

**Anton Larsen Bay Road Extension
Kodiak Island Borough, Alaska
Environmental Assessment**

AK TR OUZI 2017(1)

Submitted
Pursuant to Public Law 91-190
National Environmental Policy Act

U.S. Department of Transportation
Federal Highway Administration
Western Federal Lands Highway Division

12.17.2019

Date Approved



Dan Donovan
Chief of Business Operations
Federal Highway Administration
Western Federal Lands Highway Division

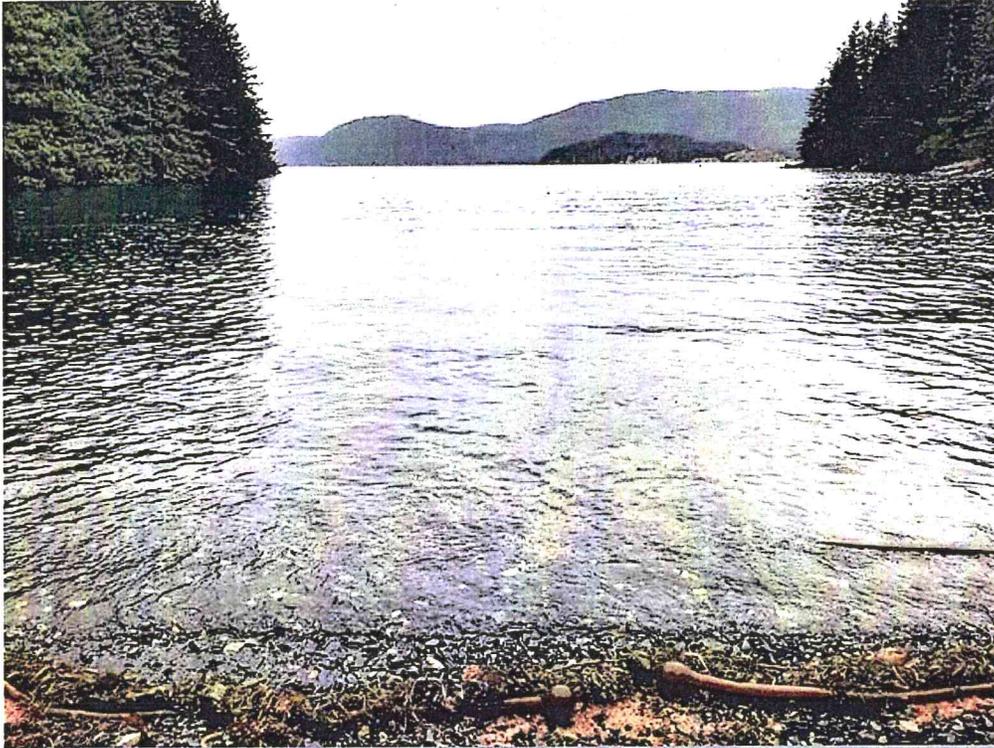
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December 2019

Anton Larsen Bay Road Extension

Environmental Assessment



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Kodiak, Alaska

Prepared for:



Western Federal Lands Highway Division

Prepared by:



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Executive Summary

The Western Federal Lands Highway Division (WFLHD) of the Federal Highway Administration, in cooperation with the Native Village of Ouzinkie, proposes to extend Anton Larsen Bay Road approximately two miles and construct a new boat launch and float/docking facility at the end of the road at the mouth of Anton Larsen Bay. The project is located on Kodiak Island in the Kodiak Island Borough (KIB), on the Alaska Gulf Coast. The existing Anton Larsen Bay Road ends at a parking area approximately 15 miles northwest of the City of Kodiak along the shoreline of Anton Larsen Bay.

Purpose and Need

Purpose

The purpose of this project is to provide improved access between Kodiak and outlying communities. The completed project would improve access to the services of the City of Kodiak from the communities of Port Lions, Ouzinkie, and other remote locations, and provide safer travel during the winter when flying is not possible. The proposed route would increase access to recreational opportunities and reduce the extent of ocean travel currently required to access the City of Kodiak by outlying communities.

Need

Travel between the City of Kodiak and the outlying communities of Ouzinkie and Port Lions is via airplane or boat. There is no road connection between the communities because they are located either on a separate island (Ouzinkie) or isolated from the Kodiak Island road system by a large bay (Port Lions). Transportation options available to travelers between these communities include the Alaska Marine Highway System, commercial and general aviation, and commercial and private boats. Travelers also utilize Anton Larsen Bay Road on the Kodiak Island road system in combination with small boats, or “skiffs.”

Local residents view travel via a combination of skiff and vehicle through Anton Larsen Bay and Anton Larsen Bay Road as the most cost effective, convenient, and safe option for non-emergencies. During the spring, summer, and fall, travel from Ouzinkie or Port Lions to Kodiak via this route involves a roughly 30-minute skiff ride from either community to the Anton Larsen Bay Dock located in the interior of the Anton Larsen Bay. From there, it is a 20- to 30-minute car ride via Anton Larsen Bay Road to the Kodiak Airport or the City of Kodiak.

In the winter, however, the interior portion of Anton Larsen Bay freezes due to fresh water entering the head of the Bay, preventing boats from launching from the dock or entering the Bay. During this time, marine travel is limited to a route around Spruce Cape along the northeastern tip of Kodiak Island. Northeasterly wind and ocean currents from the Gulf of Alaska often present difficult or dangerous travel conditions along this portion of Kodiak Island’s shoreline.

The outlying communities of Ouzinkie and Port Lions have expressed the need for a boat launch/dock facility that is not subject to winter icing and is available year-round. Because the mouth of the Bay receives less fresh water than the inland portion of the Bay, the mouth freezes less frequently, thereby allowing improved access to/from remote areas by boat in the winter from a launch/dock at this location. The extension project has been discussed locally since the

1960s. The project is listed in the KIB Capital Improvement Program and has consistently been on the list over the last several years.

Alternatives

No Action Alternative

Under the No Action alternative, no new facilities or infrastructure would be developed to provide a new boat launch and road access to a bay that is most often ice-free. The existing Anton Larsen Bay dock located near the end of the existing road would remain the primary access point for Anton Larsen Bay and Anton Larsen Bay Road. No improvements are proposed to either facility with this alternative.

Proposed Action

The Proposed Action would extend Anton Larsen Bay Road approximately 1.7 miles, starting from the end of the existing road and terminating at the beach near Crag Point. The Proposed Action would also include a parking area and launch/dock at the terminus of the new roadway within a small bay near Crag Point.

Environmental Consequences

No Action Alternative

The No Action alternative would not cause any new adverse environmental consequences since no improvements or construction would occur. Existing adverse impacts occurring within the project's area of analysis include continuation of existing social, economic, and environmental justice conditions, including higher costs related to travel logistics to access goods and services for minority and low-income populations during iced-over portions of the year, and continued adverse fish passage conditions at the Small Creek culvert crossing. Potential beneficial effects of the Proposed Action, including more convenient, lower cost transportation options, improved fish passage at Small Creek, and increased recreational access, would not be realized.

Proposed Action

The alternatives analyzed in this Environmental Assessment include the No Build Alternative and the Proposed Action. **Table ES-1** summarizes the project's potential environmental impacts, including both adverse and beneficial impacts, by alternative.

Table ES-1: Summary of Environmental Consequences

Environmental Impact Category	No Action Alternative	Proposed Action	Key to impacts: d/i=Direct and Indirect t=Temporary c=Cumulative
Transportation	<p>d/i No new effect</p> <p>d/i Travel over land or ice by foot or other means to reach Anton Larsen Bay Road would continue</p> <p>d/i Reliability of travel options would be unchanged from existing since the same options would continue to be available</p>	<p>d/i Anton Larsen Bay Road access via Anton Larsen Bay would increase to year-round</p> <p>d/i Increased trips on Anton Larsen Bay Road</p> <p>t Increased traffic during construction from mobilization of labor, equipment, and materials</p>	
Land Use	d/i No effect	<p>d/i Project area converted from undeveloped forest to transportation use</p> <p>d/i Consistent with local land use and transportation plans</p> <p>d/i Increased potential for development of adjacent land along the road extension is negligible</p> <p>t temporary conversion of certain portions of the study area along the proposed road corridor and at the shoreline from undeveloped, forested land and undisturbed shoreline to short-term staging areas for construction</p>	
Socioeconomics & Environmental Justice	d/i No effect	<p>d/i Minor increase in demand for public services along the road extension</p> <p>d/i Increased access to goods and services for Environmental Justice populations in off-island communities</p> <p>t Minor economic benefit to local economy</p>	
Air Quality, Noise, & Energy	d/i No effect	<p>d/i No measurable effect on air quality or energy</p> <p>d/i Minor increase in perceptible noise levels for nearby residents; no noise impact per Code of Federal Regulations Title 23, Part 772</p> <p>t Increased air pollutants from emissions, dust, noise, and energy use during construction.</p>	
Soils & Geology	d/i No effect	<p>d/i Tsunamis, slopes failures, or liquefaction could affect proposed road and boat dock facilities</p> <p>t Soil disturbance caused by loss of the top layer of organic material, compaction, minor regrading, and erosion during construction</p>	
Water Resources, Water Quality, & Floodplains	d/i No effect	<p>d/i Approximately 14 acres of semi-impervious surface, increasing storm water runoff to vegetated areas and streams</p> <p>d/i Potential for roadway pollutants in storm water discharging to water bodies</p> <p>t Degradation of water quality caused by sedimentation during ground disturbing activities</p>	
Wetlands & Waters of the U.S.	<p>d/i No new effect</p> <p>d/i Continued adverse fish passage, hydrologic, and hydraulic conditions at Small Creek and other existing stream crossings</p>	<p>d/i Less than 1/2 acre of permanent wetland loss</p> <p>d/i Nine stream crossings impacting less than 1/10 acre of stream channel: culvert replacement at Small Creek improving fish habitat and hydrologic and hydraulic conditions; two culverts or bridges at existing trail crossings; six new culverts in small streams</p> <p>d/i Boat launch and dock impacting less than 1/10 acre of marine shoreline and waters</p> <p>t Degradation of water quality caused by sedimentation during ground disturbing activities</p> <p>c Incremental, but not significant, contribution to cumulative effects to wetlands within the watershed</p>	

Table ES-1: Summary of Environmental Consequences

Environmental Impact Category	No Action Alternative	Proposed Action	d/i=Direct and Indirect t=Temporary c=Cumulative
Fish, Wildlife, & Vegetation	d/i No new effect d/i Continued adverse fish passage conditions at Small Creek	d/i No adverse effect to resident fish or anadromous/Essential Fish Habitat d/i Bisect wildlife habitat and potential disruption of wildlife movement d/i Potential to facilitate wildlife mobility along the road extension d/i Increased hunting access to undeveloped land along the road extension d/i Approximately 14 acres of vegetation (forest, herbaceous meadow, and shrub) removed t Potential mortality to fish during in-water work t disruption to foraging and breeding, displacement, injury, or mortality to small or immobile wildlife species t Increased vegetation loss beyond cut/fill limits for temporary work areas t Potential for introduction and spread of invasive species c No contribution to cumulative effects on fish or fish habitat c Incremental, but not significant, contribution to cumulative effects to wildlife and vegetation through tree removal and wildlife-vehicle collisions	
Threatened & Endangered Species	d/i No effect	d/i May affect, but is not likely to adversely affect northern sea otters and their critical habitat d/i May affect, but is not likely to adversely affect Steller sea lions; no effect on their critical habitat d/i May affect, but is not likely to adversely affect humpback whale, fin whale, and north pacific right whale; no effect on north pacific right whale critical habitat d/i No effect on short-tailed albatross d/i Potential injury or disturbance to T&E species caused by in-water work, including pile-driving	
Cultural Resources	d/i No effect	d/i No historic properties affected t May, but is not anticipated, to encounter previously unknown resources during construction	
Recreation	d/i No new effect d/i Continued access difficulties to recreation areas & activities	d/i No direct effect on existing public recreation resources d/i Increased recreational access and opportunity, including hunting and fishing, beyond end of existing road and on west side of Kodiak Island t Potential disruption to trail users at parking areas and on trails caused by the presence of and noise from construction equipment	
Visual Impacts	d/i No effect	d/i One residence would have limited or obscured views of the roadway d/i Road extension and boat dock facilities would be visible from areas near the mouth of Anton Larsen Bay t Disruption of visual landscape from vegetation clearing, excavation, grading, presence of work crews, or brightly colored signage	

The following categories have been determined to be non-issues and are not included in the summary: Section 4(f)/6(f) Resources, Farmland, Joint Development, Considerations Relating to Pedestrians and Bicyclists, Wild and Scenic Rivers, Coastal Barriers, Coastal Zone Impacts, Hazardous Waste, and Relocations.

Permits

The following permits and approvals would likely be required prior to construction of the Proposed Action:

- National Environmental Policy Act approval (anticipated Finding of No Significant Impact).
- Alaska Department of Environmental Conservation (ADEC) Construction General Permit for Storm Water Discharges for Large and Small Construction Activities (Clean Water Act [CWA] Section 402).
- ADEC Water Quality Certification for discharge into waters of the U.S., including wetlands (CWA Section 401).
- Alaska Department of Fish & Game (ADF&G) Fish Habitat Permit for proposed construction activities within or over fish-bearing waters (Anadromous Fish Act/Fishway Act).
- ADF&G Fish Resource Permit for capture and relocation of fish during stream diversions (Alaska Administrative Code [AAC] Title 5, Part 41).
- Alaska Department of Natural Resources Temporary Water Use Permit for stream diversion (11 AAC 93).
- KIB Zoning Compliance Permit (KIB Code Chapter 17).
- KIB Code Compliance Permit for road improvements (KIB Code Chapter 16).
- State Historic Preservation Officer concurrence with *no historic properties affected* finding (National Historic Preservation Act Section 106) received 9/19/2019.
- U.S. Army Corps of Engineers, Wetlands Permit for placement of fill or dredged material into waters of the U.S., including wetlands (CWA Section 404)
- U.S. Fish and Wildlife Service Letter of Concurrence (Endangered Species Act Section 7) received 9/20/2019.

Public and Agency Coordination

WFLHD involved the public, regulatory agencies, local governments, tribal organizations, and other stakeholders to solicit input on the project's alternatives, resources in the project area, and potential impacts to those resources, and to develop awareness of the project. Outreach conducted for this project included the following:

- Public scoping meetings in Kodiak, Ouzinkie, and Port Lions in October 2018
- Newspaper advertisements
- Flyers (project fact sheets)
- Public scoping meeting display boards
- Project website with interactive map allowing transmittal of public comments and questions (<https://flh.fhwa.dot.gov/projects/ak/anton-larsen/>)
- Agency scoping letters

WFLHD received 15 formal written comments from the public at public scoping meetings, via email, or through the online interactive map on the project website. In addition, the project team recorded several informal comments during the meetings. Issues related to the purpose and need,

transportation, land use, and recreation were the most common topic discussed during public outreach.

Public and agency involvement has been ongoing throughout the environmental review process and would continue through the project's construction phase.

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- Appendix D. Biological Assessment
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Abbreviations

17(b)	Alaska Native Claims Settlement Act Section 17(b) site or trail easement
AAAQS	Alaska Ambient Air Quality Standards
AAC	Alaska Administrative Code
AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway Transportation Officials
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish & Game
ADOLWD	Alaska Department of Labor and Workforce Development
ADOT&PF	Alaska Department of Transportation & Public Facilities
ADNR	Alaska Department of Natural Resources
AMHS	Alaska Marine Highway System
ANCSA	Alaska Native Claims Settlement Act
ANHP	Alaska Natural Heritage Program
ANVSA	Alaska Native Village Statistical Area
APDES	Alaska Pollutant Discharge Elimination System
APE	Area of Potential Effect
AS	Alaska Statute
ATV	All-Terrain Vehicle
BA	Biological Assessment
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMP	Best Management Practice
CAA	Clean Air Act
CFR	Code of Federal Regulations
CT	Census Tract
CWA	Clean Water Act
dba	A-weighted decibel
DCH	Designated Critical Habitat
DEA	David Evans & Associates, Inc.
EA	Environmental Assessment
EFH	Essential Fish Habitat
ESA	Endangered Species Act
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMP	Fishery Management Plan
HDL	HDL Engineering Consultants, LLC
HUC	Hydrologic Unit Code
KIB	Kodiak Island Borough
MBTA	Migratory Bird Treaty Act
MLLW	Mean Lower Low Water
MMPA	Marine Mammal Protection Act
MSAT	Mobile Source Air Toxics
MSFCA	Magnusen-Stevens Fishery Conservation Act
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act

NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPFMC	North Pacific Fisheries Management Council
NTU	Nephelometric Turbidity Units
NVO	Native Village of Ouzinkie
OHWM	Ordinary High Water Mark
ONC	Ouzinkie Native Corporation
ROW	Right-of-Way
RS	Revised Statute
SHPO	State Historic Preservation Officer
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
U.S.	United States
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
WFLHD	Western Federal Lands Highway Division

1 Purpose & Need

1.1 Introduction

The Western Federal Lands Highway Division (WFLHD) of the Federal Highway Administration (FHWA), in cooperation with the Native Village of Ouzinkie (NVO), proposes to extend Anton Larsen Bay Road approximately two miles and construct a new boat launch and float/docking facility at the end of the road. The project is located on Kodiak Island in the Kodiak Island Borough (KIB), on the Alaska Gulf Coast. The existing Anton Larsen Bay Road ends at a parking area approximately 15 miles northwest of the City of Kodiak along the shoreline of Anton Larsen Bay (**Figure 1-1**).

An existing boat launch and dock that has only seasonal accessibility is located approximately one mile prior to the end of the road near the head of Anton Larsen Bay and allows for limited parking and launching of small boats. It does not allow for year-round boat access because the bay at this location often has a layer of fresh water that freezes during the winter. The proposed project would develop a new transportation link between Anton Larsen Bay Road and the outer portion of Anton Larsen Bay near Crag Point. The project would also provide a year-round, ice-free boat docking and vehicle access location for people travelling by a combination of vehicle and boat between the City of Kodiak and outlying communities located off Kodiak Island's road system.

This project is currently funded for planning and design under a State of Alaska Department of Commerce, Community, and Economic Development grant that was issued to the Spruce Island Development Corporation. Final design and construction funding have not been secured, although the project is currently listed in the KIB Capital Improvement Program.

This Environmental Assessment (EA) describes two alternatives, the Proposed Action and a No Action alternative, and presents an environmental impact analysis in accordance with the National Environmental Policy Act (NEPA).

1.2 Purpose and Need for the Action

The WFLHD has identified the following purpose and need for the project based on input from the community and other stakeholders.

Purpose

The purpose of this project is to provide improved access between Kodiak and outlying communities. The completed project would increase access to the services of the City of Kodiak from the communities of Port Lions, Ouzinkie, and other remote locations. The proposed route would increase access to recreational opportunities and reduce the extent of ocean travel currently required to access the City of Kodiak by outlying communities.

Figure 1-1: Project Location and Vicinity Map



Need

Travel between the City of Kodiak and the outlying communities of Ouzinkie and Port Lions is typically via airplane or boat. There is no road connection between the communities because they are located either on a separate island (Ouzinkie) or isolated from the Kodiak Island road system by a large bay (Port Lions). Transportation options available to travelers between these communities include the Alaska Marine Highway System (AMHS), commercial and general aviation, and commercial and private boats. Travelers also utilize Anton Larsen Bay Road on the Kodiak Island road system in combination with small boats, or “skiffs.”

Local residents view travel via a combination of skiff and vehicle through Anton Larsen Bay and Anton Larsen Bay Road as the most cost effective, convenient, and safe option for non-emergencies. During the spring, summer, and fall, travel from Ouzinkie or Port Lions to Kodiak via this route involves a roughly 30-minute skiff ride from either community to the Anton Larsen Bay Dock located in the interior of Anton Larsen Bay. From there, it is a 20- to 30-minute car ride via Anton Larsen Bay Road to the Kodiak Airport or the City of Kodiak.

In the winter, however, the interior portion of Anton Larsen Bay freezes over due to fresh water entering the head of the Bay, preventing boats from launching from the dock or entering the Bay. During this time, marine travel is limited to a route around Spruce Cape along the northeastern tip of Kodiak Island. Northeasterly wind and ocean currents from the Gulf of Alaska often present difficult or dangerous travel conditions along this portion of Kodiak Island’s shoreline.

The outlying communities of Ouzinkie and Port Lions have expressed the need for a boat launch/dock facility that is not subject to icing and is available year-round. Because the mouth of the Bay receives less fresh water than the inland portion of the Bay, the mouth freezes less frequently, thereby allowing improved access to/from remote areas by boat in the winter from a launch/dock at this location. The extension project has been discussed locally since the 1960s. The project is listed in the KIB Capital Improvement Program and has consistently been on the list over the last several years.

2 Proposed Action & Alternatives

2.1 Alternatives

Alternatives developed and evaluated under this project include the No Action alternative and the Proposed Action. NEPA regulations require consideration of the No Action alternative to provide a benchmark to compare against the Proposed Action's environmental effects.

2.1.1 No Action Alternative

Under the No Action alternative, no new facilities or infrastructure would be developed to provide a new boat launch and road access to a bay that is most often ice free. The existing Anton Larsen Bay dock near the end of the existing road would remain the primary access point for Anton Larsen Bay and Anton Larsen Bay Road. No improvements are proposed to either the dock or road with this alternative. The Spruce Cape route would remain the only option for travelers utilizing private marine vessels or skiffs.

The No Action alternative would not meet the stated purpose of the project of increasing access between Kodiak and outlying communities. The No Action alternatives does not provide infrastructure that would support a safe, ice-free route for travelers wishing to travel by the most cost-effective, safest, and convenient route. This alternative does not satisfy the purpose and need for the project.

2.1.2 Proposed Action – Road Extension with Boat Dock and Parking

The Proposed Action would extend from the existing terminus of Anton Larsen Bay Road approximately 1.7 miles to a small beach in a semi-protected bay near Crag Point (**Figure 2-1**). The Proposed Action would also include a boat launch/dock and adjacent parking area at the terminus of the new roadway extension.

From the southern terminus of the proposed roadway extension, the alignment would follow the existing all-terrain vehicle (ATV) (Three Pillar Point) trail for approximately 2,900 feet (0.6 mile) until the trail's crossing over Chalet Creek. From here, the alignment would continue to the northwest for another 6,000 feet (1.1 miles) until it reaches the Anton Larsen Bay shoreline just south of Crag Point. The Proposed Action also includes improvements to the last 0.1 mile of the existing north terminus of Anton Larsen Bay Road.

The road design would incorporate American Association of State Highway Transportation Officials (AASHTO) Guidelines for Geometric Design of Very Low Volume Roads and the Alaska Department of Transportation & Public Facilities (ADOT&PF) Pre-Construction Manual.

The road surface would be gravel. The proposed alignment traverses hillslopes and contours to the greatest extent practicable in an effort to minimize the area of new ground disturbance. The roadway cross-section consists of two 9-foot travel lanes and a total roadway top width of 18 feet, meeting current AASHTO standards (**Figure 2-2**). Pullouts would be provided to allow two-way traffic to pass when wide trucks carrying large equipment are present. The project would develop side slopes, subexcavation, and/or retaining walls based upon geotechnical conditions of the site. Construction of the Proposed Action would temporarily disturb soils and

vegetation within approximately 10 feet of the finished cut and fill limits, and at temporary material and equipment staging areas.

The roadway would be located in a public access right-of-way (ROW) on land currently owned by the Ouzinkie Native Corporation (ONC) and the U.S. Bureau of Land Management (BLM). The ONC intends to transfer roadway jurisdiction to ADOT&PF, though currently, a transfer agreement is not in place. Alternatively, the Sun’aq (pronounced “Shoe-nak”) Tribe of Kodiak may assume ownership of the road and use their annual transportation funds for maintenance.

Existing culverts and bridges overlapping the proposed roadway alignment (one existing road crossing at Small Creek and three existing ATV trail crossings, including Chalet Creek) would be replaced to conform to current design standards or regulatory requirements. The crossing structures at Small Creek and Chalet Creek would be bridges or culverts of sufficient size to span the entire width of the channel and comply with fish passage, hydraulic, and hydrologic requirements. Culverts would also be installed or replaced at other small stream crossings and drainages along the proposed alignment.

The proposed boat launch and dock would include an approximately 1,600-square foot concrete ramp, 960-square foot pile-supported floating dock, and gangway with an adjacent 34,000-square foot parking area. The gravel-surfaced parking area would accommodate parking for 30 to 40 vehicles and trailers. A profile view of the boat launch, floating dock, and parking area is shown on **Figure 2-3**.

Ancillary work would include signage, storm water drainage facilities such as ditches, culverts, or energy dissipaters, and vegetation clearing and subsequent restoration. Vegetation clearing would generally be limited to the embankment cut and fill extents.

Construction along the proposed roadway extension would generally be limited to a 100-foot wide ROW corridor. Work may include excavation, blasting, embanking material along new alignments, grading, compaction, stream diversion, placement of stream crossing and drainage structures, pile driving, and re-vegetation. During construction, temporary work areas outside the acquired ROW would require construction easements and/or related permits. Material and equipment staging would be located within the proposed construction footprint, or on private land negotiated with landowners by the contractor.

2.2 Alternatives Development and Selection

Alternatives developed and evaluated under this project include the No Action alternative and the Proposed Action. NEPA regulations require consideration of the No Action alternative to provide a benchmark to compare against the Proposed Action’s environmental effects. WFLHD developed and evaluated the Proposed Action for its ability to meet the project’s stated purpose and need.

The NVO identified the Kizhuyak Bay/Anton Larsen Bay area, near Crag Point, as the general location for a potential road extension’s northern terminus. The area was identified as suitable based on its proximity to the existing Anton Larsen Bay Road and Dock, year-round, ice-free salt water access, relative protection from northerly and northeasterly winds and ocean swell, and land that is available for use as ROW.

The ADOT&PF conducted initial project development activities and field investigations between 2015 and 2018, resulting in conceptual alignments that traversed a direct overland route between the end of the existing northern terminus of Anton Larsen Bay Road and Crag Point. The conceptual alignments were developed using an iterative process with the intent to avoid or minimize potential adverse impacts to protected environmental resources, minimize construction cost, and utilize land made available by ONC. The ADOT&PF conducted the following engineering and environmental field studies to inform the alignment development process:

- Preliminary geotechnical investigation
- Wetlands delineation
- Invasive species survey
- Cultural resource investigation

Following field investigations, the final conceptual alignment was chosen because it minimized the amount of wetland loss, reduced the number of new fish stream crossings, and minimized large cuts and fill to the maximum extent practicable. The location of the northern terminus and boat launch/dock within the small cove just south of Crag Point was chosen because of its relatively calm waters and to avoid sensitive cultural resources. WFLHD has carried forward the final conceptual alignment and termini as the Proposed Action described in this EA.

Figure 2-1: Proposed Action

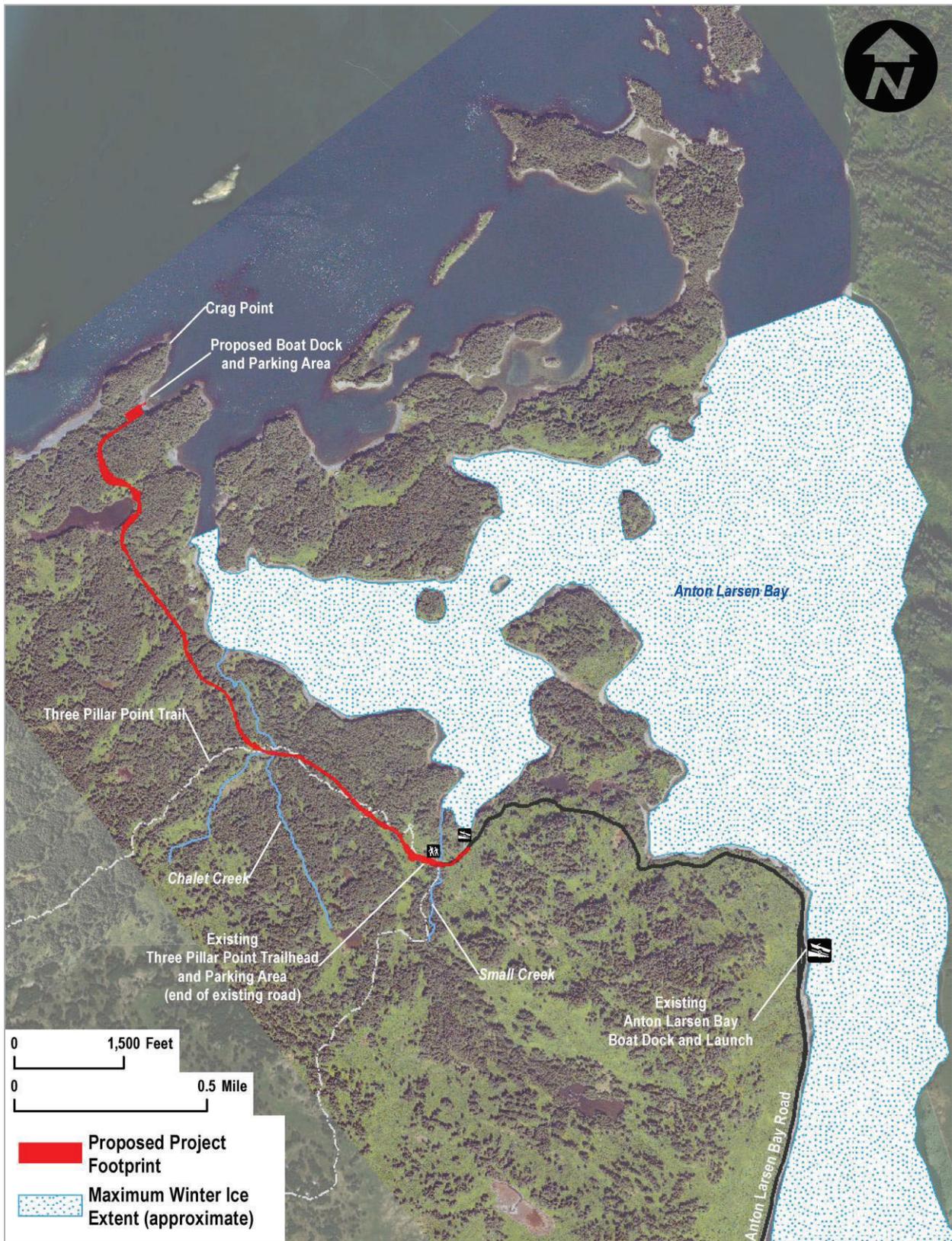


Figure 2-2: Proposed Action Typical Roadway Section

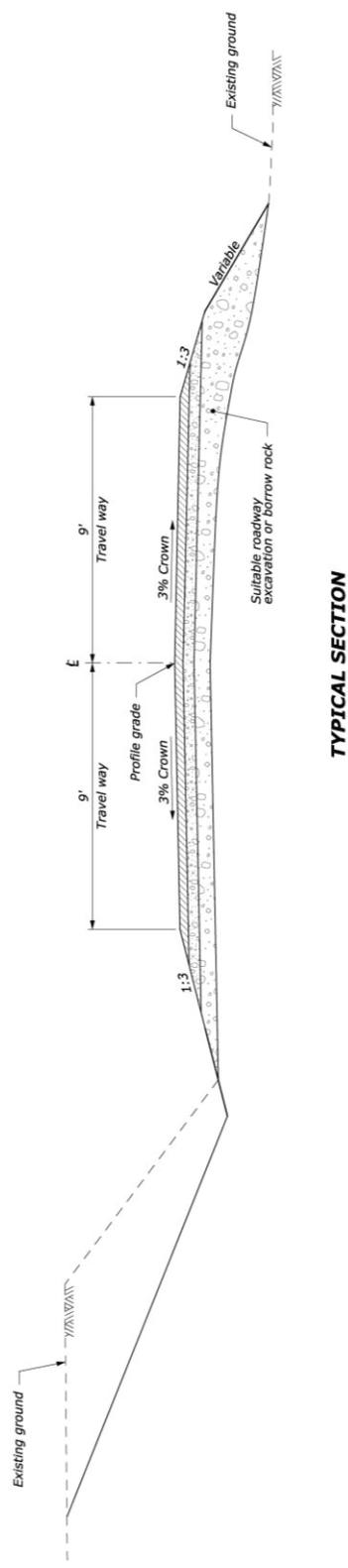
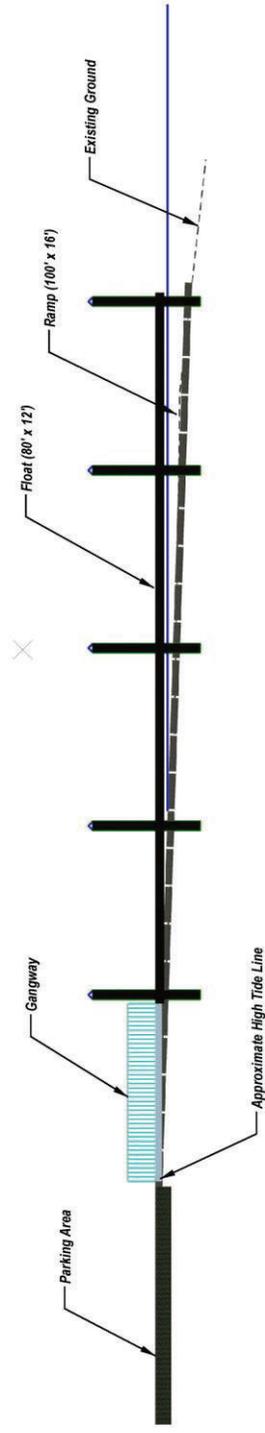


Figure 2-3: Proposed Action Boat Launch and Dock/Float Profile



3 Affected Environment, Environmental Consequences, & Mitigation Measures

This section provides a description of environmental resources present in the project area or vicinity (affected environment), discloses the anticipated impacts to those resources as a result of the project's alternatives (environmental consequences), and identifies proposed mitigation measures to avoid or minimize impacts or compensate for unavoidable impacts (mitigation measures). Mitigation is defined as measures that have been developed specifically for the project, and excludes standard design guidelines, best management practices (BMPs), and regulatory and permit requirements (e.g., AASHTO, erosion control measures, vegetation clearing timing windows).

The selection of environmental resources discussed in terms of their affected environment, environmental consequences, and mitigation discussions is issues-based. Twelve main environmental resource/impact categories have been determined applicable and relevant to the project based on input received during the public and agency scoping process. These categories are presented in greater detail in this chapter. An additional nine categories do not have resources present in the project area or do not have an identifiable impact as a result of either alternative. The impact categories have been determined to be non-issues and are briefly summarized in **Section 3.2**. Together these categories span the range of issues FHWA guidance recommends for impact analysis under NEPA (FHWA 1987).

3.1 Study Area, Evaluation Methods, & Evaluation Criteria

The study area comprises the geographical extent where environmental resources are considered and analyzed for the project's two alternatives. The study area is unique to each environmental resource category and is designed to encompass the area where direct or indirect effects of the Proposed Action may occur as a result of construction and operation or where effects to such resources would occur in the future under the no action alternative. Further description of the study area for each resource category is provided in the sections below.

Assessment of direct effects (effects occurring at the same time and place) and indirect effects (effects occurring at a later time or different area) occurring as a result of project construction and operation are based on the intensity, duration, extent, and context of the impact. The overall level of impact, which may be beneficial or adverse, can be described in a range from *no effect* to *major effect* (**Table 3-1**). The significance of the project's effects is determined by intensity, duration, extent, and context. Cumulative effects combine the project's direct and indirect impacts with the incremental impacts of past, present, and reasonably foreseeable future actions of all federal and non-federal entities. Cumulative effects are only addressed for resources that experience a permanent adverse direct or indirect impact. Construction impacts are also discussed, and focus solely on the temporary effects of construction activity.

Table 3-1: Definition of Impact Level and Intensity

Overall Impact Level Definition	
No effect	No impact
Negligible	low intensity, temporary, localized and not affecting unique resources
Minor	low intensity, temporary, and localized, and greater impact to common resources
Moderate	greater impacts to common resources, but lesser impacts to unique resources
Major	greater impacts to important or unique resources
Intensity Level (degree of change)	Definition
Low	Change is perceptible, but does not measurably change the resource's function or context
Medium	Change to the resource and its function or context is measurable
High	Change to the resource's function or context is clearly and consistently observable
Duration	Definition
Temporary	Impact is intermittent, infrequent, or lasts only for the duration of the event
Long-term	Impact is frequent or extends beyond the life of a temporary event
Permanent	Impact does not cease or resource does not revert to prior condition after a temporary event
Extent	Definition
Local	Impact is limited to a discrete geographical area (e.g. construction footprint)
Regional	Impact extends beyond project footprint (Anton Larsen Bay region)
Extended	Impact extends beyond the project area and Anton Larsen Bay (e.g. Kodiak Island)
Context	Definition
Common	Resource is not rare, not protected by law, or does not perform unique function
Important	Resource performs rare or unique function, or is protected by law
Unique	Affected portion of a protected resource performs a unique function

3.2 Environmental Impact Categories Not Present in Project Area or Without Project-Imposed Consequences

Section 4(f)/6(f) Resources. **Section 3.13 Recreation** describes potential recreational resources in the project area. The KIB considers the Three Pillar Point Trail, located on land owned by the ONC, a private trail (Fraser 2019). The trail may correspond in certain areas with one of the two 25-foot-wide linear Alaska Native Claims Settlement Act (ANCSA) 17(b) easements in the study area. The 17(b) easements are for transportation purposes only; therefore, the easements are not considered recreational resources. For these reasons, the Three Pillar Point Trail is not considered a Section 4(f) resource.

Land owned by the BLM near the northern terminus of the proposed roadway is under no formal designation that includes recreational use. No wildlife refuges or historic resources that could be considered Section 4(f) resources are located in the project area.

The proposed project does not propose to convert property that was purchased or improved through Section 6(f) funding.

Farmland. There is no designated prime, unique, or state or locally important farmland in Alaska, and neither alternative would directly or indirectly affect farmlands or agriculture.

Joint Development. The proposed project is not planned in conjunction with any other projects.

Considerations Relating to Pedestrians and Bicyclists. There are no dedicated bicycle facilities in the vicinity of the proposed project area.

Wild and Scenic Rivers. None of the waterways within or in the vicinity of the proposed project area are designated components of the National Wild and Scenic River System or under study for designation.

Coastal Barriers. There are no designated units of the Coastal Barrier Resources Act in Alaska.

Coastal Zone Impacts. The Alaska Coastal Management Program expired in June 2011 by operation of Alaska State Law, resulting in withdrawal from participation in the Coastal Zone Management Act’s National Coastal Management Program. Consistency provisions of the Act and enforceable policies of local coast zone management plans no longer apply in Alaska.

Hazardous Waste. Research conducted to identify known or potential hazardous waste sites was limited to review of federal and state databases:

- Environmental Protection Agency (EPA) Envirofacts Multisystem search (multiple environmental databases for facility information, including toxic chemical releases, water discharge permit compliance, hazardous waste handling processes, Superfund status, and air emission estimates)
- Alaska Department of Environmental Conservation (ADEC)
 - Contaminated Sites Database
 - Statewide Oil and Hazardous Substance Spills Database

No known hazardous waste sites were identified within or in the vicinity of project area by the databases listed above.

Relocations. The proposed project would traverse three properties, two of which are owned by the ONC. The ONC plans to grant approximately 16 acres of ROW for the portion of the roadway occurring on ONC property. The third property, near Crag Point, is owned by the United States Government under the jurisdiction of the BLM. The ONC have applied, through ANCSA, to acquire fee title to the parcel; however, the application is still under review. If the property transfer is not complete by final design, a partial acquisition or easement (approximately 7 acres) of the property would be required for the road ROW.

The project area and proposed ROW is rural, primarily undeveloped land with no permanent human occupation or related structures. ROW would need to be acquired or granted; however, there would be no relocations associated with the ROW acquisition.

3.3 Transportation

A transportation analysis (*Technical Memorandum: Transportation* [HDL 2019a]) prepared for this project describes existing transportation resources in the study area for this project. This section largely summarizes that analysis.

The study area for transportation resources includes the known routes used by travelers, including the proposed road corridor, existing road and trail corridors, existing marine routes, and existing aviation routes. The transportation routes and related study area evaluated in this analysis are shown on **Figure 3-1**.

3.3.1 Affected Environment

Transportation options available to travelers between the communities of Ouzinkie and Port Lions and Kodiak include the AMHS, commercial and general aviation, commercial and private marine transportation, or a combination of roadways and private marine vessels. **Figure 3-1** illustrates the transportation routes between Kodiak and the communities of Ouzinkie and Port Lions.

Marine Transportation

A public harbor, deepwater dock, and ferry terminal are available in Kodiak, Ouzinkie, and Port Lions. All three ports have water, fuel, and loading/offloading equipment available, and are ice-free year round. AMHS passenger service is provided to Ouzinkie and Port Lions one time per week for fall 2019¹. The travel time between Kodiak and Ouzinkie is 1.5 hours and between Kodiak and Port Lions is 2.5 hours. Passenger service is also available through commercial water taxis operating from the Kodiak boat harbor. Personal marine transportation is used in combination with surface transportation by utilizing the Anton Larsen Bay Dock and Anton Larsen Bay Road.

Surface Transportation

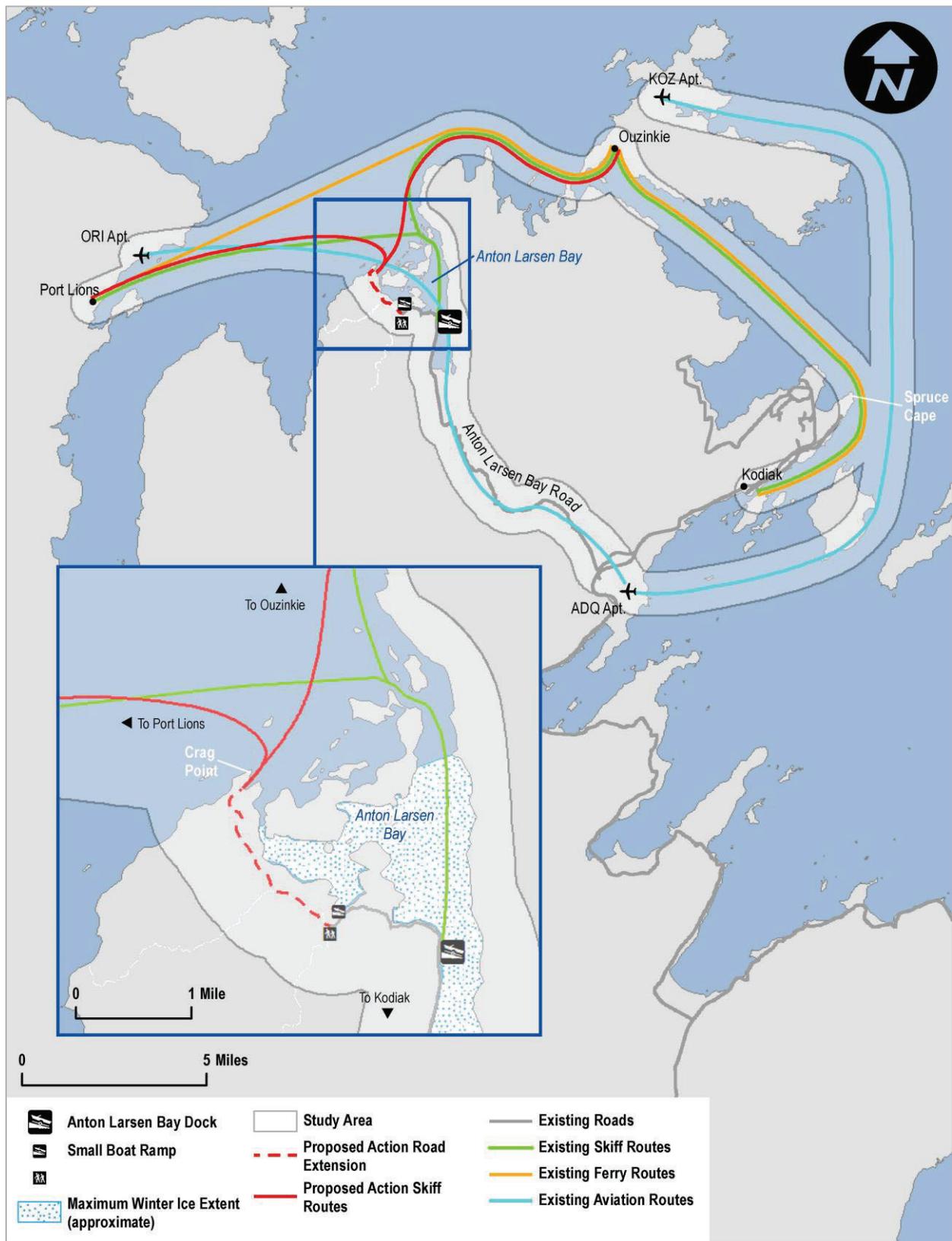
Ouzinkie and Port Lions have limited road systems, and do not have access roads in or out of the communities. Anton Larsen Bay Road is on the Kodiak Island road system and is 11.75 miles long from its beginning at Rezanof Drive to the end of the road adjacent to Anton Larsen Bay. The roadway has an existing 20-foot wide gravel surface with pullouts allowing for two-way traffic to pass (Department of Highways 1970). The Anton Larsen Bay Dock is located at MP 10.3 near the end of the road. At the end of Anton Larsen Bay Road, there are existing site and trail easements established under ANCSA Section 17(b) (17(b) easements).

Aviation

Several local commercial air carriers service Ouzinkie and Port Lions with scheduled and chartered daily mail, cargo, and passenger flights from Kodiak. Ouzinkie and Port Lions have state-owned 3,300-foot and 2,600-foot, respectively gravel airstrips the Federal Aviation Administration designates *general aviation* facilities. Kodiak Airport has a *primary commercial service* designation with three runways measuring 7,533 feet, 5,400 feet, and 5,009 feet respectively.

¹ AMHS sailings schedule for winter 2019-2020, as published by AMHS on September 5, 2019. Sailing schedules vary from season to season and year to year, as determined by need and fiscal constraints.

Figure 3-1: Transportation Features and Routes



Traffic

The AMHS reported approximately 1,000 passengers embarking and disembarking at Ouzinkie and Port Lions in 2015 (AMHS 2015). This number is expected to decline, however, since ferry service has been cut to one sailing per week for winter 2019.

ADOT&PF traffic data for Anton Larsen Bay Road indicates the annual average daily traffic volume (AADT) in 2017 was 106 vehicles.

Only general data are available for aviation traffic between Kodiak, Ouzinkie, and Port Lions since operations are not formally recorded. The Kodiak Airport averages 112 operations per day (AirNav 2019a) and the Port Lions Airport averages about 100 operations per week (AirNav 2019b). Operations data for Ouzinkie Airport is not readily available, but is assumed to be similar to Port Lions.

Reliability

Winds, tides, fog, ground swell, and open ocean exposure can influence marine travel for small vessels, including private boats and water taxis. Snow removal, fog, and other reduced visibility conditions can delay or cancel scheduled flights and road travel. Adverse travel conditions can occur at any time of the year; however, they are more likely to impact travel plans during the winter due to snow conditions that limit travel by air and road until snow removal can be completed. Reliability of the existing Anton Larsen Bay marine route during the winter is known only by anecdotal evidence. There are no known records from governmental agencies that track ice cover in the Bay. Statements from local residents vary from a few months to only a few days per year that the Bay is frozen to its typical full extent (HDL Engineering Consultants, LLC [HDL] 2019a). This variability is due in part to varying winter weather conditions.

Ferry cancellations due to adverse weather are rare for intra-island sailings (Traudt 2019). However, a limited number of days are planned for weather cancellations.

Residents of Ouzinkie and Port Lions have reported travelling approximately 12 miles on foot during adverse winter road conditions to reach Kodiak. Travelers bring their boat to shore at an ice-free location near Crag Point, and then travel over Anton Larsen Pass to a plowed location near the southern terminus of Anton Larsen Bay Road, at which point an in-town friend or relative may pick them up (HDL 2018).

During emergency situations, most Kodiak Island communities rely on the USCG, which operates a large installation in Kodiak, to provide evacuations from Ouzinkie and Port Lions for medical emergencies. USCG rescue helicopters are capable of flying in a greater range of weather conditions than commercial or private operators.

3.3.2 Environmental Consequences

Evaluation criteria for transportation resources is principally related to the capability of the alternatives to meet the project's purpose and need. More specifically, the impact assessment focuses on convenience and reliability, or how difficult and time-consuming, the alternative is for the traveler. This would affect how frequent the alternative would be used and would have the strongest impact on whether an alternative is likely to accomplish the goal of improving

access between Ouzinkie, Port Lions, other outlying communities, and Kodiak. **Table 3-2** shows the estimated travel times and consumer costs for all travel modes for both alternatives.

Table 3-2: Estimated Trip Times between Kodiak and Ouzinkie/Port Lions

	No Action				Proposed Action
	Marine + Road (when bay is unfrozen)	Marine (private)	Marine (AMHS)	Air	Marine + Road
Ouzinkie/Port Lions to Anton Larsen Bay Dock (miles)	10.1 (Ouzinkie) 10.9 (Port Lions)	-	-	-	-
Ouzinkie/Port Lions to New Boat Launch (miles)	-	-	-	-	8.7 (Ouzinkie) 7.1 (Port Lions)
Ouzinkie to Kodiak (miles)	-	14	14	23	-
Port Lions to Kodiak (miles)	-	28	28	18	-
Marine Travel Time (minutes)	30 ¹ (Ouzinkie) 33 ¹ (Port Lions)	42 ¹ (Ouzinkie) 124 ¹ (Port Lions)	90 ² (Ouzinkie) 150 ² (Port Lions)	-	26 ¹ (Ouzinkie) 21 ¹ (Port Lions)
Anton Larsen Bay Dock to Rezanof Drive (miles)	10	-	-	-	-
New Boat Launch to Rezanof Drive (miles)	-	-	-	-	13
Road Travel Time (minutes)	24 ¹	-	-	-	31 ¹
Air Travel Time (minutes)	-	-	-	15 ²	-
Total Travel Time	54 (Ouzinkie) 57 (Port Lions)	42 (Ouzinkie) 84 (Port Lions)	90 (Ouzinkie) 150 (Port Lions)	15	57 (Ouzinkie) 52 (Port Lions)
Consumer Cost	\$28.01³ (Ouzinkie) \$30.11³ (Port Lions)	\$36.75³ (Ouzinkie) \$73.50³ (Port Lions)	\$32.00⁴ (Ouzinkie) \$36.00⁴ (Port Lions)	\$66⁴	\$24.79³ (Ouzinkie) \$20.59³ (Port Lions)

Note: For the Proposed Action, only the marine + road estimates are shown; estimates for all other options would remain available. Estimates are in one-way trips, not including stops, loading/unloading, or other travel preparation activity. Marine travel distances and trip times are estimated using the Kodiak boat harbor as the final destination; marine + road using the Anton Larsen Bay Road-Rezanof Drive intersection; air using the Kodiak Airport. The estimates are annual averages; trip time estimates for road travel are assumed to increase during the winter and decrease during summer directly proportional to the presence of adverse or favorable road conditions.

¹Assumes 17.7 knots (20 miles per hour) for private marine; 25 mph for road.

²Estimated trip times provided by AMHS and Island Air Service.

³Assumes 15 gallons of fuel burned per hour and \$3.50 per gallon of fuel for private marine; 20 miles per gallon for road travel and \$3.00 per gallon of fuel (Division of Community and Regional Affairs 2016, U.S. Department of Transportation 2016). Includes fuel consumed while vehicle is in motion en route to destination.

⁴Trip fares provided by AMHS and Island Air Service.

3.3.2.1 No Action Alternative

Direct and Indirect Effects

Under The No Action alternative, Anton Larsen Bay Road would not be extended, and no additional boat launch or parking facilities would be constructed. Transportation options for travelers between Ouzinkie, Port Lions, other outlying communities, and Kodiak would remain limited to existing facilities, carriers, and services. During the winter, those wishing to travel to Kodiak via Anton Larsen Bay Road would continue to travel over land or ice by foot or other means to reach the road system. The reliability of travel options would be unchanged from existing since the same options would continue to be available.

3.3.2.2 Proposed Action

Direct and Indirect Effects

The reliability of travel along Anton Larsen Bay Road itself is anticipated to be similar to existing conditions. However, the flexibility and opportunity for low-cost travel between Ouzinkie and Port Lions and Kodiak would increase during the winter as a result of a new vehicle/boat access point in less icy waters. The Proposed Action is not anticipated to result in increased traffic demand that exceeds the existing roadway's capacity.

ADOT&PF currently conducts summer maintenance and irregular winter plowing to the end of Anton Larsen Bay Road, and has indicated that adding the proposed 1.7-mile extension would result in very low additional maintenance cost (Clark 2019).

The roadway would be designed and constructed to current AASHTO (Guidelines for Geometric Design of Low-Volume Roads) and ADOT&PF engineering standards as a minor collector road.

Temporary Construction Effects

Increased traffic resulting in delays and longer trip times during construction is likely due to the presence of construction-related traffic accessing the project site. Increased traffic may come from construction crews commuting from Kodiak, equipment and labor force mobilization, or material hauling. A traffic control plan would be implemented and advance notice to the public would be given should it become necessary for construction activity to cause delays or detours, or affect access to adjacent properties. Delays or detours for direct construction activity are not anticipated since the roadway would be constructed largely in undeveloped forest.

3.4 Land Use

The study area evaluated for land use resources involves the proposed road corridor and adjacent areas, including the residential communities along the Anton Larsen Bay shoreline and on Larsen Island.

3.4.1 Affected Environment

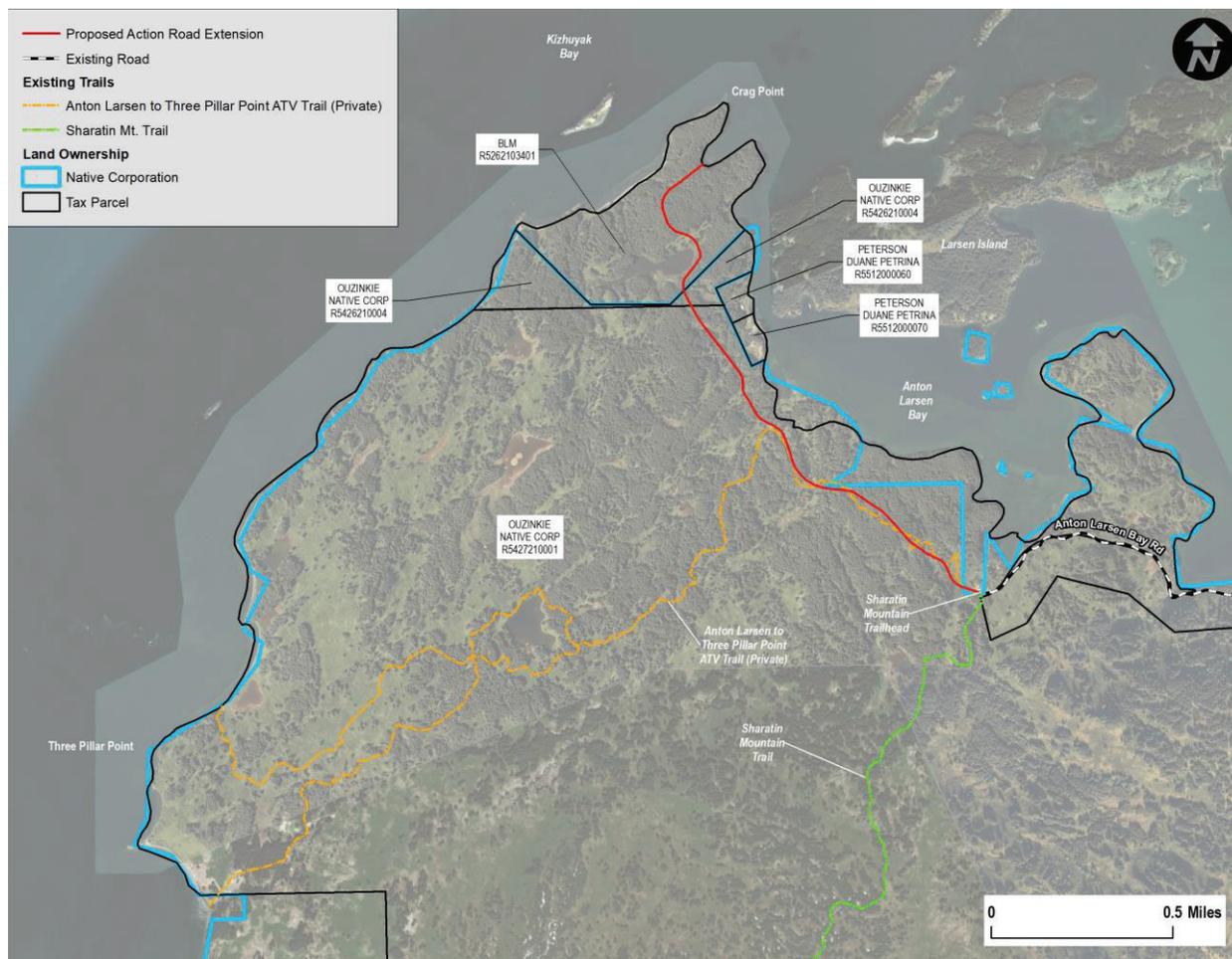
3.4.1.1 Existing and Future Land Use

Existing Land Use

The study area is located within the KIB, which includes lands within the Kodiak National Wildlife Refuge (managed by the U.S. Fish and Wildlife Service) and lands owned and managed by Alaska Native Corporations and the State of Alaska. Most of the property in the study area is owned by ONC, with a BLM Native Allotment at and surrounding Crag Point (**Figure 3-2**).

The study area is remote, primarily undeveloped, and forested with the exception of two 5-acre adjacent parcels on Anton Larsen Bay.

Figure 3-2: Land Ownership



As shown on **Figure 3-2**, the proposed route would likely traverse three parcels (parcel numbers R5427210001, R542621004, and R5262103401). Two of these three parcels are primarily undeveloped, forested, and owned by the ONC. The parcel farthest north is presently owned by the BLM. The NVO have applied, through ANCSA, to acquire fee title to the parcel; however, the application is still under review. The parcels contain undisturbed vegetation, with the exception of an ATV trail southernmost parcel. According to the Alaska Department of Natural Resources (ADNR), no identified Revised Statute (RS) 2477 Historic Transportation Routes are located within the project area.

Four 17(b) easements exist in the study area. Three one-acre 17(b) sites are located near the northern terminus of the existing Anton Larsen Bay Road, and a linear 17(b) easement extends from the end of Anton Larsen Bay Road directly west to the Sharatin Bay coastline. The 17(b) easements are reserved and managed by the federal government for transportation purposes, to provide access to public lands and public resources across private Native lands and along public waterways.

Future Land Use

The KIB recommends that most land adjacent to the KIB road system and outside cities and unincorporated communities continue to be zoned for conservation use. The KIB Comprehensive

Plan does not designate a specific future land use for the study area. The conservation designation corresponds to the zoning designation of the same name, and allows for a variety of natural resource extractive uses (timber harvest, mining, and farming) as well as low-density residential use, and other uses, such as lodges.

3.4.1.2 Plans and Policies

3.4.1.2.1 Borough and Native Corporation Governance, Plans, and Policies

Kodiak Island Borough

The KIB Code, 2004 Strategic Plan, and the 2008 Comprehensive Plan Update guide decisions by the KIB Assembly and its staff regarding zoning, subdividing, or long-range planning within the KIB. The KIB designates the study area as zone C – Conservation, within the Settlement and Village Zoning Districts group. The C – Conservation zoning district is established for the purpose of maintaining open space areas while providing for single-family residential and limited commercial land uses. The C – Conservation zone allows limited development, including agriculture, resource extraction, certain recreation uses, single-family homes on large lots, and accessory uses and structures when developed in support of permitted principal uses.

Ouzinkie Native Corporation

The ONC retains surface ownership of the majority of the study area.

Koniag Regional Corporation

The Koniag Regional Corporation (Koniag, Inc.) holds subsurface ownership of the study area.

3.4.1.2.2 State Plans and Policies

The ADNR, ADF&G, ADEC, and ADOT&PF all play a role in regulating land use within the KIB.

ADNR is primarily responsible for managing state owned land and resources, including oil and gas, water and tidelands, and recently completed a management plan for state-owned lands in the KIB (ADNR 2006). The ADNR Division of Forestry also regulates timber harvest and reforestation of KIB and private land.

3.4.2 Environmental Consequences

The project's potential land use impacts were evaluated qualitatively using project information together with desktop data regarding land use in the study area and plans and policies relevant to the study area. Sources included the Kodiak Island Community Development Department, Zoning Code and Zoning Map, and Comprehensive Plan; the Kodiak Road System Trails Master Plan (ALTA 2011); and the BLM.

3.4.2.1 No Action Alternative

Direct and Indirect Effects

The No Action alternative would result in no direct or indirect impacts to land use. The proposed project would not be constructed. Land use would remain the same as existing conditions, no related conversion of undeveloped, forested land to transportation use would occur, and no

development pressure that could lead to land use changes in areas adjacent to the proposed road corridor would occur.

3.4.2.2 Proposed Action

Direct and Indirect Effects

The Proposed Action would result in the permanent conversion of portions of the study area from forested, undeveloped land to transportation use. The proposed project corridor would include the road, road pull-out areas necessary for passing large vehicles, the boat launch/dock, and structures or parking at the boat launch/dock.

The ONC plans to grant ROW for roadway use. The Sun’aq Tribe of Kodiak may assume ownership of the road and use their annual transportation funds for maintenance, or ADOT&PF may assume ownership and maintain the road. The Sun’aq Tribe receives funds through the Bureau of Indian Affairs tribal transportation fund; those funds could be used as a local funding match. ONC would coordinate any ROW acquisition for the BLM-owned parcel near Crag Point. Should Koniag, Inc. retain their subsurface ownerships, the contractor would coordinate with Koniag, Inc. for extensive blasting or excavation during construction.

The boat launch and float would be permitted outright in the zoning district in which the study area is located (C – Conservation). The road and parking area would also be permitted outright as accessory uses or developments in support of the boat launch/float (water-dependent permitted uses). Although C – Conservation zoning prohibits land clearing, filling, excavation, or structural development within 50 feet of the banks of anadromous fish water bodies, the boat launch/float and supporting road and parking could be allowed with ADF&G’s approval because the boat launch and float are permitted, water-dependent uses, and the road and parking area support these water-dependent uses.

The KIB would require a KIB Zoning Compliance Permit application. The KIB Planning and Zoning Commission would make recommendations to the KIB Assembly regarding zoning, subdividing, or long-range planning of the study area.

The project would require a conversion of land from a less intense use to a more intense use. However, the project is consistent with the Land Use and Transportation goals, policies, and implementation actions as stated in the 2008 KIB Comprehensive Plan Update (KIB 2008).

Extending Anton Larsen Bay Road to the north, to Crag Point, would reduce the necessary steps to develop adjacent land into new rural residential development. The land is not currently divided into smaller parcels appropriate for purchase or development. Although the project would make future development in this area easier, due to addition of transportation infrastructure, future development adjacent to the new road would not likely occur immediately due to slow growth in population and the economy in this area and the values held by the community (rural uses, conservation, undisturbed land). Thus, indirect effects of the Proposed Action on land use is negligible based on the probability and intensity of future development, although such development likely would be permanent.

Temporary Construction Effects

Construction of the Proposed Action would result in the temporary conversion of certain portions of the study area along the proposed road corridor and at the shoreline from undeveloped, forested land and undisturbed shoreline to short-term staging areas for construction. After construction is complete, these areas would be restored to their existing condition, which may include regrading, restoring vegetation, or replacing sand or gravel. It is likely that the termini of the proposed road would be used as staging for construction. This conversion would be temporary and localized resulting in a negligible impact on land use.

3.5 Socioeconomics & Environmental Justice

The *Technical Memorandum: Socioeconomics and Environmental Justice* (David Evans & Associates, Inc. [DEA] 2019a) prepared for this project describes conditions and trends related to the populations of the KIB and Anton Larsen Bay area. This section largely summarizes that analysis.

For socioeconomic and environmental justice resources, the study area is the KIB; the cities of Kodiak, Ouzinkie, and Port Lions; the NVO; unincorporated off-island communities (in general); the rural area encompassing the proposed road corridor, including Crag Point; and the Larsen Island community north of the proposed road corridor and across Larson Bay.

3.5.1 Affected Environment

Kodiak Island Socioeconomic Historical Context

The first inhabitants of Kodiak Island, the Alutiiq Natives, have inhabited Kodiak Island for at least 7,000 years. When Russia colonized the Kodiak Archipelago in the mid-1700s, Russian traders and merchants came to the area seeking sea otter pelts, and played a part in Kodiak becoming the first capital of Russian Alaska and a major fur trading center. Soon after the U.S. purchased Alaska in 1867, Americans arrived to continue sea otter hunting, contributing to continued otter hunting and an eventual otter hunting ban in 1911. Among active industries at the time, the salmon fishing industry became, and continues to be, a prominent economic force on the island (KIB 2008).

The population of Kodiak Island increased to over 25,000 residents when it served as a staging area for North Pacific operations during World War II. A USCG submarine base and air station were constructed at Womens Bay, and an army outpost was established near the Buskin River (KIB 2008). The State of Alaska Borough Act of 1961 authorized the incorporation of Kodiak Island as a Second Class Borough in 1963.

In 1971, the Alutiiq along with other Alaska Natives participated in the Alaska Native Claims Settlement Act, or ANCSA, regaining ownership of traditional lands. Although Western influences have altered Alutiiq culture, Kodiak's native residents uphold native traditions (KIB 2008).

Today, most residents on the Kodiak Archipelago live in or near the City of Kodiak. The KIB includes nine small communities, including Akhiok, Larsen Bay, Old Harbor, Ouzinkie and Port Lions (incorporated, second-class cities) and Aleneva, Chiniak, Karluk, and Womens Bay (unincorporated villages). The six incorporated, second-class cities (including the City of

Kodiak) and the unincorporated community of Karluk are ANCSA-recognized Native villages (KIB 2008; Alaska Department of Labor and Workforce Development [ADOLWD] 2015).

Population

KIB population growth has been sporadic since 1960. Population has not changed more than one percent since 2010, and is not expected to change more than one percent between 2010 and 2030 (ADOLWD 2019a; ADOLWD 2019b). Population in Ouzinkie and Port Lions has been steadily decreasing since 2000 (**Table 3-3**).

The proposed road corridor is within census block 3017 of census tract (CT) 1. Although census data are not available at the census block level for the type of data collected here, based on aerial maps showing the lack of developed area, an estimated 20 people (maximum) are estimated to live within approximately 0.5 mile of the proposed road corridor, not including the Larsen Island community across Anton Larsen Bay. The Larsen Island community is estimated to have less than 20 residents, based on the number of structures observed.

Demographics

The study area is within CT 1. CT 1 covers most of the island and is therefore not truly representative of the proposed road corridor and its adjacent areas. Data are presented for CT 1 and the other CTs in KIB, including CT 2, CT 3, CT 4, and CT 5, which encompass the more urban and populated area of the KIB, east of the study area. Data are also presented for the larger geographic areas of KIB and the State of Alaska. The nearby communities and the cities of Kodiak, Ouzinkie, and Port Lions are also included in this demographic assessment.

Table 3-3: Historic and Projected Population, Levels and Trends

Area	2000	2010	2018	Projection 2030	Projection 2045	Average annual rate of growth, 2000-2010	Average annual rate of growth, 2010-2018	Average annual rate of growth, 2018-2030	Average annual rate of growth, 2030-2045
Alaska	626,923	710,231	736,239	829,620	899,825	1%	0%	1%	1%
Native Population of AK	107,929	120,433	122,1422 ¹	164,905	180,573	1%	0%	3%	1%
KIB	13,913	13,592	13,136	14,061	13,897	0%	0%	1%	0%
Kodiak city	6,334	6,130	5,942	N/A ²	N/A ²	0%	0%	N/A ²	N/A ²
Ouzinkie city	225	161	154	N/A ²	N/A ²	-3%	-1%	N/A ²	N/A ²
Ouzinkie ANVSA ³	198	172	164	N/A ²	N/A ²	-1%	-1%	N/A ²	N/A ²
Port Lions city	256	194	142	N/A ²	N/A ²	-2%	-3%	N/A ²	N/A ²
Port Lions ANVSA ³	164	194	142	N/A ²	N/A ²	2%	-3%	N/A ²	N/A ²
CT 1	1,959	1,832	1,796	N/A ²	N/A ²	-1%	0%	N/A ²	N/A ²
CT 2	6,560	7,152	6,993	N/A ²	N/A ²	-7%	0%	N/A ²	N/A ²
CT 3	2,325	2,255	2,181	N/A ²	N/A ²	21%	0%	N/A ²	N/A ²
CT 4	983	1,052	871	N/A ²	N/A ²	13%	0%	N/A ²	N/A ²
CT 5	1,748	1,301	1,295	N/A ²	N/A ²	-4%	-2%	N/A ²	N/A ²

Notes: 1. 2015 estimate; 2. N/A = Data not available; 3. ANVSA = Alaska Native Village Statistical Area.

CT = Census Tract.

Sources: ADOLWD 2015; ADOLWD 2019a; ADOLWD 2019b; Census 2019g.

Race and Ethnicity

KIB population is 46 percent non-white races. A greater share of the minority population resides in areas outside the City of Kodiak rather than inside the City. **Table 3-4** shows that 38 percent of residents in CT 1 (where the proposed project is located) are American Indian and Alaska Native, while 53 percent are white. This general pattern is similar to other geographic entities that are part of the study area.

By Alaska and national standards, the City of Kodiak is a racially diverse community. Non-white residents make up the majority of its population (62 percent). Asians make up 36 percent of the population, and in 2000, of Asian residents, the Filipino race is the most prevalent. Alaska Natives and American Indians make up 12 percent of the population in the City of Kodiak (KIB 2008).

Port Lions and Ouzinkie, in particular, have a relatively high percentage of Native Alaska residents, consistent with the presence of the Native ANSCA villages in those two communities.

Table 3-4: Race

Area	Population	% White	% Black or African American	% American Indian and Alaska Native	% Asian	% Native Hawaiian and Other Pacific Islander	% Some other race	% Two or more races
Alaska	738,565	65%	3%	14%	6%	1%	1%	8%
KIB	13,773	54%	0%	13%	22%	1%	2%	7%
Kodiak city	6,168	38%	0%	12%	36%	1%	4%	9%
Ouzinkie city	171	12%	0%	71%	0%	5%	0%	12%
Port Lions city	214	27%	1%	66%	0%	0%	0%	7%
CT 1	1,825	53%	0%	38%	1%	1%	0%	5%
CT 2	7,279	56%	0%	12%	21%	0%	1%	10%
CT 3	2,581	30%	0%	6%	50%	3%	8%	4%
CT 4	724	70%	0%	15%	10%	0%	1%	4%
CT 5	1,364	78%	1%	0%	8%	4%	2%	5%

Source: Census 2019a.

Poverty

Table 3-5 shows that poverty rates in Ouzinkie, Port Lions, and CT 1, where the proposed road corridor is located, are higher than other areas analyzed, and as compared to Alaska as a whole. Other geographic areas included in the study area have poverty rates closer to or below the state average.

Table 3-5: Poverty

Area	Population for Whom U.S. Census Determines Poverty Status	% Below Poverty Level
Alaska	719,983	10%
KIB, Alaska	13,505	9%
Kodiak city, Alaska	6,059	11%
Ouzinkie city, Alaska	171	15%
Port Lions city, Alaska	214	23%
CT 1	1,811	17%
CT 2	7,199	8%
CT 3	2,564	9%
CT 4	690	11%
CT 5	1,241	7%

Source: Census 2019d.

Housing

Table 3-6 shows that forty percent of KIB housing units are in the City of Kodiak. Although almost half of KIB housing units are in CT 1, where the study area is located, there is only one residence located near the study area. The next nearest homes are those on Larsen Island.

The median monthly rental rate for single family homes on Kodiak Island was \$1,974 in 2016, with a 3 percent vacancy rate. Apartments leased at a median price of \$1,269, with a 9 percent vacancy rate. The average household size was 2.9 persons in 2016 (ADOLWD 2019c). While twenty new housing units were built in the City of Kodiak in 2016, none were built in Ouzinkie or Port Lions that same year (ADOLWD 2019c).

Table 3-6: Housing Units

Area	Number of Housing Units	Percentage of Housing Units in Larger Geographic Area
Alaska	313,937	-
KIB, Alaska	5,373	2% of State
Kodiak city, Alaska	2,173	40% of KIB
Ouzinkie city, Alaska	109	-
Port Lions city, Alaska	143	-
CT 1	1,174	22% of KIB
CT 2	2,626	49% of KIB
CT 3	736	14% of KIB
CT 4	454	8% of KIB
CT 5	383	7% of KIB

Source: Census 2019f.

Community

Rural Alaska residents value a rural lifestyle and maintaining land for uses other than development, whether that is timber harvesting, subsistence hunting and fishing, conservation of undisturbed lands or recreational use. Those who could use the proposed road extension and boat launch/dock value a rural lifestyle, are somewhat isolated from urban areas, and have become accustomed to weather variations affecting their ability to travel.

While commercial and subsistence fishing is important to the social make-up of Kodiak Island communities, sport fishing and tourism also support the local economy. Although Western influences have altered Native Alaskan culture, Kodiak’s Native residents continue to uphold Native traditions, including subsistence fishing.

Community members have been involved in the early planning of this road extension project for many years. Approximately 50 members of the public attended public scoping meetings in Kodiak, Port Lions, and Ouzinkie in October 2018. In addition, meetings have occurred with recreational user groups and government officials. Predominant topics expressed in discussions or written statements generated from October 2018 scoping efforts include the following:

- General objection to or support for the project, or a mixture of both
- Agreement that the project would help commuting to Kodiak for services
- Concerns about road ownership and maintenance
- Concerns about crime, nearby shooting, noise
- Concerns about this opening up the area to development

Additional details about public involvement and scope for the NEPA Environmental Assessment are provided in the Scoping Summary Report (Appendix E).

Economy and Transportation

The unemployment rate in the off-island communities of Ouzinkie and Port Lions is relatively high (35 percent in Ouzinkie and 53 percent in Port Lions in 2016). Wages in both communities in 2016 were on average lower than statewide. As shown in **Table 3-7**, top occupations in local

communities in the study area involve highway maintenance, materials moving, and office/administrative support supervisors, with fish and meat processing in the City of Kodiak.

Table 3-7: Employment Indicators

Area	Top Occupation 2016	Top Jobs (High Growth Rate, High Wage Rate, Openings) 2016	Top Industries 2016	Unemployment Rate 2016
Alaska	Retail	nurse, general/operations manager, operating engineers and other construction equipment operators, executive secretary/admin support	trade/transportation/utilities, education/health services, local government	6.90%
KIB	Meat, Poultry, and Fish Cutters and Trimmers	nurse, general/operations manager, teachers, operating engineers and other construction equipment operators	manufacturing, trade/transportation/utilities, local government, education/health services	5.20%
City of Kodiak	Meat, Poultry, and Fish Cutters and Trimmers	general/ operations manager, First-Line Supervisors of Production and Operating Workers	manufacturing, trade/transportation/utilities, education/health services	Not available
City of Ouzinkie	Highway Maintenance Workers, Material Moving Workers, All Other	First-Line Supervisors of Office and Administrative Support Workers	local government, trade/transportation/utilities	Not available
City of Port Lions	First-Line Supervisors of Office and Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers	local government	Not available

Source: ADOLWD 2016.

In 2017, median household income in KIB was 97 percent that of Alaska as a whole. The same measures for the cities of Kodiak, Ouzinkie, and Port Lions were 92 percent, 52 percent, and 43 percent, respectively, indicating generally lower incomes in these cities compared to other areas in Alaska (Census 2019e).

The economy of the Kodiak Island area has been based primarily on the fishing industry since the early 1800s. In Port Lions, commercial activities are limited to fishing, while the City of Kodiak is one of the most important fishing ports and seafood processing centers in the U.S. In 2009, the total value of seafood catch was \$103.8 million (ADF&G 2019c). Other important industries in the study area include oil/gas, and maritime.

Commercial activity (goods and services) trade flow for residents in Ouzinkie, Port Lions, and other off-island camps depends in part on transport to and from the City of Kodiak. The existing dock and launch is used by off-island communities when Anton Larsen Bay is ice-free. When ice buildup occurs around the existing dock during the winter, boat travel must divert around Spruce Cape and Ouzinkie Narrows.

Public Services

The KIB Comprehensive Plan 2008 update indicates that KIB residents have identified the need for additional or improved dock facilities in Anton Larsen Bay. The Comprehensive Plan update also states the following as an implementation action: “Construct and/or improve docks, harbors and boat launch facilities in communities throughout the KIB. Identify land and facility needs for such facilities.” (KIB 2008).

KIB provides the following area-wide services:

- Public schools: In and near the City of Kodiak, four elementary schools, one middle school, and one high school serve the community. The City of Kodiak manages school facilities that are used for community recreation (e.g., pool, gyms, and fields) and provides City recreational facilities for school programs (e.g., track, fields, ice rink) primarily within City limits. The City of Kodiak is served by a local University of Alaska Anchorage campus and Kodiak College.
- Hospital and mental health services. The Providence Kodiak Island Medical Center is the island's only hospital and is owned by the KIB, operated by Providence Health System, and located in the City of Kodiak. Also within city limits are a state public health facility and private facilities and nonprofit organizations that provide medical, dental, optical, mental health, and other health-related social services to residents of the KIB. The Senior Citizens of Kodiak, Inc. is a nonprofit organization that provides services to senior citizens in Kodiak and outlying communities.
- Property assessment.
- Property taxation, with tax revenue collected by the KIB and returned in full to each respective city.
- Planning, platting, and land use regulation services.

The KIB provides additional services on a non-area-wide basis to parts of the KIB that are on the road system but outside of incorporated cities.

The City of Kodiak Fire Department provides fire and emergency medical services to the residents of the City and emergency medical services only to Fire Protection District 1, U.S. Coast Guard Base Kodiak, Womens Bay Fire Service Area, and non-covered road system areas. The fire department's sole station is located within city boundaries. The department provides several other services, such as fire prevention, fire investigation, public education, and specialized rescue. The department has mutual aid agreements with the three other fire departments on the Kodiak road system (Womens Bay Volunteer Fire Department, Bayside Volunteer Fire Department, and Coast Guard Fire Department), as well as with the State Department of Natural Resources. The City of Kodiak operates the only ambulance service on the Kodiak road system and regularly responds outside City boundaries (KIB 2008).

The State of Alaska Department of Public Safety is responsible for public safety throughout the State of Alaska. The City of Kodiak Police Department provides additional public safety services within the city and along the road system (KIB 2008).

KIB Landfill provides a location for waste disposal on the island for City residents and others on the road system. The Kodiak Electric Association, a locally owned cooperative, provides electricity to residents along the road system of Kodiak. The City of Kodiak supplies water and sewer services in and around the City, using surface water for the municipal water supply (KIB 2008).

Since the proposed road corridor extension is not currently part of the road system, municipal water/sewer, parks and recreation, mail, economic development, solid waste collection and disposal, and animal control services are not currently provided within the corridor.

No formal fire protection/suppression service or emergency medical response is provided to the area including and surrounding the study area. The State of Alaska Department of Public Safety is the law enforcement agency with jurisdiction along the proposed road corridor (Fraser 2019).

3.5.2 Environmental Consequences

Potential socioeconomic and environmental justice impacts of the project were evaluated qualitatively using project information together with desktop socioeconomic and demographic data for the study area. Sources included ADF&G, ADOLWD, the Kodiak Island Community Development Department and Comprehensive Plan, and the U.S. Census.

3.5.2.1 No Action Alternative

Direct and Indirect Effects

The No Action alternative would result in the continuation of the existing social, economic, and environmental justice conditions in the study area. No direct impacts to socioeconomic or environmental justice would result attributable to project construction or operation, because the project would not be built.

The No Action alternative would result in the continuation of constrained travel between off-island communities and Kodiak due to ice during colder months. The need for open ocean boat travel around Spruce Point would remain, sometimes in unsafe conditions. No conversion of undeveloped, forested land to transportation use would occur. As a result no pressure for economic development along areas adjacent to the proposed road corridor would occur. Minority and low-income communities (Ouzinkie and Port Lions, in particular) would continue to experience difficulty and higher costs related to travel logistics to access goods and services during iced-over portions of the year.

3.5.2.2 Proposed Action

Direct and Indirect Effects

Although the proposed roadway extension would not be designed for large trucks, it would be able to accommodate smaller trucks, vans, or vehicles with towing capacity for hauling small to medium loads, such as truckloads of sand or small equipment such as a backhoe. In addition, fishing boats up to 30 feet in length could use the boat launch/dock facility. The proposed road extension would accommodate cars, trucks, and other vehicles with the following purposes:

- Towing boats to or from the new launch, to provide access between off-island communities and the City of Kodiak to acquire or deliver goods and services. For Ouzinkie and Port Lions, a portion of goods are currently barged or flown in. The Proposed Action would decrease travel cost related to transport of goods/services for those residents. The boat launch/docking facility could be used for sending or receiving boatloads of construction materials, such as rock or other aggregate, or to supply remote logging camps with supplies or equipment.
- Recreation (accessing Anton Larsen Bay, Sharatin Mountain, water recreation, and off-island recreational opportunities). Tourism as a contributor to the local economy has increased in importance in the last several years, with cruise ships stopping in Kodiak and

offering land excursions and shopping or adventure experiences. Cruise ship companies whose cruises dock in the City of Kodiak could use the road to access Kizhuyak Bay.

- Access for subsistence fishing, hunting, and gathering in the study area.

Operation and maintenance of the proposed roadway extension in the long term would require labor, equipment, and materials, which would likely originate from sources in the City of Kodiak. The proposed roadway extension is likely to require low maintenance due to the low volume of traffic anticipated, its gravel surface, and lack of lighting or other amenities. Increases in annual jobs, income, and spending from operation and maintenance of the roadway extension would be minor over the long term, with negligible benefits to the KIB economy.

If the proposed project is built, the road would become part of the official Kodiak road system, and the KIB could extend fire and emergency services to the northern terminus of the study area near Crag Point. Law enforcement and public safety would continue to be provided by the State of Alaska Department of Public Safety. Further residential development is not anticipated along the proposed road extension. Therefore, the proposed project would not result in increased demand for schools, solid waste collection and disposal, telephone service, electricity, sewer, water, or stormwater services in the near future. Lighting would not be provided along the proposed road extension. The increase in demand for public services from the KIB and the State related to project operation and maintenance would represent a permanent, minor additional cost (minor adverse impact). ADOT&PF would maintain the road, and would experience slightly higher road maintenance costs due to this project (minor adverse impact).

Ouzinkie, Port Lions, and other off-island communities would benefit from the proposed project since costs associated with the acquisition and distribution of goods and services would decrease. In addition, over-water travel to and from the City of Kodiak would be more feasible year-round. This would represent a permanent, regional socioeconomic benefit to area residents, but especially to the unique populations living off-island.

Socioeconomic impacts of the Proposed Action would be beneficial to both on-island and off-island communities. Technical analyses conducted on the environmental resources have not identified any high and adverse impacts attributable to the proposed project.

If impacts to fish, wildlife, and water are determined to be high and adverse, the environmental justice process requires determination of whether the high and adverse impacts would be disproportionately felt by minority or low income populations. Potential impacts to fish, wildlife, and water would be incurred by society as a whole and depending on the extent and magnitude of the impacts, the population living closest to the project footprint, including those living at the Peterson property. Based on the 2010 Census data, eight (8) people lived in the census block that overlies the proposed roadway extension corridor, none of whom have been identified as having a minority status (Census 2019h). The U.S. Census does not have available poverty data at the block level or more current race/ethnicity data. Based on this data, the population living closest to the project footprint is not a minority population.

Potential adverse impacts on fish, wildlife, or water as a result of construction and operation of the proposed roadway extension would be minor while travel benefits to off-island environmental justice communities would outweigh such impacts. Accounting for project

benefits, adverse impacts of the project are not expected to disproportionately affect minority or low income populations. Environmental justice impacts are not anticipated.

The proposed roadway extension and boat launch/docking facility could indirectly facilitate future development along, or accessible to/from, the roadway corridor. Potential future new development could lead to small increases in jobs, income, spending, and tax revenue for the KIB, depending on the timing and magnitude of development, as well as increased demand for services and related costs for the KIB. This indirect effect would be somewhat unlikely and local; if development occurs, the effect on socioeconomics would be permanent and negligible to moderate, depending on the development. Development of areas along the proposed road extension is not expected to occur in the near future, nor is intense development expected, based on the low population growth trends in the area, community values based on rural lifestyles and protection of natural resources, and the area's Zone C – Conservation designation.

Temporary Construction Effects

The construction labor force would fluctuate from a relatively small crew of about 10 workers during mobilization and initial set-up up to a maximum crew size of about 30, then decreasing back to a smaller crew for clean-up and site restoration. Materials required would include the aggregate for the road base and surface.

The labor, materials, and equipment required for construction would likely be delivered (and possibly sourced) from the City of Kodiak. Fill and quarry material could be sourced from the City of Kodiak or other areas on Kodiak Island. Should part of the labor originate from other areas of the state, temporary housing would be provided by local hotels, motels, or other facilities in Kodiak for the duration of construction. Income and revenue (including tax revenue) would accrue to those geographic areas and jurisdictions from which labor, materials, and equipment are sourced. If workers reside temporarily in Kodiak during construction, retail establishments could experience increases in revenue during construction. Due to the temporary six to eight month duration of construction and the relatively small size of the anticipated workforce, the direct economic benefits are expected to be minor, resulting in a negligible effect on of the local KIB economy.

Temporary access roads would not likely be needed. Equipment and materials for construction could be transported to the site using the existing road, or by transporting a barge containing the materials and equipment to the Crag Point area. Traffic volume on the existing Anton Larsen Bay Road would increase during construction due to the vehicles needed for transporting equipment, labor, or materials to the site.

The minority and low-income communities identified in **Section 3.5.1 Demographics** are located in Ouzinkie, Port Lions, and in populated areas within CT 1, not near the proposed road corridor. Therefore, minority and low-income populations would not experience the temporary effects of construction that would be associated with the Proposed Action.

3.6 Air Quality, Noise, & Energy

The air quality and energy study area includes the entirety of the KIB. The study area for noise extends 1,000 feet from the proposed roadway alignment and includes noise sensitive land use receptors that may experience increases in noise levels during construction or due to increased

traffic volumes along the proposed road extension. While the Proposed Action may also lead to increased traffic noise along the existing Anton Larsen Bay Road between the existing dock and the south terminus of the proposed roadway extension, FHWA does not require analysis of noise impacts beyond those resulting from the direct project footprint. The study area for the noise analysis is depicted on **Figure 3-3**.

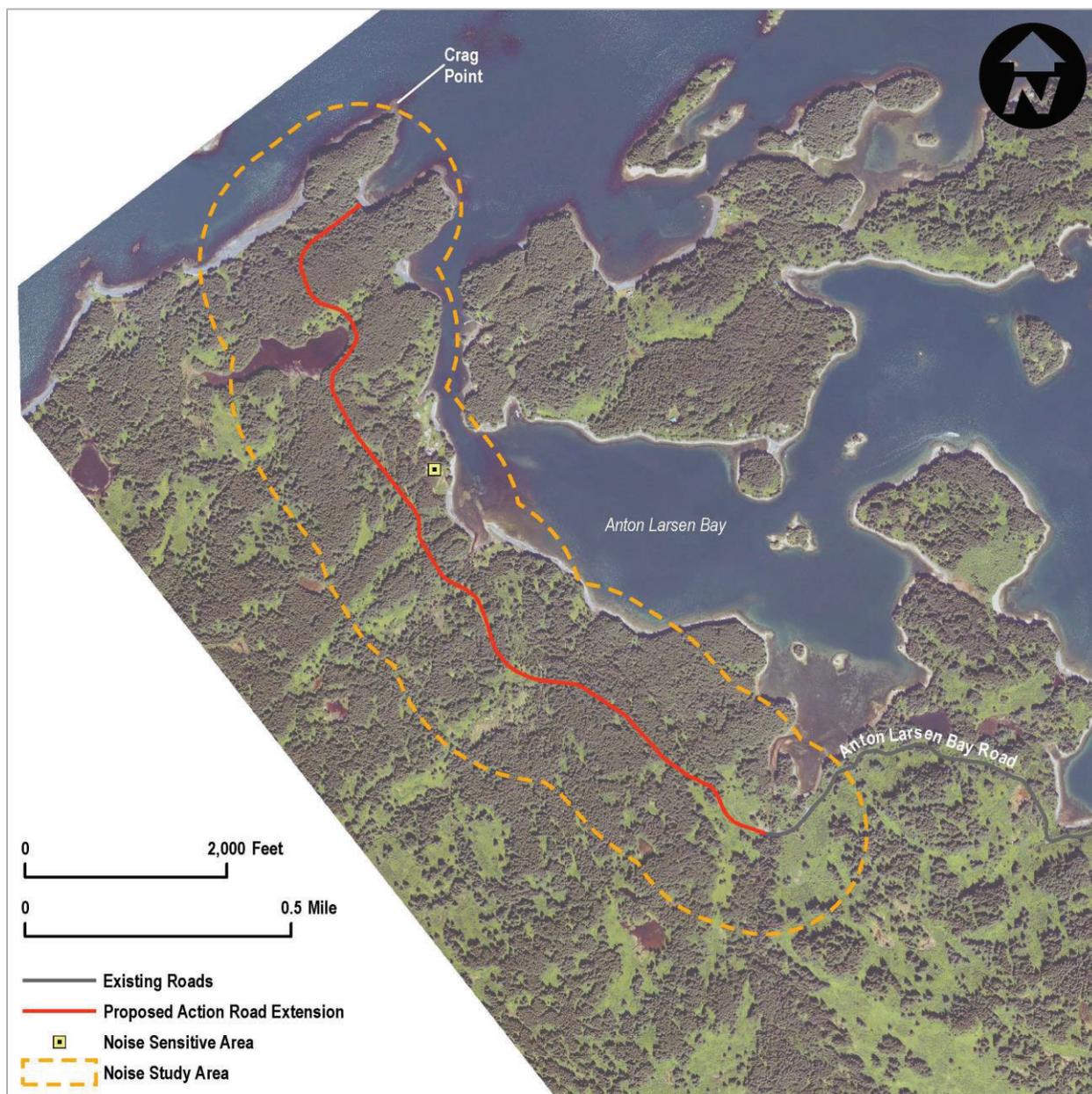
3.6.1 Affected Environment

Air Quality

Transportation Conformity

Section 176(c) of the Clean Air Act (CAA) and its implementing regulations in Title 40, Part 93 of the Code of Federal Regulations (CFR) regulate air quality impacts related to transportation projects. The CAA and its regulations require that federally-funded transportation projects meet air quality goals through the transportation conformity process. The EPA has identified seven pollutants that pose a public health risk, and has established air quality goals, or National Ambient Air Quality Standards (NAAQSs), which define maximum allowable concentrations for each pollutant. Geographic areas that do not currently meet NAAQSs, or have not met NAAQSs in the past, are designated non-attainment or maintenance areas, respectively, and must develop strategies for attaining the standards in a State Implementation Plan. The transportation conformity analysis applies only to projects located within a designated non-attainment or maintenance area.

Figure 3-3: Noise Study Area



The ADEC administers regulation of air quality for the State of Alaska. The Alaska Ambient Air Quality Standards (AAQSs) are promulgated in Title 18 AAC Chapter 50 and mirror NAAQSs for most criteria pollutants.

The project is not located within the boundaries of a non-attainment or maintenance area for any NAAQS criteria pollutants (ADEC 2018a). Therefore, conformity analysis procedures do not apply.

Air Toxics

Toxic air pollutant regulation was established under the CAA Amendments of 1990. Seven Mobile Source Air Toxic (MSAT) pollutants originating from transportation sources have been

identified as having the greatest effect on human health. Currently, only Anchorage, Fairbanks, and Juneau have been inventoried for MSATs.

Noise

The Federal Aid Highway Act and FHWA regulations at 23 CFR 772 require federally-funded road projects to consider noise emissions from proposed roadways and certain roadway improvements. For roadways to be constructed in a new location, FHWA regulations require identification of noise impacts that would affect adjacent noise sensitive receptors as a result of projected vehicle traffic loads, and feasible and reasonable noise abatement measures to mitigate such impacts.

The proposed roadway extension corridor is located within an area of undeveloped, forested private land. The nearest noise sensitive receptors, a group of two adjacent residences, are located approximately 300 feet from the proposed roadway alignment along the Anton Larsen Bay shoreline. Current sources of artificial ambient noise levels are limited to small boats motoring at low speeds through the western entrance to Anton Larsen Bay and electrical generators operating at the residences. In addition, natural noise levels from rain, wind, and ocean surf have a significant contribution to the ambient noise levels. The area may experience noise during certain weather conditions when air traffic flies between Port Lions and Kodiak.

Energy

Current energy use in the Anton Larsen Bay region primarily results from boats travelling to and from the existing Anton Larsen Bay dock to connect with outlying communities; vehicles travelling from the City of Kodiak to the existing Anton Larsen Bay dock, boat launches, and trailheads at the end of Anton Larsen Bay Road; and from generators used for home heating and electricity by approximately one dozen residences around the Bay. Energy usage and fuel consumption from these sources constitutes a small proportion of the energy use of Kodiak Island as a whole.

3.6.2 Environmental Consequences

The Proposed Action’s impacts to air quality, the noise environment, and energy resources are measured by the potential for violating air quality standards, having a noise impact that adversely affects noise-sensitive land uses, and activities that result in an energy demand that exceeds supply (**Table 3-8**).

Table 3-8: Air Quality, Noise, & Energy Impact Evaluation Criteria

Impact Category	Impact Criteria
Air Quality	EPA NAAQSs/AAAQSs
Noise	Noise impact as defined by FHWA’s <i>Highway Traffic Noise: Analysis and Abatement Guidance</i> and 23 CFR 772
Energy	Energy demand from utilities, water sources, fuel supplies, or consumable materials

3.6.2.1 No Action Alternative

Direct and Indirect Effects

The No Action alternative would have no effect on ambient air quality, noise, and energy resources because vehicle, boat, and air traffic, and their associated air pollutant and noise emissions and fuel consumption, would not change. There are no adverse environmental consequences anticipated to result from the No Action alternative related to air quality, noise, or energy. However, it is probable that the No Action alternative would result in greater energy usage over the long term because boats would continue to travel the longer route around Spruce Cape from Port Lions to Kodiak.

3.6.2.2 Proposed Action

Direct and Indirect Effects

Air Quality

Under the Proposed Action, increased vehicle emissions would result from the greater distance traveled along the extended Anton Larsen Bay Road to connect with boat traffic utilizing the new boat launch/dock near Crag Point during the winter. Vehicle emissions would be released from engine exhaust. Road dust also would be released to the air from vehicles including equipment used for maintenance activities. Emissions from boats and other sources would be lessened due to the shorter distance required to travel through the Bay via the proposed marine routes. During the winter, under the Proposed Action, the number of travelers choosing to utilize the road extension and dock rather than travel by other marine routes or transportation modes is expected to increase. This would result in increased local pollutant emissions in the Anton Larsen Bay area, but is unlikely to appreciably change pollutant levels for criteria pollutants or MSATs on a regional scale, or have an adverse effect on ambient air quality. Therefore, the Proposed Action is expected to have no adverse effect on air quality.

Noise

The FHWA noise regulation (23 CFR 772) establishes Noise Abatement Criteria (NAC) for specific land use categories. These criteria are measured in Leq, which is defined by FHWA to be “the equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time varying sound level during the same time period.” The Leq is sometimes described as the “average” noise level during a noise measurement, which although not technically correct, is often the easiest way to think of Leq. Under 23 CFR 772, a noise impact² exists if design year build condition noise levels approach³ or exceed the NAC for a specific Land Use Activity Category.

Land Use Activity Categories in the noise study area include Category G, comprising the majority of the project area, and Category B, a pair of residences. For Category B, the FHWA

² Noise impacts may also occur when design year build condition noise levels create a substantial noise increase over existing noise levels. However, this criterion is not applied to roadways in a new location.

³ Approaching NAC means within 1 dBA of the NAC.

NAC is 67 A-weighted decibels (dBA). In other words, the “average” sound level for one hour at which noise abatement should be considered is 66 dBA. No NAC exists for Category G lands.

The variables that contribute to traffic noise levels are volume, speed, and vehicle mix. The current (2017) AADT for Anton Larsen Bay Road is 106 vehicles (ADOT&PF 2019). Under the Proposed Action, AADT on the existing road would likely increase due to travelers having the ability to access the road extension and new boat launch/dock during the winter rather than travelling by other marine routes or transportation modes that avoid Anton Larsen Bay Road. The largest traffic demand is still anticipated to occur during summer months, however, when fishing and recreational activity peaks. Some of the existing summer boat traffic is expected to continue using the existing Anton Larsen Bay Dock because of its larger dock and parking capacity. Therefore, the volume of summer traffic expected to travel to the end of Anton Larsen Bay Road under the build condition is not expected to exceed the total existing AADT of the entirety of Anton Larsen Bay Road including its existing segments. For the purpose of this analysis, the AADT along the proposed roadway extension is assumed to be 106 vehicles with a vehicle mix of 95 percent automobiles and 5 percent medium trucks.

FHWA Transportation Noise Model Version 2.5 lookup tables indicate that for the indicated traffic volume, without barriers, light to medium duty trucks traveling an average of 25 miles per hour would result in a build condition Leq of less than 35 dBA (FHWA 2019). While residents may still observe brief periods of higher noise levels from the roadway, the “average” noise levels for an hour are not anticipated to exceed 35 dBA. This noise level is within the range of natural ambient noise levels for undeveloped locations (Pennsylvania State University 2019), and is substantially below the NAC threshold of 67 dBA for Category B land use. Therefore, noise impacts as defined in 23 CFR 772 would not occur as a result of the Proposed Action and changes that do occur would be minor.

Field measurements have not been conducted for this analysis. Rather, the analysis relies on a qualitative assessment of physical conditions and an estimation of probable noise levels using FHWA Transportation Noise Model Version 2.5 lookup tables. WFLHD considers this level of analysis sufficient to comply with NEPA requirements because of the low traffic volumes expected to occur on Anton Larsen Bay Road.

Energy

The Proposed Action would slightly increase the amount of fuel consumed in the vicinity of the roadway extension corridor because there would be a new option of travel during winter. Since the location of the new boat launch/dock would increase the distance traveled by vehicles and at the same time decrease the distance traveled by boats, there would also be a shift in energy usage from boats to vehicles. However, the overall fuel consumption on Kodiak Island would see no appreciable change from existing conditions as a result of the project since trips taken on alternate routes would likely decrease. The Proposed Action’s effect on fuel consumption is negligible.

Temporary Construction Effects

Operation of vehicles and heavy equipment during construction is the primary source of temporary air quality impacts. Exhaust emissions from engines and airborne dust from driving or

operating on unpaved surfaces, land clearing, excavation, or grading would increase locally when construction is active. Air pollutants are not anticipated to accumulate significantly due to the coastal climate which brings frequent ocean breezes through project area, dispersing pollutant concentrations. Construction related air quality impacts are not anticipated to exceed air quality standards. Temporary air quality BMPs, such as those required by the ADEC Alaska Pollutant Discharge Elimination System Construction General Permit for storm water discharges, would be implemented during construction as part of the project's Storm Water Pollution Prevention Plan (SWPPP). Measures may include, but are not limited to, watering the unfinished road surface for dust control during construction.

Heavy machinery constitutes the major source of noise for road construction projects. This project may also involve blasting to excavate material along steep grades if bedrock is encountered. In addition, pile driving would be required for bridge and dock construction. Heavy machinery would create longer duration noise, while blasting would create short duration, but high intensity noise. Construction noise is expected to be intermittent and transient. As construction progresses along the proposed alignment, no single area would experience construction noise for an extended period of time. Temporary noise mitigation measures may include maintaining noise control devices on equipment and locating staging areas away from noise sensitive land uses.

Energy use is anticipated to increase during construction, but would not exceed the normal capacity and usage of Kodiak Island as a whole. The project would not appreciably change fuel needs or fuel deliveries to Kodiak Island.

Temporary impacts to air quality, noise, and energy resources are expected to be minor.

3.7 Soils & Geology

For soils and geology resources, this assessment identifies broad resource characteristics (i.e., geology of Kodiak Island), and then narrows focus to project area resources for impact analysis (i.e., soil, rock, and slope stability).

3.7.1 Affected Environment

Regional Geology

The geology of Kodiak Island is mostly defined by the Late Cretaceous Kodiak Formation and the Paleocene Ghost Rocks Formation. The Kodiak Formation is composed of large metasedimentary rocks separated by shear zones and thrust faults (Farris 2010). The formation is defined by tight folds and strikes to the northeast while dipping towards the northwest. The Ghost Rocks Formation is more defined by tectonic events due to its abundance of shears, faults, and folds. The Ghost Rocks Formation is made up of basalt and tuff as well as claystone and sandstone (Wilson 2013). Greywacke and argillite turbidities are present throughout both formations on the island (Farris 2010).

Three major fault systems are present on Kodiak Island. The Border Ranges Fault is located in the northwest and separates Triassic and Jurassic arc rocks from accretionary rocks present in the southeast. Basalt and oceanic mélangé of the Uyak Complex is separated from the Kodiak Formation by the Uganik Thrust Fault which is also located within the northwest. The Contact

Fault runs through the southern portion of the island and defines the separation between the Kodiak Formation and the Ghost Rocks Formation. The project area is situated between the Border Ranges and Uganik Thrust Faults to the north and the Contact Fault to the south (Farris 2010).

Local Geology

The study area is underlain primarily by the Kodiak Formation but Paleocene Granitic Rocks cover a small region in the southern portion of the study area. The Kodiak Formation in this area has large folds and is mostly composed of shale and arkosic wacke as well as pebbly conglomerate. The formation is assumed to be roughly 5,000 meters thick. Fossils of the Late Cretaceous age are present in the Kodiak Formation (Wilson 2013).

The Paleocene Granitic Rocks in the project area are part of the Kodiak Batholith which typically consists of fine-grained biotite quartz monzonite. The batholith typically intrudes the deposits where present within the Kodiak Formation (Wilson 2013).

Geologic Hazards

The geology and geographic location of Kodiak Island puts it at risk for multiple geologic hazards. The region is seismically active and earthquakes are a hazard that can affect all areas of the island. Tsunamis can be a threat to the island due to its exposure to open waters. Landslides are also a geologic hazard that can potentially cause harm to inhabitants and infrastructure. Topography influences where landslides could be a factor of concern. There are no known historic landslides in the study area.

Soils of Kodiak Island

According to the 1960 U.S. Department of Agriculture (USDA) Soil Survey report on northeast Kodiak, the soil types on Kodiak Island can be split into two categories based on whether the soil originated on steep hills and uplands or valley bottoms, alluvial plains, and terraces. The study area is mainly composed of soils that fall into the uplands category, which makes up about 92 percent of northeastern Kodiak Island. The soils of both the uplands and alluvial plains categories are split into series based on their characteristics. The majority of the soils in the project area are part of the Kodiak Series. These soils originated from weathered slate, greywacke, and glacial till. The Kodiak soils are typically vegetated at the surface by tall grasses and shrubs or occasional alders and trees. Underlying the vegetated surface is volcanic ash ranging in thickness from 9 to 12 inches before a layer of organic rich silty loam is encountered. This transitions into a gravelly silty loam at about 11 to 20 inches below the ground surface before underlying rock is encountered. The uplands of the Kodiak Series located in the project area range from 7 to 80 percent slope (USDA 1960).

The Pyramid Series and the Saltery Series are also present in two small areas in the northwest portion of the study area. The Pyramid Series are mostly found in steep areas. The volcanic ash layer is typically thinner than that of the Kodiak Series and the underlying silty loam contains cobbles before bedrock is encountered. Exposed bedrock is more common as well as the occurrence of soil slips. The Saltery Series soils are typically found near bays in lowland areas or in poorly drained uplands. This soil type usually consists of a layer of peat at the surface before volcanic ash of about 12-inch thickness. Underlying the volcanic ash is another layer of peat

which transitions into silt loam. The water table is usually at a maximum depth of one foot below the ground surface (USDA 1960).

3.7.2 Environmental Consequences

The project's impacts to soils and geology are measured by the potential for increased erosion, soil loss, landslides, and liquefaction or tsunami susceptibility.

3.7.2.1 No Action Alternative

Direct and Indirect Effects

The No Action alternative would have no direct or indirect effect on geology, soils, or topography of the study area because no earthwork would occur. There are no known geologic hazards that would be reduced or exacerbated as a result of not constructing the project.

3.7.2.2 Proposed Action

Direct and Indirect Effects

The Proposed Action would not impact any important or unique soil or geological resources. There would be no detectable effect on landslide areas since none have been identified. Some areas of the project may require large rock cuts or blasting, creating long-term or chronic risk of slope failures and erosion.

Geologic hazards associated with seismic events could affect proposed road and boat launch/dock improvements. These hazards include tsunamis, slope failures, or liquefaction. The project would be designed to current AASHTO and ADOT&PF design standards, and would incorporate appropriate design measures to ensure project components that are susceptible to these hazards can resist damage resulting from seismic events. Steep grades and slopes would be minimized during planning and road construction. Steep cuts in unconsolidated material can lead to slumping while areas consisting of shallow bedrock may require blasting. Geotechnical exploration would identify soil properties and provide recommendations regarding the road sub-base, slope stability, and liquefaction susceptibility. The design of the roadway would be optimized to utilize excavated materials along cut slopes to build fill slopes, reducing the amount of imported material needed to the maximum extent practicable. Cut slopes would be designed to minimize slope instability during construction, and appropriate best management practices for erosion control would be implemented to reduce soil loss that could lead to slope instability. For these reasons, the Proposed Action is anticipated to have a negligible effect on soils and geology.

Temporary Construction Effects

Construction of the Proposed Action would temporarily disturb soils and vegetation within approximately 10 feet of the finished cut and fill limits, and at temporary material and equipment staging areas. Soils would be affected by loss of the top layer of organic material, compaction, minor regrading, and erosion. Topography may be affected by the use of heavy equipment.

3.8 Water Resources, Water Quality, & Floodplains

The study area for water quality includes the project footprint and downstream waterbodies that would receive storm water from the project area.

3.8.1 Affected Environment

Water Resources and Water Quality

Water quality and pollutant discharge regulation has been established under Sections 401, 402, and 404 of the CWA. Section 401 provides for state review of federal CWA permits, including wetlands permits issued under Section 404. Section 402 regulates pollutant discharges into waters of the U.S. from point sources through issuance of permits through the ADEC-administered Alaska Pollutant Discharge Elimination System (APDES).

Section 303(d) of the CWA requires states to identify waterbodies, known as *impaired waters*, that do not meet water quality standards. Water quality standards and total maximum daily loads (TMDLs) of pollutants for impaired waters are used to determine a project's potential impact to water quality.

Receiving waters for the project include Anton Larsen Bay, Small Creek, Chalet Creek, and seven other small unnamed streams that discharge into Anton Larsen Bay. None of these waterbodies are listed as impaired waters under Alaska's 303(d) list and not subject to TMDLs (ADEC 2018b). Since the watersheds upstream of the study area are largely undeveloped, and more than 99.9 percent of Alaska's waters are considered unimpaired, it is reasonable to conclude that none of the waterbodies in the study area are currently impacted by poor water quality.

There are no APDES-permitted facilities, sole-source aquifers, or drinking water protection areas in the study area. A surface water right has been established for 10,000 gallons per day from a small unnamed stream located near the southern end of the study area. The surface water right is for a private residence (ADNR 2018).

Floodplains

Executive Order 11988 requires federal agencies to reduce floodplain loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values served by floodplains. FHWA implementing regulations at 23 CFR 650 require that projects avoid significant encroachments⁴ in floodplains unless it is the only practicable alternative.

The Federal Emergency Management Agency (FEMA) has not completed floodplain mapping in the study area; however, a limited floodplain may exist at Chalet Creek, based on local topography.

3.8.2 Environmental Consequences

Impact assessment factors for water quality and floodplains are listed in **Table 3-9**. The significance of the project's effects is determined by intensity (the degree of change to the

⁴ Significant encroachment is defined as a floodplain impact that results in (1) a significant potential for interruption or termination of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route; (2) a significant risk; or (3) a significant adverse impact on natural and beneficial flood-plain values.

resource), duration (temporary, long-term, or permanent), extent (local, regional, or extended), and context (affects common, important, unique, or protected resources).

Table 3-9: Water Quality and Floodplains Impact Evaluation Criteria

Impact Category	Impact Criteria
Water Quality	ADEC Water Quality Standards (18 AAC 70)
Floodplains	Flooding risk; floodplain values; incompatible floodplain development; floodplain impact minimization; restoration and preservation of floodplain values

3.8.2.1 No Action Alternative

Direct and Indirect Effects

The No Action alternative would have no effect on water quality because there would be no new ground disturbance or development affecting existing wetlands or waterbodies. Existing wetlands would remain in their existing condition and would continue to provide the same water quality functions as they do currently. There would be no new sources of pollution discharging into streams resulting from the No Action alternative.

3.8.2.2 Proposed Action

Direct and Indirect Effects

Water Quality

The Proposed Action would involve approximately 1.7 miles of new roadway, consisting of approximately 6.2 acres of semi-impervious road and parking surfaces and 7.3 acres of embankment. The project would result in an increase in the volume of storm water runoff because the impacted area would change from natural vegetation to a compacted road prism and adjacent embankment. However, because the surrounding landscape remains largely undisturbed, runoff is anticipated to be infiltrated or retained in vegetated areas in a similar manner as existing conditions. The increase is not expected to have a measurable impact on receiving waters; therefore, permanent adverse effects would be negligible.

Floodplains

The Proposed Action may bisect the floodplain of Chalet Creek; however, neither Chalet Creek nor any other streams in the study area have been mapped by FEMA. All of the project's stream crossings would be designed in accordance with current hydrologic and hydraulic standards and would be appropriately sized. Therefore, the Proposed Action is anticipated to have no adverse impact on floodplains.

Temporary Construction Effects

Temporary degradation of water quality may occur in adjacent streams, wetlands, and other waterbodies due to storm water runoff over disturbed ground and exposed soil. Bridge construction, culvert removal and installation (including temporary stream diversions), and river-bank stabilization may result in short-term sedimentation and turbidity increases to Small Creek, Chalet Creek, and other small streams.

The project would incorporate storm water management measures designed to control and convey runoff exiting the roadway in order to maintain initial infiltration and reduce the speed at which runoff enters receiving waters. Storm water management measures may include armored or vegetated swales, armored slopes and slope drains, and infiltration basins. The following measures would be implemented during construction to minimize adverse impacts to water quality:

- The contractor would be required to prepare and implement a SWPPP in accordance with the APDES Construction General Permit for storm water discharges. As part of the SWPPP, the contractor would utilize suitable erosion and sediment control BMPs.
- In-water work areas would be isolated from flowing waters.
- Existing vegetation adjacent to waterbodies would be preserved when possible.
- All disturbed ground adjacent to the creeks would be revegetated with native species as soon as possible.

3.9 Wetlands & Waters of the U.S.

Waters of the U.S., including wetlands, were evaluated within a study area that involved a 150-foot wide corridor centered along the proposed road alignment.

3.9.1 Affected Environment

Wetlands

Executive Order 11990, *Protection of Wetlands*, directs federal agencies to avoid, to the extent possible, adverse impacts associated with the destruction or modification of wetlands, and to avoid supporting new construction in wetlands whenever there is a practicable alternative. Wetlands are also protected under Section 404 of the CWA, which regulates discharges of dredge or fill material into waters of the U.S., including wetlands.

Wetland determinations and the *Wetland Delineation Report and Mapping for the Proposed Anton Larsen Bay Road Extension* (Bosworth 2016a; Appendix A) were completed in 2016 for a 75-foot wide corridor along the centerline of the proposed road alignment. Wetland determinations were performed using the three parameter method described in the USACE *Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region* (USACE 2007).

Subsequent mapping using desktop methods (i.e. using remote sensing data) to characterize wetlands within a wider 150-foot wide corridor was later completed to describe wetland resources and provide additional baseline data to assess impacts associated with the Proposed Action (HDL 2019b).

Wetland habitats mapped in the study area include ten discrete wetland units totaling 1.28 acres; 0.14 acre has been classified palustrine-forested. 0.15 acre has been classified as pond, and 0.99 acre has been classified palustrine-emergent. Wetland units are described in **Table 3-10**. All of the mapped wetlands within the study area exhibit a direct surface water or wetland connection to tributaries discharging into Anton Larsen Bay, or are in close proximity to waters directly connected to Anton Larsen Bay and are considered adjacent. Therefore, all of the wetlands in the study area are assumed to be subject to USACE's jurisdiction under Section 404 of the CWA.

Table 3-10: Wetlands Units

ID	Type	Habitat Classification	Mapped Area (acres)
W1	Emergent Wetland	PEM1C	0.06
W2	Emergent Wetland	PEM1C	0.19
W3	Emergent Wetland	PEM1C	0.08
W4	Emergent Wetland	PEM1C	0.2
W5	Emergent Wetland	PEM1C	0.19
W6	Emergent Wetland	PEM1C	0.09
W7	Pond	PUBH	0.15
W8	Emergent Wetland	PEM1C	0.15
W9	Forested Wetland	PFO4B	0.14
W10	Emergent Wetland	PEM1C	0.03
Total Wetlands Mapped			1.28
Non-Wetland Waterbodies			4.59
Uplands			35.35
Total Study Area Mapped			41.22

Habitat (Cowardin) classification key:

PEM1C: palustrine; emergent; persistent; seasonally flooded

PFO4B: palustrine; forested; needle-leaved evergreen; seasonally saturated

PUBH: palustrine; unconsolidated bottom; permanently flooded

A wetlands functional assessment, *Anton Larsen Bay Road Extension, Kodiak Island - Wetland Functional Assessment* (Bosworth 2016b; Appendix B), has been performed for the project using the *Wetland Ecosystem Services Protocol for Alaska Southeast*. Wetland units were aggregated into discrete groups for analysis. The evaluation assigned a qualitative rating for each functional category (e.g., hydrology, water quality, nutrient, fish, aquatic support, terrestrial support, and social function) and an overall rating for the wetland group.

Overall, wetlands in the study area were rated relatively low value, with the exception of units W9 and W10 which were rated high principally for their hydrologic functions. Hydrologic functions are performed primarily through flood flow alteration, which includes the capability of the wetlands to attenuate flood waters along streams, and through groundwater recharge. All mapped wetlands in the study area are situated in the lower reaches of their watersheds, or are part of very small watersheds located in close proximity to Anton Larsen Bay. In general, a lower landscape position limits a wetland's capability to affect flood waters in the watershed. However, wetlands bordering streams (W1-W4, W9, W10) in the study area likely help to moderate some stream flow when flood waters overtop stream banks and are stored within the wetland vegetation and within microtopographic low areas. Other wetlands (W5-W8) may contribute to flood water control through groundwater recharge rather than through receiving flood water from an adjacent waterbody. This is primarily due to their landscape position, within depressions, flat, low-lying areas, or in landforms that restrict the outflow of surface water.

Waterbodies

Waterbody protection is provided under multiple federal statutes, including Section 404 of the CWA and Sections 9 and 10 of the Rivers and Harbors Act. Waterbody resources under the jurisdiction of these statutes are discussed in this section.

The study area contains several small streams (**Figure 3-4**). Waterbody identification and mapping within the study area was presented in Appendix A. Nine streams also were mapped within the limits of the study area in the report (**Table 3-12**). In addition, the project area also includes a portion of Anton Larsen Bay, at the terminus of the proposed road extension where the proposed boat launch/dock would be located. Anton Larsen Bay, a territorial sea, is considered a navigable water and subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act. All of the waterbodies in the study area are subject to USACE jurisdiction under Section 404 of the CWA.

3.9.2 Environmental Consequences

Impact assessment factors for wetlands and waterbodies are listed in **Table 3-11**.

Table 3-11: Wetland and Waterbody Impact Criteria

Impact Category	Impact Criteria
Wetlands	Wetland acreage and functions
Waterbodies	Natural flow patterns

3.9.2.1 No-Action Alternative

Direct and Indirect Effects

The No Action alternative would have no effect on wetlands or water quality because there would be no new construction affecting existing wetlands or waterbodies. Existing wetlands would remain in their existing condition and would continue to provide the same level of hydrologic functioning. There would be no new sources of pollution discharging into streams as a result of the No Action alternative.

Under the No Action alternative, the existing roadway crossing culvert at Small Creek would not be replaced and would still not meet current fish passage or hydrology and hydraulic design standards. Potential impacts to natural flow patterns include the continued presence of a culvert structure that increases flow velocities within the culvert pipe, does not provide suitable streambed or streambank substrate and habitat, and disrupts upstream migration by resident and anadromous fish. The No Action alternative would have an ongoing direct adverse effect on existing waterbody resources.

Figure 3-4: Stream Crossings



Small Creek (S1) looking downstream.



ATV bridge over unnamed stream S4.



Chalet Creek (S5) looking upstream.



Chalet Creek tributary #1 (S7).

Table 3-12: Waterbodies in the Study Area

ID	Type	Habitat Classification	Stream		Mapped Area (acres)
			Width (ft)	Depth (in)	
S1	Intermittent Stream	R4SBC	3.5	4	0.01
S2 (Small Creek)	Perennial Stream	R3UBH	15	12	0.03
S3	Intermittent Stream	R4SBC	2	2	0.02
S4	Perennial Stream	R3UBH	5	2	0.04
S5 (Chalet Creek)	Perennial Stream	R3UBH	2	2	0.13
S6 (Chalet Creek Tributary #2)	Perennial Stream	R3UBH	6	5	0.01
S7 (Chalet Creek Tributary #1)	Perennial Stream	R3UBH	6	5	0.19
S8	Perennial Stream	R3UBH	1	3	0.01
S9	Intermittent Stream	R4SBC	1	5	0.03
S10	Intermittent Stream	R4SBC	2	6	0.10
W11	Marine Intertidal	M2UBN			0.32
W12	Marine Intertidal	M2RSN			0.36
W13	Marine Subtidal	M1UBL			3.34
Total Waterbodies Mapped					4.59

Habitat (Cowardin) classification key:

M1UBL: marine; subtidal; unconsolidated bottom; subtidal

M2RSN: marine; intertidal; rocky shore; regularly flooded

M2UBN: marine; intertidal; unconsolidated bottom; regularly flooded

R3UBH: riverine; upper perennial; unconsolidated bottom; permanently flooded

R4SBC: riverine; intermittent; streambed; seasonally flooded

3.9.2.2 Proposed Action

Direct and Indirect Effects

Wetlands

Wetland impacts that would occur as a result of the Proposed Action are presented in **Table 3-13** and **Figure 3-5**. The proposed action would directly impact approximately 0.49 acre of wetlands and 0.06 acre of non-wetland waters of the U.S. resulting from embankment fill, culvert placement, and other components of the roadway and boat launch/dock facilities. The wetland impacts would constitute a permanent loss of the wetland areas and their associated functions. Hydrologic functions of some closed wetlands that are lost may be performed by remaining intact portions of the wetland, where storm water runoff from impervious surfaces can be retained within the remaining wetland's storage capacity. Other wetlands, such as those adjacent to streams, are less likely to attenuate the additional storm water flow, leading to an adverse effect on flood flow alteration function. However, overall wetland function in the watershed would remain intact, and the adverse effect to wetlands as a result of the project is expected to be minor.

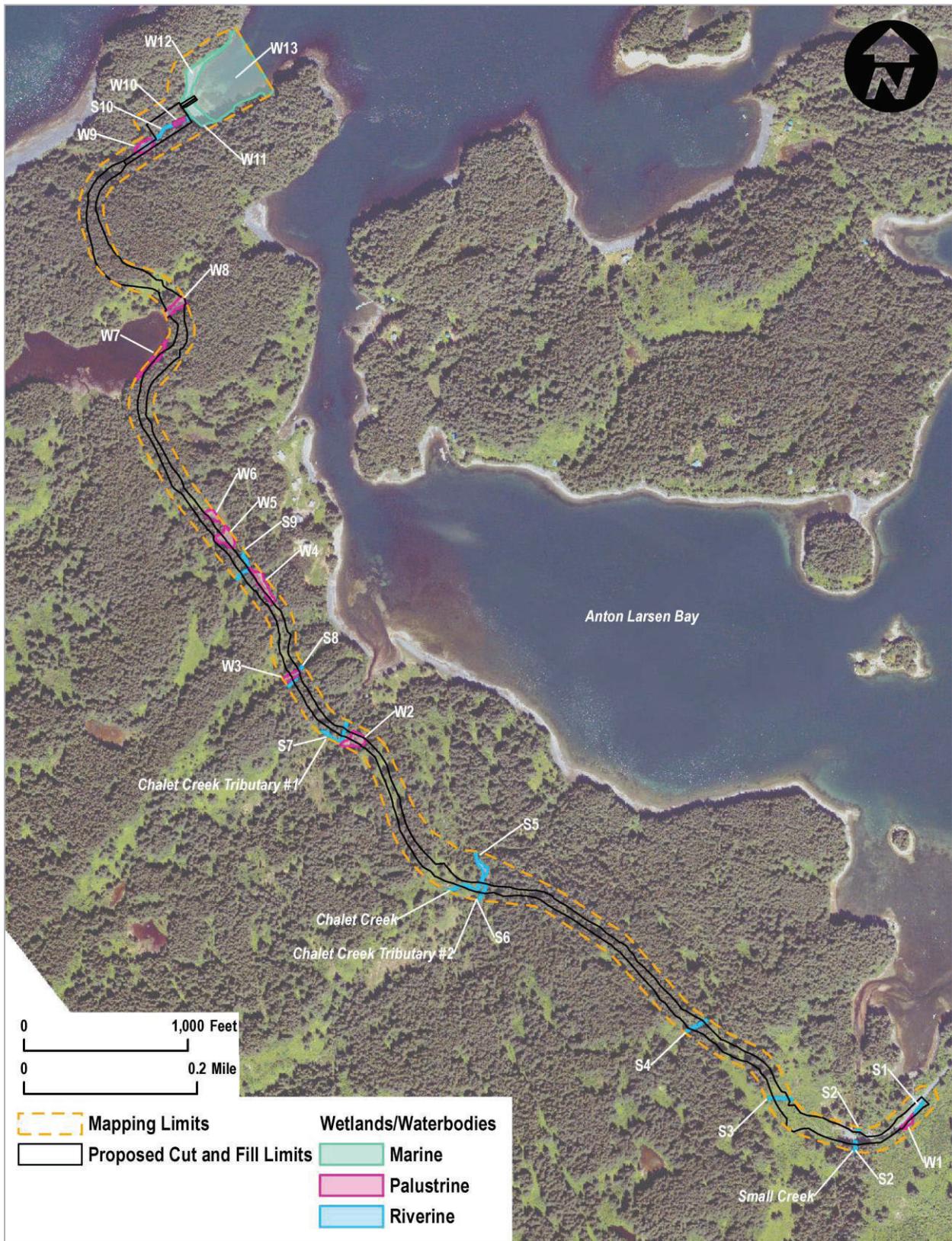
Table 3-13: Direct Impacts to Wetlands and Waterbodies

Type	Wetland Units	Habitat Classification	Impacted Area (acres)
Emergent Wetlands	W2-W6, W8, W10	PEM1C, PFO4B	0.41
Forested Wetlands	W9	PFO4B	0.08
Streambeds	S3, S4, S7, S8-S10	R3UBH, R4SBC	0.03
Marine Shorelines and Waters	W11, W13	M2UBN, M1UBL	0.03
		Total	0.55

Avoidance, Minimization, and Mitigation. Executive Order 11990, Protection of Wetlands, requires avoidance of wetland impacts unless there is “no practicable alternative” and minimization of wetland impacts using all practicable measures.

The proposed roadway alignment has been developed to avoid/minimize impacts to sensitive, unique, and important environmental resources, including wetlands. Within these constraints, the Proposed Action would be designed to avoid and minimize excavation or fill within wetlands as much as practicable; however, complete avoidance is not practicable due to the density of existing wetland and riverine habitats across the project area landscape. To minimize the total area of wetland impacts, the overall embankment width would be reduced to the extent practicable during final design.

Figure 3-5: Wetlands and Waterbodies



Mitigation in the form of permittee-responsible stream mitigation is proposed for impacts at stream crossings. The proposed action would replace crossing culverts at Small Creek, a stream used by anadromous fishes, with a culvert or bridge wide enough to span the entire width of the stream channel. In addition, an existing culvert along an unnamed resident fish stream would be replaced with a new culvert designed for fish passage. The new crossing at Small Creek would replace culverts that are designated fish passage condition “red” by the Alaska Department of Fish & Game. The new crossing culverts at the unnamed stream and at Chalet Creek would meet fish passage design criteria.

Compensatory mitigation would be provided as a condition of the project’s Section 404 permit to address any remaining unavoidable impacts. This may include purchasing credits in an approved mitigation bank or by paying an in-lieu fee, or through the creation, restoration, or preservation of wetlands by the permittee. Currently, there are no approved mitigation banks or in-lieu fee sponsors serving Kodiak Island. During the Section 404 permit process, compensatory mitigation would be determined following consultation with USACE and other resource agencies to determine if suitable mitigation sites are available.

Waterbodies

The Proposed Action would involve ten stream crossings, including replacement of existing crossings at Small Creek, Chalet Creek, and an unnamed stream. The crossings would require replacement of two existing road crossing culverts at Small Creek and one trail crossing culvert at Chalet Creek with culverts or bridges that span the entire width of the stream channel; replacement of one existing trail crossing culvert at an unnamed stream with a new culvert; and installation of six new culverts at other small streams. Hydraulic and hydrologic investigation during final design may indicate the need for bank protection measures at stream crossings.

No adverse effects to Chalet Creek are anticipated; the crossing would span the entire width of the stream channel and no fill or structures would be placed below ordinary high water of the stream. Replacement of the existing culverts at Small Creek is expected to have a net beneficial impact due to improvements to natural flow patterns. Constructing a bridge over Small Creek is expected to remove impediments to fish passage caused by the existing culverts and improve fish habitat. Crossings at all streams would be designed and constructed in accordance with current fish passage and hydrologic and hydraulic design standards in order to maintain natural flow patterns and avoid adverse impacts to streambed and streambank habitat. As a result, adverse impacts to small streams without existing culverts are anticipated to be minor.

Temporary Construction Effects

Temporary degradation of water quality may occur in adjacent streams, wetlands, and other waterbodies due to storm water runoff over disturbed ground and exposed soil. Bridge construction, culvert removal and installation (including temporary stream diversions), and river-bank stabilization may result in short-term sedimentation and turbidity increases to Small Creek, Chalet Creek, and other small streams. Displacement or removal of fish during in-water work may also occur during placement of culverts at fish streams.

Temporary impacts to fish would be avoided or minimized by following ADF&G guidelines for stream diversions. In addition, all in-water work would be scheduled to occur within the

ADF&G-specified fish window when eggs are least likely to be present in the streambed and spawning fish are not present (anticipated to be approximately May through July). The contractor would be required to prepare and implement a SWPPP in accordance with the APDES Construction General Permit for storm water discharges. As part of the SWPPP, the contractor would utilize suitable erosion and sediment control BMPs.

3.10 Fish, Wildlife, & Vegetation

The *Technical Memorandum: Fish, Wildlife, & Vegetation* (HDL 2019c) prepared for this project provides an inventory of fish, wildlife, and vegetation resources and impact analysis for this project. This section largely summarizes that analysis.

3.10.1 Affected Environment

Fish

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCA) directs the National Marine Fisheries Service (NMFS) to conserve and minimize adverse effects to essential fish habitat⁵ (EFH). Federal agencies must consult with NMFS for proposed projects that may adversely impact EFH, which the MSFCA defines as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.”

Anadromous fish habitat protection at the state level is provided by the Anadromous Fish Act and regulated by ADF&G under AAC Title 16. In addition, the state Fishway Act requires projects that cross an anadromous or resident fish-bearing stream to provide efficient passage for migrating fish. Permits issued by ADF&G require project-specific conservation measures aimed at minimizing adverse effects to fish habitat.

The local 12-digit Hydrologic Unit Code (HUC) watershed contains primarily small coastal streams that discharge into Anton Larsen Bay. The watershed is approximately 26.5 square miles in size and contains 5.0 miles of anadromous fish streams catalogued by ADF&G. Existing fish stream crossings in the Anton Larsen Bay watershed outside of the project area are primarily along a tributary of the Red Cloud River. Anton Larsen Bay Road parallels and crosses the stream several times as it travels south toward Anton Larsen Pass. Outside of the project area, ADF&G has identified two stream crossings as fish passage condition “red”, indicating conditions are inadequate to pass juvenile fish (ADF&G 2018).

Little development other than Anton Larsen Bay Road is present in the watershed, especially along fish streams. Fishing in area streams is regulated by ADF&G and is open most of the year for most targeted species, including salmonids.

Stream EFH

The ADF&G conducted stream surveys along the proposed road corridor between August and November 2015 (ADF&G 2015). The stream surveys identified both anadromous and resident fish in four streams and resident fish only in one stream (**Table 3-14, Figure 3-6**). The four

⁵ Essential Fish Habitat is defined as “...those waters and substrate necessary to [anadromous] fish for spawning, breeding, feeding, or growth to maturity.”

anadromous fish streams have been added to ADF&G’s Anadromous Waters Catalog and are also considered EFH.

Table 3-14: Fish Streams in the Study Area

Stream Name	Fish Type Present	Anadromous Waters Catalog Code	Species Observed	Habitat
Small Creek	Anadromous	252-38-10070	Pink Salmon (<i>Oncorhynchus gorbuscha</i>)	Spawning
Unnamed	Resident	N/A	Dolly Varden (<i>Salvelinus malma</i>)	Unknown
Chalet Creek Tributary #2	Anadromous	252-38-10080-2013	Coho Salmon (<i>O. kisutch</i>)	Rearing
Chalet Creek	Anadromous	252-38-10080	Coho Salmon (<i>O. kisutch</i>) Pink Salmon (<i>O. gorbuscha</i>)	Present, rearing Spawning
Chalet Creek Tributary #1	Anadromous	252-38-10080-2006	Coho Salmon (<i>O. kisutch</i>)	Rearing

Adult and juvenile salmon are present throughout Anton Larsen Bay and its tributaries. Gravel channels and side bars within Chalet Creek and Small Creek provide spawning habitat for adult coho and pink salmon from August through November. The smaller streams and channels provide food sources and cover and contain primarily rearing habitat for juvenile coho salmon. Additional resident fish species likely to be present in all streams include the threespine stickleback (*Gasterosteus aculeatus*) or the slimy sculpin (*Cottus cognatus*).

Marine EFH

The North Pacific Fishery Management Council’s (NPFMC) Fishery Management Plans (FMPs) that are relevant to the project include the Gulf of Alaska Groundfish FMP, the Alaska Salmon FMP, and the Alaska Scallops FMP. EFH species present within the project area’s marine waters are listed in **Table 3-15**.

Figure 3-6: Fish & Wildlife Study Area

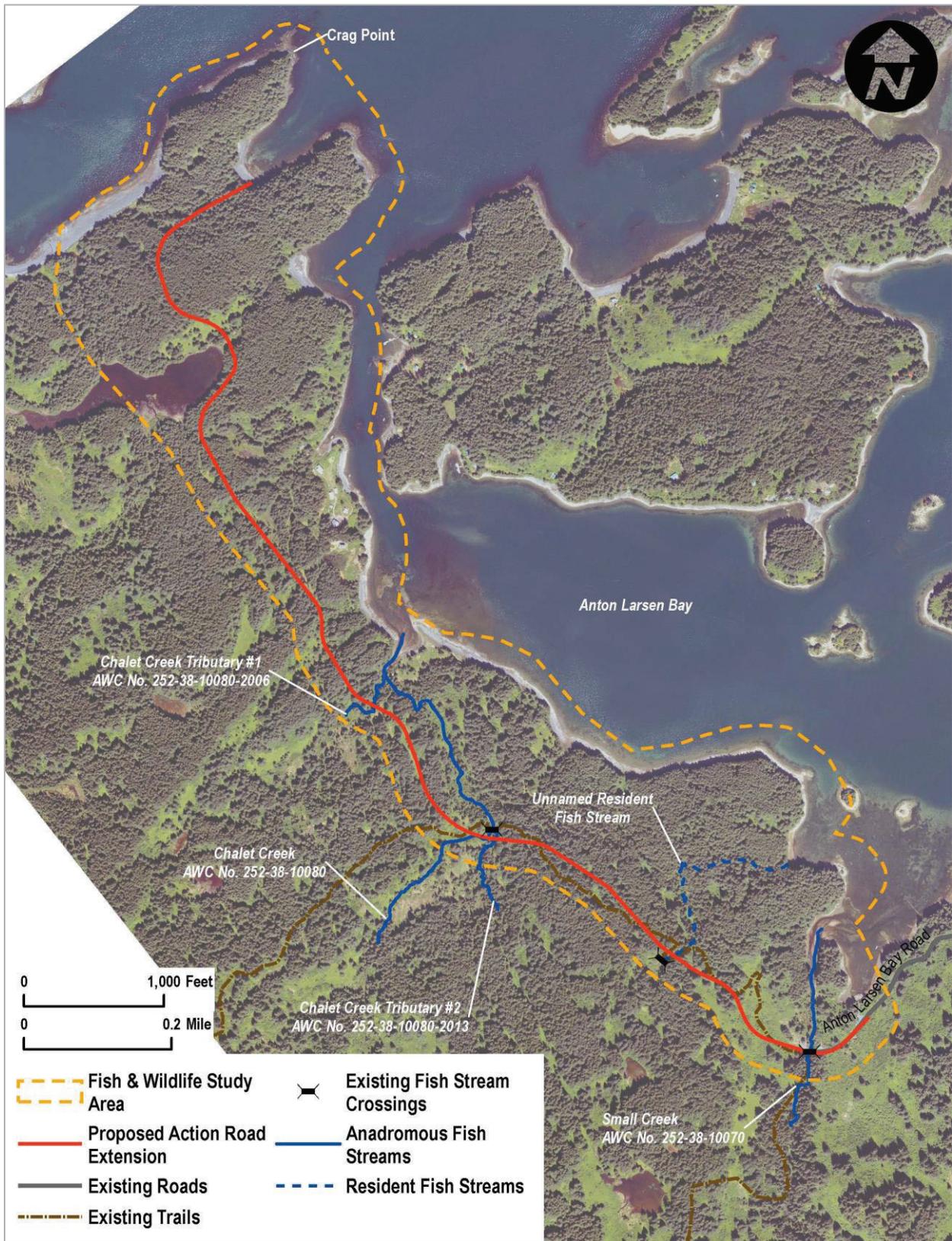


Table 3-15. Species of Fish within the Three FMP's Essential Fish Habitat in the Project Area

Species/Species Complex (GOA Groundfish)	Species (Alaska Salmon)
Rockfish Pacific ocean perch (<i>Sebastes alutus</i>) Northern rockfish (<i>S. Polyspinus</i>) Shortraker/Rougheye rockfish (<i>S. borealis</i>) <i>S. aleutianus</i>) Dusky rockfish (<i>S. variabilis</i>) Yelloweye rockfish (<i>S. ruberrimus</i>) Thornyhead rockfish (<i>Sebastolobus</i> spp.)	Pacific Salmon Chinook salmon (<i>Oncorhynchus tshawytscha</i>) Chum salmon (<i>O. keta</i>) Coho salmon (<i>O. kistutch</i>) Pink salmon (<i>O. gorbuscha</i>) Sockeye salmon (<i>O. nerka</i>)
Pacific cod (<i>Gadus macrocephalus</i>)	Species (Alaska Scallops)
Flatfish Yellowfin sole (<i>Limanda aspera</i>) Rock sole (<i>Pleuronectes bilineata</i>) Alaska plaice (<i>Pleuronectes quadrituberculatus</i>) Dover sole (<i>Microstomus pacificus</i>) Greenland turbot (<i>Reinhardtius hippoglossoides</i>) Rex sole (<i>Errex zachirus</i>) Arrowtooth flounder (<i>Atheresthes stomias</i>) Flathead sole (<i>Hippoglossoides elassodon</i>)	Weathervane scallop (<i>Patinopecten caurinus</i>) Rock scallop (<i>Crassadoma gigantean</i>) Pink scallop (<i>Chlamys rubida</i>) Spiny scallops (<i>C. hastata</i> , <i>C. behringiana</i> , and <i>C. albida</i>)
Walleye pollock (<i>Gadus chalcogrammus</i>)	
Sablefish (<i>Anaplopoma fimbria</i>)	
Atka mackerel (<i>Pleurogrammus monopterygius</i>)	
Skates (Rajidae)	
Other Species Squid (<i>Loligo opalescens</i>) Octopus (<i>Enteroctopus doffeini</i>) Sharks (Elasmobranchii) Sculpins (Cottidae)	
Forage fish complex	

Wildlife

Federal protections for wildlife include the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), Fish and Wildlife Protection Act, Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA). The MBTA protects migratory birds by prohibiting intentional take, sale, or other activity that would harm migratory birds, their eggs, or nests, unless authorized by permit. The BGEPA provides additional and similar protections to bald and golden eagles.

Many migratory and non-migratory bird species inhabit or migrate through the study area. Of particular interest is the bald eagle, which usually nest in old-growth timber along saltwater shorelines and mainland rivers. A bald eagle survey conducted in fall 2015 did not identify any eagles or eagle nests in the study area. A single eagle nest was observed on Larsen Island approximately ½ mile east of the study area.

Terrestrial mammals native to Kodiak Island that may be found in the study area include brown bear (*Ursos arctos*), red fox (*Vulpes vulpes*), river otter (*Lutra canadensis*), short-tailed weasel (*Mustela erminea*), bats (*Myotis* sp.), and tundra vole (*Microtus oeconomus*). Introduced species include Sitka black-tailed deer (*Odocoileus hemionus sitkensis*), mountain goat (*Oreamnos*

americanus), reindeer (*Rangifer tarandus granti*), snowshoe hare (*Lepus americanus*), beaver (*Castor canadensis*), and red squirrel (*Tamiasciurus hudsonicus*).

Terrestrial habitats common in the study area primarily include upland conifer forest, emergent wetlands, and some open water. The vast majority of the adjacent land is undeveloped. The first approximately $\frac{3}{4}$ mile of the proposed roadway extension closely follows an existing ATV trail, featuring a disturbed width of approximately 6 feet. There are two residential properties mid-way along the route containing homes and a few small structures. There are no significant wildlife migration barriers present in the study area.

Vegetation

Vegetation types and communities are identified in Appendix A and HDL 2019c. Four main natural vegetation types dominate the study area: Closed needleleaf (conifer) forest, closed tall scrub, mesic forb herbaceous, and open mixed forest.

Table 3-16 summarizes the vegetation types and their acreages within the study area. **Figure 3-7** shows the locations of each vegetation type.

Table 3-16: Vegetation Types in the Study Area

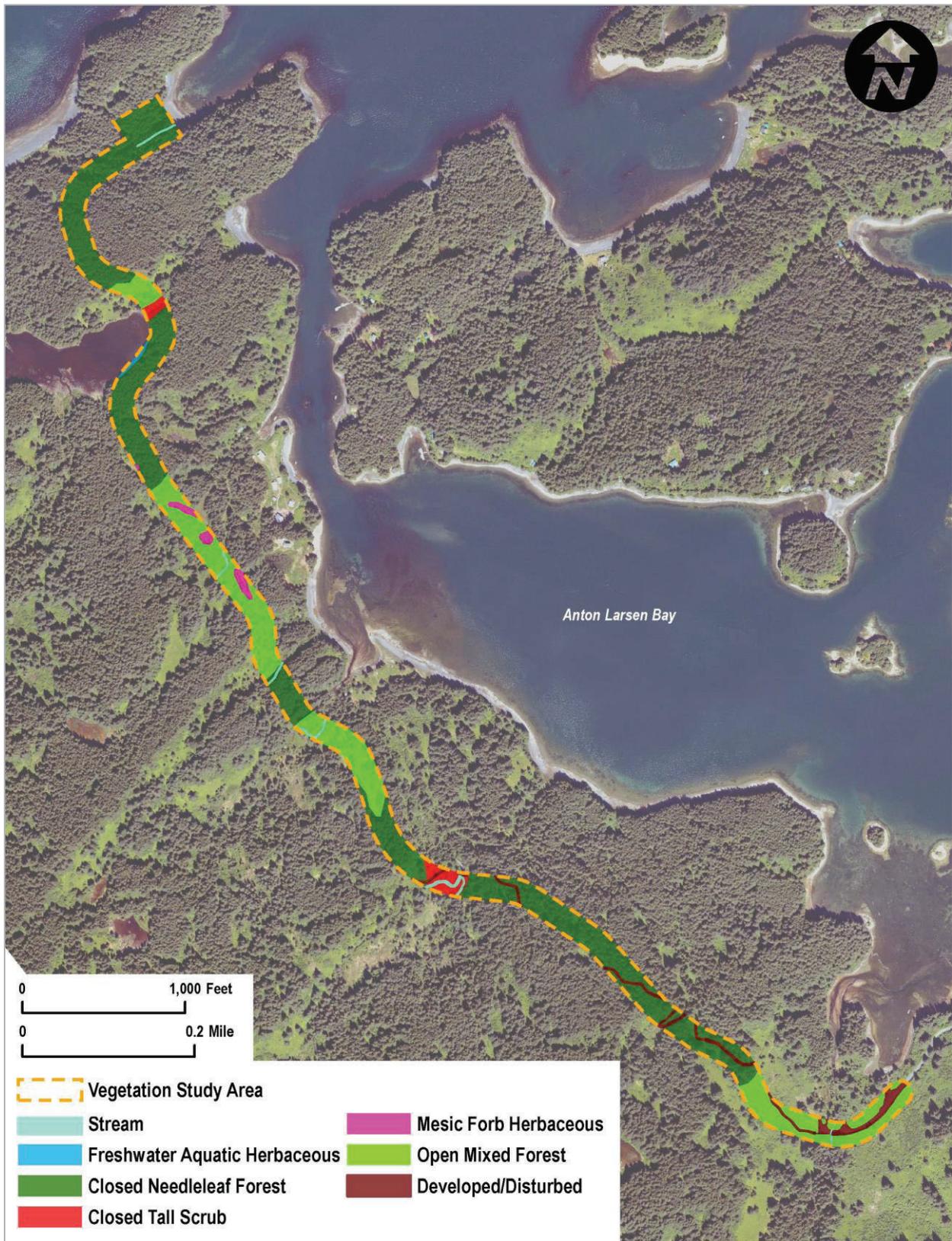
Vegetation Community	Area (acres)	Proportion of the Study Area (percent)
Open Mixed Forest	11.02	32.5
Closed Tall Scrub	1.04	3.1
Closed Needleleaf Forest	20.16	59.4
Mesic Forb Herbaceous	0.55	1.6
Freshwater Aquatic Herbaceous	0.14	0.4
Stream	0.12	0.4
Developed/Disturbed	0.89	2.6
Total Study Area:	33.92	

Invasive Plant Species

Executive Order 13112, Invasive Species defines invasive species as non-native species whose introduction does or is likely to cause economic or environmental harm or harm to human health. Invasive species are those which have been introduced by human action to a location where they did not previously occur naturally, have become capable of establishing a breeding population in the new location without further intervention by humans, and have spread throughout the new location. The Executive Order requires federal agencies, whose actions may affect the status of invasive species, to prevent their introduction and restore native species and habitat conditions in ecosystems that have been invaded.

ADNR regulations at 11 AAC 34 identify prohibited and restricted noxious weeds (14 species) and restricted noxious weeds (nine species). Invasive species ranking has been completed by the University of Alaska Anchorage, Alaska Natural Heritage Program (ANHP) (ANHP 2011). The ranking scores the invasiveness of plant species according to their potential ecological impacts, biological characteristics and dispersal ability, distribution, and feasibility of control. Scores range from zero to 100, with 100 representing the greatest threat.

Figure 3-7: Vegetation Types in the Study Area



A survey for invasive plant species in 2016 (Bosworth 2016c; Appendix C) identified several species of common, non-native plants such as common dandelion (*Taraxacum officinale*), common plantain (*Plantago major*), and annual bluegrass (*Poa annua*) along the existing road at the southern terminus of the study area. The State of Alaska’s regulation status and invasiveness ranking for each species is shown in **Table 3-17**.

Table 3-17: Invasive Plants Observed in the Study Area

Species	Invasiveness Score and Ranking	State Regulation Status
common dandelion (<i>Taraxacum officinale</i>)	58	Weed seed
common plantain (<i>Plantago major</i>)	44	None
annual bluegrass (<i>Poa annua</i>)	46	Restricted noxious weed

3.10.2 Environmental Consequences

Table 3-18 lists the impact assessment factors for fish, wildlife, and vegetation.

Table 3-18: Fish, Wildlife, & Vegetation Impact Criteria

Impact Category	Impact Criteria
Fish	Anadromous and Essential Fish Habitat; fish passage
Wildlife	Species loss or extirpation; take; habitat loss, degradation, or fragmentation; reproductive or mortality rates
Vegetation	Habitat loss, degradation, or fragmentation; spread of invasive species

Discussion of potential impacts to wildlife in this section is limited to non-ESA listed species and habitat. See **Section 3.11 Threatened & Endangered Species** for ESA-listed species.

3.10.2.1 No Action Alternative

Direct and Indirect Effects

The No Action alternative would have no effect on wildlife or vegetation resources because there would be no change to the affected environment, including terrestrial habitats or existing vegetation communities and ecosystems. The existing fish stream crossings, including culverts at Small Creek and the unnamed resident fish stream, and the bridge at Chalet Creek would remain in place. Adverse fish passage conditions at the existing Small Creek culverts would continue.

3.10.2.2 Proposed Action

3.10.2.2.1 Direct and Indirect Effects

Fish

Resident Fish

The Proposed Action would replace the existing crossing structures at Small Creek, Chalet Creek, and the unnamed resident fish stream. The existing ATV trail crossing at the unnamed resident fish stream would be replaced with a culvert in order to accommodate the proposed roadway crossing. The existing crossing is a small bridge supporting ATV traffic. Less than 0.01

acre of streambed would be covered by culvert pipe and associated bedding material during installation. The Proposed Action is expected to have a temporary, minor effect on resident fish and their habitat.

Stream EFH

Less than 0.01 acre of EFH is expected to be impacted by placement of streambed and streambank material during removal of the existing culvert pipes at Small Creek and construction of a culvert or bridge spanning the entire width of the stream channel and banks. The culvert pipes would be replaced with streambed substrate and streambank material that would be designed to simulate the natural conditions existing immediately upstream and downstream of the work area. As a result, the Proposed Action is expected to have a long-term beneficial effect to EFH at Small Creek.

The existing ATV trail bridges at Chalet Creek and Chalet Creek Tributary #1 would be replaced with larger bridges or culverts to accommodate the proposed roadway crossings. The new bridges or culverts would span the entire width of the stream. Abutment armoring may be required to protect the structures from erosion and flood waters, but would be designed to not adversely affect stream habitat. The project's effect on EFH at Chalet Creek and Chalet Creek Tributary #1 is expected to be minor because the crossings would be designed to maintain natural stream conditions.

Culvert and bridge design would follow fish passage design guidelines (USFWS 2018a) which would likely improve habitats and access for fish. Using the proper design guidelines and BMPs during construction, effects to EFH would be minimal during the temporary construction period and improved after replacement. Spawning and rearing habitats in Small Creek may benefit from perched culvert removal and replacement, providing upstream access for pink salmon during a wider flow regime in this stream. All crossings would be designed in coordination with ADF&G, and a Title 16 Fish Habitat Permit for work below ordinary high water would be obtained for each stream crossing. All ground disturbance to stream banks would be revegetated with native species.

Marine EFH

Effects to EFH within the marine environment would be minor, in the form of alteration of benthic habitats (2,400 square feet) from the placement of pre-cast concrete planks for the boat launch, and alteration of aquatic habitat (720 square feet) through shading from float placement. These alterations would likely lower benthic, primary, and secondary productivity by a small and unmeasurable amount. The temporary displacement of the juvenile life stages of nearshore EFH fish species may occur during construction

EFH Determination of Effect

In-water work on this project would create short-term and long-term effects to marine EFH over a small area (3,120 square feet of marine habitat alteration), such that effects to EFH productivity would be unmeasurable. In addition, short-term effects to freshwater stream EFH in the form of localized turbidity would occur to EFH in Chalet Creek and Small Creek during the replacement of culverts and bridges. These effects would be minimized by the implementation of a SWPPP, which would include timing and discharge BMPs. Long-term effects to stream EFH would likely

be beneficial, increasing access to areas upstream of road crossings. Because EFH alterations would occur to only minor amounts of marine EFH, limited to shoreline areas, the proposed project would have **no adverse effect** on EFH.

Wildlife

The project would extend the roadway through existing wildlife habitat. The habitat would become bisected and some would be lost, resulting in potential disruption of wildlife movement through the area. However, the area is largely undeveloped and undisturbed and would continue to provide a similar level of habitat quality for common wildlife species. In addition, the narrow, slow-speed nature of the roadway is not likely to result in a significant barrier to animal movement or cause appreciable mortality from wildlife-vehicle collisions. The area could become more accessible for hunting as a result of the roadway extension, resulting in greater wildlife harvest; however, there would be minimal increase in accessible land area over what is currently accessible via the existing Three Pillar Point Trail. As a result, the Proposed Action may also facilitate wildlife mobility in the project area when the roadway is used by animals to move along the road corridor. The Proposed Action is expected to have a negligible effect on wildlife.

Vegetation

Vegetation cover and general impacts due to removal are not protected by statute and are not subject to any permitting authority. Vegetation impacts are a primary consideration for other resources that are directly affected by its removal. Fish and wildlife, wetlands, waterbodies, water quality, recreation, and visual environment are directly affected by permanent vegetation loss. The Proposed Action would require removal and permanent loss of vegetation within the roadway footprint, including the road surface and embankment slopes. **Table 3-19** describes the area of vegetation permanently lost by vegetation community.

Table 3-19: Types and Areas of Vegetation Removed

Vegetation Community	Permanent Vegetation Removal within roadway footprint (acres)
Open Mixed Forest	4.00
Closed Tall Scrub	0.49
Closed Needleleaf Forest	8.28
Mesic Forb Herbaceous	0.15
Freshwater Aquatic Herbaceous	0.01
Stream	0.06
Developed/Disturbed	0.52
Total:	13.52

The project would likely result in the introduction and spread of invasive species along the vegetated areas adjacent to the roadway, especially on finished embankments and back slopes where ongoing maintenance activities would occur. Vegetation communities may be altered, but the extent of alteration would likely be limited to the areas immediately adjacent to the roadway. As a result, the Proposed Action is expected to have a minor effect on vegetation resources.

Long-term conservation measures for vegetation and invasive species management would be performed under the ADOT&PF Integrated Vegetation Management Plan (ADOT&PF 2018). ADOT&PF developed the plan in coordination with local, state, and federal agencies to assist with vegetation management to improve safety, maintenance, and invasive plant species control on ADOT&PF facilities. Vegetation management techniques includes chemical and non-chemical maintenance control measures such as herbicide application and mowing. Non-chemical, mechanical methods such as mowing are the primary method of vegetation management for ADOT&PF.

Temporary Construction Effects

Fish

During culvert removal and installation of any temporary stream diversions, displacement, injury, or mortality may occur to fish that could be removed/excluded from the work area during the initial disturbance. Sedimentation that BMPs are unable to control during construction may adversely affect fish, including EFH. Bridge and culvert replacement would cause temporary periods of increased turbidity during construction, although BMPs would be employed to control turbidity to the extent practicable.

Erosion control and construction timing BMPs would minimize potential effects to spawning pink and coho salmon. Since juvenile coho generally rear in streams for over a year, they may be directly exposed to temporary periods of turbidity and disturbance during culvert and bridge replacements. Juvenile pink salmon outmigrate to estuarine areas soon after emergence from redds, so timing BMPs are expected to effectively minimize exposure to these juvenile fish. Temporary impacts to fish would be avoided or minimized by following ADF&G guidelines for stream diversions. In addition, all in-water work would be scheduled to occur within the ADF&G-specified fish window when eggs are least likely to be present in the streambed and spawning fish are not present (anticipated to be approximately May through July).

Wildlife

Temporary disturbance outside the roadway's direct footprint would likely cause some disruption to foraging and breeding, displacement, injury, or mortality, especially from initial clearing and grubbing activities and to common wildlife species that are small and not mobile enough to avoid construction equipment. Injury or mortality to larger, more mobile species is not expected as those species would avoid encounters with construction activity. Impacts would be expected to last for the duration of construction activity, but would be localized and short-term, and are not expected to eliminate or significantly reduce populations in the area.

Vegetation clearing would be scheduled to avoid the nesting season (April 15- July 15) for migratory birds in accordance with the USFWS Land Clearing Timing Guidance for the Kodiak Archipelago region of Alaska. In addition, a survey for bald eagles would be conducted prior to conducting loud noise-generating construction activity. If active bald eagle nests are found within 660 feet of the project area (primary and secondary projection zones), construction activities would be coordinated with USFWS. Should monitoring be required during nesting periods, it would be conducted according to USFWS protocol.

Vegetation

During construction, a temporary work zone may require clearing of up to a 10-foot corridor along the proposed cut and fill limits while conducting initial earthwork and finished grades of the roadway and adjacent embankments. Vegetation clearing and grubbing, earthwork, and other ground-disturbance during construction would create opportunities for invasive plant species to become established.

Vegetation impacted by temporary work zones would be re-seeded or replanted in order to return areas that are not intended to be permanently cleared to their natural condition. Clearing limits would be specified in contract documents in order to minimize loss of vegetation. BMPs would be incorporated into the project in accordance with the ADEC Construction General Permit for stormwater discharges to limit the introduction of invasive species.

3.11 Threatened & Endangered Species

A Biological Assessment (*Biological Assessment: Anton Larsen Bay Road Extension and Boat Ramp* [BA]) prepared for this project describes the listed species and critical designated critical habitats in the action area, identifies the potential project impacts to listed species and their critical habitats, lists conservation measures to mitigate those impacts, and makes a determination of effect for each species (David Evans & Associates, Inc. [DEA] 2019; Appendix D). This section largely summarizes the BA.

3.11.1 Affected Environment

Section 7 of the ESA (as amended) requires federal agencies, in this case the WFLHD, to consult with NMFS and/or USFWS if they determine that any actions they authorize, fund, and/or conduct may affect any federally proposed or listed species, or result in destruction or adverse modification of their critical habitat.

A total of six listed species, two of which have designated critical habitat (DCH) in or near the action area have been identified by the USFWS and NMFS (**Table 3-20**; USFWS 2018b). Northern sea otter are commonly observed near the project area in outer Anton Larsen Bay, and Steller sea lion are common inhabitants throughout the Kodiak Archipelago. The three Baleen whales are offshore species occasionally observed in the archipelago. Short-tailed albatross are another offshore species with a rare presence near Kodiak Island.

3.11.1.1 Action Area

The action area includes all areas that could be affected directly or indirectly by the proposed action and is not limited to the actual work area (project area). The project area and secondary project features are considered when defining the action area. The action area would include potential effects from audible disturbance, terrestrial habitat impacts, and impacts to aquatic environments. The aquatic action area encompasses much of the cove associated with Crag Point as well as portions of the bay adjacent to Larsen Island to account for potential underwater sound effects. Also within this action area, waterborne injury and behavioral disturbance zones have been calculated to determine the potential effects of impact and vibratory pile driving on ESA-listed marine mammals.

Table 3-20. NMFS and USFWS Listed Species Potentially Present in the Action Area

Common Name	Scientific Name	Federal Status	Likely Presence in Action Area
Northern Sea Otter	<i>Enhydra lutris kenyoni</i>	Threatened	Yes
DCH		Designated	Yes
Steller Sea Lion	<i>Eumetopias jubatus</i>	Threatened	Yes
DCH		Designated	Yes
Humpback Whale	<i>Megaptera novaeangliae</i>	Threatened (Mexico Distinct Population Segment)	Yes
DCH		Not Designated	--
Fin Whale	<i>Balaenoptera physalus</i>	Endangered	Yes
DCH		Not Designated	--
North Pacific Right Whale	<i>Eubalaena japonica</i>	Endangered	Yes
DCH		Designated	No
Short-tailed Albatross	<i>Phoebastria albatrus</i>	Endangered	No
DCH		Not Designated	--

USFWS 2016, NMFS 2016

3.11.2 Environmental Consequences

3.11.2.1 No Action Alternative

Direct and Indirect Effects

The No Action alternative would have no effect on threatened or endangered species or their designated critical habitat because there would be no change to terrestrial or aquatic habitats, and there would be no audible or vibratory impacts from construction activities.

3.11.2.2 Proposed Action

Direct and Indirect Effects

Table 3-21 summarizes the permanent direct and indirect effects of the Proposed Action on listed species and their DCH occurring within the action area.

Temporary Construction Effects

Table 3-21 summarizes the short-term construction-related effects of the Proposed Action on listed species and their DCH occurring within the action area.

Table 3-21. Summary of Effects to ESA-Listed Species and their DCH

Common Name	Long-Term Permanent Effects	Indirect Effects	Short-Term Construction Effects
Northern Sea Otter	<ul style="list-style-type: none"> • Elimination of 2,400 square feet of shallow water habitat • Alteration of 720 square feet of shallow water habitat by shading • Temporary/intermittent avoidance of boat launch/dock area during vessel launches and retrievals • Effects are unmeasurable and discountable due to the small footprint of the project relative to the size of otter territory 	In-water noise and turbidity during construction may adversely affect prey supply (Pacific herring and salmon) and foraging within the marine nearshore area	<ul style="list-style-type: none"> • Elevated noise levels and percussive waves may cause injury or disturbance • To minimize underwater noise during pile driving, a vibratory pile driver would be used for the majority of pile installations.
DCH	DCH is present in the project area, but no haulout or refuge habitat features present; therefore, no measureable adverse effects to DCH	None	None
Steller Sea Lion	No measurable effects	Same as northern sea otter	Same as northern sea otter
DCH	DCH has been designated, but none present in action area	No DCH in action area	No DCH in action area
Baleen Whales	<ul style="list-style-type: none"> • No effect on offshore habitats • Increase in vessel traffic associated with the proposed boat launch would have discountable effects 	None	<ul style="list-style-type: none"> • Whales are unlikely to approach the zone of injury during construction • Potential exposure to injurious pile driving noise is negligible
DCH	No DCH in action area	No DCH in action area	No DCH in action area
Short-tailed Albatross	No effect on offshore habitats; therefore, effects would be negligible	None	Albatross are unlikely to approach the zone of injury during construction
DCH	No DCH in action area	No DCH in action area	No DCH in action area

Avoidance and Minimization Measures

To minimize the underwater noise during pile driving, a vibratory pile driver, which has a much smaller marine mammal zone of injury, would be used for the majority of pile installations. However, an impact pile driver may also be used to proof load each pile. A bubble curtain would also be used to attenuate underwater noise.

To further minimize potential adverse effects, a marine mammal observer would monitor the zones of impact during all pile driving periods in accordance with the USFWS *Observer Protocols for Pile Driving*. A marine mammal monitoring plan detailing monitoring procedures and activities would be submitted and approved by the Services (NMFS and USFWS) prior to the commencement of pile driving.

Determinations of Effect

Based on the potential effects, timing, and avoidance and minimization measures described above, WFLHD determined that the project *may affect, but is not likely to adversely affect* the northern sea otter, Steller sea lion, humpback whale, fin whale, or north pacific right whale, and

would have *no effect* on the short-tailed albatross. The project *may affect, but is not likely to adversely affect* northern sea otter DCH, and would have *no effect* on Steller sea lion DCH.

WFLHD consulted with USFWS under Section 7 of the ESA regarding the proposed determination of effect for the northern sea otter. The USFWS concurred with WFLHD's determination of *may affect, but is not likely to adversely affect* the northern sea otter on September 19, 2019.

3.12 Cultural Resources

3.12.1 Affected Environment

Section 106 of the National Historic Preservation Act (NHPA) requires WFLHD to consider the effects of the project on significant cultural resources. Cultural resource identification, evaluation, and Section 106 review have been conducted in accordance with the requirements of Section 106 of the NHPA and 36 CFR 800. The Area of Potential Effect (APE) for the project consists of those areas within the proposed footprint, including approximately 20 feet on either side of the construction disturbance footprint for direct effects, and any structures visible along the project length for indirect effects.

A cultural resources investigation (ADOT&PF 2019) was performed for the project to identify significant cultural, historic, or archaeological resources that could be affected by the project. The study area consisted of the general location of the proposed ROW for the project and the cultural context of surrounding historic properties. The study area was generally broader than the APE. The investigation consisted of background research, three field surveys between 2014 and 2018, and recommendations of effect. The background research and field survey efforts did not identify any known or previously unknown cultural resources within the study area. Three sites listed in the Alaska Heritage Resources Survey database are in the vicinity of the project, but are not within the APE. These sites, identified during the filed survey, were avoided during development of the Proposed Action alignment. These sites have not been evaluated to determine their eligibility for the National Register of Historic Places. There are no National Register of Historic Places-listed or eligible properties within the APE.

The WFLHD has consulted with the Alaska State Historic Preservation Officer (SHPO), Native Village of Ouzinkie, Native Village of Port Lions, Koniag, Inc., Ouzinkie Native Corporation, and Afognak Native Corporation pursuant to Section 106 of the National Historic Preservation Act regarding the identification of cultural resources in the vicinity of the APE and places of traditional, religious, and cultural importance that may be impacted by the project. The Alaska SHPO concurred with the project finding of no historic properties affected, pursuant to Section 106 of the National Historic Preservation Act on 9/19/2019.

3.12.2 Environmental Consequences

3.12.2.1 No Action Alternative

Direct and Indirect Effects

The No-Action alternative would not undertake any improvements and would not directly or indirectly affect any significant cultural resources.

3.12.2.2 Proposed Action

Direct and Indirect Effects

The cultural resources survey indicated there is a very low probability of encountering unknown, intact resources during construction of the Proposed Action since all of the identified sites are located outside the APE. The WFLHD has consulted with the Alaska SHPO and other consulting parties under Section 106 of the National Historic Preservation Act regarding the projects effect on cultural resources. The Alaska SHPO concurred with the project finding of *no historic properties affected*, pursuant to Section 106 of the National Historic Preservation Act on 9/19/2019.

Temporary Construction Effects

Construction of the Proposed Action may, but is not anticipated, to encounter previously unknown, intact cultural resources during ground disturbing activity. The Proposed Action would have no temporary effects on significant cultural resources.

The following measures would be implemented to avoid and/or minimize potential impacts to cultural resources during construction of the Proposed Action:

- Known sites located outside the APE would be avoided by the project design and construction activity.
- If archaeological or cultural resources are inadvertently discovered during construction, ground-disturbing activity in the immediate vicinity would be halted, and the SHPO would be contacted. Ground disturbance would not resume at the site until approved by an accredited archaeologist.

Mitigation Measures

No impacts are expected to occur after implementation of impact avoidance and minimization measures; therefore, no mitigation measures are included as part of the action.

3.13 Recreation

The study area for recreation resources includes the proposed road corridor between the northern terminus of the existing Anton Larsen Bay Road and the Crag Point inlet, and areas adjacent to the proposed road corridor.

3.13.1 Affected Environment

Recreational Areas

Recreational activities on Kodiak Island include hiking, wildlife viewing, fishing, hunting, camping, use of ATVs, skiing (downhill and cross-country), snowshoeing, and snow-machining. Recreational areas in the KIB include 11 parks within incorporated areas and 15 recreational facilities outside City of Kodiak boundaries. The ADNR owns the existing boat launch facility at Anton Larsen Bay (Fraser 2019). For areas outside KIB cities, the KIB and the KIB Parks and Recreation Committee plan and manage parks and recreation facilities.

The 2008 KIB Comprehensive Plan Update does not identify any public recreational parks or trails in or near the study area (KIB 2008), although two private trails partially overlap with the study area (Fraser 2019). According to the ADNR, Division of Parks and Outdoor Recreation, no state parks are located in the vicinity of the proposed project (ADNR 2019).

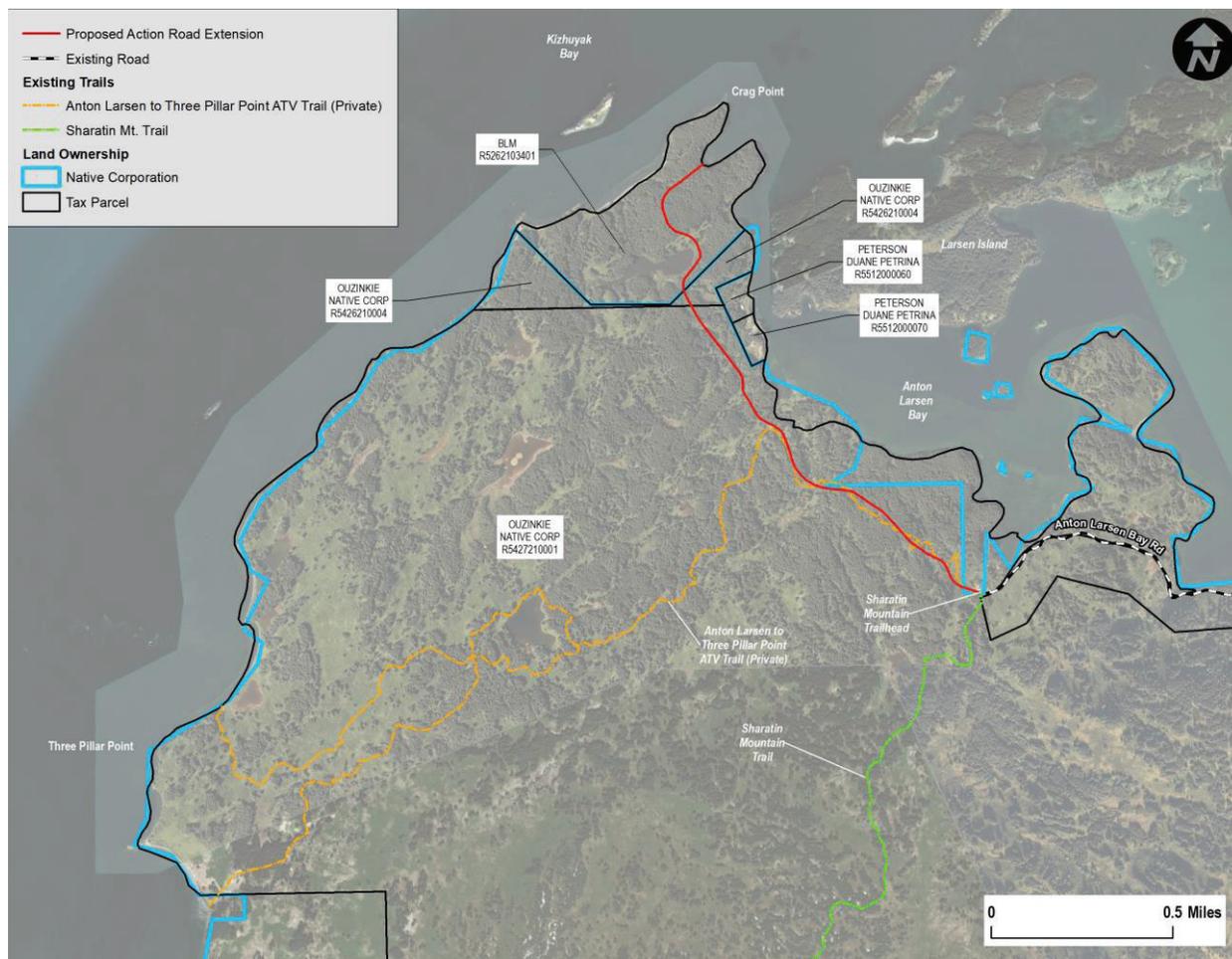
Public use lands associated with the U.S. Forest Service were not identified near or in the study area. The project corridor is not located near or within a national park (KIB 2019). No conservation areas (game refuges, wildlife sanctuaries, critical habitat areas, or wildlife ranges) are located in or near the study area (ADF&G 2019d). Although, the northernmost parcel in the study area is managed by the BLM, the ONC have applied, through ANCSA, to acquire fee title to the parcel.

The USFWS manages the Kodiak National Wildlife Refuge, which comprises 1.9 million acres of Kodiak Island, and two other refuges that occur on Kodiak Island: the Alaska Maritime National Wildlife Refuge, and the Becharof and Alaska Peninsula National Wildlife Refuge. None of these refuges extends into the study area, although Larsen Island to the north of the study area is part of the Alaska Maritime National Wildlife Refuge (USFWS 2019).

KIB residents and visitors at times use public easements on privately-owned lands to access public lands and waters. Easements are reserved when the BLM conveys land to an Alaska Native corporation under the ANCSA Section 17(b). The 17(b) easements allow the public to cross private property to reach public lands and major waterways, but do not allow the public to use the private lands these easements cross. The 17(b) easements are transportation-oriented, and are only intended to provide access across private Native lands, and along public waterways, and are not intended for recreation purposes. Campsite easements are generally intended for changing modes of transportation (vehicular to boat) and are limited to 24-hour use. The BLM is the agency responsible for managing the 17(b) easements on corporation lands. Six 17(b) easements (four 1-acre sites and two 25-foot-wide trails) exist near where the existing Anton Larsen Bay Road ends, in or near the study area.

Figure 3-8 identifies the two private trails in or near the study area: Three Pillar Point Trail (also called Anton Larsen Bay Trail), a 17(b) easement, heading west, and Sharatin Mountain Trail heading south (KIB 2019). Skiers mostly use terrain east of Anton Larsen Road, while snow-machiners or ATV users generally use terrain to the west. The Sharatin Mountain Trail is primarily a snow-machining route, and the trail heading west (Three Pillar Point Trail) an ATV route (ALTA 2011). The KIB does not consider either of the trails in the study area public recreational trails because they are on ONC land (Fraser 2019).

Figure 3-8: Property Ownership and Trails



3.13.2 Environmental Consequences

Potential recreation impacts of the project were evaluated qualitatively using project information together with desktop data for the study area. Sources included ADF&G, ADNR, ADOT&PF, the Kodiak Road System Trails Master Plan (ALTA 2011), BLM, USFWS, the Kodiak Island Community Development Department and comprehensive plan, and communications with the Kodiak Island Community Development Director.

3.13.2.1 No Action Alternative

Direct and Indirect Effects

The No Action alternative would result in the continuation of the existing recreational conditions in the study area. No direct impacts to recreation would result attributable to project construction or operation, because the project would not be built.

3.13.2.2 Proposed Action

Direct and Indirect Effects

The Proposed Action would improve recreational access to areas beyond the existing road by providing an additional parking area where recreational users may park and recreate. This

alternative would also improve recreational access to the west side of the island when the Bay is frozen and ocean travel around Spruce Cape is difficult.

As shown in **Figure 3-8**, the road extension would intersect with and at times replace the Three Pillar Point ATV/hiking trail, resulting in a decrease in the length of the trail. To the extent trail users continue to use the road to access the portion of Three Pillar Point ATV trail that remains a trail (not a road), and to the extent users prefer the less developed, less formal trail to the gravel road, the perceived recreational value of ATV travel and hiking along the proposed road corridor would decrease. The project represents a negligible but permanent and local effect on recreation use due to the conversion of trail to road (adverse effect to the trail) and the increase ease of accessing the shoreline at Crag Point (beneficial effect).

The project would result in negligible indirect impacts to recreation. Recreational use by the public could increase to the extent the 17(b) easement corresponds with the new road, and to the extent recreationists therefore use the road to initiate recreational boating activities at Crag Point. According to the intent of the BLM 17(b) easement law, because recreational use is not allowed in the study area outside of the easement, there would be no impact to recreation outside of the use of the road (as it corresponds to the easement) to access the public shoreline at Crag Point.

Temporary Construction Effects

Road construction may result in minor, local, and temporary disruption to the use of the two private trails. Trucks, equipment, and workers would be present for the length of the construction period, temporarily transforming the quiet, undisturbed nature of the area to a construction zone. Temporary disruptions due to construction would include additional vehicles and traffic, noise, and air emissions from vehicles and equipment. Potential impacts to recreation would be minimized by allowing users access during construction and posting construction dates at the library and on social media. The adverse impact on current recreational activities would be temporary, localized, minor, and would only affect private ONC users.

Mitigation Measures

No significant adverse recreation impacts are expected to occur after implementation of impact avoidance and minimization measures; therefore, no mitigation measures are included as part of the action.

3.14 Visual Impacts

The study area for visual impacts include the proposed road extension corridor and adjacent areas within visual range of the corridor.

3.14.1 Affected Environment

The project area is largely forested, undeveloped land with limited existing human disturbance. The first 0.6 mile of the proposed road extension alignment overlaps an existing ATV trail. The trail corridor includes an approximately 5-foot wide trail tread with geogrid armoring, limited vegetation clearing beyond the limits of the tread, and small bridges for ATV stream crossings. Natural vegetation is dominated by Sitka spruce forest, tall shrubs, and wet forb and grass meadows. Landscape topography is primarily moderately sloped and undulating. Representative existing visual conditions are depicted in **Figure 3-9**.

Figure 3-9: Existing Views of Project Area



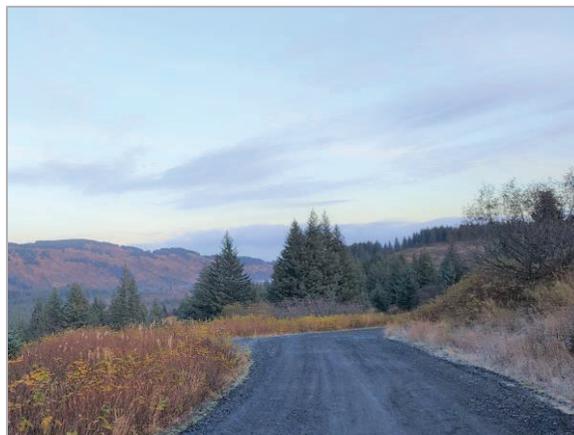
ATV trail along proposed alignment.



ATV bridge over unnamed stream.



View from proposed parking area toward small cove.



View of existing roadway south of project area.

3.14.2 Environmental Consequences

3.14.2.1 No Action Alternative

Direct and Indirect Effects

Under the No Action alternative, there would be no change to the existing landscape or visual environment. Therefore, there would be no effect on visual resources as a result of the No Action alternative.

3.14.2.2 Proposed Action

Direct and Indirect Effects

Residents of Anton Larsen Bay, recreational trail users, and boaters are the primary viewers of the project area. One residence may have limited or obscured view of the roadway. During public scoping, residents nearest to the proposed route expressed interest in having direct access to the new roadway. Other issues related to recreation use were expressed, but were not specifically related to the proposed changes to the visual character of the area.

Regardless of primary viewers' attitudes toward the project, the ideal visual character of the Anton Larsen Bay landscape is assumed to be one that is minimally developed, with necessary infrastructure designed with this context in mind. Residents and users of the area are generally drawn by its rural, relatively isolated, and relatively undeveloped character. Earthwork, grading, and structural improvements made to the project area would permanently add to the built environment, but would only be noticed primarily by residents, recreational trail users, and boaters using the roadway and boat launch/dock facility. In addition, the character and scale of the proposed roadway and boat launch/dock would be similar to the existing surrounding features. Therefore, the Proposed Action would have a negligible effect on visual resources.

Measures to ensure the proposed roadway is designed and constructed to minimize impacts to the visual landscape would include designing the roadway in accordance with AASHTO Guidelines for Geometric Design of Very Low Volume Roads and limiting the width and grade of the roadway and vegetation clearing to the extent practicable to minimize the overall footprint.

Temporary Construction Effects

Temporary visual impacts during construction may result from an approximately 40-foot wide ground disturbance footprint (e.g. 18-foot wide road surface, embankment slopes of varying width, and 10-foot wide temporary construction corridor) within the 100-foot ROW corridor from vegetation clearing, excavation, grading, presence of work crews, brightly colored signage, new and/or invasive plant species, or airborne dust. The temporary effects would be similar in intensity and context to permanent effects, but would be considered minor due to their shorter duration.

Measures to minimize short-term construction effects include revegetation to return area that are not intended to be permanently cleared to the natural condition and use of appropriate best management practices to limit the spread or introduction of invasive plant species during construction and ongoing maintenance activities.

Mitigation Measures

No significant adverse visual impacts are expected to occur after implementation of impact avoidance and minimization measures; therefore, no mitigation measures are included as part of the action.

3.15 Cumulative Effects

Cumulative effects are defined as "...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7). Cumulative effects are only addressed for resources that experience a permanent adverse direct or indirect impact. The project has permanent adverse impacts to Wetlands & Waters of the U.S. and Fish, Wildlife & Vegetation.

The Proposed Action is the only alternative addressed for cumulative effects. Because the No Action alternative would not add any new impacts to any of the resources identified in the

project area, there would be no incremental contribution to cumulative impacts to resources in the region.

Past projects in the vicinity include replacement of the Anton Larsen Bay dock in 2015, rehabilitation of the Three Pillar Point trail in 2014 which included installation or upgrades to ATV bridges over Chalet Creek and an unnamed stream, and installation of a small boat launch. The small boat launch and the trailhead for the Three Pillar Point Trail are located at the end of Anton Larsen Bay Road. Other existing development in the study area is limited to two private residences located on the Anton Larsen Bay coastline. Currently there are no known plans for future development of land adjacent to the roadway or boat launch, although future development is possible and would likely impact wetlands. Future development potential is assumed to be low based on the existing development patterns on private lands present along Anton Larsen Bay Road.

3.15.1 Cumulative Effects of the Proposed Action

Wetlands & Waters of the U.S.

Wetlands and streams in the study area have been impacted by prior development, including small amounts of structural fill associated with trail improvements. The proposed project's wetland impact is a relatively small amount on the watershed scale, and would contribute an incremental impact to wetlands within the watershed. The impact is assumed to be of similar magnitude as the prior development of the Anton Larsen Bay Road. The project's wetland impacts would result primarily in a slight reduction in the watershed's hydrologic functions. Future development could have additional localized wetland impacts; however, the overall reduction in function of the watershed's wetlands is likely to be minimal because of the low development potential of the area. Combined with past, present, and reasonably foreseeable future actions, the Proposed Action would not be expected to significantly contribute to cumulative effects on wetlands and waterbodies.

Fish, Wildlife, & Vegetation

Fish

The project's contribution to cumulative adverse impacts is expected to be minimal, because the proposed stream crossings would be designed and constructed to accommodate efficient fish passage. Replacement of the existing crossing at Small Creek would result in improved fish habitat, and a beneficial contribution to cumulative effects. Therefore, combined with past, present, and reasonably foreseeable future actions, the Proposed Action would not be expected to contribute to cumulative impacts on fish or fish habitat.

Wildlife and Vegetation

Direct impacts to vegetation associated with the original construction and later rehabilitation of the existing Three Pillar Point Trail, the Sharatin Mountain Trail, and the two private residences located within the project's HUC12 watershed are not known. Combined with the development

of and along Anton Larsen Bay Road, rough estimates⁶ of disturbance indicate prior construction has resulted in approximately 22 acres of permanent loss of existing vegetation communities. The total acreage of the project area's watershed is approximately 26.5 square miles (16,973 acres). The project's proposed 13.52 acres of vegetation removal would increase the percentage of the project area's watershed that is disturbed from 0.13 percent to 0.21 percent. Although the project area is surrounded by private land which may be developed, there are no known future projects in the vicinity, and there is no reasonably foreseeable future development given the lack of development of ONC land along the existing road corridor. When combined with past, present, and future foreseeable actions, cumulative effects of the project on wildlife and vegetation include loss of wildlife and bird habitat through removal of mature trees and other vegetation, and increased potential for wildlife-vehicle collisions. Combined with past, present, and reasonably foreseeable future actions, the Proposed Action would not be expected to significantly contribute to cumulative effects on wildlife and vegetation.

3.16 Irreversible & Irrecoverable Commitment of Resources

Implementation of the Proposed Action would require commitment of natural, physical, human, and fiscal resources. Land used in the construction of the roadway and dock facilities is considered an irreversible commitment during the time period the land is used for those purposes. However, if a greater need arises for use of the land or if the facilities are no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion would ever be necessary or desirable.

Considerable amounts of fossil fuels, labor, and construction materials such as concrete, aggregate, and bituminous material would be expended during construction. Additionally, large amounts of labor and natural resources would be used to fabricate and prepare construction materials. These materials are generally not retrievable. However, they are not in short supply and their use would not have an adverse effect upon continued availability of these resources. Preliminary estimates indicate the project would require approximately 80,000 cubic yards of fill material and 120,000 cubic yards of excavation. Any construction would also require a substantial one-time expenditure of both Federal and non-Federal matching funds which are not retrievable. After construction, ongoing Federal and/or non-Federal funds would be required to adequately maintain the facilities.

The commitment of these resources is based on the concept that residents in the immediate area, State, and region would benefit by the improved quality of the transportation system. These benefits would consist of improved accessibility, reliability, and safety, savings in time, and greater availability of quality services which are anticipated to outweigh the commitment of these resources.

⁶ A rough estimate of 22 acres of prior development was calculated using length of Anton Larsen Bay Road within the Anton Larsen Bay HUC 12 watershed (6 miles) and an average roadway width (30 feet, including adjacent areas).

3.17 Permits and Approvals

The following permits and approvals would likely be required prior to construction of the Proposed Action:

- NEPA approval (anticipated Finding of No Significant Impact).
- ADEC APDES Construction General Permit for Storm Water Discharges for Large and Small Construction Activities (CWA Section 402).
- ADEC Water Quality Certification for discharge into waters of the U.S., including wetlands (CWA Section 401).
- ADF&G Fish Habitat Permit for within or over fish-bearing waters (Anadromous Fish Act/Fishway Act).
- ADF&G Fish Resource Permit for capture and relocation of fish during stream diversion (5 AAC 41).
- ADNDR Temporary Water Use Permit for stream diversion (11 AAC 93).
- KIB Zoning Compliance Permit (KIB Code Chapter 17).
- KIB Code Compliance Permit for road improvements (KIB Code Chapter 16).
- SHPO concurrence with *no historic properties affected* finding (NHPA Section 106) received 9/19/2019.
- USACE Wetlands Permit for placement of fill or dredged material into waters of the U.S., including wetlands (CWA Section 404)
- U.S. Fish and Wildlife Service and Letter of Concurrence (ESA Section 7) received 9/20/2019.

4 Comments and Coordination

The process of soliciting comments and information from the public and agencies on the purpose and need for a project, potential alternatives, and possible issues and concerns that need to be addressed during the environmental review and design stages of a project, is called “scoping.” Scoping is an integral part of the environmental documentation process required by the National Environmental Policy Act. Documentation of all public and agency scoping efforts, including meetings, materials, and comments received is included in Appendix E.

4.1 Public Involvement

WFLHD began outreach for the project in 2018 to solicit comments and information from the public and agencies on the purpose and need for the project, potential alternatives, and possible issues to address during the environmental review and design stages of the project. Outreach included the following activities and materials:

- Public scoping meeting – Kodiak, October 24, 2018 (50 attendees)
- Public scoping meeting – Ouzinkie, October 25, 2018 (21 attendees)
- Public scoping meeting – Port Lions, October 25, 2018 (23 attendees)
- Newspaper advertisements in the Kodiak Daily Mirror
- Flyers (project fact sheets)
- Public meeting display boards
- Project website (<https://flh.fhwa.dot.gov/projects/ak/anton-larsen/>)

During public outreach, WFLHD described baseline studies completed for the project and summarized the environmental resources identified and characterized in the study area.

Public Comments

During the public comment period ending on November 26, 2018, WFLHD received 15 formal written comments submitted at public scoping meetings, email, or through the online interactive map on the project website. In addition, the project team recorded several informal comments during the meetings.

Issues related to the purpose and need, transportation, land use, and recreation were the most common topic discussed during public outreach. The following is a summary of public comments by category:

Purpose and Need

The proposed project was generally well received, and comments recorded and submitted during the public comment period indicate the majority of stakeholders support extension of Anton Larsen Bay Road. Local users generally expressed a desire for facilities that would reduce the cost and increase safety of winter travel between Kodiak and outlying communities. Some comments questioned the need for the project, stating that the new road and dock would provide little improvement of existing conditions.

Transportation

WFLHD received several comments related to reliability of the existing Anton Larsen Bay Road, winter snow plowing, ocean conditions along the marine routes to the proposed boat launch, and the need for an additional travel option at the proposed location. WFLHD received the following transportation-related comments during public outreach:

- How would access be maintained in winter? The road traverses a mountain pass and is poorly maintained in the winter months and snow drifts often impede travel.
- Would public rest facilities be located at the boat launch site?
- The boat launch site needs to be accessible to fishermen as well as local traffic.
- Who would take over long-term maintenance of the road?
- The project would not make travel significantly more reliable than under current options, including the west marine route around Spruce Cape.
- Better options would be to extend White Sands Road to a point across from Ouzinkie or use the Fort Abercrombie boat launch site.
- The project would reduce transportation costs and provide more flexibility for winter travel to the Terror Lake Hydroelectric plant located at the head of Kizhuyak Bay.
- The project would provide an alternative ice-free port to supply logging operations in Afognak Island.
- The project would not improve emergency medical access because currently emergencies are flown into Kodiak by USCG.
- The project would provide rural residents with year-round access to the road system.
- The road is not currently maintained during winter months because of low use due to Anton Larsen Bay being frozen over. However, with a road extension to ice-free water there would be a need to maintain the road as people would be regularly using it.
- How many people are expected to use this road on a daily, weekly, or monthly basis?
- There have been numerous times the ferry has had to bypass the villages. The weather may not be safe enough to fly or to travel to Kodiak by water. This is another option for safer and quicker access to Kodiak.

Land Use

Some commenters expressed concern about spending taxpayer money on a project that may help development of private properties along the proposed route.

Recreation

Commenters supportive and not supportive of the project expressed concern regarding recreational resources. Commenters were concerned about the losing mileage from the Three Pillar Point trail and about whether a new trailhead location would have adequate parking.

4.2 Agency and Tribal Involvement

WFLHD mailed scoping letters to regulatory agencies, local governments, tribal organizations, and other stakeholder organizations on March 18 and 20, 2019. The letters provided background information on the project, invitation to comment, and, if appropriate, invitation to partner with

WFLHD as a participating or cooperating agency. The following agencies and organizations received scoping letters (**Table 4-1**):

Table 4-1: Agency Scoping Contact List

Federal Agencies
NMFS
USACE
USCG
EPA
USFWS (participating agency)
State Agencies
Alaska Department of Commerce, Community, and Economic Development
ADEC, Division of Air Quality, Non-Point and Mobile Sources Program
ADEC, Division of Spill Prevention and Response, Contaminated Sites Program
ADEC, Division of Water, Storm Water Program
ADF&G, Division of Habitat
ADNR, Division of Mining, Land, and Water
ADNR, Division of Parks and Outdoor Recreation, Land and Water Conservation Fund
ADNR, Office of History and Archaeology, SHPO
Local Governments
City of Kodiak
City of Port Lions
KIB
Tribal Organizations
Native Village of Afognak
Native Village of Ouzinkie
Native Village of Port Lions
Sun'Aq Tribe of Kodiak
Afognak Native Corporation (Port Lions)
Ouzinkie Native Corporation
Natives of Kodiak, Inc.
Koniag, Inc.
Other
Alutiiq Museum
Kodiak Historical Society
Kodiak Soil and Water Conservation District

All written agency comments have been reviewed and are summarized in a scoping summary report (HDL 2019d) (Appendix E). The following is a summary of the agency comments received (**Table 4-2**):

Table 4-2: Summary of Agency Scoping Responses

Agency	Comment
<i>Federal Agencies</i>	
NMFS	Expressed general support for the project.
USFWS	<p>Provided guidance and comments on the following resources:</p> <ul style="list-style-type: none"> • Recommends using Alaska Specific Fish Passage Design Guidelines for culvert replacement. • Will support analysis of in-lieu fee, mitigation banks, and permittee responsible mitigation should wetland impacts be unavoidable. • Provided Timing Recommendation for Land Disturbance and Vegetation Clearing to reduce impacts to migratory bird and their nests. • Recommends conducting invasive species surveys and if invasive species are identified development management efforts and assessments during the environmental analysis. • Using USFWS automated tool to streamline the Endangered Species Act, Section 7 Consultation process.
<i>State Agencies</i>	
Alaska Department of Commerce, Community, and Economic Development	Provided known flood information resources for the proposed area as well as recommended additional outreach to other state agencies and local elders within the community.
ADEC, Division of Air Quality	The project is not currently in a non-attainment or maintenance area for air quality control under the Clean Air Act and a conformity analysis is not required. During construction, reasonable precautions should be made, per 18 AAC 50.045(d), to prevent fugitive dust.
ADEC, Contaminated Sites Program	There are no known contaminated sites adjacent to the project. If contamination is encountered during construction, ADEC must be contacted.
ADNR, Land and Water Conservation Fund	Confirmed there are no 6(f) properties within the project area.
ADNR, Office of History and Archaeology, SHPO	Recommended establishing an Area of Potential Effect as defined by 36 CFR § 800.16 (d).
<i>Local Governments</i>	
KIB	<p>The project is a priority for the KIB. The following specific comments were provided:</p> <ul style="list-style-type: none"> • The first sentence under the "Land Use" heading identifies property ownership information, but does not address the actual current land use or local land use regulations. The area in the vicinity of the proposed road extension is currently vacant and is zoned C - Conservation District (KIB Code 17.50). • The second sentence under the "Land Use" heading indicates that there are no R.S. 2477 Routes located within the project area. There is no mention of 17(b) easements, but the KIB believes it prudent to mention that both a trail and a 1-acre site 17(b) easement lie within or very near the project area.
<i>Tribal Organizations</i>	
Ouzinkie Native Corporation (ONC)	<p>Provided the following comments:</p> <ul style="list-style-type: none"> • ONC is the land owner over which the road extension would pass. • ONC is highly supportive of the project and has passed a corporate resolution of intent to donate the road easement with a reversionary clause that the land for the easement would revert back to ONC if the road were ever abandoned. • The road extension would provide important options for services and additional safety for medical emergencies when Ouzinkie residents are trying to Kodiak during winter months. • The road extension would encourage important economic development in our community and support community recreation and subsistence activities. • ONC is supportive of the proposed alignment that avoids archaeological findings.

4.3 EA Distribution

This EA is provided electronically to the following project stakeholders and other interested parties listed in Section 4.2. WFLHD published a public notice that the EA is available to review in the Kodiak Daily Mirror. Copies of the EA are available for public review at the following locations:

- Kodiak Public Library – 612 Egan Way, Kodiak, AK
- Ouzinkie Community Hall – Ouzinkie, AK
- Port Lions Tribal Hall – Port Lions, AK
- Project website (<https://flh.fhwa.dot.gov/projects/ak/anton-larsen/>)

5 List of Preparers

Staff at WFLHD, HDL, and DEA prepared this EA (**Table 5-1**). Baseline environmental and engineering field studies, preliminary engineering, and alignment development were completed by DOT&PF and ADF&G in 2016.

Table 5-1: List of Preparers

Name	Affiliation	Role
Reuben Johnson, P.E.	WFLHD	FHWA Project Manager
Melissa Hogan	WFLHD	FHWA Environmental Specialist
Gray Rand, PWS	DEA	Consultant Project Manager; EA Review
Heather Campfield	HDL	EA Lead; Public Involvement
Owen Means	HDL	EA Author; Wetlands & Waters of the U.S; Vegetation
Dennis Linnell, P.E.	HDL	Transportation
Brooke Therrien	HDL	Fish & Wildlife
Doug Simon, P.E.	HDL	Soils & Geology
Kelsey Means	HDL	Noise
Jim Starkes	DEA	Threatened & Endangered Species
Katie Carroz, AICP	DEA	Land Use; Recreation & Section 4(f); Socioeconomics & Environmental Justice
Mike Wert	DEA	QA Manager
Charles Tripp, P.E.	ADOT&PF	DOT&PF Project Manager
Michael Kell, RPA	ADOT&PF (retired)	Cultural Resources
Koren Bosworth	Bosworth Botanical Consulting	Wetlands, Invasive Species
Will Frost	ADF&G	Fish

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