

Appendix B
Environmental Commitments

ENVIRONMENTAL COMMITMENTS

Douglas County, Oregon, proposes to construct and operate the Milltown Hill Project on Elk Creek, Umpqua River, Oregon. The agency consultation and public involvement process has identified various opportunities to maintain or enhance the environment. Douglas County, in consultation with Bureau of Reclamation, has considered the opportunities and includes the following as environmental commitments that will be implemented with the project. These commitments will be included as part of the Federal decision making process and, if the project is approved, would become conditions of the loan and grant agreement with the United States. Douglas County would be responsible for carrying out and overseeing all environmental commitments as described in the final environmental statement and as listed below.

A. Pre-Construction Phase

1. Permits and Approvals

- Douglas County or its contractors will obtain all necessary permits and approvals prior to construction.

2. Mineral and Aggregate Resources

- Permits will be obtained, if needed, for Otten Quarry.

3. Geology, Soils, and Seismicity

- Investigations and evaluations will be performed of possible landslide areas within the reservoir basin which could be affected by road construction, borrow operations, or inundation.

- Investigations and evaluations will be performed to verify the adequacy of the foundation and abutments.
- The dam and appurtenant structures will be designed for the appropriate seismic values for the area.

4. Dam Safety

- The dam and related facilities will be designed in accordance with sound engineering practices.
- Construction plans and specifications will be submitted to the Bureau of Reclamation and the Oregon Water Resources Department for safety review as well as to an independent review board.
- An emergency action plan will be developed.

5. Surface Water

- The discharge facilities will be designed to provide aeration of flows.

6. Cultural Resources

- Historic structures evaluation and test excavations will be completed to determine if they are eligible to the National Register; means to avoid or reduce the adverse project effect will be investigated, and the adverse effect will be mitigated through data recovery. SHPO and the Advisory Council will be consulted for review and approval. A Memorandum of Agreement (MOA) for impact mitigation actions will be signed by Reclamation, Douglas County, the SHPO, and the Council. Impact mitigation actions will be completed at each site before any project action effects that structure or site location.

7. Social Environment

- Negotiations will be initiated with property owners at the earliest possible date to minimize speculation, apprehension, and misinformation.
- Private property will be purchased and relocation assistance provided in accordance with the Uniform Relocation assistance and Real Property Acquisition Policies Act.

8. Wildlife

- A wildlife mitigation and enhancement plan will be prepared prior to construction in consultation with resource agencies.
- A habitat and population survey will be conducted prior to construction. If the western pond turtle is proposed for listing, or listed prior to construction, consultation with the Fish and Wildlife Service will be reinitiated. Following construction, populations of western pond turtle will be monitored and measures taken to insure the conservation of the species in Elk Creek in coordination with ODFW and the Fish and Wildlife Service.

9. Vegetation

- A survey will be conducted within any affected potential habitat for rough allocarya in the inundation area. If the species is found to occur in the inundation zone, consultation will be reinitiated with the Fish and Wildlife Service to determine requirements if the species is listed as threatened or endangered.

10. Fisheries Resource

- A fisheries mitigation and enhancement plan will be prepared prior to construction in consultation with resource agencies.
- If the Umpqua chub is proposed for listing, or listed prior to construction, consultation with the Fish and Wildlife Service would be reinitiated. Following construction, downstream populations of Umpqua chub would be monitored and measures be taken to insure the conservation of the species in Elk Creek in coordination with ODFW and the Fish and Wildlife Service.

B. Construction Phase

1. Topography

- Slope cuts and fills will be at angles that minimize potential for landslides; revegetate where appropriate to minimize erosion.

2. Mineral and Aggregate Resources

- Utilize excavated materials found within the impoundment perimeter for construction purposes if suitable.

3. Dam Safety

- Twenty-four hour electronic sensors will be installed directly linked to Douglas County Reservoir Operations Center.
- Appropriate instrumentation systems will be installed to allow monitoring of structure performance.

4. Air Quality

- Dust will be controlled during construction by wetting the ground surface as necessary.
- Exposed areas will be revegetated to achieve long-term soil stabilization.
- Hauling distances will be minimized by using fill material from within the pool area to avoid exposing downstream residences to wind blown dust.
- Methods and devices as are reasonable available will be used to control, prevent, and otherwise minimize atmospheric emissions or discharges of atmospheric contaminants and noise.

5. Surface Water

- Cut and remove vegetation from the impoundment to minimize decaying organics, except for Walker Creek which will not be disturbed. The area in the upper impoundment will be cleared under the direction of ODFW to leave trees/snags for wildlife.
- Avoid grubbing vegetation and soil disturbance in the reservoir area to the extent possible, to minimize nutrient release from soils.
- Install a multilevel water intake structure in the dam to help regulate temperature in the water released to Elk Creek.
- The project will comply with Executive Order 11988, Flood-plain Management.

- Reasonable care will be taken during construction of cofferdams or diversion dams to prevent increased turbidity or siltation in Elk Creek.
- To the extent possible, machinery for instream construction will be operated from the streambank, not in the stream.
- To the extent possible, disturbance of the streambed will be kept to a minimum, and the streambed will be returned as nearly as possible to its original condition or better outside the reservoir.
- Excavated materials will not be stockpiled or deposited near or on streambanks, steep slopes, wetlands, or other watercourse perimeters where they could be washed away by high water or storm runoff or encroach upon the watercourse itself.
- Contractors will be required to use such methods and devices as are reasonably available to ensure that any waste waters discharged into surface waters will be essentially free of settleable material.
- Contractors will be required to comply with all State and Federal laws and regulations regarding the control and abatement of water pollution. The County has included a Clean Air and Water Certification in the Loan Application attesting that no facilities to be utilized in performance of the contract have been included on the EPA list of Violating Facilities.
- Any water quality monitoring required to assure that applicable State and Federal water quality standards are met during construction will be done by the contractor or Douglas County.
- The instream water right, (minimum perennial streamflow) will be maintained whenever sufficient natural flow is available in the stream.

6. Ground Water

- Sanitary wastes will be collected from the tanks of portable toilets and trucked to the nearest municipal wastewater treatment plant for disposal.

7. Vegetation

- Disturbed areas will be revegetated (either reseed or landscape) that are not permanently occupied by new facilities and those areas around new facilities, and at Otten Quarry.
- Douglas County will comply with Executive Order 11990, Protection of Wetlands by preventing conversion of wetlands to agricultural use.
- Vegetation will be left undisturbed in Walker Creek area.

8. Wildlife

- Work with ODFW to develop the upper reservoir area for wildlife habitat.
- Excavate areas in upper pool area to create wetlands for wildlife habitat under the direction of ODFW.
- Block construction roads that will not be permanent access roads to minimize disturbance to wildlife.
- Monitor populations of western pond turtle in the reservoir area if the species is listed as threatened or endangered.
- Enhance vegetation for nesting habitat on the island in the upper reservoir.

9. Fisheries Resources

- Install suitable facilities in the outlet system to aerate water releases.
- Minimize work in the stream that will cause turbidity or sedimentation or disturbance to spawning or rearing fish.
- Enhance spawning habitat in the lower reaches of Elk Creek by depositing gravel.

10. Visual Quality

- Any long-term adverse impact on the aesthetic character of the project area will be minimized by proper landscaping, site design, or site restoration. When an area is no longer needed for construction, stockpiling, or access, any land

disturbed but not permanently occupied by new facilities will be landscaped and/or revegetated as needed.

- Develop and maintain a vegetated buffer zone between the access road and reservoir and around the reservoir where possible.
- Provide landscaping or maintenance of vegetation at reservoir access areas.
- Shape the land where appropriate at the damsite and Otten Quarry and revegetate the area.

11. Property Lines

- Provide permanent reference survey markers for all land survey monuments to be inundated by the reservoir or destroyed by construction activities.

C. Operation Phase

1. Noise

- Restrict high-speed boating to the main pool by limiting access to the upper end of the reservoir.
- Restrict Walker Creek arm and upper reservoir to non-motorized boating.

2. Surface Water

- Elk Creek water temperature and instream flows will be monitored by the County throughout the life of the project. Data gathered will be used to improve project operations.
- Coordinate with the Oregon Department of Fish and Wildlife for optimum releases to benefit anadromous and resident fish.
- Operate the facility so existing minimum stream-flows and prior water rights of record are not adversely affected.
- Flood control operations will be coordinated with the Corps of Engineers.
- Douglas County will coordinate with the Bureau of Land Management to review timber harvest activities near the reservoir.

- County will monitor mercury content for reservoir fish for a 3-year period, and evaluate annually.

6. Wildlife

- A wildlife monitoring plan developed prior to construction will be implemented.
- A detailed monitoring and evaluation plan will be developed prior to construction and implemented to track wildlife accomplishments with the project, and serve as the basis to "fine-tune" project operations and management to achieve the optimum wildlife benefits. Development of the plan will be coordinated with the wildlife agencies.
- County will secure 767 acres of area suitable for Columbian white-tailed deer.
- About 90 acres of standing timber will be left in the Walker Creek Arm and the lower reservoir.
- Shallow, permanent water bodies will be created in the upper end of the pool (upstream of the road crossing). About 23 acres of wetlands will be created in association with these pools which will retain water and support emergent vegetation upon lowering of the reservoir surface to elevation 740 feet msl.
- About 120 acres in the upper end of the pool will be maintained for high quality wildlife habitat.
- About 200 acres of upland at the upper part of the reservoir and within the take-line will be managed for wildlife. A variety of habitat improvements will be realized on this land including fencing, grazing restrictions, planting wildlife cover and forage crops, nesting structures, and development of snags. An interagency team of biologists will develop a management plan for this area.
- Riparian enhancement will be conducted on about 1.5 miles of Elk Creek downstream of the project site. Restoration will include plantings and/or fencing in areas where vegetation has been impacted by grazing, brush clearing, and other human activities. Potential funding sources include land owners and local, state, and federal funds, and funds from special-interest groups.

7. Recreation

- County will provide a part-time caretaker to help minimize trespassing and vandalism.
- Facilities will be operated by Douglas County Parks Department as part of its normal program.

8. Transportation

- County will monitor traffic to the reservoir to determine the need for increased road maintenance and road improvements.
- Roads will be constructed and upgraded for access to the reservoir.

9. Police Protection

- Increased summer patrols will be implemented by the County Sheriff's Department in the project area to minimize vandalism and trespassing.

10. Visual Resources

- Douglas County will coordinate with the Bureau of Land Management to determine if modification of timber harvest activities would be necessary to maintain visual quality of the area near the reservoir.

