

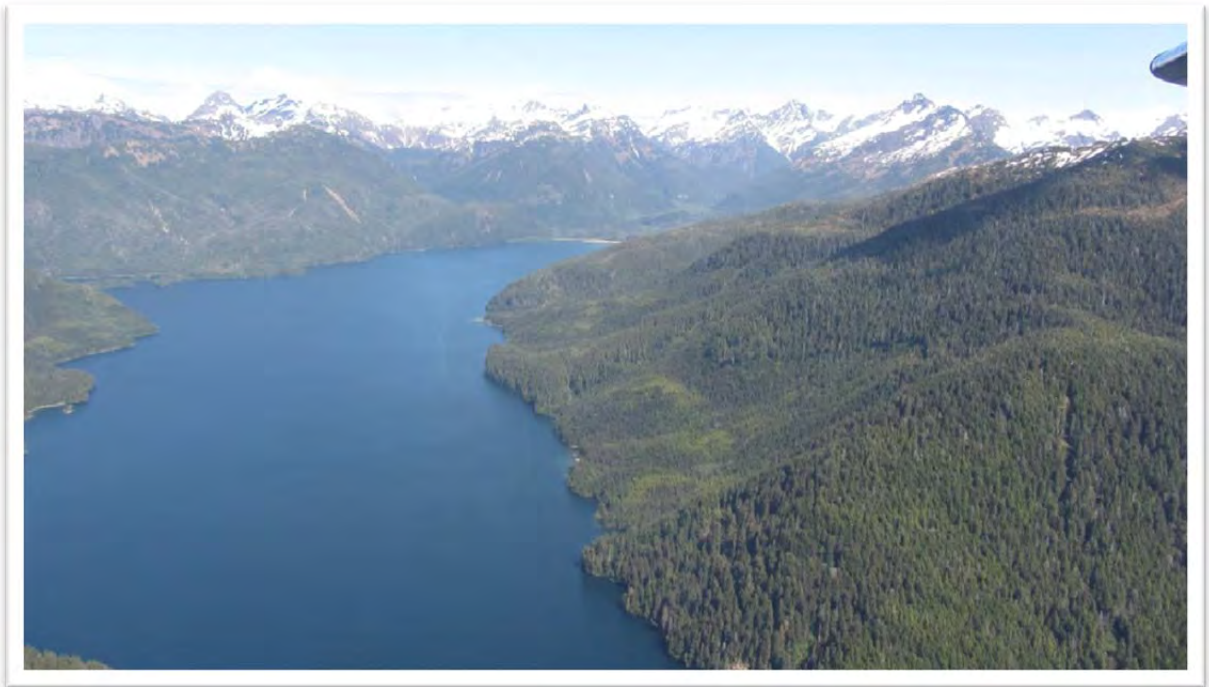


KATLIAN BAY ROAD

AKSAS No. Z67672000

Environmental Document

January 2018



Prepared for:

**Alaska Department of Transportation
& Public Facilities**

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Agreement No. 02543017

AKSAS Project Z676720000


Katlian Bay Road
Sitka, Alaska
Environmental Document

Submitted by the
Alaska Department of Transportation and Public Facilities (DOT&PF), Southcoast Region
to Support Federal Permitting Actions

11/31/2018
Date of Approval


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1/31/2018
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DOT&PF proposes to construct a new 9-mile one-lane gravel road on Baranof Island in the vicinity of Katlian Bay, located 7 miles northeast of Sitka, Alaska. Project components include an aggregate surface road, three bridges, intervisible turnouts, scenic overlooks and day use area, off-highway vehicle (OHV) trail connection to an existing U.S. Forest Service (Forest Service) OHV trail, rehabilitation of existing forest service road for construction access, and mitigation for unavoidable wetland impacts. The road would cross State of Alaska, U.S. Forest Service, and Shee Atiká Incorporated (Shee Atiká) lands.

The purpose of the proposed Katlian Bay Road project is to provide recreational and subsistence opportunities on Baranof Island within Forest Service Sitka Ranger District National Forest System lands and provide access to potential new material sources on State, Federal and Native Corporation lands for possible future development.

As the State of Alaska is not a Federal agency, this document was not developed under the National Environmental Policy Act but was developed solely for the purpose of supporting State and Federal permitting actions. This document will also assist the U.S. Forest Service in granting a transportation and utility easement under Section 4407 of PL 109-59 (SAFETEA-LU) and the Memorandum of Understanding between the United States of America, acting through the Forest Service, Alaska Region and the State of Alaska, acting through the Departments of Natural Resources and Transportation and Public Facilities (Forest Service Agreement No. 06MU-11100100-151 / State of Alaska Agreement No. ADL 107516).

REGULATORY COMPLIANCE

The actions by DOT&PF on the project, and the laws under which such actions were taken, are described in the Environmental Document (ED) issued for the project. The ED project records files are available by contacting the DOT&PF at the addresses provided above. This action complies with numerous State and Federal laws and regulations including, but not limited to: Endangered Species Act [16 USC 1531-1544 and Section 1536]; Marine Mammal Protection Act [16 U.S.C. 1361]; Fish and Wildlife Coordination Act [16 U.S.C. 661-667(d)]; Migratory Bird Treaty Act [16 U.S.C. 703-712]; Clean Water Act, 33 U.S.C. 1251-1377 (Section 404, Section 401, Section 319); Rivers and Harbors Act of 1899, 33 U.S.C. 401-406; Public Law 94-26, Magnuson-Stevens Fishery Conservation And Management Act; National Historic Preservation Act; Native Graves Protection and Repatriation Act; Alaska Department of Fish and Game Fish Habitat Permit (AS 16.05.841.871); Alaska Department of Natural Resources Division of Mining, Land, and Water Land Use Permit; Bald and Golden Eagle Protection Act; Clean Air Act; Executive Order 11593, Protection and Enhancement of the Cultural Environment; Executive Order 13007, Indian Sacred Sites; Executive Order 13175, Consultation and Coordination with Indian Tribal Governments; Executive Order 12898, Environmental Justice; Executive Order 11988, Floodplain Management; Executive Order 11990, Protection of Wetlands; Executive Order 13112, Invasive Species; AS 41.35 Alaska Historic Preservation Act; Alaska Administrative Order 186 State - Tribal Relations; Policy and Procedure (P&P) 1.03.010 Government-To-Government Relations with the Federally-Recognized Tribes of Alaska; P&P 1.03.011 Project Development and Maintenance Environmental Review Procedures/ Construction and Maintenance Policy and Objectives for Operations Requiring Federal and/or State Permits; P&P 1.03.040 Public Involvement and Agency Coordination.

TITLE VI POLICY STATEMENT

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If you or someone you represent requires special accommodations in order to request additional information or clarification regarding this Environmental Document, please call or email the project coordinator or call Alaska Relay and ask the communications assistant to assist you.

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Ask the communications assistant to call the contact listed so arrangements can be made to assist you.

EXECUTIVE SUMMARY

Proposed Action and Location

The Alaska Department of Transportation and Public Facilities (DOT&PF) proposes a State-funded project (Katlian Bay Road) for construction of a new road on Baranof Island in the vicinity of Katlian Bay. The Katlian Bay Road Project (Proposed Action) would consist of approximately 8.8 miles of new single-lane, aggregate-surface road with 3 bridge crossings (2 principal bridges & 1 for construction access) and 0.6 mile of off-highway vehicle trail. The road would begin at the northern end of Halibut Point Road (located about 7 miles northeast of Sitka), extend east along the south shoreline of Katlian Bay, cross the Katlian River, and terminate upriver about 2 miles east of the Katlian Bay estuary. The road would cross State of Alaska, U.S. Forest Service (referred to as Forest Service or USFS), and Shee Atiká, Incorporated (Shee Atiká) lands. Below Shee Atiká lands are Sealaska Corporation (Sealaska) subsurface rights.

As planned, the Proposed Action would include the following major components:

- A 12-foot gravel road width with 2-foot shoulders on both sides,
- a design speed of 25 miles per hour (mph), and
- intervisible road turnouts and right-of-way (ROW) clearing for visibility requirements.

The road is intended for permanent use, although winter maintenance is not planned. Temporary construction access would include use of a portion of the National Forest System (NFS) logging roads (NFS Road No. 7579 and No. 75797), use and rehabilitation of the Katlian Bay log transfer facility (LTF), and construction of a bridge over the Coxe River on a new spur to NFS Road No. 7579. The new spur would be on Shee Atiká lands. Sections of these roads would also be rehabilitated, if needed, to accommodate construction traffic.

Purpose and Need

The City and Borough of Sitka (CBS) has a road system that currently provides limited passenger vehicle access for recreation and subsistence activities. Sitka has a shortage of developable material sources for future projects on its existing road system. The purpose of the Proposed Action is to provide:

- increased recreational and subsistence opportunities on Baranof Island within NFS lands of the Tongass National Forest, Sitka Ranger District, and
- opportunity for development of new material sources on State, Federal, and Native Corporation lands.

Impact and Environmental Commitment Summary

Provided in Table ES-1 is a summary of projected impacts based on avoidance and minimization design plans and planned mitigation measures for construction and operation. State of Alaska best management practices (BMPs) would be applied during construction to protect resource areas. Construction impacts would be short term and limited to the 2-year construction period.

Table ES-1: Projected Impacts and Planned Mitigation for the Katlian Bay Road

Environmental Resource	Summary of Impact/Benefit	Mitigation
Geology and Soils	Construction: Potential to cause new geologic and soil hazards	Construction: Apply construction measures and BMPs to provide long-term protection from geologic hazards and to protect soils resource
	Post-construction: Potential for road movement and soil erosion	Post-construction: Maintain and repair roadway should settlement occur, maintain ditches for proper flow
Air Quality	Construction: Increase in air pollution and dust but would remain within regulatory thresholds	Construction: Apply dust control measures
	Post-construction: None	Post-construction: None
Noise	Construction: 3-month noise disturbance to Starrigavan Recreation Area, blasting in some areas	Construction: Contractors should use blasting and monitoring measures as required by regulatory agencies to protect people, fish, and wildlife, and consider whether disturbance permits may be necessary
	Post-construction: None	Post-construction: None
Hazardous Waste	Construction: Potential for hazardous waste spills	Construction: Prepare and implement Hazardous Materials Control Plan
	Post-construction: Potential for illegal dumping	Post-construction: Place signs to ward off illegal dumping. Include phone number to call if observed.
Water Resources	Construction: Potential degradation of water quality at stream crossings, increased sedimentation, temporary dewatering and re-routing for some bridges and large culverts	Construction: Develop and comply with Clean Water Act Section 10 and 401 Water Quality Certification, Stormwater Pollution Prevention Plan, Alaska Pollutant Discharge Elimination System Permit, General Construction Permit, and General Wastewater Disposal Permit
	Post-construction: Potential for log jams near bridges	Post-construction: Periodically monitor bridges to ensure foundations and crossings are protected from debris flow

**Table ES-1: Projected Impacts and Planned Mitigation for the Katlian Bay Road
(Continued)**

Environmental Resource	Summary of Impact/Benefit	Mitigation
Fish	Construction: Potential loss of riparian habitat and fish at anadromous and resident stream crossings, potential construction disturbance to marine habitat	Construction: Obtain and comply with Alaska Statute Title 16 Fish Habitat Permit (which would include site-specific mitigation measures, including protecting fish from blasting impacts) and obtain direction and approval from National Marine Fisheries Service (NMFS) to protect essential fish habitat (EFH) under Magnuson-Stevens Act, replace riparian vegetation where damaged or lost during construction, and protect eelgrass from disturbance
	Post-construction: Potential for increased fishing in area, riparian habitat re-growth would occur	Post-construction: Alaska Department of Fish & Game (ADF&G) to consider new fishing regulations
Vegetation	Construction: Loss of approximately 137 acres of vegetation for ROW, potential introduction of invasive plants	Construction: Productive old-growth habitat would be avoided for staging and waste areas, vegetation disturbance would be minimized to the extent feasible, restoration would consist of native plants common to southern Baranof Island, equipment cleaning would occur to avoid introduction of invasive plants, use of certified weed-free plants for revegetation, apply DOT&PF Disposal and Control of Invasive Plant Species guidebook. .
	Post-construction: Vegetation re-growth would occur in disturbed areas, potential introduction of invasive plants from standard road use	Post-construction: May need to clear vegetation if sight distances become obscured, apply direction from DOT&PF Disposal and Control of Invasive Plant Species guidebook.
Wetlands	Construction: Loss and impact damage to 5.2 acres of wetlands and 1.17 acres to other waters of the U.S. within the total 137 acres of vegetation impact	Construction: Obtain and comply with Section 404 permit, develop erosion and sediment control plan to protect wetlands, protect adjacent wetlands from construction disturbance.
	Post-construction: Wetland re-growth would naturally occur in temporarily disturbed areas, fragmentation of wetland habitat in road vicinity	Post-construction: Collaborative effort with Forest Service for restoration activities as compensatory mitigation to compensate for unavoidable impacts to wetlands.

**Table ES- 1: Projected Impacts and Planned Mitigation for the Katlian Bay Road
(Continued)**

Environmental Resource	Summary of Impact/Benefit	Mitigation
Wildlife	Construction: Disturbance to wildlife and associated habitat (137 acres) and Katlian Bay for nesting, cover, and travel	Construction: Obtain and comply with Bald Eagle Disturbance Permit, monitor and protect migratory birds, protect cottonwood trees (if found), follow agency guidance to protect wildlife from blasting impacts, comply with hunting and fishing requirements, avoid noise disturbance in Katlian Bay
	Post-construction: Potential for increased hunting in area, fragmentation of wildlife habitat in road vicinity	Post-construction: ADF&G to consider new regulations for the project area
Threatened and Endangered Species	Construction: Disturbance to marine environment or construction access	Construction: Comply with Endangered Species Act, including protection of the humpback whale and Steller sea lion (listed species) from blasting effects, include approaches for construction workers to avoid impacts to marine mammals in Katlian Bay
	Post-construction: None	Post-construction: None
Subsistence	Construction: Travel routes could be disturbed	Construction: Coordinate with local tribe to avoid impacts to subsistence activities
	Post-construction: Potential benefit for increased subsistence use in area	Post-construction: None
Environmental Justice	Construction: Potential to impact known and unknown Alaska Native resources; Alaska Natives are considered to be the only minority population that could be affected by the Proposed Action	Construction: Monitor and protect known and unknown Native American cultural and historic resources in accordance with agency direction, work with Shee Atiká to name geographical features and stream crossings on Shee Atiká lands; work with Sitka Tribe to name geographical features not on Shee Atiká lands
	Post-construction: None	Post-construction: None
Recreation	Construction: Construction distraction (including noise) at Starrigavan Recreation Area	Construction: Communicate and inform recreationists of upcoming construction activities and noise impacts, prepare and implement Traffic Control and Safety Plan, request users of the day use area to “pack it in and pack it out” through signage.
	Post-construction: Increased benefit for access to viewpoints of Katlian Bay, use of new day use area and OHV trail, potential for increased guided tours on Katlian Bay Road, and potential for existing guides to search for more remote areas elsewhere	Post-construction: Construct and maintain viewpoints, day use area, and OHV trail to NFS Trail No. 3175797; include signs to direct public to “pack it in pack it out”.

**Table ES- 1: Projected Impacts and Planned Mitigation for the Katlian Bay Road
(Continued)**

Environmental Resource	Summary of Impact/Benefit	Mitigation
Scenery	Construction: Vegetation clearing may result in scenic degradation. The viewpoints would increase views of Katlian Bay scenery.	Construction: Place staging in areas not seen by the public to the extent practicable, protect downslope vegetation from rock fall and vegetation damage, use natural material for road construction where practicable, design rock sources to be minimally apparent, and ensure roadside cleanup during construction.
	Post-construction: Vegetation re-growth would increase area scenery	Post-construction: None
Cultural and Historic Resources	Construction: Potential to impact known and unknown Alaska Native resources, as well as archaeological resources	Construction: Comply with agency direction to protect cultural resources and provide archaeological monitoring during construction.
	Post-construction: Increased access to cultural and historic resources	Post-construction: None
Demographics and Economy	Construction: Benefit to economy to provide workers, materials, food, lodging	Construction: None planned
	Post-construction: Opportunity for increased tourism	Post-construction: None
Local Land Use and Transportation Plans	Construction: Potential disturbance to traffic patterns at beginning of project	Construction: Prepare and implement Traffic Control and Safety Plan; rehabilitation of temporary access roads would occur to accommodate construction traffic; and beneficial effect of meeting goals of existing local plans
	Post-construction: Increased benefit to access lands (via road) surrounding the Proposed Action	Post-construction: None

Schedule

Project construction is planned to occur in 2018 and continue for approximately 2 years.

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ACRONYMS

ADF&G	Alaska Department of Fish and Game	mph	miles per hour
		NFS	National Forest System
ANSCA	Alaska Native Claims Settlement Act	NMFS	National Marine Fisheries Service
BMP	best management practice	NOAA	National Oceanic and Atmospheric Administration
dB	A-weighted decibels		
CBS	City and Borough of Sitka		
DEC	Alaska Department of Environmental Conservation	NRHP	National Register of Historic Preservation
		OHA	Office of History and Archaeology
DNR	Alaska Department of Natural Resources	OHV	off-highway vehicle
DOT&PF	Alaska Department of Transportation and Public Facilities	OHWM	ordinary high water mark
		P&P	Policy and Procedure
		POG	productive old growth
DPS	Distinct Population Segment	Proposed Action	Katlian Bay Road Project
		ROW	right-of-way
ED	environmental document	Sealaska	Sealaska Corporation
EFH	essential fish habitat	Shee Atiká	Shee Atiká, Incorporated
EPA	U.S. Environmental Protection Agency	USACE	U.S. Army Corps of Engineers
ESU	Evolutionarily Significant Unit	USCG	U.S. Coast Guard
		USFS	U.S. Forest Service
FEMA	Federal Emergency Management Agency	USFWS	U.S. Fish and Wildlife Service
Forest Plan	Tongass Land and Resource Management Plan		
Forest Service	U.S. Forest Service		
LTF	log transfer facility		
LUD	land use designation		
MP	milepost		

1.0 PURPOSE AND NEED

1.1 Introduction

The Alaska Department of Transportation and Public Facilities (DOT&PF) proposes a State-funded project (Katlian Bay Road) for construction of a new road on Baranof Island in the vicinity of Katlian Bay (Figure 1-1). The Katlian Bay Road Project (Proposed Action) would consist of approximately 8.8 miles of new single-lane, aggregate-surfaced road with 3 bridge crossings, as well as 0.6 mile of off-highway vehicle (OHV) trail. The road would begin at the northern end of Halibut Point Road (near Starrigavan Recreation Area), extend east along the south shoreline of Katlian Bay, cross the Katlian River, and terminate about 2 miles east of the Katlian Bay estuary.

Temporary construction access would include using a portion of U.S. Forest Service (referred to as USFS or Forest Service) National Forest System (NFS) Road No. 7579 that connects to NFS Road No. 75797 within Shee Atiká, Incorporated (Shee Atiká) lands, as well as use of the Shee Atiká log transfer facility (LTF) on the shore of Katlian Bay. Sections of these construction access roads also would be rehabilitated to accommodate construction of the Katlian Bay Road, including a new bridge crossing at the Coxe River.

The DOT&PF prepared this environmental document (ED) in compliance with DOT&PF's Alaska Environmental Procedures Manual (updated in April 2014) and other applicable State and Federal regulations and guidelines. This ED discloses the direct, indirect, and cumulative environmental impacts that would result from road construction, maintenance, and long-term operation.

1.2 Location

The Katlian Bay Road Project would traverse lands owned and/or managed by the State of Alaska, NFS (Tongass National Forest), Shee Atiká (surface), and Sealaska (subsurface) (Figure 1-2). The project is located in Township 55 South, Range 63 East, Section 2 and 3; Township 54 South, Range 63 East, Sections 25, 26, 34, and 35; and Township 54 South, Range 64 East, Sections 21, 22, 28, 29, and 30.

Starting at the end of Halibut Point Road, which is 7 miles northeast of Sitka, the Proposed Action crosses three land ownerships as described below:

- Milepost (MP) 0.00 to 1.23: State of Alaska
- MP 1.23 to 3.65: NFS (Tongass National Forest, Sitka Ranger District)
- MP 3.65 to 9.2: Shee Atiká (surface) and Sealaska (subsurface)

For the Katlian Bay Road, DOT&PF would hold management rights for a 300-foot-wide ROW over the entire road corridor, but clearing limits and development of the road would be contained within a 50-foot to 150-foot-wide strip. The project area for the Katlian Bay Road encompasses those lands and activities within 0.5 mile of the Proposed Action. Generally, a project area is defined as the area where the Proposed Action can be seen and directly affected during construction and post construction. For some resources evaluated in this ED, analysis areas may encompass a larger area to ensure that direct and indirect impacts are evaluated appropriately. Analysis areas, if different from the project area, are described by each resource evaluated in this document.

1.3 Purpose and Need

The CBS has a road system that currently provides limited passenger vehicle access for recreation and subsistence activities. Additionally, the CBS has a shortage of developable material (rock and borrow) sources for future projects on its existing road system. The purpose of the proposed Katlian Bay Road Project is to provide:

- increased recreational and subsistence opportunities on Baranof Island within NFS lands of the Tongass National Forest, Sitka Ranger District,
- land access to Native Corporation (Shee Atiká and Sealaska) lands by shareholders, and
- opportunity for development of new material sources on State, Federal, and Native Corporation lands.

1.4 Proposed Action

The road alignment associated with the Proposed Action was selected to avoid steep and unstable slopes, marine areas with high ecological values, wetlands, and expansive river crossings. The alignment was developed based on field data collected during 2014 and 2015 by engineers and scientists.

As planned, the Proposed Action would include:

- 8.8 miles of a new aggregate-surface, single-lane road starting from the end of Halibut Point Road and terminating within the Katlian Bay watershed
- 25 mph design speed
- single lane prism (12-foot width with 2-foot shoulders on both sides) (Figure 1-3)
- intervisible turnouts
- signage as appropriate
- pull outs,
- use of designated NFS roads and Katlian Bay LTF for temporary construction access and connection to OHV trails, and
- a day use area at the end of the project.

The new road would terminate with a day use area (Figure 1-4) and OHV trail connection to NFS Trail No. 3175797, which is identified as an OHV trail in the Tongass National Forest Motor Vehicle Use Map for the Sitka Ranger District (Forest Service 2016). The day use area would include a turnaround, trailhead parking, and a picnic area with a fire ring. Additional components include construction access on existing NFS roads and habitat enhancement on NFS lands within the Katlian River watersheds mitigation for wetland impacts. The public has access on NFS Road No. 75797 going east to Katlian Bay; however, use is restricted for OHVs at the Cox River crossing due to a failed bridge.



Katlian Bay Road

KATLIAN BAY

KATLIAN RIVER

LOWER BARANOF ISLAND

SITKA SOUND

HALIBUT POINT ROAD

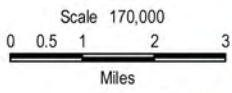
Sitka



KATLIAN BAY ROAD CONSTRUCTION

FIGURE 1-1 Katlian Bay Road Project Location

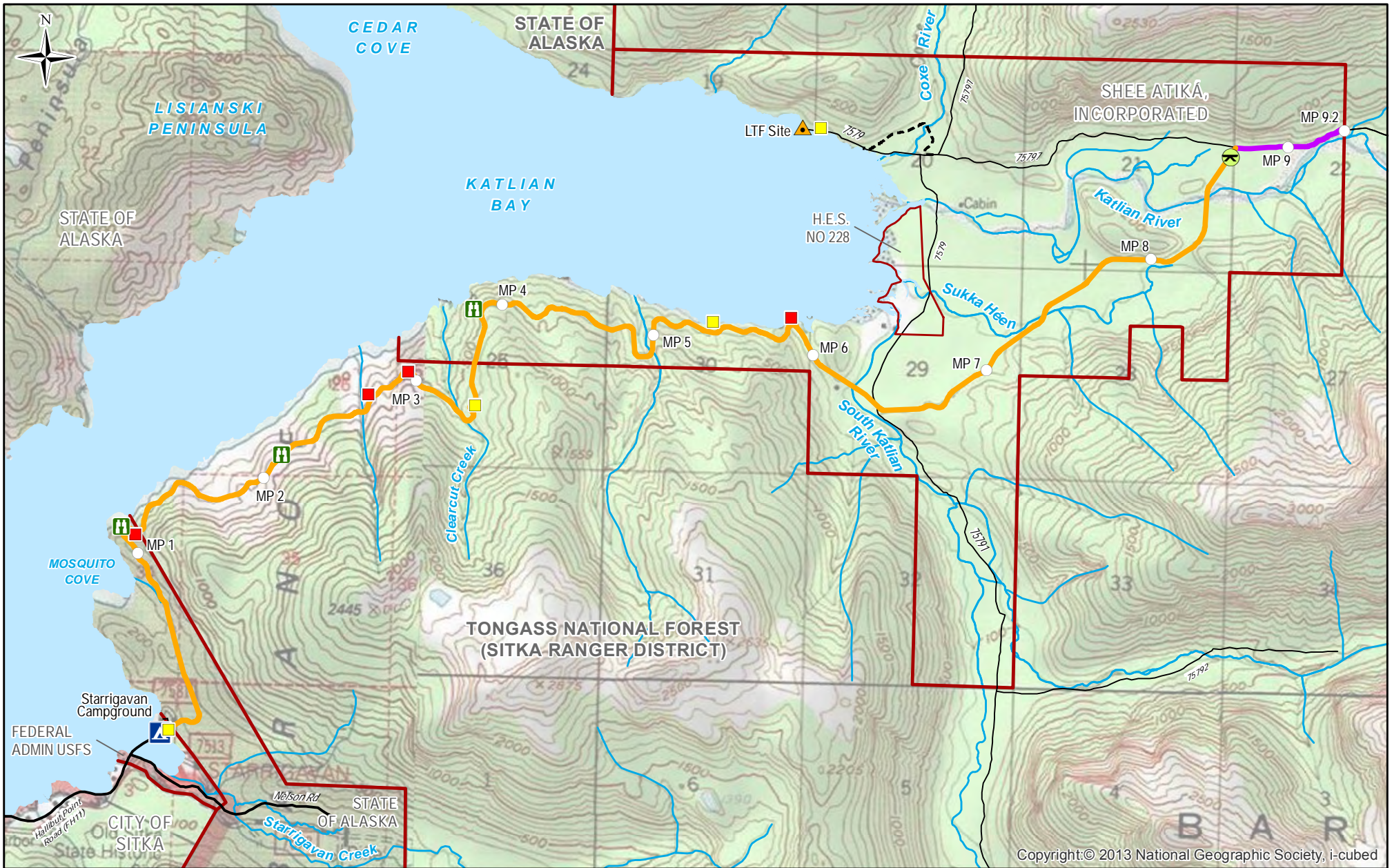
- Populated Place
- Katlian Bay Road
- Existing Road



Reference:
Alaska State Geo-Spatial Data Clearinghouse
www.asgdc.state.ak.us



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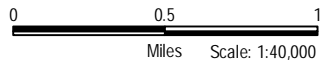
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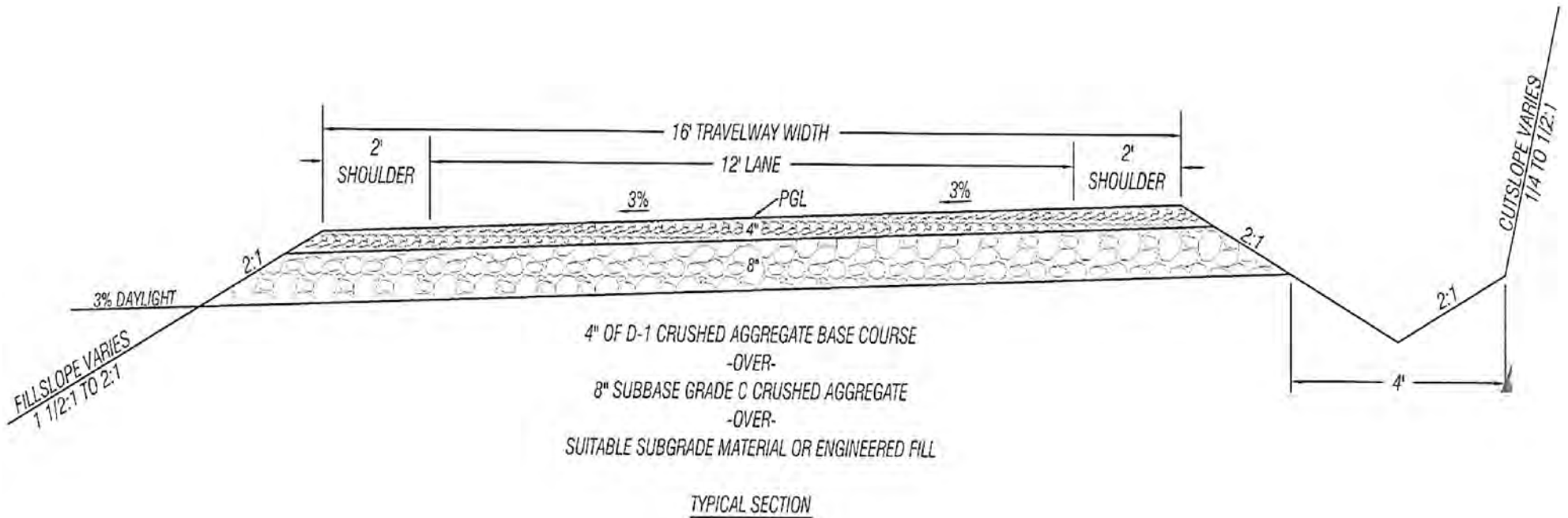
KATLIAN BAY ROAD CONSTRUCTION

FIGURE 1-2 Katlian Bay Road Alignment

- LTF Site
- Public Road
- National Forest System Road
- Stream
- Ownership Boundary
- Viewpoint
- Day Use Area
- Staging Areas
- Waste Sites
- Milepost
- Alignment
- OHV Trail
- Access Road Revision



Reference:
Alaska State Geo-Spatial
Data Clearinghouse
www.asgdc.state.ak.us



**KATLIAN BAY ROAD
CONSTRUCTION**

FIGURE 1-3 Katlian Bay
Road Improvements
Preliminary Design



**KATLIAN BAY ROAD
CONSTRUCTION**

FIGURE 1-4 Katlian Bay
Road day use area



The project would cross primarily forested habitat. From initial field studies, the following road components would be required:

- 248 corrugated aluminum pipe (CAP) culverts ranging in diameter from 2 to 12 feet.
- 5 Structural Pipe Arches (SPA) culverts with spans ranging from 6 feet to 26 feet.
- 14 Structural Plate Pipe Arch (SPPA) culverts with spans ranging from 6 feet 8 inches to 19 feet 6 inches.
- 3 bridges consisting of pre-engineered structures with spans of approximately 66, 120, and 150 feet.

The project is planned for a 2-year construction period beginning in 2018.

Signs along the road corridor would include names of rivers that follow mapped names from either federal or state maps including the Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes and its Associated Atlas (ADF&G 2016). Below these names would be traditional Alaska Native names when available.

1.5 Funding

Project funding is provided through the voter-approved Alaska Transportation Projects Bond that was passed in November 2012. The bond was proposed to not exceed approximately \$454 million and, within that amount, the Katlian Bay Road was allocated \$14 million. The measure allowed for a general obligation bond to be issued for the purpose of transportation projects in Alaska.

1.6 Area Description

The Proposed Action is located within three major watersheds:

- Sitka Sound–Frontal Pacific Ocean (includes Starrigavan Creek)
- Katlian Bay–Frontal Sitka Sound
- Katlian River (U.S. Geological Survey 2004) (Figure 1-5).

The Proposed Action commences at the north central portion of the Sitka Sound–Frontal Pacific Ocean watershed near Starrigavan Creek. This overall area has State, private, and NFS ownership; is primarily forested; and has one main access road—Halibut Point Road. Previous modifications to the area include timber harvest, addition of a shooting range, and recreational development. The Starrigavan Recreation Area, located near the beginning of the proposed road, is a joint management venture between the Forest Service and State of Alaska Parks and includes pedestrian and OHV trails, a camping area, and the Old Sitka State Historic Site. The recreation area offers 2.3 miles of loop trails adjacent to 34 campsites, 1 public recreation log cabin, and 6 picnic sites. The Proposed Action is within the Sitka Sound–Frontal Pacific Ocean watershed for 0.5 mile.

From the Sitka Sound–Frontal Pacific Ocean watershed, the Proposed Action crosses into the Katlian Bay–Frontal Sitka Sound watershed with ownerships that include State of Alaska, Shee Atiká, and NNS lands. There are no developed facilities within this area, except designated unmaintained Forest Service logging roads. Portions of the area were previously harvested for timber, and the area includes lands

where temporary construction access would be located. The Proposed Action is within the Katlian Bay–Frontal Sitka Sound watershed for 7.7 miles.

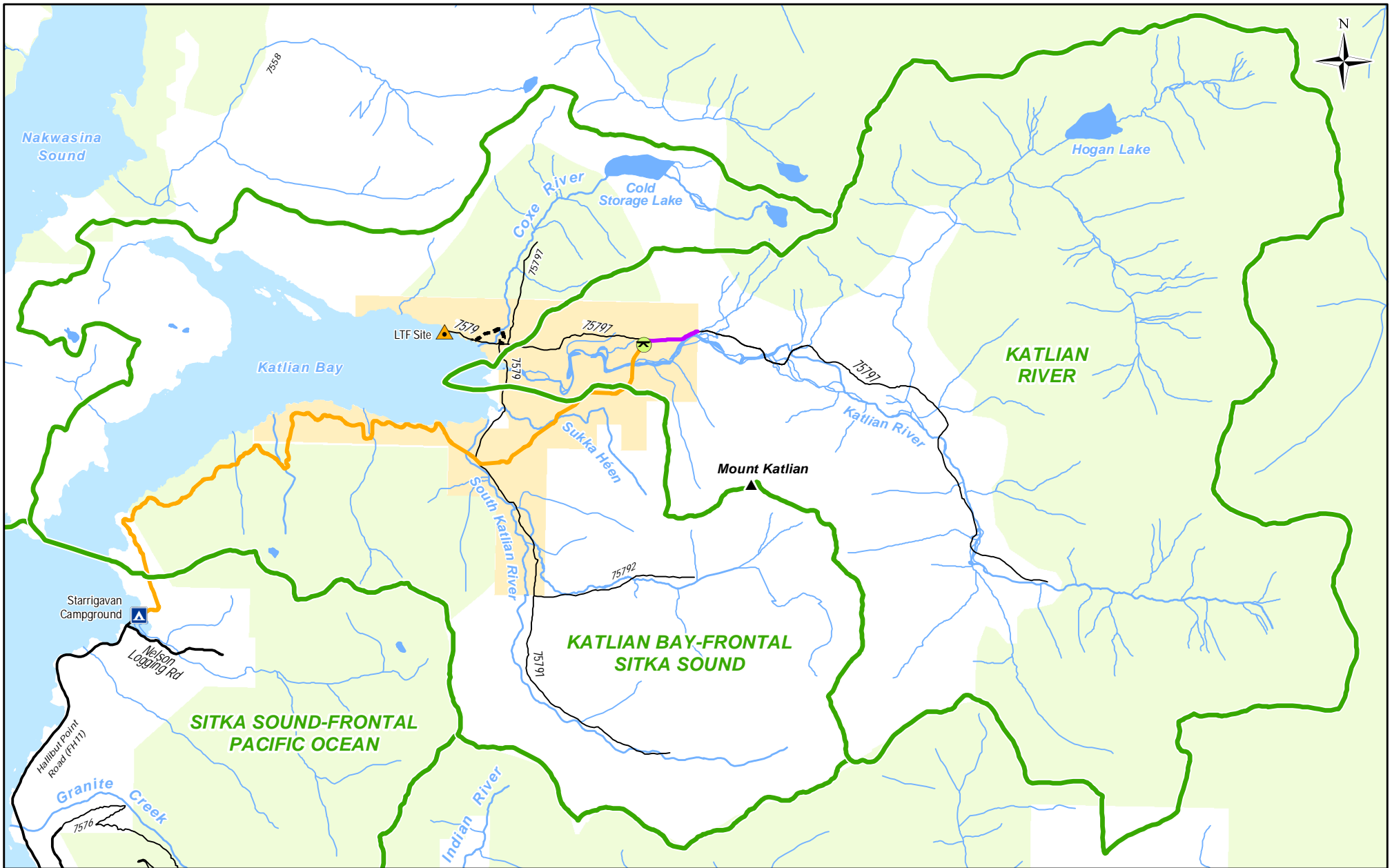
At MP 8.2, the road enters the Katlian River watershed, which includes lands owned by Shee Atiká, Sealaska, and the Forest Service. Similar to the Katlian Bay–Frontal Sitka Sound watershed, there are no developed facilities within this area except unmaintained Forest Service logging roads and portions of the area were previously harvested. Forest Service timber harvesting in the early 1960s resulted in the removal of about 120 million board feet of timber from about 3,270 acres in lower Katlian valley (Sitka Tribe and Forest Service 2003). The Proposed Action is within the Katlian River watershed for 1.1 miles.

1.7 Regulatory and Management Framework

State of Alaska lands are managed under the Alaska Department of Natural Resources (DNR) Northern Southeast Area Plan (DNR 2015b). The Northern Southeast Area Plan designates areas located along Halibut Point Road close to the Proposed Action as Public Facilities-Retain and/or Public Recreation and Tourism-Undeveloped. The retain classification is defined as sites that are reserved for a specific infrastructure to serve State interests; the undeveloped classification is defined as areas that offer or have a high potential for dispersed recreation or tourism and where desirable recreation conditions are scattered or widespread rather than localized.




Shee Atiká surface estate lands are owned by Shee Atiká, Incorporated, which is an urban corporation organized pursuant to the Alaska Native Claims Settlement Act (ANSCA), as amended. Sealaska Corporation, also organized under ANSCA, owns subsurface rights below Shee Atiká lands. The shareholders of both Shee Atiká and Sealaska are primarily Alaska Natives. Shee Atiká's lands at Katlian Bay are subject to two Bureau of Land Management road easements in land patents to Shee Atiká. The Forest Service is responsible for maintenance relative to these road easements.

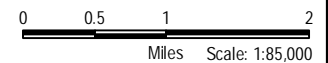
NFS lands are located within the Sitka Ranger District of the Tongass National Forest. These lands are governed by the standards and guidelines of the Tongass Land and Resource Management Plan (known as the Forest Plan) (Forest Service 2008). For the Katlian Bay area, there is no local Forest Service recreation management plan beyond the Motor Vehicle Use Map (Forest Service 2016; A. Lapalme, pers. comm., Forest Service Sitka Ranger District, Recreation, Lands, Minerals, and Special Uses staff). The Forest Service land crossed by the Proposed Action has a land use designation (LUD) of Semi-Remote Recreation. However, LUDs have management prescriptions specific to each LUD. The transportation ROW, where the road would be located on NFS lands, is also in a Forest Plan transportation and utility system LUD. The location where the Proposed Action would terminate is within Shee Atiká lands and adjacent to NFS lands with an LUD of Timber Management. The land allocated for the Katlian Bay Road was through a Federal-State land exchange that included a transportation and utility easement for the Katlian Bay Road project corridor (PL-109-59; SAFETEA-LU Section 4407, D-1 Easement). In 2010, the Forest Service issued documentation of the specific road easement for the project area that authorizes planning, environmental activities, and certain engineering activities so the State of Alaska can properly locate the road centerline in an environmentally responsible manner (Forest Service et al. 2010). State and Federal environmental permitting processes would then determine the exact road centerline position. Once the road centerline is located (after the State receives all necessary State and Federal permits for construction), the Forest Service transfers the easement documentation depicting the centerline and ROW boundaries (Forest Service et al. 2010).



KATLIAN BAY ROAD CONSTRUCTION
FIGURE 1-5
Watersheds Crossed by Katlian Bay Road

-  LTF Site
-  Mountain Peak
-  Public Road
-  National Forest System Road
-  Day Use Area
-  Alignment
-  OHV Trail
-  Access Road Revision

-  Tongass National Forest
-  Shee Atiká Corporation
-  Hydrologic Unit Code 12 Watershed Boundary



Reference:
 Alaska State
 Geo-Spatial Data Clearinghouse
www.asgdc.state.ak.us

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1.8 Direction

As the Proposed Action is a State of Alaska–funded transportation project, DOT&PF complies with its Environmental Procedures Manual (DOT&PF 2015), as well as applicable environmental State and Federal regulations, policies, and procedures. Preparation of this ED follows these DOT&PF guidelines.

1.9 Decision Framework

The DOT&PF is the responsible agency for this project. Based on funding, project costs, engineering constraints, and the environmental analysis conducted for this project, the DOT&PF Commissioner or Regional Director, as appropriate, will decide whether further transportation funding, as allocated for this project, will continue to be committed for Katlian Bay Road construction and operations.

1.10 Public Involvement

Public and agency coordination for the Proposed Action occurred from March 5 to April 3, 2015 and was initiated with a public notice published on March 4, 2015 in the Daily Sitka Sentinel. The public notice invited the public to comment on the project and attend an open house held on March 18, 2015 in the Harrigan Centennial Hall, Sitka. An agency meeting was also held at DOT&PF’s Southcoast regional office in Juneau on March 17, 2015.

A DOT&PF project website was established to obtain public comments and provide project information (http://dot.alaska.gov/sereg/projects/sitka_katlianbayroad/project_docs.shtml). Letters from DOT&PF requesting comment were also sent to affected tribes and to State and Federal agencies for comments. Comments were received from individuals and agencies as shown in Appendix A, Public and Agency Comments. Primary issues identified include project justification, project funding availability, future road maintenance costs, environmental consequences, and potential beneficial and detrimental resource effects from increased road access. Refer to Chapter 7, Comments and Coordination, and Appendix A, Public and Agency Comments, for detailed information received from the public and agencies about the project during the public comment period.

2.0 ALTERNATIVES

Two alternatives are evaluated in this ED: the Proposed Action and the No Action Alternative. Other alternatives, also described in this chapter, were initially considered but dismissed from further evaluation because those alternatives did not meet the purpose and need or had greater environmental impacts compared to the Proposed Action.

2.1 Proposed Action

The Proposed Action was developed based on DOT&PF Highway Preconstruction Manual design standards (DOT&PF 2013) and appropriate American Association of State Highway and Transportation Officials guidelines and standards for rural highways.

The Proposed Action would result in construction of a new low-volume rural road that would begin at the northern end of Halibut Point Road (near Starrigavan Recreation Area), extend east along the south shoreline of Katlian Bay, cross the Katlian River, and terminate about 2 miles east of the Katlian Bay estuary. The alignment includes an OHV trail connection on Shee Atiká lands from the day use area to the existing Forest Service OHV road located on NFS lands, as well as on NFS Road No. 75797 going east to Katlian Bay up to the Coxe River crossing. Intended permanent use, although winter maintenance is not planned.

The project components include:

- 8.8 miles of new single-lane, aggregate-surface road that includes rehabilitation of a segment of an existing road (NFS Road No. 75797) located on Shee Atiká lands for standard vehicle access to the day use area,
- a 12-foot travel lane with 2-foot shoulders and varied roadway clearing limits, depending on specific site conditions,
- a day use area with a turnaround, trailhead parking, and picnic area with a fire ring,
- 248 corrugated aluminum pipe (CAP) culverts ranging in diameter from 2 to 12 feet.
- 5 Structural Pipe Arches (SPA) culverts with spans ranging from 6 feet to 26 feet.
- 12 Structural Plate Pipe Arch (SPPA) culverts with spans ranging from 6 feet 8 inches to 19 feet 6 inches.
- 2 bridges consisting of pre-engineered structures with spans of approximately 150 and 120 feet and one log stringer bridger with a span of 66 feet.
- design life expectancy of 20 years for roads and 75 years for bridges before rehabilitation or reconstruction would be necessary,
- guard rails and other safety features where needed,
- waste areas that would include organic material, soils, and rock,
- average daily traffic of less than 50 cars,
- design speed of 25 mph,
- approximately 100 intervisible road turnouts, and

- several overlook pull outs.

The Proposed Action would also include rehabilitation of 0.6 mile of NFS Road No. 75797, located on Shee Atiká lands, for OHV access so that recreation access is provided directly to an existing OHV trail (NFS Trail No. 3175797) on NFS lands.

Temporary construction access would be obtained through use of the Katlian Bay LTF in Katlian Bay, use of NFS Road Nos. 7579 and 75797, and construction of a log stringer bridge over the Coxe River. The new temporary crossing would be located on Shee Atiká lands and outside of the existing road easement for NFS Road No. 7579. The easements relative to NFS Road Nos. 7579 and 75797 would not be relocated. Currently, at the Coxe River, there is a failed damaged bridge and resulting redirection of an existing stream along the road that includes fish, which prevents vehicular use. This is the reason why a new bridge is to be constructed over the Coxe River, which would protect aquatic habitat. As a result of the existing failed bridge and stream flowing across the NFS Road 7579, public use of this road is restricted at the Coxe River crossing.

Other temporary road construction plans would include:

- rehabilitation of the LTF site in Katlian Bay
- staging areas
- a floating construction camp in Katlian Bay (based on contractor preferences)
- rehabilitation of existing roads for construction access, and
- blasting along rock areas crossed by the road.

For the purposes of this ED, impact areas were evaluated from a conservative perspective and could decrease based on detailed design plans. Thus, impacts may be further reduced as project design continues and DOT&PF evaluates comments and incorporates suggestions from the public and agencies.

To mitigate for the unavoidable loss of wetlands and other waters of the United States, a Collection Agreement would be developed with the Forest Service for permittee responsible compensatory mitigation within the Katlian, Nakwasina, and Stargavin drainage basins.

2.2 No Action

The No Action Alternative evaluated in this ED consists of no road beginning at the end of Halibut Point Road and extending north and east through to the Katlian River watershed and crossing State, NFS, and Shee Atiká lands. There would be no OHV connection to the existing NFS Trail No. 3175797. There would be no land vehicle access to the reserved road easements upon Shee Atiká lands, instead only boat entry from Katlian Bay would provide access.

2.3 Alternatives Eliminated from Detailed Consideration

Three alternatives, other than the Proposed Action, were originally considered for providing road access to a Forest Service trail within the Katlian River watershed, including a marine alternative that was dropped from further consideration early in the analysis. This marine alternative was to begin at the western end of NFS Road No. 7579 near the existing LTF and consist of rehabilitation of NFS Road No. 7579 beginning at the LTF and traversing eastward to its junction with NFS Road No. 75797, a distance

of about 2.5 miles (Appendix B, Project Alternatives). The marine alternative road would be accessed by the public via private boats or ferry service at the LTF. This marine alternative would require private or commercial funding for the LTF to be upgraded and for development of transport facilities (such as a ferry), from Sitka to Katlian Bay. State funding for the Katlian Bay Road is insufficient for a ferry service or for an upgraded dock to support the ferry and private boats. In addition, because access to the area could only be by boat, the marine alternative would not meet the project purpose, which is to provide passenger vehicle access to Forest Service trails for recreational, subsistence and materials development opportunities. The marine alternative was thus removed from further consideration.

Two other road alternatives were eliminated from detailed consideration later in the analysis process and following 2014 field surveys. These road alternatives were titled Original Route and Option 1 and are shown in Appendix B, Project Alternatives, which includes a summary impacts table for these alternatives. Both eliminated alternatives would provide motorized access to the Forest Service OHV trail and would cross State of Alaska–owned lands, NFS, and Shee Atiká lands. The eliminated alternatives vary primarily in the Katlian valley and approaches to cross the Katlian River.

The Original Route would cross the Katlian River near the Katlian Bay estuary and traverse north to parallel NFS Road No. 7579. The route would then traverse west to meet with NFS Road No. 75797 and terminate at a day use area along NFS Road No. 75797. This route was designated by DOT&PF in its initial 2014 request for proposals package. The primary reason this alternative was removed from further evaluation is that it is very close to the Katlian Bay estuary and would have resulted in substantial impacts and disturbance to aquatic and wildlife habitat within the estuary.

The Option 1 alternative alignment would be located south and east of the Original Route and would cross the Katlian River further inland than the Original Route (Appendix B, Project Alternatives). Similar to the Original Route, Option 1 would meet up with NFS Road No. 75797. This alternative alignment would move the road further from Katlian Bay but would require a wider crossing of the Katlian River and result in increased wetland impacts compared with the Proposed Action. Moreover, the Katlian Bay River bridge crossing associated with this route would require complex foundations and a multi-span bridge structure, both of which would have resulted in additional costs and engineering and construction challenges. Thus, this alternative was removed from further evaluation.

The Proposed Action was selected as the preferred route because it is further from the Katlian Bay estuary (important wildlife and aquatic habitat) and avoids more wetlands along the valley floor in comparison with the alternative routes. The Katlian River crossing for the Proposed Action is the most favorable of the three crossing options in terms of span length, crossing foundations, and long-term crossing stability. In comparison with the other alternatives, the Katlian River crossing for the Proposed Action is located outside of the Katlian River delta, which comprises high value wetlands in the tidal influence. In addition, crossings of other major streams in the Katlian valley under the Proposed Action are located outside the zone of tidal influence and primarily at locations with favorable foundation conditions in comparison with the other eliminated road alternatives. Finally, borrow sources for road materials are more abundant along the Proposed Action route. Considering shorter crossing lengths; avoidance of steep areas, wetlands, and important wildlife and aquatic habitat; and long-term maintenance costs, the Proposed Action would result in lower costs compared with the Original Route and Option 1.

2.4 Avoidance, Minimization, and Compensatory Mitigation Measures

During project development, DOT&PF incorporated measures into the Proposed Action to avoid and minimize impacts to natural resources within the project area. Following is a summary of these measures.

2.4.1 Avoidance

Development of the Proposed Action included designing the alignment to avoid sensitive natural resources including geologic and soil hazards, wetlands, steep areas, wildlife habitat, marine estuaries, and views of the road from existing campgrounds and recreational areas. Detailed information on how the project avoided impacts to sensitive resources are explained in greater detail in Chapter 3, Affected Environment and Environmental Consequences, by resource.

2.4.2 Minimization

Minimization measures included selecting stream crossings to minimize the crossing width and wetland areas that would be impacted. Detailed information on how the project avoided impacts to sensitive resources are explained in greater detail in Chapter 3, Affected Environment and Environmental Consequences, by resource.

2.4.3 Mitigation

Mitigation would include measures to ensure that the project would be in compliance with State and Federal regulations and guidelines for specific resources, especially the Clean Water Act, Endangered Species Act, and Alaska statutes. Detailed mitigation measures were developed for construction since this activity (compared to road maintenance and operations) has the greatest potential to impact natural resources, although temporary in nature. Mitigation also includes beneficial effects such as developing viewpoints and a day use area for public enjoyment on the road alignment and habitat enhancement at four sites. Mitigation associated with construction impacts is described in detail under Chapter 4, Summary of Construction Impacts and Mitigation, while mitigation associated with road operation is described in detail in Chapter 5, Summary of Post-construction Mitigation.

3.0 **AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

This chapter summarizes (1) the relevant existing environmental resources potentially affected by the Proposed Action; (2) the anticipated beneficial and adverse environmental, social, and economical effects; and (3) the measures proposed to mitigate adverse impacts to reduce effects on the environment. Impacts include direct, indirect, and secondary effects along with construction and operation effects. A comparison of the Proposed Action and No Action Alternative is provided by resource. For some resource areas, more detailed descriptions of information presented herein can be found in ED appendices.

3.1 **Geology and Soils**

The analysis area for geology and soils includes the project area and surrounding geologic hazards.

3.1.1 **Affected Environment**

Geologic Formations. Bedrock in the vicinity of the project area was mapped by Gehrels and Berg (1992, 2006) as a mélangé composed of metamorphosed marine sedimentary and volcanic rocks. Field observations in 2014 indicated that the majority of the exposed rock within the project area was composed of slightly metamorphosed (sub-greenschist facies) intermediate to mafic intrusive and extrusive igneous rocks. Slightly metamorphosed sedimentary rock was observed at scattered locations within the project area and appeared to be a minor rock type with limited occurrence. Occurrences of meta-sedimentary rock include a large outcrop area above Mosquito Cove and at the south abutment of the proposed Katlian River Bridge.

The existing landscape is primarily a result of ice erosion during the late Pleistocene Wisconsin glaciation that covered much of Southeast Alaska. The maximum elevation of the glacial ice surface on western Baranof Island is estimated at approximately 3,000 feet above current sea level (Coulter et al. 1965). This elevation is consistent with ice trim line features (arête base, cirque basin head) that can be observed in the uplands east of the Sitka area. Approximately 20,000 years ago during glacial maximum, individual ice flows coalesced into a major ice stream that followed the current course of the Katlian River and fjord that connects Starrigavan and Katlian Bays. Deglaciation had left the Sitka area ice-free by about 14,000 years ago, and glacial outwash and alluvial deposits of the Katlian River subsequently filled the upstream end of this fjord, forming the existing Katlian River valley.

The onset of late Pleistocene activity of the Mount Edgecumbe volcano (located on Kruzof Island, which is the largest island west of Katlian Bay) occurred approximately 12,000 years ago, and stratigraphic evidence indicates that the Sitka region was ice-free by this time. The most recent volcanic activity on Kruzof Island was minor ash eruptions occurring 5,000 to 6,000 years ago.

Surficial Geology. During the Holocene, mass wasting and alluvial processes modified the glaciated terrain to form the existing landscape. In the upland area, downslope soil movement (either through slow creep or rapid landsliding) has resulted in characteristically steep slopes with a thin soil cover over bedrock. The Katlian River valley was formed after ice retreat by rapid filling of a deep, glacially-scoured fjord. Alluvial fans are typically observed at the base of steep stream courses as they reach the Katlian valley floor or open water. A number of possible Holocene cirque basins occur in the uplands

above the preferred alignment and may have contributed to the deep incision of the drainages in the northern part of the area.

Soil Conditions and Material Sites. The metamorphic bedrock underlying the uplands is generally competent rock that can be developed as a material source for road construction and maintenance. In the lowlands, the area is underlain by unconsolidated late Quaternary sediments that likely include glacial till and outwash, alluvial sands and gravels, and soft clay and organic soils. The alluvial sand and gravel soils are available as borrow sources for large fills. Additionally, a number of small bedrock ridges rising from the valley floor near the proposed alignment have the potential to be developed as a material source for road construction and maintenance.

Paleontological Resources. Geologic mapping and literature review indicates the majority of bedrock exposed at the site is igneous rock that has been slightly metamorphosed. The likelihood of paleontological resources in these igneous rock formations is very low to nonexistent. A meta-sedimentary rock formation was observed in outcrops above Mosquito Cove and at the south abutment of the proposed Katlian River Bridge, and other meta-sedimentary rocks likely are present in the project area. Because of the higher grade of metamorphism, the likelihood of paleontological resources in these outcrops is considered very low.

Karst Formations. Karst formations are characterized by voids within bedrock and typically occur where acidic groundwater dissolves the calcium carbonate that composes the limestone. There is no report of limestone as a component of the sedimentary rock formations mapped on or near the project site. Therefore, the likelihood of encountering karst formations beneath the site is very low to nonexistent. Karst was also not identified by Weary and Doctor (2014) as occurring in mid to lower Baranof Island.

Geologic Hazards. In the upland area of the alignment, geologic hazards include shallow landslides and debris flows developed on the steep slopes, rock slope failures including rock slides and falls, and channelized debris flows (debris torrents) within stream drainages flowing across this terrain. Large landslides have occurred in the vicinity of the project in the fall of 2014 and summer of 2015. Areas of soft, wet clayey or organic soils with low bearing strength occur in the Katlian valley. Earthquake-induced liquefaction can be anticipated in the loose, sandy soils of the Katlian valley.

3.1.2 Environmental Consequences

3.1.2.1 Proposed Action

The Proposed Action begins on the northern side of Starrigavan Creek and immediately climbs into an area of ridges and incised drainages separating Starrigavan and Katlian Bays. Near the head of Katlian Bay, the proposed alignment drops from these uplands and enters the Katlian River valley (lowlands).

Geologic benefits include extensive bedrock that was observed in outcrops and inferred to underlie major portions of the alignment at shallow depths. The bedrock would likely be adequate for support of foundation loads and for road surfacing and would be primarily supplied from rock cuts made during construction. Where excavations are required in lowland areas, alluvial sand and gravel borrow material may be available for use as structural fill.

Potential geologic hazards that could impact construction or use of the road include:

- **Unstable soil slopes.** Steep slopes having the potential for landsliding, which includes soil slips on shallow bedrock and deep-seated soil failures. Under certain conditions (very steep slopes and saturated soil) these initial failures may expand to become debris flows extending far downslope from the original failure.
- **Unstable rock slopes.** Steep slopes that may be subject to rock slides and rock falls, either as a natural condition or as the result of construction activity.
- **Debris torrents.** Debris flows that initiate on the banks of steep stream and can both expand in volume and move quickly down channel.
- **Soft soil.** Soft, wet clay or peat soils located on level ground that have very low bearing capacity to road and traffic loads.
- **Liquefaction.** Rapid loss of soil strength and bearing capacity in loose, saturated sand and gravel in response to strong and prolonged shaking during an earthquake.

3.1.2.2 No Action

The existing geologic and soil hazards would continue to occur naturally due to weathering and natural changes.

3.1.3 Avoidance, Minimization, Mitigation, and Authorizations

During the initial field reconnaissance, the Proposed Action was aligned to avoid geologic hazards. If not avoided, these hazards were evaluated to develop protective measures for traffic safety. These measures include implementing geologic design requirements based on DOT&PF Alaska Highway Preconstruction Manual, which includes requirements for retaining wall design, drainage, erosion and sediment control plans, and specific requirements for designing road cross sections. In addition, best management practices (BMPs) that provide for road stability would be implemented (DEC 2011).

Geologic hazard areas within the vicinity of the project area were identified and mapped (Appendix I). Mitigation of unstable soil slopes would be accomplished by constructing the alignment to minimize soil cut slope height, adjusting the cut slope angle, removing and replacing unsuitable natural soils, providing good drainage for extreme weather events, and providing structural support such as rock buttresses or retaining walls. The use of sliver fills would be avoided in road construction.

Major rock cuts and upland bridge foundations were investigated by geotechnical drilling and targeted field mapping of rock mass conditions. These investigations would be used to design stable rock slopes using standard geotechnical analyses. Rock excavation would involve slope scaling followed by systematic benching, drilling, and blasting. Rock blasting would be planned and executed to avoid excessive over-break and damage to the rock mass. Loose boulders would be scaled from the blasted slope, and rock bolts or dowels may be utilized if necessary to stabilize rock cuts. Wire mesh netting may be hung on rock slopes to mitigate long-term rock fall hazards.

Mitigation of debris torrent hazards would be accomplished by spanning stream channels with bridges or large open-bottom arches or using oversize culverts. Road construction across areas of soft soils may include stripping/removing all or a portion of the upper soft soils, mechanical stabilization of the subgrade with corduroy, geogrids or geotextile, surcharging/preloading the site, using lightweight fill, compaction grouting/densification, or other methods.

Liquefaction hazards are restricted to the part of the alignment that crosses the alluvial plain of the Katlian River valley. Subsurface soil conditions at the South Katlian and Katlian River bridge crossings were investigated by geotechnical drilling. Core sample results are being used to design a pile-supported or geosynthetic reinforced soil abutment for bridge foundations to avoid lateral and vertical movement associated with liquefaction.

For roadway embankments, the geotechnical designer would assess the degree of potential liquefaction-induced settlement or lateral movement associated with embankments constructed on these sensitive soils. Depending on the degree of severity, this may be mitigated by such measures as partial over-excavation and backfill with compacted structural fill, ground stabilization, or ground improvement. Where liquefaction-induced settlements are expected to be minor, it is not typically cost-effective to stabilize roadway embankments against liquefaction-induced settlement. Instead, provisions are made to maintain and repair the roadway should settlement occur.

3.2 Air Quality

The analysis area for air quality is the project area and adjacent areas that may have a change in air quality due to the Proposed Action.

3.2.1 Affected Environment

The project is located outside of a nonattainment area, which means air pollution levels for airborne concentrations of criteria pollutants do not exceed the National Ambient Air Quality Standards (U.S. Environmental Protection Agency [EPA] 2015a) and the area has acceptable air quality conditions.

3.2.2 Environmental Consequences

3.2.2.1 Proposed Action

Air quality impacts associated with construction would be localized, short-term, and occur during construction only. These impacts would occur from diesel-powered construction equipment emissions and potential dust from embankment construction, road use, and staging/stockpile areas. The Proposed Action and associated staging and stockpiling areas are not located near developed residential areas.

Hauling of construction material would occur within the road alignment or on public roadways. Ground-disturbing activities, such as vegetation removal, excavation, grading, and fill placement may temporarily generate fugitive dust. Small amounts of dust may be generated during routine operations. Potential air quality impacts under the Proposed Action would be predicted to be negligible (during routine operations) to minor (during construction).

An increase in EPA emission criteria pollutants and long-term impacts under the Proposed Action from dust and vehicle emissions would occur from increased recreational use and vehicle and truck traffic on the Katlian Bay Road. However, this increase would be minor and within acceptable air quality standards. Thus, the Proposed Action would not exacerbate air quality from that which occurs under existing conditions.

3.2.2.2 No Action

No changes to air quality are anticipated as a result of the No Action Alternative.

3.2.3 Avoidance, Minimization, Mitigation, and Authorizations

During construction, airborne particles would be minimized as needed by application of water for dust suppression in accordance with established BMPs (DEC 2011). Where feasible, construction equipment would be selected that would meet the applicable emissions standards and guidelines.

3.3 Noise

The noise analysis area is the project area plus adjacent areas where Proposed Action construction noise could be heard by residents, fish, and wildlife.

3.3.1 Affected Environment

Background ambient noise levels within the first half mile of the Proposed Action are higher compared with the rest of the project area due to the presence of residents, private industry, people, businesses, and the Starrigavan Recreation Area. Noise levels have not been measured within the project area; however, the area is generally quiet and likely does not exceed typical noise activity limits for recreation areas of 67 dBA (A-weighted decibels—an expression of the relative loudness of sounds in air as perceived by the human ear and used for developing noise standards). The exception may be a shooting range near the end of Halibut Point Road. Gun shots are typically at 165 dBA. Existing noise levels outside of MP 0 are minimal due to the remote character of the area. Occasional noise in the area is from boat motors in Katlian Bay, overhead flights, OHV use, and some gun shots from seasonal game hunting.

3.3.2 Environmental Consequences

3.3.2.1 Proposed Action

DOT&PF follows noise guidance under its noise policy (DOT&PF 2011), which provides criteria for evaluating noise impacts. Generally, undeveloped lands have no mandated noise abatement criteria. The noise impacts associated with the Proposed Action would be considered localized, short-term, and limited to the construction period. Increased noise would occur to residents and tourists near the end of Halibut Point Road and/or who use the Starrigavan Recreation Area, as well as to wildlife and fish within the project area.

Loud noise would also occur from blasting activities on land, which is needed to break down rock for road construction, to place guard rails, and to construct bridge foundations (either piles or geosynthetic reinforced soil abutments may be used for bridge foundations). Blasting noise is typically around 94 dBA but could be up to a maximum of 130 dBA and would occur at specific locations along the route. Blasting noise could affect people at the beginning of the project, and blasting could affect nesting Bald Eagles as well as fish and marine mammals present in Katlian Bay, particularly the humpback whale (a protected species under the Endangered Species Act and Marine Mammal Protection Act), which occur year-round in Alaska (DEC 2013a). The closest blasting noise to people would occur at the beginning of the project area where blasting noise within 0.3 miles could be heard.

Following construction, noise would be limited to road use with predicted noise impacts and would be considered negligible to minor during long-term routine operations because of limited use anticipated for the road (less than 50 cars or trucks per day). While there is no data to characterize the existing noise levels, the low traffic volumes along the project corridor are not expected to exceed the regulated threshold sound level decibels for residences and recreational areas (67 dBA).

3.3.2.2 No Action

No changes in the noise level along the project corridor would occur from the No Action Alternative.

3.3.3 Avoidance, Minimization, Mitigation, and Authorizations

DOT&PF provides criteria for evaluating noise impacts (2011). Generally, undeveloped lands have no mandated noise abatement criteria. However, recreation areas (such as the Starrigavan Recreation Area) have a maximum limit of 67 dBA. DOT&PF follows these criteria and does not provide abatement for undeveloped lands (DOT&PF 2011), but noise abatement would apply for the alignment located nearest the Starrigavan Recreation Area where noise would likely occur during construction.

Construction traffic noise impact minimization measures during construction would include the following:

- Adhering to work-hour limits for blasting activities.
- To avoid causing harm to or harassment of animals, fish, and marine mammals during blasting activities on land along the south shore of Katlian Bay and elsewhere on the road alignment, DOT&PF would consult with ADF&G (2013), NMFS (2008), and USFWS in accordance with applicable regulations, and would implement appropriate conservation measures as recommended by the agencies.
- Adhering to equipment muffler requirements.
- Locating stationary construction equipment as far from nearby noise-sensitive receivers to the extent practicable.
- Shutting off idling equipment.
- Limiting construction activities during weekends and holidays.

Blasting noise impacts to fish would occur outside of times sensitive to salmon presence. Pile driving and associated noise may occur to establish bridge foundations. DOT&PF (2011) does not have specific noise policies related to blasting; however, since blasting would be limited to the construction period, be short term in duration, and have noise levels lower than gun shots from the nearby shooting range, no additional mitigation other than following ADF&G, USFWS and NMFS recommendations is planned.

3.4 Hazardous Waste

The analysis area for hazardous waste is the same as the project area.

3.4.1 Affected Environment

The DEC database of known or potential hazardous sites was researched for existing known hazardous and/or contaminated waste areas (DEC 2013b). No potentially contaminated sites were identified within the project area.

3.4.2 Environmental Consequences

3.4.2.1 Proposed Action

The Proposed Action would not impact any suspected or known hazardous material sites. Accidental release of hazardous substances is possible during construction.

3.4.2.2 No Action

The No Action Alternative would not impact any suspected or known hazardous material sites.

3.4.3 Avoidance, Minimization, Mitigation, and Authorizations

The contractor would be required to develop a Hazardous Materials Control Plan to address contamination, cleanup, and disposal of all construction-related petroleum products and other hazardous substances. Wastes generated during construction would be properly handled, contained, and disposed of at a permitted disposal facility in accordance with State and Federal laws.

Should contamination be discovered within the project area, DOT&PF would stop work at the discovery location, identify the nature of the contamination, and coordinate with the appropriate State and Federal agencies (DEC and EPA).

3.5 Water Resources

The analysis area for water resources includes surface and ground water that is within the vicinity of the project area and could be affected by the Proposed Action.

3.5.1 Affected Environment

This section describes existing conditions for surface water, water quality, navigable rivers, and floodplains.

3.5.1.1 *Surface Water and Water Quality*

The project area is characterized by high rainfall, steep topography, and small proportion of valley bottom area relative to higher slopes. The western portion of the project area (about 6 miles) includes steep terrain with three stream crossings over deep gorges and otherwise mostly hillside drainage. The eastern portion of the project area (about 3 miles of the total 9-mile road length) includes relatively flat, alluvial terrain with three major rivers—Katlian River, Sukka Héen River, and South Katlian River (Figure 3-1).

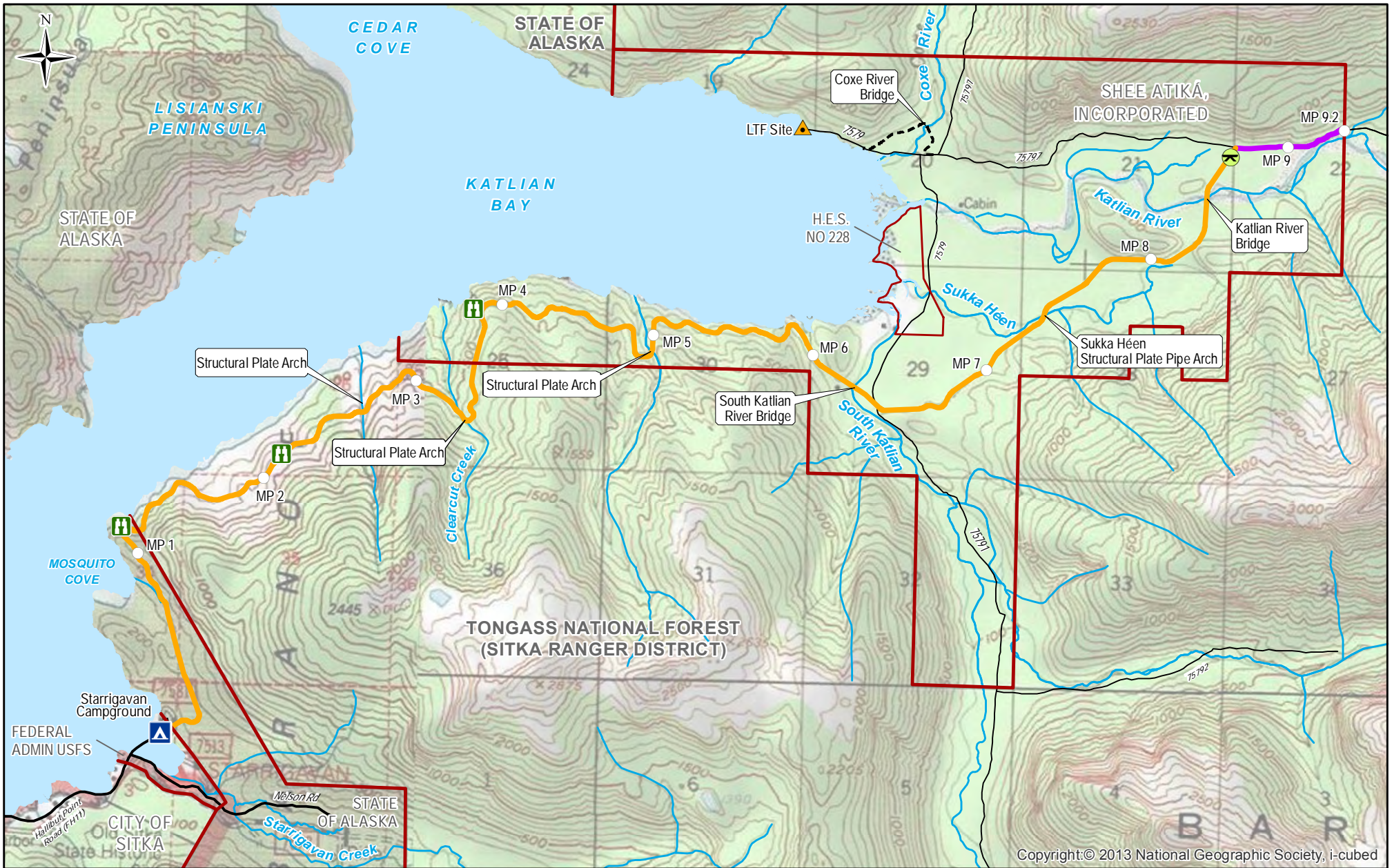
Steep terrain and high rainfall combine to create large flood events and occasional debris flows that introduce mass to Katlian Bay or to down-slope valley terrain where debris is conveyed more slowly. Natural flood events alter valley-bottom river channels and carry large sediment loads that eventually settle out in river floodplains, establishing new gravel bars where rivers turn and speed is reduced. Stream channels in the steep terrain are typically constrained by bedrock. Logging within the Katlian River watershed occurred primarily in the valley bottoms east of Katlian Bay using clear-cut prescriptions without stream buffers. Large conifer trees were removed along most of the lower reaches of the Katlian River and other tributaries in the lower valley area. About half of the valley bottom trees were harvested, depleting future sources of large woody debris needed for the main river channels (Sitka Tribe and Forest Service 2003).

The previous Forest Service logging activity increased sediment loading to the Katlian River and led to its current listing for sediment/turbidity (DEC 2013c). Thus, the lower 4.5 miles of the Katlian River are listed as impaired for sediment and turbidity on the State of Alaska's Clean Water Act Section 303(d) Listed Water Quality-Limited Water Bodies (DEC 2011). However, during field studies in 2014, water quality appeared clear during field reconnaissance, although there was a slight milky appearance from its partially glacial sources. Otherwise, the small tributary streams in the project area originate in undeveloped alpine areas and are clear and low in dissolved solids. The Forest Service is further investigating whether water quality continues to be impaired.

The Proposed Action would include crossings of streams and rivers. Although most stream crossings would consist of culverts, some bridge crossings are needed as described below (Figure 3-1).

- **South Katlian Bridge** would cross South Katlian River near MP 6.24. The bridge would be 120 feet long by 16 feet wide on a bedrock/gravel foundation. The bottom-of-beam height above the base flood elevation would be 5 feet. This drainage area is the second largest (12.81 square miles), is fairly flat (0.33 percent), and is upstream of tidal influence at an elevation of approximately 12 feet. Previous large debris flows occurred on both sides of the basin, with the most recent in November 2014. The channel bed is stable and unmoving due to large existing bedrock outcroppings. The watershed has only slight glaciation.
- **Katlian River Bridge** would cross Katlian River near MP 8.49. The single-span bridge would be 150 feet long by 16 feet wide on a bedrock/gravel foundation. The height above the base flood elevation would be 5 feet. This drainage area is the largest of the crossings (37.66 square miles) and is typified by a series of braided channels and one low gradient channel (0.39 percent). This crossing would be upstream of tidal influence at an elevation of approximately 50 feet. Bedrock on both sides of the river appears to confine the channel at the proposed crossing location and the channel appears stable and unmoving. Large debris flows have occurred on both sides of the basin in the past. This river is glacier-fed from multiple glaciers in the uppermost reaches of the basin. As a result, the single-span bridge planned for this crossing is intended to allow for debris passage.

In addition, temporary construction access would require a new bridge crossing of the Coxe River. The Coxe River Bridge is anticipated to include placement of a previously constructed 100-foot-long steel I-Beam bridge for the 70-foot span crossing owned by Shee Atiká. The bridge placement would meet the required conveyance of the 500-year flood event and have at least 3 feet of freeboard from the bottom-of-beam to the 500-year event elevation. The new temporary bridge over the Coxe River would not be a permanent component of Road No. 7579, and is not intended to provide vehicular public access although pedestrian access would be permitted.

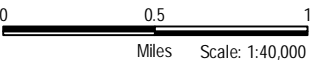


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KATLIAN BAY ROAD CONSTRUCTION
FIGURE 3-1 Bridges and Major Crossings for the Proposed Action

- LTF Site
- Public Road
- National Forest System Road
- Stream
- Ownership Boundary
- Viewpoint
- Day Use Area
- Milepost
- Alignment
- OHV Trail
- Access Road Revision



Reference:
 Alaska State Geo-Spatial
 Data Clearinghouse
www.asgdc.state.ak.us

DRAWN BY: WRS CHECKED BY: PG

3.5.1.2 *Navigable Water*

Although the U.S. Army Corps of Engineers (USACE) does not identify navigable waters within the project area (USACE 2015), DNR previously identified both the Katlian River and Coxe River as navigable (DNR 2015a). However, in spring of 2016, DNR conducted a more thorough review of both rivers and concluded that navigability is un-determined for both rivers at this time (Steinburger [Alaska DNR] personal conversation). No rivers in the project area are mapped as navigable waters of the United States by the U.S. Coast Guard (USCG) District 17 (USCG 2012), although omission from this list does not mean a waterway is not navigable. Current uses of the Katlian River and Coxe River in the project area include recreation/tourism, fishing, and ADF&G research. No commercial navigation is known. Small boats are used for fishing, hunting, subsistence, research, and other recreational uses. It should be noted that the Coxe, Katlian, Sukka Héén, and South Katlian Rivers have large quantities of debris that obstruct most small boat navigation.

3.5.1.3 *Flood Areas*

Special Flood Hazard Areas. Two rivers in the project area—South Katlian River and Katlian River—are mapped as special flood hazard areas where road crossings are proposed, and Sukka Héén River is mapped as a special flood hazard area downstream of where a road crossing is proposed (Federal Emergency Management Agency [FEMA] 2010). These rivers have associated floodplains that convey high flows in multiple side channels. Special flood hazard areas are areas that are mapped by FEMA as being inundated by the 1-percent annual exceedance probability (100-year) flood. These streams are mapped as Zone A, allowing for up to a 1-foot rise in the backwater of a proposed crossing.

Floodplains. CBS participates in the National Flood Insurance Program and manages floodplain development in accordance with the Flood Insurance Study and map panels on file with the CBS administrative office (which are also available online from FEMA) (FEMA 2010), covering the entire project area. The proposed Katlian Bay Road would be outside the FEMA regulatory floodplain except for the South Katlian and Katlian Rivers (mapped as FEMA Zone A). A FEMA Zone A category means that these rivers are mapped but, based on FEMA information (FEMA 2010), the rivers were not studied in detail, base flood elevations were not determined, and no floodways were mapped.

3.5.2 **Environmental Consequences**

3.5.2.1 *Proposed Action*

Surface Water and Water Quality. The Proposed Action would result in minor changes to hydraulic conditions due to the new road, culverts, and bridges planned under the Proposed Action as described in Table 3-1.

Natural changes in stream and river hydrology can affect sedimentation and stream and river bottoms. With the proposed design of the bridges, arched culvert, and pipe arch, natural debris flows would be expected to pass through the large structure openings.

Road embankment construction would result in placement of fill, which may affect surface water quality during construction. The road surface, consisting of compacted, largely noncohesive sediment, experiences higher runoff than the existing ground, and the exposed sediment would be easily eroded and washed off. Oil and grease that drips from vehicles would be washed off with the sediment. In addition, construction activity near water may cause short-term impacts to surface water quality. State of Alaska BMPs (DEC 2011) would be implemented to avoid these impacts.

Navigable Waters. No rivers in the project area have been determined to be navigable, and thus there would be no impacts to federal or state designated navigable rivers.

Table 3-1: Hydraulic Changes Due to Proposed Action

Proposed Action	Environmental Consequence
Waterfall Arched Culvert Crossing. New open-bottom large culvert would span the OHWM and nearly spans the expected 100-year flood elevation with freeboard to provide additional capacity for debris torrents.	No hydraulic changes would occur. Small sediment changes may occur during construction near the water, but sediments typically shift under normal stream conditions based on weather conditions.
Structural Plate Arch. New structural plate arch would span the expected 100-year flood elevation of Clearcut Creek with over 40 feet of freeboard to provide for debris passage.	Due to the large span and freeboard, no hydraulic changes or construction impacts would occur. Sediments would continue to shift similar to a normal natural condition.
Horseshoe Arch. New structural plate arch would span the expected 100-year flood elevation with over 35 feet of freeboard to provide for debris passage.	Due to the large span and freeboard, no hydraulic changes would occur. Sediments would be shifting as a normal stream channel.
South Katlian Bridge. New bridge would span the expected 100-year flood elevation with over 5 feet of freeboard to provide for debris passage.	Due to the large span and freeboard, no hydraulic changes would occur. Small sediment changes may occur during construction that is near the water, but sediments would be shifting as a normal stream channel.
Sukka Héen Arch. New structural plate arch would span the OHWM of the Sukka Héen River with freeboard above the 100-year flood elevation to provide for debris passage.	Due to the large span and freeboard, no hydraulic changes would occur. The small watershed does not appear to produce large flow rates because of its ground composition that acts like a sponge to moderate discharge to the stream. Small sediment changes may occur during construction near the water, but sediments would be shifting as a normal stream channel.
Katlian River Bridge. New bridge would span the OHWM with 5 feet of freeboard above the 100-year flood elevation to provide for debris passage.	The left (south) bridge abutment would be located so that localized hydraulic changes are limited to a less than 1-foot rise. Small sediment changes may occur during construction near the water on the south side, but sediments would be shifting as a normal stream channel.
Overflow Structures. New culvert structures (size expected to vary) would maintain three known overflow paths in the floodplain on the south (left) side of the river.	The structures would be sized to ensure that localized hydraulic changes would be limited to a less than 1-foot rise. Small sediment changes may occur during construction, but sediments would be shifting as a normal stream channel.
Small Culvert Crossings. New culverts under the proposed road fill would provide drainage from roadside ditches and upslope areas.	No hydraulic changes would be expected because the culverts are planned to be sized and spaced at sufficient frequency to maintain existing drainage patterns.
Coxe River Bridge. A new bridge is needed to replace the dysfunctional existing bridge for construction access activities (bridge is owned by Shee Atiká).	No hydraulic changes would be expected because the bridge would clear span the river with additional freeboard between the bridge and river.

Flood Areas. The Proposed Action would include fill in the special flood hazard area of the Katlian River. Fill would occur in the special flood hazard area of the South Katlian River due to placement of overflow structures and occur within the 100-year floodplain of the Sukka Héen River. Bridge crossings of the South Katlian River, Sukka Héen River, and Katlian River would also include large culverts in the road approach embankments to provide conveyance for secondary flow paths and to maintain local floodplain connectivity.

With the overflow channels, some backwater effects would be expected in the regulatory water surface elevations (FEMA base flood elevations) of the South Katlian River or to the 100-year water surface for the Sukka Héen River. No change or only a small increase (less than 1 foot) would be expected for the Katlian River upstream of the proposed bridge.

3.5.2.2 No Action

Natural weather events would continue to occur to the project area. These events include large debris flows caused by intense weather and periodic rain-on-snow events. The steep topography and existing materials result in the potential for slope instability in the project area. Over time, natural improvements to water quality occurring since the cessation of the 1960s timber harvest are expected to continue. Under the No Action Alternative, there would be no change to navigability or existing uses of the Katlian River beyond those occurring naturally. The No Action Alternative would not result in a change to the flood areas within the project area beyond those occurring naturally.

3.5.3 Avoidance, Minimization, and Mitigation Measures

Impacts to natural stream crossings from the new bridges and the arched culvert would be minimized by avoiding bridge piers and allowing sufficient freeboard for possible extreme weather events and resulting debris flows. These measures would also help avoid water quality impacts in streams. In addition, avoidance of wetlands would be beneficial for avoiding water quality impacts. In-water work would be minimal or none at bridges and arched culvert crossings because the structures' span lengths are long enough so that abutment and foundation construction would occur outside of the OHWM. The exceptions are the Sukka Héen and Waterfall crossings, which would require bedding placement within the existing streams. No effects on groundwater are expected because runoff from the roads would infiltrate through the natural soil surface, so natural filtration would be maintained.

Impacts to recreational boat use on the Katlian River would be avoided or minimized by clear-spanning (without piers) the full width of OHWM and providing freeboard between the OHWM and the low beam of the proposed bridge. All structures shown below would have a minimum of 3 to 5 feet of freeboard (space between the lowest part of the bridge and predicted flood level) unless otherwise indicated. During both construction and operations, the crossings of the Katlian and Coxe Rivers would not result in obstruction or interference of these waterways.

The new bridge placed over the Coxe River would be a clear-span bridge (without piers) over the full height of the OHWM with freeboard between the OHWM and the low beam of the proposed bridge. During construction, there would be no obstruction or interference in the waterway.

The total width of the special flood hazard areas east of Katlian Bay is about 3,700 feet from south of South Katlian River to north of Katlian River. The Proposed Action would avoid over 3,000 feet of this floodplain by aligning the road south and east of the large special flood hazard areas near the eastern

shore of Katlian Bay. The Proposed Action would also avoid the Sukka Héen River special flood hazard areas. The remaining floodplain crossings were determined to be unavoidable because the proposed roadway would need to cross these streams to reach the proposed end point north of the Katlian River.

Floodplain effects would be minimized at all crossings of the three rivers. The proposed South Katlian Bridge would clear-span the mapped special flood hazard area of the South Katlian River to avoid direct effects on that river. The proposed Sukka Héen Steel Plate Pipe Arch would clear-span the 100-year water surface of the Sukka Héen River to avoid direct effects on that river and would cross upstream of the special flood hazard area. The proposed Katlian River Bridge would clear-span the OHWM of the Katlian River and would clear-span that special flood hazard area except for a shallow floodplain on the left (south) where the special flood hazard area is less than 1-foot deep. The proposed road embankments would be sufficiently armored where fill occurs near the proposed bridges to resist movement by flood waters.

Other measures that would be applied to protect water resources include:

- **Water Runoff.** Adequate cross-slope of the constructed road (3 percent) is planned so that runoff would drain laterally and not along the length of the road. This would minimize the flow per width of the road and thus minimize the potential for erosion from the road surface. Ditches would collect storm water runoff for inslope conditions.
- **Erosion and Sediment Control.** An Erosion and Sediment Control Plan would be part of the project plans, specifications, and estimate. The plan would be implemented by the construction contractor and would include provisions for avoiding, minimizing, or mitigating water quality effects during construction, including effects from areas used for active construction, incomplete construction, and material storage. This plan would include use of sediment berms such as rock, check dams, fencing and other surface water control features.
- **Road Cut and Fill.** Road embankment cut and fill slopes would be seeded with native grass to minimize future erosion from these slopes.
- **Road Maintenance.** Road maintenance following construction would continue to minimize rutting, road prism failures, side casting, and blockage of drainage facilities.
- **Rock Check Dams.** Ditches with gradients over 8 percent and ditches in erodible soil would have rock check dams constructed to reduce flow velocities and prevent scour and sediment transport.
- **Waters and Wetlands.** To maintain hydrologic conditions, sections constructed in wetland areas would require special consideration when bedding culverts. Deep sections of peat may require the road to be floated. If necessary, this condition would be addressed during design to account for settlement that may occur as a result of embankment construction.
- **BMPs for Water Resources.** BMPs to protect water resources would be applied following guidance under DEC (2015). Where Forest Service BMPs are more conservative, these BMPs will be applied to NFS lands crossed by the Katlian Bay Road.
- **Weed-free Grass Mixtures.** Where areas would be re-vegetated, weed-free native grass mixtures would be applied.

In accordance with Section 401 of the Clean Water Act and applicable State of Alaska law, a Section 401 Certificate of Reasonable Assurance from DEC is required for project construction and would be issued concurrently with USACE's Section 404 Permit during the final design and permitting phase of the project. Other compliance requirements include preparation of a Stormwater Pollution Prevention Plan, Alaska Pollutant Discharge Elimination System Permit, General Construction Permit, and General Wastewater Permit.

Tidelands below the mean high tide line are State-owned lands. Project-related bridging plans and water withdrawal from fish-bearing waters shall be subject to prior written approval by DNR Division of Mining, Land and Water and ADF&G Division of Habitat, and shall reserve adequate flow to support indigenous aquatic life.

3.6 Fish and Aquatic Habitat

The analysis area can be divided into three distinct sub-areas: the uplands, the lowlands, and the marine area. Uplands occur along the first 6 miles of the road, from the beginning of the project at MP 0.0 to MP 6.0. Within the uplands, the alignment traverses steep terrain and crosses streams where they are above barriers to fish migration. The alignment crosses lowlands from MP 6.0 to the MP 9.2 (the end of the project), which includes several large rivers and their floodplains, side channels, and multiple small tributaries. The lowlands provide almost the entire freshwater fish habitat. Streams associated with the lowlands that have sufficient perennial flow and unrestricted access from the larger rivers are generally assumed to provide habitat for anadromous and resident fish. The marine area includes Katlian Bay and estuary, where a large variety of marine fish species occurs. This area is not part of the proposed roadway footprint but would be used for access to the LTF during construction.

3.6.1 Affected Environment

3.6.1.1 Freshwater Aquatic Habitat

In the uplands, the Proposed Action would cross four streams that support anadromous salmon species in their lower reaches (Figure 3-1). These include 113-44-10148 (unnamed), 113-44-10090 (unnamed), 113-44-10080 (Clearcut Creek), and 113-44-10070 (unnamed) as defined in the Catalog of Anadromous Waters (ADF&G 2015a). However, the road would cross these four streams in high gradient areas, well above major barriers to fish passage. Therefore, the crossing locations in the uplands do not offer habitat for anadromous fish. Although limited patches of potential stream habitat are present in the uplands, these areas are small and isolated by high gradient channels and seasonal flow patterns. Thus, upland stream crossing locations are also unlikely to contain resident fish. Note that the ADF&G map associated with the Catalog of Anadromous Waters (ADF&G 2015a) depicts anadromous fish habitat on Stream 113-44-10070 extending from the mouth upstream beyond where the Horseshoe Bridge would cross; however, field investigations identified multiple significant migration barriers such that the reach through the impact area would not be considered anadromous fish habitat.

In the lowlands, the Proposed Action would affect 12 rivers and streams that provide habitat for migration, spawning, and rearing of anadromous and resident fish. Five of the 12 streams are currently identified by ADF&G as supporting anadromous fish species, including the South Katlian River (113-44-10050), the Sukka Héen (113-44-10040), the Katlian River mainstem (113-44-10030), an unnamed tributary to the Katlian River (113-44-10030-2005), and the Coxe River (113-44-10020) (ADF&G 2015a). Seven of the 12 streams are smaller unnamed streams that are currently uncatalogued but are known to contain anadromous fish based on recent electrofishing surveys by ADF&G (2015b) and field

investigations performed in 2014. The existing condition of freshwater fish habitat in the lowlands was impacted by previous Forest Service logging during the 1960s that changed the old-growth character of the Katlian River valley. Particularly in the Katlian and South Katlian River valleys, the area dominated by large conifers decreased from 2,280 to 462 acres (approximately 80 percent) from 1956 to 2000 (Sitka Tribe and Forest Service 2003). During this same time period, the area covered by red alder increased from 305 to 1,528 acres (501 percent), and the area covered by small conifers increased from 113 to 891 acres (788 percent). Previous logging activities did not leave riparian buffers along the streams, thereby reducing the recruitment of large woody debris into streams and decreasing long-term stability of stream banks and channel form.

Nevertheless, a habitat survey conducted in 2000 found that most lowland streams still met certain fish habitat management objectives as defined by the Forest Service (Sitka Tribe and Forest Service 2003). These Forest Service fish habitat management objectives (Gibbons 1985) included frequency of pools, frequency of in-stream large wood, and bankfull width to depth ratio. Notable exceptions were found in the mainstem of the lower Katlian River where pool frequency was lower and width-to-depth ratio was higher than the range of values normally observed in the Tongass National Forest. These indicators reflect the large sediment load and instability of this channel due to the past harvest. The Sitka Tribe and Forest Service (2003) also observed that the number of large woody debris pieces per mile in most of the surveyed reaches was substantially higher than typically observed in similar streams. This was due to the large number of young red alder that met the criteria for large wood (greater than 4 inches diameter), but which often do not provide the same habitat-forming function as larger conifers (Sitka Tribe and Forest Service 2003).

3.6.1.2 Freshwater Fish Species

Four fish species are known to occur in the freshwater habitats of the analysis area (Table 3-2), all of which are either anadromous or have an anadromous life history pathway, in addition to resident life history. Other freshwater fish species are likely to occur in streams within the analysis area, such as cutthroat trout, rainbow trout, and various sculpin species; however, they have not been documented in available reports.

Table 3-2: Fish Species that Occur in Freshwater Habitats within the Analysis Area

Common Name	Scientific Name	Resident or Anadromous?	Timing in freshwater habitats
Coho salmon	<i>Oncorhynchus kisutch</i>	Anadromous	Eggs – November through May Juveniles – year-round Adults – October through December
Chum salmon	<i>O. keta</i>	Anadromous	Eggs – September through March Juveniles – March through May Adults – July through October
Pink salmon	<i>O. gorbuscha</i>	Anadromous	Eggs – September through March Juveniles – March through May Adults – July through October
Dolly Varden char	<i>Salvelinus malma</i>	Exhibits both anadromous and resident life histories	Eggs – September through May Juveniles – year-round Adults – year-round Spawning – September through November

Source: ADF&G 2015a; 2015b

As described by ADF&G (2015g), chum salmon migrate into rivers and streams to spawn in the late summer and fall. Eggs incubate in the gravel for 3–4 months before hatching, then alevin spend an additional 2 to 3 months in the interstices of the gravel before emerging. Soon after emerging, fry migrate to the estuary where they spend time feeding in the nearshore, particularly in eelgrass beds, before moving to sea. Chum salmon prefer to spawn in low gradient, spring-fed side channels, but frequently use a wide range of spawning habitats, including intertidal areas near stream mouths.

As described by ADF&G (2015h), pink salmon migrate into spawning rivers in the late summer and fall and seek riffle areas with clean coarse gravel and moderate-to-fast water velocities in which to dig redds and spawn. Eggs incubate in the gravel for 5 to 8 months before hatching, and then out-migrate within 15 days after emergence. Fry travel directly to sea and, unlike chum salmon, do not linger in estuary or nearshore areas.

As described by ADF&G (2015i), coho salmon spawn during the late fall and winter in a diverse range of habitats, but typically in areas with well-oxygenated gravels and nearby cover. Fry emerge in late spring and migrate within the stream network to areas of slow water, abundant structural elements, and off-channel habitat where they can overwinter. Juvenile coho salmon may spend multiple years in freshwater before migrating to sea.

As described by ADF&G (2015j), Dolly Varden char can exhibit either resident or anadromous life history pathways and thus can occur in freshwater year-round. Dolly Varden spawn during the fall in small, gravel-bed headwater streams or occasionally in larger rivers. Eggs incubate for 4 to 5 months and alevin remain in the interstices of the gravel for an additional 1 to 2 months. Fry emerge in mid-spring and migrate within the stream network to areas of slow water and abundant structural elements.

3.6.1.3 Marine Aquatic Habitat

Within the Katlian Bay marine area, there are four general habitat types: intertidal, high relief rocky side slopes, deep basin, and pelagic/epipelagic. The National Oceanic and Atmospheric Administration (NOAA) Fisheries (2006), describes the intertidal area as mostly rocky, with some gravel and cobble beaches that formed at the mouth of the larger streams. At the head of the bay, the intertidal consists of an approximately 0.5-mile-wide delta formed from cobble, gravel, and sand deposited from the four main rivers (Coxe, Katlian, Sukka Héen, and South Katlian Rivers) and includes mudflat and eelgrass habitat. The high relief rocky side slopes range in depth from the lower intertidal down to approximately 400 feet. The deep basin is 470 feet deep on average and is characterized by soft substrates (sand, mud, and clay). The pelagic/epipelagic zone includes the open waters of the bay that are not associated with the fish and aquatic organisms on the sea bed.

3.6.1.4 Marine Fish Species

A survey of fish and invertebrate species in Katlian Bay found 59 species of fish among the intertidal, high relief rocky side slope, and deep basin habitats (Table 3-3). The intertidal portion of the delta at the head of the bay and the pelagic/epipelagic habitat was not surveyed, but this habitat is likely used by transient fish species such as salmon and forage fish. The large number of fish species recorded indicates the range of marine habitat diversity that occurs in Katlian Bay.

Table 3-3: Marine Fish Species Found in Katlian Bay

Common Name	Scientific Name	Inter-tidal	Side Slopes	Deep Basin	Pelagic
Big skate	<i>Raja binoculata</i>		x		
Crescent gunnel	<i>Pholis laeta</i>	x			
Decorated warbonnet	<i>Chirolophis decoratus</i>		x		
Dwarf wrymouth	<i>Lyconectes aleutensis</i>			x	
Eelpouts (3 species)	<i>Lycodes</i> sp.		x	x	
Flounder (2 species)	Two genus/species		x	x	
Greenling (2 species)	<i>Hexagrammos</i> sp.		x		
High cockscomb	<i>Anoplarchus purpurescens</i>	x			
Lingcod	<i>Ophiodon elongatus</i>		x		
Northern ronquil	<i>Ronquilus jordani</i>		x		
Pacific cod	<i>Gadus macrocephalus</i>		x		x
Pacific halibut	<i>Hippoglossus stenolepis</i>		x	x	
Pacific herring	<i>Clupea pallasii</i>	x	x		x
Pacific tomcod	<i>Microgadus proximus</i>		x		
Poacher & Starsnout (4 species)	<i>Bathyagonus</i> sp.		x	x	
Prickleback (4 species)	Multiple genus/species	x	x	x	
Rockfish (14 species)	<i>Sebastes</i> sp.		x	x	x
Red Irish lord	<i>Hemilepidotus</i>		x		
Sablefish	<i>Anoplopoma fimbria</i>		x	x	
Sculpin (6 species)	<i>Cottidae</i> sp.	x	x	x	
Searcher	<i>Bathymaster signatus</i>		x		
Sole (8 species)	Multiple genus/species		x	x	
Walleye pollock	<i>Theragra chalcogramma</i>		x	x	x

Source: NOAA-Fisheries (2006)

Note: Anadromous fish species are not included in Table 3-2.

3.6.1.5 Essential Fish Habitat

The Magnuson-Stevens Fisheries Conservation and Management Act (MSA), as amended by the 1996 Sustainable Fisheries Act, requires Federal agencies to consider project effects on EFH and to consult with NOAA-Fisheries if EFH may be affected by a Proposed Action. EFH is defined broadly by the Act as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” and is determined more specifically for each fish species and life stage within the Federal fisheries management plans. Within the analysis area, locations that provide EFH include:

- All freshwater streams that provide spawning and rearing habitat for coho, chum, and pink salmon
- All marine waters of Katlian Bay that provide migration and feeding habitat for coho, chum, pink, sockeye, and Chinook salmon.

These five salmon species are managed under the North Pacific Fishery Management Council (NPFMC) *Fisheries Management Plan for the Salmon Fisheries in the EEZ Off Alaska* (North Pacific Fishery Management Council 2012). While several species of groundfish occur in marine habitats of Katlian Bay (described above), this area has not been defined as EFH for any species managed under the Council’s *Fisheries Management Plan for Groundfish of the Gulf of Alaska* (North Pacific Fishery Management Council 2015).

3.6.1.6 Commercial Fisheries

Commercial fisheries occur in Sitka Sound, which includes Katlian Bay. Fisheries include: purse seining for fall chum and summer pink salmon, salmon spring troll fisheries, Chinook and fall chum salmon trolling, a herring sac roe fishery during some years, halibut for boats under 32 feet, Pacific cod, and a shellfish fisheries for Dungeness and tanner crab (Vaughn 2016). Commercial fishing is limited to specific months and season (Vaughn 2016). The most important fishery is for pink salmon which have an escapement of 330,000 from Katlian River and South Katlian River and an average harvest of 1,200,000 fish in Sitka Sound with most of these fish from Nakwasina and Katlian Bay (Coonradt 2016).

3.6.2 Environmental Consequences

3.6.2.1 Proposed Action

Freshwater Aquatic Habitat. The Proposed Action would result in minor loss and damage to anadromous and resident fish habitat at 11 locations where the alignment would either cross or parallel streams, and where temporary construction access and staging is needed (Table 3-4; Appendix C, Fish).

Table 3-4: Streams that Contain Anadromous or Resident Fish that would be Affected by the Proposed Action

Stream Name Mile Marker (approx.)	Proposed Action	Fish Species Present
Unnamed Tributary to South Katlian River (Uncatalogued) MP 6.20	Culvert upstream of fish habitat Road bed within 100 feet of stream	Coho salmon
South Katlian River and overflow channels (113-44-10050) MP 6.24	Bridge across river Culverts for 2 overflow channels	Chum salmon Coho salmon Pink salmon Dolly Varden char
Unnamed Tributary to South Katlian Bay (Uncatalogued) MP 6.80	Culvert	Coho salmon
Unnamed Tributary to Sukka Héen (Uncatalogued) MP 7.15	Structural plate pipe arch	Dolly Varden char
Unnamed Tributary to Sukka Héen (Uncatalogued) MP 7.30	Structural plate pipe arch	Coho salmon Dolly Varden char

Table 3-4: Streams that Contain Anadromous or Resident Fish that would be Affected by the Proposed Action (Continued)

Stream Name Mile Marker (approx.)	Proposed Action	Fish Species Present
Sukka Héén (113-44-10040) MP 7.39	Structural plate pipe arch	Chum salmon Coho salmon Pink salmon
Unnamed Tributary to Sukka Héén (Uncatalogued) MP 7.50	Replace culvert for existing road for construction access to log deck area	Coho salmon
Unnamed Tributary to Sukka Héén (Uncatalogued) MP 8.10	Road bed within 100 feet of stream	Chum salmon Coho salmon Pink salmon
Katlian River and overflow channels (113-44-10030) MP 8.49	Bridge across river, culverts for overflow channels	Chum salmon Coho salmon Pink salmon Dolly Varden char
Unnamed Tributary to Katlian River (113-44-10030-2005) On NFS Road No. 75797	Replace existing log culvert for construction access	Chum salmon Coho salmon Pink salmon
Unnamed Tributary to Katlian River (Uncatalogued) On NFS Road No. 75797	Replace existing log culvert for construction access	Coho salmon
Coxe River (113-44-10020) Access NFS Road No. 7579	New bridge for construction access and later use	Coho salmon Pink salmon Dolly Varden char

Constructing and operating roads can have several effects on stream habitat that have been well documented (NOAA-Fisheries 2011a). Construction activities occurring under the Proposed Action may result in the following temporary impacts.

- Loss and/or damage to riparian vegetation would occur at stream crossings. The amount of riparian vegetation lost would be proportional to the width of the roadway footprint at each culvert and bridge. All staging in riparian areas would be avoided. However, this may result in a localized loss of overhead cover and terrestrially derived inputs, as well as reduce stability of stream banks. A reduction in shade may result in a minor localized increase in stream water temperature.
- Diversions of flow and dewatering would occur during in-water work for the Sukka Héén River arch and may be needed to install bridges, arches, and culverts at other crossings depending on site conditions and methods chosen by the contractor. For culvert placement, the activity can often be done in less than 2 days; however, bridge construction can require up to 2 weeks of in-

water activity. Stream habitat may be isolated and temporarily unavailable at the crossing locations while flow is diverted.

- Increased erosion would occur from disturbed areas and bare soil stockpiles, although BMPs required in the erosion and sediment control plan would be implemented to minimize this impact. Sedimentation of streams by fine-grained sand and silt particles can reduce the interstitial space within gravels and reduce the quality of spawning and egg incubation habitat.
- Disturbance of the stream bed by heavy construction equipment would occur periodically during low water crossings, and while installing bridges and culverts. The amount of stream bed impacted at each crossing would be proportional to the roadway footprint width. The compaction of stream bed substrates may reduce the interstitial space and hyporheic flow needed for benthic invertebrate production and salmonid egg incubation at the construction site.
- Although unlikely to occur due to regulatory and construction contract requirements, decreased water quality may occur when excavating and filling in or near the streams if BMPs are not properly installed or are ineffective. In such events, increased turbidity would be expected to occur during and for up to 12 hours following in-water activities.
- Although unlikely to occur due to regulatory and construction contract requirements, the potential for accidental releases of chemicals from use of the construction equipment in the water may occur wherever streams are crossed by the Proposed Action.
- A potential increase in construction activities within Katlian Bay during commercial fishing activities. Construction activities in Katlian Bay would be limited to use of the LTF site for staging, boat activity moving construction equipment between Sitka and Katlian Bay, and possible use of an anchored boat for lodging construction workers.

The presence and use of the road would lead to the following long-term impacts on freshwater habitat:

- The excavation and/or fill of the stream bed, banks, and floodplains would reduce the amount of habitat available for fish to occupy. The production of benthic invertebrates that provide a food base for juvenile salmonids and other fish species would also be reduced. On average the amount of habitat lost would be approximately 100 linear feet of stream and riparian habitat at each culvert; 100 linear feet of riparian habitat at each arch; and 50 feet of riparian habitat at each bridge. These quantities are small relative to the amount of habitat available.
- On steep terrain, the presence of the road could increase the potential risk of downslope surface erosion and mass wasting that would increase fine sediment deposition in adjacent streams. This would result in the reduction of the quality of spawning and egg incubation habitat and decrease the productivity of benthic invertebrates that provide a food-base for juvenile salmonids.
- If culverts become blocked or perched, there would be a risk of impeding fish passage and substantially reducing the amount of accessible habitat upstream of the blocked culverts.
- Blocked culverts may also cause potential changes in surface and groundwater hydrology if flow is diverted or restricted by the road and culverts. Water flow could potentially be intercepted, concentrated, and rerouted by the road and its drainage network, leading to alterations to peak flow in the streams and changes in the habitat-forming processes such as the transport of sediment and wood.

- Degraded water quality from an increase in pollutants could occur from road use. Vehicular traffic would generate dust and particulates from exhaust and brake linings that could eventually move into existing streams and degrade water quality. The risk of accidental releases of fuel or other pollutants would also increase.

For most of the impacts described above, the potential severity can only be represented in terms of a risk or likelihood. Although there is potential for these impacts to occur, most impacts would be either negligible or unlikely to occur because less than 50 cars per day are expected on the road, because State of Alaska BMPs (DEC 2011) would be applied during construction to protect against erosion, and DOT&PF would maintain the road over the long term. Road maintenance would include checking and cleaning culverts that are blocking fish passage and applying maintenance measures that would redirect roadside erosion away from streams when needed. Where USFS BMPs are more strict and conservative than state BMPs, those BMPs would be applied to NFS lands crossed by the Katlian Bay Road

Freshwater Fish. Potential impacts to fish that would occur during construction include:

- Mortality or injury from being crushed or smothered by equipment or fill material at the stream crossing sites
- Mortality or injury from blasting noise and vibration
- Displacement from habitat when a stream is dewatered or diverted during construction
- Desiccation if not removed from a dewatering area.

These direct impacts to fish would be localized, restricted to a limited time period when a stream crossing is constructed (usually 2 to 5 days for each culvert and 2 weeks for each arch in cases where no in-water work is planned for a bridge), and substantially reduced by planning construction during time periods when most fish are not present. Therefore, overall fish populations in the area would not be significantly impacted. Over the long term, the Proposed Action may lead to increased fishing pressure because of increased access to streams in the analysis area; however, fishing activity would be subject to ADF&G regulations.

Marine Aquatic Habitat. During construction there would be increased vessel traffic in Katlian Bay as personnel, equipment and material are transported to and from the work zone. Barges may be moored temporarily to provide worker housing and store supplies. The increased number of vessels would increase the risk of spills of hydrocarbons and sewage and the introduction of other contaminants into marine waters, thereby impacting marine habitat. Depending on the specific location, long-term barge moorage near the LTF may result in shading or accidental grounding on eelgrass habitat. These risks are minimal because standard safety precautions to reduce the potential for spills would be required by the contractor and moorage sites would be chosen to avoid eelgrass and/or areas where the barge might contact the ground on low tides.

Long-term operation of the road would not affect marine habitat because most visitors would now use the new road to access the Forest Service trails.

Marine Fish. In-water noise and vibration caused by blasting can result in fish death or injury based on the intensity of the blast and the distance of the blast to marine fish (Kolden and Aimone-Martin 2013). Although no in-water blasting would occur, there are some areas of the alignment (between MP 5.0 and 6.0) where surface blasting would occur within several hundred feet of the marine shoreline. Surface blasting would have less impact than in-water blasting based on how sound pressure is carried across the environment, but it is possible some fish and marine organisms closest to the blasting area could experience injury. This blasting is required to cut through rock faces and to set bridge foundations.

Operation of the road would reduce impacts to marine fish species because the new road would result in a decreased need to access the area by boat.

EFH. Impacts to EFH caused by construction and operation of the Proposed Action would be the same as described above for fish habitat impacts.

3.6.2.2 No Action

Under the No Action Alternative, there would be no change to fish or fish habitat (outside of natural processes) in the analysis area.

3.6.3 Avoidance, Minimization, Mitigation, and Authorizations

Impacts to fish and their habitat were avoided as described below:

- The road was sited to avoid sensitive areas such as streams, wetlands, and steep slopes to the extent practicable. Stream crossing locations were selected at the narrowest part of the stream within the overall road alignment vicinity.
- At the proposed bridge and arch culvert locations, crossing structures were designed to span the OHWM to the extent practicable to avoid disturbances to stream banks.
- Timing restrictions, developed in coordination with ADF&G, would be used to avoid impacts to fish during species' critical life stages (e.g., spawning and egg development periods). For instance, in-water construction in streams that contain pink or chum salmon would be limited to the period between June 1 and July 15 to avoid upstream migration and spawning in the late summer and outmigration in the spring or as indicated in the Title 16 Fish Habitat permit for the project. ADF&G may authorize in-water work during other time periods if appropriate BMPs are implemented.
- Conditions suitable for juvenile fish passage would be maintained during in-water construction.
- Re-fueling would take place at least 100 feet outside of the OHWM.
- Heavy equipment operating below OHWM would use biodegradable hydraulic fluid.
- No boats, barges, docks, ramps, or other structures that block sunlight would be placed in or over eelgrass beds.
- Use of wood that has been surface- or pressure-treated with creosote or treated with pentachlorophenol would be prohibited.

- A new temporary road crossing over the Coxe River was designed to protect a new stream crossing with fish over NFS Road No. 7579, which occurred from a failed bridge. The failed bridge would remain in place to avoid further damage to fish habitat.

Where impacts to fish and their habitat cannot be avoided, these impacts would be minimized with the following measures:

- Bridges and culverts would be sized, constructed, and maintained to match the gradient and width of the stream so as to accommodate design flood flows.
- The road alignment would cross streams perpendicular to the channel to the extent practicable to minimize impact to riparian and aquatic habitat.
- In-water work would not occur during storm or high-flow events.
- Any stream crossings where resident or anadromous fish are present would be designed to provide for migratory passage of adult and juvenile fish using the 2011 NMFS Northwest Region's Anadromous Salmonid Passage Facility Design (NOAA-Fisheries 2011b) or the culvert guidelines contained in the August 2001 ADF&G and the DOT&PF Fish Pass Memorandum of Agreement (ADF&G and DOT&PF 2001).
- Fish would be removed from streams that require temporary dewatering or relocating and released in an area of flowing water either upstream or downstream of the impact.
- The length of time construction equipment would work in streams would be minimized.
- Where overstory trees provide shading in riparian areas that would be crossed for culverts and streams, these trees would be flagged and avoided to the extent practicable. Riparian areas would be re-planted with weed free native vegetation that occurs within the area immediately following construction activities.
- Weed-free native vegetation would be used for stream stabilization plantings.
- BMPs specified in the erosion and sediment control plan and applicable DEC (2015) would be implemented during construction to minimize impacts to water quality and to the stream bed. Where national BMPs are more strict and conservative than state BMPs, those BMPs would be implemented on NFS lands crossed by the Katlian Bay Road.
- A Hazardous Materials Control Plan would be developed and implemented by the contractor to minimize risk of spills in or near aquatic habitats.
- If surface blasting within 660 feet (200 meters) of fish habitat is necessary, blasting would be scheduled to avoid times when most sensitive life stages may be present, and additional BMPs for blasting operations would be implemented as directed by ADF&G (2013), NMFS (2008), and USFWS.
- Construction-related vessels traveling or mooring in Katlian Bay would be equipped with a spill kit for handling any small fuel spills that may occur.
- During permitting and final road design, a review of adjacent wetlands that provide fish habitat would be conducted to confirm that water flow and fish habitat would not be impacted by road construction. Culverts would be considered if needed.

- During contractor bidding, a DOT&PF review would be conducted to ensure that contractor proposed improvements for construction access would protect fish habitat, avoid impacts to commercial, subsistence, and recreation fishing activities, and meet all applicable permitting requirements.

To mitigate for the unavoidable loss of wetlands and other waters of the United States, a Collection Agreement would be developed with the Forest Service for permittee responsible compensatory mitigation within the Katlian, Nakawasina, and Starrgavin drainage basins. The mitigation would be a watershed-based approach to include riparian habitat and other improvements to fish habitat. Refer to Section 3.8.3, Wetlands, Avoidance, Minimization, Mitigation, and Authorizations. Title 16 Fish Habitat Permits would be required from ADF&G for all work below the OHWM in fish-bearing streams (Table 3-4). In locations where fish would be captured and removed prior to in-water construction, a Fish Resource Permit from ADF&G would also be required. Informal consultation with NOAA-Fisheries regarding potential impacts to EFH would be required for those waterbodies identified in Table 3-4 and for Katlian Bay.

3.7 Vegetation

The analysis area for vegetation is the same as the project area.

3.7.1 Affected Environment

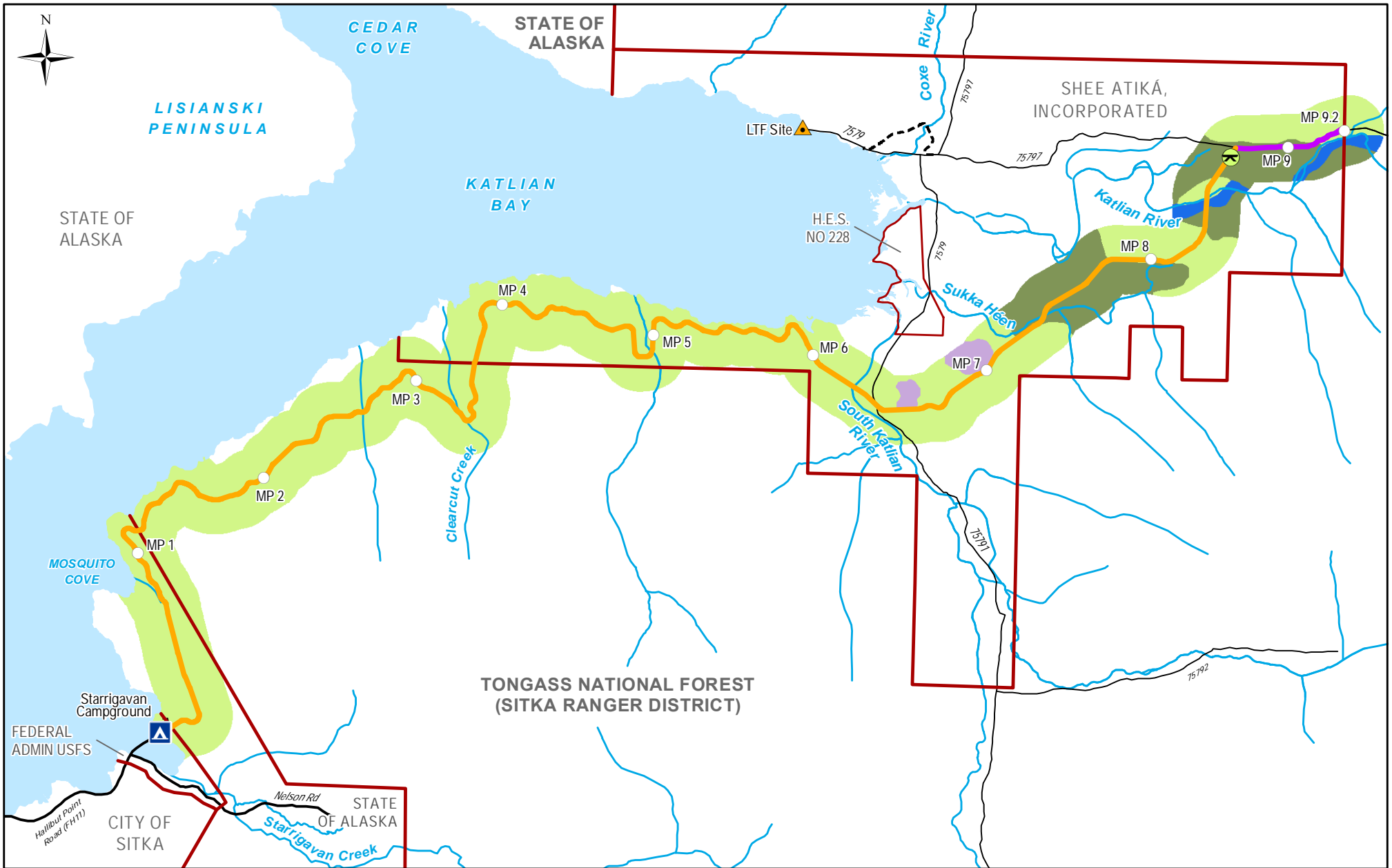
The project area is located within the coastal forest vegetation zone (Viereck et al. 1992). Three main vegetation community types were identified within the project area during the 2014 and 2015 field surveys (Figure 3-2) as described below and mapped at the landscape scale.

1. **Sitka spruce-western hemlock/false azalea** (*Picea sitchensis-Tsuga heterophylla* and *Menziesia ferruginea*): This evergreen forest vegetation community is the dominant upland coastal habitat on sloping hillsides in the project area.
2. **Red alder** (*Alnus rubra*): The red alder deciduous forest has over 60 percent canopy cover and occurs in floodplains, swamps, riparian areas, and valley bottoms.
3. **Lodgepole pine** (*Pinus contorta*) **open woodlands** (muskeg): This dwarf lodgepole pine vegetation community occurs on boggy, poorly drained sites with organic soils and sphagnum mosses and is interspersed with ericaceous shrubs, sedge (*Carex* sp.) meadows, and pockets of standing water.








The Sitka spruce-western hemlock evergreen forest community occurs on steep slopes above Katlian Bay, Katlian River, and South Katlian River valley bottoms and typically has a shrub understory consisting mainly of false azalea (*Menziesia ferruginea*) with a bryophyte groundcover. Recently logged areas (less than 50 years ago) that have increased sun exposure from a more open canopy also include red huckleberry (*Vaccinium parvifolium*) and oval-leaf blueberry (*Vaccinium ovalofium*).

Forested wetland seeps and steep drainages occur within the Sitka spruce-western hemlock vegetation community. Forested wetland seeps include devil's club (*Oplomanax horridus*) and *Vaccinium* species, and commonly have an herbaceous layer of skunk cabbage (*Lysichiton americanus*), fernleaf goldthread (*Coptis asplenifolia*), and ladyfern (*Athyrium filix-femina*). Steep drainages typically have a canopy of red alder with an understory of Sitka alder (*Alnus viridus*), devil's club, salmonberry (*Rubus spectabilis*),





and various fern species (e.g., ladyfern, spreading woodfern [*Dryopteris expansa*], deer fern [*Blechnum spicant*]).

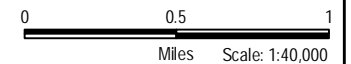


KATLIAN BAY ROAD CONSTRUCTION
FIGURE 3-2 Major Vegetation Cover Types for Katlian Bay Road

-  LTF Site
-  Public Road
-  National Forest System Road
-  Stream
-  Ownership Boundary
-  Day Use Area
-  Milepost
-  Alignment
-  OHV Trail
-  Access Road Revision

Vegetation Cover

-  Alder
-  Sitka Spruce / Western Hemlock / False Azalea
-  Lodgepole Pine Open Woodlands
-  Riverine



Reference:
 Alaska State Geo-Spatial
 Data Clearinghouse
www.asgdc.state.ak.us

The red alder vegetation community occurs in logged areas in the South Katlian, Sukka Héen, and Katlian River valleys in the valley bottoms, swamps, floodplains, and riparian sites. Upland red alder communities include Sitka spruce and western hemlock saplings and commonly have an understory of false azalea and multiple ferns species. Red alder communities in forested swamp habitat are often intermixed with Sitka spruce, pockets of open water, and wet meadows that include skunk cabbage and sedges (*Carex* sp.). False azalea and *Vaccinium* sp. shrubs occur on hummocks, nurse logs, and old growth stumps.

The lodgepole pine open woodlands are generally large expanses of peatlands or bog wetlands (muskeg). Muskegs in the project area are characterized by a mosaic of stunted conifer trees, patches of shrub and emergent vegetation, and pockets of open water. Organic peat deposits, acidic water, and a vegetative groundcover of Sphagnum moss are characteristic of this community. Ericaceous, woody shrubs suited for growing in saturated, acidic environments are typically intermixed with dwarf trees, such as lodgepole pine and Alaska cedar. Ericaceous shrubs typically found include sweet gale (*Myrica gale*) and Labrador tea (*Ledum groenlandicum*). Sedge meadows and pockets of open water are interspersed with the dwarf tree and shrub plant communities. Muskeg wetland habitats are common in the maritime climate of Southeast Alaska (Vioreck et al. 1992).

Much of the forest valley where the Proposed Action occurs has been logged. The most intensive logging occurred in the Katlian River and South Katlian River valley bottoms where clear-cut prescriptions were employed without stream buffers (Sitka Tribe and Forest Service 2003). Dense red alder stands limit the growth of Sitka spruce and western hemlock saplings that occur in the understory. Additionally, black cottonwood (*Populus trichocarpa*) trees were not observed in the project area during the 2014 and 2015 field studies, even though they're known to occur in valley floors that are prone to flooding.

The Forest Service has mapped approximately 7.13 acres of medium productive old growth (POG) with 5.51 acres of high POG on Forest Service lands within the project ROW easement (Figure 3-3). POG is defined as old-growth forest capable of producing at least 20 cubic feet of wood fiber per acre per year, or having greater than 8,000 board feet per acre (Forest Service 2008). High POG consists of forests with high timber volume strata compared to medium POG which is of forests with medium timber volume strata.

No invasive plant species were observed along the proposed alignment.

3.7.2 Environmental Consequences

3.7.2.1 Proposed Action

The development footprint for the Katlian Bay Road Project would result in the loss of approximately 137 acres of vegetation cover (Table 3-5). The development footprint incorporates the extent of clearing and grading (excavation and fill) to support construction of the new road, two bridges, and related facilities (new Coxe River crossing for construction access that includes temporary bridge replacement). Existing roads would be used for temporary construction access including a new temporary bridge crossing at the Coxe River where additional forest would need to be cleared.

Table 3-5: Vegetation Loss for Katlian Bay Road

Proposed Action	Vegetation Acreage
Sitka Spruce-Western Hemlock/False Azalea Forest	116.79
Red Alder Forest	17.27
Lodgepole Pine Open Woodlands (muskeg)	1.01
Total	135.68

Vegetation maintenance activities would include vegetation control necessary to maintain proper functioning of the roadway and safe travel, such as removing fallen and dead snags and controlling shrubs to maintain sight distances and improve safety.

Total high POG loss under the Proposed Action would be up to 6.12 acres amounting to 0.9 percent of high POG in the project area vicinity (Table 3-6, Figure 3-3). Total medium POG loss is 7.13 acres amounting to 0.6 percent of medium POG in the project area vicinity. No low POG would be impacted under the Proposed Action. Total POG loss is 13.26 acres amounting to 0.7 percent of the 2,000 POG acres in the project area vicinity.

Table 3-6: Productive Old Growth Affected by the Proposed Action

POG Class	POG in Project Vicinity (acres)	POG Lost from Proposed Action (acres)	Mileposts		Area Lost as % of POG in Vicinity
			From	To	
High	713	6.12	1.27	1.56	<0.01
			3.34	3.40	
Medium	1,165	7.13	2.45	2.53	<0.01
			2.58	2.63	
			3.14	3.34	
			3.40	3.65	
Low	121	0	-	-	
Total	2,000	13.26	-	-	<0.01

Note: POG = Productive Old Growth

These vegetation clearing activities are considered to have a minimal effect due to the previous harvest of old-growth trees and regular disturbance intervals from prior logging activities that have occurred elsewhere within the project area (Sitka Tribe and Forest Service 2003).

Construction and operation of the new road would likely cause a potential increase in plant species diversity due to increased access by vehicles to the Katlian River valley and surrounding forest lands. Roadways are known vectors for the movement of plants, including exotic/non-native plants. Thus, there is a possibility of invasive species entering the area adjacent to the alignment.

3.7.2.2 No Action

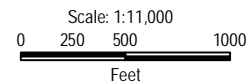
The No Action Alternative would not result in impacts to vegetation.



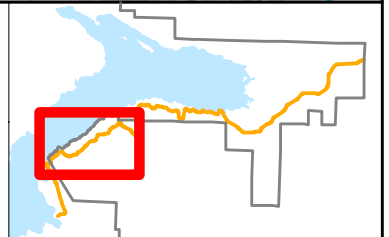
KATLIAN BAY ROAD CONSTRUCTION
FIGURE 3-3 USFS
Productive Old Growth in
Vicinity of Katlian Bay Road

- Milepost
- Alignment
- Ownership Boundary
- Stream

- Productive Old Growth (POG)**
- High
 - Medium
 - Low



Reference:
 Alaska State
 Geo-Spatial Data Clearinghouse
www.asgdc.state.ak.us



DRAWN BY: WRS CHECKED BY: PG

3.7.3 Avoidance, Minimization, Mitigation, and Authorizations

Vegetation clearing would be limited only to the area necessary for constructing the new road and two bridges. Avoidance and minimization measures include:

- Direct impacts to muskeg habitat have been largely avoided by locating the road on slopes above wetland habitat to the extent practicable. The ericaceous plant community in muskegs is specially adapted to the low-nutrient, acidic environment and is difficult to replace. Impacts to this plant community were minimized to the extent practicable.
- Staging areas and log decks would be located in recently logged areas to the extent practicable to minimize impacts to POG areas on NFS lands.
- Temporarily impacted areas would be re-seeded with weed-free native grasses to stabilize exposed soils, control soil erosion, and prevent sediment from entering streams or other aquatic resources during and after construction. Native seed mixes would be certified weed-free and would not contain prohibited exotic or invasive plant species.
- Any road building materials imported to the construction site would be certified weed-free to prohibit the spread of invasive plants.
- During construction and operations, construction contractors would meet requirements under DOT&PF Disposal and Control of Invasive Plant Species guidebook (DOT&PF 2014a).

3.8 Wetlands

The analysis area for wetlands includes the project area and surrounding wetlands that could be affected by the Proposed Action.

3.8.1 Affected Environment

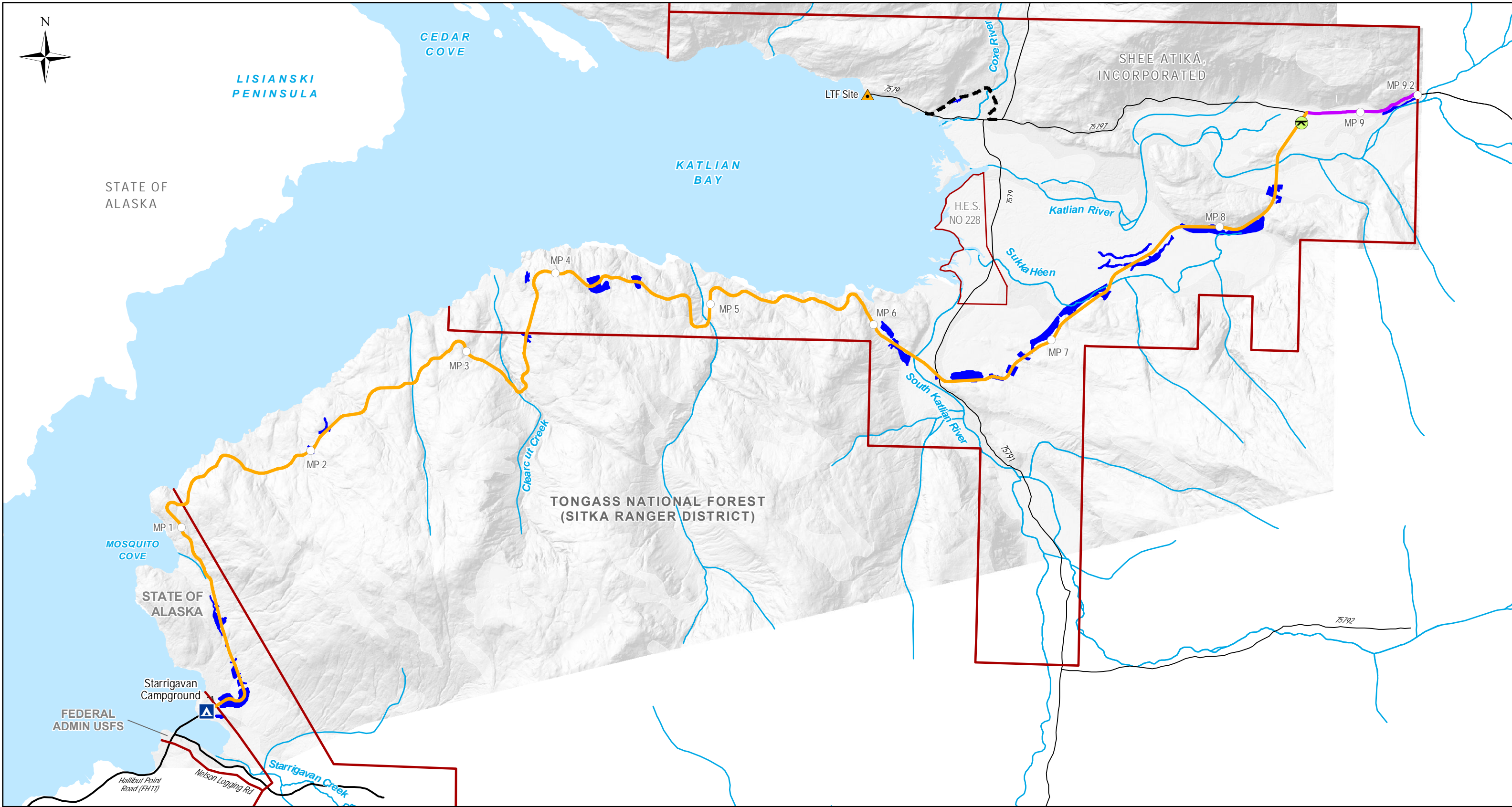
Field reconnaissance of wetland areas in the project vicinity was conducted in September 2014 to aid in selecting the proposed alignment of the new road. After the final alignment was selected, a complete wetlands delineation and functional assessment was conducted in June 2015 to document wetlands present and their functions, which would be impacted by the roadway footprint. The wetlands survey occurred within approximately 100 feet on both sides of the proposed centerline. In July 2016, further wetland delineations were conducted for the waste disposal (i.e., overburden materials) and staging areas, viewpoints, and the day use area at the end of the new road construction, where needed. The findings are documented in Appendix E, Vegetation and Wetlands, and shown on Figure 3-4.

Wetlands within the project area were grouped into three general habitat types—red alder swamp, forested evergreen, and slope muskeg (bog). Wetlands were also classified within the Cowardin (Cowardin et al. 1979), hydrogeomorphic (Brinson 1993), and WESPAK-SE (Adamus 2013) systems as shown in Table 3-7. Primary functions provided by wetlands in the project area include improving water quality and nutrient cycling (biogeochemical functions), hydrology (reducing erosion and flood storage), and wildlife habitat.

Table 3-7: Wetland Habitat Types in the Analysis Area

Wetland Habitat Type	Cowardin Class	Hydro-geomorphic Class	WESPAK-SE Wetland Type	Functional Rating
Forested evergreen	Palustrine forested needle-leaved evergreen, saturated (PFO4B)	Slope	Forested Peatland, Floodplain (seep)	Medium
Red alder swamp	Palustrine forested broad-leaved deciduous, temporarily flood / saturated (PFO1A/B)	Riverine, Depressional	Floodplain	Medium
Slope muskeg (bog)	Palustrine forested needle-leaved evergreen / emergent persistent, saturated (PFO4/PEM1B), Palustrine forested needle-leaved evergreen / scrub-shrub broad leaved-deciduous, saturated (PFO4/PSS1B)	Slope	Open Peatland	High
Pond	Palustrine unconsolidated bottom, mud, excavated (PUB3x)	Riverine	Floodplain	Low

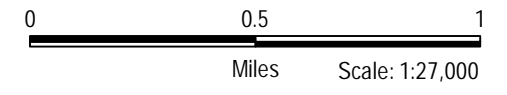
A summary of the wetlands that would be affected by the Katlian Bay Road is provided in Table 3-8, and a summary of streams that would be crossed is provided in Appendix C, Fish. Further refinement of the wetland and stream crossings to avoid impacts to waters of the United States would be conducted as plans, drawings, and the project sediment and erosion control plan are developed. A Preliminary Jurisdictional Determination would be requested from the USACE during the Section 404 permit application review process for the project. The Preliminary Jurisdictional Determination would confirm wetland boundaries and USACE regulatory jurisdiction regarding discharge in wetlands and other waters of the United States.



KATLIAN BAY ROAD CONSTRUCTION

FIGURE 3-4
Wetlands Crossed
by Katlian Bay Road

- LTF Site
- Day Use Area
- Wetlands Adjacent or Impacted by the Katlian Bay Road
- Public Road
- National Forest System Road
- Alignment
- Ownership Boundary
- OHV Trail
- Access Road Revision
- Milepost



Reference:
Alaska State Geo-Spatial Data Clearinghouse
www.asgdc.state.ak.us

DRAWN BY: WR CHECKED BY: PG

Table 3-8: Summary of Wetlands within the Study Area Impacted by the Proposed Action

Wetland ID	Wetland Habitat Type	Cowardin Class ¹	HGM Class ²	WESPAK-SE Wetland Type ³	Functional Rating	Impact Area (acres)
1	Evergreen forest	PFO4B	Slope	Forested Peatland	Medium (II)	0.54 ⁴
2	Evergreen forest	PFO4B	Slope	Forested Peatland	Medium (II)	0.08
3	Evergreen forest	PFO4B	Slope	Forested Peatland	Medium (II)	0.13
4	Evergreen forest	PFO4B	Slope	Forested Peatland	Medium (II)	0.02
5	Evergreen forest	PFO4B	Slope	Forested Peatland	Medium (II)	0.01
6	Evergreen forest	PFO4B	Slope	Forested Peatland	Medium (II)	0.27
7	Evergreen forest	PFO4B	Slope	Forested Peatland	Medium (II)	0.03
8	Evergreen forest	PFO4B	Slope	Forested Peatland	Medium (II)	0.03
9	Evergreen forest	PFO4B	Slope	Forested Peatland	Medium (II)	0.48
10	Slope muskeg (bog), Evergreen forest	PFO4/PEM1 and PFO4B	Slope	Open Peatland, Forested Peatland	High (I)	0.12
11	Slope muskeg (bog)	PFO4/PEM1B	Slope	Open Peatland	High (I)	0.33
12	Evergreen forest	PFO4B	Slope	Forested Peatland	Medium (II)	0.15 ⁵
13	Evergreen forest	PFO4A/B	Slope	Forested Peatland, Floodplain	Medium (II)	0.06
14	Pond	PUB3x	Depressional	Floodplain	Low (III)	0.01
15	Slope muskeg (bog)	PFO4/PEM1B	Slope	Open Peatland	High (I)	0.54
16	Slope muskeg (bog)	PFO4/PEM1B	Slope	Open Peatland	High (I)	0.27
17	Slope muskeg (bog)	PFO4/PEM1B	Slope	Open Peatland	High (I)	0.23
18	Slope muskeg (bog)	PFO4/PEM1B	Slope	Open Peatland	High (I)	0.10
19	Slope muskeg (bog)	PFO4/PSS1B	Slope	Open Peatland	High (I)	0.09

Wetland ID	Wetland Habitat Type	Cowardin Class ¹	HGM Class ²	WESPAK-SE Wetland Type ³	Functional Rating	Impact Area (acres)
20	Slope muskeg (bog)	PFO4/PEM1B	Slope	Open Peatland	High (I)	0.04
21	Evergreen forest	PFO4B	Riverine, Depressional	Floodplain	Medium (II)	0.19
22	Red alder swamp	PFO1A/B	Riverine, Depressional	Floodplain	Medium (II)	0.18
23	Red alder swamp, Evergreen forest	PFO1B and PFO4A/B	Riverine, Depressional	Floodplain	Medium (II)	0.88
24	Red alder swamp	PFO1A/B	Riverine, Depressional	Floodplain	Medium (II)	0.44
					TOTAL	5.20

Notes: All wetlands shown on Figures A1 through A23 in Appendix A.
HGM = hydrogeomorphic; PFO4B = palustrine forested needle-leaved evergreen, saturated;
PFO1A/B = palustrine forested broad-leaved deciduous, temporarily flood / saturated;
PFO4/PEM1B = palustrine forested needle-leaved evergreen / emergent persistent, saturated; PFO4/PSS1B = palustrine forested needle-leaved evergreen / scrub-shrub broad leaved-deciduous, saturated; PUB3x = palustrine unconsolidated bottom, mud, excavated.
¹ Cowardin et al. 1979
² Brinson 1993
³ Adamus 2013
⁴ Area includes calculation factor of 0.6
⁵ Area includes calculation factor of 0.7

3.8.2 Environmental Consequences

3.8.2.1 Proposed Action

The Proposed Action would result in unavoidable impacts to approximately 5.2 acres of wetlands. Impacts would result from clearing and grading (excavation and fill) to support construction of the new road, two bridges, and related facilities, as well as from fragmentation of wetland habitat. Impacts to wetland habitat types are shown in Table 3-8.

Table 3-9: Unavoidable Impacts to Wetlands by Cowardin Class

Cowardin Wetland Class	Wetland Habitat Type	Area Impacted (acres)
PFO4B	Forested evergreen (Palustrine Forested)	3.49
PFO1A/B	Red alder swamp (Palustrine Forested /Emergent)	1.62
PFO4/PEM/PSS1B	Slope muskeg (Palustrine Forested Scrub Schrub)	0.09
PUB3x	Palustrine Unconsolidated Bottom	<0.01
Total		5.2

Most of the unavoidable impacts would occur to medium functioning red alder swamps (Palustrine Forested /Emergent) and forested evergreen wetlands (Palustrine Forested). The red alder swamps occur in the floodplains and river valleys of the South Katlian, Middle Katlian (Sukka Héen), and Katlian Rivers east of Katlian Bay. These floodplain wetlands function to export nutrient and organic matter to

streams and rivers to support fish, provide flood storage to reduce flow rates and reduce erosion, trap and remove sediment during flood events in the Katlian valley, and provide thermoregulation and flow support in fish-bearing streams. The functions provided by the red alder swamps are valued by society due to hydrological connectivity to anadromous fish-bearing streams and the effects of previous logging in the watershed (Sitka Tribe and Forest Service 2003). Forested evergreen wetland habitats occur on slopes in the Sitka Sound-Frontal Pacific Ocean (includes Starrigavan Creek) and Katlian Bay-Frontal Sitka Sound watersheds, and mainly function to reduce stream erosion by regulating surface water inputs into stream systems down slope. The main source of hydrology to these wetlands are seeps.

Impacts to slope muskeg wetlands (Palustrine Forested Scrub Shrub) occur along the steep slopes above the south edge of Katlian Bay and within the Katlian River valley. Wetland hydrology is mainly supported by groundwater and precipitation. The primary functions provided by these wetlands are biogeochemical and wildlife habitat. Slope muskegs have peat deposits that store large amounts of carbon that helps regulate the global climate (Mitsch and Gosselink 2007). The structural habitat diversity provided by these forested and emergent wetland complexes support large terrestrial mammals and bird species within the Katlian River valley and surrounding landscape.

An additional less than 0.1 acre of unavoidable impacts would occur to a former gravel pit that now receives overbank flooding from the South Katlian River. This area functions to provide pond habitat for amphibians and improve water quality by trapping sediment during high flow events (Palustrine Unconsolidated Bottom).

3.8.2.2 No Action

The No Action Alternative would not result in impacts to wetlands or other waters of the United States.

3.8.3 Avoidance, Minimization, Mitigation, and Authorizations

The Proposed Action avoids wetland impacts to the maximum extent practicable. Field reconnaissance of wetland areas in the project vicinity was conducted in September 2014 to aid in selecting the proposed alignment of the new road to avoid most wetlands. The original road alignment closely followed the water's edge around Sitka Sound and Katlian Bay and crossed a tidally influenced section of Katlian River. The proposed road alignment was subsequently adjusted to avoid this highly productive and valuable estuarine wetland habitat that was observed on the east end of Katlian Bay at the mouths of South Katlian and Katlian Rivers. Other avoidance measures included:

- Maximizing the use of existing roads and uplands in the Katlian River valley
- Locating roads on slopes above floodplain swamp wetlands when feasible
- Maintaining natural flow patterns through use of culverts and cross-drainage structures
- Designing bridge crossings above OHWM along the South Katlian and Katlian Rivers
- Timing all in-water construction work during ADF&G-approved timing windows to avoid impacts to juvenile salmonids during critical life stages that may be present.

The Proposed Action minimizes unavoidable impacts to wetlands and other waters of the United States through the following measures to the extent practicable by:

- Designing the road to impact edges of wetlands rather than bisecting wetland habitats

- Locating newly constructed staging areas, waste disposal areas, and log decks in uplands or within footprints of future facilities, such as viewpoints, day use areas, and intervisible turnouts
- Designing stream and seep wetland crossings at perpendicular angles to flowing water.

In addition, construction BMPs would be implemented in accordance with the storm water pollution prevention plan and the erosion and sediment control plan developed for the project and in adherence with State of Alaska guidelines (DEC 2011). The BMPs for the project include:

- Conduct phase clearing and grading to the extent practicable to prevent exposed inactive areas from becoming a source of erosion.
- Identify and mark construction area limits to protect wetland habitats and preserve existing vegetation adjacent to the project area.
- Limit construction staging areas and waste sites to upland areas and/or within fill limits of the roadway.
- Implement erosion and sediment controls to reduce impacts to wetlands from stormwater runoff as specified in an approved Stormwater Pollution Prevention Plan required by the State of Alaska General Construction Permit. The Plan would be based on an Erosion and Sediment Control Plan that would be included in the construction contract.
- Re-vegetate temporarily disturbed areas.
- Install sediment barriers around the perimeter of the construction areas at water crossings.
- Install rock check dams along ditch lines to trap sediment and minimize sediment entering streams.
- Install turbidity curtains in streams and rivers to protect water quality and minimize sediment from entering aquatic habitats and associated wetlands.
- Where national BMPs are more strict and conservative than state BMPs, those BMPs would be implemented on NFS lands crossed by the Katlian Bay Road.

The Proposed Action would require a USACE Section 404 individual permit for discharge into wetlands and other waters of the United States. To the maximum extent practicable, avoidance and minimization of unavoidable impacts to wetlands and other waters of the United States would be demonstrated and compensatory mitigation would be applied for impacts to wetlands and waters of the United States. The Proposed Action was also designed in accordance with Executive Order 11990, Protection of Wetlands, to avoid adverse impacts associated with the modification of wetlands on Federal property.

Katlian Bay Road permittee responsible compensatory mitigation would be conducted under a Collection Agreement with the Forest Service using a permittee-responsible watershed approach. The agreement(s) would be intended to focus on watershed and aquatic habitat restoration and stream stabilization in three watersheds: Sitka Sound-Frontal Pacific Ocean, Katlian River, and Nakwasina Sound. Restoration activities include reconstruction of 0.5 miles of Starrigavan Creek, four rearing ponds and associated trail infrastructure that were impacted by a landslide in 2014, and restoration of riparian and instream habitats impacted by past Forest Service management activities. These activities would support improvement of wetlands and waters of the United States functional values by

considering streambank restoration and stabilization, water quality improvements, and enhancement of EFH. Its intent would be to establish a mutual framework among the agencies to meet compensatory mitigation requirements as stipulated under Section 404/401 of the Clean Water Act and Section 10 of the Rivers and Harbors Act for the Katlian Bay Road. The agreement would also meet mitigation under the Magnuson-Stevens Fishery Conservation Act for EFH.

The compensatory mitigation would offset unavoidable adverse impacts to wetlands and waters of the United States that remain after all appropriate and practicable avoidance and minimization measures have been achieved. Under this agreement, compensatory mitigation projects would be developed in detail by the Forest Service, and would consist of streambank restoration and stabilization, instream habitat improvements, reconstruction of rearing ponds, and water quality enhancement measures (such as reducing ongoing sediment loading). The agreement would include the following components:

- Purpose and objectives
- Mitigation work plan
- Performance standards
- Monitoring, maintenance, and management plan including adaptive management
- Financial assurances
- Summary of responsibilities.

3.9 Wildlife

The analysis area for wildlife includes the project area and surrounding wildlife habitat that could be affected by the Proposed Action.

3.9.1 Affected Environment

Wildlife Habitat and Presence. The wildlife habitats that occur in the analysis area include upland, lowland, and water-based habitat types. Within upland habitats are old-growth coniferous forest, second-growth coniferous forest, alder forests, and smaller riparian wetlands associated with seeps, springs, and streams. The Katlian River valley lowlands include alder forests, muskegs and other non-forested wetlands, old-growth and second-growth coniferous forests, and riparian vegetation. Also affected by the Proposed Action is the Katlian Bay estuary and associated marine waters. The estuary is a prime wildlife feeding area, particularly during salmon runs in the fall. The estuary and associated shoreline would be considered the most valuable wildlife habitat within the analysis area. This is where fish, ducks and other water birds, mammals, and other biota congregate. No other important wildlife habitat or area was identified in the analysis area. Further descriptions of these habitat types are provided in Section 3.7, Vegetation, and Section 3.8, Wetlands. Native mixed alder and conifer stands in Alaska were found to improve wildlife habitat and forest ecosystem diversity (Deal et al. 2013).

Forested areas are the dominant vegetation of the analysis area and provide habitat for a variety of amphibians, birds, and mammals. Recent project-specific surveys for wildlife species observed in the project area, bird surveys conducted by ADF&G and other volunteers, and published or agency information indicate the presence of animals as shown in Table 3-9.

Table 3-10: Animals Known to Occur in the Analysis Area

Animal Group	Species Present
Amphibians	Boreal toad (<i>Bufo boreas boreas</i>)
Birds	Up to 81 species present – seabirds, cranes/herons, swans, waterfowl, woodpeckers, songbirds, raptors
Terrestrial Mammals	Brown bear (<i>Ursus arctos</i>), Sitka black-tailed deer (<i>Odocoileus hemionus sitkensis</i>), wolverine (<i>Gulo gulo</i>), marten (<i>Martes americana</i>), river otter (<i>Lutra canadensis</i>), ermine (<i>Mustela erminea</i>), red squirrel (<i>Tamiasciurus douglasii</i>), little brown myotis (<i>Myotis licifugus</i>), and other small mammals such as voles and shrews.

Source: ADF&G 2015c; eBird 2015; Bovee 2015; Mooney 2015; Walton et al. 2012

The wildlife habitat surrounding the Proposed Action was previously disturbed during the 1960s when roads and timber units were established. Thus, habitat fragmentation of the Katlian River watershed has been substantial. The majority of the harvest occurred on both sides of the Katlian River and NFS Road No. 75797, as well as on both sides of NFS Road No. 7579. Re-growth of the harvested areas resulted in dense alder and Sitka spruce stands in the lowlands and western hemlock in the uplands (Sitka Tribe and Forest Service 2003).

Wildlife use of forested habitats is affected by forest structure and older forests, which contain more complex structural features, generally provide higher quality habitat for forest-dependent mammals and birds compared with younger forests (Deal et al. 2013). Wetlands, streams, and estuaries provide habitat for waterfowl and seabirds. Katlian Bay waterfowl surveys were previously conducted by ADF&G in 2001 and 2002 (Mooney 2015) and include the presence of buffleheads, goldeneyes, scoters, harlequins, teals, mergansers, mallards, redheads, murrelets, marbled murrelets, guillemots, grebes, loons, cormorants, gulls, and terns. Surveys conducted specific for the Proposed Action also included sightings of trumpeter swan (*Cygnus buccinator*), brown creeper (*Certhia americana*), hairy woodpecker (*Picoides villosus*), red-breasted sapsucker (*Sphyrapicus ruber*), and bald eagle (*Haliaeetus leucocephalus*). These survey results are included in Appendix D, Wildlife.

Disturbance to wildlife within the analysis area occurs from hunting, fishing, trapping, OHV use, and hiking. However, these activities are minimal and limited to use of boats to access the majority of the analysis area.

Bald Eagles. The bald eagle occurs in the analysis area and is protected under the Bald Eagle and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The eagles breed and forage along the shoreline and estuary of Katlian Bay. A total of 14 nest sites were previously sighted in the vicinity of Katlian Bay (assuming that nests mapped within 100 feet of previous year nests are considered the same nest site). During the 2015 nesting season, four active nests were observed within the vicinity of the Proposed Action when eagle nest surveys were conducted (Appendix D, Wildlife).

Marine Mammals. The Marine Mammal Protection Act protects marine mammals throughout their range. Outside of listed threatened and endangered marine mammals, ADF&G (2015c) has a list of marine mammals that have the potential to occur in Katlian Bay. This list includes Dall’s porpoise

(*Phocoenoides dalli*), harbor porpoise (*Phocoena phocoena*), Pacific white-side dolphin (*Lagenorhynchus obliquidens*), harbor seal (*Phoca vitulina*), sea otter (*Enhydra lutris*), killer whale (*Orcinus orca*), and northern fur seal (*Callorhinus ursinus*). Listed marine mammals that have been observed within Katlian Bay are described in Section 3.10, Threatened, Endangered, and Sensitive Species.

Migratory Birds. The Migratory Bird Treaty Act prohibits the loss of migratory birds from development activities. Due to the rainy and cold winters in Southeast Alaska, most of the 81 bird species within the analysis area migrate and would be considered as protected under the Migratory Bird Treaty Act.

Forest Service Sensitive Species. The Forest Service has a sensitive species list for the State of Alaska (Forest Service 2009). Three listed sensitive species have been seen or potentially occur within the analysis area (Table 3-10). The black oystercatcher is commonly observed on rocky shorelines in the tidal zone of Katlian Bay and has also been observed breeding within Katlian Bay. Although habitat is present for the dusky Canada goose, it is not known to be present within the analysis area. Similarly, habitat is present for the Queen Charlotte goshawk; however, 2015 spring/summer surveys for this species did not indicate its presence in the analysis area (Appendix D, Wildlife). The species was also not sighted in the analysis area vicinity during fall 2014 surveys, although breeding would have already been completed, if present. The species generally breeds in areas of high-volume forest stands with dense canopies (USFWS 2007a) typical of POG habitat, which has been mapped by the Forest Service as occurring on NFS lands in the vicinity of the analysis area (Section 3.7, Vegetation).

Table 3-11: Forest Service Sensitive Species for the Analysis Area

Species	Present in the Analysis Area?	Habitat in the Analysis Area?
Black oystercatcher (<i>Haematopus bachmani</i>)	Yes	Yes
Dusky Canada goose (<i>Branta canadensis occidentalis</i>)	No	Yes
Queen Charlotte goshawk (<i>Accipiter gentilis</i>)	No	Yes

Forest Service Management Indicator Species. The Forest Service also has a list of 11 management indicator wildlife species that occur within the analysis area (Table 3-11). These species are primarily terrestrial species that commonly occur in Southeast Alaska but are sensitive to forest management activities.

Table 3-12: Management Indicator Species for the Analysis Area

Species	Present in the Analysis Area?	Habitat in the Analysis Area?
American marten	Yes	Yes
Bald eagle	Yes	Yes
Brown bear	Yes	Yes
Brown creeper	Yes	Yes
Hairy woodpecker	Yes	Yes
Mountain goat	Yes	Yes
Red-breasted sapsucker	Yes	Yes
Red squirrel	Yes	Yes
River otter	Yes	Yes
Sitka black-tailed deer	Yes	Yes
Vancouver Canada goose (<i>Branta canadensis fulva</i>)	Yes	Yes

3.9.2 Environmental Consequences

3.9.2.1 Proposed Action

Wildlife Habitat and Presence. Approximately 137 acres of vegetation (Table 3-5) providing wildlife habitat would be removed for the Proposed Action, which would result in direct impacts to wildlife. The impacts include loss of cover, forage, and breeding habitat, habitat fragmentation, and provision of a road corridor that would likely be used by wildlife as both a benefit and a deterrent. Some wildlife would use the new road as an opportunity to more easily move within the area and predate on other species, whereas other wildlife could more easily be predated on. Because the road would be single lane and unpaved, thereby limiting travel speeds, it is possible but not likely that road kills could occur.

The Proposed Action would not result in the loss of wildlife habitat associated with the Katlian Bay estuary, which is considered the most valuable wildlife habitat in the analysis area. The Proposed Action would also not result in loss of overall native species diversity. Although the road may encourage the introduction of new species that prefer edge habitats, this is an unlikely scenario because Baranof Island has limited opportunities for dispersal and has low species richness for forested habitats. Although the Proposed Action would result in increased fragmentation of a large generally undisturbed area, this would be in addition to the previous substantial Forest Service harvest and road construction in the Katlian River watershed during the 1960s. Thus, the area is already fragmented. A new road alignment would affect wildlife attempting to gain access to the shoreline from forest interior areas; however, the minimal road width, its low expected use, and its location on steep slopes minimize the potential to disturb wildlife movement. Brown bears can be sensitive to roads and may avoid roaded areas (Farley 2005). As a result, there may be a decrease in bear use where the road is located. In addition, brown bears may restrict their activities in the presence of humans.

Although the loss of habitat could affect species with small home ranges, such as small mammals, the impact is expected to be minor due to the substantial amount of undeveloped areas surrounding the Proposed Action and the small acreage of the area impacted. Although the Proposed Action would result in an increase in grasses and shrubs adjacent to the road, this increase is not expected to benefit existing

wildlife since none of the species that occur in the analysis area have a need for this type of habitat along a road. In addition, the Proposed Action would include viewpoints and a day use area that could exacerbate human-bear conflicts from improper food storage and trash disposal (ADF&G 2015d). These conflicts are likely to be most pronounced from July through September when human and bear activity can overlap (Coltrane and Sinnott 2015). In addition, brown bears tend to avoid areas with primary roads, which can cause mortality and impacts primarily associated with females and subadult males (Mattson et al. 1987; Wielgus and Vernier 2003).

Although construction during the spring and summer months could impact wildlife breeding in the area, construction during the winter months could displace and stress black-tailed deer that typically have high site fidelity and small winter ranges (ADF&G 2015d).

Construction blasting is planned along several areas of the roadside. Blasting activities could affect wildlife, particularly those wildlife that occur within 660 feet of the blasting area. More mobile wildlife would move away from blasting areas, but smaller mammals could be impacted, particularly those breeding within the blasting area.

The Proposed Action includes use of existing logging roads for construction access. These logging roads include NFS Road No. 7579, which originates at the Katlian Bay LTF and becomes NFS Road No. 75797 as it traverses west. Construction access would include use of the LTF for construction crews and equipment transport to the new road. In addition, there may be a floating construction camp for crews contracted to build the road. The presence of this activity and construction workers could result in increased disturbance to shorebirds, waterfowl, and wildlife that frequent Katlian Bay and associated estuary. Waterfowl could also be hunted by the construction crew, and the camp food and garbage associated with human presence could attract wildlife to the area. As a result, ADF&G may impose new hunting and fishing restrictions to protect wildlife within Katlian Bay.

Bald Eagles. The Proposed Action would result in construction disturbance to four bald eagle nests (nesting information based on 2015 surveys). An eagle disturbance permit for this action would be obtained from the USFWS specific to construction activities. Long-term road use would be in the vicinity of nesting, foraging, and roosting eagles; however, road use would not affect eagle use of the analysis area. Construction activities also could disrupt both non-breeding birds that use the project area for perching, roosting, and foraging outside of the breeding period.

Marine Mammals. The Proposed Action includes use of existing logging roads for construction access. These logging roads include NFS Road No. 7579, which originates at a former LTF, and NFS Road No. 75797. Construction access would include use of the LTF for construction crews and equipment transport to the new road, as well as a new staging area in south Katlian Bay. In addition, there may be a floating construction camp for crews contracted to build the road. The presence of this activity and construction workers could result in increased disturbance to marine mammals. Construction blasting noise could also affect marine mammals. However, these disturbances are short-term, limited due to a small construction crew, and would only occur during construction.

The Proposed Action is not expected to result in long-term disturbance to marine mammals in Katlian Bay. Because the intent of the Proposed Action is to provide land access to the Katlian River watershed; any increased use by boat access to NNS lands is expected to be minor.

Migratory Birds. Removal of 137 acres of vegetation (Table 3-5) within the road alignment would result in loss of breeding and foraging habitat for a variety of migratory bird species. The newly created edge habitat may also attract other bird species that thrive in this habitat type. However, this impact is not considered significant because of the limited amount of vegetation removal relative to the amount of vegetation present, the continued remoteness of the area and surrounding forested habitat distant from human habitation, and the narrow width of the alignment.

Forest Service Sensitive Species. Impacts to black oystercatcher may occur during construction blasting. Wherever these birds would hear blasting, the birds would likely leave the immediate area. It is unknown whether the species would return to breed and/or forage once blasting ceases, since blasting effects to black oystercatchers are unknown. It is possible that the birds could abandon existing nest sites. Black oystercatchers are known to be sensitive to human disturbance (Tessler et al. 2010). Use of the road following construction would not affect the species since access would not be provided to Katlian Bay from the road.

The Proposed Action is also not likely to affect potential future presence of the Dusky Canada goose since the species has not been observed within the analysis area and it would only use the analysis area, if desired, when it migrates through Southeast Alaska. The Proposed Action would be located primarily in uplands, or habitats not typically used by geese.

The Queen Charlotte goshawk is sensitive to loss of habitat and human disturbance (USFWS 2007a). However, because the species has not been found to nest in the area, construction disturbance would not occur to existing nest sites. It is possible that the northern goshawk could nest in the analysis area vicinity in the future and its most likely area for nesting is the high POG between MP 1.25 and MP 1.6; most of this high POG habitat is south of the alignment. If the northern goshawk elects to nest in the high POG, the one land road alignment at the northern portion of this high POG is unlikely to prevent the species from future nesting in the analysis area.

Forest Service Management Indicator Species. Use of the area by the 11 species is unlikely to change under the Proposed Action for both construction and operations, except for the Sitka black-tailed deer. The other species are generally impacted by larger scale forest management activities such as timber harvest, rather than single-lane road construction. The loss of 137 acres of vegetation (Table 3-5) for the one-lane road should not affect presence and use by management indicator species.

In its comments, ADF&G stated that the first 2 miles of the alignment contain southwest- and west-facing slopes and provide overwintering habitat for Sitka black-tailed deer. The agency stated that winter road construction may displace and stress deer that typically have high site fidelity and small winter ranges. However, winter road construction during snow periods would likely be avoided due to the difficulty of operating construction equipment in the snow. The Sitka black-tailed deer could also be impacted by increased hunter access. ADF&G would determine if additional hunting restrictions would be necessary to protect this species.

3.9.2.2 No Action

There would be no changes to existing conditions under the No Action Alternative for wildlife in general, bald eagles, marine mammals, migratory birds, and Forest Service sensitive and management indicator species.

3.9.3 Avoidance, Minimization, Mitigation, and Authorizations

The location of the Proposed Action was moved away from the original route to protect the Katlian Bay estuary, which is considered valuable wildlife habitat. In addition, the road was also moved upslope, which would decrease total area of existing habitat lost to road use, as well as protect the lower slope areas from animal-visitor encounters. Moving the road upslope would also protect wildlife use of the few cottonwood trees that are present in the project vicinity and help avoid disturbance to important wildlife habitat (ADF&G 2015d), as well as decrease the number of bald eagle nests that could be impacted during project construction activities.

Outside and east of the analysis area, mountain goats (*Oreamnos americanus*) occur in higher elevations of the Katlian River watershed. Although the road location is up to 649 feet in elevation, impacts to mountain goats would be avoided since these goats generally occur further inland in the mountainous regions of the area.

Mitigation that includes pre-construction surveys to avoid disturbance to migratory birds protected under the Migratory Bird Treaty Act would be applied. These surveys would identify areas to avoid (to the extent practicable) until nesting is completed. USFWS-recommended time periods for avoiding vegetation clearing to protect nests of migratory birds that could be impacted from clearing is generally from April 15 to July 15 (USFWS 2007b), while protection of migratory raptors is from April 10 to August 10.

To avoid human-bear conflicts, all refuse containers would be bear-proof with signs encouraging visitors to avoid garbage disposal in the analysis area. The day use area would also be cleared of vegetation sufficiently to minimize surprise encounters between wildlife and visitors as recommended by ADF&G (2015d).

To protect wildlife from increased hunting and trapping pressure due to new road access, ADF&G would review existing hunting and trapping regulations to determine if changes are needed (ADF&G 2015d), including those needed to avoid increased competition among hunters.

DOT&PF would obtain a bald eagle disturbance permit from USFWS for bald eagle nests that could be impacted by the Proposed Action. The disturbance authorization would only be for construction and would not impact future use by bald eagles for nesting, foraging, and roosting. Prior to construction, DOT&PF would conduct pre-season surveys to confirm that the surveyed bald eagle nests are present and active, determine if new nests are present, and identify additional mitigation measures that should be implemented to further protect the bald eagle nest sites for future use (e.g., use of blasting mats to protect nests).

Black oystercatchers are known to occur in the project area. Since these species are sensitive to human disturbance, blasting during their breeding season should be avoided to protect the birds when nesting from March through June (Andres 1998).

No goshawks were observed in the project area during 2015, but additional surveys would occur prior to construction. If goshawks and/or their nests are detected during pre-construction surveys, mitigation measures to protect their nests would be implemented.

Cottonwood trees are uncommon in the area and measures would be taken to avoid their removal and minimize activities immediately near these trees since they provide valuable perching habitat for bald eagles, great horned owls, and herons.

To avoid causing harm to or harassment of animals, fish, and marine mammals during blasting activities along the south shore of Katlian Bay and elsewhere on the road alignment, DOT&PF would consult with NMFS and USFWS in accordance with applicable regulations, and would implement appropriate conservation measures as recommended by the agencies.

3.10 Threatened, Endangered, and Sensitive Species

The analysis area for threatened, endangered, and sensitive species includes the project area and surrounding habitat for these species that could be affected by the Proposed Action.

3.10.1 Affected Environment

This section describes threatened, endangered, and sensitive plant species, as well as threatened and endangered wildlife and fish species listed by State and Federal agencies. This section is a summary of the Plant Biological Evaluation (Appendix E, Vegetation and Wetlands) and the Wildlife and Fish Biological Evaluation (Appendix D, Wildlife). For wildlife and fish species that are candidate, sensitive, management indicator, migratory birds, and raptors by State and Federal agencies, refer to Section 3.6, Fish, and Section 3.9, Wildlife.

Plants. There are no known threatened or endangered plants in the project area; however, there are 10 sensitive plant species that have the possibility of being present (Table 3-12). Based on field surveys conducted in 2015, none of these species were observed to occur within NFS lands that the Proposed Action would cross (MP 1.27 to MP 3.64), which is where these species may be protected if found.

Table 3-13: Sensitive Plant Species for the Forest Service Sitka Ranger District

Scientific Name	Common Name	Known or Expected to Occur within the Sitka Ranger District
<i>Botrychium spathulatum</i>	Spatulate moonwort	known
<i>Botrychium tunux</i>	Moosewort fern	known
<i>Botrychium yaaxudakeit</i>	Yakutat moonwort	suspected
<i>Ligusticum calderi</i>	Calder's loveage	suspected
<i>Lobaria amplissima</i>	Large lungwort lichen	known
<i>Piperia unalascensis</i>	Alaska rein orchid	known
<i>Polystichum kruckebergii</i>	Kruckeberg's swordfern	known
<i>Romanzoffia unalascensis</i>	Unalaska mist-maiden	known
<i>Sidalcea hendersonii</i>	Henderson's checkermallow	suspected
<i>Tanacetum bipinnatum</i> ssp. <i>huronense</i>	Dune tansy	known

Wildlife. Terrestrial listed species are identified by the USFWS. As provided in Appendix D, Wildlife, there are no listed USFWS species.

Marine Mammals. NMFS lists the humpback whale (*Megaptera novaeangliae*) as endangered and the Western Distinct Population Segment (DPS) of the Steller sea lion (*Eumetopias jubatus*) as endangered (NMFS 2015a). Although both the Western and Eastern DPSs of the Steller sea lion may occur in the project area, the Eastern DPS is more common (DEC 2013a). Both the humpback whale and Steller sea lion have been observed as occurring in Katlian Bay; however, critical habitat for humpback whale has not been designated (NMFS 2015b) and does not occur in the project area for Steller sea lion (NMFS 2015a). Neither species has breeding habitat in Katlian Bay, and there are no designated Steller sea lion haul-out locations in the project area (DEC 2013). The two species use Katlian Bay as foraging habitat, and both species could occur year-round within the project area. Although adults of these species may not be present during the breeding season, juveniles don't necessarily return to breeding grounds until they are mature adults.

The State of Alaska's list of endangered species includes the humpback whale (ADF&G 2015f).

Fish. Certain salmon stocks have been listed as threatened or endangered under the Endangered Species Act (Table 3-13). These salmonids may be present in Katlian Bay year-round while migrating in ocean waters of Alaska, but are unlikely to be found in the freshwater habitats of the analysis area because these populations spawn outside of Southeast Alaska. The stocks originate and spawn in freshwater rivers within Washington, Oregon, and Idaho.

Table 3-14: Endangered Species Act-listed Salmon Species that may Occur in Katlian Bay

Common Name	Scientific Name	ESU ¹ /DPS ²
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Upper Columbia River (Spring)
		Snake River (Fall)
		Snake River (Spring/Summer)
		Puget Sound
		Lower Columbia River
		Upper Willamette River
Coho salmon	<i>Oncorhynchus kisutch</i>	Lower Columbia River
Sockeye salmon	<i>Oncorhynchus nerka</i>	Snake River
Chum salmon	<i>Oncorhynchus keta</i>	Hood Canal Summer Run
Steelhead	<i>Oncorhynchus mykiss</i>	Upper Columbia River
		Snake River Basin
		Lower Columbia River
		Upper Willamette River
		Middle Columbia River

Notes: ¹An Evolutionarily Significant Unit (ESU) is a population or group of populations of Pacific salmon that 1) is substantially reproductively isolated from other populations and 2) contributes substantially to the evolutionary legacy of the biological species.

² A Distinct Population Segment (DPS) is defined similarly to ESU, but is applied more generically to species other than Pacific salmon. Steelhead populations are defined as DPSs.

Critical Habitat. There is no USFWS or NMFS critical habitat for threatened and endangered species in the project area or within Katlian Bay.

3.10.2 Environmental Consequences

3.10.2.1 Proposed Action

Wildlife. Because there are no listed terrestrial wildlife species that occur within the project area, the Proposed Action would not affect listed terrestrial wildlife species.

Marine Mammals. Although the Proposed Action is located on land, there may be project effects on marine mammals. The use of the Katlian Bay LTF for construction transport, the presence of temporary living quarters on marine water, and the use of blasting near Katlian Bay may all have an impact on marine mammals. If humpback whales or Steller sea lions are located close to this blasting noise, the noise could impact their hearing and foraging when using echolocation to find prey. The impact would be based on the proximity of these animals to blasting activities. Although increased human presence within Katlian Bay could deter humpback whales and Steller sea lions from using the bay, there is sufficient adjacent marine waters for these mammals to forage that are not impacted by human presence.

Fish. Although listed fish species could be present in Katlian Bay, these species are unlikely to experience disturbance from construction and operation of the Proposed Action unless affected by blasting. These migratory fish species are unlikely to use freshwater streams when present in Southeast Alaska, and thus effects would be limited to construction activities in or near marine waters.

3.10.2.2 No Action

There would be no changes to existing conditions under the No Action Alternative for threatened, endangered, and sensitive plant species, nor for threatened and endangered wildlife and fish species listed by State and Federal agencies.

3.10.3 Avoidance, Minimization, Mitigation and Authorizations

During initial project design, the proximity of the Proposed Action to the Katlian Bay estuary and marine waters was reviewed and project alternatives were developed to distance the Proposed Action from these areas. The Proposed Action was selected since it was the furthest of the three alternatives from the Katlian Bay estuary and would avoid direct impacts to Katlian Bay. However, the road alignment has areas of blasting that may occur within 660 feet (200 meters) of marine waters, particularly where the alignment is located south of the southern shoreline of Katlian Bay. To avoid causing harm to or harassment of animals, fish, and marine mammals during blasting activities along the south shore of Katlian Bay and elsewhere on the road alignment, DOT&PF would consult with ADF&G, NMFS, and USFWS in accordance with applicable regulations.

To ensure no harassment of humpback whales and Steller sea lions while construction boats are present in the Katlian Bay project area, contractors would be required to be at least 300 feet from observed humpback whales and Steller sea lions that are present in Katlian Bay. Contractors would be requested to refrain from any activity that could result in a disturbance to these marine mammals, including the recreational use of firearms.

The Endangered Species Act does not have specific authorizations or permitting requirements that would apply for this project because, with the limited listed species occurrence in the project area and the

planned mitigation activities, the project would not affect listed species. However, DOT&PF would consult with USFWS and NMFS to confirm presence and, if present, adequate protection of listed and/or protected species.

3.11 Subsistence

State of Alaska law (AS 16.05.940[32]) defines subsistence uses as the “customary and traditional” uses of wild resources for various uses, including food, shelter, fuel, clothing, tools, transportation, handicrafts, sharing, barter, and customary trade. This report section evaluates the potential effects of the Proposed Action on subsistence resources and considers whether the proposed activities would significantly alter subsistence resources and uses. Primary subsistence users are Sitka tribal members, as well as the shareholders of Shee Atiká and Sealaska.

The analysis area for subsistence includes the project area and surrounding subsistence use areas that could be affected by the Proposed Action.

3.11.1 Affected Environment

The proximity of contiguous forested habitats that are present in the project area provides subsistence harvesting opportunities. These resources are available in the upland forests and along the shoreline, streams, muskegs, estuaries, and other flatlands. Subsistence hunting, fishing, and gathering by Native peoples and other residents is an integral part of life in the watersheds that occur within the project area. The primary historical and current subsistence activities are hunting, fishing, and gathering of fruit and vegetables. Species harvested include the following (Alaska Fisheries Science Center 2006; Sitka Tribe and Forest Service 2003; Kruse and Muth 1989; Gmelch and Gmelch 1985):

- Fish – Coho, pink, chum, and sockeye salmon and Dolly Varden
- Mammals – Black-tailed deer, marten, mountain goat, brown bear, beaver, river otter, sea otter
- Berries – Salmonberry, mountain blueberries, wild current, tseit (potato-like root)
- Waterfowl – various species
- Kelp
- Mushrooms
- Other saltwater fish and invertebrates – evidence for over 60 fish species and 44 invertebrate species
- Cedar bark to make baskets, rope, mats, clothing, blankets, and other items.

These resources are harvested at various times of the year; however, because access to the project area is currently limited and abundance of the resources is deemed sufficient to support existing harvest levels, pressure on the subsistence resources is considered to be relatively low.

3.11.2 Environmental Consequences

3.11.2.1 Proposed Action

With construction of the Proposed Action, subsistence access would increase, resulting in potential changes to hunting and fishing regulations as determined by ADF&G. In its comments for the project,

ADF&G (2015d) stated that the Katlian River may be closed to coho salmon fishing to match current regulations on Sitka road system streams. In addition, ADF&G (2015d) stated that winter road construction may displace and stress deer that have high site fidelity and small winter ranges. However, winter road construction is not planned for this project. ADF&G (2015d) did not comment on additional short- or long-term effects to other subsistence resources other than the potential of human-bear conflicts from road construction and use.

Planned road construction from August through December could affect deer hunters. Fishing for salmon and other species within streams occurs primarily from June to fall months; however, saltwater fishing can occur year-round, which could be affected by construction activities because of construction staging at the LTF and another area within Katlian Bay, as well as the possibility of construction workers using barges for lodging while working in the area. In addition, late spring to early fall is typically the plant harvesting season, and construction would occur simultaneously with this subsistence activity (Gmelch and Gmelch 1985). However, current access to subsistence resources is not expected to be substantial enough to prevent subsistence users from using the overall area of the three watersheds and obtaining subsistence resources during construction.

Construction access and potential floating camps may affect waterfowl use and abundance.

3.11.2.2 No Action

There would be no changes to existing conditions under the No Action Alternative for subsistence opportunities within the project area.

3.11.3 Avoidance, Minimization, Mitigation, and Authorizations

To minimize impacts to subsistence, ADF&G may impose new sport hunting and fishing regulations or new subsistence regulations.

3.12 Environmental Justice

The analysis area for environmental justice is the same as the project area.

3.12.1 Affected Environment

The EPA defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies” (EPA 2015b). EPA guidance recommends that an environmental justice analysis should determine whether such populations or communities have been sufficiently involved in the decision-making process (EPA 1998). Alaskan Native corporations and their respective shareholders are considered a minority population.

3.12.2 Environmental Consequences

3.12.2.1 Proposed Action

The Proposed Action would have impacts and benefits to the Sitka Tribe and two Native Corporations (Shee Atiká and Sealaska). Potential impacts include potential competition for subsistence resources due to increased road access and partial loss of the remote character of the project area where the road would be constructed. Benefits include increased access to subsistence resources and Native Corporations would have the opportunity to develop their respective land ownerships once the road is constructed,

which could result in an economic benefit. During project scoping and analysis, the Sitka Tribe and Central Council Tlingit & Haida Tribes were contacted so that the tribes were aware of project scoping, cultural resource surveys, and other project analysis to allow Alaska Native tribes to provide project comments and concerns.

Outside of these impacts and benefits to Native tribes and corporations, the project would not disproportionately affect the elderly, handicapped, non-drivers, transit-dependent, or economically disadvantaged peoples. The project would have no effect on neighborhoods, community cohesion, or disadvantaged groups since the Proposed Action is located in an area that is not currently inhabited.

3.12.2.2 No Action

There would be no changes to existing conditions under the No Action Alternative; the two Native Corporations would continue to lack direct land access to their lands.

3.12.3 Avoidance, Minimization, Mitigation, and Authorizations

No measures are proposed or authorizations required under Environmental Justice. In addition to Shee Atiká and Sealaska, the Sitka Tribe and the Tlingit and Haida Indian Tribes have been contacted, provided project information, and given the opportunity to comment on the project.

3.13 Recreation

This section is a summary of the Recreation Resource Report prepared for the Proposed Action. For detailed information on the methodology, analysis, management objectives, and recreation figures, refer to Appendix F, Recreation.

The analysis area for recreation includes the project area and surrounding recreational areas that could be affected by the Proposed Action

3.13.1 Affected Environment

The segment of the road alignment that crosses NFS lands has an LUD of Semi-Remote Recreation. Under its Forest Service designation, motorized routes for OHVs are allowed, as are the use of snow machines, boats, and aircraft in non-motorized areas for traditional uses. In addition, small-scale rustic facilities are permitted (Forest Service 2008). Within the project area, the Semi-Remote Recreation LUD is further classified as Roaded Modified, due to previous timber harvesting in the area (A. Lapalme, pers. comm., Forest Service Sitka Ranger District, Recreation, Lands, Minerals, and Special Uses staff). Although Roaded Modified areas have been heavily modified (roads or recreation facilities), this class still offers opportunity to have a high degree of interaction with the natural environment and to have moderate challenge and risk and to use outdoor skills.

The current recreational opportunities within the project area are generally rustic and remote in nature. There is minimal recreational use on State lands within the project area outside of a developed campground and recreation area. The Starrigavan Recreation Area (Figure 1-2) is the primary recreational development affected by the Proposed Action. This recreation area is near the beginning of the alignment and extends onto State land. OHVs are permitted on Forest Service designated OHV trails in the area, which are generally located on reserved road easements that were previously old Forest Service logging roads (Forest Service 2016).

The Starrigavan Recreation Area and associated campground include rustic facilities and a managed use area (day and overnight use) near the end of Halibut Point Road. There are no other developed recreation facilities on adjacent NFS lands, and the existing campground would be classified as primitive. Shee Atiká lands have no developed recreation facilities. Access to these lands is available only with Shee Atiká permission and presently occurs through old Forest Service non-maintained logging roads, the LTF in Katlian Bay, and boat mooring at Katlian Bay anchorages.

The Starrigavan Recreation Area and its roads and trails provide the majority of developed hiking opportunities in the project area. Developed hiking on Shee Atiká and NFS lands within the project area is limited to use of reserved road easements (NFS Road Nos. 7579, 75791, and 75797), as well as Forest Service Trail No. 3175797). Use is low on these trails due to their remote location and difficult access (boat access from Katlian Bay). The entire area is open to backcountry hiking without the use of trails.

Non-motorized biking is allowed on the reserved road easements in the project area. However, these easements are not maintained and include areas of wash-out. OHV use is available on NFS Road Nos. 7579 and 75797, although restricted at the Coxe River crossing due to a failed and damaged bridge. Use of these easements for biking is low due to difficult access (boat access from Katlian Bay) (P. McConnell, pers. comm., Shee Atiká, Incorporated, Chief Operating Officer). Non-motorized biking is also allowed in the Starrigavan Recreation Area.

The project area has no developed fishing facilities but is open to remote recreational fishing (and on Shee Atiká lands with the permission of Shee Atiká). Fish species harvested include pink, chum, and coho salmon and Dolly Varden (DOT&PF 2009). The project area is open to remote recreational hunting and trapping (again with permission of Shee Atiká on their lands) with no developed facilities. Wildlife species harvested include black-tail deer, mountain goats, brown bear, and ducks (DOT&PF 2009). Due to the remoteness of the project area and lack of roaded access, these recreational activities are limited.

The ADF&G regulates recreational fishing and hunting. Currently, shareholders and non-shareholders are permitted to hunt and fish on NFS lands and on Shee Atiká lands (as long as they have advance written permission from Shee Atiká) (P. McConnell, pers. comm., Shee Atiká, Incorporated, Chief Operating Officer).

With Shee Atiká's advance written permission, the Shee Atiká's lands within the project area are open to remote berry picking with no developed facilities. The remainder of the project area is also open to berry picking. Species harvested include huckleberries and wild currant. Due to limited access to the project area, berry picking as an activity has low use.

Katlian Bay is listed as a visual priority route and use area in Appendix F of the Forest Plan (Forest Service 2008) with boat anchorages and small boat routes indicating opportunities for scenic viewing of the surrounding landscape. The only developed facility for scenic viewing in the project area is a bird-viewing deck at the Starrigavan Recreation Area.

In addition to use of OHVs on the reserved road easements within Shee Atiká lands, OHVs are allowed on a small section (roughly 0.75 mile) of the Sitka Ranger District NFS Trail No. 3175797 based on the Forest Service Motor Vehicle Use Map (Forest Service 2016). NFS System Trail No. 3175797 is not maintained and has areas of wash-out. For NFS lands, the Motor Vehicle Use Map requires that OHVs must be less than or equal to 60-inches wide. Per the Forest Plan, snow machines are allowed in Semi-

Remote LUDs for traditional activities (such as fishing, hunting, sightseeing, and hiking) when other motorized vehicles are prohibited (Forest Service 2008). However, during typical years, the lack of snow at this altitude prevents snow machine use. Due to the limited access to the OHV trails in the project area, use of these trails for OHVs is low.

There is a developed picnic area at Starrigavan Recreation Area. Recreation facilities associated with Starrigavan Recreation Area are provided on both sides of the Halibut Point Road, along with three overnight camping sites located along adjacent Sitka Sound estuary. The campground on the southeast side (estuary side) of the road includes 35 sites (including 2 group sites), 4 shelters, 1 cabin, and several vault toilets. One of the camping loops has hike-in tent sites only. Overall occupancy during the active camping season (May 1 through September 15) is 18 percent (A. Lapalme, pers. comm., Forest Service Sitka Ranger District, Recreation, Lands, Minerals, and Special Uses staff). Typical users include campers who are traveling the Alaska Marine Highway, as well as local residents. The Starrigavan Creek Cabin was reserved 223 nights in 2014 and had the highest use within the Sitka Ranger District (A. Lapalme, pers. comm., Forest Service Sitka Ranger District, Recreation, Lands, Minerals, and Special Uses staff).

The Alaska State Parks Advisory Board in Sitka has proposed the construction of a hike-in public use cabin for rent near the Starrigavan Recreation Area (A. Lapalme, pers. comm., Forest Service Sitka Ranger District, Recreation, Lands, Minerals, and Special Uses staff). Backcountry camping is also an option on Shee Atiká (with written permission) and NFS lands; there are no developed camping facilities on these lands.

Five outfitters and/or guides reported using the Mosquito Cove and Katlian Bay area from 2010 through to 2014 (A. Lapalme, pers. comm., Forest Service Sitka Ranger District, Recreation, Lands, Minerals, and Special Uses staff). The activities associated with outfitters and guides include hiking, freshwater fishing, deer hunting, and access to alpine areas for mountain goat hunting. One guide reported an average of 997 service days on the Mosquito Cove Trail annually (A. Lapalme, pers. comm., Forest Service Sitka Ranger District, Recreation, Lands, Minerals, and Special Uses staff). No outfitters or commercial guides are permitted to use Shee Atiká lands without advance written permission from Shee Atiká (P. McConnell, pers. comm., Shee Atiká, Incorporated, Chief Operating Officer).

3.13.2 Environmental Consequences

3.13.2.1 Proposed Action

The Proposed Action would have short-term construction effects and long-term operational effects on recreation. During construction, the Proposed Action would be consistent with the LUD of Semi-Remote Recreation, which allows for conventional motorized use on roads, as well as social presence within a natural appearing environment. However, recreation impacts associated with construction would be short term.

Following construction, the Proposed Action would be consistent with the LUD of Semi-Remote Recreation and would meet the Forest Service goals, objectives, and desired condition for this LUD. The LUD would also continue to be classified as currently classified (Roaded Modified and Roaded Natural) since conventional motorized use on roads would be the primary access into the area, and social encounters would be low to moderate on trails and moderate to high on roads.

Other short-term and long-term effects from the Proposed Action are summarized in Table 3-14. The primary construction impacts would be to users of the Starrigavan Recreation Area nearest the alignment, as well as to outfitters and guides that use the project area. Following construction completion, the Proposed Action would primarily be a benefit and allow increased recreation access into the project area and the potential for guided tours along the road. ADF&G may impose fishing and hunting restrictions if determined that the increased access could detrimentally affect fish and wildlife populations. In addition, existing outfitters and guides may determine that the area no longer offers remote conditions and may elect to take their clients elsewhere to more remote conditions.

Table 3-15: Recreation Impacts from the Proposed Action

Recreational Activity	Existing Conditions	Proposed Action Short-Term Effects	Proposed Action Alternative: Long-Term Effects
General	Remote, few social interactions.	Increase in traffic, noise, and dust at Starrigavan Recreation Area, potentially resulting in short-term dispersal of current users to new or different locations until construction is complete.	Improved and increased access, less remote, more social encounters. New viewpoints identified along the alignment to allow increased recreational benefit. New day use area to enhance recreational opportunities and access to NFS lands.
Hiking Reserved Road Easements	Trails on existing easements, although access to these easements is limited to boat use in Katlian Bay.	Hikers would be requested not to use the area where the Proposed Action is located so that their health and safety are protected. Due to limited use of the project area, the impact would be negligible.	Continued and increased opportunity to hike on reserved road easements and NFS lands. The Proposed Action would result in new land access to these easements and NFS lands for road hiking and access to backcountry and remote hiking. Hiking could occur on NFS Road Nos. 7579 and 75795 from the day use area to Katlina Bay since pedestrian access would be permitted on the new temporary Coxe River crossing.
OHV and Biking Reserved Road Easements	Limited to existing reserved road easements. Access must be by boat to the project area.	OHV use and biking may continue on reserved road easements but would not be allowed where construction is ongoing. Since there is minimal use of these areas for OHVs and biking, no short-term effects are expected.	Continued and increased opportunity to use OHVs and bike on Forest Service logging roads. New opportunity to use OHVs and bike on the new Katlian Bay Road.

Recreational Activity	Existing Conditions	Proposed Action Short-Term Effects	Proposed Action Alternative: Long-Term Effects
Fishing, Hunting, and Trapping	Ongoing and managed by ADF&G. Allowed by Shee Atiká on its lands with advance written permission. Current fishing, hunting, and trapping opportunities limited by lack of road access.	Fishing would continue in Katlian Bay. Fishing within the project area would be restricted if fishers could impact construction activities. Increased noise and activity may deter wildlife in the area, resulting in a short-term reduction in recreational hunting success.	Recreational fishing, hunting, and trapping would continue subject to Shee Atiká's permission to access its lands. The Proposed Action would increase access and more fishing, hunting, and trapping would be anticipated. However, there may be potential for fishing, hunting, and trapping restrictions due to the increased pressure on fish and wildlife populations. Fishing regulations could be increased because of the road presence, which would be consistent with other CBS road-system regulations.

Table 3-15: Recreation Impacts from the Proposed Action (Continued)

Recreational Activity	Existing Conditions	Proposed Action Short-Term Effects	Proposed Action Alternative: Long-Term Effects
Berry Picking	Opportunity available but access is limited and requires Shee Atiká's permission on Shee Atiká lands.	Minimal effects are expected since there is considerable land available for berry picking. Berry pickers would be prohibited from using the road corridor during construction	Continued berry picking opportunities and improved access would increase berry-picking opportunities. Shee Atiká's advance permission is required to access its lands.
Scenic Viewing	Area seen from Katlian Bay by boat.	Recreational scenic viewing would continue by boat in the Katlian Bay area.	Continued viewing opportunities at Katlian Bay by boat and additional scenic viewing at road viewpoints on land. New opportunities to view Katlian Bay from newly established viewpoints within the project area. Rock cut at bluffs would be a long-term scenery effect.
OHV Use	Available on reserved road easements on Shee Atiká lands and NFS Trail No. 3175797. However, use is restricted at the Coxe River crossing due to a failed bridge.	During construction, NFS Road Nos. 7579 and 75797 would be temporarily closed to OHVs while being used for construction access.	Continued access to reserved road easements. Increased opportunity to use these easements due to the Proposed Action and development for OHV trailer parking at the day use area. Possible unauthorized use with increased access. OHV access is provided to NFS Trail No. 3175797. OHV use on NFS Road 75797 east from the day use area could occur up to the Forest Service boundary.

Recreational Activity	Existing Conditions	Proposed Action Short-Term Effects	Proposed Action Alternative: Long-Term Effects
Picnicking and Camping	Available at Starrigavan Recreation Area. Backcountry camping available throughout the project area with Shee Atiká’s advance written permission required on its lands.	Picnicking would continue at the Starrigavan Recreation Area. The Starrigavan Recreation Area may be affected by noise, dust, and increased human presence in the area. Currently, the existing road comes within 150 feet of an existing campsite. This campsite is only occupied about 10 percent of the time according to the campground hosts’ anecdotal information. (A. Lapalme, pers. comm., Forest Service Sitka Ranger District, Recreation, Lands, Minerals, and Special Uses staff). Campsites close to construction may have less use and would be less attractive for use by recreationists.	Continued availability at Starrigavan Recreation Area. Also opportunities to picnic at the viewpoints and day-use area. Improved access would increase availability of backcountry camping, with Shee Atiká’s advance written permission required on its lands.

Table 3-15: Recreation Impacts from the Proposed Action (Continued)

Recreational Activity	Existing Conditions	Proposed Action Short-Term Effects	Proposed Action Alternative: Long-Term Effects
Outfitters/Guides	Five outfitters and guides known to use NFS lands in the project area.	Noise and the presence of construction workers could impact use by permitted outfitters and guides who may seek other areas to use until construction activity is completed.	Existing outfitters and guides may no longer use the project area if a solitary experience is preferred. Other outfitters and guides could be attracted to the area due to increased access. Shee Atiká’s advance written permission is required on its lands.

3.13.2.2 No Action

Under the No Action Alternative, recreational opportunities would remain as described under existing conditions.

3.13.3 Avoidance, Minimization, Mitigation, and Authorizations

The Proposed Action was developed to avoid and minimize potential recreational disturbance to the Katlian Bay estuary. As previously described, mitigation measures planned to enhance the area for recreation include handicap accessible viewpoints along the road corridor (Figure 1-2), as well as development of a day use area (Figure 1-4). The day use area would include parking for seven vehicles, (including space for OHV trailers), picnic tables and fire pits. Interpretive signs may be added later at the viewpoints as well as the day use area. Signs would be installed to users that request “pack it in and pack it out” to avoid users leaving garbage along the Katlian Bay Road and day use area.

As described above, construction activities would affect the camping experience for users of the Starrigavan Recreation Area, particularly those campsites close to the Proposed Action. It is

recommended that the construction contractor notify campground management staff and users of affected campsites its planned construction schedule so that campsite users would have an option of finding another camping location if desired.

3.14 Scenery

This section is a summary of the Scenery Resource Report prepared for the Proposed Action. For detailed information on the methodology, analysis, management objectives, and scenery figures, refer to Appendix G, Scenery.

The analysis area for scenery includes the project area and surrounding area where scenic effects from the Proposed Action can be observed.

3.14.1 Affected Environment

According to the Forest Service publication Landscape Character Types of the Tongass National Forest (Forest Service 2005), the Proposed Action is located within the Boundary Ranges/Icefields landscape character type. The visual character of the area largely comprises lower elevation rounded mountains rising just over 3,000 feet with lowlands adjacent to saltwater. Upper elevations consist of rounded exposed rock and alpine vegetation with some brushy landslide and avalanche chutes providing textural contrast. The middle and lower elevation slopes are blanketed by western hemlock and Sitka spruce forests with forested wetlands and emergent wetlands populating the lowlands and gentler sloped areas. Shorelines transition from land to saltwater with minimal rock cliffs. Streams are steep gradient, clear water contained within the terrain. At the head of Katlian Bay is a large tidewater flat fed by the Katlian River. This landscape comprises a large flat muddy and gravel landscape dominated by grasses and sedges (Forest Service 2005; Nowacki et al. 2001).

The Proposed Action is located within the indistinctive classification as defined by the Forest Plan (2008), and the project terminates in an area that is classified as distinctive. While the majority of the landscape has a distinctive classification; the road corridor itself traverses largely an indistinctive classification landscape. The majority of the landscape is perceived as unseen or seldom seen due to the terrain and limited visual access to the Tongass National Forest within the project area. More than half of the project area has a very high existing scenic integrity, while the road corridor along Katlian Bay is within a moderate existing scenic integrity due to modifications to the landscape from previous timber harvests. The road corridor adjacent to Starrigavan Recreation Area traverses a low existing scenic integrity area due to development of the recreation facilities.

The project area predominantly has a low visual absorption capacity; therefore it may be more challenging to obscure visual impacts from the adjacent visual priority routes as identified by the Forest Service in the Katlian Bay area (Forest Service 2008). The terrain along Katlian Bay has moderate to steep gradation and is highly visible from the Katlian Bay small vessel visual priority route. Lack of vegetative diversity may make changes in texture and pattern due to project activities more noticeable. There is a small percentage of intermediate visual absorption capacity scattered along the lower and middle elevation slopes. This is attested to by natural openings in the forest and intermediate slopes on which modifications would be less apparent than the low visual absorption capacity areas. All unseen or seldom seen areas have a high visual absorption capacity and are found largely in valleys screened from view by topography.

The road corridor itself is almost entirely located within a low visual absorption capacity due to being situated within a foreground distance zone with high gradation topography and lack of vegetative diversity. A very small portion of the road corridor is located in an intermediate visual absorption capacity near the first bridge. The terrain in this area provides the diversity to designate this area with an intermediate visual absorption capacity.

3.14.2 Environmental Consequences

3.14.2.1 Proposed Action

Seven visualizations were developed for the Proposed Action on NFS lands from visual priority routes with a timeline of 1 year after project completion (Appendix G, Scenery). The visualizations include the road bed, clearing limits of vegetation, and cut and fill associated with the road overlaid on the existing landscape. The visualizations indicate that the road layout through NFS lands is such that the existing terrain and vegetation buffers would prevent the casual observer from seeing the road within the forested area with two exceptions.

The first exception is the only segment of the roadway that would be visible from a visual priority route, which is the end of Halibut Point Road where the existing road extends into the surrounding landscape for approximately 200 feet (Appendix G, Scenery).

The second exception is a small road segment that may also be visible from Katlian Bay where the road transects a steep cliff area (Appendix G, Scenery). Cut and fill would be obvious at the steep cliff section with a total length of 2,235 feet. Road construction is expected to be full bench construction into the cliff face and would result in exposed cliff faces, removal of vegetation, and possible viewing of the roadway. There are no other exposed cliff face conditions in the immediate area, and the modifications to the landscape would likely be obvious to the casual observer. It is expected that the scenery effects would be consistent with a low scenic integrity objective and would not meet scenery requirements of a moderate scenic integrity objective. The Forest Plan (2008) and management objectives for a Semi-Remote Recreation LUD allow for small areas of non-conforming developments (including transportation developments) on a case-by-case basis and this area could be considered for this exception.

For all other areas, the existing lower elevation vegetation would screen the roadway. It is expected that, with the two exceptions cited above, these scenery effects would be consistent with a moderate scenic integrity objective for the area and meet Forest Plan (2008) scenery requirements. Overall, the narrow, single-lane road width; limited clearing limits width; undulating terrain; and existing vegetation minimize the visual effects from the Proposed Action based on the clearing limits associated with the road.

3.14.2.2 No Action

Under the No Action Alternative, scenery would not change from existing conditions.

3.14.3 Avoidance, Minimization, Mitigation, and Authorizations

The Proposed Action was sited to minimize visual impacts to the extent practicable and includes design features recommended in Forest Service landscape management guidelines to reduce the visual impact of roads through integrating roads into the surrounding landscape (Forest Service 1977). In addition, the Proposed Action road grading includes through-cuts as a method of screening the road in several places.

Existing vegetation provides a visual buffer and minimizes the visual impacts of the road from the Katlian Bay visual priority route.

To further minimize scenery effects, vegetation clearing would be kept to a minimum along the road corridor, especially in sections of steeper terrain where the road cuts would be more sensitive to visual exposure from Katlian Bay visual priority routes. Specific Forest Service (1977) recommendations and design features are provided below.

Design recommendations for Proposed Action Scenic Overlooks and Day Use Area:

- Enhancement of views from recreational facilities can occur by locating Proposed Action scenic overlooks along the corridor in flat areas above steeper terrain that minimizes viewing opportunity of the higher elevation facility from a visual priority route.
- Select materials, textures, lines, and colors for the scenic overlooks and day use area that blend with those found in the natural surroundings.

The scenery effects associated with the exposed rock face and possible viewing of the roadbed would be lessened to obtain a moderate scenic integrity objective through the following design features and mitigation:

- Minimize disturbance of lower elevation vegetation by reducing rockfall from construction. This is because rockfall could potentially damage trees below the road that would otherwise screen visual impacts.
- Place staging in areas not seen by the public to the extent practicable.
- Perform roadside cleanup of ground disturbance activities. This may include adding topsoil and re-vegetating exposed surfaces that would be expected to hold soil.
- Use natural material for road construction to the extent practicable.
- Design rock sources to be minimally apparent as seen from visual priority routes. Rehabilitation is usually necessary following closure of rock source developments. It may be necessary to modify some rock sources associated with ground-disturbing activities that may be seen from the foreground of visual priority routes.

3.15 Cultural and Historic Resources

This section is a summary of the Cultural Resources Inventory NRHP (National Register of Historic Preservation) Evaluations of Historic Properties prepared for the Proposed Action (Pollnow 2015). This report is not included in Appendix H, Cultural and Historic Resources, but is on file with the Alaska Office of History and Archaeology (OHA).

The analysis area for cultural and historic resources is the same as the project area and additionally includes known adjacent cultural and historic resources.

3.15.1 Affected Environment

A detailed summary of human habitation of the project area is provided in Pollnow (2015), and is summarized below. The region where the Proposed Action is located is within the traditional territory of the Tlingit and, to a lesser extent, the Haida and Tsimshian (Goldschmidt and Haas 1998). Of these three

groups, the Tlingit were and are the most widespread and numerous tribe in the area. Their culture included an economy based upon fish (particularly anadromous fish); settled villages; a sophisticated woodworking industry; a highly developed and distinctive art form; a social organization structured around lineages, clans, and phratries; and a ritual life focused upon totemism, shamanism, and the attainment of status through potlatching.

Although the Tlingit partook in hunting and trapping, salmon fishing was the dominant subsistence practice. Salmon was considered the most valuable product of the Northwest Coast and staple of the Tlingit diet. During the summer months, families left for their various subsistence camps, traditionally known as fish camps, where fishing, hunting, and gathering activities (including processing) took place. These camps consisted of smaller, more roughly built structures that doubled as smokehouses and usually housed single extended families. These sites and activities likely occurred in the project area.

Human habitation and resource extraction of the Katlian Bay area continued as Euro-Americans moved into Southeast Alaska and a homestead (initiated in 1868) was located at the Katlian Bay estuary that included farming and trapping. The homestead is currently privately owned and located adjacent to the Katlian Bay estuary (Figure 1-2). The area was also previously logged, including a substantial harvest conducted by the Forest Service during the 1960s that involved the construction of logging roads and an LTF.

Archaeological field surveys conducted within the project area (Pollnow 2015) and NRHP eligibility requirements did not identify physical remains of cultural and historic sites that were eligible for listing to the NRHP. Sites evaluated for the NRHP included culturally modified trees (bark stripped off trees for subsistence uses), a dilapidated cabin, and separate homestead.

3.15.2 Environmental Consequences

3.15.2.1 Proposed Action

Based on field surveys, analyses, and reporting for cultural resources within the project area, the Proposed Action would not result in adverse effects to NRHP-eligible or listed cultural resources. The OHA concurs with this conclusion (see correspondence in Appendix H, Cultural and Historic Resources). The cabin and homestead would not be affected by the project. However, the Proposed Action would result in increased access to cultural and historic resources that occur in the project area.

3.15.2.2 No Action

No new construction activities would occur; therefore, the No Action Alternative would not affect historical and cultural resources within the project area.

3.15.3 Avoidance, Minimization, Mitigation, and Authorizations

Archaeological investigations for the project area did not identify NRHP sites that could be affected by the Proposed Action. However, there are extensive oral history accounts of resource extraction and there are historic burials. The project area is located close to the Kiks.ádi Survival March and an isolated stone tool find is located in the area. Therefore, an archaeological monitor would be present during earth disturbing activities for the entire project area. Shee Atiká will name the geographical features (including stream crossings) on its lands, and the Sitka Tribe will suggest geographical feature names on non-Shee Atiká lands. Due to the tribal history of the project area, tribal names would be established for creeks and areas crossed by the Proposed Action based on consultation with and support by the Sitka tribe.

During construction, the contractor would be informed of its responsibility for findings of cultural resources. Strict enforcement of the non-disclosure policy of cultural site locations would be required. In the event that cultural resources are discovered during construction, activities that could affect cultural resources would cease. The DOT&PF and OHA would be notified to determine the significance of the findings and to develop a method for protecting and preserving the resource as appropriate. If cultural resources are found on NFS lands, a Forest Service Heritage Program Leader would be included in this process so that DOT&PF would meet its obligations under its easement agreement with the Forest Service.

Cultural resources are protected by the Alaska Historic Preservation Act, AS.41.35.070 (Preservation of Historic, Prehistoric, and Archeological Resources Threatened By Public Construction) and the Alaska DOT&PF policies and procedures. DOT&PF consulted with OHA to evaluate whether the project would have an adverse effect to NRHP-eligible sites (Appendix H, Cultural and Historical Resources). OHA then concurred with DOT&PF’s finding of no historic resources being impacted by the Proposed Action (Appendix H, Cultural and Historical Resources).

3.16 Right-of-Way

The analysis area for ROW is the same as the project area.

3.16.1 Affected Environment

As described in Section 1.2, Location, the project area includes three land ownerships—State of Alaska, NFS (Tongass National Forest), and Shee Atiká. Sealaska has subsurface rights below Shee Atiká lands.

3.16.2 Environmental Consequences

3.16.2.1 Proposed Action

Under the Proposed Action, DOT&PF would require a transportation and utility easement from the Forest Service, DNR, and Shee Atiká for an easement to build the Katlian Bay Road. For all lands crossed by the Katlian Bay Road, easement widths would be 300 feet. Construction access would be on NFS Road Nos. 7579 and 75797, and would include the Katlian Bay LTF (site now owned by Shee Atiká) (Table 3-15). Subsurface disturbance of Native Corporation lands may also need approval from Sealaska, where applicable.

Table 3-16: ROW Acres Crossed by the Proposed Action

Property Owner	Estimated Area (acres)
State of Alaska	18.54
NFS	36.83
Shee Atiká ¹	80.30
Sealaska subsurface land	Undetermined ²
Total Acres	135.67

Notes: ¹ The Coxe River crossing for construction access would also add 6.5 acres of Shee Atiká lands.

²Subsurface acreage affected would be based on excavation area, which would be determined during the detailed design phase.

Where the Katlian Bay Road would traverse NFS lands, a minerals material and/or special use permit would be requested from the Forest Service for activities outside the right-of-way easement. However, there are no plans for use of any area on NFS lands outside the designated right-of-way easement.

In 2005, Congress granted a Federal-State land exchange that included a transportation and utility easement for the Katlian Bay Road project corridor (PL-109-59; SAFETEA-LU Section 4407, D-1 Easement). In 2010, the Forest Service issued documentation of the specific road easement for the project area that authorizes planning, environmental activities, and certain engineering activities so the State of Alaska can properly locate the road centerline in an environmentally responsible manner (Forest Service et al. 2010). State and Federal environmental permitting processes would then determine the exact road centerline position. Once the road centerline is located (after the State receives all necessary State and Federal permits for construction), the Forest Service transfers the easement documentation depicting the centerline and ROW boundaries (Forest Service et al. 2010).

For State-owned lands, an Interagency Land Management Assignment would be needed from DNR for construction and operation of the road.

On Shee Atiká lands, construction access (6.54 acres) would be needed on parts of NFS Road Nos. 7579 and 75797. In addition, a new 0.69-mile proposed temporary access road and bridge across the Coxe River are needed to replace a bridge that was washed out, as well as to enable construction use of the Katlian Bay LTF site. A permanent easement would be needed from Shee Atiká for the portion of the Katlian Bay Road that is within Shee Atiká lands. In the Katlian Bay area conveyances to Shee Atiká lands under ANSCA, the Bureau of Land Management reserved two easements to the United States for certain existing roads described in the conveyance instrument. These easements are 60 feet in width (subject to road conditions) and permit vehicular and foot traffic. Shee Atiká is not obligated to, and does not, maintain these roadways.

3.16.2.2 No Action

For the No Action Alternative, there would be no need for DOT&PF ROW easements in the project area.

3.16.3 Avoidance, Minimization, Mitigation and Authorizations

The Proposed Action was designed to be within the Congressionally-granted Section 4407 easement on Federal lands (Forest Service et al. 2015) and to minimize environmental impacts and overall impacts to all land ownerships that would be crossed by the alignment. These impacts were primarily avoided by moving the road away from the Katlian Bay estuary (an important fish and wildlife ecosystem recognized by Shee Atiká), avoiding impacts to existing scenic views, and protecting environmental resources during construction when impacts would be greatest. In addition to obtaining the ROW easement from the Federal government, easements and authorizations would be needed from land owners for road construction on existing roads (NFS Road Nos. 7579 and 75797), for new temporary road access for a new crossing of the Coxe River, for use of the Katlian Bay LTF for construction, and for viewpoints located on Shee Atiká lands. A Highway Easement would be needed from Shee Atiká where the Katlian Bay Road would cross Shee Atiká lands and a non-development agreement would be needed from Sealaska where the road could affect subsurface lands. For State-owned lands crossed by the Katlian Bay Road, an Interagency Land Management Assignment would be needed from DNR.

3.17 Demographics and Economy

3.17.1 Affected Environment

The analysis area for demographics and economy is the City of Sitka and Sitka Borough boundaries (CBS).

Population and Income. The population of CBS in 1980, 1990, 2010, and 2014 were 7,803; 8,588; 8,881; and 8,900, respectively (U.S. Census Bureau 2015). Thus, the population has increased by about 13 percent in the past 35 years.

Per capita income in CBS averaged \$32,521 from 2009 through 2013 (U.S. Census Bureau 2015). Median family income for CBS was \$69,405 for the same period. The 2009–2013 census data indicated 10 percent of the people in CBS were living below the poverty level.

Housing, Community Facilities, and Public Services. Public facilities and services located in CBS (City of Sitka 2015b) include public utilities (electricity and water), public safety services (fire, medical care, emergency service, police), and recreation facilities (6 parks, 3 playgrounds, 10.7 miles of managed trail, and 11 playing fields). The CBS School District operates five schools—two elementary schools, one middle school, and two high schools. The Proposed Action would not cross or affect residential development. The Starrigavan Recreation Area and associated trails are located adjacent to commencement of the Proposed Action where it connects with Halibut Point Road.

Transportation. The closest traffic information is for the Halibut Point Road bridge over Starrigavan Creek (adjacent to the Starrigavan Recreation Area campsite and trails) in 2012 (Tallahassee Democrat 2015). Average daily traffic was 731 vehicles, with 1 percent estimated to be truck traffic. Future average daily traffic for year 2033, without construction of the Proposed Action, was predicted to be 1,000 vehicles.

Economy. A total of 380 businesses operate within CBS: 255 businesses have less than 5 employees and 8 businesses have 50 or more employees. Most businesses have less than 20 employees. These businesses primarily support the construction, retail trade industries, accommodation and food services, and transportation and warehousing industries (U.S. Census Bureau 2013). Employment in 2014 was 3,777 individuals, representing 61 percent of the potential employees in CBS. Of the employed, 71 percent were employed in the private sector, while 19 percent were employed by the local government, and 10 percent were employed by the State government (Alaska Division of Community and Regional Affairs 2014).

3.17.2 Environmental Consequences

3.17.2.1 Proposed Action

The Proposed Action would require construction workers, creating the potential for short-term impacts to CBS. Although there are qualified construction workers for transportation projects available from within CBS, some people from outside CBS may also be employed for services. Depending on time of year, housing facilities to support temporary workers may be difficult to obtain, particularly during the summer months. As a result, it is expected that some contractors may elect to house employees on houseboats and similar structures in Katlian Bay. The presence of construction workers would increase use of Sitka restaurants and retail stores, which would be an economic benefit to CBS. Because

construction would be temporary, it is not expected that families would relocate to the area or that there would be additional use of schools.

Once the Proposed Action is constructed, it is expected that up to 50 cars per day and additional trucks would use the Katlian Bay Road. Truck use may occur from quarrying rock in the Katlian Bay area, and carrying this rock into Sitka for sale. The new road would be designed to support these trucks. Rock quarrying would be an economic benefit to the community. Other social benefits to the community include increased recreational access and increased tourism. This would include opportunities to use scenic viewpoints and the day use area, as well as opportunities for increased wildlife viewing, hiking, hunting, fishing, and berry picking.

In the long term, the Proposed Action would not result in changes to the population of CBS or its housing, community facilities, employment, public services, and road use. There would be no relocation of residences or businesses. The project would not disproportionately affect the elderly, handicapped, non-drivers, transit-dependent, economically disadvantaged, or minority populations. The Proposed Action would provide access to areas previously accessible only by boat and therefore would provide long-term benefits to residents for recreational access on Baranof Island, as well as the potential for increased tourism (e.g., guided tours on Katlian Bay Road). The increase of up to 50 cars per day on Halibut Point Road to access the Proposed Action is not expected to impact overall road usage of Halibut Point Road, result in increased traffic delays, or cause road deterioration over the long term. However, during construction it is possible that some road delays of up to 10 minutes could occur when transport of materials and equipment occurs on Halibut Point Road.

The project would be a benefit to Shee Atiká and Sealaska. The project may allow opportunity for Sealaska to use its subsurface rights. Shee Atiká and Sealaska would have increased access and opportunity to develop the area in the future, which would be an economic advantage to these corporations and their shareholders.

3.17.2.2 No Action

The changes as described under the Proposed Action would not occur under the No Action Alternative.

3.17.3 Avoidance, Minimization, Mitigation, and Authorizations

For demographics and economy, no mitigation is proposed.

3.18 Local Land Use and Transportation Plans

The analysis area for local land use and transportation plans is the CBS.

3.18.1 Existing Conditions

The DOT&PF Southeast Alaska Transportation Plan (DOT&PF 2014b) provides a forecast of transportation demand for the next 20 years, an assessment of future funding availability, and an analysis of changes to the existing State of Alaska transportation system that may be required to meet those needs. Based on that analysis and consultation with other agencies, and especially the public served by the system, a recommended set of actions was proposed, which included a new ferry terminal on eastern Baranof Island. One of these DOT&PF proposals would include future use of the Katlian Bay Road as the Rodman Bay Road to a future ferry terminal. However, actual construction for a new ferry terminal is not anticipated within the 20-year plan period.

The Tongass National Forest has designated the area where the Katlian Bay Road is planned as a Designated State Road Corridor (Forest Service 2008). In addition, the Tongass National Forest Plan designated the ROW easement for this project on NFS lands as a Transportation and Utility System LUD with goals “to provide for, and/or facilitate the development of, existing and future major public Transportation and Utility Systems, including those identified by the State of Alaska and the Alaska Energy Authority” (Forest Service 2008).

CBS is part of the DNR Northern Southeast Area Plan (DNR 2015b). This plan designates several areas located along Halibut Point Road proximate to the southern end of the proposed project roadway footprint as Public Facilities-Retain (Pr) and/or Public Recreation and Tourism-Undeveloped (Ru) that are defined as follows:

Pr – sites are reserved for a specific infrastructure to serve State interests.

Ru – applies to those areas that offer or have a high potential for dispersed recreation or tourism and where desirable recreation conditions are scattered or widespread rather than localized.

The CBS has comprehensive plans and zoning ordinances, as well as district coastal zone management plans (City of Sitka 2015a) The 2007 CBS Comprehensive Plan Update (City of Sitka 2015b) provides a detailed description of community goals, policies, and objectives.

Other than at the southern end of the proposed ROW, where the proposed project starts at the terminus of Halibut Point Road, land use along the majority of the project is undeveloped forest land.

In 2011, a resolution was passed by the Shee Atiká Board of Directors to promote the construction of a road to connect the present end of Halibut Point Road at Starrigavan Bay to Shee Atiká lands that lie within the area surrounding Katlian Bay (Shee Atiká 2011).

3.18.2 Environmental Consequences

3.18.2.1 Proposed Action

The Proposed Action would be located immediately north and east of the City of Sitka. The 2007 CBS Comprehensive Plan Update (City of Sitka 2015b) has several pertinent goals and policies that would be supported by the development of the Katlian Bay Road: 1) close and easy access to wildlands and wilderness; 2) convenient, reliable, and affordable transportation; 3) the opportunity to participate in a subsistence lifestyle; and 4) development of extensions to the existing street system to serve the long-term needs of the residents. As the Katlian Bay Road would be outside of the existing CBS road system, there would be no effects on the CBS road system, except that Halibut Point Road would be the only road that provides direct access to the Katlian Bay Road. Altogether, the Proposed Action would have a beneficial effect of helping to meet goals and policies of the Comprehensive Plan Update.

Construction access to the site from Halibut Point Road to the beginning of the project has the potential to temporarily disrupt residents and tourists. However, the impact is expected to be minor since there would be no need to relocate or alter Halibut Point Road and construction would not affect residential and business access. However, construction workers would likely park at the end of Halibut Point Road when the initial segment of the road is constructed. There are also no plans to change the turnaround at the end of Halibut Point Road. This turnaround would remain functioning as currently occurs, although there may be some temporary disruption during initial construction at the beginning of the road.

Although not being planned at this time, the Katlian Bay Road could perform as the initial few miles of a potential new road to a ferry terminal on eastern Baranof Island, which has been identified by the Southeast Alaska Transportation Plan (DOT&PF 2014b) to improve access to CBS's future road system. The project would also be located within the area designated by the Forest Service as a Proposed State Road Corridor (Forest Service 2008).

Until construction of the Katlian Bay Road commences, the Forest Service would continue to manage Federal lands within the project area similarly as currently managed. The Forest Plan (2008) states the following for the Transportation and Utility System LUD that is within the project ROW where Federal lands are managed by the Forest Service: *“During the period before actual construction of new systems occurs, the management prescription(s) of the (initial) LUD(s) underlying the corridors will remain applicable.”* Thus, the management prescription for the Semi-remote LUD would continue until the beginning of construction, when the ROW area would then be managed under the prescriptions for the Transportation and Utility System LUD.

3.18.2.2 No Action

The No Action Alternative would have no effect on land use patterns in the project area. The Forest Service would continue to manage NFS lands within the project area according to management prescriptions for Semi-remote LUDs. The State of Alaska and Shee Atiká have not identified management plans that would pertain to the area if the project does not proceed.

3.18.3 Avoidance, Minimization, Mitigation, and Authorizations

A Traffic Control and Safety Plan would be prepared with specific mitigation measures to avoid construction effects to users of Halibut Point Road, which would include communications that would alert residents on construction plans. In addition, a sign providing the name, address, and telephone of an appropriate contact person would be displayed on site to assist the public in obtaining immediate responses to questions and concerns about project activities.

3.19 Cumulative Effects

This section describes cumulative effects projected to occur in association with past, present, and future projects in the vicinity of the Katlian Bay Road. To determine cumulative effects on the environment, it is necessary to assess past and ongoing actions in the project area and predict future actions that would reasonably be expected to occur. Sections 3.1 to 3.18 of this ED describe the baseline conditions for each resource, reflecting the effects of past and existing actions. These sections also evaluate the direct and indirect effects of the Proposed Action and No Action Alternative on each resource's baseline conditions. This section of Chapter 3 considers the cumulative effects of the Proposed Action in the context of past actions, existing conditions, and reasonably foreseeable future actions and conditions. Reasonably foreseeable actions are those actions that have been published with funds already set aside for the planned effort.

Past actions within the project area include timber harvesting, subsistence, and recreational activities such as hiking, boating, hunting, and fishing. Current actions no longer include timber harvesting, while hunting and fishing have continued. Although it is possible that the Forest Service may conduct future timber harvests adjacent to and east of the Proposed Action, no harvests are currently planned (Edwards 2015). Shee Atiká lands and Sealaska subsurface rights under Shee Atiká lands may be developed for commercial and residential uses in the future. However, at this time there are no known plans from Shee

Atiká and Sealaska that can be specifically evaluated with effects from the Proposed Action. As planned, the Katlian Bay Road would terminate at a day use area in the Katlian River watershed. Beyond 20 years, this road could be extended to Rodman Bay, although there is no funding for this option and it is unknown whether funding could be acquired for this extension. Thus, the cumulative effects from the Proposed Action are the same as that described in Chapter 3.

Cumulative long-term Katlian Bay Road effects include increased opportunities for tourism, subsistence, recreation, hiking, OHV use, fishing, and hunting. The ADF&G would determine if future hunting and fishing restrictions would be necessary to ensure healthy and viable wildlife and fish populations. With these increased opportunities and ADF&G's management of hunting and fishing, the road would be considered a benefit for the residents and tourists. The minor loss of old-growth (POG) and other vegetation for the road footprint, coupled with mitigation planned to minimize habitat loss and protect high-value habitat, would not affect overall wildlife and fish populations that occur in the project area.

3.19.1 Greenhouse Gases and Climate Change

Global climate change is the cumulative result of numerous and varied greenhouse gas emissions sources (in terms of both absolute numbers and types), each of which contribute to global atmospheric greenhouse gas concentrations. However, it is difficult to isolate and understand the impact of greenhouse gas emissions for a particular transportation project, especially a small, low-volume, rural road. In addition, there is no scientific methodology for attributing specific climatological changes to a particular transportation project's actual or projected emissions.

For the Proposed Action, greenhouse gas emissions would result from two main sources: exhaust from project-related construction equipment and vehicles; and temporary and intermittent traffic delays to accommodate construction equipment entering and exiting the project area. These traffic delays would increase idling times and reduce travel speeds, which would result in decreased fuel efficiency and increased vehicle emissions during the construction period. These construction sources would result in a temporary increase in greenhouse gas emissions for the area. Once the road has been constructed and is in use, it is expected to be a low-volume, slow-speed, rural road that would contribute a relatively insignificant level of greenhouse gas emissions as compared with current CBS-based emissions. The Proposed Action, in itself, would not result in an increase in the number of vehicles presently in the Sitka area.

4.0 SUMMARY OF CONSTRUCTION IMPACTS AND MITIGATION

4.1 Construction Plans

Construction activities associated with the Proposed Action would involve the following:

- Equipment and material transport and staging on land and within Katlian Bay
- Clearing, grubbing, excavation, fill
- Blasting for road cuts
- Bridge construction
- Installing new culverts and guardrails
- Transportation of workers to the project area
- Housing of construction personnel during construction activities
- Embankment and associated ditch construction.

These activities and associated impacts to the human and natural environment would be mitigated through design considerations and contractual requirements imposed on contractors as described below.

Project material sources would be contractor-supplied from DOT&PF approved sources, although most of the necessary sand, gravel, and rock would come from areas along the road alignment. Disposed materials would primarily comprise material unsuitable for road construction. The contractor would be responsible for ensuring that all environmental permitting is completed for material waste sites, disposal sites, or staging areas. To the extent practicable, proposed waste sites and disposal sites (i.e., overburden materials) have been assessed to avoid, minimize, and mitigate sensitive areas. However, the contractor would determine final sites selected and would ultimately be responsible for permitting alternate waste, disposal, and staging sites if needed and not yet permitted.

Construction access would be located on NFS Road Nos. 7579 and 75797, now located on Shee Atiká lands. Permission from Shee Atiká and Sealaska would be necessary to conduct construction activities in these areas (including vegetation removal to ensure construction access on existing but overgrown roads, building the new Coxe River Bridge, and associated road alignment construction).

4.2 Construction Impacts, Avoidance, Minimization, and Mitigation by Resource

All impacts described below would be temporary in nature and limited to the 2-year planned construction window.

Geology and soils impacts were primarily avoided, minimized, and mitigated through project design. During construction, measures to avoid geologic and soil hazards include stripping/removal of all or a portion of the upper soft soils, mechanical stabilization of the subgrade with geogrids or geotextile, surcharge/preloading the site, use of lightweight fill, compaction grouting/densification, or other methods. Liquefaction-induced settlement or lateral movement associated with embankments would be mitigated by the contractor with such measures as partial over-excavation and backfill with compacted structural fill; ground stabilization; or ground improvement.

Air quality impacts would occur from emissions from diesel-powered construction equipment; from dust along the road alignment, access roads, staging and waste areas; and from boat use for equipment and labor transport across Katlian Bay. Ground-disturbing activities (such as vegetation removal, excavation, grading, and fill placement) may temporarily generate fugitive dust. Airborne particles would be controlled as necessary by application of water for dust suppression in accordance with established DOT&PF BMPs (DEC 2011). Outside of construction staging near the beginning of the project, these short-term air quality impacts would not affect residences or recreationists because: 1) the alignment area is not inhabited, and 2) recreationists would be discouraged from recreating in or near the construction area. The most sensitive area for recreation is immediately adjacent to the Starrigavan Recreation Area, where the initial 0.5 mile of road would be constructed.

Air quality impacts would not be expected to exceed regulatory thresholds given the background ambient air quality conditions in the area and frequent precipitation. In the event that work areas need watering for dust control, an approved water source would be used and erosion and sediment control DOT&PF BMPs (DEC 2011) would be implemented. Where feasible, construction equipment would be selected that would meet the applicable emissions standards and guidelines. Where National BMPs are more strict and conservative than state BMPs, those BMPs would be implemented on NFS lands crossed by the Katlian Bay Road.

Noise, blasting, and vibration impacts would result from heavy equipment movement and construction activities, such as the potential for pile driving and vibratory compaction of embankments and guard rail placement. Although the contractor would use standard equipment with mufflers and use equipment in good operating condition, construction noise would occur near the Starrigavan Recreation Area. Visitors at Starrigavan campsites nearest the road alignment would be exposed to loud noises. Thus, it is recommended that the contractor provide the construction schedule to campground management users to allow campers to avoid use of the area during construction, if desired. These activities are likely to occur over a 3-month time period. After the initial half mile of the road is completed, construction noise should no longer impact recreationists using the Starrigavan Recreation Area and associated campground.

Although noise impacts would be localized and short term in nature, measures would be implemented to minimize noise impacts including:

- Adhering to work-hour limits to blasting activities
- Applying protection measures to fish, threatened and endangered species, and marine mammals that occur on land and in Katlian Bay, respectively, as directed by ADF&G, USFWS, and NMFS
- Adhering to equipment muffler requirements
- Locating stationary construction equipment as far from nearby noise sensitive receivers as is practicable
- Shutting off idling equipment
- Limiting construction activities during weekends and holidays.

For **hazardous waste**, the contractor would be required to prepare and implement a hazardous materials control plan to address equipment fueling and hazardous materials, as well as any inadvertent release of hazardous wastes. Those hazardous wastes generated by the contractor during construction activities would be removed and properly disposed of in accordance with DEC regulations. In compliance with the

plan, equipment fueling and servicing operations would not occur within 100 feet of waterbodies. Sorbent materials would be kept in approved on-site location(s) designated in the hazardous materials control plan to contain or clean up petroleum spills. Construction materials would be obtained from material source sites that are either State of Alaska-approved or commonly used commercial vendors.

Water resource impacts could occur from construction activities. As a result, a DEC Section 401 Water Quality Certification (Certificate of Reasonable Assurance) would be required for the project, and project contractors would abide by stipulations included in that certification. Furthermore, water quality impacts resulting from erosion and sedimentation would be controlled in accordance with DOT&PF BMPs (DEC 2011), which include installing temporary erosion control measures such as weed Excelsior mats, and/or silt fencing until the area is re-vegetated. A storm water pollution prevention plan would be prepared by the contractor and implemented to obtain coverage under the Alaska Pollutant Discharge Elimination System General Permit for Storm Water Discharges from Construction Activities. BMPs identified in the project erosion and sediment control plan, and further defined in the storm water pollution prevention plan, would be implemented during construction to minimize the introduction of suspended sediment to adjacent streams and rivers. Specific BMPs may include, but are not limited to, the use of silt fences, inlet and outlet protectors, check dams, and diversionary dams.

Ground-disturbing activities could increase sediment loads in nearby rivers and streams. To minimize impacts, DOT&PF BMPs (DEC 2011) would be used to protect wetlands and stream channels. To assist in development of the storm water pollution prevention plan, the DOT&PF would include a project erosion and sediment control plan in the construction contract documents. In-water construction would also be timed in accordance with ADF&G, NMFS, and USACE permit requirements to protect fish.

Dewatering would be performed during construction activities particularly for the two larger crossings that require an arch culvert (Waterfall) and pipe arch (Sukka Héen River), which could require a DEC General Wastewater Disposal Permit. The specific method for dewatering is not yet determined but would likely be achieved by installing large-diameter bypass pipes and damming upstream of the crossing. Appropriate DOT&PF BMPs would be implemented to prevent scour erosion and sediment transport and to protect surface water quality during dewatering. Based on subsequent review of project plans, dewatering of other streams would be avoided but may be necessary at specific sites and would follow agency requirements and guidelines. In addition, the contractor would be required to obtain a DEC Alaska Pollutant Discharge Elimination System Construction General Permit. Where national BMPs are more strict and conservative than state BMPs, those BMPs would be implemented on NFS lands crossed by the Katlian Bay Road.

Fish impacts include impacts to fish and associated habitat that could occur during the in-water work necessary for culvert replacements, stream restoration work, and implementation of erosion control measures. Construction impacts on fish habitat would be minimized by using EFH and related fish mitigation measures (such as scheduling construction work in accordance with timing restrictions in the ADF&G Fish Habitat Permit requirements). Construction in and adjacent to EFH would also conform to the storm water pollution prevent plan and hazardous material control plan requirements, which would include plans for erosion control, fuel handling, and other construction-related activities.

Avoidance, minimization, and mitigation to protect fish and their habitat during construction include:

- No excess material would be disposed of in any waterway.

- Stream flow would not be impaired during timing windows stipulated in the ADF&G Fish Habitat Permit.
- Areas to be cleared would be limited to the minimum extent necessary. All disturbed areas would be permanently re-vegetated.
- Construction timing would be planned to minimize adverse effects to salmon during critical life stages. Timing windows identified in permit stipulations would be incorporated into construction specifications for all in-stream work. NMFS would prefer all in-water construction work to be done between October 1 and April 1 so that out-migrating salmon fry and smolts are not disturbed from April 1 to June 30 and adult salmon are not disturbed when entering Katlian Bay in July through September. The timing window may be adjusted in permit stipulations.
- Fish would be protected that could be lost or damaged from temporary stream dewatering and relocated and/or salvaged.

Vegetation would be impacted by clearing, grading of fill slopes, and grading and excavation associated with construction activities, which are likely sources of erosion and sedimentation impacts. Vegetation clearing would also occur for the new road alignment, the new crossing of the Coxe River needed for construction access to the Katlian River watershed, and the overall road alignment and associated viewpoints, day use area, and staging and waste areas. Soil erosion could occur within the construction zone of the proposed project area but would have a temporary, short-term impact with BMPs implemented to minimize erosion and sedimentation. All vegetation removal outside of NFS lands would be managed and stockpiled, dispersed, removed, and/or provided for public use (except vegetation on Shee Atiká lands that is suitable for burning in residential fireplaces, which would be stockpiled for use by Shee Atiká's shareholders). Timber harvested on NFS lands will be managed by the Forest Service.

Plant surveys conducted during field studies suggest that invasive plants do not occur in the project area. However, construction activities have the potential to introduce and/or spread invasive plant species. BMPs for cleaning of construction equipment prior to and after use on a construction site would be implemented to reduce the potential for introducing these plant species. The contractor would be responsible for developing a management and control plan for invasive plants that would be approved by the DOT&PF, and which would follow DOT&PF Disposal and Control of Invasive Plant Species guidebook (DOT&PF 2014a). In addition, DOT&PF construction specifications for re-vegetation would require use of certified native seed for stabilization of disturbed areas. Native plant materials common to southern Baranof Island would be used for restoring disturbed construction areas not needed for permanent use.

Wetlands and waters of the United States would be protected from construction disturbance through maximizing use of existing disturbed areas (existing logging roads), implementing BMPs that avoid wetland disturbance, and timing in-water construction to avoid impacts to fish that occur in waters of the United States. Mitigation for impacts to Wetlands and waters of the United States is described in Chapter 5, Summary of Post-construction Mitigation.

Threatened, endangered, and sensitive plant and wildlife terrestrial species have not been observed and are not expected to occur in the project area. However, wildlife in general would be disturbed and likely leave the immediate area of construction activities. When the construction disruption ends, wildlife are expected to resume use of the area. Other impacts would include construction activities that

may disturb bald eagles from breeding, perching/foraging, and roosting, particularly nesting eagles near construction activities. The DOT&PF would obtain a Bald Eagle Disturbance Permit from the USFWS. The DOT&PF and its construction contractor would adhere to all stipulations included in the Bald Eagle Disturbance Permit.

Avoidance, minimization, and mitigation measures include the following:

- Cottonwood trees are uncommon in the area and measures would be taken to avoid their removal and to minimize activities immediately near these trees since they provide valuable nest and perching habitat for bald eagles.
- Pre-construction bird surveys would be performed to identify areas where construction should be seasonally avoided so as to minimize disturbance to migratory birds protected under the Migratory Bird Treaty Act. These surveys would identify areas to avoid (to the extent practicable) until nesting is completed. USFWS-recommended time periods for avoiding vegetation clearing to protect nests of migratory birds that could be impacted from clearing is generally from April 15 to July 15 (USFWS 2007b), while protection of migratory raptors is from April 10 to August 10. No goshawks were observed present in the project area during 2015, but additional surveys would occur prior to construction. If present, mitigation measures to protect their nests would be implemented.
- To avoid human-bear conflicts, all refuse containers used by contractors would be bear proof.
- Prior to construction, DOT&PF would conduct bald eagle pre-season surveys to confirm that the surveyed bald eagle nests are present and active, determine if new nests are present, and identify additional mitigation measures that should be implemented to further protect the bald eagle nest sites for future use (e.g., use of blasting mats to protect nests).
- To avoid causing harm to or harassment of animals, fish, and marine mammals during blasting activities along the south shore of Katlian Bay and elsewhere on the road alignment, DOT&PF would consult with ADF&G, NMFS and USFWS in accordance with applicable regulations, and would implement appropriate conservation measures as recommended by the agencies.
- To ensure no harassment of humpback whales and Steller sea lions while construction boats are present in the Katlian Bay project area, contractors would be required to be at least 300 feet from observed humpback whales and Steller sea lions (NMFS 2015). Contractors would be requested to refrain from any activity that could result in a disturbance to these marine mammals.

Marine impacts (including that to threatened and endangered species) include increased human use, activities, and disturbance within Katlian Bay associated with boat transport of construction equipment, road/bridge materials, and contractor employees. In addition, the contractor may elect to provide temporary construction housing through use of a boat, barge, or floating craft located within the Katlian Bay. An anchoring system in a tidal area may result in a barge bottoming out during low tide that could temporarily affect tidal flats, mudflats, and organisms present. Short-term impacts to subsistence fishers that use boats, as well as to permitted Katlian Bay boat operators could occur.

Avoidance, minimization and mitigation measures would include the following:

- Construction workers would be required to adhere to all applicable ADF&G fishing and hunting requirements.
- Outside of hunting and fishing permitted timelines, recreational use of firearms that create loud noises would be restricted so that undue disturbance to fish, marine mammals, and wildlife in the Katlian Bay estuary would be avoided.
- Construction moorage over eelgrass sites would be avoided.

Subsistence and commercial outfitter impacts could occur. Boating under bridges would be restricted during construction, although access within these rivers is restricted due to existing logjams. As a part of the USACE permitting process, the DOT&PF would coordinate with local tribal organizations to minimize construction impacts during important subsistence hunting and fishing periods.

Recreational impacts include temporary noise and other disruptions that may impact enjoyment of recreational activities in the Starrigavan Recreation Area. Short-term impacts to recreation may include temporary traffic disruption and change of access to recreation sites at the Starrigavan Recreation Area. As described below, a Traffic Control and Safety Plan would be developed to minimize impacts to users of the Starrigavan Recreation Area. However, it is likely that some campsites nearest the road construction would need to be closed during the construction period. This would apply to construction planned at the beginning of the project, which is likely to occur over a period of 3 months. The Traffic Control and Safety Plan would include methods of communication so that users of the campground would be notified of the construction schedule in advance. In addition, project mitigation plans include construction of three viewpoints along the road alignment, a new day use area at the end of the road alignment, and an OHV trail between the day use area and the existing Forest Service OHV trail in the Katlian River watershed.

Scenery impacts related to construction are due to vegetation losses. To the extent practicable, vegetation clearing would be kept to a minimum along the road corridor, especially in sections of steeper terrain where the road cuts would be more sensitive to visual exposure from Katlian Bay visual priority routes. In addition, placement of materials and construction equipment at the beginning of the project, although temporary, could be visually displeasing. Mitigation includes using visual screening for reducing construction rockfall and potential downslope vegetation damage, designing rock sources to be minimally apparent, using natural materials for roadside construction where practicable, and ensuring roadside clean up during construction.

Cultural and historic resources would be protected through use of an archaeological monitor during earth-disturbing activities at areas designated as sensitive for cultural resources for both the alignment and the construction access bridge crossing of the Coxe River. The contractor would be informed of its responsibility for findings of cultural resources during construction. Strict enforcement of the non-disclosure policy of cultural site locations would be required. In the event that cultural resources are discovered during construction, activities that could affect cultural resources would cease. The DOT&PF, OHA, and the underlying landowner (i.e., Shee Atiká and Forest Service) would be notified to determine the significance of the findings and to develop a method for protecting and preserving the resource as appropriate.

Economically, construction may have a minor beneficial effect by increasing local and regional employment and wage income. The number of positions and length of employment would vary

depending on the construction schedule and contractors/vendors selected. From 10 to 30 workers are expected to be needed on a general basis. There may also be opportunities for local provisions of construction materials, such as gravel/fill materials and other services related to construction, which could result in increased earnings for suppliers of materials and other services locally and in the region. A short-term economic stimulus could occur in CBS from construction. These activities may increase local jobs, as well as increase the demand for food, lodging, and other services.

Transportation impacts associated with construction are not anticipated except at the beginning of the project, particularly for parking and staging. To minimize traffic impacts to the Starrigavan Recreational Area, the contractor would develop a Traffic Control and Safety Plan, which would be approved by the DOT&PF prior to construction and shared with CBS to ensure that local residential concerns are addressed. The plan would include traffic control measures that would be in accordance with the standards and guidelines in the current edition of the DOT&PF *Alaska Traffic Manual* (DOT&PF 2012). The plan would describe measures to minimize impacts to motorists, bicyclists, pedestrians, and boaters, as well as special provisions for emergency situations. The plan would include:

- Appropriate signage to direct drivers
- Notification plans for construction-related activities that may occur at the end of Halibut Pont Road so that motorists, recreationists, and businesses could plan travel routes in advance
- Avoidance of areas needed for recreational use and parking for the Starrigavan Recreational Area
- Inclusion of a sign (at the beginning of the project) that provides the name, address, and telephone of a contact person to be displayed on site to assist the public in obtaining immediate responses to questions and concerns about the project activities.

Permanent bridges are planned along the alignment at two locations, and an additional temporary bridge is planned for replacement of the existing damaged Coxe River bridge (although no permanent relocation on the underlying reserved road easement would occur). For the bridges, temporary work pads would be built near the stream channels to accommodate pile driving (if needed) or drilling equipment for footing construction. It is likely that some damage to riparian vegetation and sedimentation in streams would occur as a result of actions taken to accommodate the construction equipment. Construction mitigation measures to protect vegetation and aquatic habitat include:

- All construction staging, fueling, and servicing operations would be kept a minimum of 100 feet from streams associated with resident and/or anadromous fish and adjacent wetlands.
- The contractor would plan and implement a project construction sequence that would minimize the extent of exposed soils.
- The contractor would use contaminant-free embankment and surface materials.
- The contractor would monitor construction activities to ensure that temporary impacts are minimized.
- Material storage piles would not be placed within 100 feet of a stream or wetland.
- Slopes with potential to impact adjacent streams would be stabilized.

- To minimize and prevent spills or leakage of hazardous materials during construction, standard spill-prevention measures would be implemented during construction. Clean-up equipment (e.g., oil-absorbent pads) would be available on site during construction to mitigate for potential hazardous materials spills.
- Streams would not be temporarily filled unless the fill is part of a construction plan approved by DOT&PF that is needed to construct a permanent bridge.
- Disturbed areas would be re-contoured to approximate original conditions and reseeded with native vegetation to minimize erosion and stabilize stream banks.

5.0 SUMMARY OF POST-CONSTRUCTION MITIGATION

This section provides a summary of the mitigation measures that would be applied to the project over the long term.

- **Wetlands and Fish.** Katlian Bay Road permittee responsible compensatory mitigation would be conducted under a Collection Agreement between the Forest Service and DOT&PF. The agreement would be intended to focus on watershed restoration and improvement of functional values in the project vicinity by considering streambank restoration and stabilization, development of rearing ponds, water quality improvements, and enhancement of EFH. Its intent would be to establish a mutual framework among the agencies to meet compensatory mitigation requirements as stipulated under Section 404/401 of the Clean Water Act and Section 10 of the Rivers and Harbors Act for the Katlian Bay Road. The agreement would also meet mitigation under the Magnuson-Stevens Fishery Conservation Act for EFH. The compensatory mitigation would offset unavoidable adverse impacts to wetlands and waters of the United States that remain after all appropriate and practicable avoidance and minimization measures have been achieved.
- **Wildlife.** With increased human presence in the area, any refuse containers would be bear-proof with signs encouraging visitors to avoid garbage disposal in the analysis area (including signs that request users to “pack it in and pack it out”). The day use area would also be cleared of vegetation sufficiently to minimize surprise encounters between wildlife and visitors as recommended by ADF&G (2015d).
- **Recreation.** Three viewpoints would be established and maintained along the Katlian Bay Road alignment. These viewpoints would provide scenery opportunities of Katlian Bay. A day use area would be established and maintained at the end of the project. An OHV trail connection would be provided to NFS OHV Trail No. 3175797. This mitigation is intended to provide a benefit to the residents of CBS by increasing public access and use of the area. The viewpoints and trail access would also help provide hiking and viewing opportunities to tourists. Signs would be provided to users at scenic viewpoints and day use area to inform users of area names and request that all users “pack it in and pack it out”, which should help minimize garbage disposal within the project area.
- **Cultural and Historic Resources.** The project has the potential to increase understanding and appreciation of Native American use of Katlian Bay and surrounding area. Participation by Shee Atiká in the naming of geographical features on Shee Atiká lands and by the Sitka Tribe on non-Shee Atiká lands would recognize Native American use of the area.
- **Tree Harvest.** Trees harvested for road construction would be available for public removal at designated areas and times. Trees harvested from within Shee Atiká’s lands would be available for removal by Shee Atiká’s shareholders at designated areas and times. Trees harvested from NFS lands would be available for NFS use and disposal.

6.0 SUMMARY OF PROJECT COMPLIANCE WITH OTHER LAWS AND REGULATIONS

ADF&G Title 16 Fish Habitat Permits (AS 16.05.841.871). This permitting process is intended to protect anadromous and resident fish through use of fish-friendly culverts and bridges. The Proposed Action would involve crossing of 11 anadromous and resident fish streams. Title 16 fish habitat permit applications were submitted to ADF&G to ensure regulatory compliance and obtain authorization to cross these streams through use of approved culvert and bridge types and sizes and application of mitigation measures to protect fish and fish habitat.

American Antiquities Act. The Antiquities Act resulted from concerns about protecting mostly prehistoric Indian ruins and artifacts that are collectively termed as antiquities. Through research, field surveys, and analysis, no antiquities were identified as occurring within the analysis area and a finding of no adverse effect on historic properties by the Proposed Action was determined (Appendix H, Cultural Resources). If construction activities uncover historic, prehistoric, and/or archaeological sites, locations, remains, and/or objects; these will be immediately reported to OHA for direction on how to proceed and protect these resources.

Alaska Administrative Order 186 State – Tribal Relations. This State order recognizes the values of the revenue and services that Alaska Tribes contribute to the State’s economic and social well-being. By involving the Sitka Tribe, and Tlingit and Haida Indian Tribes of Alaska during public and agency coordination and being in continuous communications with the tribes that have historically used the project area, the State of Alaska is supporting a constructive and harmonious relationship with Alaska Tribes.

DNR Division of Mining, Land, and Water Land Use Permit. Portions of the Katlian Bay Road are located on State lands. DOT&PF would coordinate with the DNR Division of Mining, Land, and Water to develop an Interagency Land Management Assignment for construction and operation of the road. Project-related bridging plans and water withdrawal from fish-bearing waters shall be subject to prior written approval by DNR Division of Mining, Land and Water and ADF&G Division of Habitat that includes reserving adequate flow to support indigenous aquatic life.

Alaska Historic Preservation Act (AS 41.35). This act is intended to preserve and protect the historic, prehistoric, and archaeological resources of Alaska from loss, desecration, and destruction so that scientific, historic, and cultural heritage embodied in these resources may pass undiminished to future generations. Through research, field surveys, and analysis, a finding of no adverse effect on historic properties by the Proposed Action was determined (Appendix H, Cultural Resources).). If construction activities uncover historic, prehistoric, and/or archaeological sites, locations, remains, and/or objects; these will be immediately reported to OHA for direction on how to proceed and protect these resources.

Bald and Golden Eagle Protection Act. This act is intended to protect bald eagles and golden eagles. In 2015, four bald eagle nests were recorded to be in the vicinity of the Katlian Bay Road. An application would be prepared for a Bald Eagle Disturbance Permit from the USFWS due to potential nest disturbance during road construction. Continued monitoring for eagle presence would occur prior to construction.

Clean Air Act. The Clean Air Act is intended to protect air quality. Emissions anticipated from implementing the Proposed Action would be of short duration and would not be expected to exceed State of Alaska ambient air quality standards (18 AAC 50).

Clean Water Act. The Clean Water Act is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources. The Proposed Action is subject to compliance with the Clean Water Act Sections 404/401. Recognizing these requirements, DOT&PF would be submitting an individual permit application to the USACE for approval of discharge of fill (wetlands and streams crossed by the Proposed Action), and work in a river that is currently listed as water quality impaired (Katlian River listed as 303(d) water quality impaired due to total suspended sediment from previous logging activities).

Endangered Species Act. Biological evaluations were completed for threatened and endangered wildlife, fish, and plant species. The humpback whale and Steller sea lion are listed as federally endangered and the humpback whale was sighted in Katlian Bay during spring 2015. Federally listed fish species that have potential to be present in Katlian Bay are specific stocks of salmon and steelhead species that could migrate through Katlian Bay but do not spawn or occur within the project area. Through application of mitigation measures to protect listed species, no threatened or endangered species would be affected by the Proposed Action.

Compliance with Federal Executive Orders was conducted to support the USACE in their review of the project under the Clean Water Act Section 404 permitting.

Executive Order 11593 (Protection and Enhancement of the Cultural Environment). This executive order encourages protection of cultural resources and compliance with the National Historic Preservation Act. Through research, field surveys, and analysis, a finding of no adverse effect on historic properties by the Proposed Action has been determined (Appendix H, Cultural Resources). If construction activities uncover historic, prehistoric, and/or archaeological sites, locations, remains, and/or objects; these will be immediately reported to OHA for direction on how to proceed and protect these resources.

Executive Order 11988 (Floodplain Management). This Executive Order recommends judicious management of floodplains. Portions of Katlian Bay are within the FEMA special flood hazard area. Bridges that cross these areas avoid the special flood hazard areas or are designed to avoid flooding impacts.

Executive Order 11990 (Protection of Wetlands). This Executive Order recommends protection of wetlands. The Proposed Action would affect wetlands; mitigation is proposed to avoid, minimize, and mitigate for these wetland impacts as would be described in detail within the project Clean Water Act Section 404/401/10 permit application.

Executive Order 12898 (Environmental Justice). This Executive Order is intended to identify and avoid disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. Implementation of the Proposed Action would not cause disproportionate adverse human health or environmental effects to minority or low-income populations. The Proposed Action has no potential to cause increased human health or safety risks.

Executive Order 13007 (Indian Sacred Sites). This executive order directs Federal agencies to accommodate access to and ceremonial use of American Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites. The Proposed Action would not limit access to or ceremonial use of sacred sites by Indian religious practitioners and would not adversely affect the integrity of such sites.

Executive Order 13112 (Invasive Species). This Executive Order recommends the use of measures to avoid the introduction of invasive species. Invasive plant population field surveys were conducted in 2014 and 2015. No invasive species were identified. However, invasive species populations have the potential to spread within the vicinity of the road corridor and BMPs would be applied to minimize this potential.

Executive Order 13175 (Consultation and Coordination with Indian Tribal Government). This executive order established regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications to strengthen the United States government-to-government relationships with Indian tribes and to reduce the imposition of unfunded mandates upon Indian tribes. DOT&PF has conducted government-to-government consultation with Sitka Tribe and Tlingit and Haida Indian Tribes of Alaska for this Proposed Action.

Fish and Wildlife Coordination Act. This act provides for the protection of wildlife, fish, and their resources including a USFWS review of proposed activities to support wildlife and fish impact avoidance. The Proposed Action was selected to avoid impacts to fish, wildlife, and their habitat associated with Katlian Bay and to minimize impacts to these resources. The USFWS has been informed during public and agency coordination of the Proposed Action.

Government-to-Government Relations with Federally-Recognized Tribes of Alaska (DOT&PF Policy and Procedures 1.03.010). This policy reinforces government-to-government relationships between the DOT&PF and tribes in Alaska through consultation on significant matters of mutual concern. DOT&PF has conducted government-to-government consultation with the Sitka Tribe and Tlingit and Haida Indian Tribes for the Proposed Action.

Magnuson-Stevens Fishery Conservation and Management Act. This act protects EFH for salmon uses. EFH occurs in the project vicinity. An EFH analysis was conducted along with proposed mitigation measures to protect EFH in the project area. The EFH project effects and mitigation are included in the USACE Section 404/401/10 permit application. In accordance with the Magnuson-Stevens Fishery Conservation and Management Act, DOT&PF would consult with the NMFS to ensure project compliance with these regulations.

Marine Mammal Protection Act. This act is intended to protect marine mammals from injury or loss. Several marine mammal species may use Katlian Bay for feeding. Mitigation measures to protect these species during blasting are included as project components associated with the Proposed Action.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act implements various treaties and conventions between the United States and other countries for the protection of migratory birds. Under the act, taking, killing, or possessing migratory birds is unlawful. This action is not anticipated to have any effects on migratory birds because of planned mitigation measures (timing of clearing), except

where habitat is cleared for the roadway footprint, which would be a direct long-term loss. There may also be potential for competition between native birds and non-native birds that may be attracted to the open road and new roadside vegetation.

Native American Graves Protection and Repatriation Act. This act requires cessation of construction activities and consultation with appropriate tribal representatives if human remains are inadvertently discovered during construction. The Proposed Action would comply with this regulation.

Project Development and Maintenance Environmental Review Procedures/Construction and Maintenance Policy and Objectives for Operations Requiring Federal and/or State Permits (DOT&PF Policy and Procedures 01.03.011). This policy requires that pre-construction, construction, and maintenance activities are to be conducted in strict compliance with all environmental regulations. It is the objective of this Proposed Action to identify and comply with all applicable regulations, policies, and guidelines.

Public Involvement and Agency Coordination (Policy and Procedure (P&P) 1.03.040). This policy formalizes public involvement and agency coordination during the planning, project development, construction, maintenance, and operation of transportation facilities and buildings. Public involvement and agency coordination has been an ongoing activity for this project and included public and agency coordination, communicating via project website, and maintaining a working relationship with local, State, and Federal agencies specific to this project.

7.0 COMMENTS AND COORDINATION

Public involvement was initiated with preparation of a public involvement plan specific to the project. A community relations program was developed along with an agency, organization, and tribal contact list. A project website was developed¹. A newspaper notice about the project was published in the Daily Sitka Sentinel on March 4, 14, and 15, 2015. A public open house and presentation were held at the Harrigan Centennial Hall, Sitka, on March 18, 2015 with 41 attendees signing in for this open house. Coordination letters to agencies and tribes were sent on March 4, 2015. An agency meeting took place on March 17, 2015. Government-to-government consultation with the Sitka Tribe and Tlingit and Haida Indian Tribes occurred on April 4, 2015.

The project public comment period took place from March 3, 2015 to April 4, 2015. The majority of the public comments were received through the project website. Public and agency coordination generated 84 comments from the public, resource agencies, and other organizations (Appendix A, Public and Agency Comments). Common resource topics received from commenters included avoiding potential environmental impacts (the primary resource area of concern was fish), ensuring project funding, providing new information that should be considered, recommending alternatives, considering maintenance for the road and parking area, and providing public access to adjacent private lands. Of the 84 total commenters, 47 commenters offered support for the project. Common reasons for supporting the project included future economic opportunity and increased access for recreation and subsistence uses. Eleven of the commenters provided general comments on opportunities for project improvements. Resource agency comments identified project requirements or environmental impacts from their agency's perspective. Other comments from the public included suggestions for ensuring access for public use and providing opportunities for future development adjacent to the project area. The remaining 23 comments were from individuals with project concerns. The most frequently raised issues included project justification, project funding availability, future road maintenance costs, environmental consequences, and increased road access issues.

Agencies and tribes contacted during public and agency coordination include the following:

- State, Federal, and Local Agencies/Institutions:
 - ADF&G
 - DNR
 - CBS
 - NOAA-Fisheries
 - OHA
 - USACE
 - USCG
 - EPA
 - Forest Service
 - USFWS

¹ http://dot.alaska.gov/sereg/projects/sitka_katlianbayroad/index.shtml

- Tribes and Corporations:
 - Central Council Tlingit & Haida Indian Tribes of Alaska
 - Sealaska Corporation
 - Sealaska Heritage Institute
 - Shee Atiká, Incorporated
 - Sitka Historic Preservation Commission
 - Sitka Tribe of Alaska.

8.0 LIST OF PREPARERS

Table 8-1: List of Preparers

Name/Affiliation	Environmental Document Responsibility	Profession
Chris Goins, PE	Project Management and Environmental Document Review	Project Manager - Design Group Chief, DOT&PF Southcoast Region
John Barnett	Environmental Coordinator and Environmental Document Review	DOT&PF - Southcoast Region Environmental Manager
Willow Gabor	Environmental Document Review	Environmental Impact Analyst III
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Hilary Lindh	Environmental Document Review	Prior DOT&PF Southcoast Region Environmental Manager (no longer with DOT&PF)
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