

SKAGIT - FERC PROJECT #553
EROSION CONTROL PROGRAM
2005 COMPLETION REPORT

North Cascades National Park and Seattle City Light

March, 2006

INTRODUCTION

As stipulated in the 1991 Erosion Control Settlement Agreement (SA) between the National Park Service (NPS) and Seattle City Light (SCL), erosion control activities in Ross Lake National Recreation Area (NRA) continued for a twelfth year (including pre-license work).

NPS crews, funded by SCL, conducted work at several sites in 2005 (Figure 1). Activity this year focused on contingency cribbing site E70A-6B, twenty yards south of E70A-6 on Ross Lake.

In addition, site D-11, Thunder Point Campground on Diablo Lake was undertaken and completed.

Detailed accounting of expenditures is provided in other reports and is not duplicated here. The purpose of this report is to update the Federal Energy Regulatory Commission (FERC) on progress under the terms of the new operating license for the Skagit Project.

PROGRESS REPORTS BY PROJECT

SITE D-11, Diablo Lake: Thunder Point Campground

Approximately 250 ft of shoreline fronting the campground had become severely eroded. NPS erosion control crews in coordination with Seattle City Light barge, tug and boat crew imported 23 dump truck loads of building rock and one hundred yards of gravel. As per settlement agreement erosion control design, dry lay rock wall was installed to a height of 5' along the 250' of shoreline. Upon completion of dry wall, armor rock placed along the toe for the entire span. On the southwest end of the site, an additional 60' of eroded shoreline was protected by half burying stumps in the drawdown and locking in drift logs in between the buried stumps and the shoreline creating a wave energy break. (see attached photos).

SITE E70A-6B: The erosion at this site, adjacent to original site (E70A), developed and accelerated after initial identification of Ross Lake sites, and consists of a narrow gully with loose colluvial soils. In 2005, it was repaired with cedar cribbing (as per Erosion Control design) to protect the East Bank Trail. The lake and adjacent rock cliffs preclude trail relocation at this site. Work begun in 2005 will continue in 2006 since lake levels dropped too fast to allow completion. Photos to be provided upon completion.

NPS Greenhouse and Plant Propagation: the Ross Lake Plant Propagation Crew installed 317 plants, planted seeds and mulched at the Thunder Point Campground on Diablo Lake. Propagation work including seed and cutting collection and growing was continued in preparation for planting at two erosion control sites on Diablo Lake in 2006 as well as planting at existing and new sites on Ross Lake.

MONITORING: Wooden stakes were placed at five class-one sites to measure the rate of bank recession in 1994 as per the Settlement Agreement. The purpose of this effort was to monitor the rate of bank recession at sites where erosion was severe, but where mitigation was not proposed in the erosion control plan. This information would aid in design of future erosion control structures and prioritization of sites for work under future operating licenses. The sites were visited in fall 2004, and data indicate that shoreline erosion estimates made during pre-license studies were accurate. During the past 10 years the shoreline at these five sites retreated at an average rate of 1.3 ft/year. Detailed data are available at the NPS office in Marblemount.

COMPLIANCE: Permits from the U.S. Army Corps of Engineers (404 permit) and the State Department of Wildlife (hydraulic permit) were obtained before work began at all erosion control work sites. Copies of these permits are kept at the NPS Geology office in Marblemount and are available on request.

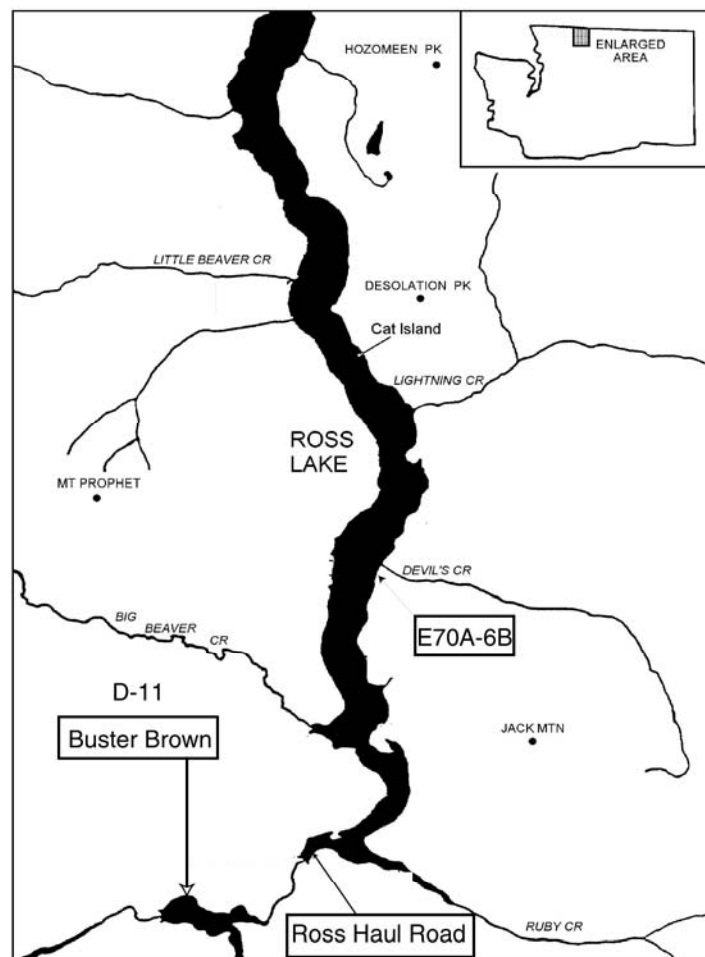


Figure 1. Map of Skagit Erosion Control and Revegetation sites worked at in 2005.



1) Thunder Point Campground Dock Bulkhead (before)



2)Thunder Point Campground Shoreline (before)



3)Thunder Point Campground (In progress)



4)Thunder Point Campground (In progress)



5)Thunder Pt. Campground (before revegetation)



6) Thunder Pt Campground (after revegetation)