



# Resurrection Creek Stream Channel and Riparian Restoration Project

## Background

The Resurrection Creek Stream Channel and Riparian Restoration Project is located on the Kenai Peninsula, five miles south of Hope, Alaska (see *Figure 1*). The project area was hydraulically mined during the first four decades of the 1900's. Miners used high pressure water jets to strip away surface vegetation and soils, and to sort through the underlying alluvial gravels for gold.

The mining operations left behind a straightened, simplified stream channel without its former floodplain and side channels. Mounded tailings piles now cover the original flat, floodplain, and restrict both Resurrection and Palmer Creeks from spilling onto their floodplain during high flow events. The steep tailings piles are composed of coarse gravels, cobbles and boulders, and provide poor conditions for regrowth of the riparian vegetation removed during mining. Changes in stream channel and riparian characteristics resulting from hydraulic mining are quantified in a report entitled "Resurrection Creek Stream Channel and Riparian Restoration Analysis". This document, along with other project related information is available on the internet at:

[http://www.fs.fed.us/r10/chugach/news\\_releases/res\\_creek\\_rest.html](http://www.fs.fed.us/r10/chugach/news_releases/res_creek_rest.html)

## Project Goals

The Resurrection Creek Project will restore 0.9 miles of stream channel and adjacent floodplain and riparian habitat

from the adverse impacts of historic placer mining. Project restoration efforts are intended to restore the area to pre-mining conditions, and to enhance fish and wildlife habitat on public and private lands.

The project will increase: spawning substrate, pools, large in-stream woody debris, perennial side channel flow, and rearing and over-wintering habitat for coho and chinook salmon. Aquatic vertebrate and invertebrate populations will respond positively to the stream channel and riparian rehabilitation. Riparian vegetation abundance and diversity will increase, improving wildlife habitat conditions.

*Figure 2* displays a photographic overview of the project area with the proposed project work mapped on. Resurrection Creek will be increased in length and sinuosity. Side channel flow will be greatly increased for both Resurrection and Palmer Creeks. Tailings piles located on former floodplain will be leveled to recreate the floodplain. Resurrection and Palmer Creek high-water flow events (greater than 2-year floods) will once again have access to the floodplain.

During project construction, large woody debris will be returned to Resurrection and Palmer Creeks. Log jams built on stream meander outcurves will provide short-term bank protection (until woody vegetation has become well-rooted along the bank.) Logjams will increase

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instream pool habitat, and will provide an important nutrient supply for fish.

Following construction of new stream channels and floodplains, the floodplain will be revegetated using a mix of grasses, shrubs, and trees. Woody debris will also be placed on the floodplain for habitat, nutrient supply, and flood flow velocity reduction.

## Current Situation

The Forest Service completed the Final Environmental Impact Statement for this project in November 2004. No appeals were submitted during the 45-day appeal period. The Forest Service has applied for State and Federal permits for the project. Permit applications are in review and scheduled for completion by early May 2005.

This project will be completed over two to three construction seasons. Construction for 2005 will focus on channel and floodplain construction on the lower 0.6 miles of the project area.

The Forest Service advertised the first year construction for bid in early March 2005 and will select a contractor in mid-April 2005. Project construction is scheduled to begin in May 2005.

Initial construction requires diverting Palmer and Resurrection Creeks into alternate channels (see **Figure 2**) so channel and floodplain construction can proceed primarily “in the dry”. The new floodplain and channel will be constructed during the spring/summer of 2005. Subsequent year’s work will include additional channel and floodplain construction on the upper 0.3 miles of the project area, revegetation of the floodplain, and monitoring of changes in habitat conditions. The project is scheduled for completion on or before late summer of 2008.

## More Information

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Figure 1 – Location Map - Resurrection Creek Stream Restoration Project



