

Resurrection Creek Stream Restoration Project

Completion Report

September 2007

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The Resurrection Creek stream restoration project was initiated by the Chugach National Forest in 2005 and completed in 2007. This project successfully restored a 1-mile reach of Resurrection Creek on National Forest Service lands about 5 miles upstream of Hope, Alaska. This reach was impacted by historic placer mining activities, leaving a steep, riffle-dominated channel highly confined by tailings piles. Aspects of the restoration included construction of a new meandering channel, distribution of historic tailings piles to create new floodplains, construction of side channels and other off-channel habitat, spreading of soil on new floodplains, and revegetation of floodplains and riparian areas.

Tasks completed in 2005: The EIS for this project was completed in November 2004, and permits were in place by early May 2005. The first season of construction occurred from mid-May to mid-July 2005. The following was accomplished in 2005:

- Redistributed 120,000 cubic yards of tailings piles to develop a new stream channel and floodplain,
- Constructed 5 meander bends with natural pool-riffle sequences, increasing the channel length by 20%, increasing sinuosity, and decreasing average slope,
- Shaped 40 acres of new floodplains,
- Constructed 1 mile of new side channels and side channel ponds for off-channel habitat,
- Spread 5,000 cubic yards of soil and woody debris on the floodplains,
- Placed hundreds of trees into 10 engineered logjams along the channel, and
- Monitored channel morphology, photo points, vegetation, and aquatic species.

Tasks completed in 2006: In 2006, construction work on the restored channel and floodplains was completed, and revegetation was conducted on areas restored in 2005. The second season of construction work was conducted between mid-May and early July 2006. The following was accomplished in 2006:

- Constructed 1.2 miles of additional side channels and connected ponds,
- Reconstructed the lower 0.2 miles of Palmer Creek,
- Redistributed 40,000 cubic yards of tailings piles to shape the channels and floodplains,
- Placed hundreds of trees into engineered logjams,
- Spread 3,000 cubic yards of soil and woody debris on the floodplains,
- Through a partnership with the Youth Restoration Corps, planted over 4000 birch seedlings, 600 spruce seedlings, and 4000 willow cuttings along the banks and on the floodplains, and
- Monitored channel morphology, photo points, vegetation, and aquatic species.

Tasks completed in 2007: In 2007, revegetation was conducted on areas restored in 2006 through a partnership with the Youth Restoration Corps. Work was conducted in June 2007. The following was accomplished in 2007:

- Planted about 1000 spruce seedlings, 1800 birch, and 500-1000 sod transplants on the newly created floodplains,
- Planted about 4000 willow stems and 150 feet of sod and willow wraps along the banks of newly created side channels, and
- Monitored channel morphology, photo points, vegetation, and aquatic species.

Results of restoration:

The results of this restoration are very positive. Because of the natural design of this channel and its wide floodplains, the newly constructed channel easily handled flows from an abnormally high snowmelt runoff in June 2006, with minimal bank erosion. The response of the restoration by wildlife is extremely encouraging. Numerous harlequin ducks have moved into the areas around the deep pools that hold fish. All five species of Pacific salmon have been observed in the restored channel and side channels, with nearly 70 chinook, over 4000 pinks, 175 coho, and nearly 100 chums spawning in this reach following restoration in 2006. Vegetation now flourishes throughout the project area while salmon transport tons of marine-derived nutrients to the floodplain and side channels. This one-mile valley reach of Resurrection Creek now displays characteristics of a naturally functioning, self-maintaining ecosystem.



Aerial view before restoration (left) and after restoration (right)



***Photo point sequence at Meander 2:
Top: Before restoration (May 10, 2005)
Middle: During restoration (May 25, 2005)
Bottom: After restoration (August 31, 2007)***



Pink salmon in newly constructed Resurrection Creek side channel (fall 2006)



Willow plantings along newly constructed Resurrection Creek side channel (fall 2006).

Additional information: Additional information on this project can be found on the Chugach National Forest website at the following web address:

http://www.fs.fed.us/r10/chugach/news_releases/res_creek_rest.html

Information presented on this website includes the following:

- 2005 season progress reports,
- 2006 season progress report,
- 2005 channel morphology monitoring report, and
- Resurrection Creek Restoration Final Environmental Impact Statement.

Additional information, including monitoring reports, will be added to this website when they become available. For more information about the project, contact:

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