February 6, 2018

MEMORANDUM

TO: **Council Members**

FROM: **Jeff Allen**

SUBJECT: **Update on Albeni Falls Settlement Agreement**

BACKGROUND:

Presenters: Bill Booth, Northwest Power and Conservation Council
Ed Schriever, Deputy Director, Idaho Department of Fish and Game
Chip Corsi, Regional Supervisor, Idaho Department of Fish and Game
Dorie Welch, BPA

Summary: Since the passage of the Northwest Power Act of 1980, the Idaho Department of Fish and Game (IDFG) has participated in the implementation of the Act through the Northwest Power and Conservation Council's Fish and Wildlife Program. The Albeni Falls Dam, which regulates the levels of Lake Pend Oreille and flows downstream, is one of the federal hydropower projects that have impacted Idaho's fish and wildlife resources. Since signing an agreement with BPA in 1997, IDFG has been implementing a wildlife mitigation program for the construction and inundation of Albeni Falls Dam as have the Kalispell, Kootenai, and Coeur d'Alene Tribes.

To address BPA's and Idaho's interests concerning construction and inundation mitigation, perpetual O&M funding for mitigation properties already acquired, and the continuing need to mitigate for operational losses resulting from the raising and lowering of Lake Pend Oreille lake levels, Idaho and BPA have reached a stewardship and mitigation agreement. The agreement is currently in the midst of a 30 day public comment period which will close February 23rd.

This agreement will allow for the completion of the Clark Fork Delta Project. To date this collaborative effort has restored 624 acres. Over ten years this agreement will provide restoration and stewardship funding for the completed delta project of 2002 acres. The settlement will also fund an annuity to meet operation and maintenance needs into the future. Finally, the agreement covers operational impacts for at least the next 30 years.

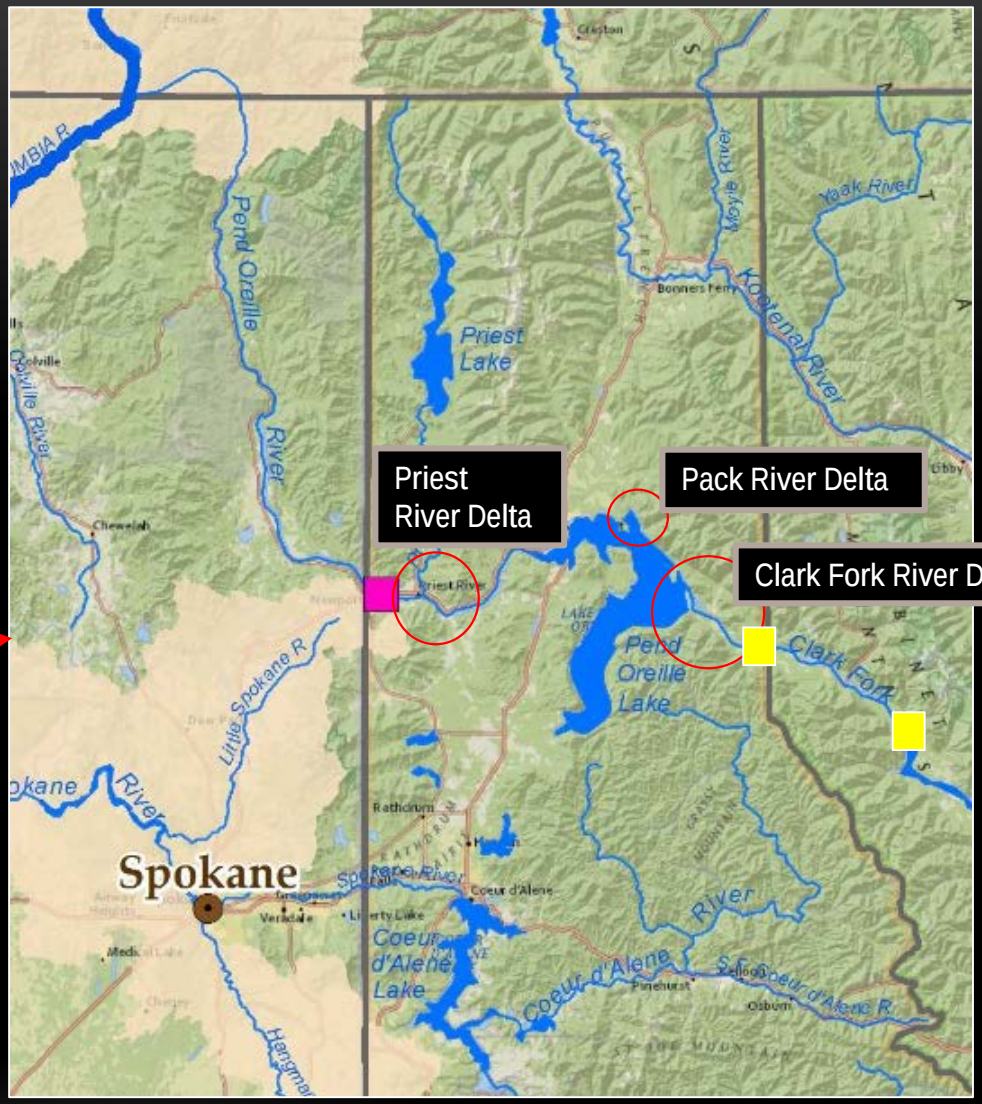
Albeni Falls Wildlife Mitigation Agreement

Clark Fork River Delta during the winter drawdown of Lake Pend Oreille

ALBENI FALLS WILDLIFE MITIGATION AREAS OF AGREEMENT

- Construction and Inundation Impacts
  - Acres mitigated
  - Stewardship
- Operational Impacts
  - Mitigation Strategy
    - Objectives
    - Implementation schedule
  - Stewardship
  - Term
- Administration of Agreement

The Columbia River Basin
Lake Pend Oreille



Albeni Falls Dam (ACOE)

Clark Fork River Dams (Avista Corporation)

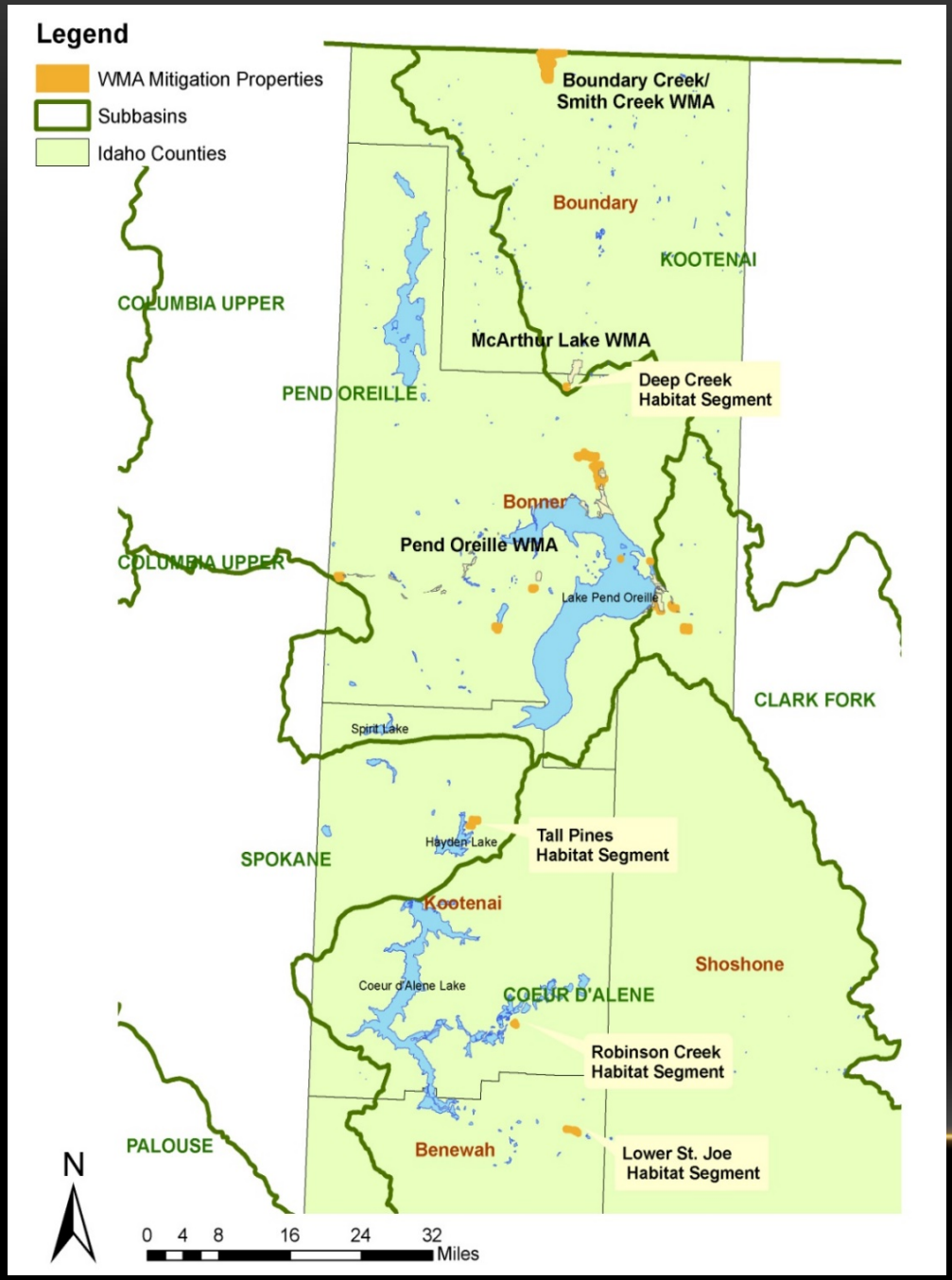
HYDROELECTRIC PROJECTS THAT IMPACT LAKE PEND OREILLE, PEND OREILLE RIVER AND THE CLARK FORK RIVER, IN IDAHO

Albeni Falls Dam (ACOE)

Construction started in 1951

Cabinet Gorge Dam (Avista)

CONSTRUCTION AND INUNDATION IMPACTS



Under the 1997 MOA:

Between 1997 and 2012, IDFG has mitigated Albeni Falls C&I wildlife losses by protecting property through land acquisition projects.

	Acres	HU
Kootenai Boundary Creek-Smith Creek WMA Deep Creek Habitat Segment	2,089	809.8
Pend Oreille/Clark Fork Pend Oreille WMA	1,825	4,033.8
Spokane Tall Pines Habitat Segment	203	354.2
Coeur d'Alene Robinson Creek Habitat Segment Lower St. Joe Habitat Segment	108	226.7
Totals	**4,225**	**5,424.6**

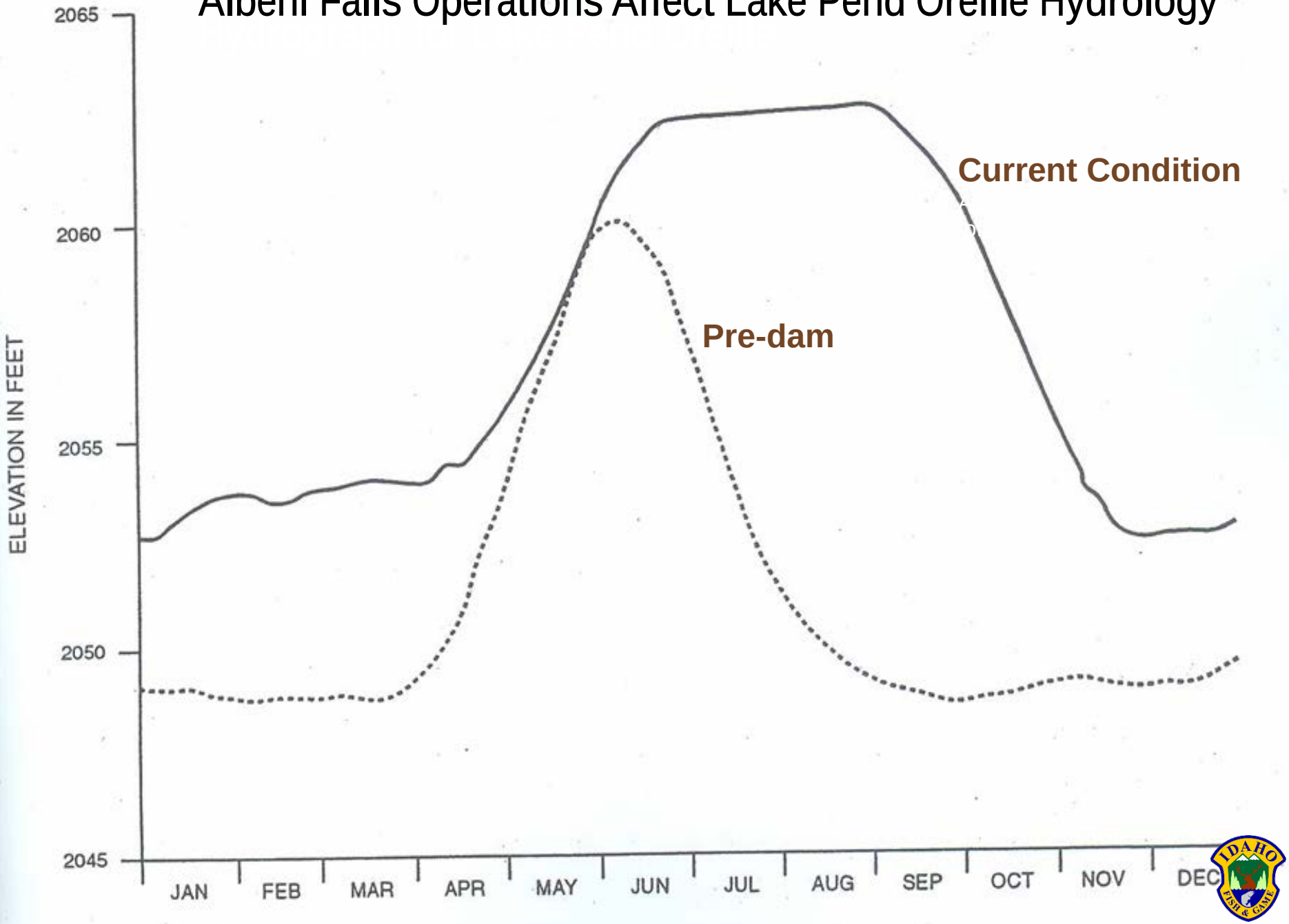
TERMS OF AGREEMENT FOR CONSTRUCTION AND INUNDATION

- 4224 acres protected completes C&I for Idaho
- Stewardship in Perpetuity for C&I acres*
  - Establish a Stewardship Investment Account with Idaho Endowment Fund Investment Board
  - Assume 3.5% return/year after inflation and fees
  - Deposit $6,759,712 into Stewardship upon signing
  - IDFG to manage Stewardship to protect principle
  - Annual return provides O&M in perpetuity for 4224 acres

* Same strategy as used in Southern Idaho Wildlife Mitigation Agreement

OPERATIONAL IMPACTS

Albeni Falls Operations Affect Lake Pend Oreille Hydrology

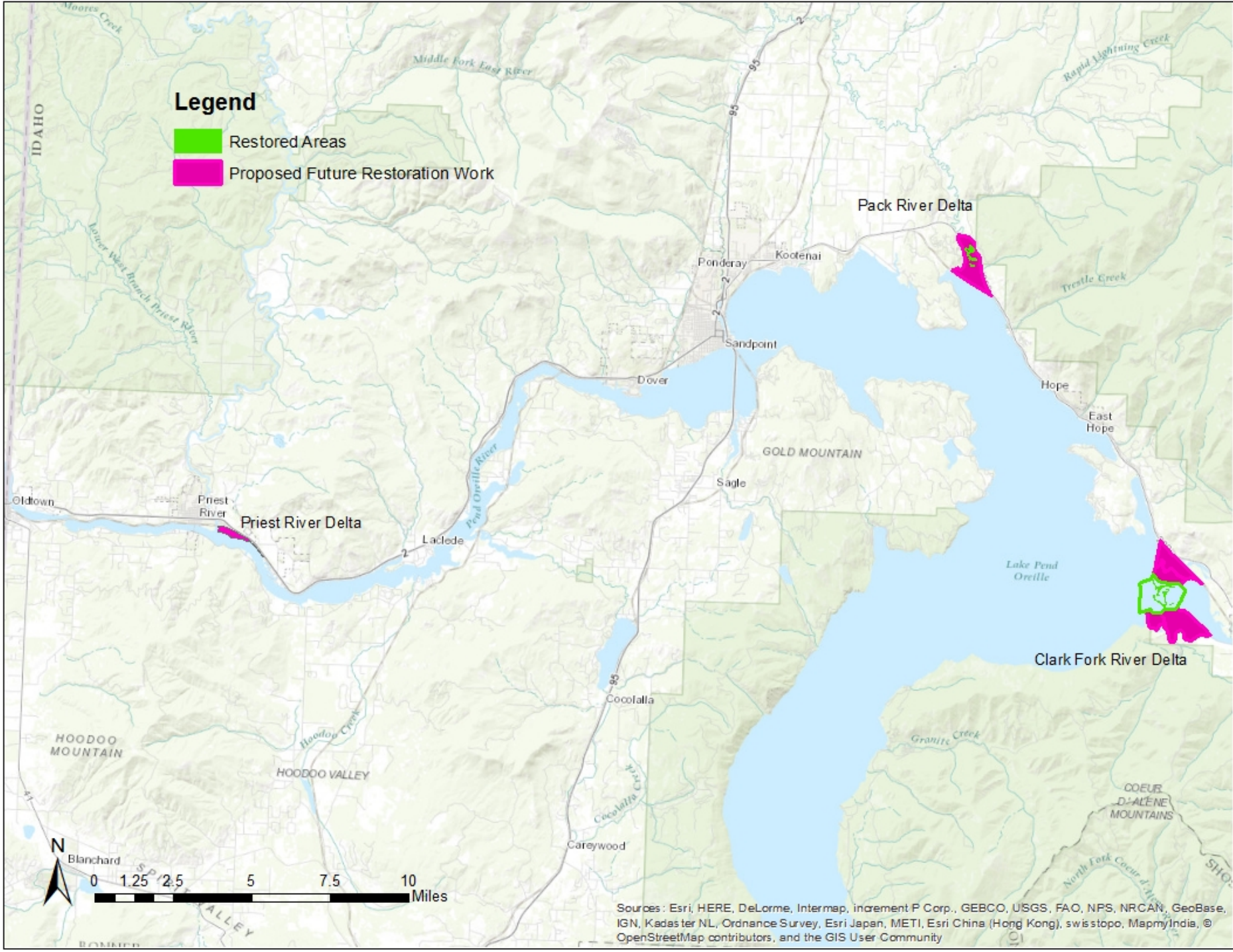


OPERATIONAL LOSS ESTIMATES

- No loss assessment conducted
- Approximated impacts by:
  - Evaluating aerial photos in combination with LIDAR and bank pins
  - Use Avista FERC license report (Parametrix) for:
    - Proportional losses due to Avista and COE projects
- Concluded a minimum of 15 acres/year is being lost due to Albeni Falls operations.

TERMS OF AGREEMENT FOR OPERATIONAL LOSSES

- Credit 624 acres restored in the Clark Fork River Delta under 2012-17 agreement between BPA and Idaho
- Provide $12,991,878 to restore at least 1,378 acres
  - Build on work in the Clark Fork Delta
- Provide 10 years to implement and fund the restoration work
- Provide $1,144,000 for a stewardship account for acres restored
  - Pay in proportion to the acres restored
- 30 year term for operational agreement
  - Mitigates for operation of Albeni from beginning to 2048
  - Term lines up closely with FERC license terms for Avista projects
  - Reopener after year 30 to evaluate existing circumstances and needs


Legend
Restored Areas
Proposed Future Restoration Work
Pack River Delta
Priest River Delta
Clark Fork River Delta
IDAHO
Middle Fork East River
Moores Creek
Lower West Branch Priest River
Rapid Lightning Creek
Trestle Creek
Ponderay
Kootenai
Sandpoint
Dover
Hope
East Hope
GOLD MOUNTAIN
Sagle
Oldtown
Priest River
Laclede
Pend Oreille River
Lake Pend Oreille
Cocolalla
Granite Creek
HOODOO MOUNTAIN
HOODOO VALLEY
Hoodoo Creek
Cocolalla Creek
Careywood
Blanchard
COEUR D'ALENE MOUNTAINS
North Fork Coeur d'Alene River
N
0 1.25 2.5 5 7.5 10
Miles
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

2008 - Pack River Delta Restoration Project (a pilot project)

North American Wetlands Conservation Act (NAWCA) grant

Some cost-share BPA funding but no mitigation credits awarded

Purpose: to increase the height and stability of a portion of the summertime submerged islands to improve their functionality, and availability to birds, year-round.

Restoration Techniques Tested:

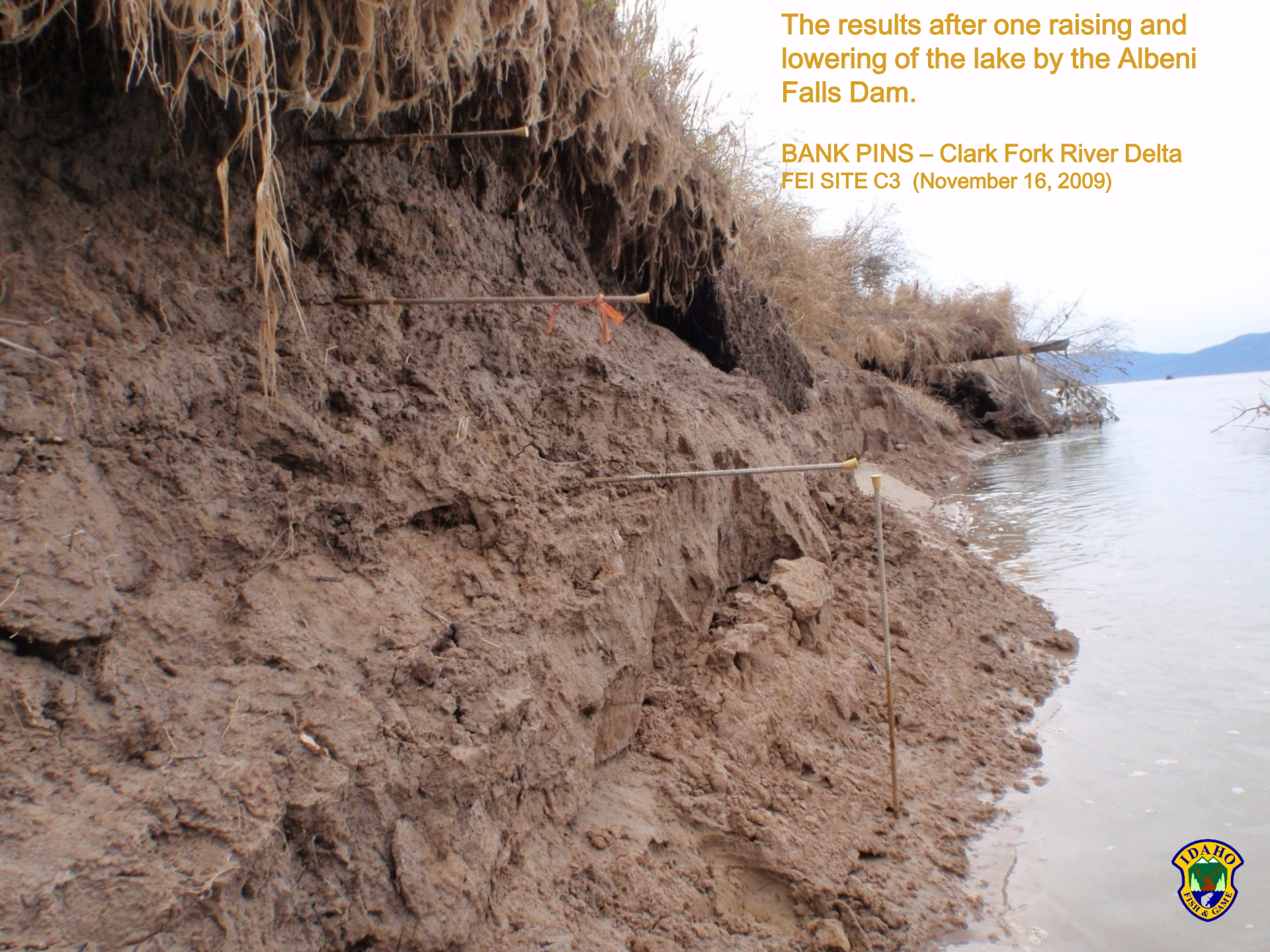
- Rootwad Long Vanes
- Willow Fascines
- Rootwad Roughness Structures
- Engineered Log Jams
- Wave Deflector Breakwaters

Clark Fork River Delta

1946

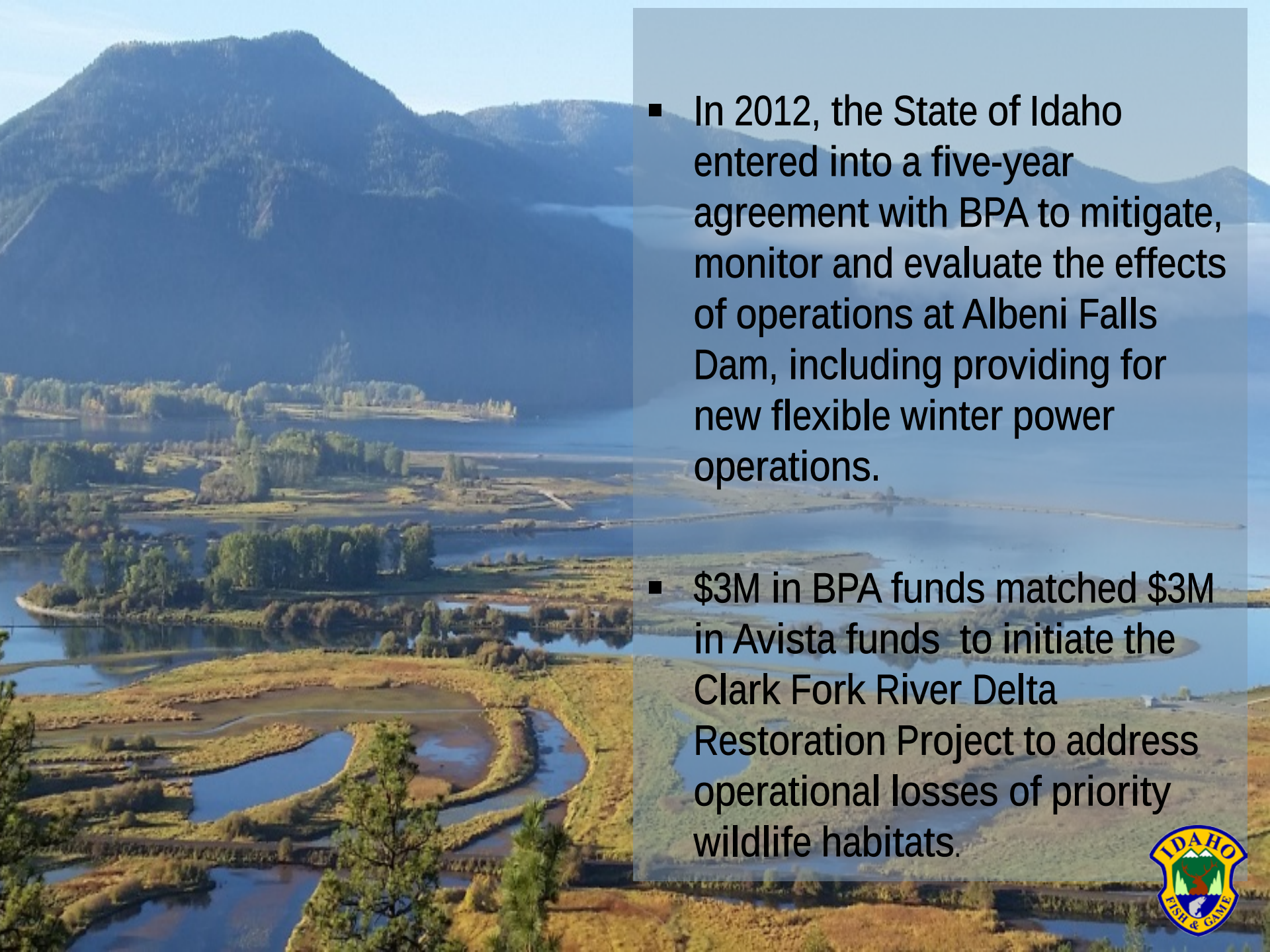
2006

About 5,622 acres in size



The results after one raising and lowering of the lake by the Albeni Falls Dam.

BANK PINS – Clark Fork River Delta
FEI SITE C3 (November 16, 2009)



- In 2012, the State of Idaho entered into a five-year agreement with BPA to mitigate, monitor and evaluate the effects of operations at Albeni Falls Dam, including providing for new flexible winter power operations.

- $3M in BPA funds matched $3M in Avista funds to initiate the Clark Fork River Delta Restoration Project to address operational losses of priority wildlife habitats.

Clark Fork River Delta Restoration Project

2015

- A portion of Phase I construction completed (Area 3), protecting over 600 acres from further erosion due to the operation of the Albeni Falls Dam.
- 51,000 willows and 330 rootwad trees embedded in over 20,000 linear feet of island shoreline rock protection.
- 40 acres raised above the summer lake elevation and planted with over 26,000 woody shrubs/trees and 74,000 emergent species.

2016

- Minor touch-up work and more plantings to further protect areas and stabilize shorelines

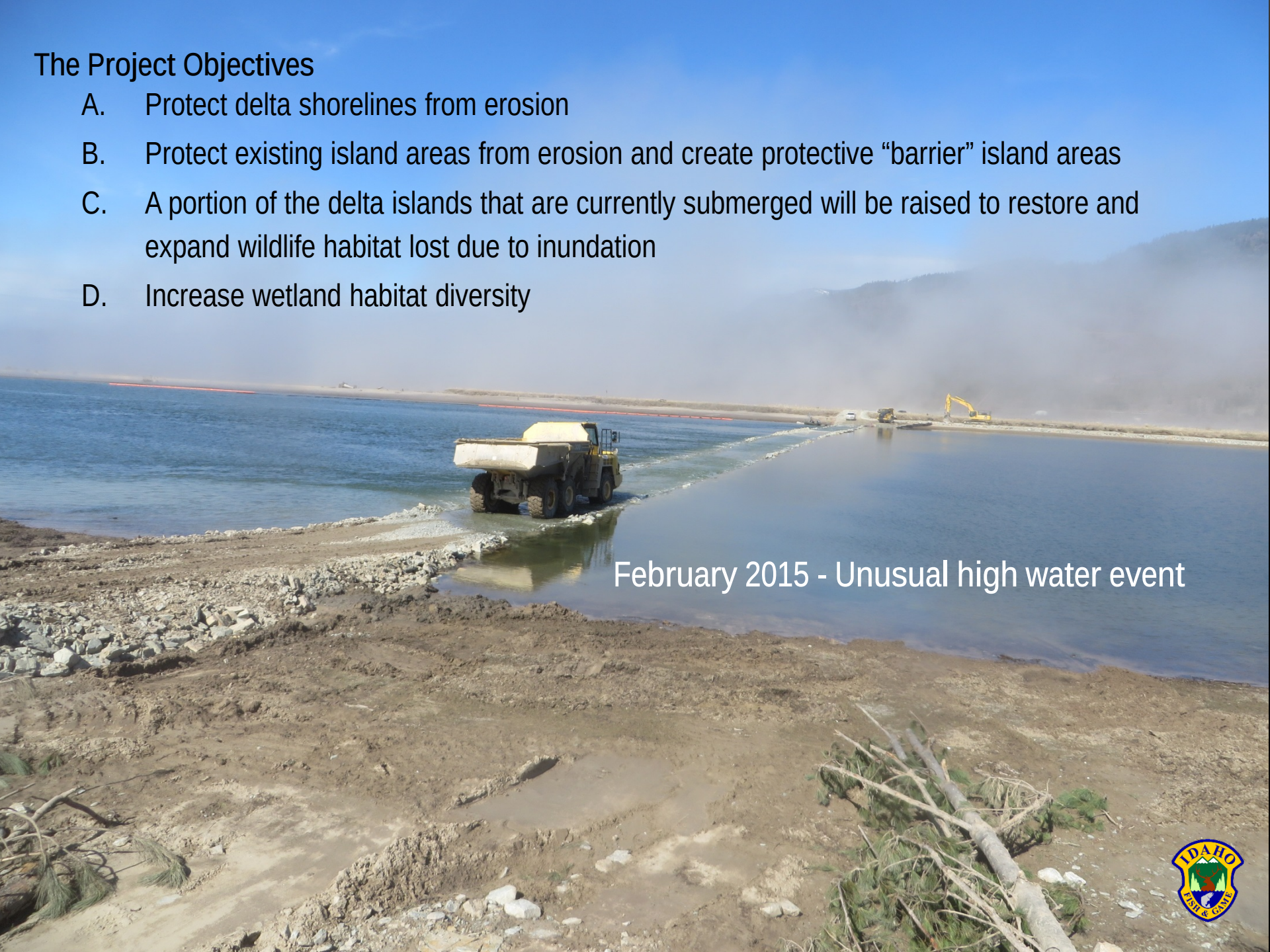
The Project Objectives

A. Protect delta shorelines from erosion

B. Protect existing island areas from erosion and create protective “barrier” island areas

C. A portion of the delta islands that are currently submerged will be raised to restore and expand wildlife habitat lost due to inundation

D. Increase wetland habitat diversity



2014 - July

2015 - July

Invasive reed canarygrass

- Low plant diversity (some areas zero diversity)
- Impaired wetland functions
- Reduced waterfowl nesting habitat

Pre-construction (2014)

Post-construction (2016)

One focus of the restoration is reduction and replacement of reed canarygrass.

Area	Species Richness	Species Diversity	Proportion of Native Plants	Cover of Introduced Plants
Baseline Habitats (RCG Dominated)	17.4	0.8910	21.1%	90.7%
New Island Areas 2015	44.1	2.2334	87.8%	4.6%
New Island Areas 2016	49.5	2.3465	91.3%	5.8%
Woodland (Reference Site)	54.6	2.6212	93.4%	17.9%
Marshland(Reference Site)	25.8	2.1497	79.9%	29.3%


May 25, 2016
Area 3 - Northwest Peninsula
Year-1 after construction
IDAHO
FISH & GAME

Under the Agreement, the next steps are:

Implement and Complete Phase II

– Install bank and slope protection for White and Derr Islands; install low water spillways; start invasive reed canarygrass control

Complete Remainder of Phase I (Area 7 and Area 11)

– Construct a breakwater, raise and plant ground, install bank and slope protection for Areas 7 and 11

Clark Fork River Delta (preconstruction; lake at 2,055 feet elevation)

Project Partners and community members involved in the restoration.

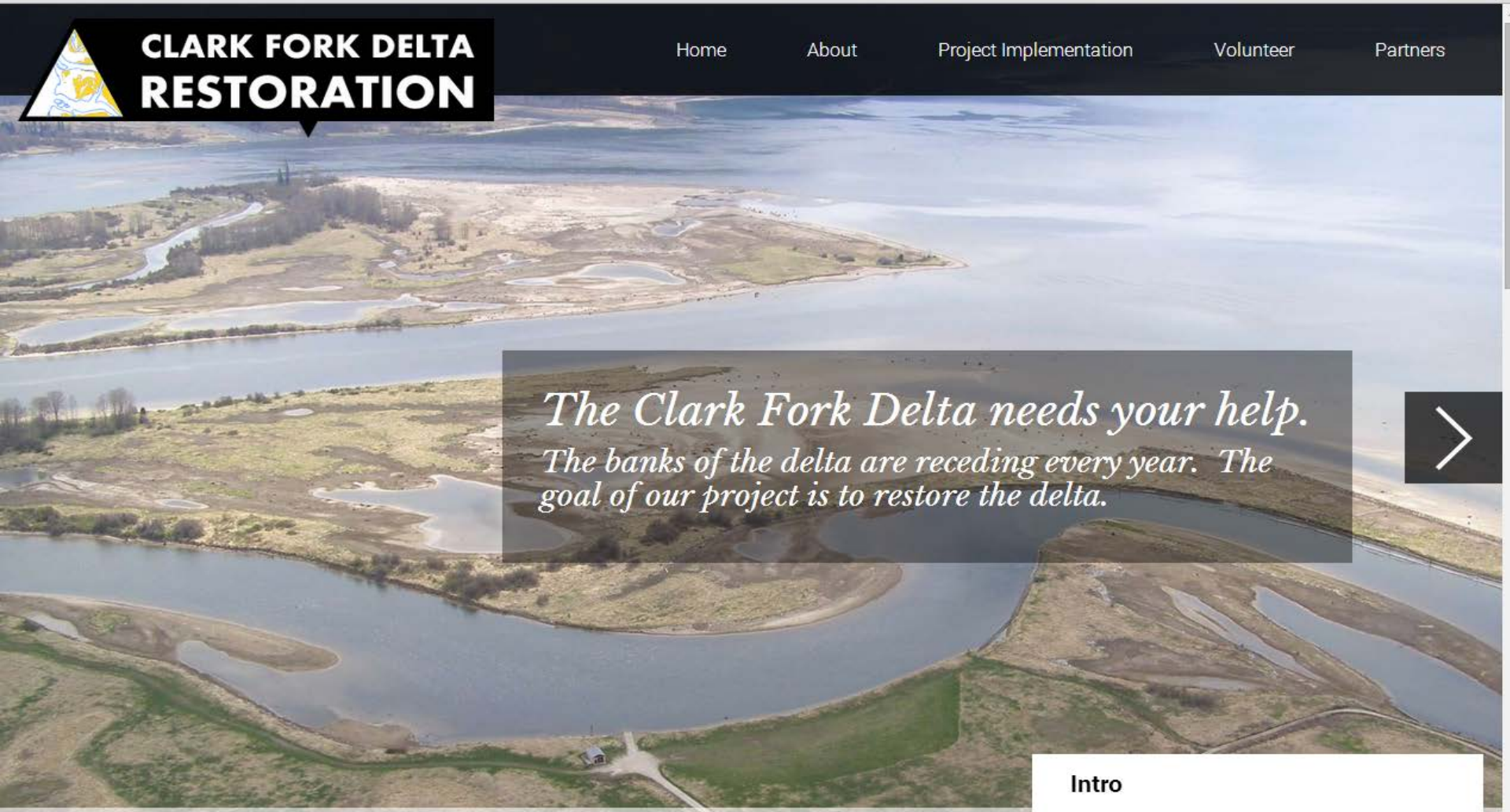
Avista Corporation
Bonneville Power Administration
Lake Pend Oreille School District
Ducks Unlimited
Idaho Conservation League
Idaho Master Naturalist Program
Kalispel Tribe of Indians
Kinnikinnick Native Plant Society
Northwest Power and Conservation Council
U.S. Army Corps of Engineers
U.S. Department of Agriculture, Natural Resources Conservation Service
U.S. Bureau of Land Management
U.S. Fish and Wildlife Service

ADMINISTRATION OF THE AGREEMENT

- 10 years

- $3,000,000
  - Salaries
  - Monitoring
  - Compliance

CLARK FORK DELTA RESTORATION



The Clark Fork Delta needs your help.

The banks of the delta are receding every year. The goal of our project is to restore the delta.

Timeline of Delta History

Intro

The Clark Fork River delta is extremely important to the local community and has cultural significance for several tribes.

LEARN MORE ↓