

**U. S. Department of the Interior
National Park Service
Point Reyes National Seashore**

Finding of No Significant Impact

**Restoration of the Lower Glenbrook
Quarry and Dam Removal at Turney Point**

Introduction

The National Park Service (NPS) has completed an Environmental Assessment process for removing the remains of the Glenbrook Dam from the Glenbrook estuary, and placing that fill in the spillway and quarry areas originally used to build the dam. The project is located within the Limantour area of the Phillip Burton Wilderness. This Finding of No Significant Impact (FONSI) is based on the environmental analysis documented in the *Restoration of the Lower Glenbrook Quarry and Dam Removal at Turney Point Environmental Assessment* (Project EA), January 2008. The Project EA documents analysis of potential impacts of each alternative considered and a complete description of the Selected Action which the decision set forth here is based. The EA and this FONSI represent the completed NEPA documentation for proposed restoration activities at lower Glenbrook quarry and dam.

Point Reyes National Seashore proposes the restoration of natural hydrologic and shoreline process to the Glenbrook estuary portion of Drakes Estero, adjacent to the historic Turney Ranch. The remnant portions of the Glenbrook Dam represent a non-conforming wilderness structure within the Phillip Burton Wilderness Area in Point Reyes National Seashore. The estuary is a part of the greater Drakes Estero system, which has been characterized as one of the most important estuaries on the Pacific coast. The Glenbrook Estuary, one of the numerous fingers of Estero de Limantour, lies at the mouth of Glenbrook Creek.

Project Need

When it was first completed in the early 1960s, and until its failure in 1982, the lower Glenbrook Dam impounded more than 100 acre-feet of water, consisted of over 30,000 cubic yards of material, and stood nearly 15 feet high. Landowners obtained material for the dam by creating adjacent borrow pits, now the Lower Glenbrook quarry. The completed dam blocked the estuary - preventing tidal flushing of its upper reaches - and dramatically altered natural processes by conversion of approximately half of the estuary from a saltwater dominated system to a freshwater dominated system.

Although the upper estuary regained limited tidal flushing after the 1982 dam breach, tidal passage remains constrained by the narrow dam opening. The current hydrologic regime restricts the formation of subtidal and intertidal mudflats, which are ecologically important transition zones between the estuary and its adjacent uplands. In addition, the eroding earthen dam results in minor sedimentation into the Glenbrook Estuary aquatic habitat and poses a minor safety hazard to park visitors. The unnatural structure creates a visual intrusion, as it is visible to visitors from popular Limantour Beach, and from hiking trails within the Phillip Burton Wilderness Area. The Glenbrook Quarry remains a disturbed area, with limited vegetation growing on the site after more than 40 years.

- The project is needed to restore natural hydrologic conditions and increase estuarine habitat at Point Reyes National Seashore. The remaining structure impedes the development and function of the tidal marshplain.
- The Glenbrook quarry is a priority Abandoned Mineral Land restoration site.

- The Glenbrook dam and quarry represent non-conforming structures within the Phillip Burton Wilderness Area.
- The project area is subject to sea level rise associated with global climate change. The restoration of natural process within the estuary is an adaptation strategy to ensure maintenance of a healthy and functional estuarine ecosystem.
- The project is needed to increase ecological sustainability within these small coastal watersheds. The project would remove these facilities in a controlled manner thereby improving natural process and sustainability of the park systems.

Project Purpose

The project addresses facilities constructed prior to establishment of Point Reyes National Seashore which now represent non-conforming structures within the Phillip Burton Wilderness Area. The primary goal of the proposed habitat restoration project is to increase ecological sustainability through the restoration of natural hydrologic and shoreline process within the Project Area.

The purpose of the proposed project is:

- To restore natural hydrologic and shoreline processes,
- To mitigate a public safety hazard,
- To remove a non-conforming Wilderness structure and
- To restore the natural visual character of this portion of the Phillip Burton Wilderness Area.

The project is consistent with park enabling legislation, General Management Plan and Wilderness Designation, as well as National Park Service Management Policies. The current PRNS General Management Plan (NPS 1980) and Statement for Management (NPS 1990) identify objectives for the management of natural and cultural resources. The PRNS Statement for Management sets the primary resource management objectives for PRNS as the identification, protection, perpetuation, and restoration of significant cultural and historic resources and of the diversity of natural ecosystems representative of the California coast (NPS 1993). Restoration of water resources and aquatic habitat have been identified as high priority objectives by the NPS in the PRNS General Management Plan (NPS 1980), the PRNS Resource Management Plan (NPS 1999), and the NPS Management Policies (NPS 2001).

This federal action is intended to restore natural process and remove non-conforming structures from the Phillip Burton Wilderness Area through removal of a breached, non-historic dam structure and restoration of the adjacent quarry. The project is consistent with the Seashore Wilderness Preserve enabling legislation objectives to support "...the maximum protection, restoration, and preservation of the natural environment within the [Wilderness] area" (PL 94-567).

Summary of the Alternatives, Preferred Alternative, Environmentally Preferred Alternative

The Seashore identified restoration as a priority at this site. The proposed alternatives covered three physical treatment variables. The evaluated alternatives included:

- Alternative A: No Action
- Alternative B: Quarry Restoration through Dam Removal {Preferred Alternative}
- Alternative C: Removal of West Branch of Dam and Western Quarry Restoration

Alternative A would have maintained the existing conditions, while Alternative C focused only on removal activities on the western side of the estuary. Alternative B is the only action that would address restoration actions on both sides of the estuary.

Alternatives considered but rejected:

- Removal of east branch only

This alternative was rejected as there is no direct access to the east side and a large number of rare plants are documented in the immediate area.

The Project EA identified Alternative B as the preferred alternative because it most completely achieves the project objectives. Complete removal of dam fill from the estuary and restoration of disturbed lands within the Wilderness will allow for recovery of a natural ecological condition within the project area.

The environmentally preferred alternative is the alternative that will promote the national environmental policy expressed in NEPA (sec 101 (b)). It is the alternative that would cause the least damage to the biological and physical environment and best protects, preserves, and enhances historic, cultural, and natural resources.

The project alternatives represent a range of treatment actions intended to protect and enhance the cultural and natural resources documented within the project area. The current state limits natural shoreline process and aquatic habitat. These conditions would persist under Alternative A. While this alternative would not result in direct impacts to resources, ongoing degraded conditions are not environmentally desirable for this area.

Alternative C would result in limited restoration to just the western portion of the project area. The spillway scar would remain, and the eastern arm of the former dam would continue to impede natural process in the estuary, and a visual intrusion to the Wilderness. The mobilization and demobilization would be equivalent to that discussed under Alternative B, with far more limited restoration occurring.

The NPS determined that Alternative B is the environmentally preferred alternative. Under Alternative B, complete removal of the remnant dam, a non-conforming Wilderness feature, and restoration of natural shoreline process and aquatic habitat conditions would occur. This alternative involves the most extensive restoration effort, but will remove anthropogenic fill from the Glenbrook Estuary, and restore conditions in the adjacent spillway and quarry areas. Alternative B sets the stage for full-scale recovery of natural process to the project area and Glenbrook Estuary. It removes the human made constraints and features and is more consistent with preserving the untrammled nature of Wilderness in the long-term. Despite increased potential short-term impacts, Alternative B would facilitate the development of a more ecologically stable system that meets the NPS management policies related to natural shoreline and hydrologic process.

Description of Selected Action

Alternative B, identified as the preferred and environmentally preferred alternative in the Project EA, is the project Selected Action. The Selected Action consists of dam removal and recontouring of the quarry and spillway within the Glenbrook arm of the Estero de Limantour. The Selected Action will remove earthen fill dam facilities to restore natural hydrologic and shoreline process; it will restore an abandoned quarry and remove a non-conforming structure from the Phillip Burton Wilderness. The project will improve wilderness character, thereby improving the visitor experience. These activities meet state and federal fish passage guidelines, increase flow conveyance through the facilities, remove a non-conforming Wilderness facility, and restore natural hydrologic processes to accommodate anticipated changes associated with sea level rise.

Comments by the public and consulting agencies were considered in determining the Selected Action. Comments from US Fish and Wildlife Service and the National Marine Fisheries Service consultations have been incorporated into the description of the Selected Action. The Selected Action will include 0.04

acres of additional permanent fill within the existing scour channel to reduce the elevation differential between the scour channel and the restored marsh plain. This adaptation was requested in the consultation with the National Marine Fisheries Service, and is included in the Nationwide Permit 27 from the US Army Corps of Engineers. This results in a total of 0.05 acres of permanent fill, rather than the 0.01 acres documented in the Project EA. This difference has been evaluated and accounted for, and does not change the wetland impact analysis conclusions. Further details on impact avoidance for impacts to on California red-legged frog and Myrtle's silverspot butterfly are included based on the US Fish and Wildlife Biological Consultation.

The Selected Action requires mobilization of mechanical equipment and short-term site disturbance during construction. Activities to be conducted within the 2.5 acre project area include site clearing/mowing, excavation, hauling of approximately 19,000 CY of fill, compaction and grading in the footprint of the quarry, and temporary crossing of the estuary. The Selected Action will result in a stable restored site at the project location.

The proposed project is located within the Phillip Burton Wilderness and is intended to remove non-conforming structures and restore natural processes to the area. The tools and equipment necessary to conduct the work proposed under the Action Alternatives involves the use of heavy equipment within Wilderness.

Wilderness Minimum Requirements

As documented in the Wilderness Minimum Requirement Analysis (Appendix B of the Project EA) it was determined that the proposed action is necessary for the administration of the Wilderness area as Wilderness based on the following considerations: i. the site is within the Wilderness and work cannot be conducted in another area; ii. work will restore natural process consistent with Wilderness character; and iii. work will remove a non-conforming Wilderness structure thereby enhancing Wilderness character. The Analysis concluded that in order to complete the necessary work within time constraints conducive to successful restoration of Wilderness character, and in a manner that is consistent with landform and site conditions, the minimum tool for these efforts include excavators, bulldozers, off-road or regular dump trucks, water truck, hand-held power tools, as well as smaller equipment e.g. Bobcat, and crew support vehicles to access the site.

Site access would be from Estero Road, through Home Ranch. Wilderness access along Muddy Hollow and Estero Trail is shown in Figure 2.2 of the Project EA. This route is the same as that used for the restoration of Glenbrook Crossing, part of the Coastal Watershed Project – Geomorphic Restoration Project EA. This route would not require temporary fill.

Restoration Activities

The restoration and fill removal logistics are complicated by the limited access to only the west side of the dam, the breach in the dam, and the dynamics of the tidal fluctuation. Five weeks are allocated for completion of this project. The equipment anticipated to conduct this work includes a 30,000 lb + excavator, 1-2 off-road dump trucks, 1-2 bulldozers (D-7 or D-8 equivalent size), hand-held power tools, smaller mechanized equipment (e.g. Bobcat and other tracked hauling equipment), various support equipment and lighter crew vehicles. The project area, specifically the dam excavation area, would be delineated by installation of temporary silt fencing. The silt fence would represent both a project work boundary, as well as boundary for incidental fall back material.

Temporary Crossing of Breach: In order to accomplish the restoration, the project would require a temporary crossing of the breach in the dam for the duration of the construction window. Evaluation has determined that a solid fill would potentially result in more hydraulic pressure and less stability in the crossing. Installation of multiple culverts will be used as a temporary crossing of the breach, while

maintaining limited tidal flow through the project area. The temporary crossing requires rock and minor amounts of fill from the dam to cover and armor temporary culverts that would allow for tidal flow in the estuary for the duration of the project. This crossing would allow access for construction equipment to both sides of the dam, and would minimize potential effects of temporary closure to the estuarine habitat upstream of the dam and work area. The temporary crossing (fill and culverts,) will be removed at the end of the project, and salvaged, or disposed of appropriately. Based on the NMFS consultation, the lowest two feet of fill will be left in place to reduce the elevation differential between the scour channel and the restored marsh plain. This additional fill has been accounted for and does not change the overall wetland impact analysis. The area requiring fill would be isolated and cleared with seine nets to minimize potential impacts to aquatic species. Once the crossing is installed, isolation nets would be removed to allow biological exchange through the project area.

The dam would be deconstructed using a large excavator and bulldozer. Once the crossing is established, topsoil from the dam and spillway (east) side of the dam would be removed and stockpiled within the project area. Material would either be pushed by the dozer, or hauled to proper locations using the off-road dump trucks. The spillway area would be scarified, fill would be added to the cut area, with minor recontouring required. Topsoil would be salvaged from the spillway access area, the dam, and the highwall layback area for topsoiling. Prior to implementation, areas of iceplant would be removed by volunteers to minimize potential of introduction into topsoil materials.

Fill from the dam will be removed and transported to the spillway or quarry sites for fill and recontouring. Fill removal would be limited to the footprint of the dam, which has been determined to extend more than 20 feet upstream and downstream of the existing dam feature. As identified in the NMFS BO, the excavation will pull established vegetated mats from the edges of the excavation area into the core area of the former dam to initiate revegetation. Restoration of the mudflats involves only minor smoothing adjacent to the dam, allowing for tidal action to make the final adjustments in the mudflats.

Restoration of the quarry requires scarification of the compacted quarry surfaces, layback of the highwall, recontouring, and grading using appropriately sized bulldozer with the excavator and loader used to conduct finish work. The vertical quarry wall would be laid back to a less severe slope after topsoil is removed and stockpiled. Site contouring would be performed in order to grade the fill into the existing landscape.

Erosion Control

Topsoiling and revegetation would accelerate recovery of the site and erosion control measures would be implemented. Upon completion of grading, erosion control measures, including installation of coir fiber blankets and straw wattles would be installed at contour. Intervals between blankets and wattles would not exceed 10 feet. Materials would be placed to minimize establishment of flow pathways and potential for rilling at the site. Topsoiling would be augmented by distribution of native seed local seed stock, collected from the adjacent plant communities and spread over the topsoil layer during fall rains.

Post-Construction Monitoring

A long-term monitoring and maintenance program for erosion and vegetation would be implemented once the site construction is completed. Long-term monitoring would concentrate on control of non-native vegetation, and monitoring surface conditions to prevent major erosion. Photo-monitoring would be implemented for long-term recovery and interpretation at the site. Site monitoring would also include patrols for invasive non-native species including pampas grass, ivy, etc. Success of seeding with native grass seed would be evaluated using monitoring plots.

Standard Conservation Measures

Standard Resource Protection Measures, to be implemented at each of the sites include measures to minimize erosion and sediment mobilization, revegetation measures, explicit plans to prevent and respond to chemical spills, actions to protect cultural resources, measures to minimize disruption to recreation in the Seashore, and practices to protect plant and animal life in the project area. These Resource Protection Measures would be employed by the NPS or contractor staff engaged in construction activities.

The EA documented that for all alternatives, site preparation and construction would occur between August 1 and October 31. Based on tidal predictions for the area, work will not be initiated before August 24, 2009. This construction window avoids disturbance of migratory bird nesting, targets a moderate tidal period, and closes early enough to avoid the beginning of the November–April storm and higher tide season.

As part of the project initiation, site topsoil and vegetation would be stockpiled. Silt fence will be installed around the project site within the active estuarine area, and turbidity curtain will be installed across the tidal channel prior to installation of temporary fill. The temporary crossing includes installation of temporary culverts to maintain tidal influence for the duration of the project. Once culverts are installed, the turbidity curtains will be deployed to convey flow energy through the culverts and dissipate energy along the temporary crossing fill.

Fill will be excavated from the dam feature and placed in the former spillway and quarry areas. Approximately 19,000 CY of fill will be managed as part of the project. Final excavation, as described in the NMFS BO, should include excavation to the edge of the fill shoulder. The core of the dam will be excavated below existing grades, and then the full excavator reach will be used to sweep vegetated mats from the edge of the excavated area into the central core of the former dam, to facilitate revegetation.

Final grading should include the use of this stockpiled topsoil to support natural revegetation at each site. Topsoiling would provide a natural seedbank and is expected to foster rapid reestablishment of vegetation. Erosion control measures would be installed as needed on the slopes and at the toe of the slope to prevent excessive sediment runoff prior to site closeout.

California red-legged frog habitat conservation measures

While the project is adjacent to an active estuarine area, there is potential that California red-legged frog will be encountered within the project area. The US Fish and Wildlife Service Biological Opinion contained several terms and conditions requiring protection of frog habitat during project construction as well as proposed conservation measures to be taken to minimize the impacts of the project. These actions would be implemented by the park as part of ongoing maintenance and management efforts. Based on these actions, the USFWS has determined that the project activities as proposed would not jeopardize continued existence of the species.

Myrtle's silverspot butterfly conservation measures

The US Fish and Wildlife Service Biological Opinion contained several terms and conditions requiring protection of Myrtle's silverspot butterfly during project construction as well as proposed conservation measures to be taken to minimize the impacts of the project. The project BO states that *viola adunca*, the primary plant where the butterfly caterpillar feeds, be avoided. A site survey conducted April 14, 2009 indicates that no *viola adunca* is present in the intended excavation, fill, or staging areas. Speeds will be maintained at less than 10 MPH to avoid collisions with adult butterflies.

Why the Selected Action will not have a Significant Effect

In the Project EA, the following impact topics were analyzed for each of the alternatives, including the no-action alternative: water resources and shoreline process; wetlands; vegetation; species of special concern and critical or essential habitat; wildlife assemblages; cultural resources; air quality; soundscape;

Wilderness. Conclusions in the Project EA were provided to regulatory agencies including US Army Corps of Engineers, California Coastal Commission, US Fish and Wildlife Service, National Marine Fisheries Service, San Francisco Regional Water Quality Control Board and the State Historic Preservation Office. The responses from these agencies as well as public comment on the EA are considered in this evaluation.

The FONSI includes evaluation of criteria to determine whether an impact may be significant. The EA concluded, and regulatory response supported the finding that the selected alternative would have negligible to moderate effects to park resources. None of the potential impacts are considered to be significant.

The Selected Action addresses public health and safety through the closure of an abandoned mineral land area and removal of a breached dam structure. While construction activities will have the potential for adverse impacts to health and safety, the removal of non-conforming facilities from the Phillip Burton Wilderness will result in improved protection of public health and safety in the long-term.

Extensive earthen fill has altered natural shoreline and estuarine process, and the abandoned quarry and breached dam represent non-conforming Wilderness structures. The Selected Action will remove the anthropogenic fill and restore conditions so that natural hydrologic and shoreline process can persist. Secondly, these actions will close and restore a park and regional priority Abandoned Mineral Land feature. The Selected Action will reduce the influence of existing infrastructure on natural process benefiting stream, wetland and estuarine process and will result in an area that is more resilient to potential Global Climate Change impacts including sea level rise.

The project is not considered controversial. The initial scoping and public release of the EA resulted in limited public response (one letter on public draft release) regarding the project actions. There is general support in the area for improvements related to restoration of natural hydrologic and estuarine processes. The Seashore has conducted restoration of hydrologic process at this scale in the past, including the completion of the Coastal Watershed Restoration Project and the Giacomini Wetland Restoration Project. All regulatory consultation has been completed allowing for the Selected Action to be implemented.

The proposed actions are intended to restore natural processes. The activities identified in the Selected Action are consistent with other projects conducted or proposed within the Seashore. The site included in this project controls tidal process has altered natural flow patterns within this portion of the Estero de Limantour.

Project documentation was submitted to the State Historic Preservation Office (SHPO) for NHPA Section 106 compliance. SHPO concurred that the Area of Potential Effects (APE) has been properly determined and that no cultural resources are known to occur within the APE. Standard methods, described within the Prescribed Resource Protection Measures (below) will be used in case unanticipated discovery occurs.

Endangered Species consultation on the Selected Action was conducted with US Fish and Wildlife Service and National Marine Fisheries Service. The project is located in the Glenbrook watershed, known to support federally threatened steelhead, as well as many other threatened or endangered species. Consultation with US Fish and Wildlife Service identified conservation measures for California red-legged frog and Myrtle's silverspot butterfly. The project area is within the Phillip Burton Wilderness. The US Fish and Wildlife Service concluded in their Biological Opinion that the actions would result in adverse impacts but would not jeopardize California red-legged frogs. The USFWS concluded that there is no critical habitat within the Project Area. Avoidance measures to mitigate for potential indirect impacts to the frogs if they are observed in the project area are included. The BO also includes language specific to the protection of Myrtle's silverspot butterfly, including a 10 MPH speed limit and avoidance

of all documented *viola adunca*, the known larval host plant. A field survey for *viola adunca* was conducted on April 14, 2009, and no plants were identified within the primary work area. In addition to the specific conditions above, the agency Biological Opinions identified standard practices to reduce potential construction impacts. The NMFS concluded that there would be no impact to federally threatened steelhead because fish would not be present in the estuarine environment during the proposed construction window (August to October). The project area does not contain any special status aquatic vegetation, including eelgrass. Marine mammals, including harbor seal which occur extensively in Drakes Estero, have not been documented in this area of Estero de Limantour.

Regulatory review of the selected action activities was conducted as part of the compliance process. All agency consultation and project permits have been received and are on record in the Seashore files. Many of the permits include standard practices to reduce impacts associated with the construction activities. These are incorporated into the Summary of Prescribed Resource Protection Measures below.

Based on the findings of the EA, as well as responses from the public and regulatory agencies, the National Park Service has concluded that the project will not have a significant effect on park resources or the environment, and that an EIS is not necessary.

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Summary of Prescribed Resource Protection Measures

Impact	Prescribed Measure	Responsibility
1. Natural Resources		
Water Resources /Water Quality	<p><u>Timing</u> The timing for construction will avoid direct impacts to water resources. The water level in the fall is low and restoration activities will be conducted away from surface water resources.</p> <p>The project crosses a tidally influenced breach in the dam. Based on evaluation of tides, a 1.5 month work window exists between August 24, 2009 and October 15, 2009.</p>	Contract Documents
Water Resources /Water Quality	<p><u>Water Quality</u> Seashore staff and NPS contractors will implement the preferred alternative to abide by the following stipulations in order to protect Water Quality at and downstream of the project site:</p> <ul style="list-style-type: none"> • Conduct construction activities during the dry season. • All construction work will be conducted in accordance with practices that minimize the potential for increased delivery of sediment to surface waters. • Minimize removal of and damage to native vegetation. • Install temporary construction fencing to identify all areas that require clearing, grading, revegetation, or recontouring, and minimize the extent of areas to be cleared, graded, recontoured, or otherwise disturbed. • As appropriate, implement erosion control measures to prevent sediment from entering surface waters, including the use of silt fencing or fiber rolls to trap sediments and erosion control blankets on slopes and channel banks. • Avoid operating equipment in flowing water by using temporary cofferdams and/or other suitable materials to divert flow around the channel and bank construction area. • Grade and stabilize spoils sites to minimize erosion and sediment input to surface waters and generation of fugitive dust (see discussions under <i>Measures to Protect Air Quality</i>). 	Contractor
Water Resources /Water Quality	<p><u>Spill Prevention and Response Plan</u> NPS will require that the construction contractor comply with spill prevention and response standards that apply to the use of hazardous and toxic materials, such as fuels and lubricants for construction equipment. NPS will oversee implementation of the spill prevention and response plan. Elements of the plan will ensure that:</p> <ul style="list-style-type: none"> • workers are trained to avoid and manage spills; • construction and maintenance materials are prevented from entering surface waters and groundwater; • all spills are cleaned up immediately and appropriate agencies are notified of any spills and of the cleanup procedures employed; 	Contractor

	<ul style="list-style-type: none"> • Contractor shall have spill containment and erosion control supplies on site to facilitate quick response to unanticipated storm events or emergencies. • staging and storage areas for equipment, materials, fuels, lubricants, solvents, and other possible contaminants are located at least 100 feet away from surface waters; • no vehicles are fueled, lubricated, or otherwise serviced within the normal high-water area of any surface water body; • vehicles are immediately removed from work areas if they are leaking; and • no equipment is operated in flowing water (suitable temporary structures are installed to divert water around in-channel work areas). 	
Vegetation	<p><u>Measures to Protect Vegetation and Prevent the Introduction and Spread of Invasive Plant Species</u></p> <p>Measures to protect riparian, tidal marsh, coastal vegetation and special status plants during construction will be incorporated into construction activities. They will include, but may not be limited to, the following.</p> <ul style="list-style-type: none"> • Temporary construction fencing will delimit work areas. Fencing will be installed before any site preparation work or earthwork begins. • Exclude foot and vehicle traffic from sensitive areas using temporary construction fencing and flagging tape in a conspicuous color. • Washing off the tires or tracks of trucks and equipment entering and leaving project sites to prevent seed transport. 	Contractor
Air Quality	<p>The NPS and its contractors will implement the following measures to control the generation of fugitive dust during site preparation and construction activities. These measures are contained in the Bay Area Air Quality Management District's (BAAQMD's) Feasible Control Measures for PM10 Emissions¹ from Soil Removal Activities (BAAQMD 1996).</p> <ul style="list-style-type: none"> • Limit the area subject to excavation, grading and other construction activity at any one time. • Water unpaved access roads, parking areas, and staging areas as necessary, or stabilize them with nontoxic soil stabilizers approved for use adjacent to surface waters. • Apply (nontoxic) soil stabilizers to inactive earthwork areas (previously graded areas inactive for 10 days or more). • Enclose, cover, water, or apply nontoxic soil stabilizers to exposed stockpiles as necessary. • Maintain properly tuned equipment and limit idling time to 5 	Contractor

¹ *PM10* refers to particulate matter with a diameter of 10 microns or less. Material of this size is small enough to be drawn deep into the lungs when inhaled and thus poses a human health hazard.

	<p>minutes.</p> <ul style="list-style-type: none"> • Cover trucks hauling soil, sand, or other loose materials, or require them to maintain at least 2 feet of freeboard. • Replant vegetation or topsoil disturbed areas as quickly as possible. • Limit traffic speeds on unpaved roads to 10 mph. 	
Wildlife	<p><u>Measures for Migratory Birds</u> Work will be conducted after August 15, thereby avoiding potential impacts to nesting birds.</p> <p><u>Measures for Aquatic Species</u> The site crossing will be installed at low tide. Prior to fill, staff and contractors will seine the fill area to rescue fish. NPS will ensure that native aquatic vertebrates and larger invertebrates are relocated to an appropriate location.</p>	<p>Contract Documents</p> <p>NPS Resource Management Staff/Contractor</p>
Special Status Species	<p>California red-legged frog – (from USFWS BO July 16, 2008). To ensure against adverse impacts on California red-legged frog (<i>Rana aurora draytonii</i>), NPS will conduct preconstruction clearance surveys for this species and establish. A silt fence to delineate the work areas will be installed to exclude frogs from the project area. A biologist will survey the construction area prior to earth moving. If a frog is observed, qualified personnel will capture and move the animal(s) to an appropriate adjacent suitable habitat outside the work area (USFWS 2008).</p> <p>Staff will conduct a pre-construction education program for field personnel involved with the restoration project prior to groundbreaking. Information regarding description of species ecology, habitat needs, legal status, and their protection under the act, and measures to avoid impact or reduce effects to the species during the project. This will be presented by a qualified person knowledgeable of the CRLF and other appropriate species (USGS-BRD staff will brief crews on the CRLF) in an informal manner.</p> <p>The proposed speed limit associated with dust control (10 mph on unpaved roads), will also limit potential impacts to Myrtle’s silverspot butterfly. (USFWS BO July 16, 2008)</p> <p>The project should avoid impacts to the Myrtle’s silverspot butterfly larval host-plant (<i>Viola adunca</i>). A site survey was conducted on April 14, 2009 to identify plant locations. Limited numbers of plants were observed in the planning area. Those areas will be avoided during construction.</p>	<p>NPS/ USGS BRD Staff</p> <p>Contractor will install silt fence</p> <p>NPS / USGS-BRD Staff</p> <p>Contractor</p> <p>NPS Vegetation Staff</p> <p>Contractor</p>
Soils	<p>Some short-term impacts due to heavy equipment onsite would occur. These impacts can be mitigated by regrading and restoring disturbed areas quickly to allow regrowth of vegetation.</p>	

	Erosion control on the regraded sites would include actions to break up and prevent the formation of long flow paths. Regrading actions would leave some roughness in the soil and bio-logs or similar treatments would be installed at contour to detain concentrated flow. Natural revegetation of the site would be augmented with shrubs recovered from the removal areas and potential reseeding with native perennial grasses.	Contractor
Wetland Resources	<p>Standard BMPs to protect wetland resources during construction include, but may not be limited to, the following.</p> <ul style="list-style-type: none"> ■ Where possible, construction access and staging shall occur in uplands and non-riparian habitat. ■ If construction access or staging must occur in wetlands and riparian habitat, access within these areas shall be kept to the minimum road width and acreage possible. Contractors will work with NPS personnel to minimize impacts to wetlands and riparian habitat. ■ Construction access routes will be flagged to ensure that construction equipment does not detour from authorized entry points and access routes. ■ Where possible, construction equipment will work from upland locations to minimize impacts to wetlands and riparian habitats. ■ Any temporary “fill” or staging material placed in wetlands will be removed to upland locations at the earliest possible date. ■ Construction equipment will be cleaned prior to construction start to ensure that no seeds or vegetative fragments of invasive, non-native species are introduced into the Project Areas. 	<p>NPS Staff will flag areas to avoid</p> <p>Contractor</p>
Wilderness	<p><u>Minimum Requirements and Minimum Tool</u> Work in designated wilderness areas must comply with the minimum tool requirements as detailed above; no other treatments, tools, or other equipment will be used.</p> <p><u>Access and Construction</u> In addition, to ensure that wilderness values are protected, park staff would brief construction crews on procedures for operations in wilderness areas and concerns related to the wilderness, and would monitor to ensure that operations minimize impacts on wilderness values and resources. The briefing and monitoring are intended to provide an increased level of vigilance during wilderness construction.</p> <p>At the work site, the crew will establish a construction center where refueling and overnight storage will occur. This site will be within the construction zone, but at a minimum distance of 100 feet from</p>	<p>NPS Staff to provide Wilderness Briefing</p>

	surface water and wetland resource areas. At the construction center, a temporary containment zone would be lined with impermeable material. This material would be removed at the closeout of the construction activities at this site.	Contractor
2. Cultural Resources	The NPS will coordinate with the Federated Indians of Graton Rancheria (FIGR) to insure that either an NPS or FIGR representative regularly visits the construction site. In the case that resources are discovered during the course of construction, the NPS will act immediately and appropriately as documented in 36 CFR 800.13 “Post-review discoveries” (http://www.achp.gov/regs.html#800.13). Based on the amount of exploratory work conducted as part of this planning process, the chances are likely very low that the project will encounter any resources of concern.	NPS Cultural Resource Staff
3. Visual Quality	Information regarding restoration activities would be posted in the park Visitor Centers as well as adjacent to restoration sites. Explanation and education as to restoration objectives and activities would be included in these interpretive areas.	NPS Staff
4. Health and Safety	<p>The NPS and its contractors will require the construction contractor to prepare and implement a traffic safety plan. The traffic safety plan will address appropriate vehicle size and speed, travel routes, closure plans, detour plans (if any), flagperson requirements (if any), locations of turnouts to be constructed (if any), coordination with law enforcement and fire control agencies, measures ensuring emergency access, and additional need for traffic or speed-limit signs. Delivery and haulage access, including contractor mobilization and demobilization, will be scheduled to minimize impacts on traffic on area roadways, including US-101. Construction worker parking and access will be managed to avoid impeding access for park visitors and emergency vehicles.</p> <p>In addition, the NPS is committed to the following design and construction commitments:</p> <ul style="list-style-type: none"> • Restoration and spoils disposal earthwork: <i>Caltrans Standard Specifications</i> (California Department of Transportation 1999). • Structural features for water conveyance: relevant guidance of the American Waterworks Association. • Other structural features, such as bridge: <i>Uniform Building Code</i> (International Conference of Building Officials). <p>NPS will ensure that design and construction of project features, including earthwork and infrastructure, proceeds in accordance with the appropriate codes and standards.</p>	Contractor
5. Noise	Seashore staff and NPS contractors will implement the following measures to reduce construction noise and lessen the impacts of noise that cannot be avoided.	

	<p>Construction equipment will be required to have sound-control devices at least as effective as those originally provided by the manufacturer, and no equipment will be operated with an unmuffled exhaust. In general, construction will take place between 7:00 a.m. and 7:00 p.m., Monday through Saturday.</p> <p>In addition, NPS will post signs at each restoration site and on the park website providing the name and contact information for an NPS staff member the public can contact with noise concerns. This person will be responsible for recording and monitoring complaints related to construction noise, and for ensuring that logged complaints are mitigated to the maximum extent possible. Construction times and contact information for noise concerns will also be publicized in the park web site.</p>	<p>Contractor</p> <p>NPS Staff</p>
6. Public Services	NPS will take feasible measures to minimize the effects of project construction on recreational use. Information on construction timeline and limits will be posted on the park website, distributed at the Bear Valley and Ken Patrick Visitor Centers, and posted at the construction site.	NPS Staff

Summary of Public Involvement

Initial Scoping

In July 2002, an initial scoping letter describing this project, and the Horseshoe Pond Restoration Project was sent out to the park public mailing list containing over 200 individuals and organizations. During the public comment period, between July 19, 2002 and August 19, 2002, one comment regarding the proposed Glenbrook Estuary restoration was submitted to the National Park Service. Issues raised in these responses are listed below and are addressed.

Comment #1: Comments supported the idea of restoring the quarry and spillway using material for the dam. They noted the presence of *Frittilaria affinis* var. *tristulis* (CNPS List 1b) near the east end of the dam. This information was used in development of restoration alternatives (access from east side avoided to avoid impact to rare plant populations).

Concurrent with public scoping, PRNS solicited comments and concerns regarding the proposed project from NPS staff and from additional federal and state agency personnel.

EA Public Review Comments

Announcement of availability of the Glenbrook Quarry Restoration and Dam Removal EA on the park web site or hardcopy by request was sent to a mailing list of approximately 443 groups and individuals on January 18, 2008. This mailing list is used (and added to as requested by the public) when EAs are made available for public review. The project EA including all its appendices, graphics, and other supporting documentation were posted on the Glenbrook Restoration Project website (http://www.nps.gov/pore/parkmgmt/planning_glenbrook_restoration.htm), to which reviewers and interested parties were directed. The letter also noted that requests for CD or hardcopy could be made to the park. One request for hardcopy was made and provided. Printed copies of the EA were mailed to all agencies, and 15 digital versions were provided to the California State Clearinghouse for review. The California State Clearinghouse review process SCH#: 2008012101 closed on February 26, 2008.

The NPS conducted public review for 40 days, with the comment period ending on February 22, 2008. One comment letter was received during this 40-day public review period.

This comment letter supported the preferred project EA alternative (now Selected Action) as the alternative that “removes the entire amount of engineered fill from the estuary and thus most fully restores natural hydrologic and shoreline process.” The comment letter included support of the removal of this non-conforming wilderness structure using the methods identified in the project Minimum Tool determination.

The letter also noted an error in the document (p. 13). The Wilderness Act of 1964 legislative description includes a final sentence, “The project is not within designated Wilderness.” This statement is an error as the site is within the Phillip Burton Wilderness.

On January 28, 2008 the State Clearinghouse initiated a 30-day comment period for State agency review (SCH#2008012101). The State Clearinghouse closed the comment period on February 26, 2008. No agencies responded, and the EA was acknowledged to have complied with State Clearinghouse requirements on February 27, 2008. It should be noted that the park and State Clearinghouse received a comment letter from the Department of Water Resources on February 27, 2008 which was after the comment period. This letter simply noted that they reviewed the project EA, and determined that the lower Glenbrook Dam, within Point Reyes National Seashore, is not under State jurisdiction. They did not have any comments on the proposed activities.

Required Consultation

Consultation with state and federal agencies was initiated in 2008, with letters sent to the US Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NOAA-Fisheries), California Coastal Commission (CCC), and State Historic Preservation Office (SHPO). In addition, the NPS initiated permitting under the Clean Water Act Section 404 - US Army Corps of Engineers (USACE) and Section 401 - San Francisco Regional Water Quality Control Board (RWQCB).

US Fish and Wildlife Service

Endangered Species Act – Section 7 Consultation

As part of the EA, a Biological Assessment was submitted to the US Fish and Wildlife Service on May 22, 2008.

The required consultation with the U.S. Fish and Wildlife Service (USFWS) was completed on July 16, 2008 with receipt of a Biological Opinion (BO) (Reference 81420-2008-F-1503). The BO determined that the proposed project “is not likely to adversely affect endangered tidewater goby (*Eucyclogobius newberryi*), endangered brown pelican (*Pelecanus occidentalis*), and threatened western snowy plovers (*Charadrius alexandrinus nivosus*)” because they do not occur in the project area. The BO also concluded that the project could have effects but “is not likely to jeopardize continued existence” of endangered Myrtle’s silverspot butterfly (*Speyeria zerene myrtleae*), or threatened California red-legged frogs (*Rana aurora draytonii*). The action area is not within critical habitat for California red-legged frog, and no critical habitat has been established for Myrtle’s silverspot butterfly.

National Marine Fisheries Service

Endangered Species Act – Section 7 Consultation

As part of the EA, a Biological Assessment was submitted to the NOAA National Marine Fisheries Service (NMFS) Service on May 27, 2008.

The NMFS responded March 24, 2009, with a Biological Opinion (Reference 2009/00127) and concurred that the project “is not likely to adversely affect listed salmonids or their designated critical habitat.”

Magnuson Stevens Fishery Conservation and Management Act (MSA)

NMFS evaluated the project for adverse effects to Essential Fish Habitat (EFH) pursuant to Section 305 (b)(2) of the MSA. NMFS concluded that because anticipated effects were temporary and localized that no EFH Conservation Recommendations were necessary.

Fish and Wildlife Coordination Act

Recommendation under the Fish and Wildlife Coordination Act (FWCA) states:

- 1) NMFS requests the removal of the dam footprint across the entire arm of the estuary. We believe this would result in a much greater area suitable for the establishment of brackish wetland marsh in the upper reaches of the estuary arm and adjoining sloughs, and less tidal mudflat habitat. The restored natural water circulation patterns would allow a much greater area at the upper end of the estuary arm, in the adjoining sloughs and around the edges of the estuary to revert to a more natural oligohaline state (0.5 to 7 ppt salinity), allowing the establishment of a much greater amount of habitat known to be highly productive not only for rearing salmonid juveniles, but also for many other oligohaline adapted species.

Based on this request, the NPS proposed expansion of the excavation footprint requiring a minor modification to the original US Army Corps of Engineers Nationwide Permit request. This FWCA request will result in additional excavation to support natural flow patterns, as well as an increase in permanent fill from 0.01 acres to 0.05 acres. This minor modification to the description of the project does not alter the project planning and analysis footprint, or the impact analysis conducted by the NPS in the project EA.

California Coastal Commission – Federal Consistency Review

The proposed project is within the California Coastal Zone and is subject to Federal Consistency Review. The CCC concurred on April 30, 2008 (ND-012-08) with the NPS negative determination that the project would not adversely affect coastal zone resources.

Cultural and Historic Resources

Consultation with SHPO was initiated June 23, 2008. The SHPO staff completed their findings in a letter issued August 15, 2008, and concurred with the NPS finding of no adverse effect to historic resources within the project area. As documented in the EA, in the case that resources are discovered during the course of construction, the NPS will act immediately and appropriately as documented in 36 CFR 800.13 “Post-review discoveries” (<http://www.achp.gov/regs.html#800.13>).

US Army Corps – Clean Water Act (CWA) Section 404 Permit

A request for Nationwide Permit 27 was submitted to the US Army Corps on July 18, 2008. The area was originally delineated in 2002 under Jurisdictional Delineation 27298N. The Corps claimed jurisdiction over the project and has authorized work as proposed under the selected alternative. The US Army Corps issued a verification letter and permit for the Selected Action, including minor modifications associated with the NMFS consultation. The US Army Corps permit is effective upon receipt of Section 401 water quality certification from the RWQCB (issued May 5, 2009) and concurrence from the California Coastal Commission (issued April 30, 2008 ND-012-08). The Corps authorization is also conditional on the Section 7 consultation with the US Fish and Wildlife Service (BO issued July 16, 2008) and National Marine Fisheries Service (BO issued March 24, 2009).

San Francisco Regional Water Quality Control Board – CWA Section 401 Certification

The application for water quality certification under Section 401 of the Clean Water Act was deemed complete and conditional certification to the actions identified under Alternative B, the preferred alternative, was issued May 5, 2009 (Site Number: 02-21-C0712 (mll)). Conditions are identified in the certification letter included as part of the project administrative file.

Statement of Impairment and Unacceptable Impacts of Park Resources

NPS Management Policies (NPS 2006) and NPS Director's Order 12, *Conservation Planning, Environmental Impact Analysis, and Decision Making*, require decision makers to consider impacts and determine in writing, whether a proposed action would lead to an impairment of park resources and values before approving the action. An impairment is "an impact that ... in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values." In general, an impact is more likely to constitute an impairment if it affects a resource or value whose conservation is necessary to specific purposes identified in the legislation or proclamation that created the park unit; one that is essential to the park's natural or cultural integrity, or to the public's opportunities to enjoy a park; or one that is specifically identified as a goal in the General Management Plan or other relevant NPS planning documents.

The impact threshold at which impairment occurs is not always readily apparent. Therefore, the Service will apply a standard that offers greater assurance that impairment will not occur. The Service will do this by avoiding impacts that it determines to be unacceptable. These are impacts that fall short of impairment, but are still not acceptable within a particular park's environment.

At PRNS, the park resources and values that are the focus of the no impairment and unacceptable impacts standards include the ecological, biological, and physical processes that created the park and continue to act upon it, as well as the cultural resources that reflect the region's legacy of Native American use. With these resources in mind, analysis of incremental effects considered the proposed actions' potential to impair the natural and cultural resources of Point Reyes National Seashore.

The Selected Action is consistent with the park's enabling legislation, the identified goals of its General Management Plan and other planning documents. Each impact topic was analyzed for impairment and unacceptable impacts. The Selected Action will not result in impairment or unacceptable impacts to any park natural or cultural resources, Wilderness, and opportunities for public enjoyment of the park.

Basis for the Decision

The Selected Action accomplishes the expressed purpose and need for Restoration of Lower Glenbrook Quarry and Dam and is clearly superior to the continuation of current operations. The current Abandoned Mineral Land and failed dam represent non-conforming structures within the Phillip Burton Wilderness. Restoration activities will remove these non-conforming structures while restoring natural shoreline and estuarine process to the project estuary. These actions will remove a potential threat to public health and safety, and better enable the estuary and surrounding natural resources to adapt to potential impacts of Global Climate Change, including sea level rise. A Wilderness Minimum Requirement Analysis concluded that proposed action is necessary for the administration of the Wilderness area as Wilderness. The Wilderness minimum tool analysis concluded that in order to complete the necessary work within time constraints conducive to successful restoration of Wilderness character, and in a manner that is consistent with landform and site conditions, the minimum tool for these efforts include excavators, bulldozers, off-road or regular dump trucks, water trucks, hand-held power tools, as well as smaller equipment e.g. Bobcat, and crew support vehicles to access the site.

Overall, while these actions may result in a short-term disturbance of Wilderness experience for a limited number of visitors, the removal of these non-conforming features (pre-dating wilderness designation), restoration of natural shoreline and estuarine process are essential for long-term integrity of the Wilderness, and closure of a park and regional priority Abandoned Mineral Land site, will result in long-term benefits to the project area. The Selected Action is consistent with the NMFS recommendation under the Fish and Wildlife Coordination Act (FWCA). Regulatory review of the Selected Action was conducted and agencies concurred with the selected alternative, and granted permits or determinations accordingly.

The Selected Action is focused on the restoration and enhancement of natural process to promote ecological sustainability within the Seashore, consistent with NPS and park policies.

Finding

In coming to its decision, the NPS considered the range of alternatives, the potential impacts that may be generated by the Selected Action, and whether to prepare a site-specific Environmental Impact Statement (EIS). The Selected Action best accomplishes the overall project objectives, in keeping with the legislated purposes and the legal mandates of the NPS. Based on this detailed review, the NPS concludes that appropriate alternatives to the Selected Action have been analyzed, and that the proposal will not generate any significant new or different environmental impacts requiring preparation of an EIS. Based on the environmental impact analysis documented in the Project EA, the capability of mitigations to reduce or avoid potential impacts, and with due consideration of the nature of public comment, the NPS has determined that the Selected Action is not a major federal action which could significantly affect the quality of the human environment

In conclusion, the Restoration of Lower Glenbrook Quarry and Dam Project does not constitute an action that would normally require the preparation of an EIS. It is tiered off of, and is consistent with, the GMP. The proposal will not have a significant impact on the human environment, public health and safety, cultural resources, or federally-protected species. The Selected Action will not cause negative indirect or cumulative effects, and will not set a precedent for future actions. The NPS has concluded that the project actions and tools are necessary to restore Wilderness character. Implementation of the action will not violate any federal, state, or local law. Therefore, in accordance with the National Environmental Policy Act of 1969 and regulations of the Council on Environmental Quality (40 CFR 1508.9), the Selected Action to the Restoration of Lower Glenbrook Quarry and Dam Project will be implemented as soon as practical and an environmental impact statement will not be prepared.

Recommended by: *John A. DeWitt*
Acting Superintendent,
Point Reyes National Seashore

Date: 5-12-09

Approved by: *George F. Tuer*
Regional Director,
Pacific West Region

Date: 5/19/09