

An aerial photograph of a coastal area, likely Haynes Point, showing a large body of water in the center and surrounding land with various features like fields, roads, and structures. The image is in grayscale and serves as a background for the text.

# Haynes Point Restoration Project

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BC Parks

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# Contents

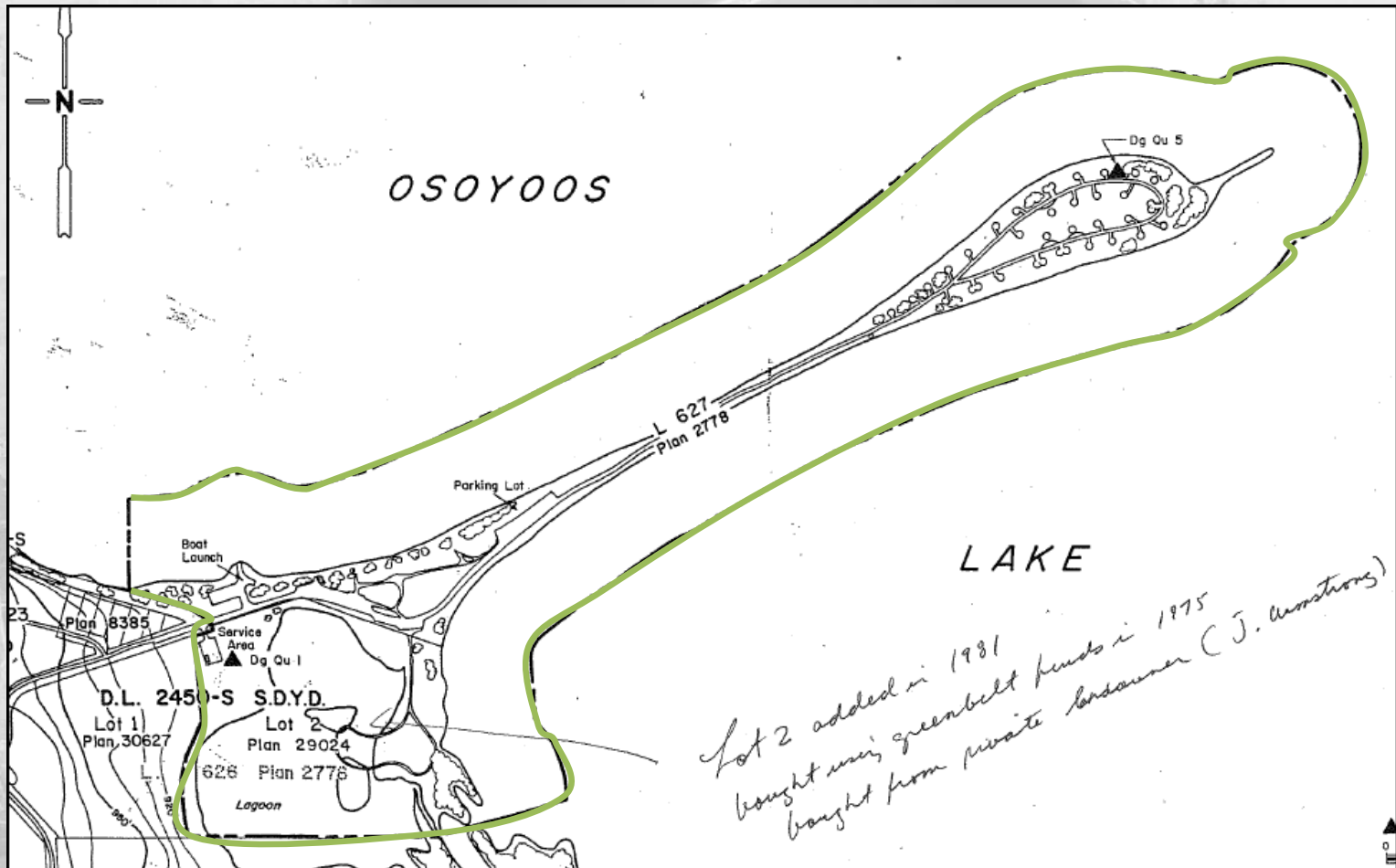
1. History as a Park
2. Species at risk
3. Change through time
4. Threats today
5. Restoration project

# Location



# Haynes Point Provincial Park

Established in 1940 as Osoyoos Provincial Park  
added to in 1981



# 1928

- Katie Lacey 1928



# Species at risk-historical

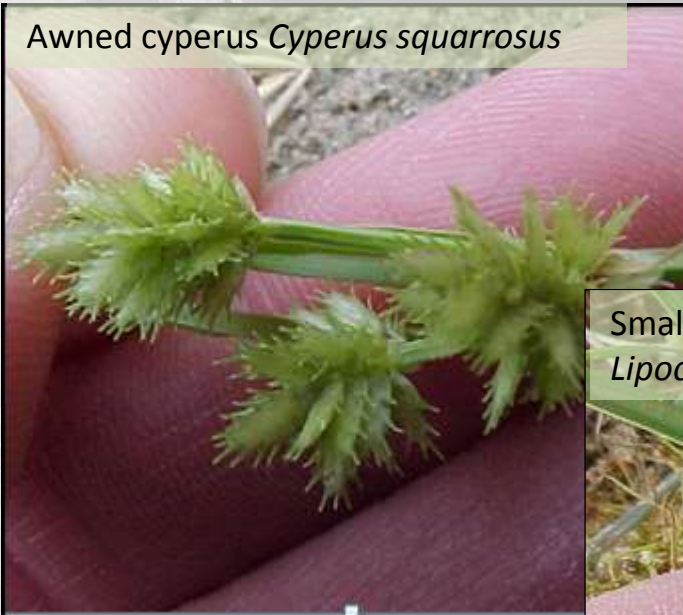
- 19 SAR historical records
- Its about the plants- 16 of 19 SAR

Shoreline annuals

Short rayed aster  
*Symphyotrichum frondosum*



Awned cyperus *Cyperus squarrosus*



Small flowered lipocarpha  
*Lipocarpha micrantha*



# Species at risk-historical

1953 UBC inventory: western centaury, false-pimpernel, bushy cinquefoil, tooth-cup meadow-foam, Nuttall's waterweed



Annual paintbrush  
*Castilleja minor ssp minor*



Blue vervain *Verbena hastata*



Photo: Dorreen Smith

Scarlett ammannia *Ammania robusta*

# Species at risk-historical

The Dalles milkvetch *Astragalus sclerocarpus*



Peachleaf willow *Salix amigdaloides*



Sheri Hagwood @ USDA-NRCS PLANTS Database



# Species at risk- historical



BC 84:6

1938



1938



1963



1974



1984



2008



Haynes Pt 2008, Google earth 2013



THEN (1938)



NOW





# The problem

- an increase over time in cover of invasive trees that are shading out native species and permanently altering rare ecosystems.

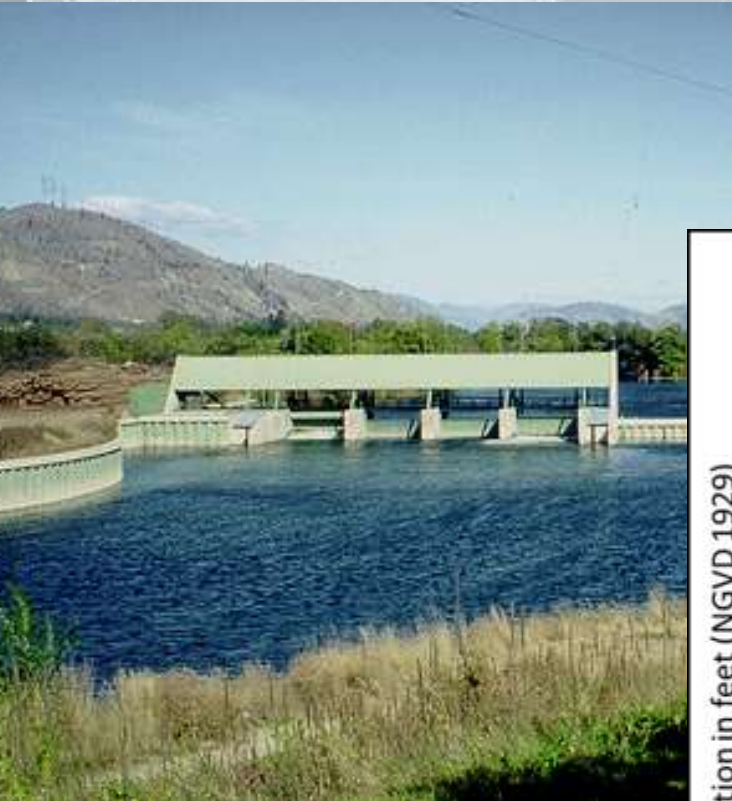




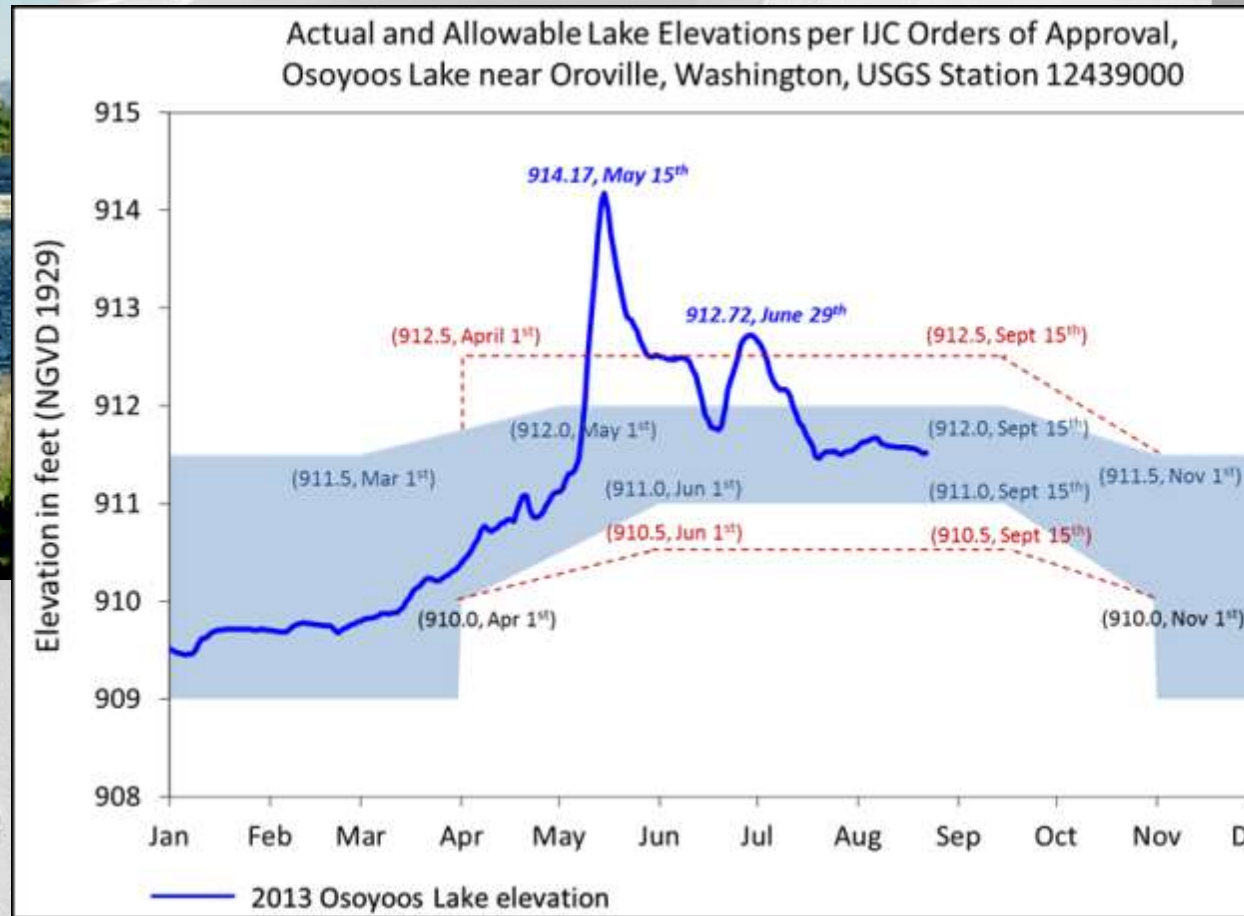
# How we got here today

- Over the last several decades there have been a number of pressures resulting in ecosystem change:
  - Lake water level control
  - Agricultural and urban development: lake eutrophication
  - Recreational development impacts
  - Introduction and spread of invasive plants.....

# Water level control-Zosel dam

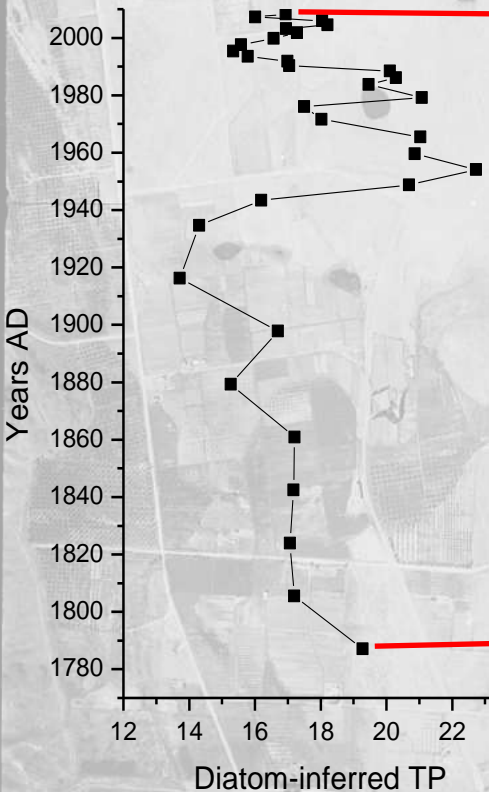


Current Zosel Dam,  
constructed in 1987



# Lake Eutrophication

North basin



## Total Phosphorus (TP)

Sediment coring has provided past ~200 years of TP in Osoyoos Lake

- Mesotrophic conditions pre-1940
- Large increases in TP begin in the late-1940's
- Eutrophic conditions: highest TP levels between ~1950-1990
- Post-1990 TP decreases; return to mesotrophic conditions

# Invasive Species

## Tree of heaven

*(Ailanthus altissima)*

### Background

- first introduced to US in 1784;
- no natural controls in North America
- listed as invasive in 30 states;
- allelopathic** (releases chemicals that prevent competing vegetation from growing)
- root suckers can grow up to 6 feet per year
- estimate establishment at Haynes Point 15-20 years ago



# Invasive Species

## Siberian elm

(*Ulmus pumila*)



### Background

- introduced into North America in the 1860's;
- legally noxious in one state, and considered invasive in 25 states;
- prolific seed production
- fast growing and tolerant of extreme conditions
- out competes and shades out native vegetation
- found throughout Haynes Point

# Invasive species

## Russian olive

*(Elaeagnus angustifolia)*



### Background

- introduced to North America in the early 1900's,
- several states list as noxious weed;
- can dominate riparian community, out competing native species
- interfere with succession and nutrient cycling
- found throughout park, but primarily around wetlands and riparian areas on western end of park

# Impacts of non-native trees

- Alter native vegetative community
- Outcompete native species (shade, chemically alter soil, compete for resources)



Russian olive dominant in the riparian area



antelope brush shaded out



# Restoration Plan

- 10 year project (or longer)
- small batch tree removal disbursed across treatment units
- Noxious weed control
- Replanting with native species
- Monitoring



# Restoration Plan

## Objectives

- To shift the trajectory from increasing non-native trees toward native species relevant to current site conditions;
- To reduce or eliminate (in the case of tree of heaven) the canopy cover of non-native invasive trees;
- To control spread of non-native tree species by reducing seed production, controlling suckering, and removal of seedlings.

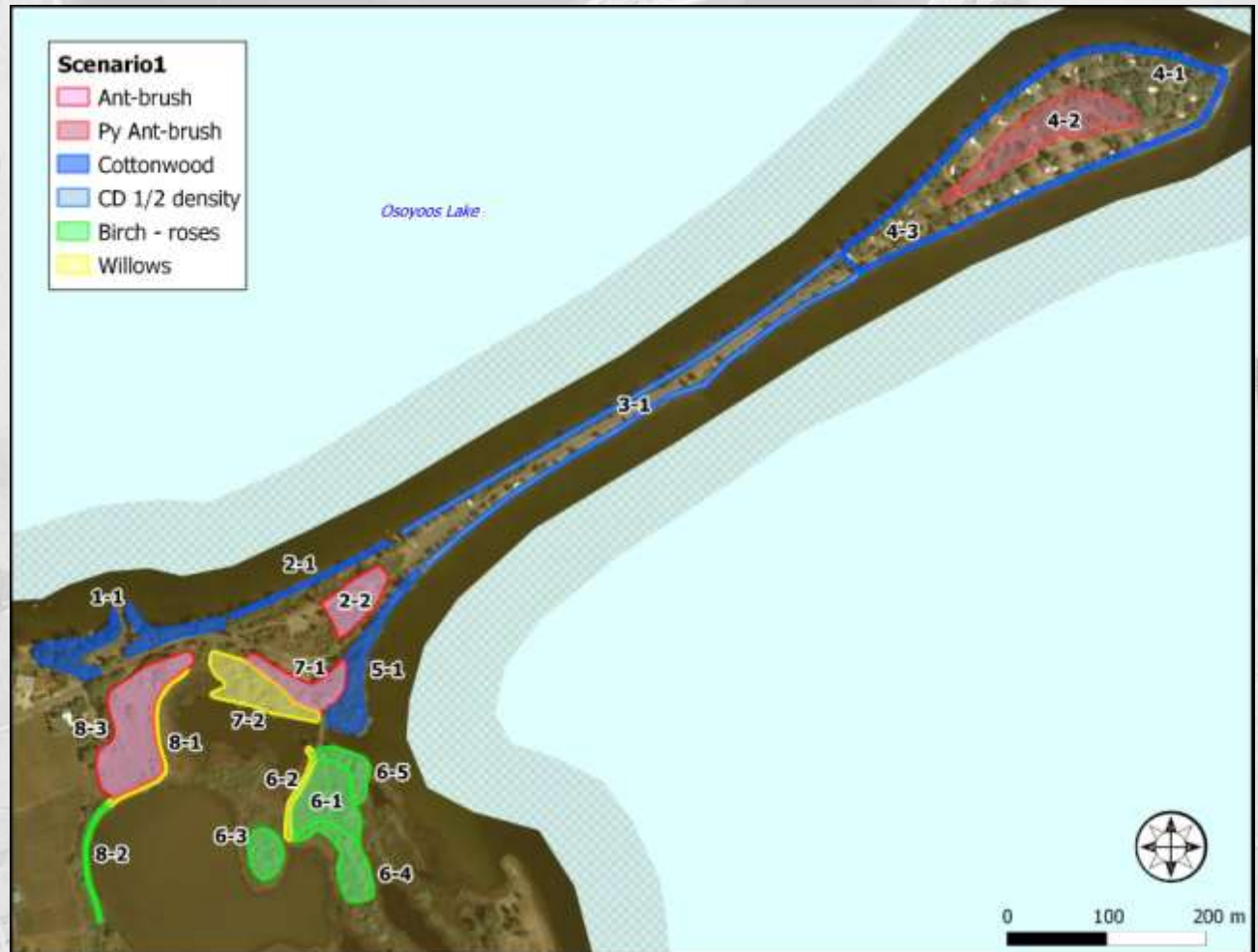
# Planting Plan

Planting based on ecological community

- Antelope brush needle and thread
- Water birch-roses
- Cottonwood waterbirch

Several scenarios (options) 4-10,000 stems to plant

Willow staking and planting nursery stock



# Implementation

BEFORE



AFTER



# Some results

- Invasive trees removed
  - 2012: 60 cubic metres of chips
    - 83 Siberian elm over 10cm
    - 328 Siberian elm under 10cm
  - 2013:
    - ~25 mature tree of heaven (2 metric tons)
    - ~250 tree of heaven saplings
    - 25 Russian olive
    - 40 Siberian elm
- 680 native plants planted
  - Monitoring survivorship



# Partners



**Partners in Flight BC & Yukon  
Great Basin Program**



**Environment  
Canada**

**Environnement  
Canada**

**Members of the Oliver Osoyoos  
Naturalist Club  
and South Okanagan Naturalist Club**



Thank you

