for flood control or otherwise modified (widened, straightened, narrowed, lined with concrete or rip-rap) to change the amount or speed of flowing water to the detriment of the creek ecosystem. But even modified creeks can exhibit some of the following general characteristics of a healthy creek.

- **Clean water**: Clean water is generally clear water. Though some suspended sediment is natural, clean water is free of excess sediment, algae, nutrients, foams, and odors.
- **Temperature**: Water should be cool. Many fish require water temperatures lower than 65 degrees Fahrenheit (18.5 degrees Celsius). Cool water helps keep ammonia levels low and dissolved oxygen levels high, creating a healthy, balanced water chemistry for aquatic life.
- **Flow**: Flow should vary from calm, deep pools to quickly running water over shallow stretches (riffles), providing diverse habitat zones.
- **Rocks and gravel**: Abundant clean gravel and cobbles are vital for early stages of fish lifecycles.
- **Stable banks**: The creek edges and banks should ideally be stable, vegetated, and sloped. Unstable, undercut, or vertical banks indicate erosion.
- **Riparian vegetation**: Dense and diverse creekside vegetation consisting of native trees, shrubs, and other plants provide habitat for wildlife and shade to keep water cool. Riparian vegetation also protects water quality by capturing, storing, and filtering water before it gets to streams. Additionally, the roots of riparian vegetation add to bank stability. A lack of plant diversity can be caused by invasive plant species.
- **Natural debris**: Leaves, branches, logs, and other natural debris provide places for fish, insects, birds, and other small animals to hide from predators, forage for food, reproduce, and rest. Garbage, construction debris, and yard waste do not belong in creeks!
- **Wildlife**: Thriving populations of insects, amphibians, birds, and fish are important elements of healthy aquatic systems.
- **Consistent groundwater table**: Much of the water in the creek actually flows beneath the creek bed as well as above it. Shallow groundwater seeping into creeks helps to maintain the flow of water. Some creeks naturally run dry in summer months and are known as intermittent or ephemeral creeks. In contrast, perennial creeks have continuous year-round flow.

### Fish in the Watershed

- **Chinook salmon, coho salmon, and steelhead** are among the many different fish that live in the Russian River watershed. These fish are anadromous salmonids, meaning they inhabit the ocean for part of their lives and return to fresh water to spawn (lay eggs), usually returning to the same watershed where they were born. Because these species are anadromous, they use every part of the watershed system: the ocean, the estuary, the Russian River, the creeks, and small tributaries.

Young salmonids spend their first year or two in creeks and rivers, and then...
migrate downstream to estuaries where their bodies adapt to saltier water before entering the ocean. After several years in the ocean, adults return to fresh water to spawn. Unlike Chinook and coho salmon, steelhead can return to freshwater several times to spawn.

Salmon and steelhead populations have declined significantly in recent decades. Both Chinook (or King) salmon and steelhead are now classified as “threatened” on the Endangered Species List and coho (or silver) salmon are classified as “endangered.” Because the time these fish spend in fresh water is so biologically significant, protecting salmonid habitat is vital for species survival. While some watersheds have completely lost their runs of salmon and steelhead, the Russian River watershed is still home to these fish.

Conditions for healthy salmon and steelhead habitat include:

- Pools of calm water and segments of riffles.
- Clean gravels and cobbles free of excess fine sediment. Salmonids lay their eggs in the streambed’s gravel and cobbles in nests called “redds.” Females make a depression in the coarse rocks and deposit eggs for fertilization. In order for eggs to survive, they require sufficient water and oxygen flow. Fine sediments can block the flow of water and oxygen and can also close the spaces necessary for fry (young salmon) to emerge from the redd when hatched.
- Woody debris from fallen trees and shrubs to provide protection from predators. Rocks, logs, and roots also shelter fish during fast storm flows.
- Year-round supply of cool, clean, oxygen-rich water.
- Migration pathways free of blockage. Fish must be able to migrate upstream and downstream to find favorable water levels, temperatures, and food sources. Blockages, impassable dams, and water diversions may limit migration pathways.
- Dense riparian canopy above the waterway to provide shade, insect habitat, natural debris, and minimize streambank erosion.
- Abundant food supply (mostly insects) for fish to feed on.

The presence of fish in waterways is often an indicator of water quality because they are sensitive to temperature and pollutant impairments.

Creek Vegetation and Riparian Corridors

A riparian corridor is a vegetated zone bordering a creek or river that divides the waterway and the upland area. As an intersection of aquatic and terrestrial habitat zones, riparian corridors are biologically diverse. A healthy riparian corridor should have trees, shrubs, and other vegetation that is often distinctly different from vegetation in the upland zone. A healthy riparian corridor provides shade, an important part of regulating water temperature, and helps create a humid microclimate over the creek making for a desirable insect environment. In the summer, when creek and river flows naturally decrease, stretches of waterways can get too shallow, warm, and ultimately oxygen deprived. These conditions can kill many fish and can be minimized by maintaining a healthy, shaded riparian corridor.

A riparian corridor provides wildlife habitat, nutrients, woody debris, and helps to stabilize stream banks with abundant plant roots. A functioning riparian corridor can also act as a “biofilter,” removing excess nutrients from runoff that could later promote algae growth.

Protect riparian habitat:

- Do not plant invasive or non-native species near creeks as these can create competition with California native plants.
- Do not remove riparian vegetation without proper authorization and permits to do so.
- Do not remove natural debris such as logs, branches, or boulders from the riparian corridor.
- If your property is adjacent to a riparian corridor, avoid building structures within or next to the corridor.

Standards for riparian setbacks or “buffer zones” (the width around a riparian corridor that should be left undisturbed) have not been uniformly established in the Russian...
River watershed. Setting buffer zones requires an understanding of your site-specific characteristics (such as erodibility, soil texture, vegetation type, and slope), management objectives (such as habitat protection or sediment control), and jurisdictional boundaries. Seek professional advice or contact your jurisdictional agency listed in the Resources section at the end of this guide for more information about establishing a riparian buffer zone.

Runoff/Storm Drain Connection to Creeks

The majority of the Russian River watershed’s residents live in urbanized areas with lots of impervious surfaces such as roofs, concrete, and asphalt. Whether the source is rain, over-active sprinklers, or an unattended garden hose, water runs over these impervious surfaces and enters into a storm drain system. The water flowing through storm drain pipes and roadside ditches is directed to nearby creeks, bringing along with it any sediment and contaminants that it picked up along the way. Contrary to common belief, stormwater does not get directed to a treatment facility prior to being released into waterways. In a sense, the streets and gutters upstream of storm drains can be considered urban headwaters of the Russian River. This means garbage in the gutters, motor oil drips from cars, pet waste on sidewalks, pesticides, and other products flow into creeks and the river via the storm drain system.

Though it seems like harmful runoff is an inevitable consequence of urban living, small changes can have a big effect on reducing our impact on creek health. Most storm drains in the Russian River watershed are marked with “No Dumping – Drains to Creek” labels in an effort to increase awareness of the storm drain connection to watershed health. Following the simple practices outlined in this guide will help make you a responsible citizen and a steward of your creeks and watershed.

Responsible Household Practices to Care for Creeks

Soil Control and Preventing Erosion

Preventing soil erosion is a concern for all watershed residents. Those living near creeks should take extra precaution to keep sediment (soil) from leaving their property and entering creeks. Rapid sediment erosion causes slope instability, which can lead to structural damage to your home and may even cause landslides. In addition, sediment leaving your property can fill up the creek channels which increases flood risk by limiting floodwater capacity.

Unfortunately, sediment isn’t just a human safety concern. It can also harm aquatic wildlife, including salmon and steelhead. Excess sediment blocks sunlight, limits visibility, clogs fish gills, and harms fish eggs.

Signs of erosion:
- Rills (a pattern of small, shallow channels) and gullies
- Bare tree roots and exposed rocks
- Muddy water downstream from your property
- Signs of undercutting beneath structures
- Accumulated sediment on low lying areas on your property

How to prevent erosion:
- Keep soils covered with mulch or vegetation. Bare soils are most susceptible to erosion.
- Cover dirt piles and create barriers for containment when conducting work that involves moving soil. Replant vegetation as soon as possible.
- Avoid soil-disturbing work before rain.
- Consider using a retaining wall or terraces on your property if you notice signs of erosion on moderately and steeply sloped landscapes. A permit may be necessary.
- Use native shrubs and grasses to create a beautiful, soil retaining cover layer. Vegetation is the easiest and most effective way to retain soil on your property.
- Sweep dirt and debris from garden, deck, and home away from streets and gutters.
- Make sure you are not causing erosion with excess irrigation.
- Always obtain proper permits for work within or near creeks.
Runoff Management

In the past, we managed land by draining rainwater from properties as quickly as possible. This practice has led to increased peak flows in waterways, increasing flood risk, and channel degradation. Many practices have now been developed to slow runoff, minimize peak flows, remove sediments and contaminants, and direct water to permeable areas allowing it to soak into the ground instead of flowing to storm drains.

Below are a few simple steps you can take to manage runoff on your property.

- Minimize paved, impermeable surfaces. Driveways, sidewalks, patios, and other surfaces do not allow water to infiltrate into the ground below. Use paver stones, bricks, concrete blocks, turf blocks (concrete blocks with holes), or pervious pavement around your home.

- Allow downspouts to direct water away from your home to vegetated areas where it can sink into the soil. Use structural elements such as rocks to reduce the velocity of the water and prevent erosion.

- Consider creating a simple “rain garden” in your landscape, an area specifically designed to infiltrate concentrated runoff.

- Consider using a cistern or rain barrel to contain rainwater and use it for irrigation.

There are many more ways to manage rainwater runoff from your property. A very useful guide that outlines runoff management practices is “Slow it. Spread it. Sink it!” written and distributed by the Sonoma Resource Conservation District.

Landscaping and Yard Maintenance

Your home and landscape is more connected to the creek than you think. Rainwater that lands on your roof or flows across your landscape eventually makes its way to a creek. If landscapes have loose, bare soil, pesticides or even excess fertilizer, these pollutants can be washed into our creeks. Conventional landscaping often relies on heavy use of irrigation and application of fertilizers and pesticides. It also produces large amounts of waste, requires the use of fossil fuels, contributes to contaminated runoff, spreads invasive species, and can create fire hazards.

Avoid planting invasive garden plants and use native plants whenever possible. The following table was adapted from the California Invasive Species Council (Cal-IPC). Alternative plants listed in **BOLD** are native to California.

<table>
<thead>
<tr>
<th>Invasive Plants (Common Name, Latin Name)</th>
<th>Recommended Alternative Plants</th>
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</thead>
<tbody>
<tr>
<td>Giant Reed (Arundo donax)</td>
<td>Pacific Wax Myrtle (<em>Myrica californica</em>), Oregon Grape (<em>Mahonia aquifolium</em>), Heavenly Bamboo (<em>Nandina domestica</em>), Italian Buckthorn (<em>Rhamnus alaternus</em>)</td>
</tr>
<tr>
<td>Himalayan Blackberry (<em>Rubus armeniacus</em>)</td>
<td>Coyote Brush (<em>Baccharis pilularis</em>), Red Flowering Currant (<em>Ribes sanguineum</em>), Darwin’s Barberry (<em>Berberis darwinii</em>), Creeping Raspberry (<em>Rubus pentalobus</em>)</td>
</tr>
<tr>
<td>Pampas Grass (<em>Cortaderia selloana</em>), Jubata Grass (<em>C. jubata</em>)</td>
<td>San Diego Sedge (<em>Carex spissa</em>), Bigelow’s Beargrass (<em>Nolina bigelovii</em>), Lindheimer’s Muhly Grass (<em>Muhlenbergia lindheimeri</em>)</td>
</tr>
<tr>
<td>Cotoneaster (<em>C. lacteus</em>, <em>C. pannosus</em>)</td>
<td>Toyon (<em>Herteromeles arbutifolia</em>), California Coffeeberry (<em>Rhamnus californica</em> and cultivars), Strawberry Tree (<em>Arbutus unedo</em>), Pineapple Guava (<em>Feijoa sellowiana</em>)</td>
</tr>
<tr>
<td>Periwinkle (<em>Vinca major</em>)</td>
<td>Dwarf Coyote Brush (<em>Baccharis pilularis</em> – dwarf cultivars), Beach Strawberry (<em>Fragaria chiloensis</em>), Island Alumroot (<em>Heucherella maxima</em> and hybrids), Wild Ginger (<em>Asarum caudatum</em>), California Fuchsia (<em>Epilobium spp.</em>), Groundcover Manzanita (<em>Arctostaphylos uva-ursi</em>, <em>A. edmundsii</em>), Prostrate California Lilac (<em>Ceanothus gloriosus</em>, <em>C. maritimus</em>), Serbian Bellflower (<em>Campanula poscharskyana</em>)</td>
</tr>
</tbody>
</table>

An example of a landscape that utilizes a variety of low-water use and California native plants.
The Cal-IPC also recommends the following invasive trees not be planted in the Russian River watershed. For native and/or non-invasive alternatives, visit www.cal-ipc.org.

- Silver Wattle (Acacia dealbata)
- Blue Gum Eucalyptus (Eucalyptus globulus)
- Glossy Privet (Ligustrum lucidum)
- Tree of Heaven (Ailanthus altissima)
- Black Locust (Robinia pseudoacacia)
- Single Seed Hawthorn (Crataegus monogyna)
- Chinese Tallow Tree (Sapium sebiferum)
- Russian Olive (Elaeagnus angustifolia)
- Saltcedar (Tamarix spp.)

Pet Waste

Pet waste is unsightly, unsanitary, and unsafe. Even pet waste left in the yard, on the sidewalk, driveway, or street poses hazards to people, animals, and the environment. Oftentimes, it gets washed down storm drains and into our creeks. Pet waste contains nutrients that promote excess algae growth, making the water cloudy and green. Waste decaying in the creeks depletes oxygen and releases ammonia. When combined with warm temperatures, these conditions can kill aquatic wildlife.

Pet waste contains organisms that cause diseases such as giardiasis, hookworm, salmonellosis, toxocariosis, tapeworm (from dog waste only), and toxoplasmosis (from cat waste only). The toxoplasmosis parasite that is sometimes found in cat feces kills sea otters along California’s coasts. Even sewage treatment plants do not always destroy these parasites. Flies, insects, or toys that come into contact with the waste can carry the organisms to new hosts – other pets and people. Children, pregnant women, the elderly, and people with depressed immune systems are particularly susceptible to certain diseases that can be transmitted through contact with pet waste.

Decrease the harm to creeks and help keep them safe for people and animals:

- Dispose of pet waste and cat litter by placing it in a bag, securely tying it, and throwing it in the trash, not the yard waste bin.
- Carry plastic bags when walking your dog. Consider using accumulated bags from around your house, such as food or newspaper bags. Alternatively, many pet stores now carry environmentally-friendly pet waste bags.
- Always pick up pet waste from your yard. Do not treat it like a fertilizer. You can also bury pet waste at least 12 inches below the ground surface to decompose slowly in your yard if you vary the locations and make sure to stay away from vegetable gardens and children’s play areas.

Car Washing

Washing cars at home can be one of the most environmentally unfriendly household chores when done improperly. This is because the waste generated during car washing includes harsh soaps, grime, oil, and automotive fluids. Washing a car in a street or driveway allows this toxic chemical concoction to flow into a nearby storm drain and into a creek.

Follow these tips to make your car shine without harming your local waterways:

- Wash your car at a commercial car washing facility. Most commercial car wash facilities filter water and direct it to the sanitary sewer where it gets treated.
- Wash your car on an unpaved part of your yard instead of in the driveway or street. Washing your car on your lawn or other unpaved area will allow pollutants to percolate into the soil. The soil, gravel, and vegetation act as filters for the soap and grime.
- If you must wash your car on a paved surface, find a way to direct the runoff into an unpaved area. Limit runoff volume by using a bucket and rag to wash your car, and put a shut-off nozzle on your hose.
- Use biodegradable soap instead of traditional soap. However, even biodegradable soap can harm aquatic wildlife before the soap can break down.
Clean car carpets into trashcans and never into the streets. If you must use your driveway, sweep up all debris when finished and discard in the trash.

If you are holding a community car wash on a paved area, plan to block the storm drains receiving the rinse water and pump the accumulated rinse water into a sanitary sewer inlet, or direct the water to a landscaped area where it can soak in.

Car Maintenance

Oil, antifreeze, gasoline, and other auto fluids can leak from vehicles onto impervious surfaces such as driveways and streets. When it rains, these fluids are washed into storm drains and enter nearby creeks.

Prevent this common source of pollution by following these tips:

- Look for leaks. Look at the pavement or driveway after you move your car. If you see a dark patch or evidence of a liquid (oil, antifreeze, brake fluid, etc.) then you have a leak. Also, if you see a colorful sheen on the pavement surface after a rain storm, it is likely from an oil leak.
- Clean up all leaks promptly. If your car has leaked on your driveway, you can use an oil absorbent material such as cat litter or absorbent products available at auto supply shops to clean up the spill. Be sure to sweep up the absorbent material and dispose of it in the garbage.
- Never hose leaked fluids into the street.
- Take your vehicle to a mechanic to have the leak source repaired.

The ultimate responsibility for leaks and drips from vehicles lies with the vehicle owner. In some municipalities, violations for reported car leaks carry hefty fines. If you observe a major spill or leak on the street please notify your city's Public Works or Police Department.

Pool and Spa Maintenance

There may be times when you need to drain your pool or spa to alter the water chemistry to a desired level. Pool and spa water can contain chemicals that are harmful to fish and wildlife.

Follow the guidelines below to minimize the environmental impacts of pool and spa maintenance:

- Never drain your pool or spa into a storm drain. Chlorine, algaecides, and other water conditioners are toxic to aquatic life.
- Drain to the sanitary sewer via your sewer cleanout or an indoor drain. If you are draining over 50,000 gallons or have questions, call your local sewer district.
- To drain the water into a vegetated area properly, ensure that the water is not cloudy, pH is neutralized, and the chlorine or other disinfectant residual is below 0.1 milligrams/liter. Discharge the pool or spa water onto the ground and ensure that it is contained within your property boundary. Use sandbags or berms if necessary to ensure that the water soaks into the planted area and does not migrate to an impervious surface.
- Divert backwash pool filter rinse water into your landscaping or into the sanitary sewer. Diatomaceous earth, which is used in pool and spa filter systems, can fill the spaces in the stream bed gravel, preventing oxygen from reaching fish eggs and young fish.
- If your pool or spa receives professional maintenance, discuss safe cleaning and draining methods with your maintenance provider.

Power Washing

Many people use power or pressure washing as a means to clean their house exteriors, decks, patios, and equipment. Power washing is not a recommended practice as it uses large volumes of water and can result in harmful runoff. If power washing is necessary at your home, try to avoid the task during times of drought and follow the recommended practices in this section.

In general, three parts of the cleaning process can cause problems for the environment:

1. Using harmful cleaning chemicals including soaps as well as solvents (even biodegradable soaps contain ingredients which are initially toxic to fish and other aquatic life).
2. Releasing toxic materials in the runoff such as oil, antifreeze, grease, fuels, and heavy metals from driveways, sidewalks, equipment, and other surfaces.
3. Generating other waste in the runoff such as sediment, pet waste, litter, chlorine, pesticides, and paint chips (paint produced before 1978 contains lead and while paint produced after 1978 is not lead “based,” it still contains a trace concentration of lead).

Whether you own or rent a power washer, or hire a contractor, follow the guidelines below to keep the harmful fluids out of creeks:

- Collect and dispose of the wash water to the sanitary sewer through a sink, toilet or sewer clean out.
- If hazardous materials are involved, the water will need to be disposed of as hazardous waste and cannot be discharged to the sanitary sewer. Residents who produce hazardous waste water should dispose of it at a Household Toxics Facility. Commercial power washing companies (who produce large volumes of waste water) should dispose of it at a Household Toxics Facility. Commerical power washing companies (who produce large volumes of waste water) use transportation and disposal companies to handle the waste. If your power washing project will generate hazardous waste water, consider hiring a professional.
To avoid the hazardous waste problem and reduce the amount of waste water that needs special handling, properly pre-clean the area you will be pressure washing. Use rags or an absorbent material like kitty litter to remove any oil, grease, or other petroleum products. Collect the rags or absorbent material and dispose of them at a Household Toxics Facility. Now the waste water may not need to be treated as hazardous waste.

How do you collect the water?

Collect water for disposal by creating a barrier with sand bags or seal the storm drain openings with plugs or rubber mats. Waste water can be collected from its containment using a wet vacuum, a sump pump, or a vacuum pump. A hose can direct the waste water to a sanitary sewer clean-out or a sink. Please note that it is unsafe and illegal to use or open a sanitary sewer manhole for any reason.

Discharging power washing waste water to a landscaped area may be allowed if there are no hazardous materials involved. Blocking the storm drain is always required. When routing wash water to landscaping, check the slope and area to be sure you will avoid runoff into a street or gutter. If the soil is very dry, wet it down thoroughly before discharging so that wash water will soak into the soil instead of running off. The planted area must be able to absorb all the water you divert to it.

Painting

Painting a piece of furniture, a room, or your entire house can easily refresh its visual impact and can be a fun project. However, improperly handled paints, solvents, and paint stripping products can make it to the storm drains and pollute nearby creeks. These substances contain toxic chemicals and should be handled with care.

Follow the guidelines below when completing your next home make over project to minimize impacts on the environment:

- Whenever possible, purchase latex or other water-based paints rather than oil-based products. Oil-based paints are flammable, contain solvents that can contaminate water, and require paint thinner or other solvents to clean up.
- Measure your project and buy only as much paint as you need. Typically, a gallon of paint will cover approximately 120 square feet.
- Avoid painting outside when it is raining or going to rain.
- Use tarps and dropcloths where you mix paint or when you are removing old paint.
- To clean brushes and rollers covered with water-based paint, simply wash them in your sink or bathtub, not outside. If you are using oil-based paints, rinse brushes with thinner, and keep the used thinner contained. The used thinner and any waste must be disposed of at a Household Toxics Facility.
- Cover the paint can opening with plastic wrap, secure the lid tightly, and store the can upside down to keep the paint fresh. Store paint cans and buckets away from potential contact with stormwater.
- Recycle your paint. PaintCare is a paint stewardship non-profit program that manages the reuse, recycling, and proper disposal of unused architectural paint. Visit www.paintcare.org for program guidelines for residents and businesses, and to find retail sites in Sonoma and Mendocino Counties that will take paint for recycling.
- Dispose of paint cans properly. In Sonoma County, emptied and dried-out metal or plastic paint cans should be recycled curbside in your blue single-stream recycling cart. In Mendocino County, emptied and dried out paint cans should be disposed of in the trash.

To dispose of unusable paint products including stains, latex and oil-based paint, contact your local hazardous waste program.

For Sonoma County residents, visit www.recyclenow.org for the Community Toxics Collections, Toxics Rover Pick-Up Service schedules, or for information about bringing your materials to the Household Toxics Facility on Meacham Road. Options are also available for businesses.

For Mendocino County residents, visit www.mendorecycle.org for the HazMobile collection schedule.
Recreation Near Creeks

Getting to know your local creek can be fun and a rewarding learning experience.

Here are some tips on how to enjoy your creek while minimizing impacts:

■ Always carry out your trash and place it in a designated receptacle, even if there isn’t one nearby. Trash not only diminishes the aesthetic value of a creek, but also harms wildlife.

Cigarette butts are litter too! Butts, lighters, straws, candy wrappers, and other small trash that washes into creeks or the ocean can be mistaken as food by birds and fish.

■ Keep your pet on a leash. Pets can disturb nests, scare wildlife, and harm vegetation. Keep an eye on your pet, control their access, and always pick up pet waste.

■ Do not catch fish. Santa Rosa Creek and the Laguna de Santa Rosa are the only Russian River tributaries open to fishing. Their fishing season runs from the last Saturday in April through November 15. However, fishing for trout, steelhead, and salmon in these creeks is not allowed. For more information contact the California Department of Fish and Wildlife.

■ Always stay on trails. Creating your own trails when walking or cycling along creeks disturbs wildlife, inhibits plant growth, and increases erosion.

■ Avoid disturbing sediment in the creek. Do not move rocks or branches – this will destabilize banks and releases built up sediment. Avoid walking on bare banks or through streams as this muddies the water. Excess sediment blocks sunlight, clogs fish gills, limits visibility for aquatic wildlife, and harms fish eggs, so it is especially important to avoid disturbing creeks during spawning season (October through May).

■ Avoid creeks during winter storm events. Fast flowing creeks are deceptive and when combined with the slippery and uneven creek bed can create a significant safety hazard.

■ Supervise children. Children can unintentionally disturb wildlife.

Don’t let these restrictions deter you from enjoying your local creeks. Get out there with your friends, family, pets, or even by yourself for a relaxing walk, jog, or bike ride along a nearby creek. More eyes, ears, and helping hands along creeks help keep them clean and safe.

Creek Stewardship

Creeks cannot protect themselves. Urban creeks are especially in need of active stewardship to stay healthy and scenic. There are many opportunities to protect and enhance local creeks. You’ve just done the first step by informing yourself of problems that lead to urban creek degradation and how by following a few simple practices you can minimize your impact on the watershed.

Continue to be a responsible citizen and creek steward by:

■ Volunteering for creek cleanups (most organized cleanups happen in spring and fall of every year);

■ Reporting pollution, habitat destruction, and illegal activities along creeks to appropriate City/County departments;

■ Following the responsible practices outlined in this guide;

■ Adopting a section of a creek near your home, school, or business; and

■ Spreading the word to friends, family, and colleagues about caring for creeks.

Look for pollution or other problems along creeks.

Sign up to be a creek cleanup volunteer.
Resources

Permitting Agencies

Federal, State, or local agencies may require one or more permits when conducting any in-stream or riparian corridor work. Contact the following agencies, depending on your location, for applications and more information. Be sure to contact agencies before you begin work as application processing times vary.

California Department of Fish and Wildlife
www.dfg.ca.gov
Bay Delta Region (for Sonoma County residents): 707-944-5500
Northern Region (for Mendocino County residents): 530-225-2305
For projects that alter waterways and influence fish and wildlife habitat.

State Water Resources Control Board (SWRCB)
www.swrcb.ca.gov
916-341-5272
For water use, delivery systems, diversions, environmental laws, and water rights.

North Coast Regional Water Quality Control Board (NCRWQCB)
www.waterboards.ca.gov/northcoast
707-576-2220
For any grading or ground disturbing activities, development, vegetation management, and/or discharges, within or that could impact the riparian zone or creek.

National Oceanic and Atmospheric Administration (NOAA) Fisheries
(Formerly the National Marine Fisheries Services)
www.nmfs.noaa.gov
707-575-6050
For waterway work that could impact threatened or endangered fish populations.

US Army Corps of Engineers (USACE)
www.spn.usace.army.mil
415-443-0855
For waterway work done within waters of USACE’s jurisdiction.

Sonoma County Permit and Resource Management Department
www.sonomacounty.ca.gov/Permit-and-Resource-Management
707-565-1900
For projects in Sonoma County involving grading and drainage work, zoning, building projects, roiling (disturbing clarity of natural waterways with construction activities), or development within the Coastal Zone.

Mendocino County Planning & Building Services
www.co.mendocino.ca.us/planning
707-234-6650
For projects in Mendocino County involving grading and drainage work, zoning, and building projects.
Local Agencies

Local agencies may require grading and building permits as well as requiring setbacks from waterways. They often offer information on water conservation, stormwater management, landscape audits, or training opportunities. You can also report spills and illicit discharges to the public works departments or other appropriate departments within the following agencies listed below.

**City of Cloverdale**
- www.cloverdale.net
- 707-894-1792

**City of Cotati**
- www.ci.cotati.ca.us
- 707-792-4600

**City of Healdsburg**
- www.ci.healdsburg.ca.us
- 707-431-3346

**City of Rohnert Park**
- www.rpcity.org
- 707-588-3300

**City of Santa Rosa**
- www.srcity.org
- 707-543-3800

**City of Sebastopol**
- www.ci.sebastopol.ca.us
- 707-823-1153

**City of Ukiah**
- www.cityofukiah.com
- 707-463-6282

**County of Mendocino**
- www.co.mendocino.ca.us/planning
- 707-234-6650

**County of Sonoma**
- www.sonomacounty.ca.gov/Permit-and-Resource-Management/
- 707-565-1900

**Sonoma County Water Agency**
- www.scwca.ca.gov/conservation
- 707-526-5370

**Town of Windsor**
- www.townofwindsor.com
- 707-838-1006

**Organizations, Non-Profits, and Local Creek Groups**

**Atascadero / Green Valley Watershed Council**
- www.agvwc.org
- 707-823-7173

**Creek Stewardship Program**
- www.srcity.org/creekstewardship
- 707-543-3845

**Friends of Gibson Creek**
- www.friendsofgibsoncreek.org
- 707-463-2721

**Gold Ridge Resource Conservation District**
- www.goldridgercd.org
- 707-823-5244

**Laguna de Santa Rosa Foundation**
- www.lagunadesantarosa.org
- 707-527-9277

**LandPaths**
- www.landpaths.org
- 707-544-7284

**Mendocino County Resource Conservation District**
- www.mcrcd.org
- 707-462-3664

**Occidental Arts and Ecology Center**
- www.oaec.org
- 707-874-1557

**Russian Riverkeeper**
- www.russianriverkeeper.com
- 707-433-1958

**Russian River Watershed Cleanup Committee**
- www.russianrivercleanup.org
- 707-887-2303

**Sonoma Resource Conservation District**
- www.sonomarcd.org
- 707-569-1448

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1 Partnership of Sonoma County Water Agency and City of Santa Rosa
**Acknowledgements**

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