

# National Park Service



## Managing Invasive Plants in Our National Parks:

*A Case Study of The National Park Service's Exotic  
Plant Management Team Program*

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**Todd Neel**  
**National Park Service**

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## Executive Order On Invasive Species (February 1999)

“Prevent the introduction of invasive species and provide for their control and minimize the economic, ecological, and human health impacts that invasive species cause.”

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## Natural Resource Challenge (August 1999)

- Protect native and endangered species and their habitats
- **Aggressively control non-native species**
- Accelerate natural resource inventories
- Expand monitoring efforts including air and water quality monitoring
- Improve resource planning
- Increase collaboration with scientists and others
- Enhance use of parks for scientific research
- Use parks for learning
- Enhance environmental stewardship
- Assure fully professional staff



# Bases of Operation / Parks Served in FY2012

## Exotic Plant Management Team Program

National Park Service  
U.S. Department of the Interior





ALASKA

Alaska  
EPMT

0 250 500 Miles

Projection: Albers Equal Area (Alaska)



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## Projects












## Ross Lake Reed Canarygrass Sites



 Reed Canarygrass - 421 Infested Acres







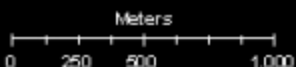


# Big Beaver Creek Reed Canarygrass Infestation



 Reed Canarygrass - 508 Gross Infested Acres

 9 Treated Acres



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## Lessons Learned

- **Two years to maintenance control (90+% reduction)**
- **Timing , rate herbicide and surfactant important (modified over time)**

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# EPMT Treatments - Foree Area









# EPMT Treatments - Painted Hills Area









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## Lessons Learned

- **Compared to toadflax treatments at other parks**
- **What happened?**
- **Shifting focus after several years as we learn more about the distribution of invasive species at each unit.**











# Mt. Rainier National Park

Distribution of significant roadside infestations of oxeye daisy and St. Johnswort within Mt. Rainier NP.

oxeye daisy  
(*Leucanthemum vulgare*)

St. Johnswort  
(*Hypericum perforatum*)

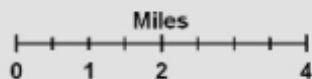
The NCCN-EPMT initiated large-scale treatments of roadside weed infestations in 2008. Other species treated include:

Canada thistle  
(*Cirsium arvense*)

herb Robert  
(*Geranium robertianum*)

orange hawkweed  
(*Hypericum aurantiacum*)

spotted knapweed  
(*Centaurea stoebe*)



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## Lessons Learned

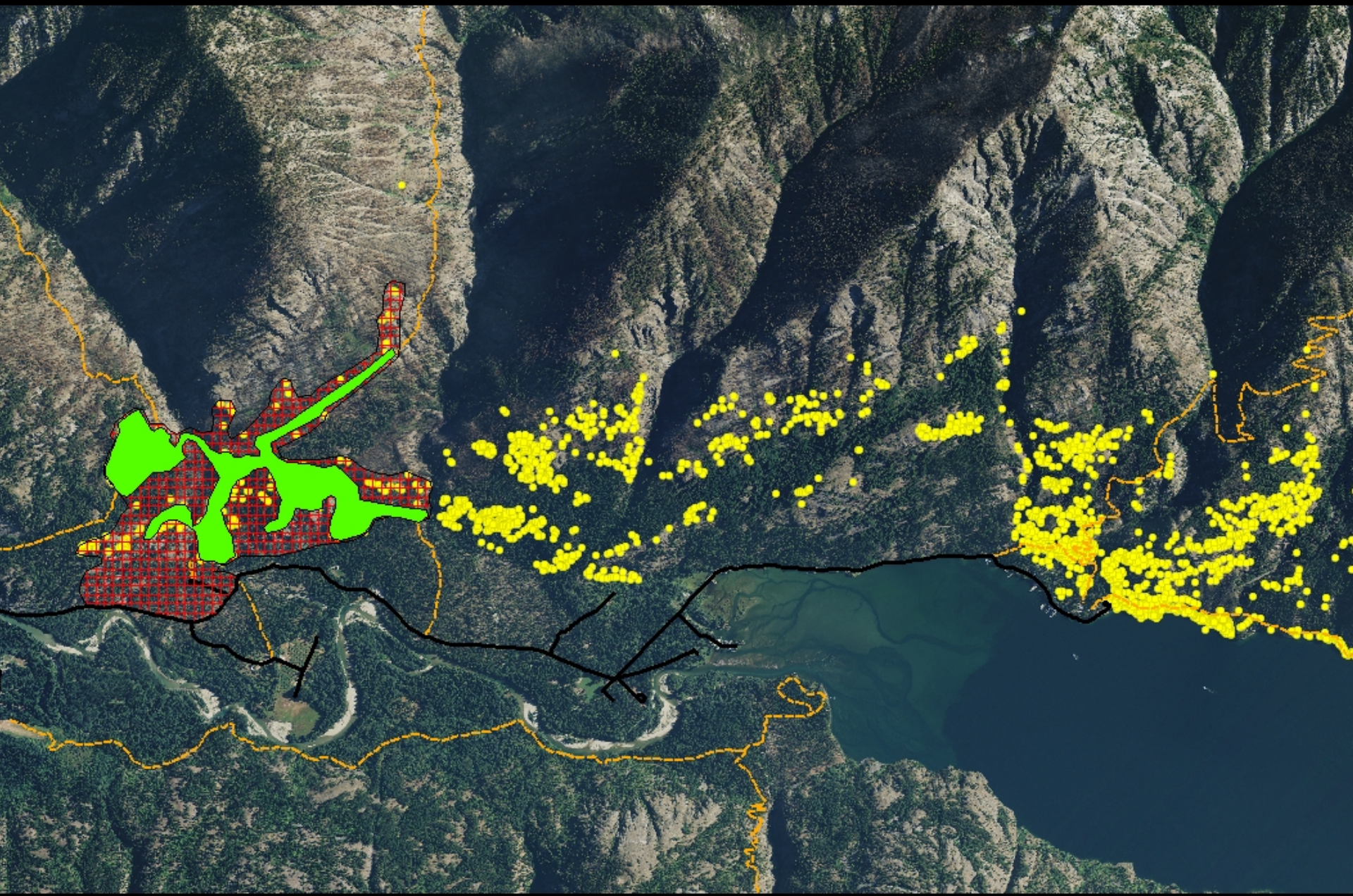
- **Even with the benefit of high elevation, disturbance promotes establishment on invasive species.**
- **Invasive species now “jumping off”**
- **Unexpected invaders**







# 2013 Stehekin Cheatgrass Treatments



Meters

0 400 800

**373 Gross Infested Acres**

**126 Treated Acres**

**Cheatgrass Locations (2007, 2011 data)**



## 2013 Stehekin Cheatgrass Treatments



Meters

373 Gross Infested Acres

126 Treated Acres

Cheatgrass Locations (2007, 2011 data)









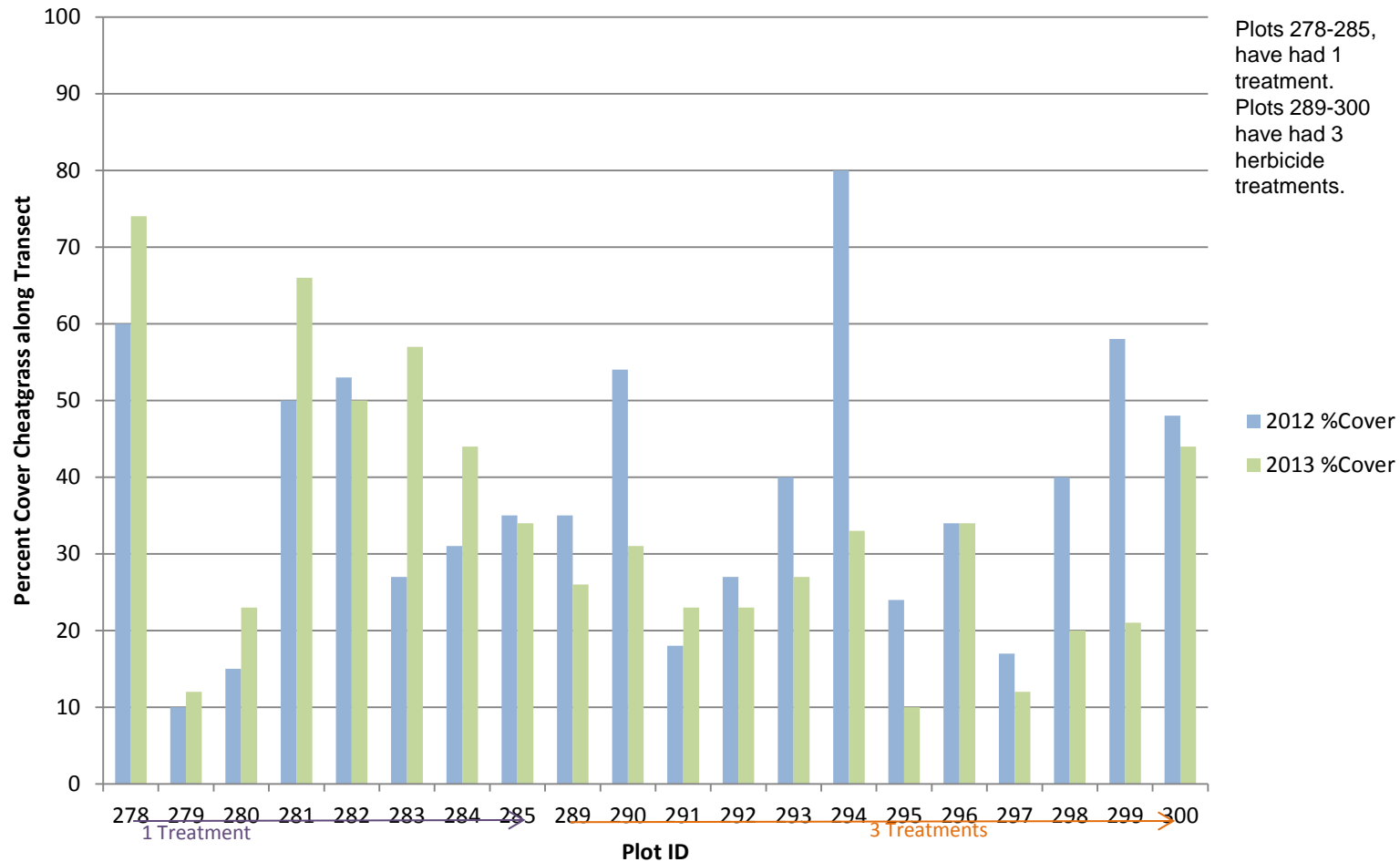




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## Lessons Learned

- **Missed first year of treatment**
- **Timing and rate modified from Great Basin / Intermountain recommendations**
- **Work harder, not smarter**
- **We did this to ourselves**

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## The American Camp Prairie – Islands of Native Plants in a Sea of...















# San Juan Island National Historical Park - American Camp

## Invasive Blackberry Treatment Sites by Year

evergreen blackberry (*Rubus laciniatus*)

Himalayan blackberry (*Rubus discolor*)



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## Lessons Learned

- **Complex system**
- **History of disturbance**

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Sheep Barn

Office

Jacob Ebey's  
House

Farm 1

Ferry House

Ebey's Landing  
State Park

Farm 2

**Ebey's Landing National  
Historical Reserve**

**Poison Hemlock Treatment Sites**

Meters

0 250 500 1,000















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## Lessons Learned

- **CWMA**
- **Modify Timing**
- **Consistency**
- **Preserve native species where possible, and replant as necessary**



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## National Park Service Management Policies (2006)

### § 4.4.4:

Exotic species will not be allowed to displace native species if displacement can be prevented.

### § 4.4.4.2:

All exotic plant and animal species that are not maintained to meet an identified park purpose will be managed – up to and including eradication – if (1) **control is prudent and feasible**, and

(2) the exotic species:



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## National Park Service Management Policies (2006)

### § 4.4.4.2:

- **Interferes with natural processes and the perpetuation of natural features, native species, or natural habitats**
- **Disrupts the genetic integrity of native species**
- **Disrupts the accurate presentation of a cultural landscape**
- **Damages cultural resources**
- **Significantly hampers the management of park or adjacent lands**
- **Poses a public health hazard**
- **Creates a hazard to public safety**



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## Feasible and Prudent?





2 9 2001





2 12 2001



















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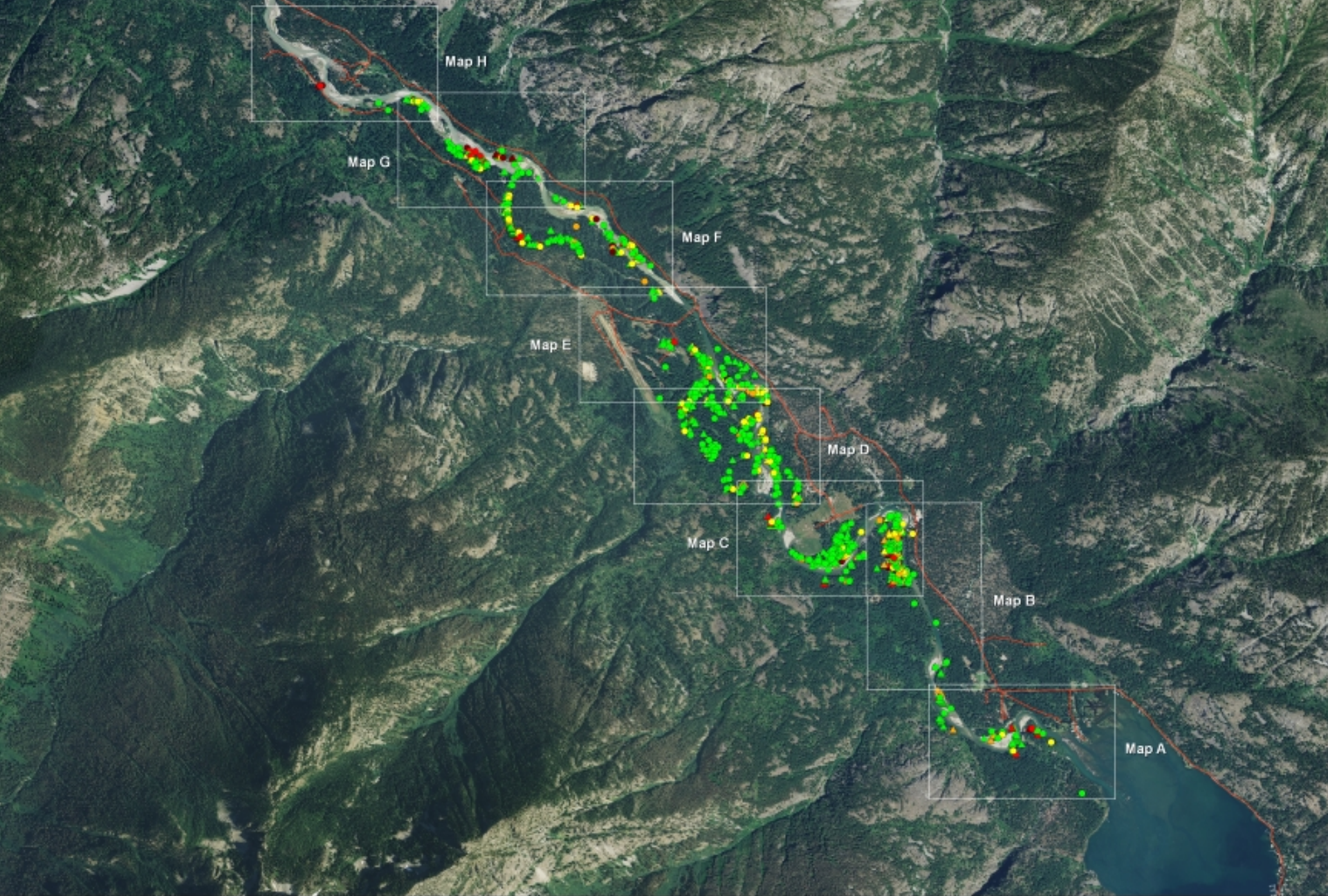
## Where Do We Go From Here?





WN-256



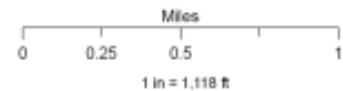


Stehekin Valley Knotweed Project Maps

2004/2005 Points



2009 Points









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## Lessons Learned

- **Between 2004 – 2009, this population increased in size 100%**
- **Changes in prevailing weather pattern significantly effected this project**
- **How do projects like this prepare us for the challenges of the future?**



