

Section IV - Environmental Consequences

This section describes the scientific and analytical basis for the comparison of the alternatives, and the probable consequences as they relate to the alternatives.

The environmental consequences to critical elements of the human environment are outlined in the following table.

Critical Elements of Each Alternative

Critical Elements of the Human Environment	Present in the Project Area	Effected by No Action	Effected by Proposed Action
Air Quality	Yes	No	No
Area of Critical Environmental Concerns	No	N/A	N/A
Cultural Resources	No	N/A	N/A
Farm Lands	No	N/A	N/A
Flood Plain	Yes	No	No
Native American Religious Concerns	Yes	No	No
Noxious Weeds	No	N/A	N/A
Port Orford Cedar Management	No	N/A	N/A
Threatened & Endangered Species (Wildlife)	Yes	Yes	Yes
Threatened & Endangered Species (Botanical)	Yes	Yes	Yes
Threatened & Endangered Species (Fish)	No	N/A	N/A
Wastes; Solid or Hazardous	No	No	No
Water Quality; Drinking/Ground	Yes	Yes	No
Wetlands/Riparian Reserve	Yes	Yes	No
Wild and Scenic Rivers	No	N/A	N/A
Wilderness	No	N/A	N/A

Source: Floras Bridge Replacement & Easement EA Team, Coos Bay District, 2000

The following elements are unaffected by no action or proposed action: air quality, area of environmental concerns, farm lands, flood plains, Wild and Scenic Rivers, wilderness. The proposed action or no action will have no affect upon solid or hazardous waste.

Alternative 1 - No Action

Under this alternative, there would be no action and thus the environment described in Section III would remain unchanged.

Soils

If this alternative is selected and the bridge is not replaced there would be no direct, indirect or cumulative impacts on the soil resource. The project area has no current erosion, or soil disturbance issues. If no bridge is available for crossing, people will cross the river during the low flow season to gain access to the ocean. There is a current path to get down to river on the east side, and no additional impact to soil resources is expected.

Vegetation, including T&E Species

Under the No Action Alternative, the BLM will not have control over what type of recreation use will access public lands. The county could replace the bridge with a structure that could allow motorized vehicles access to the BLM parcel. Under this scenario the impacts to special status plants would increase. On the other hand the county could remove the bridge and not replace it. In this event it would make it much more difficult for the public to access public lands. This would essentially eliminate any impacts (if any are occurring) to special status plants.

No impacts to western lily on state parks are expected in this alternative.

Aquatic Habitat/Fisheries. Including T&E Species

The no action alternative would result in a status quo situation. No easement would be obtained, and no footbridge would be constructed. Recreational users would likely continue to use the floating platform and rope system to gain access to the western edge of the lake and the ocean beaches during periods of low flow. From an aquatic standpoint, this is not likely to have any large adverse impacts to fish or habitat conditions. The areas where people get on and off the floating platform consist of small gravel substrates that are relatively stable and resistant to erosion.

During periods of higher flow (fall and winter) it is likely that small amounts of bank erosion would occur near the point where the eastern wing wall was removed. In this area, the small gravel and sand materials that were previously used to fill in the approach to the original bridge, are now exposed to the erosive forces of the outlet stream. The surface slope of these materials is relatively steep (roughly 45° angle), and it is likely that the toe area of these materials would be transported downstream during high flows. This would further steepen the slope of the remaining material, and make it prone to ravelling and slumping into the stream channel below. There is potential for approximately 3-5 yd³ of material to enter the channel.

Summary

Aquatic habitat conditions would likely remain unchanged in the vicinity of the old bridge and downstream. However, there is the potential for small amounts of bank erosion to occur during higher flows. If this bank erosion occurred, there is the potential for approximately 3-5 yd³ of material to enter the channel.

No adverse cumulative effects to the aquatic environment would be anticipated as a result of this alternative.

Human Uses

If the BLM does not obtain an easement and replace the bridge, it will be unlikely that the Resource Area will be able to ensure the types of access, location of crossing, and design features of the bridge. Another words, Curry County may decide to put in a bridge that does not prevent motorized traffic from crossing onto BLM lands. In fact, the bridge may not be replaced at all. This would probably lead to unsafe makeshift bridges and crossings (this has already occurred since the old bridge's removal). Stream-bank vegetation would likely become denuded and erosion along the outlet's bank might occur.

Wildlife, Including T&E Species

The No Action alternative is the most beneficial from a wildlife perspective. If the bridge was not replaced, people would have to either wade the creek or boat to access public lands on the opposite side. Other access is provided through Floras Lake State Park to the south. The No Action alternative would definitely limit visitor access and use of the lake and adjacent ocean shore, lessening disturbance to wildlife species such as waterfowl along the lake shoreline and snowy plovers nesting/foraging on the beach. Without the bridge, vehicular disturbance is less likely.

It is recognized that the lake is a key recreational area, heavily promoted for the sport of windsurfing and most of the use of the lake and ocean shore comes from campers at Boice Cope County Park and local residents. See the above write-up for additional information on past and present plover productivity at the Lake and visitor use compliance.

Hydrological Resources

If the bridge is not replaced and visitation continues, it is likely that the vegetation along the bank would become denuded due to trampling from makeshift crossings. Erosion of soils where the crossings are located will lead to undesirable sedimentation into the stream channel.

Alternative 2 - Proposed Action

Soils

Some soil displacement and/or disturbance would be a direct effect expected from construction activities. The old pilings are planned to be cut off, not excavated, thus the impacts normally associated with such a removal are expected to be negligible. Soil compaction is not an issue because the sand texture of the soil material does not compact. Minimal additional soil impacts are anticipated from the proposed action if the following design features are employed:

- Mulch and re-vegetate any exposed or disturbed soil that may occur during construction with native grasses or vegetation.
- All treated lumber for construction should be in accordance with the latest revision of AWWA standards (C2) and BMPs for soil and fresh water exposure.

Vegetation, including T&E Species

No impacts to special status plants are anticipated from the bridge replacement. Indirect impacts to the special status plants on the BLM parcel to the west are expected to remain the same under the proposed action. No impacts have been observed to special status plants in recent years. Efforts to keep recreationists on existing trails in recent years may have actually reduced impacts to these species as trail markers and interpretative displays have been posted educating the public on the sensitive resources in the area. It is not anticipated that this area will receive a substantial increase in recreation use in the near future. No impacts to western lily on state parks are expected in this alternative.

Aquatic Habitat/Fisheries, Including T&E Species

Easement

Obtaining an easement is not likely to result in any increase or decrease in recreational use of this area, and consequently, is not likely to influence aquatic habitat in any way.

Bridge

As specified in the design schematics of the proposed action, the new bridge structure would be located in the same area as the original bridge. The new structure would require the removal of the remaining pilings, wing walls, and fill used for the old approaches; and the installation of Class III riprap erosion control, and new concrete footers to support the bridge itself. The erosion control walls would be constructed using large boulders (Class III riprap) sloping away from the channel at an angle of approximately 45°. The toe areas of these walls would be located in the same location as the pilings from the original bridge. Therefore, existing low-water channel dimensions and dynamics should not change as a result of new footer installation. The high water channel dimensions and dynamics would change slightly as a result of the footers sloping away from the channel. This would result in a net increase in channel volume under the bridge structure, decreasing the artificial constriction that was created by the previous bridge pilings and vertical fill material. The concrete footers necessary to support the new bridge would be located approximately 10 feet away (horizontal distance) from each edge of the active channel margin.

In order to remove old bridge materials (pilings, wing walls, and sand/gravel fill), and place the new bridge materials (rock wall and concrete), a tracked excavator would be required. This machine would have to cross the outlet stream several times during the course of fill removal and placement of the new materials. In order to cross the stream and minimize aquatic impacts, a temporary work bridge would be utilized. This structure would be placed on wooden supports located near each stream bank, and would allow heavy equipment to work at the site without actually entering the stream channel - thereby minimizing potential aquatic impacts. The new bridge would be placed onto the newly constructed footers using a large crane. This phase of the project would be done with all necessary heavy equipment operating from the existing parking lot, and would not result in additional ground disturbance.

Summary

Aquatic habitat conditions would remain essentially unchanged in the vicinity of the project area and downstream. The potential for streambank erosion in the vicinity of the new bridge would be reduced as a result of the erosion control wall structure.

Due to the ground disturbance that would occur during removal of old bridge materials (pilings, wing walls, and fills) and construction of the new erosion control walls and support footers, it is likely that there would be localized turbidity increases during construction, and a small increase in turbidity following the first fall rains. However, due to the localized nature of the work, and the relative small scale of the disturbance, any turbidity increases are likely to be of short duration, and unlikely to result in substantial changes to aquatic habitat downstream.

In addition, implementation of best management practices and sediment control structures should help reduce turbidity increases to downstream areas during and after project construction (see below).

No adverse cumulative effects to the aquatic environment would be anticipated as a result of this

alternative.

Mitigation Measures

As a result of juvenile coho salmon (a threatened species) being present in the immediate project area and downstream, it is desirable to reduce turbidity and sedimentation during and after project construction. Therefore, installation of sediment/turbidity control structures during project construction is required as follows:

A temporary work bridge, suspended above the low water channel, is required. This measure would help to substantially reduce the potential aquatic impacts that could result from heavy equipment operating in and around the project site.

If feasible based upon stream flow at the outlet, construct a bypass channel around the construction site to prevent large scale turbidity pulses to downstream areas.

Isolate turbid waters generated at the immediate project area using temporary sandbag dams or some other means, and pump this water onto a vegetated flood plain or terrace area where it will naturally filter prior to reentering the aquatic system.

All areas of disturbed soil should be seeded and mulched with an appropriate seed mix in order to reduce erosion during the wetter portions of the year.

Due to the necessity for heavy equipment to operate over the outlet stream (on the temporary work bridge), all equipment should be inspected for fuel/oil leaks, and an appropriate spill kit should be staged at the project site, on the banks of the outlet stream, downstream from the project area. This kit should include at least two sorbent booms capable of completely spanning the outlet stream below the work site.

Immediately prior to project implementation, juvenile fish should be removed from the immediate project vicinity and relocated upstream using appropriate methods (i.e. seining, electroshocking, etc.).

Consultation Requirements

The activities of bridge construction and bridge repair are covered programmatically under the June 4, 1999 Biological Opinion from the National Marine Fisheries Service. All potential aquatic impacts from this project would be relatively small, localized, and of short duration. Therefore, it is not necessary to consult on this project individually.

Human Uses

It is not likely that a newer bridge or changing of the ownership (easement) from the County to the BLM is likely to affect use levels in the surrounding lands. This alternative would ensure the access that the public has previously enjoyed prior to the removal of the dilapidated bridge. It would also allow the BLM to design the bridge exactly how it would prefer to. The bridge can be designed to prevent such uses as ATVs and other 4 wheelers. It can also be designed to accommodate handicapped access.

Furthermore, the bridge and immediate lands contained within the proposed easement are the

ideal place to construct interpretive displays that convey messages about *snowy plover* and human interaction with the threatened birds.

Public access and use of this parcel was a significant determination of the point value for the LWCF submission and receipt of funds. The initial acquisition assumed that the bridge was on the to be purchased lands. It would be in good faith and keep to the intentions of the LWCF acquisition to take the steps necessary to acquire the easement and replace the bridge.

Wildlife, Including T&E Species

Replacement of the bridge at Floras Lake will continue the same visitor use levels of the lake and adjacent ocean shore. The expected result will be disturbance levels similar to that experienced the last few years to resident and migratory wildlife as well as the snowy plover. Although an increase in visitor use compliance was documented for the 1999 plover breeding season, even very low levels of non-compliance have been shown to have negative impacts on breeding snowy plovers.

The impacts to plovers of visitor use facilitated by maintaining access across the bridge at Floras Lake outlet are mitigated by other management actions at Floras Lake as outlined in the BOs. These mitigative measures include, among others, permanent fencing around the main nesting area to discourage disturbance by people, an on-site interpretive specialist throughout the nesting season to inform visitors of management actions for plovers, relatively high levels of law enforcement, and specific thresholds for reevaluation of impacts. These mitigative measures are intended to offset adverse impacts to plovers due to increased recreational use at the beach due to the bridge. Replacing the bridge reaffirms the need for BLM to maintain its commitment to implementing the mitigative measures described in BO 1-7-99-F-268 and to reassess impacts and management actions should these mitigative measures fail to provide the anticipated level of protection to snowy plovers nesting on the beach west of Floras Lake.

Hydrological Resources

The Proposed Action will have no affect on hydrological resources providing the following design features are incorporated into the project:

- Bridge replacement footers should avoid (be outside) the active channel, if possible.
- The replacement bridge should be built up high enough to avoid loss by flooding, or be able to withstand some infrequent flooding.
- Equipment should not be in the stream, if possible, during bridge replacement. If work is done in the stream, the DEQ turbidity standard must be followed, and proper regulatory permits obtained.
- All treated lumber for construction should be in accordance with the latest revision of AWPA standards (C2) and BMPs for soil and fresh water exposure.

Cultural Resources

The lack of known cultural resources and previous site visits indicates that intact cultural resources will not be affected by this project. However, if any potential cultural resources are encountered during this project, all work in the vicinity should stop and the District Archeologist be notified.

Section V - List of Agencies and Individuals Contacted

The general public was notified of the planned EA through a public announcement in *The World*. Adjacent landowners were contacted during the Scoping Process through direct mailing. The EA Analysis File contains a list of attendees of the open public meeting as well as adjacent landowners, interested individuals, and public agencies contacted during the scoping process.

The following groups assisted in the planning and design of the proposed project:

- Curry County Parks Department
- Floras Windsurfing
- Floras Bed and Breakfast by the Sea
- Big Air Windsurfing