

SKAGIT - FERC PROJECT #553
EROSION CONTROL PROGRAM
2004 COMPLETION REPORT

North Cascades National Park and Seattle City Light

May, 2005

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 2004 (Figure 1). Activity this year focused on site E-68, East Bank Trail, E-40, McMillan Campground, W-34, Big Beaver Spur Trail, and Contingency Cribbing Site, E-70A-5B, located on East Bank Trail between sites E-70A-5 and E-70A-6.

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 E-68: Two severely undercut Douglas Fir trees approximately 20'-24" diameter were felled at this site just below the East Bank Trail. Trees were limbed and bored for the installation of boom chains. One inch diameter steel deadheads were drilled and set into bedrock along the eroded section of shoreline. Felled trees were cabled together end to end and anchored with boom chains and shackles to the installed deadheads. Large woody debris available on site was placed behind the boom logs to further enhance wave breaking activity along targeted shoreline. Approximately 120 linear feet of shoreline protected.

SITE E-40: McMillan Campground. A new bulkhead and dock were installed here in 2002. On either side of the new bulkhead, scouring from wave activity had created a cut bank approximately 8'-12" H. Large (2'-4' square) boulders were placed along 60' of the shoreline around the bulkhead to prevent erosion creeping in behind the bulkhead. Gravel and fines placed behind the boulders to fill voids along the linear footage of boulder placement. (Photo 1).

SITE W-34: Big Beaver Spur Trail. Continuation and completion of a dry lay rock wall, 5' tall per erosion control design, 100' linear (Photo 2).

CONTINGENCY CRIBBING SITE East Bank Trail (E-70A-5B): (not identified in original Erosion Control site plan. Site completed located between E-70A-5 and E-70A-6). Erosion mitigation work done at this site in the early 1970s, had been deteriorating and had reached a point very close to complete failure. Failure at this particular site would have closed the East Bank Trail to hikers and stock. Corrective measures were initiated by installing terraced cedar cribbing as per cribbing design at other designated erosion control sites along the East Bank Trail. 30 linear feet of shoreline protected to a height of 18' (Photo 3)

NPS Greenhouse and Plant Propagation: : The Ross Lake Plant Propagation Crew installed 1315 new plants at 1 new site and 3 previously planted sites during September and October of 2004. The new site was site W-34: Big Beaver Spur Trail (Photo 4). Additional planting occurred at W-122, Little Beaver Cove; E-112, Dry Creek; and E-70A4, East Bank Trail. Propagation work, including seed and cutting collection and growing was continued in preparation for planting at two erosion control sites on Diablo Lake in 2005.

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.

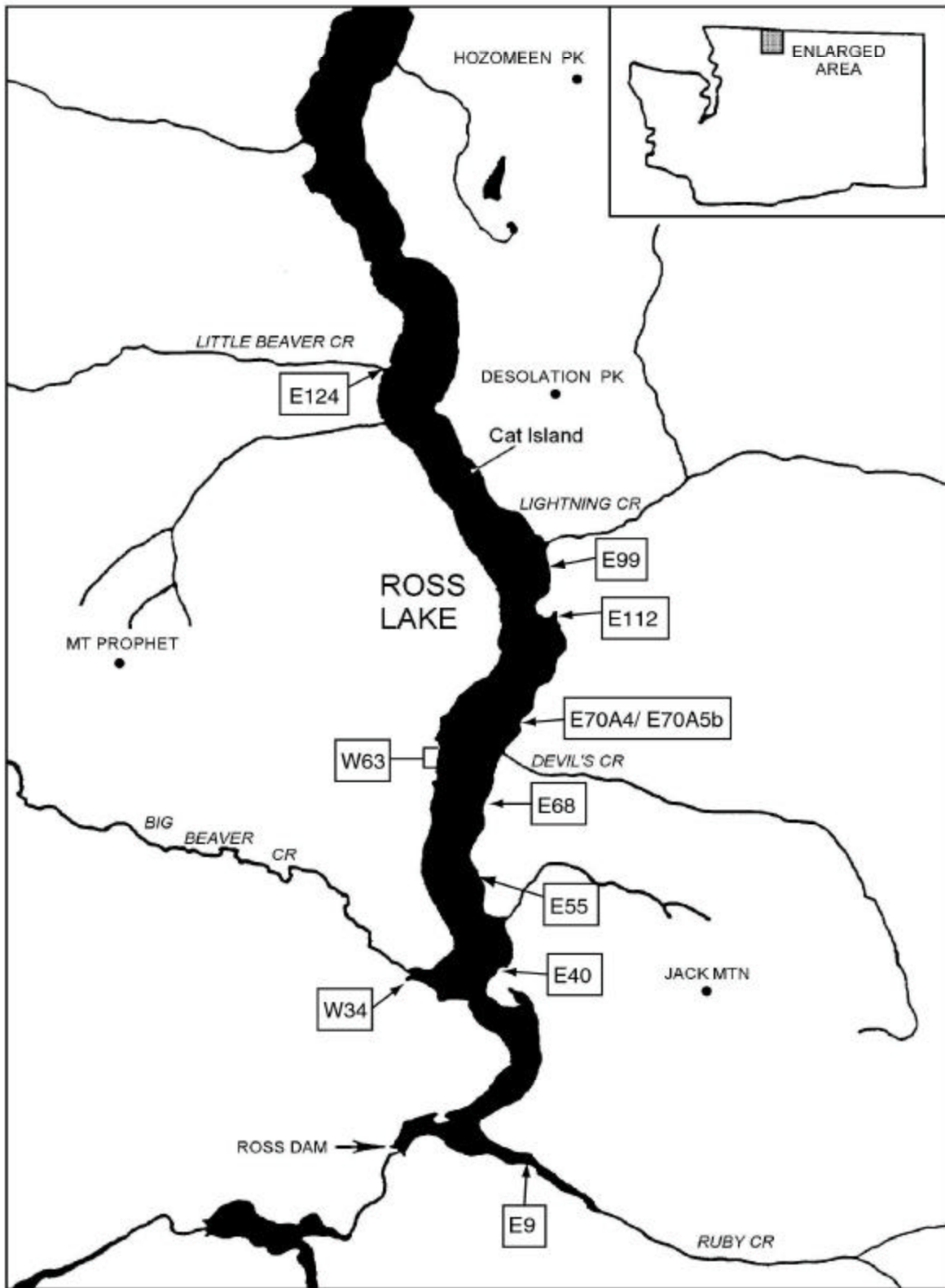


Figure 1. Approximate location of proposed project on Ross Lake Reservoir.

Figure 1. Map of Skagit Erosion Control and Revegetation sites worked at in 2004.



Photo 1. E-40, McMillan Campground.



Photo 2. W-34, Big Beaver spur trail



Photo 3. E-70A-5B, East Bank Trail, contingency cribbing site.



Photo 4. Revegetation at site W-34