

# Erosion & Sediment Control



MOST SEDIMENTS ARE TRANSPORTED DURING WINTER FLOWS

## WATER RESOURCES DIVISION ENVIRONMENTAL HEALTH

The Water Resources Division, Environmental Health Services, has various programs to protect public health and improve surface and groundwater quality throughout the county, including:

- Septic system permitting and inspections
- Beach sampling
- Surface water sampling and analysis
- Press Releases and Internet water quality updates
- Investigation of water quality complaints
- Groundwater recharge protection
- Well permits
- Watershed conservation
- Timber harvest review
- Water resources planning
- Steelhead and coho salmon conservation
- Manure Management Program
- Water Conservation Retrofit Program
- Water Advisory Commission

Weekly water quality results can be found on the web by searching for Santa Cruz County Water Quality Reports or by calling 454-3188.



SURFACE WATER SAMPLING



THE COUNTY REVIEWS TIMBER HARVEST PLANS FOR WATER QUALITY PROTECTION

### Erosion and Sedimentation

Erosion from the land and the movement of sediments through watercourses are natural processes that shape a stream and deliver nutrients and beneficial substrates to aquatic ecosystems. However, accelerated erosion directly or indirectly caused by human disturbance can overload a stream with sediment. Accelerated erosion and sediments in the channel bed impairs water quality, reduces the streams ability to carry flood waters, and causes or aggravates streambank stability problems.

In local streams, excessive fine sediment, especially sand, is a primary factor limiting habitat for steelhead trout, coho salmon, and other aquatic species. Excess fine sediment degrades fish spawning and rearing habitat, and reduces the aquatic insects that provide food for steelhead trout and coho salmon.

### Erosion and Sediment Reduction on Private Roads and Lands

The Resource Conservation District of Santa Cruz County (RCDSCC) works in partnership with the federal Natural Resources Conservation Service (NRCS) to provide technical information and assistance to private property owners to control and prevent erosion. The Rural Roads Erosion Control Assistance Program helps private road associations and individual private landowners implement erosion control Best Management Practices (BMP) on their rural roads. If your property has drainage or erosion problems, ask for help.

WORKSHOPS TEACH PEOPLE HOW TO IMPROVE THEIR PRIVATE ROADS BY CONTROLLING DRAINAGE AND EROSION

PHOTOS, TOP LEFT TO BOTTOM LEFT:  
HILLSLOPE EROSION BRINGS SEDIMENTS INTO WEST BRANCH SOQUEL CREEK  
BANK EROSION CAN IMPACT STREAMSIDE RESIDENTS  
SOME BANK EROSION IS NATURAL AND BENEFICIAL TO STREAM HABITATS  
EXCESSIVE FINE SEDIMENTS FILL THE SPACES BETWEEN ROCKS. THESE SPACES ARE IMPORTANT TO AQUATIC INSECTS AND FISH.

Photography: Kent Edler (erosion control); Matt Johnston (erosion control); Ezra Neale (erosion on road); Steve Auten (forestry, forest roads); Dennis Jackson (Soquel Creek turbidity); Gary Kittleson (road failures, turbid stream); Kristen Kittleson (bank erosion, water quality sampling).



THIS ROAD SLIP OUT DELIVERS SEDIMENTS DIRECTLY TO THE STREAM

### Roads are Biggest Sediment Source

Studies show that roads are the primary source of sediment from human land use in Santa Cruz County. Most roads disturb natural drainage patterns, which can lead to surface and gully erosion and slope failures (landslides). Road cuts and fills are also subject to erosion. Public Works has existing and new programs to reduce sediment sources from County roads (see Public Works).



PROPER DRAINAGE ON DIRT ROADS CAN PREVENT EROSION AND REDUCE MAINTENANCE COSTS



ROAD MAINTENANCE CAN BE A CHALLENGE WHERE ROADS ARE ADJACENT TO STREAMS

### Basic Strategies for Preventing Soil Erosion

- Protect bare soil surfaces. Native trees, shrubs, grasses, cover crops or mulch (gravel, straw, wood chips) hold the soil in place and allow water to soak into the soil. During construction, use sterile straw or erosion control grasses or fabrics to help protect exposed soils.
- Minimize disturbing existing plants. If plant cover is disturbed, such as for the removal of invasive, non-native species, replant the area with native plants as quickly as possible.
- Identify natural drainages and steep slopes. Do not obstruct natural flows: allow water to flow in natural drainages or sheet flow over the surface.
- Maintain undisturbed buffers around natural drainages.
- Avoid concentrating water flows, unless absolutely necessary. Include plenty of water bars or cross-culverts on your roads and protect water or pipe outlets by using carefully placed rock or energy dissipater.
- Know areas of concern, such as landslides and fill slopes. Do not concentrate flow into these areas.
- Check and fix drainage concerns such as gutters, roads, and driveways. Make sure drainage is released onto non-erosive surface. Minimize your runoff directly to rural county roads.



WILLOW CUTTINGS HELP RE-ESTABLISH NATIVE RIPARIAN HABITAT.



EROSION CONTROL MEASURES WORK BEST WHEN INSTALLED PRIOR TO THE RAINY SEASON



EROSION CONTROL METHODS INCLUDE BLANKETS, WATTLES (ROLLS), MULCHING AND SEEDING

