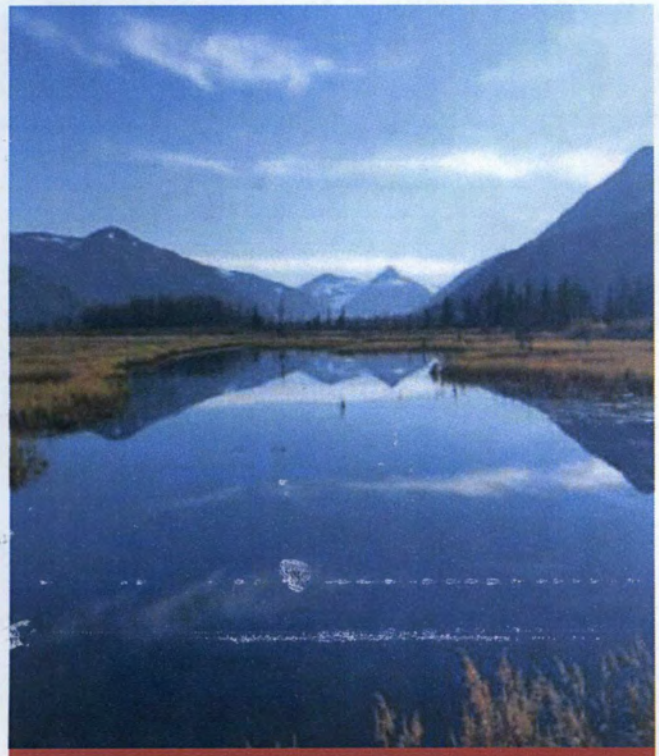
ALASKA RAILROAD



Mitigation Bank Prospectus

Portage Reserve Mitigation Bank

Portage, Alaska

Alaska Railroad Corporation

Prepared by HDR Alaska, Inc.

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1.0 Introduction

The Alaska Railroad Corporation (ARRC) seeks to establish a wetland mitigation bank in accordance with the United States Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA) requirements under the 2008 Final Rule on Compensatory Mitigation for Losses of Aquatic Resources (2008 Mitigation Rule).[1] This Prospectus describes the proposed Portage Reserve Mitigation Bank (Bank), in Portage, Alaska, within the Municipality of Anchorage (MOA; Figures 1 and 2). If established, the Bank will restore aquatic resources that have been impacted or degraded by development, and permanently protect those restored resources under an appropriate site protection instrument. ARRC, a public corporation owned by the State of Alaska, is the Bank Sponsor.

1.1 Watershed Approach

The location for the Bank was selected from all ARRC-owned land using a watershed approach. The 2008 Mitigation Rule requires the use of a watershed approach to compensatory mitigation site selection in order to ensure that selected compensatory mitigation sites maintain and improve the quality and quantity of aquatic resources within watersheds that are impacted by activities authorized by USACE under Section 404 of the Clean Water Act (CWA) or Section 10 of the Rivers and Harbors Act of 1899. In addition to considering how selected compensatory mitigation sites will contribute to the sustainability of aquatic resource functions within a watershed, a watershed approach considers the habitat of important species, habitat loss or conversion trends, sources of watershed impairment, and current development trends.[2]

ARRC owns approximately 36,000 acres of land along its 467 miles of main line and 54 miles of branch lines. This land is widespread across Southcentral and Interior Alaska; the main line stretches from Fairbanks to Seward and crosses 15 U.S. Geological Survey (USGS) 8-digit Hydrologic Unit Code (HUC) watersheds and six Level II ecoregions (as established in the Ecoregions of Alaska mapping).[3] In order to identify areas that would provide the best opportunities for compensatory mitigation under a watershed approach, ARRC evaluated its lands concentrating on the current health of the watershed(s), important natural resources, and the threat of development within each watershed.

The Portage Reserve (Reserve) was selected from all ARRC-owned land for establishment of a mitigation bank. The Reserve comprises approximately 1,200 acres at the junction of the ARRC main line and Whittier Branch line. It is located in the area where Twentymile River, Portage Creek, and Placer River enter Cook Inlet at the head of Turnagain Arm, and contains large complexes of wetlands, waterbodies, and streams located where riverine, estuarine, and palustrine systems converge. These aquatic resources are of high ecological value and

[1] 33 Code of Federal Regulations [CFR] §332 (2008)
[2] 33 CFR §332.3(c)(2)(iv) (2008)
[3] From north to south: Yukon-Tanana Uplands, Tanana-Kuskokwim Lowlands, Alaska Range, Cook Inlet Basin, Chugach-St. Elias Mountains, and Gulf of Alaska Coast. Nowacki, G., P. Spencer, T. Brock, M. Fleming, and T. Jorgenson. 2001. *Ecoregions of Alaska and neighboring territory [map]*. U.S. Geological Survey, Reston, VA.

contribute to the sustainability of the regional watershed (see Section 8.0 Ecological Suitability).[4] These resources perform many functions, and notably they support the federally listed endangered Cook Inlet Distinct Population Segment (DPS) of beluga whales and are adjacent to federally designated critical habitat for the population.[5] There are also opportunities for re-establishment and rehabilitation of aquatic resource functions within the Reserve that meet the needs of the regional watershed, including needs that have been identified in planning and management documents (see Section 5.1 Needs of the Watershed). The regional watershed of the Reserve includes the MOA, which has experienced considerable historical and ongoing loss and degradation of aquatic resources. These factors contributed to selection of the Reserve as the site for a mitigation bank under a watershed approach.

A watershed approach was used to select the Reserve from all ARRC-owned land as the location for a mitigation bank and to develop and plan the Bank. This Prospectus describes how the establishment and operation of the Bank, including the planned restoration activities, proposed service area, and long-term management strategy, will maintain and improve the quality and quantity of aquatic resources within the regional watershed.

[4] For the purposes of a watershed approach, the regional watershed was considered to be the area for which a mitigation bank would effectively compensate for adverse environmental impacts resulting from activities authorized by Section 10/404 permits (33 CFR §332.3(c)(4)).
[5] 50 CFR §226.220 (2011)

2.0 Bank Objectives (33 CFR §332.8(d)(2)(i))

The primary goal of the Bank is to provide a compensatory mitigation mechanism to offset aquatic resource functional losses from unavoidable impacts to waters of the U.S. authorized by Section 10/404 permits. The Bank will accomplish this goal via the following four objectives:

- **Restoration (re-establishment)** of functions to wetlands within the Reserve that have been impacted by previous development.
- **Restoration (re-establishment and rehabilitation)** of functions to salmon-bearing streams within the Reserve that have been impacted by under-performing culverts.
- **Restoration (rehabilitation)** of functions to wetlands, waterbodies, and waterways within the Reserve, the larger Portage Valley ecosystem, and Turnagain Arm.
- **Preservation** of restored wetlands, waterbodies, waterways, and upland buffers within the Reserve that are included within the Bank.

The Bank will generate compensatory mitigation credits that can be used to offset permitted impacts to aquatic resource functions from ARRC projects in Southcentral Alaska. Additionally, these credits will be sold to public and private applicants for Section 10/404 permits that will result in impacts to aquatic resource functions within the service area. Once established, the Bank will be one of the few mitigation banks in Alaska (to date) to restore aquatic resource functions as a form of compensatory mitigation.

2.1 Preservation

The 2008 Mitigation Rule states that preservation should be used in conjunction with aquatic resource restoration, establishment, and/or enhancement activities, providing that five criteria are met.[6] Preservation of aquatic resources within the Bank will satisfy these criteria, as follows:

1. The resources to be preserved provide important physical, chemical, or biological functions for the watershed.[7]

The aquatic resources within the Bank that will be preserved are of high ecological value. They include large complexes of wetlands, waterbodies, and streams, and are located where riverine, estuarine, and palustrine systems converge. They provide high value habitat to wildlife and fish, including spawning and rearing habitat for salmon. They receive tidal input and provide important water quality enhancement, hydrologic regulation, and nutrient export functions that support Turnagain Arm. These functions also support the Cook Inlet DPS of beluga whales. The ecological significance of the aquatic resources within the Bank is discussed further in Section 8.2 Wetland and Stream Characteristics.

[6] 33 CFR §332.3(h)(2) (2008)
[7] 33 CFR §332.3(h)(1)(i) (2008)

2. The resources to be preserved contribute significantly to the ecological sustainability of the watershed.[8]

The Bank is within the Placer River Watershed (10-digit HUC 1902030203), which is mostly undisturbed. However, the resources that will be preserved within the Bank are in close proximity to the developments that do exist within the watershed, and are most likely be impacted by any future development in the area. The resources are also similar types and of relatively equivalent value to the resources that have previously been altered by existing developments. This includes areas that provide valuable migratory bird stopover habitat and salmon spawning and rearing habitat.

Preservation of the resources within the Bank will be self-sustaining and will not require any active management, such as maintenance of water control structures. The large size of the area that will be preserved will also contribute to watershed sustainability. How the Bank will contribute to the ecological sustainability of the watershed is discussed further in Section 5.1 Needs of the Watershed.

3. Preservation is determined by the district engineer to be appropriate and practicable.[9]

The Bank will re-establish historical functions to former aquatic resources and rehabilitate functions to degraded aquatic resources. The restored resources will be preserved, along with the adjacent wetlands, waterbodies, and buffering uplands. These adjacent resources will serve as buffers to the restored resources, protecting them from existing or future physical, chemical, hydrological, or other disturbances. It will be both appropriate and practicable to preserve these areas to ensure the success and sustainability of the restoration activities.

4. The resources are under threat of destruction or adverse modifications.[10]

The resources that will be preserved are all on land currently owned in fee simple by ARRC. The land within the Bank was deeded to ARRC by the federal government to provide ARRC with the land base to provide transportation services into the future, and to generate income through real estate development revenue.

The land deeded to ARRC in the Portage Reserve has been historically identified for use as a large classification yard. ARRC's headquarters and main rail yard is located along Ship Creek within the Anchorage Reserve, the majority of which has already been developed by ARRC and long-term lease holders such as the Port of Anchorage. ARRC's operating land within the Anchorage Reserve cannot be expanded due to existing developments and constraints. If ARRC requires additional operations and facilities within the MOA in the future, they would potentially be developed within the Bank.

Additionally, ARRC leases a small portion of its land along the roadways, and could lease land within the Bank to other entities. ARRC is prohibited by Alaska State Statute from selling,

[8] 33 CFR §332.3(h)(1)(ii) (2008)
[9] 33 CFR §332.3(h)(1)(iii) (2008)
[10] 33 CFR §332.3(h)(1)(iv) (2008)

exchanging, or conveying a complete interest in its land. However, it may lease non-operating lands, such as those within the Bank, for up to 95 years for commercial, industrial, and public uses. ARRC currently advertises the Portage Reserve as an available property for development.[11] The location of the Reserve along the Seward Highway, a major transportation route that connects the population centers of Southcentral Alaska, could make it attractive to potential tourism-related development or wayside services. As recreation infrastructure and opportunity have increased in the Portage, Twentymile and Placer valleys, ARRC has received increased interest in land within the Reserve from potential developers.

5. The preserved site will be permanently protected through an appropriate real estate or other legal instrument.[12]

The 2008 Mitigation Rule provides flexibility for state agencies in determining the appropriate real estate instrument or other mechanism to provide for long-term protection of a Bank.[13] ARRC will use an appropriate site protection instrument to ensure the long-term protection and sustainable management of the Bank. Although ARRC is prohibited from transferring property interests to another entity for more than 95 years without legislative approval, it does have the ability to manage the development of its lands by its own authority. The Bank will be sequestered from development by the ARRC in accordance with USACE requirements under the 2008 Mitigation Rule.

[11] Alaska Railroad Corporation. 2015. "Available Properties." Accessed on February 17, 2017. https://www.alaskarailroad.com/real-estate/available-properties.
[12] 33 CFR §332.3(h)(1)(v) (2008)
[13] 33 CFR §332.7(a)(1) (2008)

3.0 Establishment and Operation (33 CFR §332.8(d)(2)(ii))

The Bank will be established and operated in accordance with the 2008 Mitigation Rule.

3.1 Establishment

3.1.1 Bank Area

The Bank comprises approximately 310.5 acres along 1.75 miles of the Alaska Railroad main line (Figure 2). The Bank is 0.25 miles wide, with the northern boundary at Portage Glacier Road and the southern boundary 1.75 miles south of the same road. The Placer River runs parallel to the rail line, less than a mile to the west of the Bank.

3.1.2 Interagency Review Team

Following submittal of this Prospectus, USACE will establish an Interagency Review Team (IRT) to provide guidance on the establishment and management of the Bank. The IRT is also responsible for reviewing all documentation for the Bank. ARRC expects that the Prospectus review will adhere to the process and timeline outlined in the 2008 Mitigation Rule.[14]

USACE will seek to include in the IRT all agencies with a substantive interest in the establishment of the Bank, but retains final authority over its composition.[15] The IRT may include:

- Chair: USACE, Alaska District
- EPA, Region 10
- National Oceanographic and Atmospheric Administration, National Marine Fisheries Service Habitat Conservation Division (NOAA/NMFS)
- U.S. Fish and Wildlife Service (USFWS), Conservation Planning Assistance Program
- U.S. Forest Service (USFS), Chugach National Forest, Glacier Ranger District
- U.S. Department of Agriculture Natural Resources Conservation Service
- Alaska Department of Natural Resources (ADNR)
- Alaska Department of Environmental Conservation (ADEC)
- Alaska Department of Fish and Game (ADF&G)

3.1.3 Instrument

Following public comment, IRT review, and USACE's initial evaluation of this Prospectus, ARRC will prepare a draft Portage Reserve Mitigation Bank Instrument (Instrument). The Instrument will provide authorization for the Bank to provide credits to satisfy compensatory mitigation requirements to applicants for Section 10/404 permits

[14] 33 CFR §332.8(d)(4) (2008)
[15] 33 CFR §332.8(b) (2008)

within the Bank service area. The Instrument will describe the Bank elements as required by the 2008 Mitigation Rule.[16] ARRC expects that the Instrument review will adhere to the process and timeline outlined in the 2008 Mitigation Rule.[17]

3.2 Operation

Compensatory mitigation activities of the Bank will center on projects designed to restore aquatic resource functions. Under consultation with ADF&G, ARRC has identified five restoration projects within the Bank. These projects will restore wetland functions by removing previously placed fill, restore stream functions by replacing under-performing culverts with bridges or hydraulically suitable culverts designed for fish passage, and restore stream and wetland functions by increasing hydrologic connectivity and tidal influence and allowing unimpeded fish passage. The culvert replacement projects will also prevent scouring, channel migration, sedimentation, and other adverse impacts that frequently result from undersized and poorly functioning culverts. In tandem with these five projects, the restored wetlands, waterbodies, waterways, and uplands that provide important buffering services within the Bank will be preserved.

3.2.1 Proposed Restoration Projects

The five proposed restoration projects identified within the Bank are described below and shown in Figure 3. The projects are presented from north to south, and the listed order of the projects is not intended to represent the order in which the projects will be completed (see Section 3.2.3 Credit Release Schedule).

[16] 33 CFR §332.8(d)(6) (2008)
[17] 33 CFR §§332.8(d)(7)-(8) (2008)

3.2.1.1 FILL REMOVAL AND WETLAND RE-ESTABLISHMENT

This is a wetland re-establishment project that will remove an abandoned gravel road and microwave tower pad (Inset 1). The road is approximately 2,600 feet long and extends south from Portage Glacier Road approximately 0.15 mile east of the Seward Highway. The road's current primary use is as a ski trail in winter. The project will re-establish wetland functions to 2.17 acres of wetlands that were previously filled and converted to upland for the road and pad, and will also re-establish hydrologic connectivity within the larger wetland complex.

Inset 1. Abandoned microwave tower pad. September 6, 2016.

3.2.1.2 REPLACE TWO CULVERTS WITH A BRIDGE

This project will replace two 48-inch culverts within the railroad embankment with a bridge over a tidally-influenced section of Explorer Creek. Explorer Creek is identified in ADF&G's Anadromous Waters Catalog (AWC) as providing spawning and rearing habitat for coho and sockeye salmon, and habitat for pink salmon (Stream No. 247-06-10210-2015).[18] The culverts within the embankment are perched and undersized, constricting hydrology and limiting fish passage. During a site visit on September 6, 2016, an ADF&G biologist noted that the culverts are perched at approximately three feet during low tide and present a barrier to fish passage (Inset 2; Appendix A). Fish are only able to pass through the culverts during high tides. There is a large scour pool located below the culverts (Inset 3), and during low tides adult sockeye and coho salmon stranded in the pool are subject to poaching by snagging. The attraction of the pool to fishermen also presents a safety hazard as they access the pool by walking along the railroad tracks.

ARRC has installed bridge supports within the railroad embankment for a bridge over Explorer Creek. Replacing the perched culverts with a bridge will remove the fish passage barrier, ensuring salmon have all-tide access to valuable upstream spawning and rearing habitat on Explorer Creek. The perched culverts also limit upstream tidal influence on Explorer Creek. A bridge will allow tidal input to reach further upstream into the Bank, rehabilitating functions to the stream and to connected wetlands and waterbodies.

Inset 2. Perched 48-inch culverts on Explorer Creek, outlet view. October 3, 2016.

[18] Alaska Department of Fish and Game, Division of Habitat. "Anadromous Waters Catalog." Accessed on February 11, 2017. http://extra.sf.adfg.state.ak.us/FishResourceMonitor/?mode=awc.

Inset 3. Scour pool below perched culverts on Explorer Creek. October 3, 2016.

3.2.1.3 REPLACE ONE CULVERT

This project will replace one 60-inch culvert within the railroad embankment with a structure designed for fish passage on an unnamed, tidally-influenced tributary to Placer River. The existing culvert is perched and presents a barrier to fish passage (Inset 4). During the September 2016 site visit, the ADF&G biologist captured five juvenile coho salmon below the culvert (Appendix A). No fish were captured or observed above the culvert. The stream below the culvert will be nominated to the AWC (Stream No. 247-60-10210).

Replacing the existing culvert with a fish passage structure will ensure salmon have all-tide access to valuable upstream habitat. The culvert also limits upstream tidal influence. A hydraulically suitable structure will allow tidal input to reach further upstream into the Bank, rehabilitating functions to the stream and to connected wetlands and waterbodies.

Inset 4. Perched culvert on unnamed tributary to Placer River. September 6, 2016.

3.2.1.4 REPLACE THREE CULVERTS WITH A BRIDGE

This project will replace two 48-inch culverts and one 72-inch culvert within the railroad embankment with a bridge over an unnamed, tidally-influenced tributary to Placer River. One of the 48-inch culverts is non-functioning. The culverts in the railroad embankment are tidally influenced and present a barrier to fish passage (Inset 5). Fish may only be able to pass through the 72-inch culvert during high tide. During the September 2016 site visit, the ADF&G biologist captured five juvenile coho salmon in a pool above the culverts (Appendix A). The stream is not currently listed in the AWC, and will be nominated as rearing habitat for coho salmon.

Replacing the culverts with a bridge will ensure salmon have all-tide access to valuable upstream habitat. The culverts also limit upstream tidal influence. A bridge will allow tidal input to reach further upstream into the Bank, rehabilitating functions to the stream and to connected wetlands and waterbodies.

Inset 5. Culvert on unnamed tributary to Placer River. September 6, 2016.

3.2.1.5 REPLACE ONE CULVERT

This project will replace one 48-inch culvert within the railroad embankment with a structure designed for fish passage on an unnamed, tidally-influenced tributary to the Placer River. The existing culvert is in poor condition and presents a barrier to fish passage (Inset 6). During the September 2016 site visit, the ADF&G biologist captured one stickleback in a pool below the culvert (Appendix A). No additional sampling was conducted due to heavy brush. There is a large, continuous complex of permanently and semipermanently flooded wetlands and waterbodies on the upstream side of the railroad embankment that is high value rearing habitat.

Replacing the existing culvert with a fish passage culvert will ensure fish have all-tide access to valuable upstream habitat. The culvert also limits upstream tidal influence. A hydraulically suitable structure will allow tidal input to reach further upstream into the Bank, rehabilitating functions to the stream and to connected wetlands and waterbodies.

Inset 6. Poor quality culvert on unnamed tributary to Placer River. September 6, 2016.

3.2.1.6 PRESERVATION OF RESTORED RESOURCES

In 2016, ARRC contracted HDR Alaska, Inc. (HDR) to delineate wetlands and other waters of the U.S. within the Reserve (Appendix B).[19] The mapped resources within the Bank are shown in Figure 3 and discussed in Section 8.0 Ecological Suitability. These resources will be preserved under an appropriate site protection instrument. However, not all of the preserved resources will generate credit under the Instrument. The amount of credit generated from preservation of the restored aquatic resources will be included in the Instrument.

3.2.2 Mitigation Plan

A Mitigation Plan will be included in the Instrument. It will include the elements required by the 2008 Mitigation Rule, including the acres of resources that will be restored by each project, credits that will be generated by each project, the performance standards for determining whether the projects are achieving their objectives, and long-term management plans.[20]

A mitigation work plan is one of the elements required in the Mitigation Plan.[21] The Mitigation Plan will include conceptual designs for construction of each project. Detailed mitigation work plans for each project will be prepared and submitted to USACE for review and approval prior to project initiation. The mitigation work plans will include information required by the 2008 Mitigation Rule, such as construction methods, timing, and sequence; proposed grading plans; soil management; erosion control measures; and structure specifications, channel form, and riparian area plantings for the culvert replacement projects.[22]

Additional permits may be required for construction of the proposed restoration projects, including from the following federal and state authorities:

- USACE, CWA Section 10/404 Permit
  - Impacts to waters of the U.S. from the proposed restoration projects may qualify for authorization under one or several Nationwide Permits (NWP)
    - NWP 3 – Maintenance
    - NWP 27 – Aquatic Habitat Restoration, Enhancement, and Establishment Activities
- ADF&G, Fish Habitat Permit
- ADEC, CWA Section 401 Water Quality Certification or Waiver
- ADNR, Temporary Water Use Authorization

All necessary permits will be obtained prior to project initiation.

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[19] HDR Alaska, Inc. (prepared for Alaska Railroad Corporation). February 2017. *Portage Reserve Mitigation Bank Jurisdictional Determination Report and REV Classification.*
[20] 33 CFR §§332.4(c)(2)-(14)
[21] 33 CFR §332.4(c)(7)
[22] *ibid.*

3.2.3 Credit Release Schedule

The Mitigation Plan will identify the total number of credits that may potentially be generated by the proposed restoration projects. However, the schedule for completion of the five proposed projects has not yet been determined. The timing of project initiation and the order in which the projects are completed will depend on a number of factors, including design and construction costs, credit demand within the service area, and commitment of resources to other ARRC projects. The Instrument will include a credit release schedule that ties credit release to specific, measurable milestones, allowing for flexibility in operation of the Bank while ensuring that projects undertaken within the Bank have a high likelihood of success.

The Instrument will identify the discrete mitigation activities that will comprise the proposed restoration projects as well as measurable performance standards that will be tracked and monitored after each project is completed. The credit release schedule will determine, either as a number or a percentage of the total potential credits, the credits that will be released upon achievement of each of these milestones. Mitigation activities that will result in credit release may include:

- Placement of site protection instrument
- Fill removal and surface regrading
- Installation of fish passage structures
- Vegetation plantings
- Bank stabilization activities

Performance standards that will result in credit release once they are met may include:

- Revegetation monitoring
- Fish passage monitoring

ARRC will submit documentation of mitigation activities or achievement of performance standards to USACE when requesting credit releases. All credit releases will be approved by USACE.[23]

3.2.4 Accounting

The Instrument will include accounting procedures that will be followed during operation of the Bank. ARRC will maintain a ledger to account for all credit transactions, including credits released by mitigation activities or achievement of performance standards, credit sales, and credit sales suspended. ARRC will also prepare an annual ledger report to be submitted to USACE.

3.2.5 Reporting

ARRC will prepare reports on the operation of the Bank as required in the 2008 Mitigation Rule. The Instrument will identify reporting protocols and schedules for monitoring reports.

[23] 33 CFR §332.8(o)(9) (2008)

3.2.6 Permittee-Responsible Mitigation

The restoration projects described in Section 3.2.1 could potentially be developed as permittee-responsible mitigation for projects that would result in unavoidable impacts to aquatic resources within the Turnagain Arm area. ARRC has previously held discussions with project sponsors who are developing projects in the vicinity of the Bank that will require compensatory mitigation. If one or more projects within the Reserve were performed as permittee-responsible mitigation prior to Bank establishment, ARRC would carry out the projects and be responsible for their long-term management. ARRC would continue to pursue establishment of the Bank, and any land preserved in conjunction with completed projects would be incorporated into the Bank for long-term management. This would ensure that aquatic resources that are preserved within the Reserve are managed together to ensure long-term sustainability and viability.

4.0 Proposed Service Area (33 CFR §332.8(d)(2)(iii))

A service area is "the watershed, ecoregion, physiographic province, and/or other geographic area within which [a] mitigation bank...is authorized to provide compensatory mitigation."[24] The 2008 Mitigation Rule requires use of a watershed approach to select a service area for a mitigation bank. A watershed approach to compensatory mitigation site selection considers the overall ecological functioning of the aquatic resources within an entire watershed, with the goal of maintaining and improving the quality and quantity of aquatic resources within that watershed. Using a watershed approach allows for flexibility in selection of a service area for a mitigation bank as long as the service area selected ensures that the aquatic resources provided by the bank will effectively compensate for adverse environmental impacts resulting from permitted activities across the entire service area.

The 2008 Mitigation Rule states that "the economic viability of the mitigation bank...may also be considered in determining the size of the service area."[25] The proposed service area for the Bank was delimited using a watershed approach to ensure that the aquatic resources that will be restored by the Bank will effectively compensate for adverse environmental impacts resulting from permitted activities across the entire selected area while also taking in to consideration the economic viability of the Bank.

The proposed service area for the Bank is an area within the boundaries of the MOA, the USGS 10-digit HUC watersheds within the Kenai Peninsula 6-digit HUC watershed (HUC6 190203) that are adjacent to Cook Inlet, and a three-mile buffer of the ARRC rail lines between Seward, Whittier, and Wasilla (Figure 4). This area encompasses the coastal watersheds of Turnagain Arm and the Western Kenai Peninsula. It includes the lower reaches of Knik, Eklutna, Eagle, Twentymile, Portage, Placer, Kenai, Kasilof, and Fox rivers as well as the heads of Knik and Turnagain Arms of Cook Inlet and Kachemak Bay. The communities of Wasilla, Anchorage,

[24] 33 CFR §332.8(d)(6)(ii)(A) (2008)
[25] *ibid.*

Eklutna, Eagle River, Girdwood, Whittier, Hope, Moose Pass, Seward, Nikiski, Kenai, Soldotna, Kasilof, Ninilchik, Anchor Point, Homer, and Seldovia are included in the service area.

The Bank will restore and preserve aquatic resources in the lower watershed at the interface of the freshwater system with coastal waters. These areas provide valuable salmon habitat, support resident wildlife and migratory bird species, and support downstream estuarine and marine areas by providing important water quality enhancement, hydrologic regulation, and nutrient export functions. These functions, particularly salmon support functions, support the Cook Inlet DPS of beluga whales. Similar resources to those within the Bank are found across the proposed service area. Importantly, these areas also provide direct and indirect support to the Cook Inlet DPS of beluga whales. Figure 5 shows the designated critical habitat for the Cook Inlet DPS of belugas.

Further justification for the defining the proposed service area as described is presented below.

4.1 10-Digit HUC Watersheds

The 2008 Mitigation Rule specifies that a USGS 8-digit HUC watershed may be an appropriate service area for a mitigation bank in an urban area, while several contiguous 8-digit HUC watersheds or a single 6-digit HUC watershed may be an appropriate service area for a bank in a rural area.[26] While the Bank is within the boundaries of the MOA, the immediate vicinity of the Bank (Portage Valley) has a rural character. There are few developments in the Portage area and the nearest town, Girdwood, is approximately 12 miles away. Because of its location in a rural subarea of an urban administrative area, neither an entire 6-digit nor an 8-digit HUC watershed was considered to be a suitable service area for the Bank. The 10-digit HUC watersheds within the 6-digit HUC Kenai Peninsula Watershed that are adjacent to Cook Inlet were selected for inclusion within the proposed service area to capture areas with similar landscape positions and types of aquatic resources to the Bank (Figure 4, Table 1).

The Bank is within the Upper Kenai Peninsula 8-digit and Kenai Peninsula 6-digit HUC watersheds (Figure 6). These watersheds include the western slopes of the Kenai Mountains and the glacier-fed rivers that drain them as well as the extensive flats of the Western Kenai Peninsula. The Bank is located in the lower Portage Creek watershed near in the intertidal zone and the aquatic resources that will be restored by the projects within the Bank receive tidal influence. The selected 10-digit HUC watersheds contain aquatic resources that are similar in location and type to those within the Bank, and are also adjacent to Cook Inlet DPS beluga whale critical habitat (Figure 5).

Within the Kenai Peninsula, communities and associated development are concentrated in coastal areas primarily along the Sterling Highway. Most of the communities and developments within the Western Kenai Peninsula are within these 10-digit HUC watersheds. Aquatic resource functions that will be restored by the proposed projects within the Bank are similar in nature and location to functions that are likely to be impacted by future development within these watersheds.

[26] 33 CFR §332.8(d)(6)(ii)(A)

Table 1. 10-digit HUC watersheds included within the proposed service area.

Watershed	HUC10
Kasilof River	1902030104
Ninilchik River	1902030105
Deep Creek	1902030106
Anchor River	1902030107
Stariski Creek-Frontal Cook Inlet	1902030108
Sheep Creek	1902030109
Fox River	1902030110
Quiet Creek-Frontal Kachemak Bay	1902030111
English Bay-Frontal Cook Inlet	1902030112
Bird Creek	1902030201
Twentymile River	1902030202
Placer River	1902030203
Sixmile Creek	1902030204
Resurrection Creek	1902030205
Glacier Creek-Frontal Turnagain Arm	1902030207
Swanson River	1902030208
Lower Kenai River	1902030218
Bishop Creek-Frontal Cook Inlet	1902030219
Big Indian Creek-Frontal Turnagain Arm	1902030220

4.2 Municipality of Anchorage

The 2008 Mitigation Rule states that "[d]elineation of the service area must also consider any locally-developed standards and criteria that may be applicable."[27] The Bank is within the boundary of the MOA. Due to the high rate of aquatic resource functions lost within the MOA, the MOA Planning Division maintains the *Anchorage Wetlands Management Plan* (AWMP) to inventory aquatic resources within the MOA and manage them in order to guide development to minimize adverse impacts.[28] One of the primary goals of the AWMP, which was updated in 2014, is "to identify and provide protection for wetlands that support important ecological and hydrological functions."[29] Establishment and operation of the Bank is consistent with the goal of the AWMP to preserve valuable wetlands within the MOA.

Many important aquatic resources within the MOA are similar in location and type to the aquatic resources within the Bank. Streams within the MOA originate in the Chugach Mountains and flow either northwest into Knik Arm or southwest into Turnagain Arm. Large areas of wetlands exist where the palustrine and estuarine systems meet along the coasts of Cook Inlet, and provide support functions to Cook Inlet DPS beluga whale critical habitat (Figure 5).

The majority of previous impacts to aquatic resources within the MOA are of a similar nature to the impacts that will be offset by the Bank. These impacts occur along the coast, and have primarily been associated with the development of wetlands and the restriction of fish passage. Aquatic resource functions that will be restored by the proposed projects within the Bank are

[27] *ibid.*
[28] Municipality of Anchorage, Planning Division, Community Development Department. July 2014. *Anchorage Wetlands Management Plan.*
[29] *ibid.*

similar in nature and location to functions that are likely to be impacted by future development within the MOA.

4.3 Buffer of ARRC Tracks

The goal of the Bank is to generate compensatory mitigation credits that can be used to offset permitted impacts to aquatic resource functions from ARRC projects along its main line and Whittier Branch lines and freight facilities in Southcentral Alaska. A three-mile buffer of the ARRC rail lines between Seward, Whittier, and Wasilla is included in the proposed service area to satisfy this objective. Ensuring that ARRC can utilize credits generated from the Bank for construction and maintenance projects along the tracks is essential for safeguarding the economic viability of the Bank.

The buffer of ARRC rail lines is also included to capture ARRC-owned land in the proposed service area. ARRC owns large tracts of land in Anchorage and the Kenai Peninsula, including tracts in Seward and Whittier, in addition to right-of-way along the rail lines. ARRC has developed much its land for rail operations and support facilities, and also leases non-operating lands to other entities for commercial, industrial, and public uses. Whittier and Seward, like Portage, are similarly situated at the head of large bays where riverine, estuarine, and palustrine systems converge. Aquatic resource functions that will be restored by the proposed projects within the Bank are similar in nature and location to functions that are likely to be impacted by potential future development on ARRC-owned land, either by ARRC or other entities.

5.0 General Need and Technical Feasibility (33 CFR §332.8(d)(2)(iv))

5.1 Needs of the Watershed

The needs of the watershed were considered when selecting the Reserve as a location for a mitigation bank, identifying restoration projects within the Bank, and delimiting the proposed service area. The needs of the watershed were evaluated based on levels and types of development within watersheds, the types of aquatic resources that are impacted by such developments, and opportunities for reversing or mitigating those impacts.

Development within existing communities and along major transportation corridors is one of the primary sources of impacts to aquatic resource functions across Alaska. Aquatic resources within communities and in areas accessible by highways and rail lines are at risk for conversion, degradation, and fragmentation as residential, industrial, and commercial developments expand. The MOA is the largest population center and urban area in Alaska. Over half of the historical wetland area within the Anchorage Bowl has been lost to date due to development.[30] Data compiled by USACE indicates that over 2,200 acres of wetlands within the MOA were permitted for fill between 1976 and 2004.[31] The Kenai Peninsula Borough (KPB), which includes the communities of Soldotna and Kenai along the Kenai River, is the fourth-most populous borough in Alaska. Road construction, industrial development, and residential development are the primary drivers of wetland loss in the KPB.[32] Continued growth in these communities will lead to continued loss and degradation of aquatic resources within their watersheds.

Several management and planning documents describe ongoing impacts to aquatic resources in the MOA and KPB. The AWMP notes that within the MOA, construction of residential, industrial, and commercial establishments as well as transportation corridors can cause direct impacts to wetlands and waterbodies that in turn "have the potential to modify natural movements of water, damage or destroy fish and wildlife habitat, adversely affect biological productivity, reduce flood storage capacity, or alter nutrient exchange characteristics."[33] Reduced water quality and riparian habitat along streams are particular concerns in the MOA. ADF&G has documented reduced anadromous fish populations in streams in the Anchorage Bowl and initiated fish habitat enhancement programs. The now-obsolete *Anchorage Coastal Management Plan* identified shoreline modifications, stream channel alterations, removal of shoreline vegetation, and improper placement of drainage structures as activities of specific concern that adversely impact streams, lakes, and wetlands, and which can directly and

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[30] Municipality of Anchorage, Planning Division, Community Development Department. July 2014. *Anchorage Wetland Management Plan.*
[31] *ibid.*
[32] Hall, J.V., and S.E. Kratzer. 2001. *Status and Trends of Wetlands in the Lower Kenai River Area, Alaska.*
[33] Municipality of Anchorage, Planning Division, Community Development Department. July 2014. *Anchorage Wetland Management Plan.*

secondarily impact water quality and fish and wildlife habitat.[34] The USFWS *Alaska Coastal Program 2012-2016 Strategic Plan* identifies resource extraction, urbanization, and poorly managed increased public access as significant potential threats to coastal resources in Southcentral Alaska.[35]

Many agencies and organizations have also identified key strategies to restore aquatic resources within the MOA and KPB. The USFWS produced the *Alaska Partners for Fish and Wildlife Program 2012-2016 Strategic Plan* to identify and direct habitat improvement and conservation opportunities on private land.[36] This plan identifies anadromous fish streams, riparian habitats, and wetlands as high priority for restoration and protection within the MOA and KPB. Significant challenges to the restoration and protection of aquatic resources are continued habitat loss and fragmentation. Primary strategies listed to combat this loss are removal of fish passage barriers and the restoration of riparian habitats. The Kenai Watershed Forum is a community organization that works to maintain and improve the health of watersheds on the Kenai Peninsula. One of their priorities is reconnecting fragmented aquatic habitats by replacing culverts that block fish passage.[37]

The Bank will address the needs of the regional watershed by restoring areas that have been impacted by two of the primary causes of impacts to aquatic resource functions across the proposed service area: wetland fill, and impairment of stream functions. The Bank will also restore aquatic resource functions in anadromous streams and wetlands and waterbodies in the lower watershed near the intertidal zone. These resource types are among the most at-risk for impacts across the proposed service area.

The proposed projects that will be undertaken within the Bank will provide benefit not only within the Bank, but also to aquatic areas upstream and downstream. While the northern portion of the Bank is adjacent to and can be accessed from the Seward Highway and Portage Glacier Road, the majority of the Bank is located in areas where the rail line presents the only impairment to fish passage and the surrounding wetland habitat. Impaired culverts under the ARRC rail line limit upstream fish habitat and riparian support functions, and therefore their replacement will provide far reaching benefits outside the direct footprint of the specific project.

The proposed projects represent an opportunity to restore functions along streams and throughout wetlands on a large parcel of land within Alaska's most populated area. Focusing on increasing anadromous fish productivity within the MOA will greatly benefit the overall ecosystem, supporting recreational and subsistence salmon fisheries.

Increased anadromous fish productivity in streams directly connected to critical habitat of the Cook Inlet DPS of beluga whales will support conservation efforts of this endangered species as

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[34] Municipality of Anchorage, Planning Department. July 2007. *Anchorage Coastal Management Plan.* Prepared by Bristol Environmental & Engineering Services Corporation and LaRoche Associates, Anchorage.
[35] U.S. Fish and Wildlife Service, Conservation Partnerships Program. May 2012. *Alaska Coastal Program Strategic Plan, 2012-2016.*
[36] U.S. Fish and Wildlife Service, Conservation Partnerships Program. June 2012. *Alaska Partners for Fish and Wildlife Program Strategic Plan, 2012-2016.*
[37] Kenai Watershed Forum. 2016. *The Way Forward: Action Plan for 2016-2020.*

identified by NOAA/NMFS. Four species of Pacific salmon (Chinook, sockeye, chum, and coho), along with five other fish species, have been identified as primary constituent elements essential to the conservation of the Cook Inlet DPS of beluga whales.[38]

5.2 Technical Feasibility

The 2008 Mitigation Rule prioritizes restoration projects because "the likelihood of success is greater...and the potential gains in terms of aquatic resource functions are greater."[39] The proposed restoration projects that will be accomplished within the Bank will re-establish and rehabilitate wetland and stream functions to conditions similar to those that existed prior to placement of the rail line embankment. These projects are considered technically feasible with a high likelihood for success.

The gravel fill removal and wetland re-establishment project will restore the area to a naturalized condition. The area surrounding the gravel road and pad is an intact wetland complex with semi-permanently and seasonally flooded hydrologic regimes. Re-establishment of natural hydrology to the area after fill removal is expected to occur without any management interventions. Native plant species will be used to re-vegetate the area.

Replacement of under-performing culverts with fish-passage structures will re-establish fish support functions and rehabilitate hydrologic functions of streams within the Bank. Fish-passage structures will be appropriately designed for the hydrology of the stream. They will ensure adult and juvenile fish can move unimpeded through the passage at all tides, increase tidal input to the areas above the embankment, and prevent scouring, channel migration, sedimentation, and other adverse impacts that frequently result from undersized and poorly functioning culverts. ADF&G and other agencies with applicable knowledge and expertise will be consulted to ensure the fish-passage structures are designed and installed to provide maximum functional lift. The ADF&G Fish Passage Improvement Program and its partners have successfully completed 33 culvert replacement projects across Alaska to date.[40] ARRC regularly repairs and replaces culverts as a part of regular maintenance along the rail line and has technical staff experienced in the design and construction of such projects.

The long-term success of the projects and preservation of the Bank will be enhanced by the large size of the Bank and compatible surrounding land uses. The Bank is adjacent to the Chugach National Forest (see Section 8.3.3 Adjacent Land Uses).

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[38] 50 CFR §226.220 (2011)
[39] 33 CFR §332.3(a)(2) (2008)
[40] Alaska Department of Fish and Game. 2017. "Fish Passage Improvement Program." Accessed on February 13, 2017. http://www.adfg.alaska.gov/index.cfm?adfg=fishpassage.restorationprojects.

6.0 Ownership and Long-Term Management (33 CFR §332.8(d)(2)(v))

6.1 Ownership

ARRC owns the surface and subsurface rights to the land within the Reserve fee simple. The original intent of the Reserve was to provide ARRC with sufficient land to develop a large classification yard to support its operations, as space to expand yard operations in Anchorage is severely limited. However, ARRC has the ability to restrict unto itself any development upon its property.

The Instrument will specify the site protection instrument to be used at the Bank. The site protection instrument will also identify the areas within the boundaries of the Bank that will not be covered by the instrument. These include ARRC developments along Portage Glacier Road and the ARRC main line track right-of-way.

6.2 Long-Term Management

The long-term management strategy for the Bank will be to ensure protection of the Bank through an appropriate site protection instrument, and to ensure long-term sustainability and viability of the aquatic resources within the Bank. An important component of the long-term management strategy is the management of the entire Bank as a whole. Although the proposed restoration projects may be completed over the course of several years, the aquatic resources within the Bank will be managed concurrently over the course of the Bank operation. Preservation of the restored resources is another significant component of the long-term management strategy that is essential to the viability and sustainability of the Bank.

A detailed long-term management plan for the Bank will be included in the Mitigation Plan in the Instrument. The long-term management plan will identify management and monitoring activities, performance standards, reporting, maintenance, and stewardship.

ARRC will be responsible for long-term management of the Bank. ARRC currently owns and manages approximately 36,000 acres of land across Alaska, and has staff experienced in real estate and land management. ARRC will be able to contract consultants as required to ensure implementation of the long-term management plan.

7.0 Sponsor Qualifications and Contact Information (33 CFR §332.8(d)(2)(vi))

ARRC is the Sponsor of the Bank. HDR is ARRC's primary consultant, and will assist ARRC in developing the Instrument.

ARRC is a state-owned corporation with a long history managing large projects and real estate in Alaska. In addition to managing a full-service freight and passenger railroad, ARRC manages land and real estate, collaborates with state and federal agencies on land use planning, and participates in community development projects with State and local partners. In its 90 years operating in Alaska, ARRC has safely and successfully designed, developed, and managed many large-scale projects. ARRC will leverage a robust and experienced staff whose expertise includes project management, engineering, supply management, construction management, real estate services, finance and accounting, and legal services for the establishment, operation, and management of the Bank. ARRC will also be able to contract consultants for a variety of services, as required, to ensure success of the Bank.

The Sponsor point-of-contact is:

Brian Lindamood
327 W. Ship Creek Avenue
Anchorage, Alaska 99501
907.265.3095
lindamoodb@akrr.com

8.0 Ecological Suitability (33 CFR §332.8(d)(2)(vii)(A))

As described below, the Bank site is ecologically suitable to achieve the objectives identified in Section 2.0 of this Prospectus.

8.1 Bank Site Description

The Bank is located within the Placer River Watershed (10-digit HUC 1902030203). This watershed drains runoff from snow and glaciers in the Placer River and Portage Creek valleys. The Bank can be found on the Seward D-6 USGS quadrangle located within Sections 5 and 8; Township 8 North, Range 3 East, Seward Meridian. The center of the Bank is located at 60.806544°N, 148.968561°W (NAD83).

8.2 Wetland and Stream Characteristics

The 310.5-acre Bank contains large complexes of wetlands, waterbodies, and streams. ARRC contracted HDR to delineate wetlands and other waters of the U.S. within the Reserve.[41] HDR mapped wetlands and classified wetlands using National Wetland Inventory (NWI) codes based on the USFWS's *Classification of Wetlands and Deepwater Habitats of the U.S.*[42] The acreages of wetlands and other waters of the U.S. mapped within the Bank by NWI code are shown in Table 2 and on Figure 3.

Table 2. NWI Codes and Acreage Mapped within the Portage Reserve Mitigation Bank.

NWI Code	Description	Acres[a]
Scrub-Shrub Wetlands		
PSS1B	Saturated broad-leaved deciduous scrub-shrub wetland	0.17
PSS1C	Seasonally flooded broad-leaved deciduous scrub-shrub wetland	10.24
PSS1F	Semipermanently flooded broad-leaved deciduous scrub-shrub wetland	0.13
PSS1/EM1B	Saturated broad-leaved deciduous scrub-shrub/persistent emergent wetland	0.35
PSS1/EM1C	Seasonally flooded broad-leaved deciduous scrub-shrub/persistent emergent wetland	29.22
PSS1/EM1F	Semipermanently flooded broad-leaved deciduous scrub-shrub/ persistent emergent wetland	40.37
PSS1/EM1H	Permanently flooded broad-leaved deciduous scrub-shrub/ persistent emergent wetland	17.99
	Total Scrub-Shrub Wetlands	***98.46***
Emergent Wetlands		
PEM1B	Saturated persistent emergent wetland	0.30
PEM1C	Seasonally flooded persistent emergent wetland	0.92
PEM1F	Semipermanently flooded persistent emergent wetland	19.73

[41] HDR Alaska, Inc. (prepared for Alaska Railroad Corporation). February 2017. *Portage Reserve Mitigation Bank Jurisdictional Determination Report and REV Classification*.

[42] L.M. Cowardin, V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service, Office of Biological Services, FWS/OBS-79-31.

Table 2. NWI Codes and Acreage Mapped within the Portage Reserve Mitigation Bank.

NWI Code	Description	Acres[a]
PEM1H	Permanently flooded persistent emergent wetland	108.66
PEM1/SS1C	Seasonally flooded persistent emergent/ broad-leaved deciduous scrub-	11.88
PEM1/SS1F	Semipermanently flooded persistent emergent/ broad-leaved deciduous scrub-shrub wetland	22.17
PEM1/SS1H	Permanently flooded persistent emergent/ broad-leaved deciduous scrub-shrub wetland	0.93
	Total Emergent Wetlands	***164.58***
Waterbodies		
Streams		-
R1UBV	Permanently flooded-tidal unconsolidated bottom stream	2.31
R2UBH	Permanently flooded lower perennial unconsolidated bottom stream	0.53
R2USC	Seasonally flooded lower perennial unconsolidated shore stream	0.05
Ponds		-
PABH	Permanently flooded aquatic bed wetland	0.35
PUBH	Permanently flooded unconsolidated bottom wetland	5.84
PUBHx	Permanently flooded unconsolidated bottom wetland (excavated)	0.45
	Total Waterbodies	**9.53**
	Total Wetlands and Other Waters of the U.S.	***272.57***
	Uplands	***37.94***
	Total Bank	***310.51***

[a] Values have been rounded.

8.2.1 Scrub-Shrub Wetlands

Broad-leaved deciduous scrub-shrub (PSS1) wetlands occupy 98.5 acres (approximately 32 percent) of the Bank. These wetlands are found throughout the Bank, particularly in the southern half, adjacent to the rail line. Vegetation is typically dominated by sweetgale (*Myrica gale*), Barclay's willow (*Salix barclayi*), and Sitka alder (*Alnus viridus*). Common herb species include bluejoint reedgrass (*Calamagrostis canadensis)*, water horsetail (*Equisetum fluviatile*), tall cotton-grass (*Eriophorum angustifolium*), and mud sedge (*Carex limosa*). Scrub-shrub wetlands mapped within the Bank typically have a semipermanently flooded, seasonally flooded, or permanently flooded hydrologic regime.

8.2.2 Emergent Wetlands

Persistent emergent (PEM1) wetlands comprise 164.6 acres (approximately 53 percent) of the Bank. These wetlands are part of large complexes and are found directly adjacent to waterbodies. Vegetation is typically dominated by bluejoint reedgrass, water horsetail, and Northwest Territory sedge (*Carex utriculata*). Approximately 92 percent of emergent wetlands mapped within the Bank have a semipermanently flooded or permanently flooded hydrologic regime.

8.2.3 Waterbodies

Waterbodies account for approximately 3 percent or 9.5 acres of the Bank. Waterbodies in the Bank were classified either as streams or ponds.

8.2.3.1 STREAMS

Streams within the Bank are both perennial and tidally influenced. Portage is located at the head of Turnagain Arm, which has a significant mean tidal range of 30 feet. These tides result in a fluctuating water level at the mouth of the Placer River and some of the surrounding streams within the Bank. These tidally influenced streams are relatively deep, with steep banks. They are permanently flooded with a silty unconsolidated bottom similar to the mudflats adjacent to Turnagain Arm. The four streams within the Bank that are impeded by under-performing culverts receive some tidal influence. These culverts are perched and undersized, limiting the amount of area upstream that receives tidal input.

Perennial streams in the Bank are either permanently or seasonally flooded with an unconsolidated bottom or shore. These streams flow through the culverts beneath the rail line and connect the wetlands and streams within the Bank to the Placer River as it flows into Cook Inlet.

8.2.3.2 PONDS

Ponds within the Bank are permanently flooded waterbodies with either unconsolidated bottoms or aquatic beds.

8.2.4 Uplands

Uplands comprise 37.9 acres (approximately 12.2 percent) of the Bank. Uplands are areas that lack hydrophytic vegetation, wetland hydrology, and/or hydric soils. Areas mapped as uplands include natural upland vegetation communities as well as developed areas. Natural upland communities within the Bank provide support to wetlands, waterbodies, and streams by acting as buffers that protect the aquatic resources from disturbance and degradation.

8.2.5 Functional Categorization

The Bank contains aquatic resources of high ecological value. HDR categorized wetlands based on their Relative Ecological Value (REV) using the Anchorage Debit-Credit Method (ADCM). Table 3 shows the acres of resources mapped within the boundaries of the Bank by REV. These values do not represent the credit-generating area of the Bank; the acreages of wetlands and other resources that will be restored and preserved within the Bank and the credits that will be generated will be included in Instrument.

Table 3. Acreages of REV Categories Mapped within the Portage Reserve Mitigation Bank.

			Acres		
REV	Wetland	Waterway	Waterbody	Upland	Total
1	238.1	2.9	6.2	12.2	**259.3**
2	25.0	-	0.5	9.8	**35.3**
4	-	-	-	15.9	**15.9**
Total	**263.0**	**2.9**	**6.6**	**37.9**	**310.5**

The AWMP provides mapping and assessment of wetlands within the MOA, and designates wetlands as "A", "B", or "C" based on their ecological value ("A" wetlands are of the highest value). The AWMP does not provide full wetland mapping and designation for the wetlands within the Bank (the 2014 update notes that full mapping of the wetlands in the Turnagain Arm area is planned pending future funding). However, it does note that wetlands within Portage Valley, including those within the Bank, have value for flood attenuation, habitat, and open space/aesthetic functions.

The Great Land Trust prepared the *Anchorage Wetland Parcel Prioritization Project* in 2010 to identify parcels within the MOA that have the greatest potential for conservation.[43] The AWMP mapping was used as the base data for the prioritization, and thus the wetlands within the Bank were not included. However, REV1 wetlands similar to the REV1 wetlands within the Bank and located 1.5 miles away from the Bank were ranked as the second highest potential for conservation within the Indian/Girdwood area (which includes Portage Valley).

The resources that will be restored and preserved within the Bank contribute significantly to the ecological sustainability of the watershed. While Portage Valley is mostly undisturbed, the resources within the Bank are in close proximity to the developments that do exist within the watershed, and would most likely be impacted by any future development in the area. They are also similar types of resources and of relatively equivalent value to the resources that would have been altered by those existing developments. This includes areas that provide valuable migratory bird stopover habitat and salmon spawning and rearing habitat.

8.2.6 Essential Fish Habitat

Essential Fish Habitat (EFH) is designated for fish species managed under a federal management plan under the Magnuson-Stevens Fishery Conservation and Management Act. All five Pacific salmonid species are managed under the Alaska Salmon Fisheries Management Plan. The Bank contains EFH as the streams, waterbodies, and inundated wetland complexes within the Bank provide spawning and rearing habitat for coho and sockeye salmon and provide habitat for pink salmon. During a September 6, 2016 site visit, an ADF&G biologist sampled for fish in streams within the Bank. The results of this sampling are discussed in Section 3.2.1 Proposed Restoration Projects, and the trip report is attached as Appendix A.

[43] Great Land Trust. March 31, 2010. *Anchorage Wetland Parcel Prioritization Project*. Prepared by Joanne Jones, Anchorage.

The culverts that will be replaced within the Bank present barriers to salmon passage. Replacement of these culverts with fish-passage structures will allow more salmon to access the EFH upstream of the railroad embankment.

8.2.7 Wildlife

Portage Creek and Placer River valleys provide habitat for many species of wildlife. Black and brown bears, moose, mountain goats, wolves, coyotes, wolverines, mink, river otters, beavers, and snowshoe hares range throughout the area.[44] Bird species that occur within the area include eagles, shorebirds, song birds, and waterfowl, which nest along the river channels. The wetlands at the head of Turnagain Arm, including the Bank, also provide important stopover habitat for migrating birds, including many species of geese, ducks, and cranes.

8.3 Land Encumbrances and Adjacent Land Uses

8.3.1 Historical Land Use

The Alaska Central Railroad constructed a rail line from Seward toward the head of Turnagain Arm in 1903. In 1909, the Alaska Northern Railroad Company bought the line and extended it north toward Girdwood, through the Portage area. In 1915, the U.S. government purchased the entire line and established the Alaska Railroad Commission. In 1941 the U.S. Army began construction on the Whittier Branch line to provide a supply link during World War II. The line was completed in 1943, and control of the Whittier Branch line was turned over to Alaska Railroad Commission in 1960. The Federal government's interest in the Alaska Railroad was transferred to the state-owned ARRC in 1985. ARRC continues to maintain and upgrade the Mainline and Whittier Branch lines as needed.

The Reserve is one of several private land parcels located in Portage, within the boundaries of the MOA. The town of Portage was abandoned after the 1964 Good Friday Earthquake, which lowered the elevation of the town and surrounding area by 6 feet. This caused the area to become inundated with saltwater, killing most of the trees. Much of the Portage area floods at high tide. Portage is now comprised of the Portage Section House (owned by ARRC) and the Alaska Wildlife Conservation Center, adjacent to Turnagain Arm.

8.3.2 Land Encumbrances

Although ARRC owns the land within the Bank fee simple, there are several land encumbrances within the Reserve. In the northeast corner of the Bank along Portage Glacier Road there is an electrical substation maintained by Chugach Electric Association. Three power lines cross the Bank from the substation. These will be left in place.

[44] U.S. Department of Agriculture Forest Service. 2017. "Habitat of Williwaw Fish Viewing Site." Accessed on February 14, 2017. https://www.fs.usda.gov/detail/r10/specialplaces/?cid=fsbdev2_038740

ARRC will maintain a 100-foot right-of-way through the Bank along the main line in order to maintain the track. The Portage Section House is located in the northwest corner of the Bank at the intersection of Portage Glacier Road and the Seward Highway. ARRC uses this area for equipment storage and maintenance. These areas will not be included in the credit generating area and will not be included under the site protection instrument.

8.3.3 Adjacent Land Uses

The Bank is mostly surrounded by the Chugach National Forest. The Chugach National Forest Revised Land and Resource Management Plan designates specific direction on managing different areas of the Chugach National Forest based on management prescriptions.[45] National Forest lands adjacent to the Reserve have the following management prescriptions:

- Backcountry
- Recreation River (Portage Creek)
- Fish, Wildlife & Recreation
- Transportation/Utility Corridor (Portage Glacier Road)

The allowable activities within these management prescriptions are not incompatible with establishment and operation of the Bank. Any future developments or activities on USFS land near the Bank are not expected to impact the long-term sustainability of proposed restoration projects or the overall functioning of Bank.

The north boundary of the Bank is Portage Glacier Road. The Alaska Department of Transportation and Public Facilities maintains a 100-foot right-of-way on either side of the centerline of the road. The right-of-way for Portage Glacier Road will not be included in the credit generating area or under the site protection instrument.

Two privately-owned parcels border the Bank (Figure 7). A 4-acre parcel at the intersection of Portage Glacier Road and the Seward Highway abuts the Bank opposite the railroad tracks from the Portage Section House. This parcel is not adjacent to any credit generating areas. A 90-acre parcel at the end of Wyatt's Windy Road borders the Bank to the east on the southern end. This parcel contains a small recreational cabin along one of the unnamed tributaries to Placer River that flows through the Bank. Any future developments on this residential property are unlikely to impact the resources within the Bank.

Parcels in the Bank vicinity are shown on Figure 7.

[45] United States Department of Agriculture, Forest Service. May 2002. *Chugach National Forest Revised Land and Resource Management Plan*. Alaska Region, Chugach National Forest, R10-MB-480c.

9.0 Assurance of Water Rights (33 CFR §332.8(d)(2)(vii)(B))

Operation and long-term management of the Bank will not require any maintenance of water control structures. Development within the Portage area has not significantly altered hydrology within the Portage Creek and Placer River valleys. Historical imagery on Figure 8 shows the presence of wetlands and perennially flowing streams through the Bank area for the past 70 years.

Hydrology within the Bank is driven primarily by surface water from perennial streams originating in the Placer River and Portage Creek valleys. These streams are fed by glacier and snow melt, as well as groundwater discharge at the base of the mountains within the Kenai Range that separate these valleys. The Bank also receives tidal input through the culverts within the railroad embankment. This tidal input will be increased by the proposed stream restoration projects. Due to the location of the Bank low in the watershed, between two river systems, and at the tidal interface, the hydrology of the area is well suited to provide for the long-term viability and sustainability of the aquatic resources within the Bank.

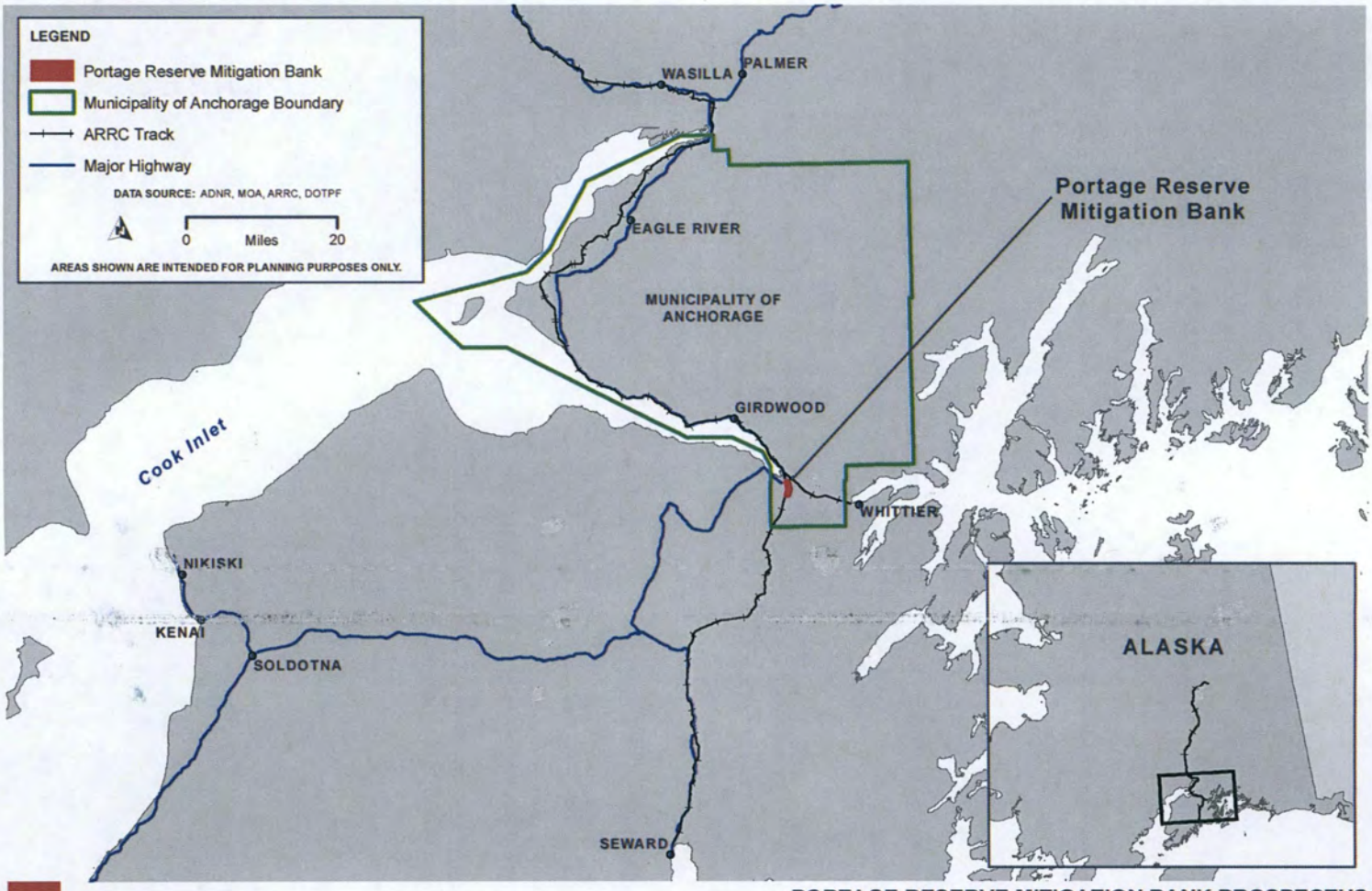
All surface and subsurface waters in Alaska are reserved for common use and are subject to appropriation under the Alaska Water Use Act. ADNR grants surface and subsurface water rights as well as instream reservations. There are four water rights and instream reservations in the vicinity of the Bank (Table 4).[46] These existing water rights and reservations do not impact the hydrology within the Bank. Any future applications for water rights that may impact hydrology at the Bank would be required to give public notice, and ARRC would have the opportunity to object.

Table 4. Existing Water Rights Upstream of the Portage Reserve Mitigation Bank.

File Number	Category	Customer	Location/Purpose	Status Date	TRS
LAS 28858	Instream Reservation	ADF&G Sportfish Division	Portage Creek from OHWM, including sloughs, from mouth to Turnagain Arm.	January 31, 2017	Sections 3, 4, 5, 9, 10, 11, 13, 14, Range 3E, Township 8N
LAS 2684	Subsurface	Gregory Anderson	Lot 3, U.S. Survey No. 3188 for drilled well.	April 8, 1986	Section 5, Range 3E, Township 8N
ADL 203439	Subsurface	Chugach National Forest	-	November 21, 1981	Section 10, Range 3E, Township 8N
LAS 11933	Surface	Chugach National Forest	Explorer Glacier Creek, impoundment structure.	January 20, 1994	Section 10, Range 3E, Township 8N

[46] Alaska Department of Natural Resources, Mining, Land & Water. "DNR Water Rights & Temporary Use Authorizations Database". Accessed on February 14, 2017. http://dnr.alaska.gov/mlw/mapguide/water/wr_start_tok.cfm

Figures



ALASKA RAILROAD

PORTAGE RESERVE MITIGATION BANK PROSPECTUS

LOCATION OVERVIEW

FIGURE 1

ALASKA RAILROAD CORPORATION

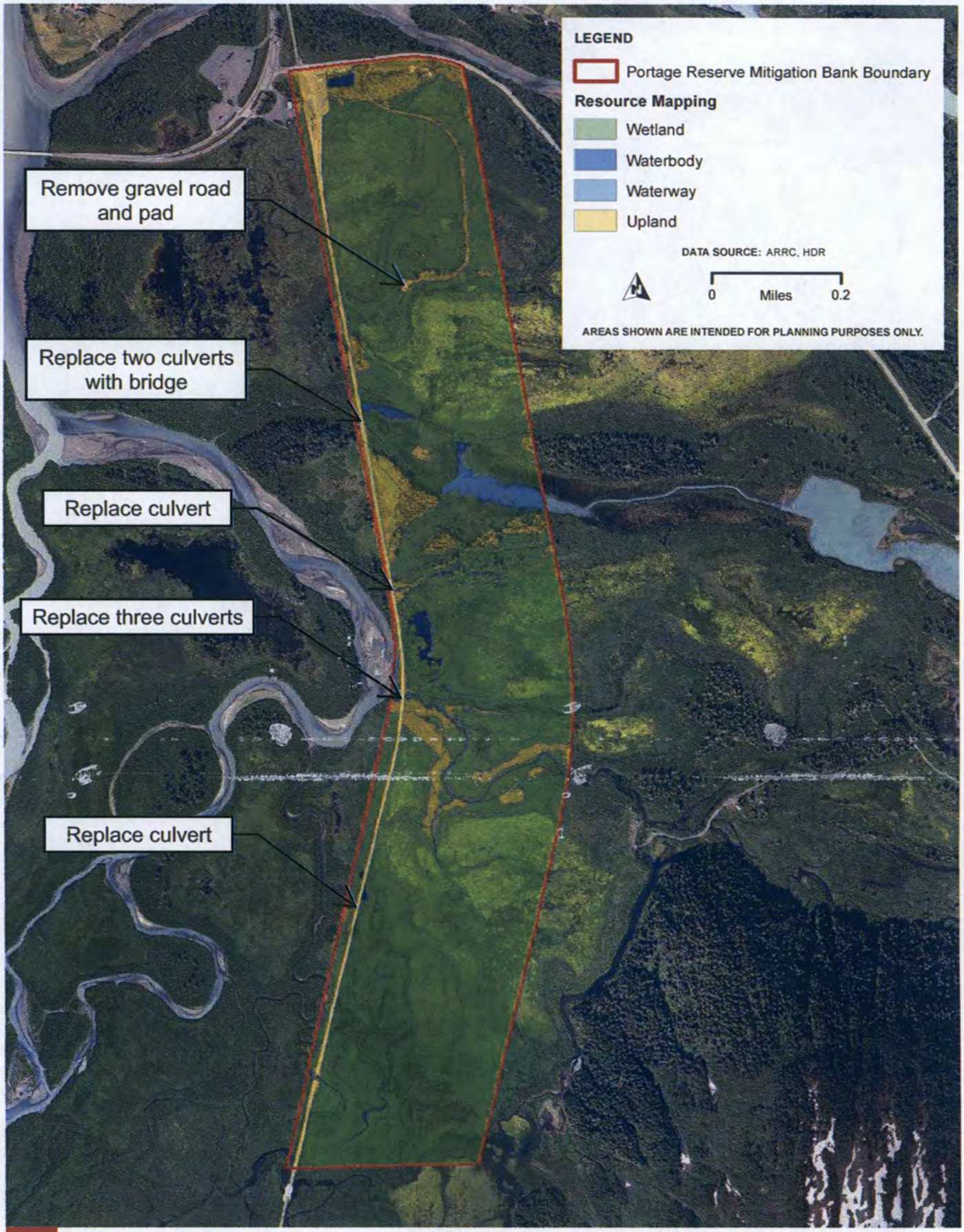
ALASKA RAILROAD

PORTAGE RESERVE MITIGATION BANK PROSPECTUS

SITE OVERVIEW

FIGURE 2

ALASKA RAILROAD CORPORATION

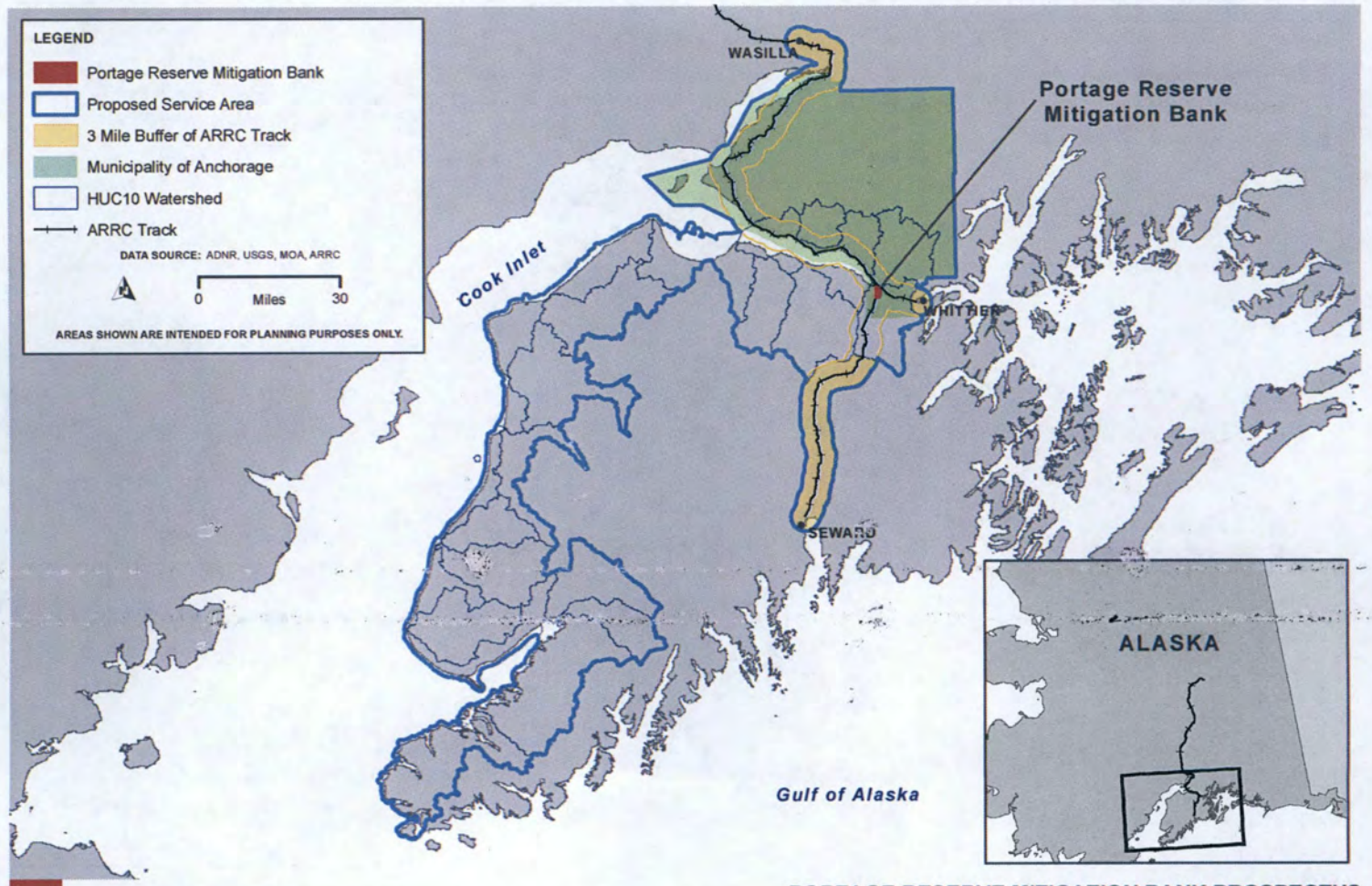


ALASKA RAILROAD

PORTAGE RESERVE MITIGATION BANK PROSPECTUS

RESTORATION PROJECTS OVERVIEW

FIGURE 3

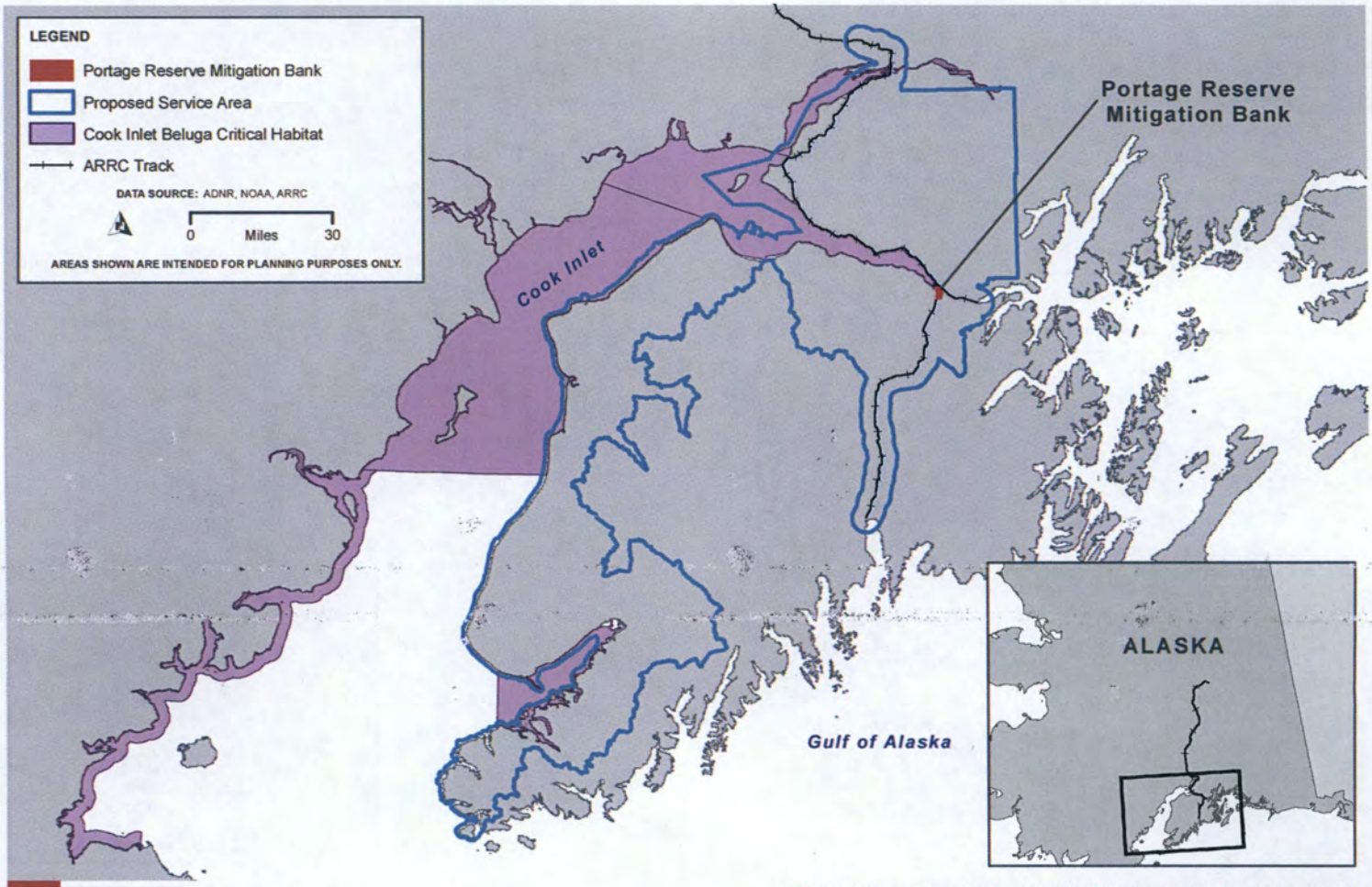


PORTAGE RESERVE MITIGATION BANK PROSPECTUS

PROPOSED SERVICE AREA

FIGURE 4

ALASKA RAILROAD CORPORATION



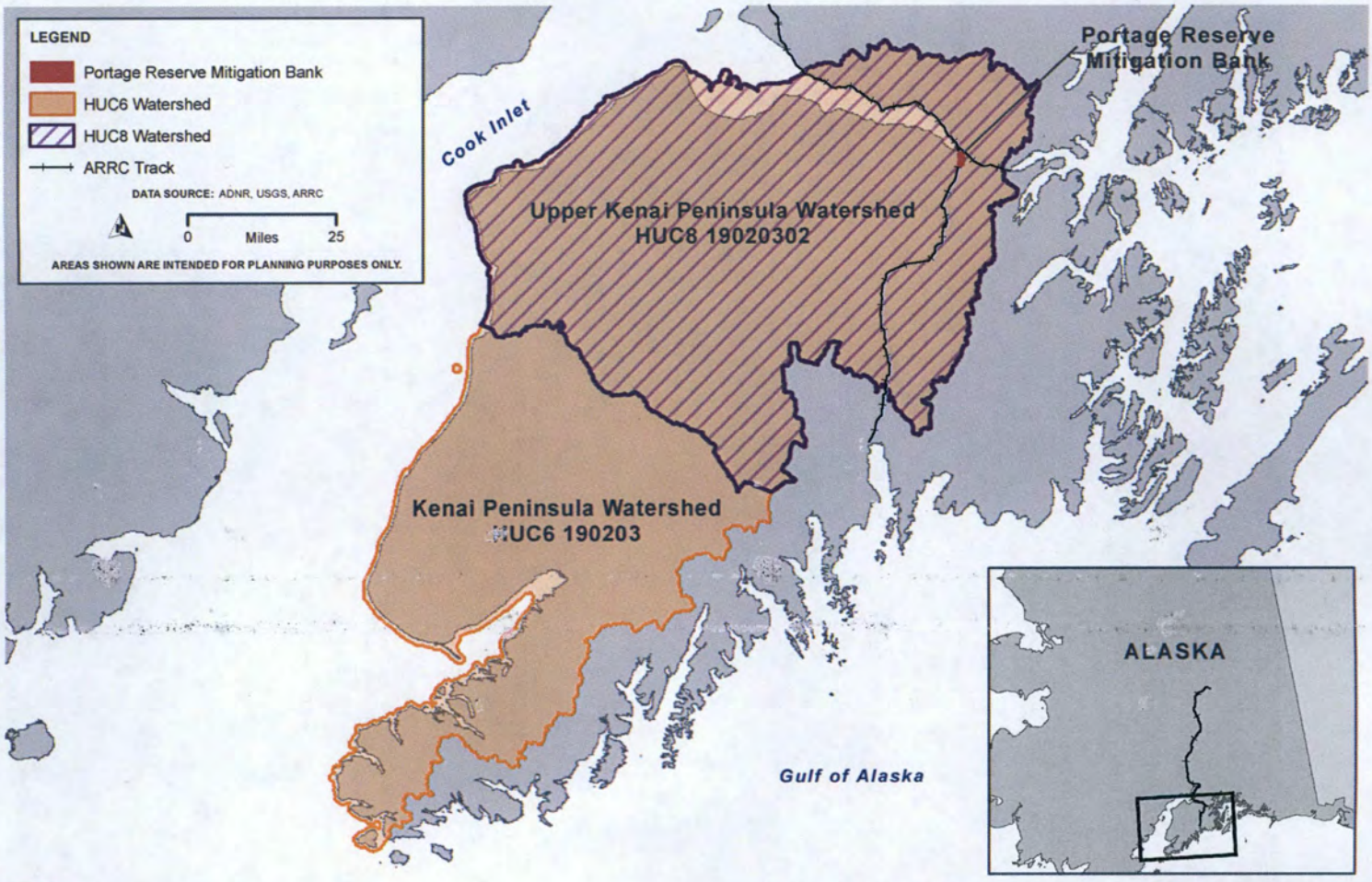
ALASKA RAILROAD

PORTAGE RESERVE MITIGATION BANK PROSPECTUS

CRITICAL HABITAT FOR THE ENDANGERED COOK INLET DPS OF BELUGA WHALES

FIGURE 5

ALASKA RAILROAD CORPORATION

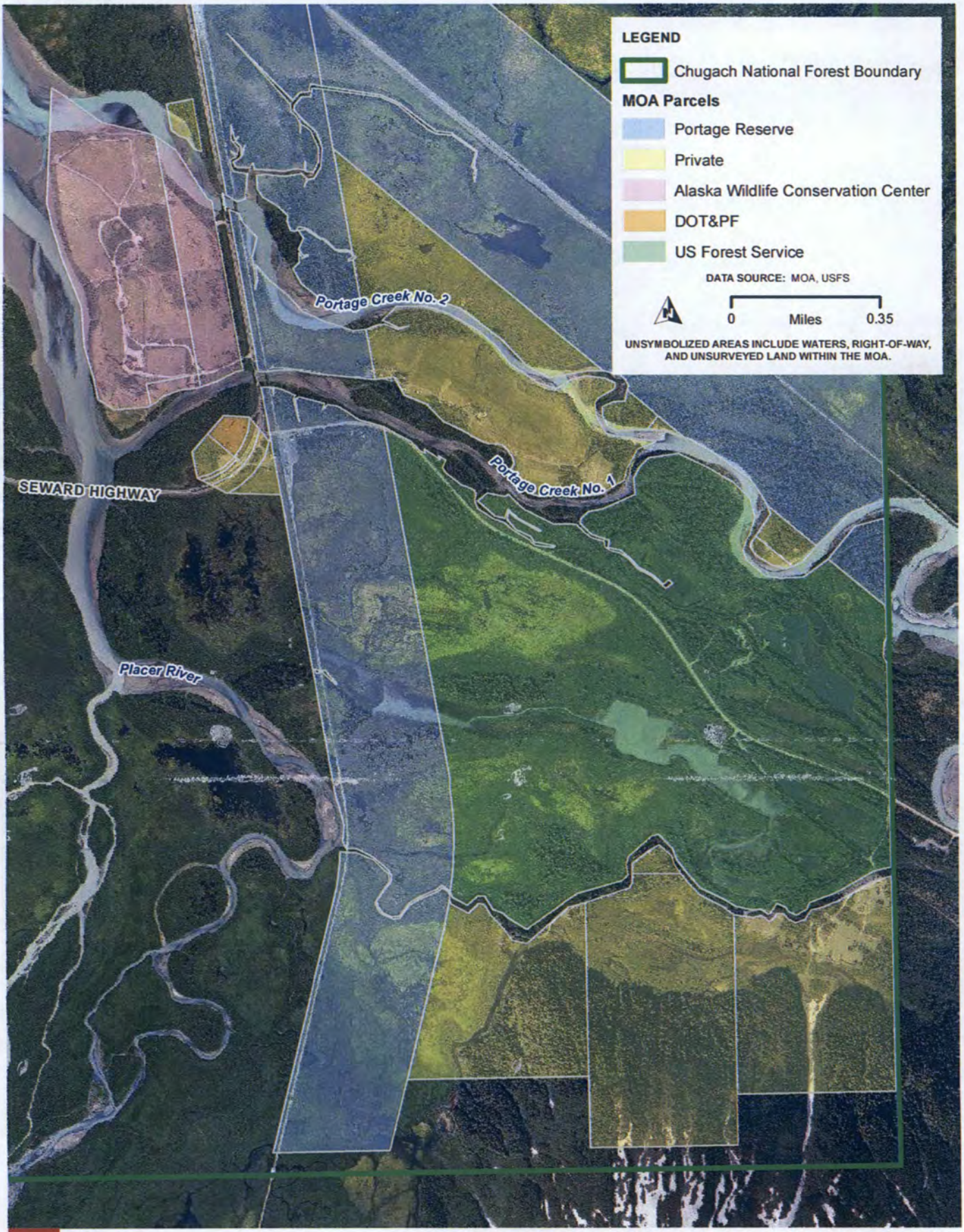


ALASKA RAILROAD

PORTAGE RESERVE MITIGATION BANK PROSPECTUS

USGS HYDROLOGIC UNIT CODE WATERSHEDS

FIGURE 6

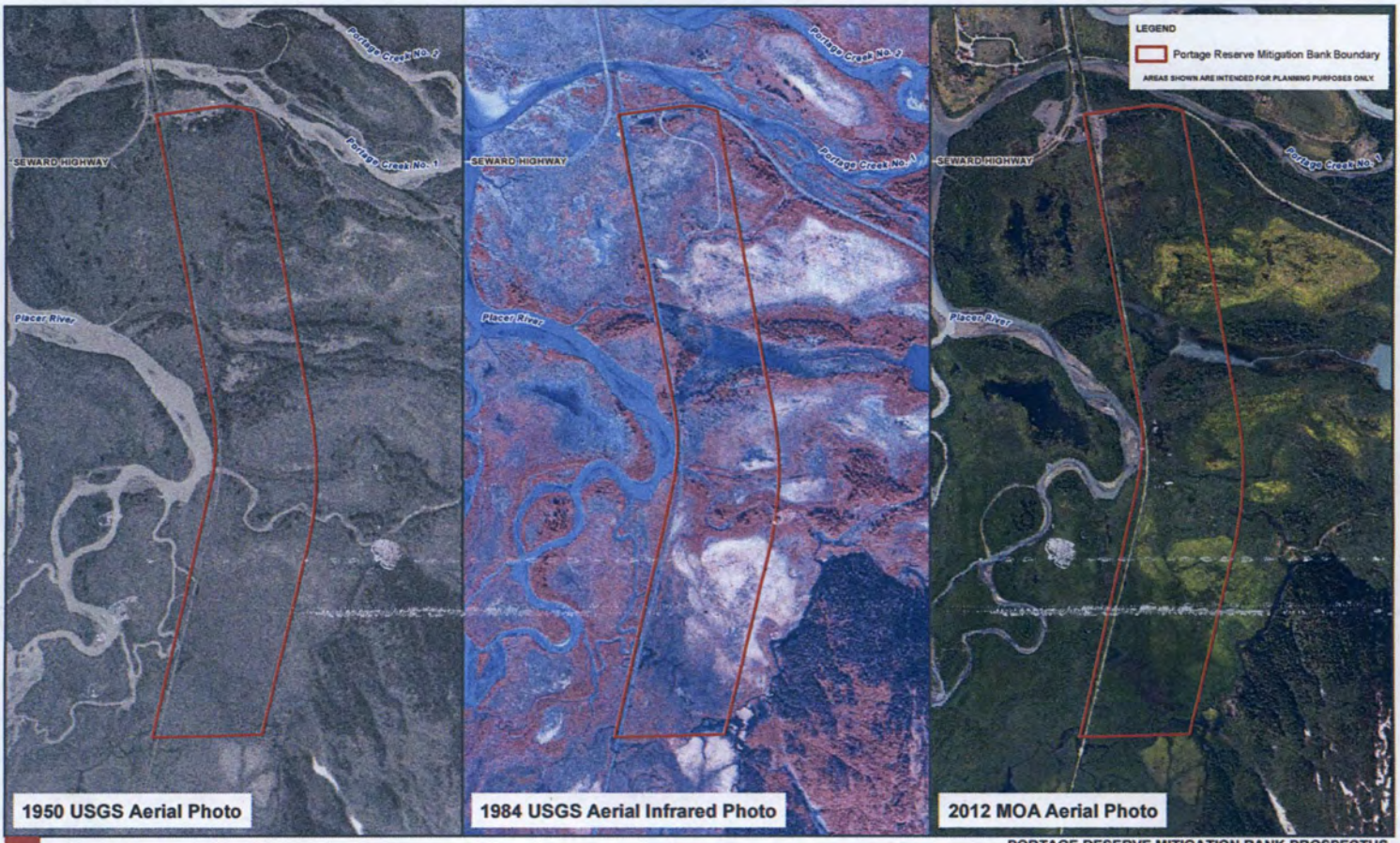


ALASKA RAILROAD

PORTAGE RESERVE MITIGATION BANK PROSPECTUS

ADJACENT LAND STATUS

FIGURE 7



PORTAGE RESERVE MITIGATION BANK PROSPECTUS

HISTORICAL AND RECENT AERIAL IMAGERY

FIGURE 8

ALASKA RAILROAD CORPORATION