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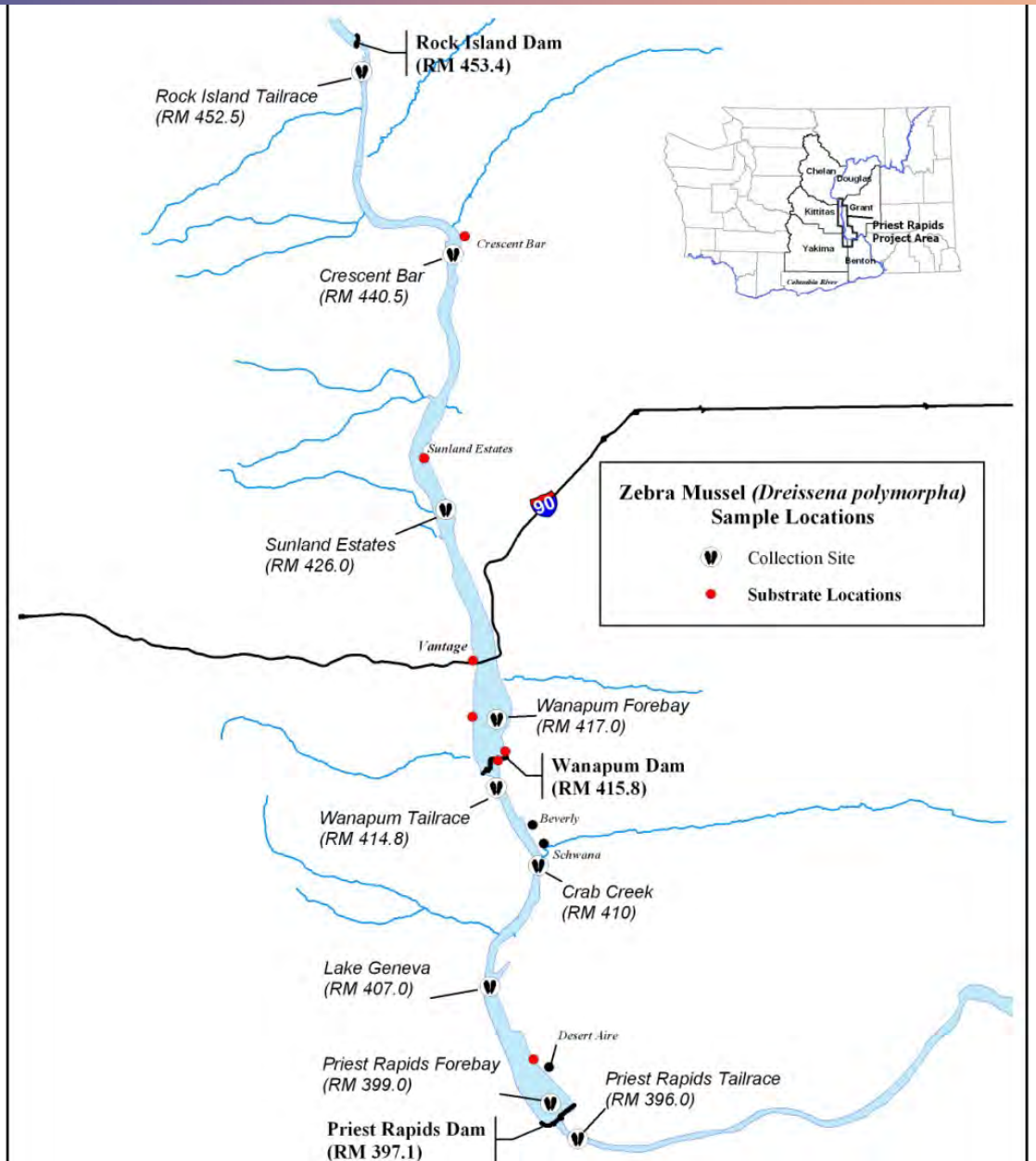
AquaTechnex




Aquatic Invasive Species Control and Prevention Plan

Priest Rapids Hydroelectric Project
Mid-Columbia River, WA

Location


Rock Island Dam
(RM 453.4)
Rock Island Tailrace
(RM 452.5)
Crescent Bar
Crescent Bar
(RM 440.5)
Chelan
Douglas
Kittitas
Grant
Priest Rapids
Project Area
Yakima
Benton
Columbia River
Sunland Estates
Sunland Estates
(RM 426.0)
90
Zebra Mussel (Dreissena polymorpha)
Sample Locations
Collection Site
Substrate Locations
Vantage
Wanapum Forebay
(RM 417.0)
Wanapum Dam
(RM 415.8)
Wanapum Tailrace
(RM 414.8)
Beverly
Schwana
Crab Creek
(RM 410)
Lake Geneva
(RM 407.0)
Desert Aire
Priest Rapids Forebay
(RM 399.0)
Priest Rapids Tailrace
(RM 396.0)
Priest Rapids Dam
(RM 397.1)

Objectives

- Primary Objective
  - Address methods to monitor and manage aquatic invasive flora and fauna within the Project
    - Key components
      - Education
      - Monitoring
      - Local and Regional Coordination
      - Control
  - These components are designed to help manage, control, and ***potentially*** prevent introduction and spread of new AIS within the Project and to monitor and manage existing AIS within the Project

Education - Outreach

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Monitoring – Zebra/Quagga

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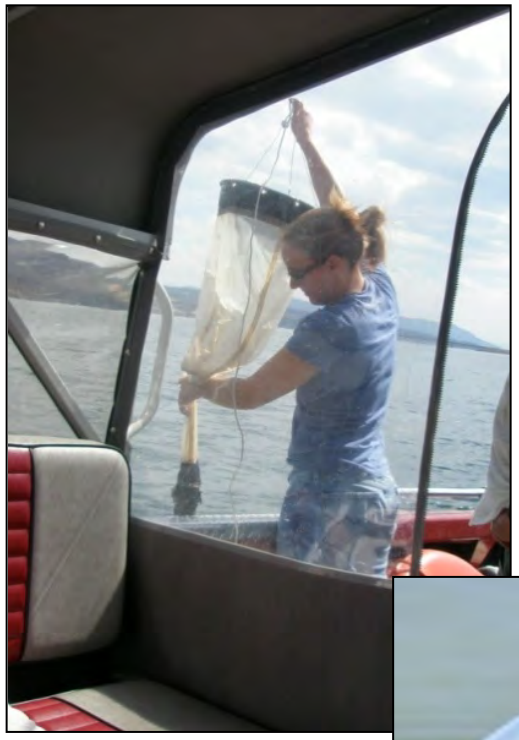

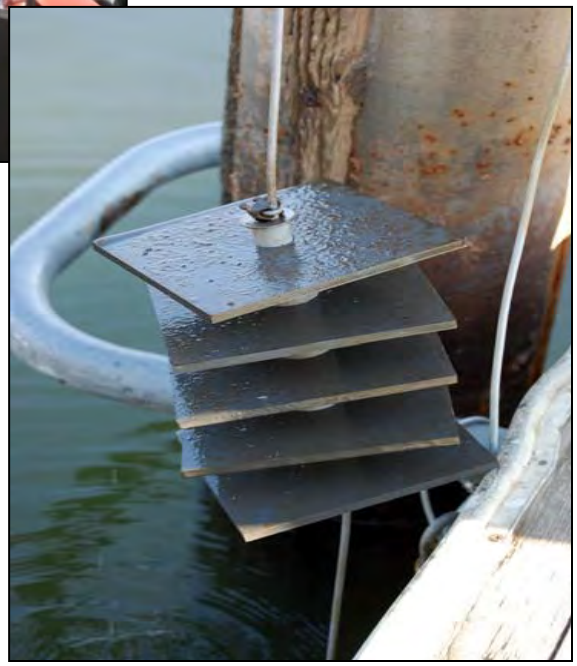

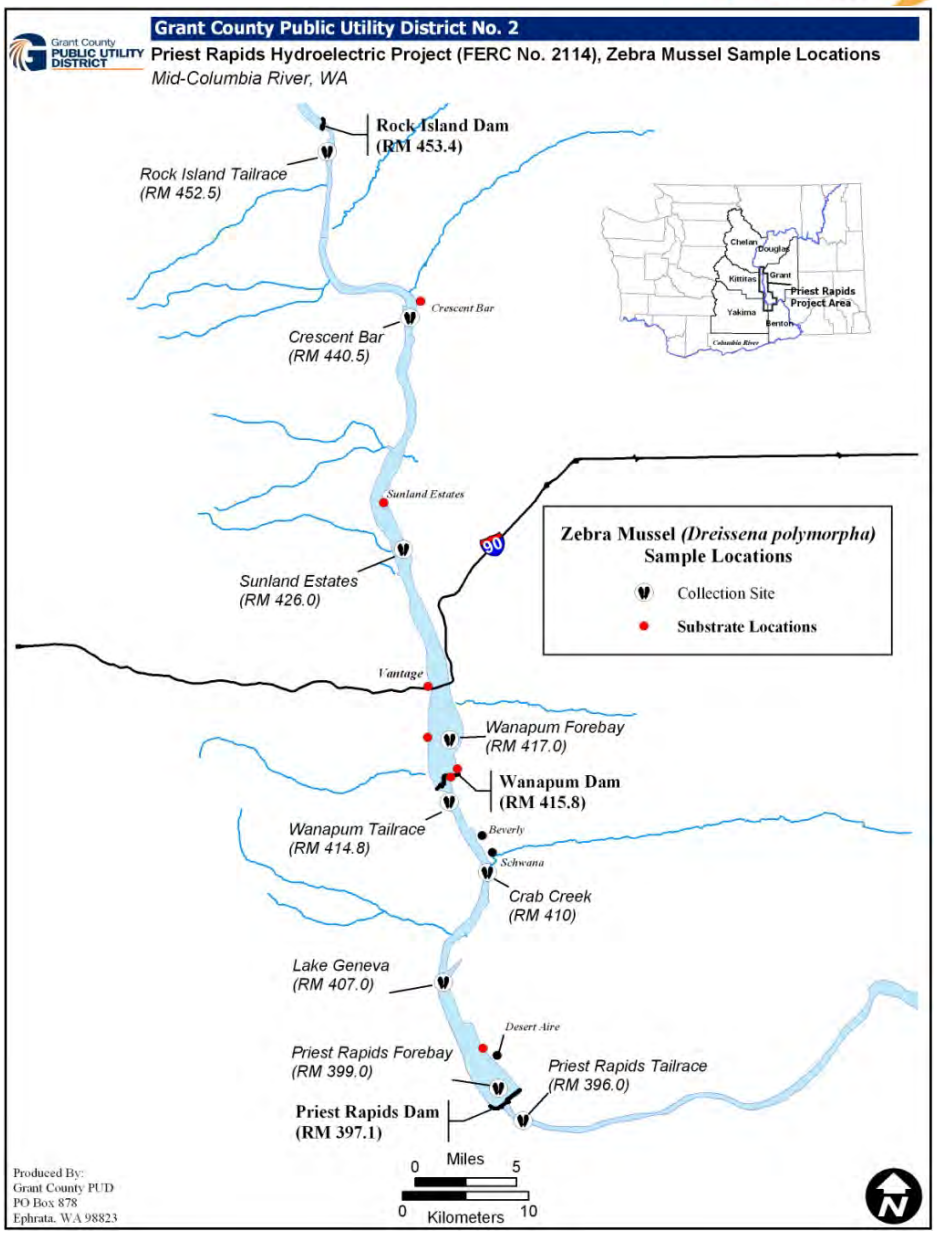

Monitoring – Aquatic Vegetation

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Photos: Washington Dept. of Ecology

Aquatic/Riparian Vegetation Surveys

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- Preliminary mapping
- Aerial Shoreline Analysis (AquaTechnex)
- Boat-based surveys
  - Aquatic vegetation mapping
  - Riparian/emergent vegetation mapping
  - Boat launch transects

Preliminary Mapping

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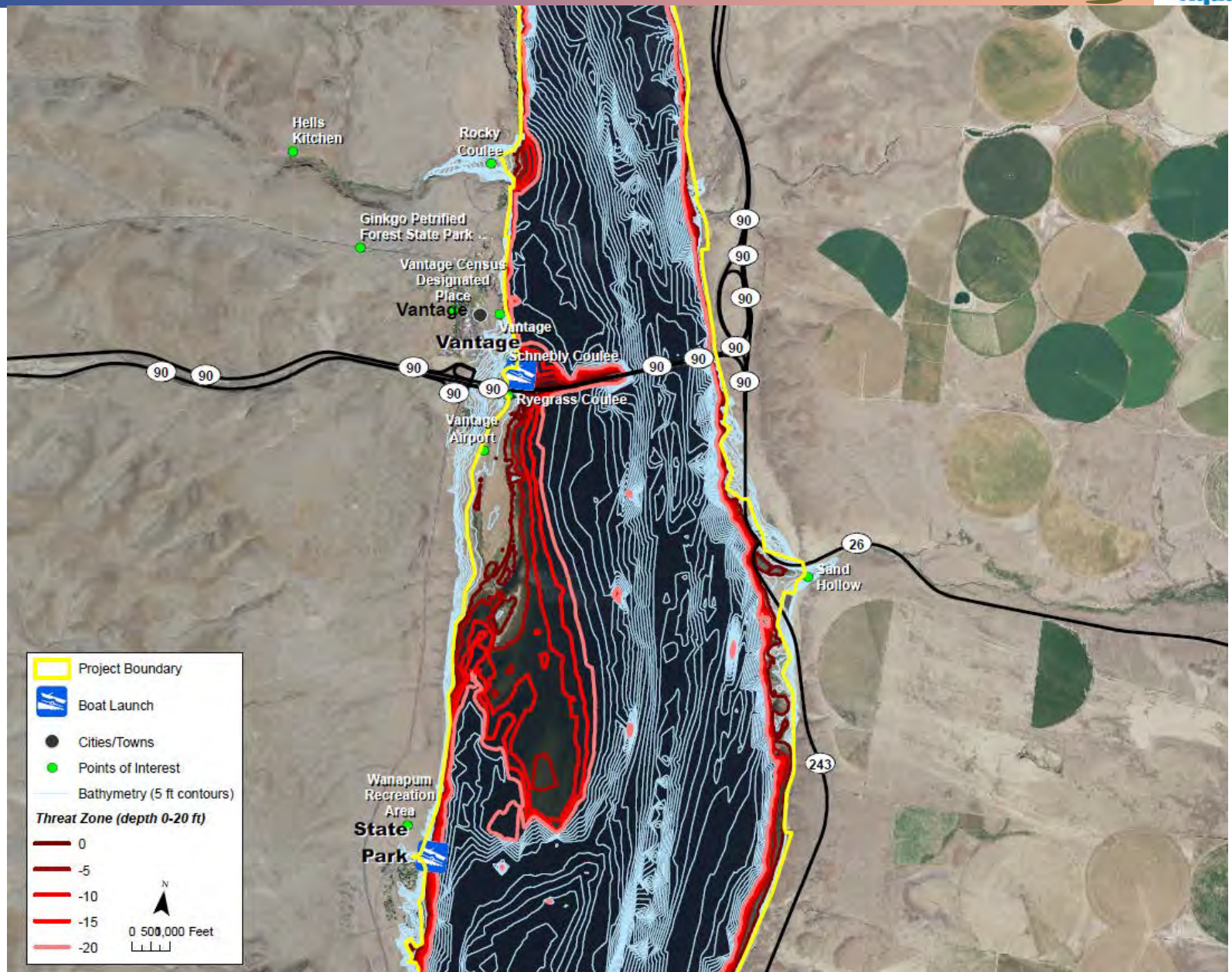

Aerial Shoreline Analysis

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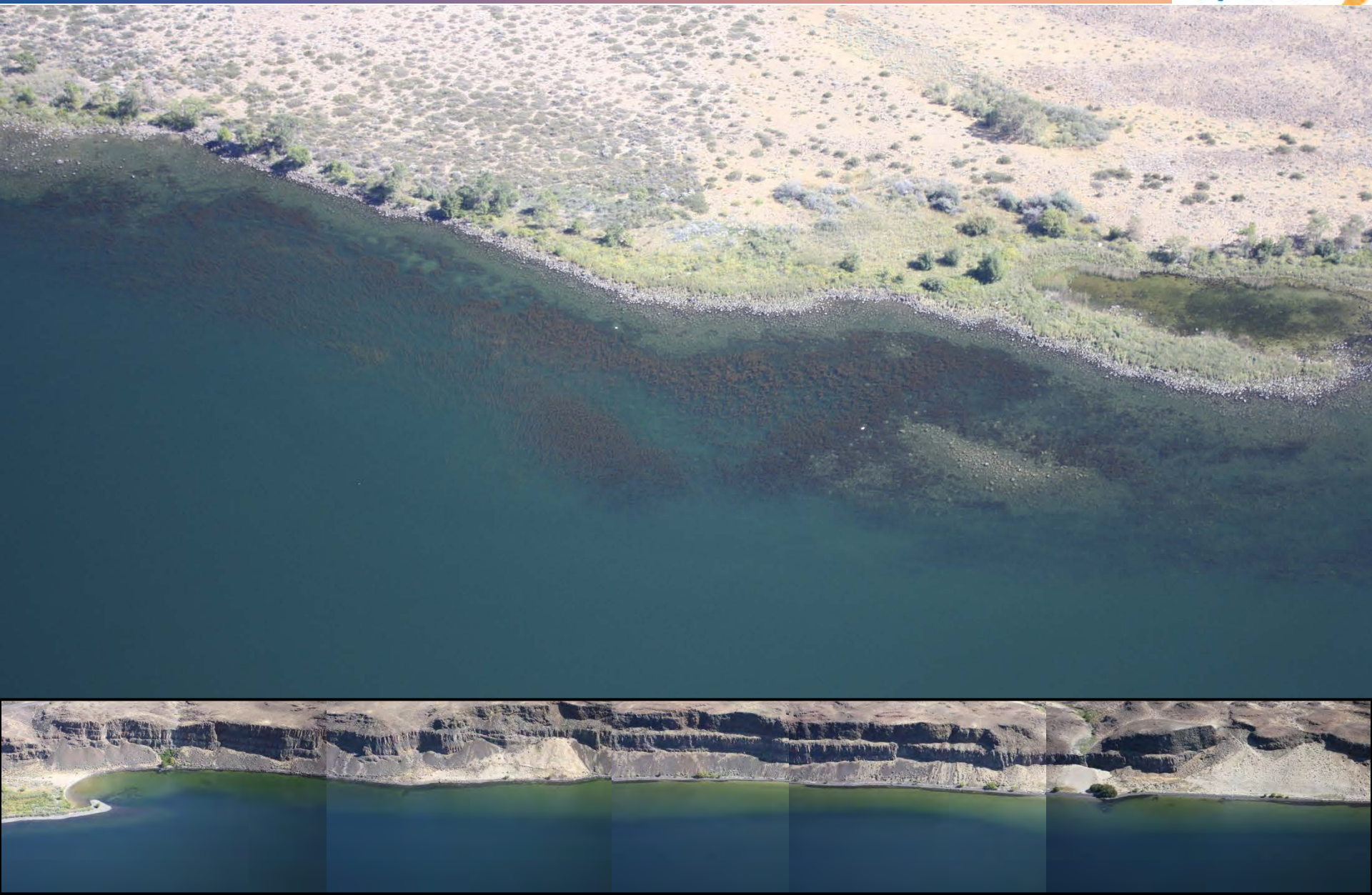
AquaTechnex



Boat-Based Surveys

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Aquatic Vegetation Mapping

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2,000 0 2,000

Feet

Scale: 1:24,000

1" = 2,000 ft.

Data Sources: Aerial image from Bing Maps; Project Boundary provided by Grant PUD; field data collected by GeoEngineers, Inc. and Aquatechnex.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

Prepared by GeoEngineers, Inc.

Base Data

- Project Boundary
- Boat Launches

Aquatic Vegetation Polygons

- Eurasian Milfoil dominant
- Native species dominant

Shoreline Invasive Species

Areas of Extensive Distribution

- Himalayan Blackberry
- Common Reed
- Purple Loosestrife
- Reed Canarygrass

Point Locations

Scaled by Patch Size (Small, Medium, Large)

- Himalayan Blackberry
- Common Reed
- Purple Loosestrife
- Reed Canarygrass
- Yellowflag Iris

2011 Shoreline Survey Data:
Page 6 of 10

Aquatic Invasive Species Mapping
Priest Rapids Project

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Riparian/Emergent Vegetation Mapping

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AquaTechnex

2,000 0 2,000

Feet

Scale: 1:24,000

1" = 2,000 ft.

Data Sources: Aerial image from Bing Maps; Project Boundary provided by Grant PUD; field data collected by GeoEngineers, Inc. and Aquatechnex.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

Prepared by GeoEngineers, Inc.

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2011 Shoreline Survey Data:
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Aquatic Invasive Species Mapping
Priest Rapids Project

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Boat Launch Transects

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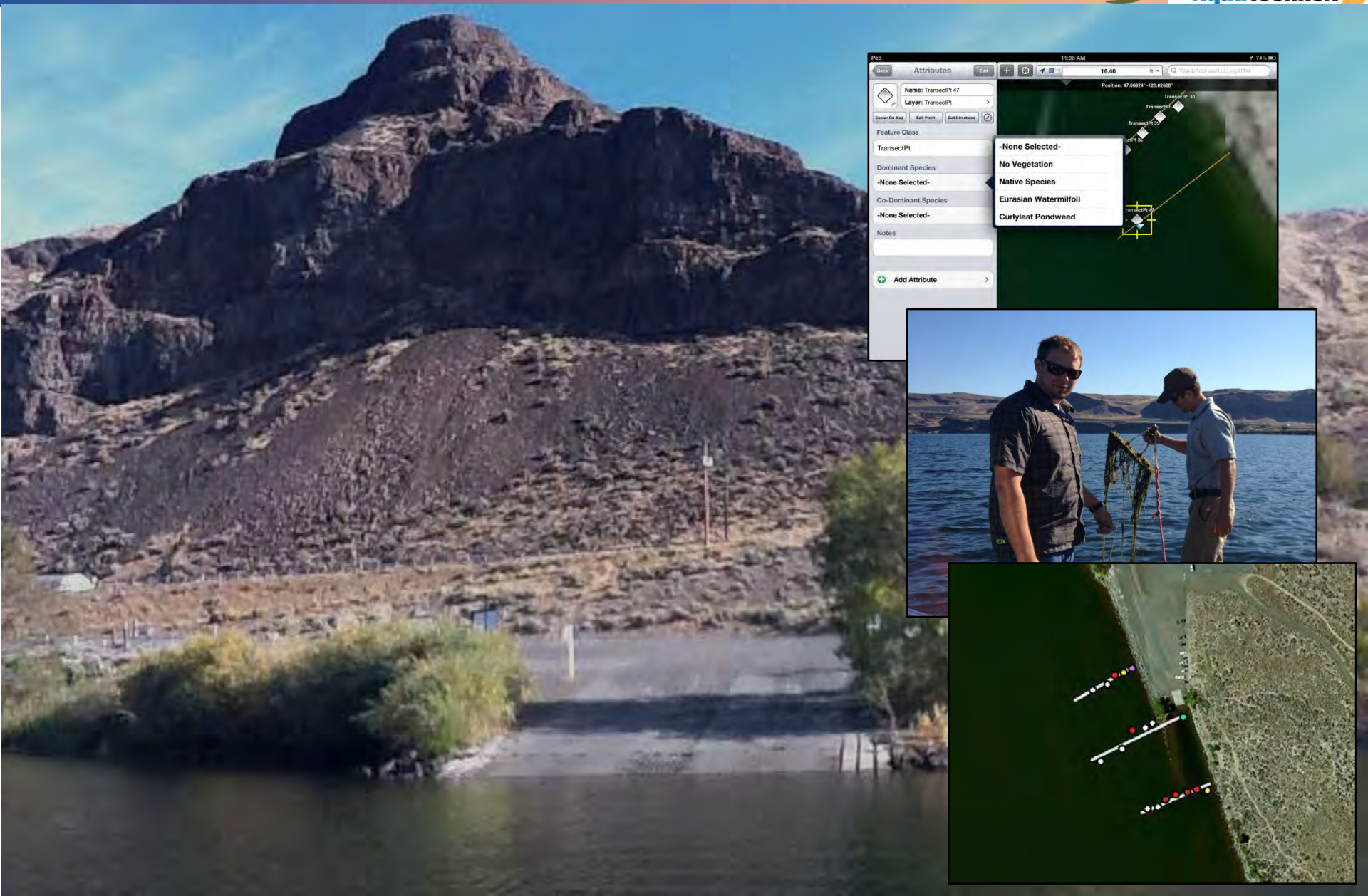

Summary of Survey Results (2011)

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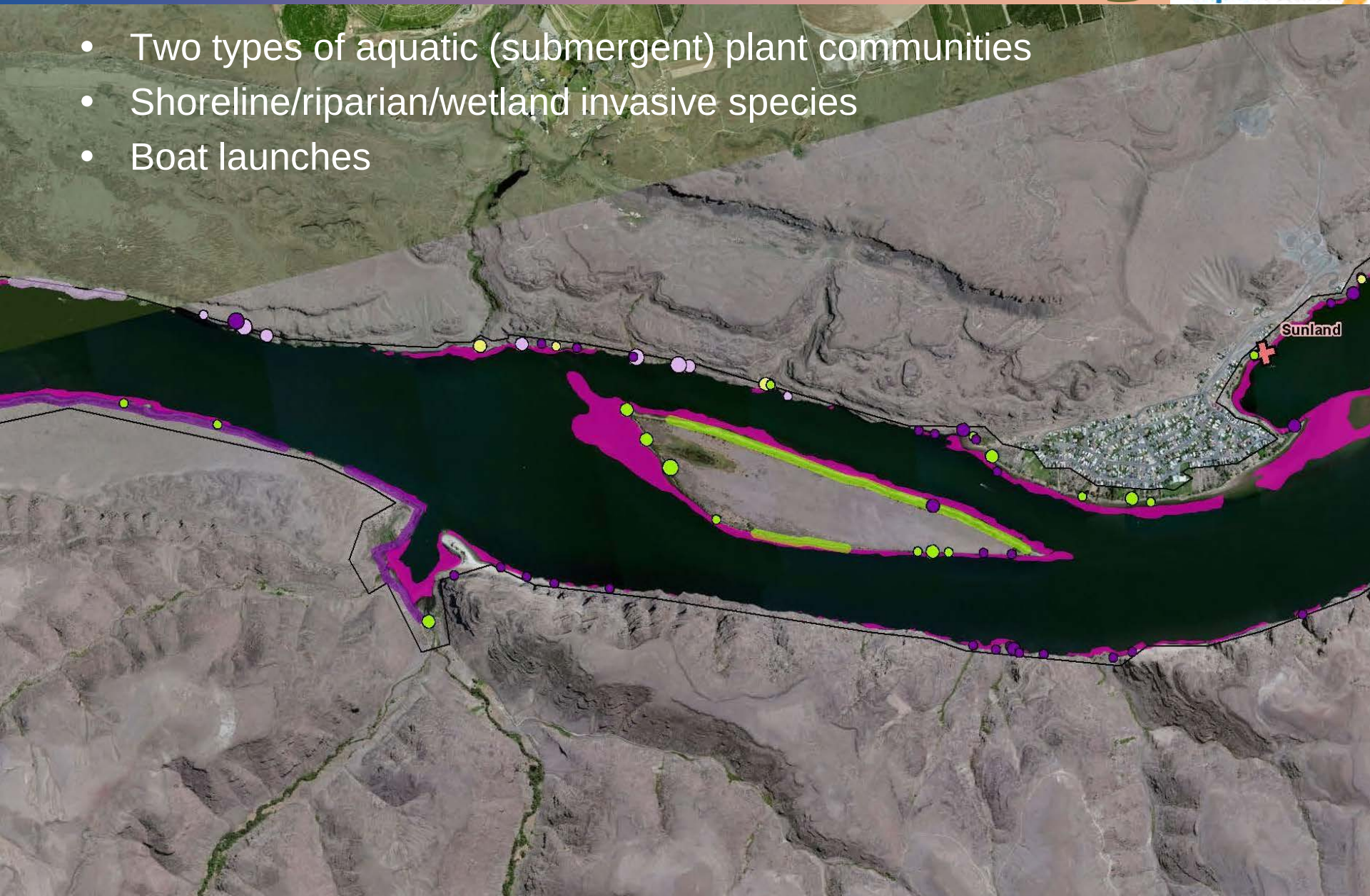
- Two types of aquatic (submergent) plant communities
- Shoreline/riparian/wetland invasive species
- Boat launches



Control

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Control Cont.

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Summary

- Grant PUD's AIS Plan
  - Education
  - **Monitoring**
  - Control
- Early detection through effective monitoring
  - GeoEngineers/AquaTechnex
- 2011 = year 1
  - Adaptive management is key
- CRT operations