

# Santa Cruz County Public Works



## FISH PASSAGE PROGRAM

AT THE VALENCIA CREEK ROAD CROSSING, ROCK WEIRS IN THE STREAM AND BAFFLES INSIDE THE CULVERT HELP STEELHEAD SWIM UP TO AND THROUGH THE CULVERT

Steelhead trout and coho salmon migrate to and from the ocean at different life stages to access spawning and rearing habitat. However, public and private road crossings, especially culverts, can create barriers to fish passage.

At different flows, culverts can create jumps, excess velocities and inadequate depth that prevent fish from swimming through the culvert. Resource agencies charged with protecting these species have identified the removal of migration barriers as a top priority.

In 2004, the County completed an assessment of county road stream crossings (funding from California Department of Fish and Game).

This assessment evaluated fish passage at 65 county culverts using a computer program, FishXing. This assessment identified 13 high priority culverts in need of repair or retrofit to aid passage.

The County has completed projects at four high priority sites and two moderate priority sites identified in the plan. Through the Integrated Watershed Restoration Program (see Watershed Conservation), an additional five sites are in design and permitting and have implementation funding secured.



A CULVERT REPLACEMENT ON BONNY DOON ROAD IMPROVES PASSAGE FOR BOTH FISH AND WILDLIFE



QUAIL HOLLOW FISH LADDER IS ONE OF EIGHT FISH PASSAGE STRUCTURES MAINTAINED BY THE COUNTY

CONSTRUCTED IN 2007, THE VALENCIA CREEK FISH LADDER AT SOQUEL DRIVE ALLOWS STEELHEAD TO ACCESS OVER THREE MILES OF STREAM HABITAT IN THE APTOS WATERSHED



The County of Santa Cruz Public Works Department maintains over 600 miles of roads throughout the county. Through the County's involvement with FishNet 4C, Public Works is working on several watershed conservation programs to improve fish passage at county road crossings, address erosion and sediment sources and reduce pesticide and herbicide pollution from road maintenance.

### Reducing Nonpoint Source Sediment and Pesticide Pollution in Road Maintenance

Historically, Public Works sprayed at least 270 miles of roads and drainage ditches with herbicides every year to control vegetation for fire safety and to keep site lines and drainage ditches open.

Over the past three years, Public Works has significantly reduced their use of herbicides.

Public Works is developing a new Integrated Vegetation Management Plan (IVMP) with funding from the State Water Resources Control Board's (SWRCB) Proposition 40 Urban Stormwater Program (USWP). The IVMP will

guide roadside vegetation management using GIS maps of native and non-native vegetation communities within 150 feet of perennial water bodies. The results of the new IVMP will be posted on the County's web site by September 2008.

PUBLIC WORKS KEEPS POLLUTANTS OUT OF STORMWATER THROUGH STREET SWEEPING, PUBLIC EDUCATION AND PUBLIC PARTICIPATION, ONGOING STORM DRAIN AND SANITARY FACILITIES MAINTENANCE PROGRAMS. VISIT THE NEW WEBSITE AT <http://www.dpw.co.santa-cruz.ca.us/npdes.htm>



COUNTY CREWS INSTALL WILLOWS INTO A ROAD REPAIR



PUBLIC WORKS PROTECTS WATER QUALITY DURING MAINTENANCE

### Roads Maintenance

When maintaining county roads, Santa Cruz County road crews utilize Best Management Practices (BMPs) from the *Guidelines for Protecting Aquatic Habitat and Salmon Fisheries for County Road Maintenance*. These BMPs help to protect water quality and fish while insuring safe and open roads. These guidelines were developed by FishNet 4C, a regional effort that includes six central California coastal counties, including Santa Cruz.

### Culvert Replacement and Sediment Source Reduction Program

Over 50% of storm related damage in 1997 can be attributed to culvert failures. When culverts fail, erosion and flooding are greatly accelerated. The goal of this program is to upgrade or replace culverts on public roads.

Assessments that evaluated erosion potential along county roads have been completed in Scott, San Lorenzo and Soquel watersheds (funding from California Department of Fish and Game). To date, four projects have been completed on Kings Creek Road. Projects throughout the county are planned for implementation over the next four years with funding from Proposition 50, State Water Resources Control Board.



CULVERT REPLACEMENT ON KINGS CREEK ROAD



UPGRADED CULVERT DOWNDRAIN PREVENTS EROSION



REPLACING A CULVERT STREAM CROSSING



PREPARING THE FORM FOR A CULVERT HEADWALL



SLIPOUT REPAIR



ROAD CREW HYDROSEEDING WITH NATIVE PLANT SEEDS TO ESTABLISH NATIVE AND LOW-GROWING ROADSIDE VEGETATION

