

ALASKA ENERGY AUTHORITY

# DIXON DIVERSION

Bryan Carey, P.E.  
Director of Owned Assets

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Joint Agency and Public Meeting  
Wildlife Study Plans  
April 1, 2024



# Meeting Goals

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- Purpose of Study Program
- Address Consultation Needs to Finalize Study Plans
  - Extent of study area for Vegetation and Wildlife Habitat Mapping Study
  - Identify wildlife species to include in the Wildlife Habitat Evaluation Study



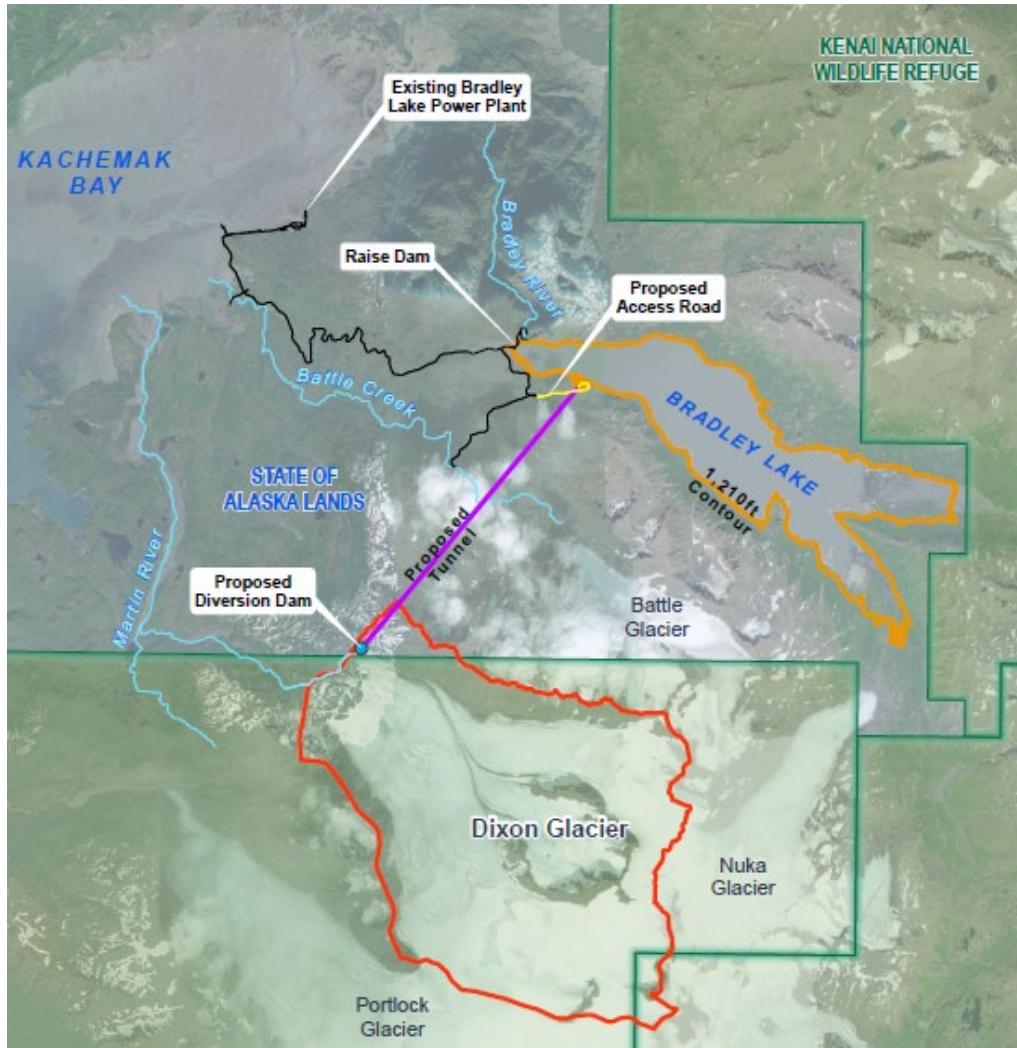
# Study Program Purpose

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- **Describe existing conditions** for resources potentially impacted by the project
- **Collect data necessary to inform impact assessment & develop PME**s
- Studies and reports do not include impact assessment
- Comprehensive description of existing conditions and **impact assessment will be in Exhibit E of DAA and FAA.**



# Project Nexus - Construction



## Project Elements:

- Raise Bradley Dam
- New Dixon Diversion Dam
- Diversion Tunnel to Bradley Lake
- New Access Road from Battle Creek road to tunnel outlet
- Underground Power Line

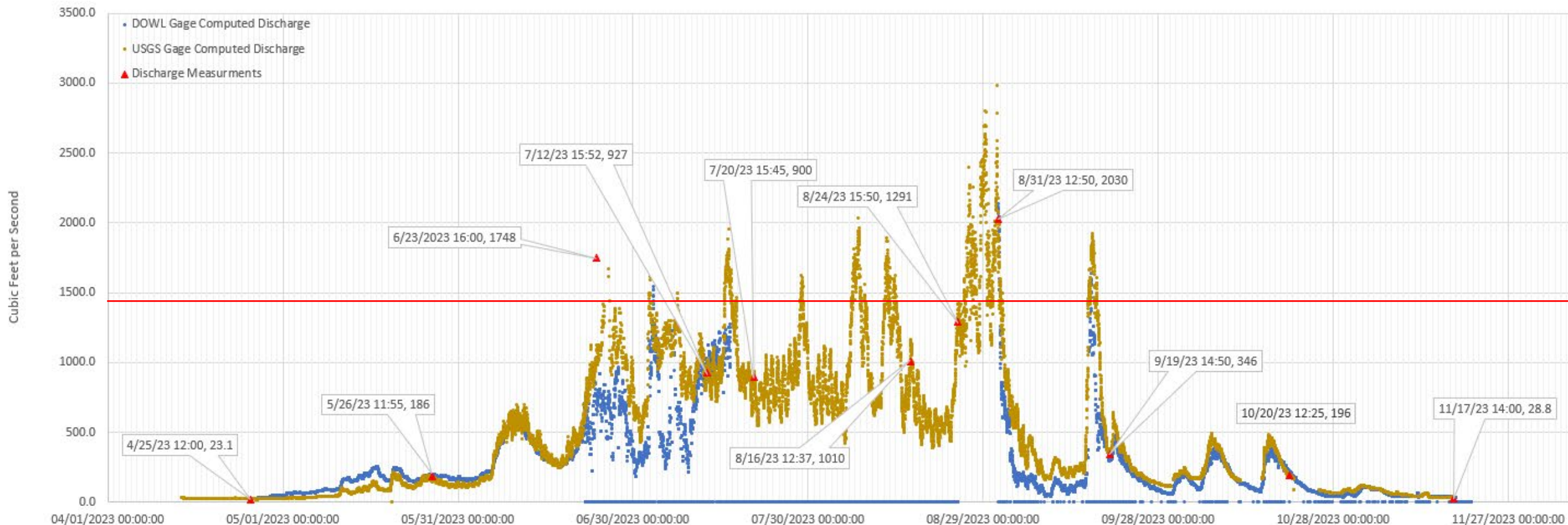
## Construction Activities:

- Road traffic, helicopter flights, equipment noise, blasting, boring, workers housed on site

# Project Nexus - Operations

- Divert up to 1,400 cfs Dixon Glacier meltwater to Bradley Lake May-October
- Raise Bradley Lake maximum pool elevation by up to 28' (1,208' elevation)

Martin River 2023 Discharge Record with DOWL and USGS Stage Data



# Vegetation and Wildlife Habitat Change Study

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- ABR, Inc.—Environmental Research & Services
- Wendy Davis
- Terry Schick



# Goals & Objectives

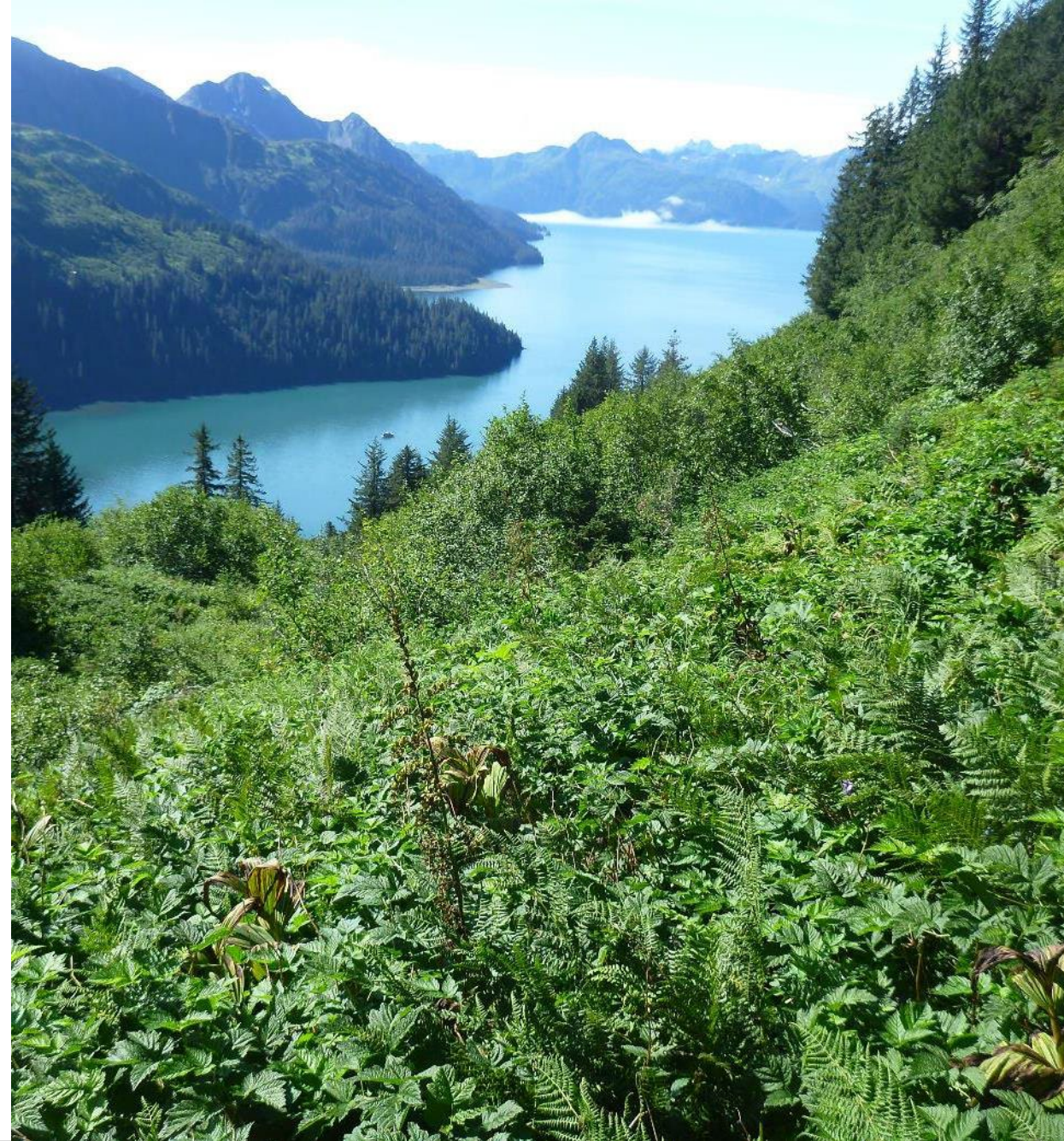
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## Goal:

- In conjunction with the Wildlife Habitat Evaluation and Martin River Geomorphology Study, **quantify potential Project impacts and future change in extent of important wildlife habitats.**

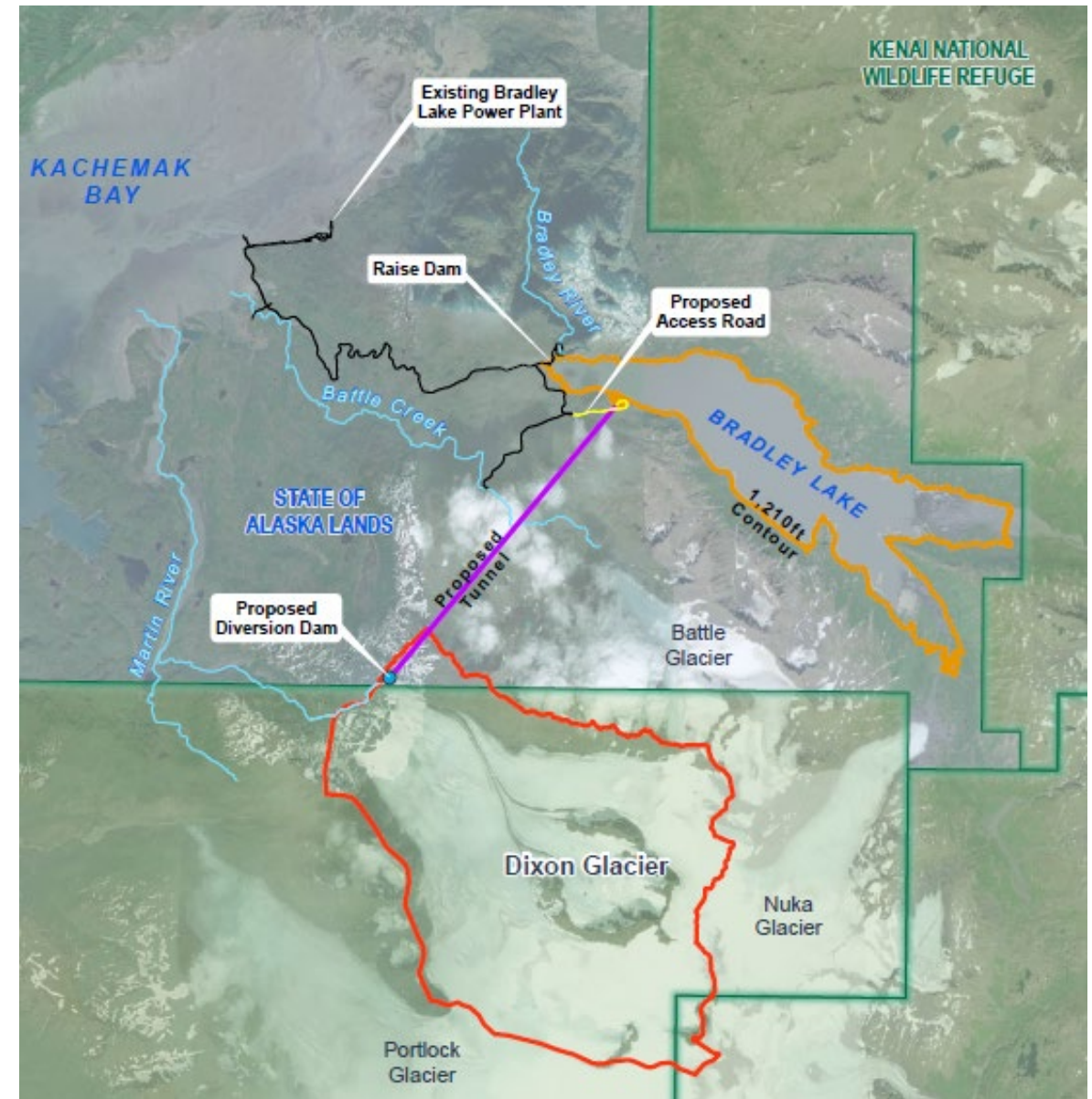
## Objectives:

- Identify, delineate, and map existing vegetation and wildlife habitat types in the study area.
- Prepare a vegetation and wildlife habitat map depicting expected, future, post-construction conditions.

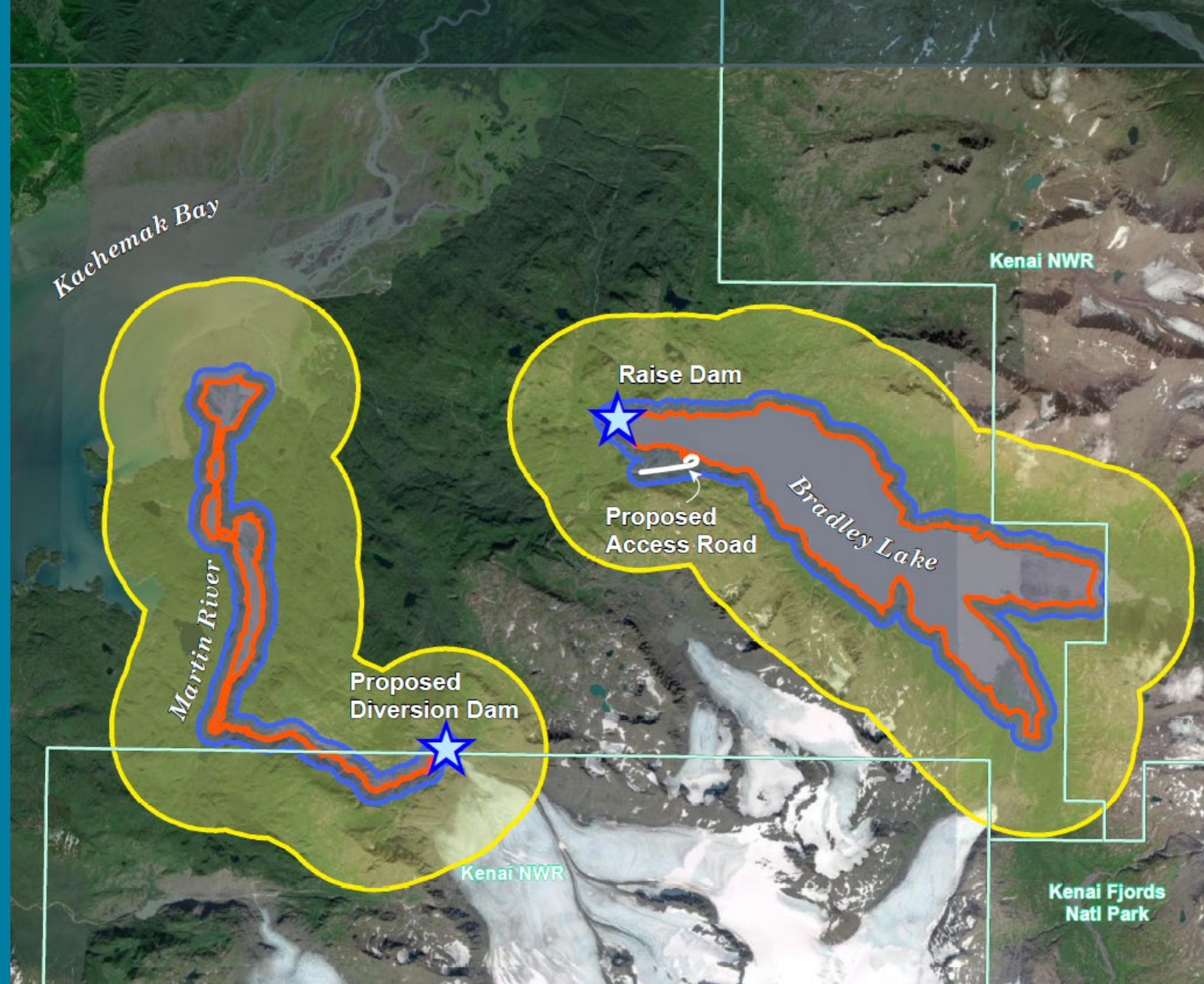
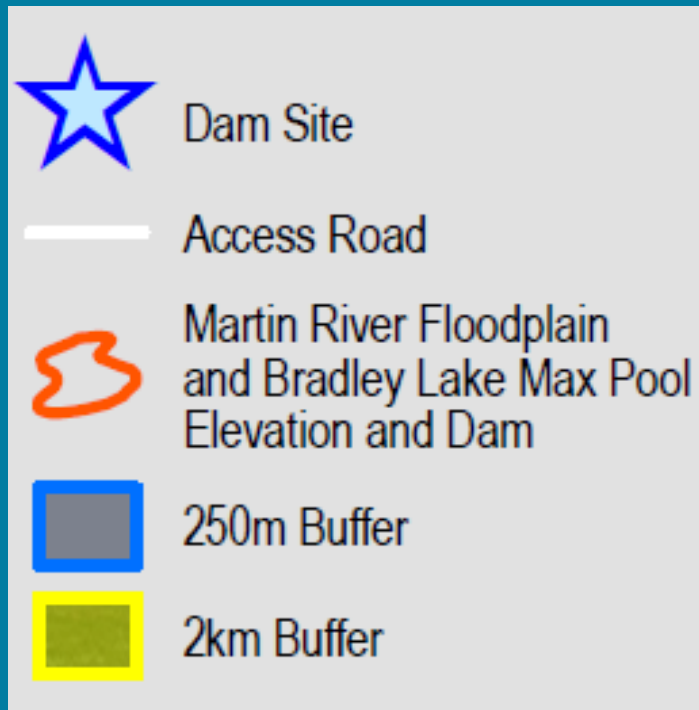


# Methods

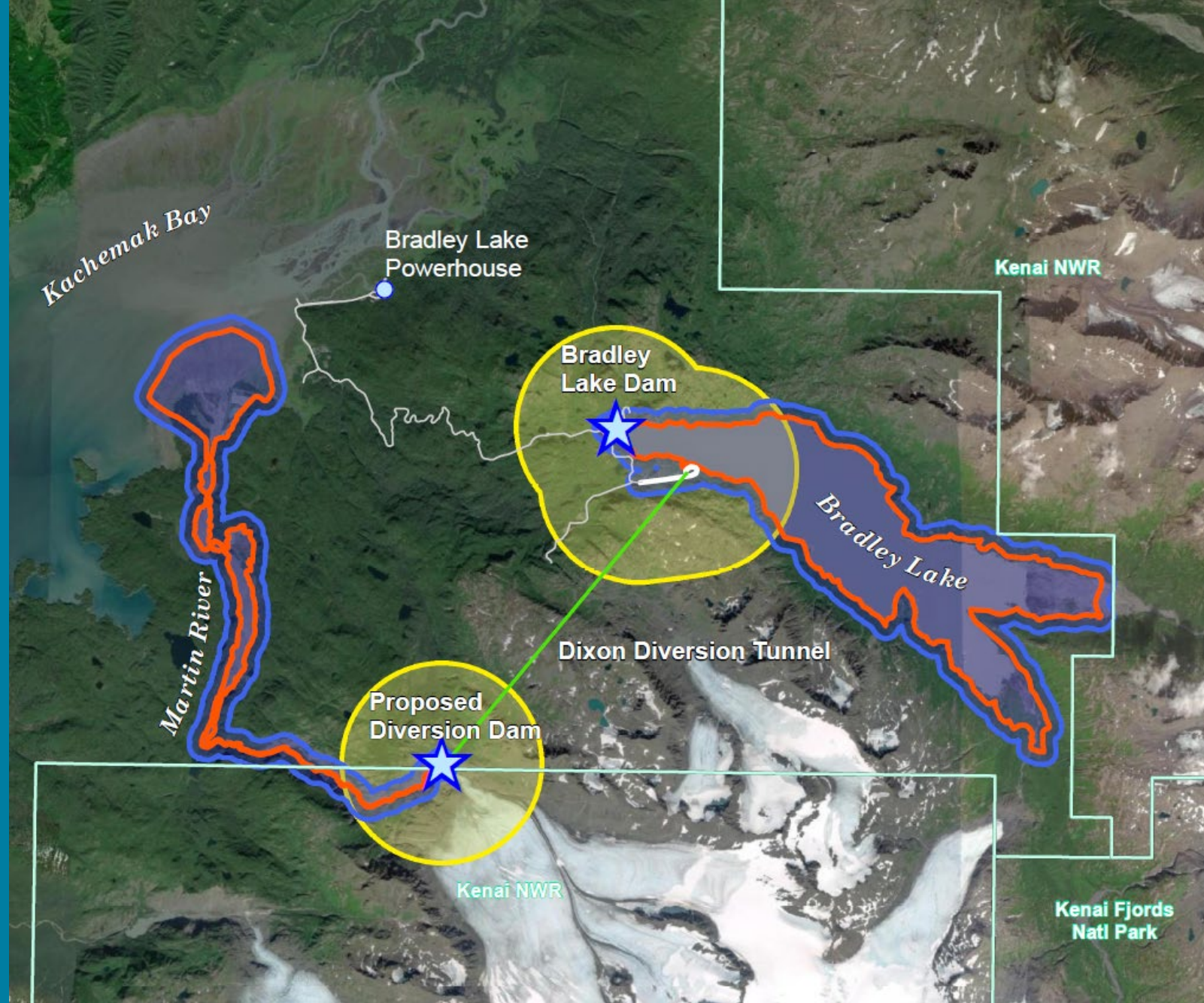
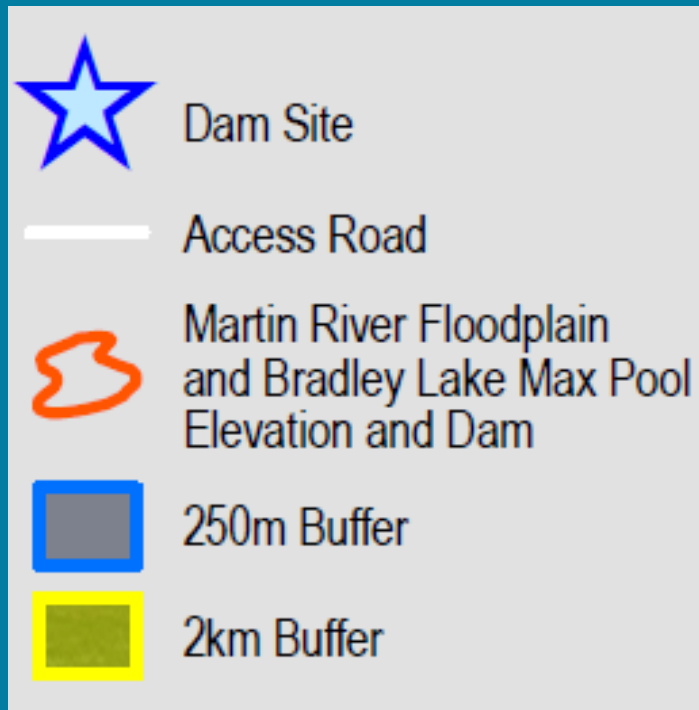
- **Map area that includes likely direct and indirect impacts to vegetation;** cumulative impacts assessed in larger area.
- Mapping will be done using a multivariate method, deriving habitats from several mapped landscape attributes (vegetation, physiographic position, surface form, and disturbance type).



# Mapping Area Discussion



# Mapping Area Discussion



# Wildlife Habitat Evaluation

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- ABR, Inc.—Environmental Research & Services
- Rebecca McGuire
- Terry Schick



# Goals & Objectives

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## Goal:

- Provide specific habitat evaluation information for birds, mammals, and amphibians to facilitate assessment of potential impacts to wildlife habitats.
- **Provide data for a quantitative assessment of habitat impacts for species which are not specifically studied in the field.**



# Goals & Objectives

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## Objectives:

- Determine local habitat associations for selected wildlife species of concern.
- Categorically rank habitat values for each species and habitat type.
- Informs predictions of species responses to habitat changes from proposed project modifications (conducted in license amendment application).



# Methods

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- **Based on habitat maps prepared in the Vegetation and Wildlife Habitat Change Study.**
- Develop list of wildlife species with state and federal agency input.
- Utilize project specific habitat-use data, when available, and habitat association information from scientific literature.



# Methods

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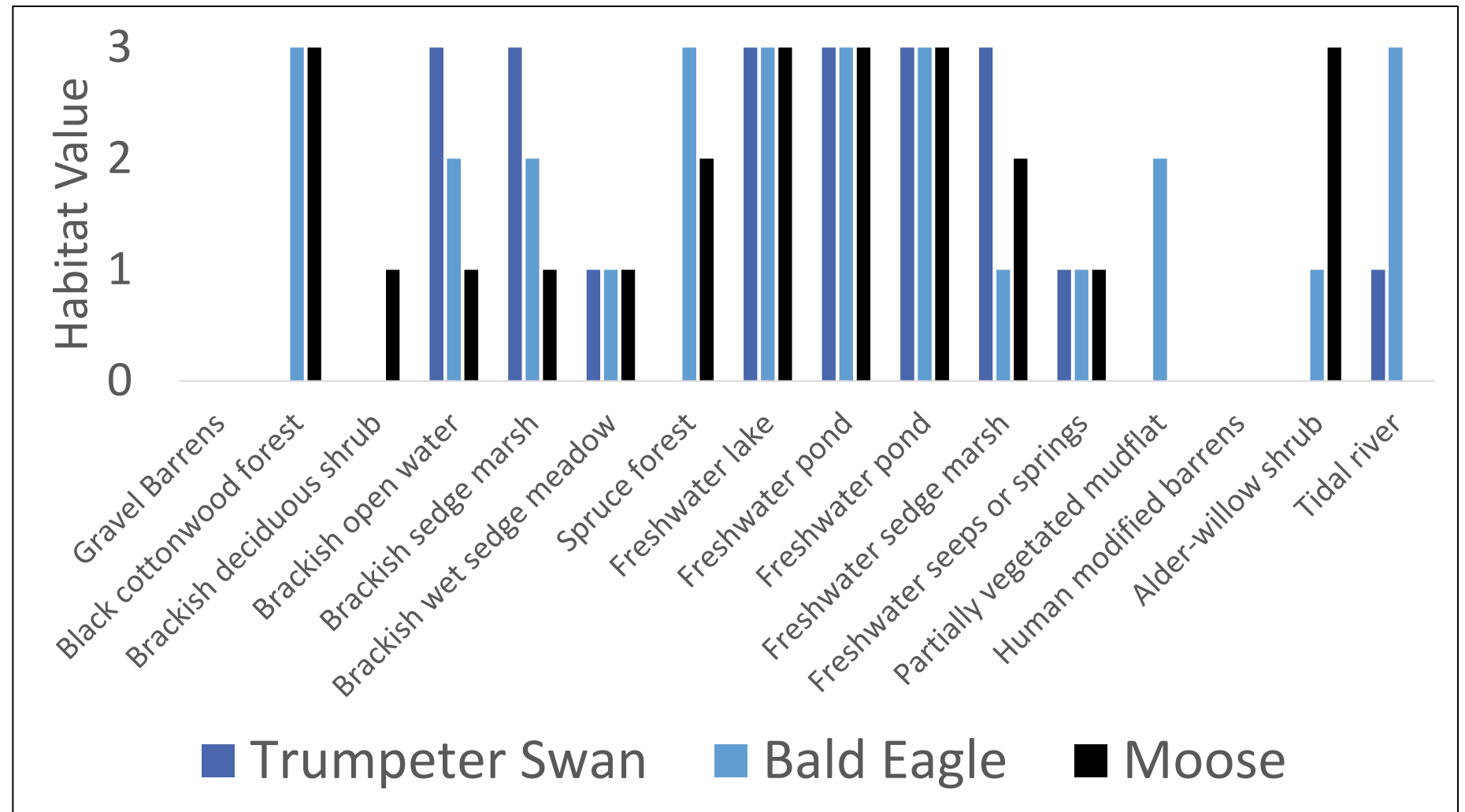
- Ranking procedure based on methods developed for forested areas in western U.S.; recently used to assess change in habitat value for wildlife in Alaska.
- Categorical habitat values (high, moderate, low, negligible) determined for each mapped habitat type and species of concern.



# Methods

Example  
species-by-  
habitat matrix

Habitat values:  
3 = high  
2 = moderate  
1 = low  
0 = negligible



# Wildlife Species Discussion

- Proposed 21 birds and 10 mammal species
- ADFG added black bear, brown bear, wolverine, hoary marmot and Keen's myotis; removed Alaska marmot
- USFWS added 27 birds and 2 mammals

Draft List of Wildlife Species	
Harlequin Duck	Savannah Sparrow
Black Scoter	Song Sparrow
Common Merganser	Orange-crowned Warbler
Red-breasted Merganser	Yellow Warbler
Willow Ptarmigan	Wilson's Warbler
Rock Ptarmigan	
Semipalmated Plover	Alaska marmot
Spotted Sandpiper	American beaver
Kittlitz's Murrelet	Singing vole
Golden Eagle	Snowshoe hare
Northern Harrier	Dusky shrew
Bald Eagle	Western water shrew
Red-tailed Hawk	Little brown bat
Belted Kingfisher	River otter
Alder Flycatcher	Moose
Fox Sparrow	Mountain goat

# QUESTIONS?

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# Thank you for your participation!