



# Lake Tahoe Region Aquatic Invasive Species Program

## 2011 Program Overview

March, 2012





# LTAIS Program History

- Mid 1990's Invasive Plant Surveys
- 2006 BOR Funding
- Jan 2007 Quagga found in Lake Mead
- May 2007 AIS Workshop
- Dec 2007 LTAIS Coordination Committee
- Nov 2009 Lake Tahoe Regional AIS Management Plan





# Program Goals

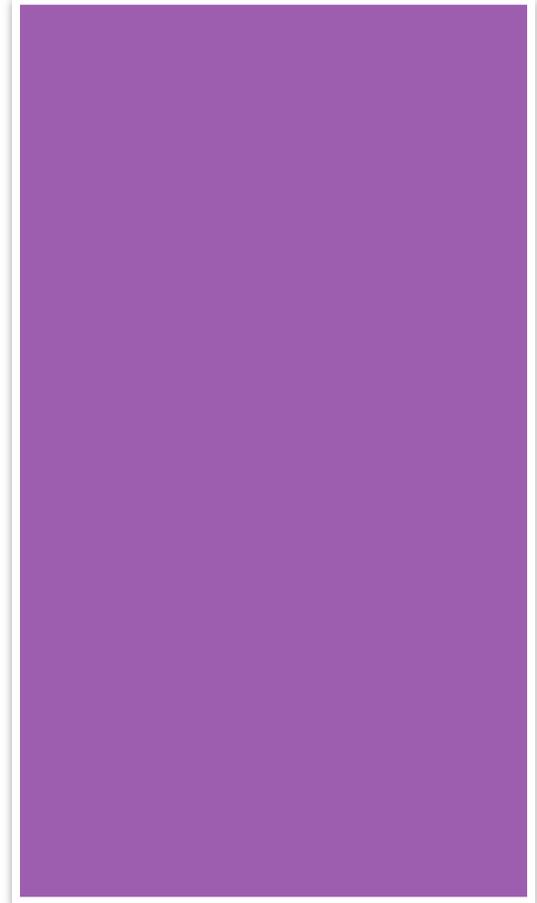
Prevent



Monitor

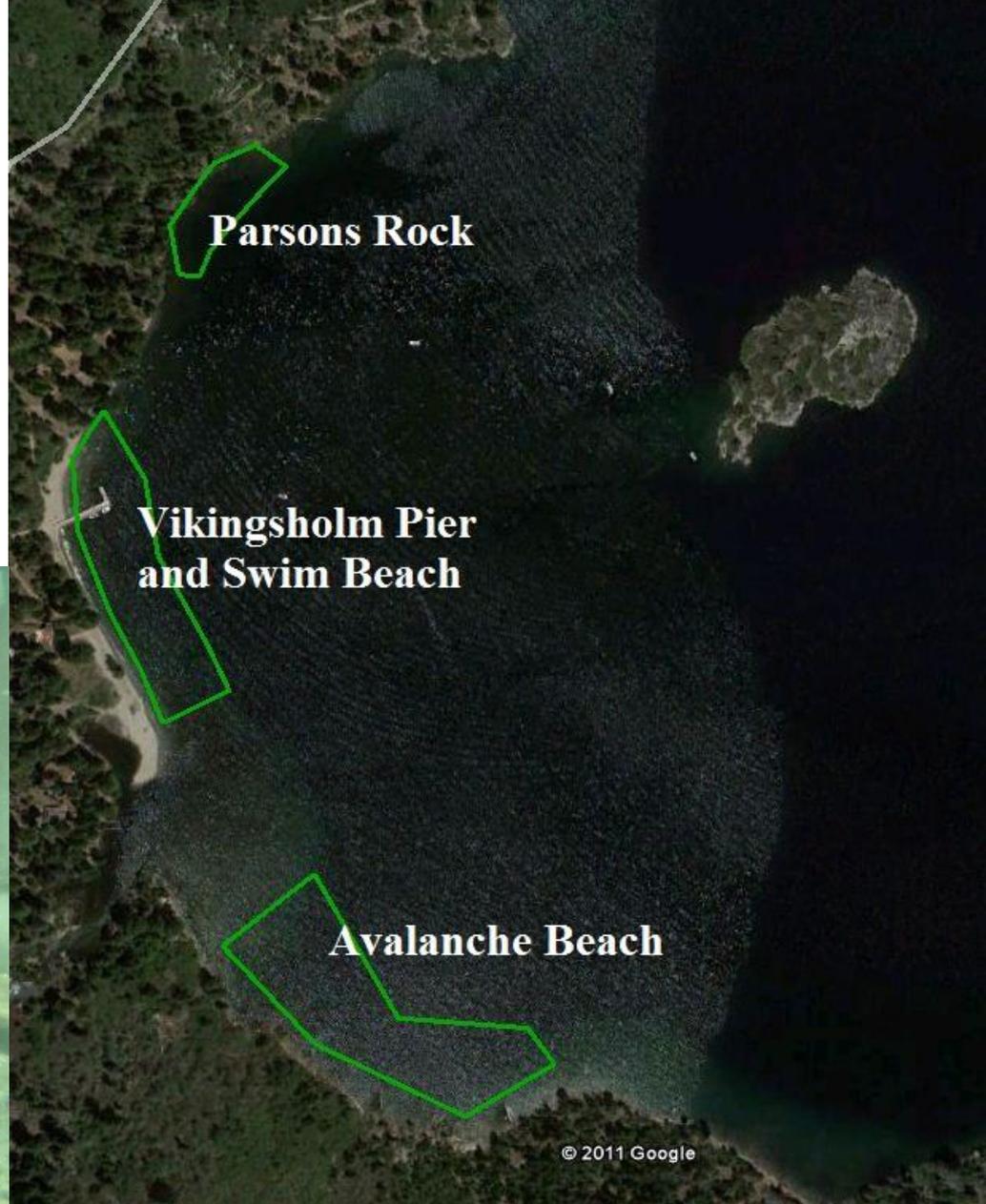


Control



# Emerald Bay

Treatment =  
6.51 acres



# Tahoe Keys

## Testing of Multiple Methods



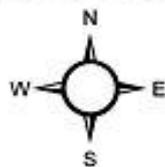
# Asian Clam

- Marla Bay Winter Tests
- Emerald Bay Survey and Pilot

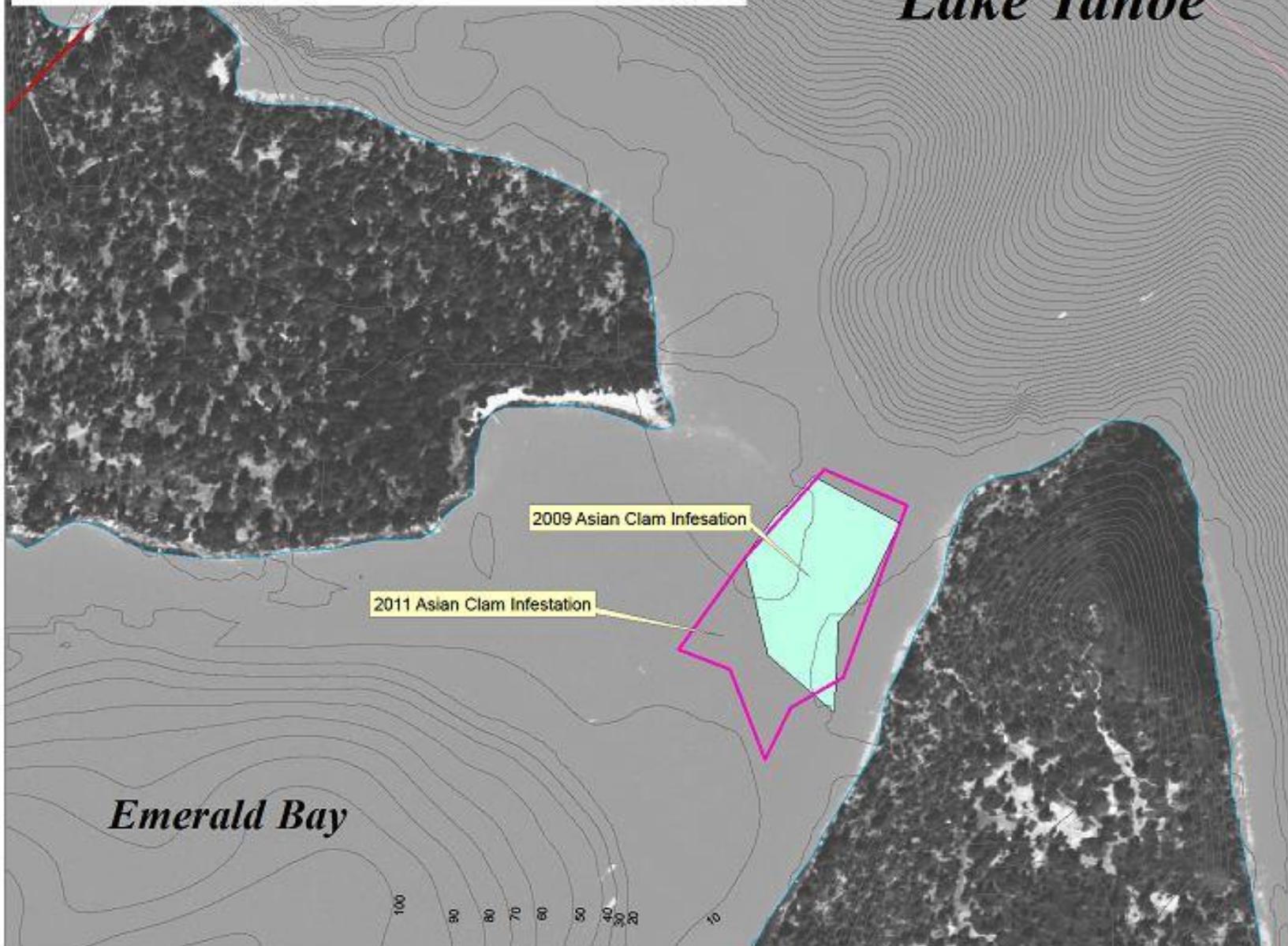
(Images Courtesy of Dr. Marion Wittmann  
UC Davis)

Asian Clam  
Emerald Bay State Park

0 62.5 125 250 Meters



*Lake Tahoe*

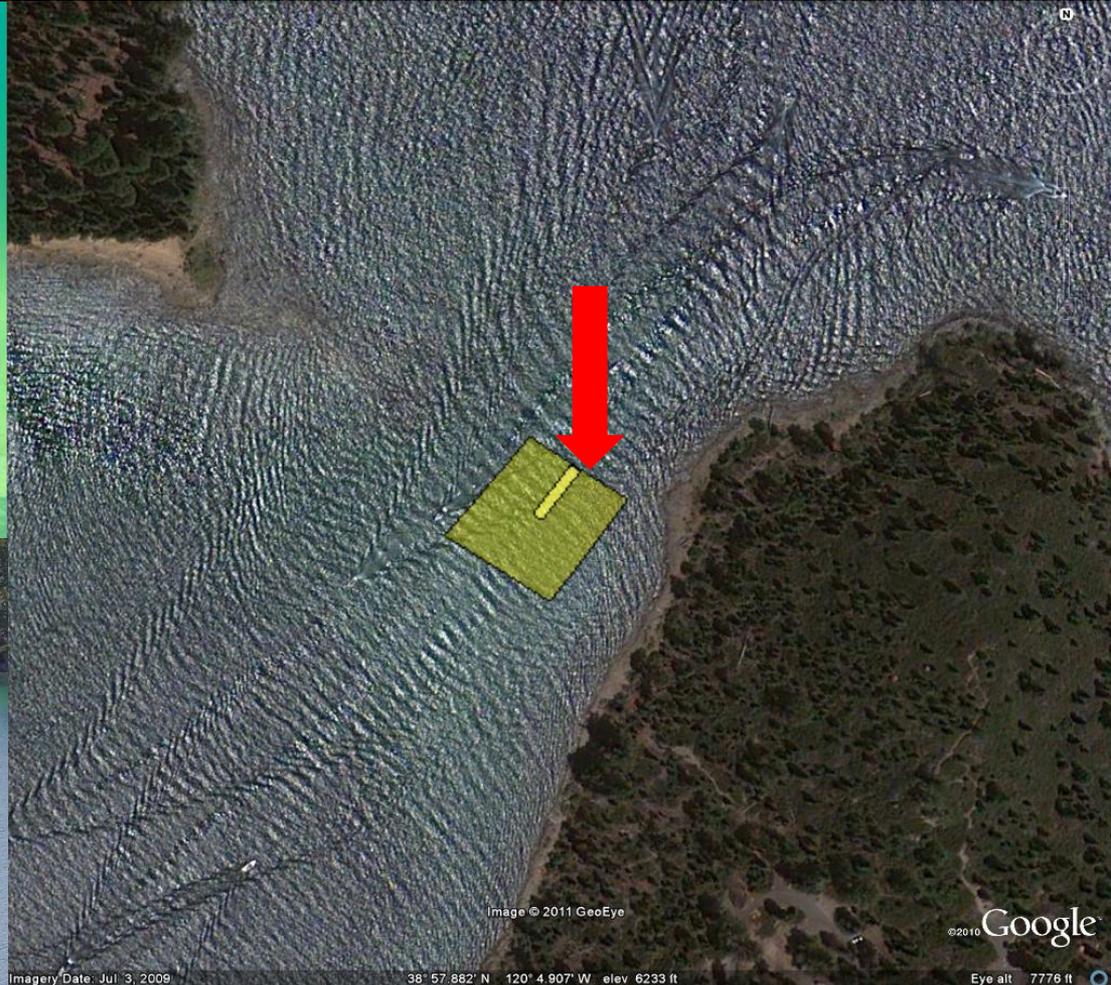
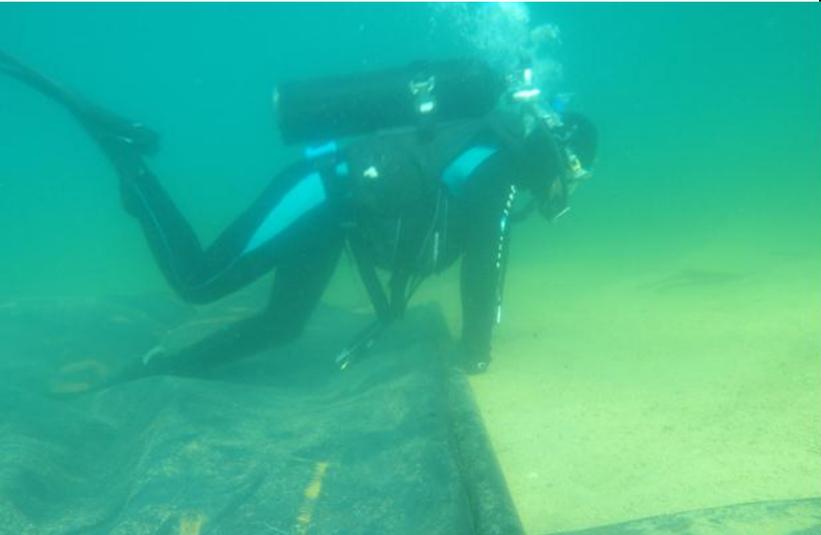


*Emerald Bay*

100  
80  
60  
50  
40  
30  
20



# Emerald Bay Asian Clams



RESTORATION IN PROGRESS  
LAKE TAHOE ENVIRONMENTAL IMPROVEMENT PROGRAM

*continuing the commitment*



# Warm water Fish

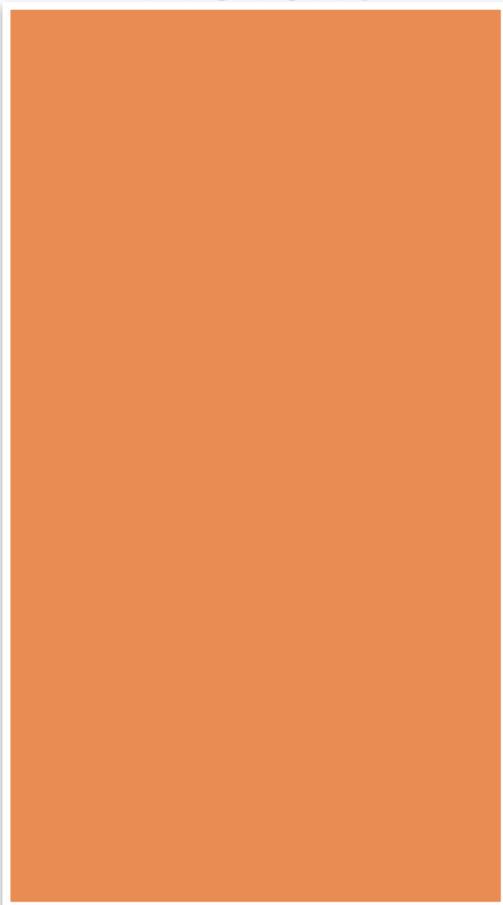
- ~ 12,000 warm water fish removed (2,157lb)





# Program Goals

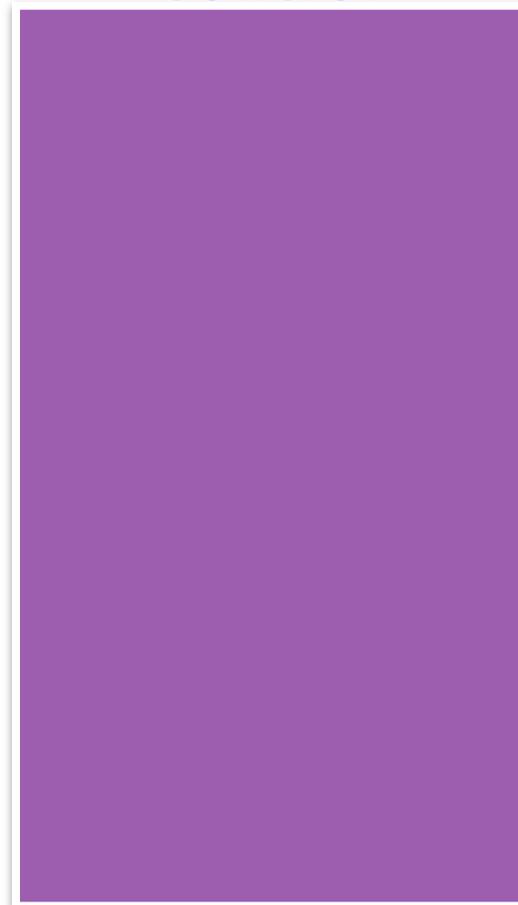
Prevent

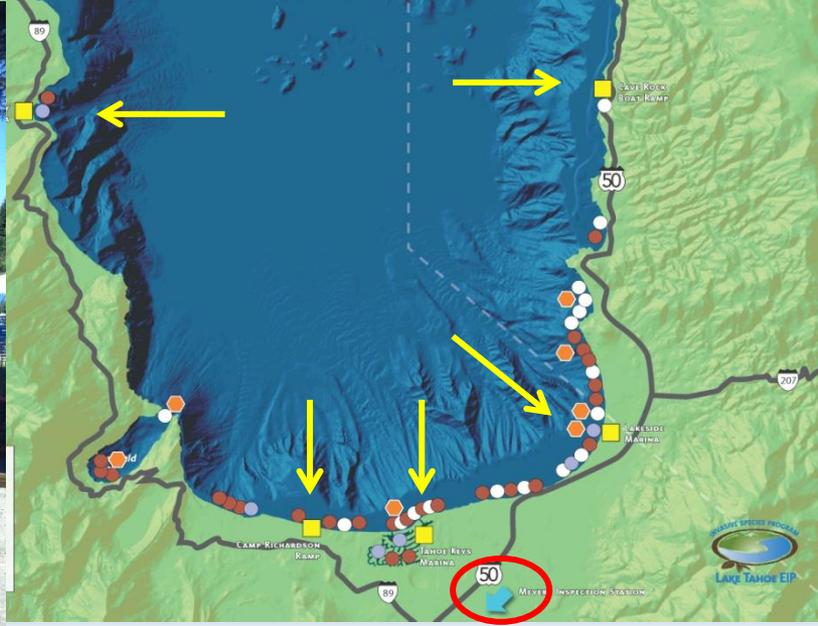
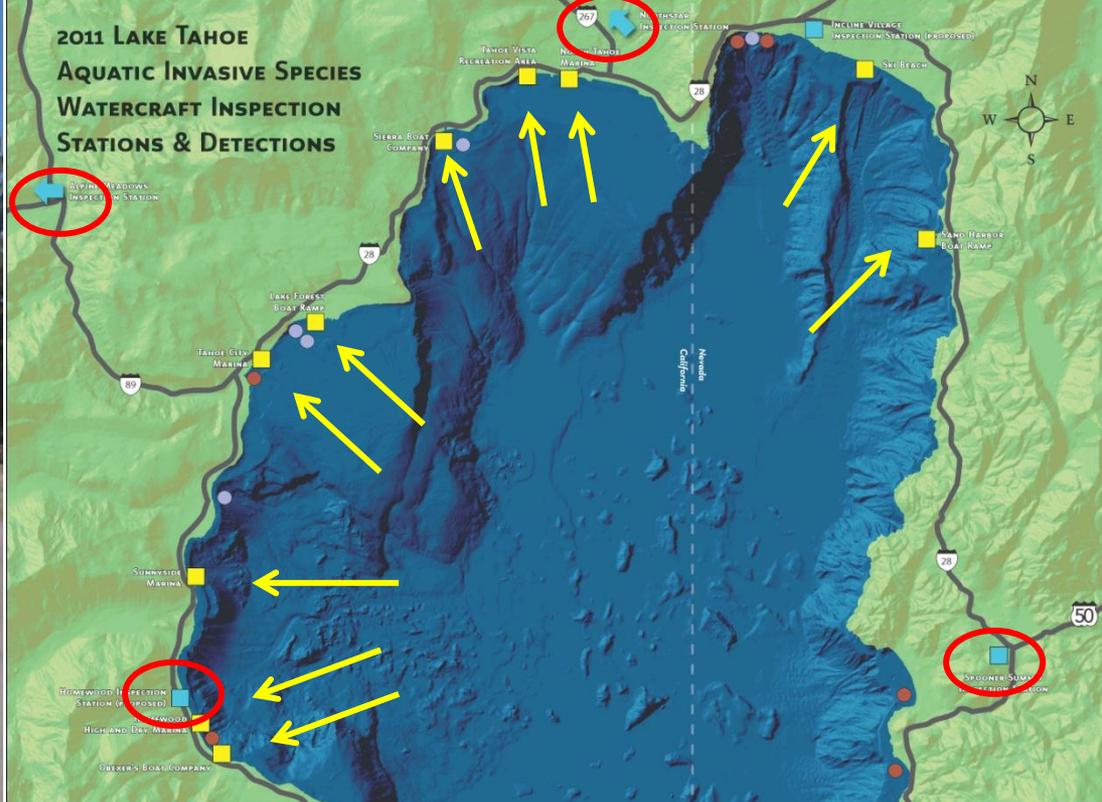


Monitor



Control

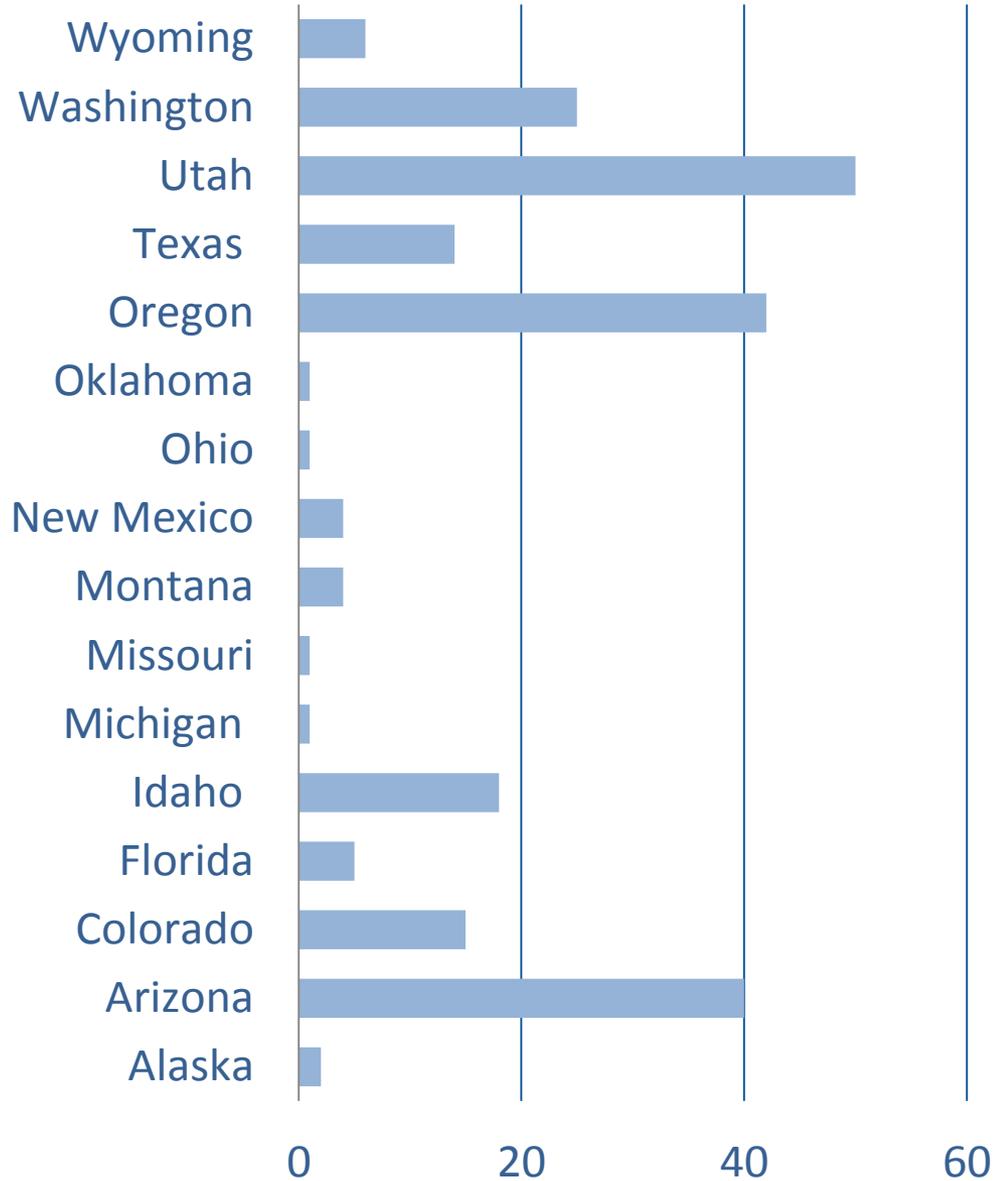






# ● Motorized watercraft Inspections

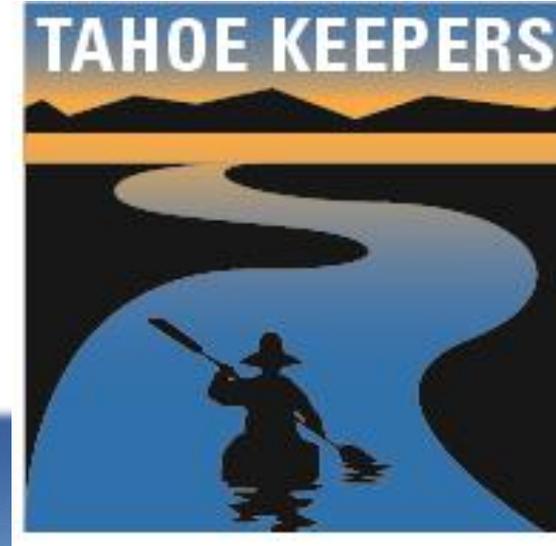
- ~ 30,400\* check-ins
- ~ 7,600 AIS inspections
- California – 5,546
- Nevada – 1,254
- ~ 4,800 decontaminations





# Prevention

- Non Motorized Watercraft
  - Tahoe Keepers Program
    - Outreach and Stewardship
    - Web based registration and training:  
[www.tahoekeepers.org](http://www.tahoekeepers.org)
  - Inspectors
    - Fallen Leaf Lake
    - Echo Lake
  - US Forest Service Beaches
    - Screening at Kiosks





# Prevention

- Outreach
  - Print advertising campaign
  - Billboards
  - Direct mail to boaters
  - Boaters map
  - Rack cards
  - Boat shows and community events/meetings
  - Roadway signage
- 96% surveyed aware of AIS

Tahoe Boat Inspections



We're All In This  
Boat Together.

CLEAN

DRAIN

DRY

Plan ahead for mandatory  
Tahoe boat inspections.

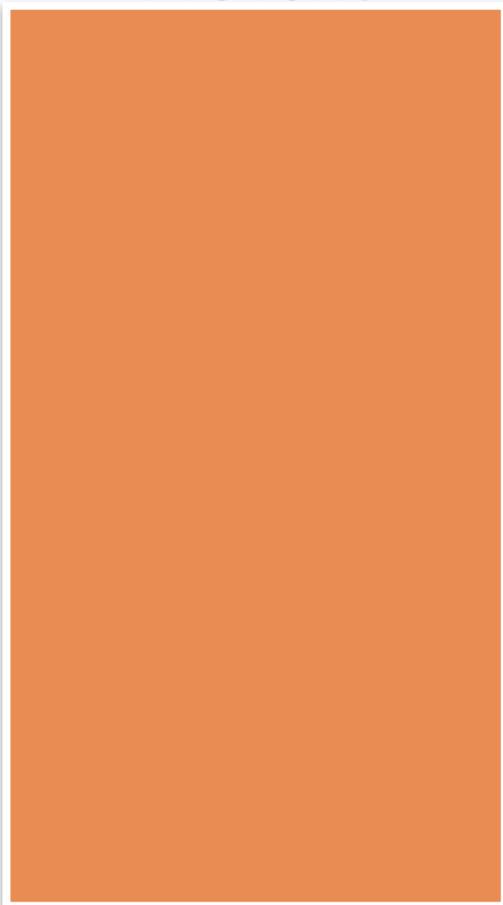
[TahoeBoatInspections.com](http://TahoeBoatInspections.com) | 1-888-824-6267





# Program Goals

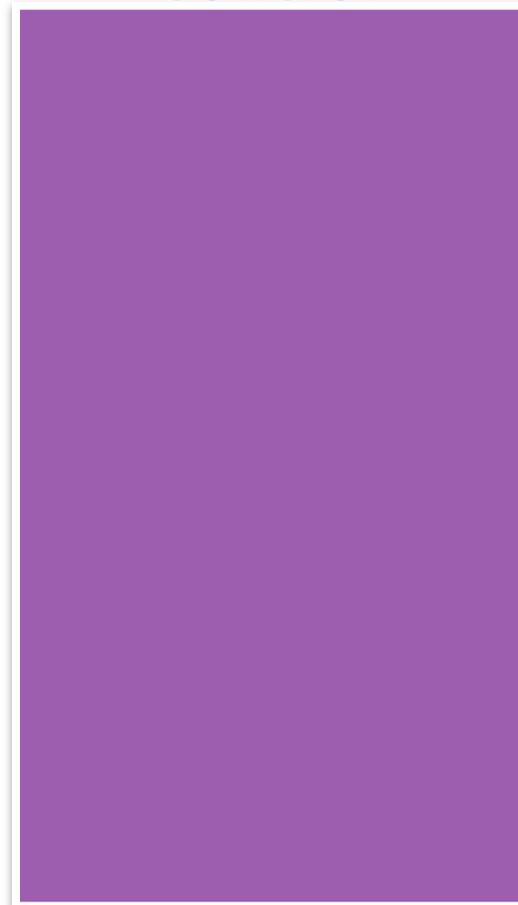
Prevent



Monitor



Control





# Monitoring

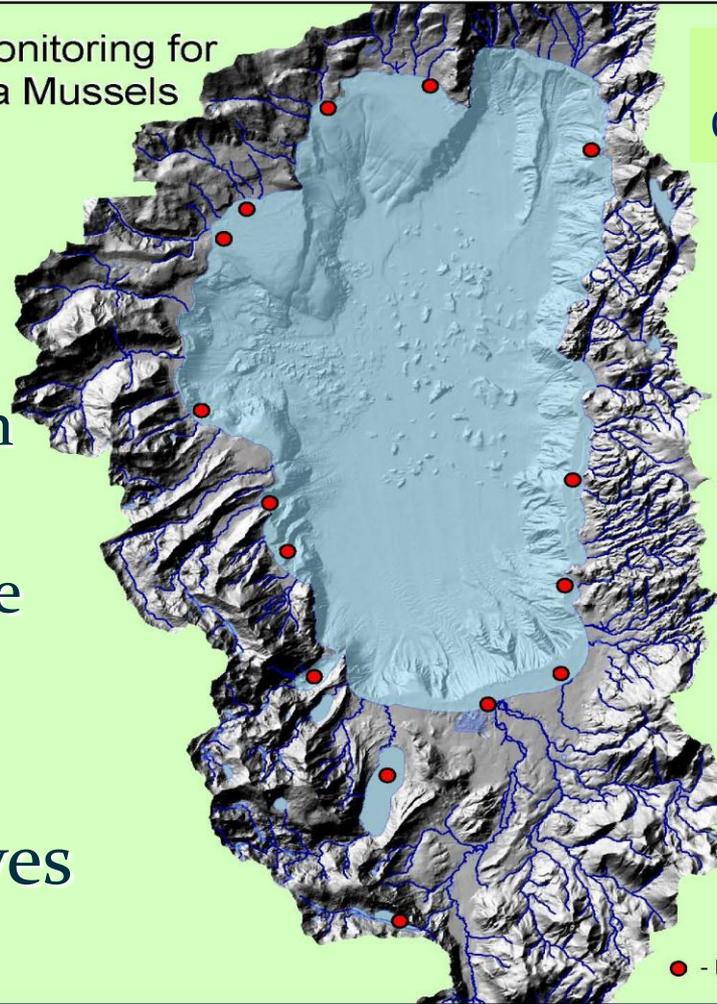
Early Detection Monitoring for  
Quagga & Zebra Mussels

May 2011 –  
Oct 2011

60 plankton  
tows

42 Substrate  
samplers

No Positives



● - Plankton Sampling Locations



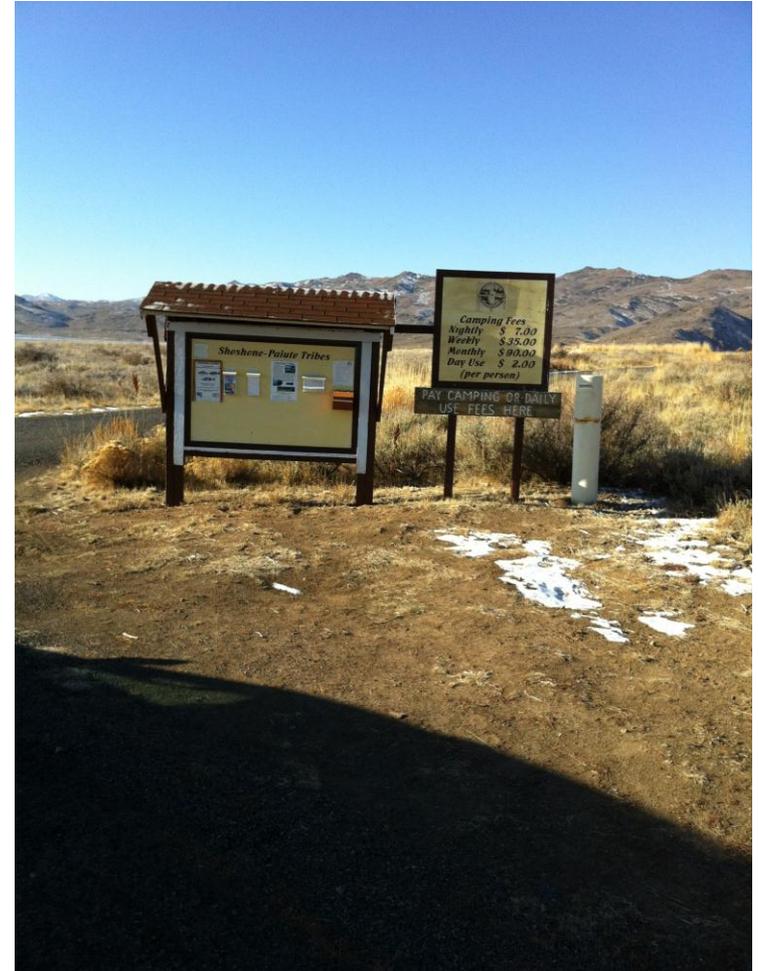


# Regional and National Collaboration and Coordination



# Collaboration

- Regional Coordination
  - Truckee
    - Tahoe RCD
  - Northern Nevada
    - USFWS -Wild Horse
    - NDOW – Inspection program
  - Eldorado/Amador
    - Multi agency effort beginning



# Collaboration

- Western States
  - Western Regional Panel
  - Coordinated Outreach
    - Western States Rack Card
    - **Clean, Drain, Dry!**
  - Lake Mead Containment
    - Congressional engagement
  - Ballast Tanks
    - Working with Manufacturers

## WESTERN STATES Boat Inspections

Prevent the spread of Aquatic Invasive Species





New Zealand mudsnail    Quagga mussel    Eurasian watermilfoil

### Western States Boat Inspection Information

**We're All in This Boat Together**

**Arizona:**  
Department of Fish & Game - [www.azgfd.gov.ais](http://www.azgfd.gov.ais)  
Arizona Center for Invasive Species  
[www.az.gov/invasivespecies](http://www.az.gov/invasivespecies)

**California:** Department of Fish & Game  
[www.dfg.ca.gov/invasives/quaggamussel](http://www.dfg.ca.gov/invasives/quaggamussel)

**Colorado:** Parks & Wildlife  
[www.wildlife.state.co.us](http://www.wildlife.state.co.us)  
[www.parks.state.co.us](http://www.parks.state.co.us) (303) 291-7295

**Idaho:**  
[www.InvasiveSpecies.Idaho.gov](http://www.InvasiveSpecies.Idaho.gov) (877) 336-8676

**Lake Tahoe (Northern CA & NV):**  
[TahoeBoatInspections.com](http://TahoeBoatInspections.com) (888) 824-6267

**Montana:**  
MDA Noxious Weed Program (406) 444-3140  
[www.agr.mt.gov/invasives](http://www.agr.mt.gov/invasives)  
FWP Fisheries Office (406) 444-7819  
[fwp.mt.gov](http://fwp.mt.gov)

**Nevada:** Department of Wildlife  
[www.NDOW.org](http://www.NDOW.org)

**Nebraska:** Nebraska Invasive Species Project  
[www.snr.unl.edu/invasives/boater.htm](http://www.snr.unl.edu/invasives/boater.htm)

**North Dakota:**  
[www.gf.nd.gov/fishing/ans.html](http://www.gf.nd.gov/fishing/ans.html)

**Oregon:**  
Oregon State Marine Board - [www.boatoregon.com](http://www.boatoregon.com)  
[www.dfw.state.or.us](http://www.dfw.state.or.us) (503) 947-6000

**South Dakota:** Game, Fish & Parks  
[www.gfp.sd.gov/wildlife/nuisance/aquatic](http://www.gfp.sd.gov/wildlife/nuisance/aquatic)  
(605) 223-7700

**Utah:**  
[www.wildlife.utah.gov/dwr/invasive-mussels](http://www.wildlife.utah.gov/dwr/invasive-mussels)  
[www.stateparks.utah.gov](http://www.stateparks.utah.gov)

**Washington:** Department of Fish & Wildlife  
[www.wdfw.wa.gov/ais](http://www.wdfw.wa.gov/ais)  
(888) WDFW-AIS

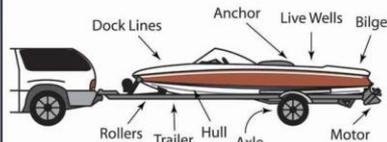
**Wyoming:**  
[gf.state.wy.us/fish/AIS](http://gf.state.wy.us/fish/AIS)  
(877) WGFDAIS or (877) 943-3247

**National Aquatic Invasive Species Info:**  
[www.ProtectYourWaters.net](http://www.ProtectYourWaters.net)



We're All in This Boat Together

Expect Inspections  
**Clean. Drain. Dry.**  
Everything....Everytime!







# Collaboration

- National
  - Asian clam coordination
    - Lake George, NY
    - Lake Pend Oreille, ID
  - Model for prevention program
    - Lake George, NY
    - Christmas Lake, MN
    - Washington State



# Questions and Comments?

RESTORATION IN PROGRESS  
LAKE TAHOE ENVIRONMENTAL IMPROVEMENT PROGRAM

*continuing the commitment*





# Continual Improvement

Prevent

- Evaluate changes in risk
  - Proximity of infected lakes
  - Other lake's inspection program success
  - Identified issues
  - Environmental conditions
  - Target Species specific information
  - Number of vessels detected with AIS increases greatly





# Continual Improvement

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Prevent

- Logistics of Decontamination
- Potential Decontamination Damage
- Staffing and messaging for Non-Motorized



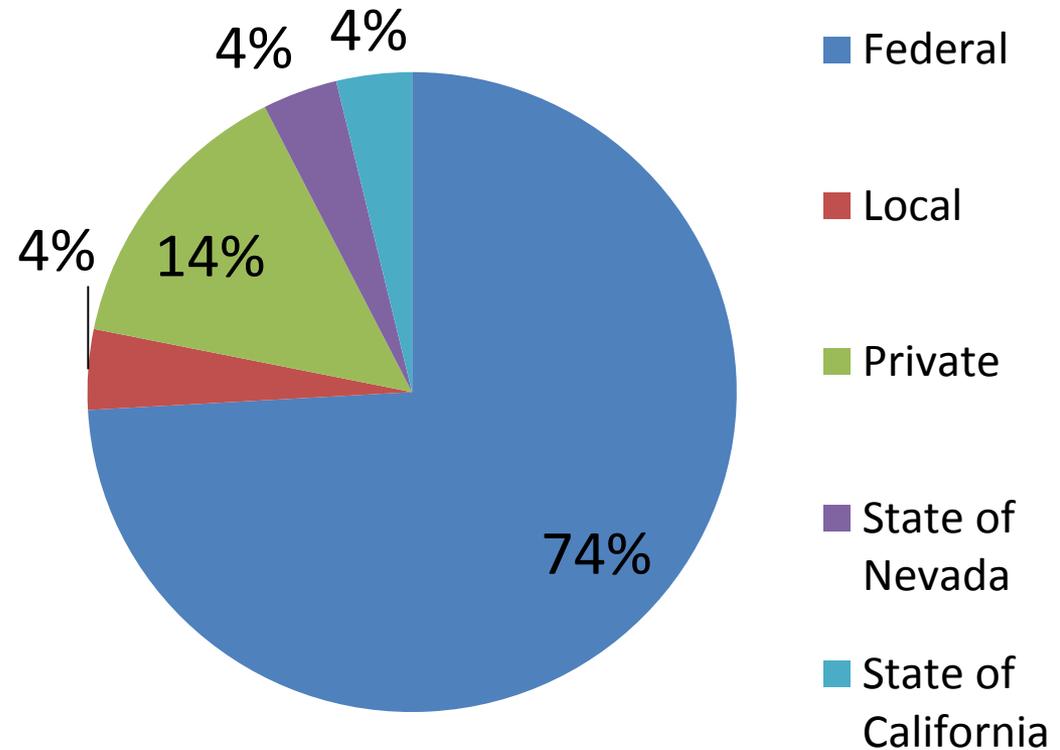


# Program Needs

- Long Term Finance Plan

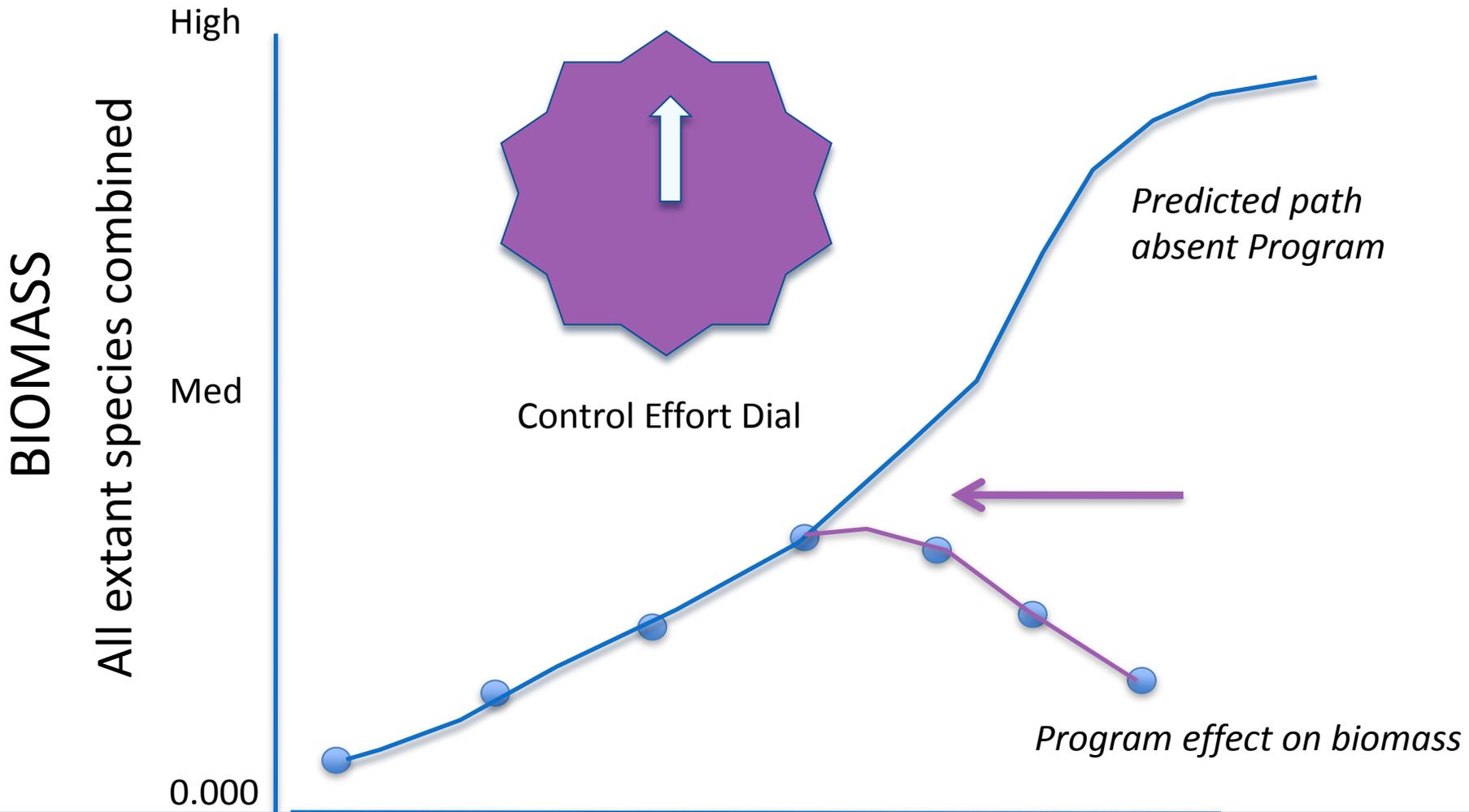
- Diversified Funding
- Extra Regional Approach
  - Possible economies of scale through cost sharing
- Costs and Benefits

LT AIS Program Expenditures by Sector 2009 -2011



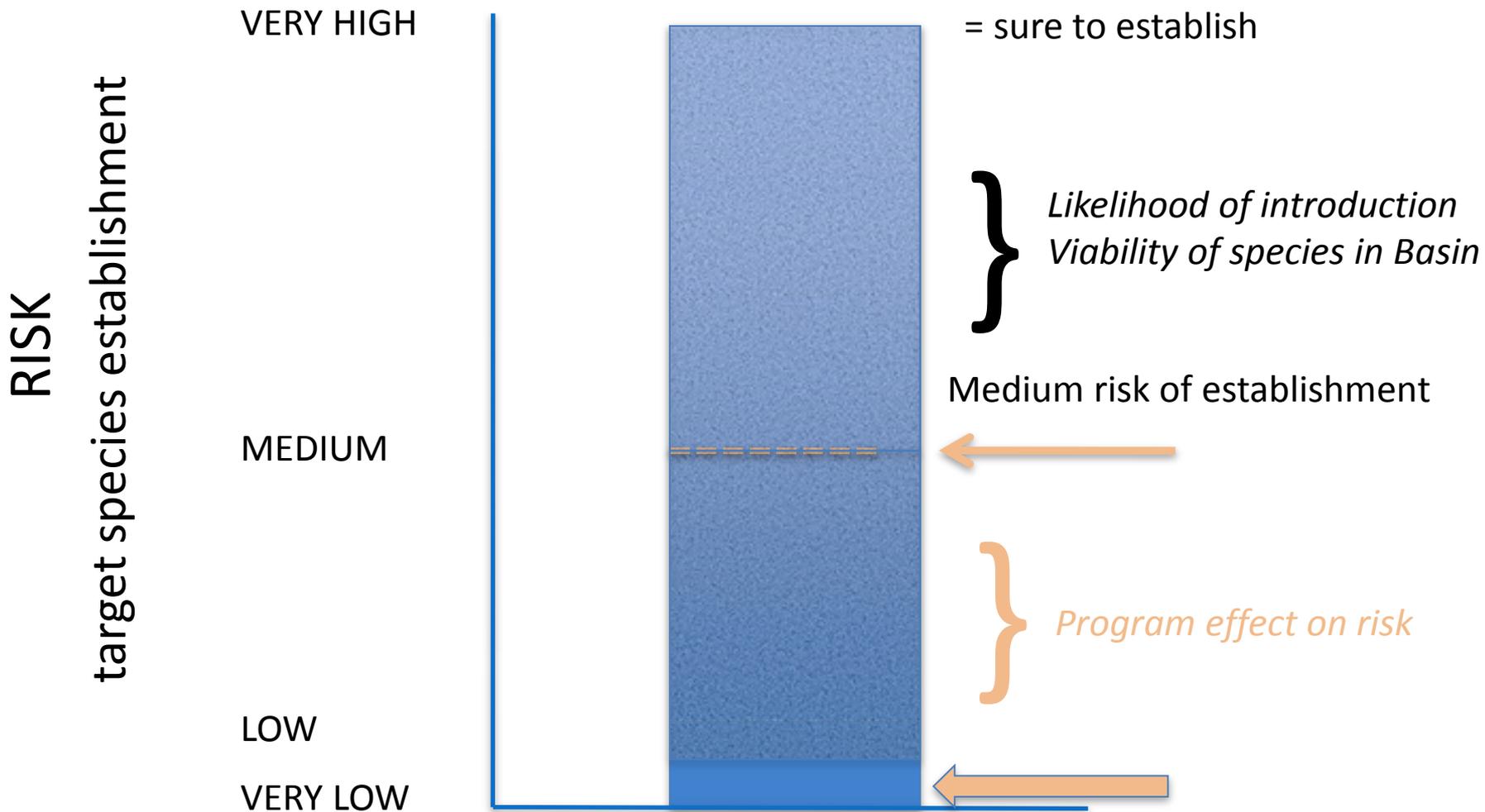


# Effect on Biomass





# Risk of Establishment





# Program Effect on Risk

