

## 5.0 PROPOSED MITIGATION AND COMMITMENTS

The DOT&PF would make a number of commitments and implement a variety of mitigation measures to address the potential impacts of a build alternative if one is selected for the Juneau Access Improvements Project. The preliminary alignments for highway segments of all alternatives have been adjusted several times over the course of environmental and preliminary engineering studies to avoid impacts to wetlands, marine areas, wildlife, and cultural resources. During design of the alternative selected for the project, DOT&PF would investigate additional measures to reduce potential impacts, including further small alignment changes and changes to reduce the roadway footprint (such as steepened slopes and reduced embankment heights). Other specific commitments and mitigation measures for the project are described below by resource area.

### 5.1 Water Quality

1. An erosion and sediment control plan would be prepared to describe the BMPs to use to avoid water quality impacts to wetlands and other water bodies. This plan would be made available to resource agencies for review and comment before being included in project plans.
2. Only clean fill material would be used for the roadway and ferry terminal embankments.
3. Staking would be done at the planned outside limits of disturbance prior to construction to ensure that impacts are limited to that area.
4. The roadway would be constructed using the minimum-width fill footprint necessary to provide a stable road base.
5. The roadway would be constructed with a low-profile embankment to limit the fill footprint.
6. Rock would be used to stabilize the toes of slopes at ponds and stream crossings.
7. Grass seed would be placed on any road slope not constructed of shot rock. To protect the integrity of the natural plant communities, plant species indigenous to the area would be used for vegetating road slopes, except that non-native annual grasses may be used to provide initial soil cover.
8. No grubbing would be done outside of the fill footprint and only the minimum clearing required for safety would be done beyond the toe of slope.
9. Silt fences would be used to reduce erosion during construction.
10. Sediment basins would be used, as necessary, during construction.
11. Roadside swales would be designed to keep surface water within the natural drainage basins.
12. Culverts would be installed through fill slopes in appropriate locations to maintain natural flow patterns for surface water.

### 5.2 Wetlands

1. Embankment heights and side slopes would be minimized during design to reduce wetland footprints.
2. During construction, slope limits in wetlands areas would be separately identified to ensure that workers are aware of wetlands and the need to avoid impacts beyond the slope and clearing limits.

3. Construction camps, staging sites, borrow pits, and waste areas would be located in upland areas and stabilized during and after use to avoid water quality impacts to wetlands and water bodies.
4. DOT&PF would provide compensatory mitigation for wetland impacts based on the amount and function of wetlands impacted by the proposed project. Initial discussions with resource agencies have not identified any restoration projects in the watersheds affected, but have indicated a desire for greater baseline data for many resources in the Berners Bay area. DOT&PF would work with resource agencies to develop a combination of funding for research in or near the affected watersheds and fee-in-lieu payments for restoration or protection of off-site wetlands.

### **5.3 Terrestrial Habitat**

1. Only certified seed mixtures would be used to seed exposed soils.
2. Soil from outside the project boundaries would not be imported to the project site. Any soil within the project boundaries identified as containing invasive species would not be transported to other areas of the project.
3. Construction equipment would be steam cleaned prior to use on the project.

### **5.4 Intertidal and subtidal areas**

1. The original 2003 alignment for the East Lynn Canal Highway alternatives included 45 intertidal sites where highway construction would be below the high tide line, nine subtidal locations for potential sidecasting of excess rock, and three ferry terminal sites. Based on detailed aerial survey data, DOT&PF adjusted the alignment to limit intertidal fill to 17 sites. During design, DOT&PF would investigate ways to further reduce intertidal fills, including alignment shifts and steepened slopes.
2. To the extent practicable, beach access points would be chosen to take advantage of existing landings, previously disturbed sites, or locations of planned fill. Additional necessary access points identified during construction would be sited to minimize impacts to habitat and would be restored to pre-existing condition after project completion.
3. In-water work for fill placement, dredging, or pile driving would be timed to avoid impacts to spawning and migrating fish species.
4. Shuttle ferries would have wastewater holding tanks to avoid discharge of waste while moored at the new terminal sites.
5. If the selected alternative includes a ferry terminal in Berners Bay and a private terminal is existing or appears imminent at Cascade Point, DOT&PF would pursue development of a joint facility at that location.
6. Impacts to intertidal and subtidal areas would be included in the evaluation of compensatory mitigation needed for the project.
7. DOT&PF will work with resource agencies to develop a combination of funding for research in or near the affected intertidal and subtidal habitat and fee-in-lieu payments for restoration or protection of offsite marine habitat.

## **5.5 Anadromous and Resident Fish Streams**

1. All anadromous fish streams would be crossed by bridges. Anadromous fish streams that can be crossed with 120-foot or shorter bridges would not have any structure or fill in the stream channel. Anadromous fish streams that require pier supports would have the minimum possible piers using 130-foot spacing, placed to reduce impact to the streams.
2. Streams identified as having resident fish, or the potential to have resident fish in the future, would have culverts placed to provide fish passage, in accordance with the Memorandum of Agreement between ADF&G and DOT&PF entitled "Design, Permitting, and Construction of Culverts for Fish Passage."
3. In-water work at anadromous and resident fish streams would be timed to minimize impacts to fish species. In-water work areas would be isolated and dewatered to avoid direct impacts to fish as well as downstream water quality impacts.

## **5.6 Bald Eagles**

1. On-the-ground nest surveys would be conducted before clearing takes place to confirm the location of trees with eagle nests. Construction activities in the vicinity of bald eagle nests would be coordinated with the USFWS to determine the need for alignment changes, blasting plan changes, or other measures to avoid impacts to eagles.
2. No construction would occur within 330 feet of an eagle nest, and no blasting would occur within 0.5 mile of an eagle nest, during the March 1 to May 31 nest selection period. If a nest is active, no construction or blasting would occur within these distances until after August 31, unless the USFWS approves a plan to avoid impacts while operations continue.
3. In areas where clearing occurs to within 100 feet of a nest tree, DOT&PF and USFWS would jointly assess the potential for windthrow and stabilize the tree or adjacent trees, if determined necessary.
4. During construction, DOT&PF and USFWS would assess the sufficiency of natural screening between the highway and any eagle nests below the elevation of the road within the 330-foot zone. Additional screening would be developed if necessary.
5. DOT&PF would continue to fund USFWS aerial surveys for a period of five years to assess the impact, if any, of the project on the Lynn Canal bald eagle population.

## **5.7 Migratory Birds**

1. Clearing in areas where migratory birds are likely to nest would be done before or after the nesting season (late spring to early summer, to be determined in consultation with the USFWS) to avoid impacts to nesting birds.
2. Nesting surveys for trumpeter swan and Queen Charlotte goshawk would be conducted prior to construction in appropriate habitats to avoid disturbing nesting activities during this period.

## **5.8 Wildlife**

1. Planning for any camps necessary during construction of the project would include BMPs for handling food, trash, and other potential wildlife attractants to reduce impacts.

2. Bridges across streams would be designed to also function as wildlife underpasses. In addition, if Alternative 2, 2B, or 2C is the selected alternative, a wildlife underpass would be located at the brown bear migration corridor in the isthmus between the Antler and Lace rivers.
3. Mitigation for impacts to wetlands would include funding for bear and moose population monitoring studies to enable the ADF&G to address impacts from lost habitat, collision mortality, and improved access.
4. No construction would occur in April or May within one mile of identified harbor seal haulouts.
5. Preconstruction wolf den surveys would be conducted in consultation with the USFWS.

### **5.9 Threatened and Endangered Species**

1. If the selected alternative includes a new ferry terminal, monitors would be used during pile driving to ensure that this activity does not occur when humpback whales and other marine mammals are within 660 feet of the construction site.
2. Construction within 1,000 feet of the Met Point or Gran Point haulouts would occur during periods when sea lions are absent, unless authorized by the NMFS.
3. Any construction within 3,000 feet of Gran Point or Met Point would include through-cuts and walls to avoid lines of sight between the haulouts and the highway and to discourage human disturbance of sea lions.
4. Monitoring would be done during any construction within 3,000 feet of the Gran Point and Met Point haulouts.
5. Video monitoring at the Gran Point haulout and aerial and ground monitoring at the Met Point haulout would continue for three years after any construction in these areas to determine the extent of human disturbance of sea lions.
6. To minimize recreational boating activity in the vicinity of the two haulouts, no boat launches or other boat access points would be included in the project.

### **5.10 Cultural Resources**

1. Known archeological and historical resources in the vicinity of the project would be identified in the construction plans to ensure that the contractor is aware of the need to avoid impacts to these resources.
2. Cultural resources within the project limits would be flagged in the field to ensure that equipment operators do not inadvertently damage these resources.
3. If bridges are to be placed over the Lower Dewy Lake Trail or the White Pass & Yukon Railroad tracks, the City of Skagway and the National Park Service would be consulted regarding bridge design to minimize visual impacts to these resources.
4. In the event that a previously unknown cultural resource is discovered during construction, work in the area would cease and DOT&PF would contact the State Historic Preservation Officer and develop an approved plan before proceeding.

## 5.11 Recreation and Visitor Facilities

1. Any ferry terminals constructed for the project would include restrooms that would be available to highway users as well as ferry customers.
2. Any highway in the vicinity of the USFS cabin in Berners Bay would be located as far from the cabin as the topography allows, and a handicap-accessible trail would be constructed from the highway parking area to the cabin.
3. If an East Lynn Canal Highway is constructed, a visitor facility with restrooms would be included in the maintenance facility at Comet. DOT&PF would maintain restrooms at any joint visitor/maintenance facility. DOT&PF would maintain constructed pullouts including collection of refuse from containers supplied at these pullouts. Composting toilets at Katzehin and/or Sturgill's Landing access trail would be maintained by the USFS.
4. If the East Lynn Canal Highway alternative without the Katzehin Ferry Terminal is selected (Alternative 2C), a toilet would be provided at a pullout in the Katzehin River vicinity.
5. Any highway constructed in the vicinity of the USFS Sturgill's Landing Day Use Area would be at least 660 feet from the mouth of the creek. A connection would be made to the Landing trail, and a toilet would be provided at the new trailhead.
6. If a highway is constructed through the City of Skagway-owned Lower Dewey Lake parcel, the City would be consulted on the design and placement of any trailheads, parking areas, day-use areas, and pedestrian/bicycle facilities. Furthermore, DOT&PF would provide funding to the City for improvements to the Upper Dewey Lake Trail, the Icy Lake to Upper Reid Falls Trail, and the East Lower Dewey Lake Trail on City land. DOT&PF would also investigate the feasibility of trail enhancements on state and federal land adjoining these trails.