OREGON INVASIVE SPECIES COUNCIL

# Informational Hearing: Invasive Species

House Committee on Agriculture & Natural Resources
April 25, 2017

# WHAT IS AN INVASIVE SPECIES?

*"(a) **Non-native** organism that causes economic or environmental **harm** and are **capable of spread** to new areas of the state"*

—ORS 570.750

*Credit: © Dan Sharrat, Oregon Department of Agriculture*

# WHY SHOULD WE CARE?

Invasive species issues are bipartisan issues affecting Oregon's economic and natural resources as well as human health in many cases.

Strawberry Lake, Photo Credit Eli Boschetto, traveloregon.com

# CONSEQUENCES OF INVASION

## 1. High costs of control, losses to industry.

- Scotch broom and Himalayan blackberry: $80 million/year in OR, the loss of 1,700 jobs (ODA 2014)
- Asian gypsy moth potential: $4.3 billion (USFS)
- Emerald ash borer: $3.5 billion in costs to date, and rising (Aukema 2011)

## 2. Increased pesticide use

## 3. Human health concerns

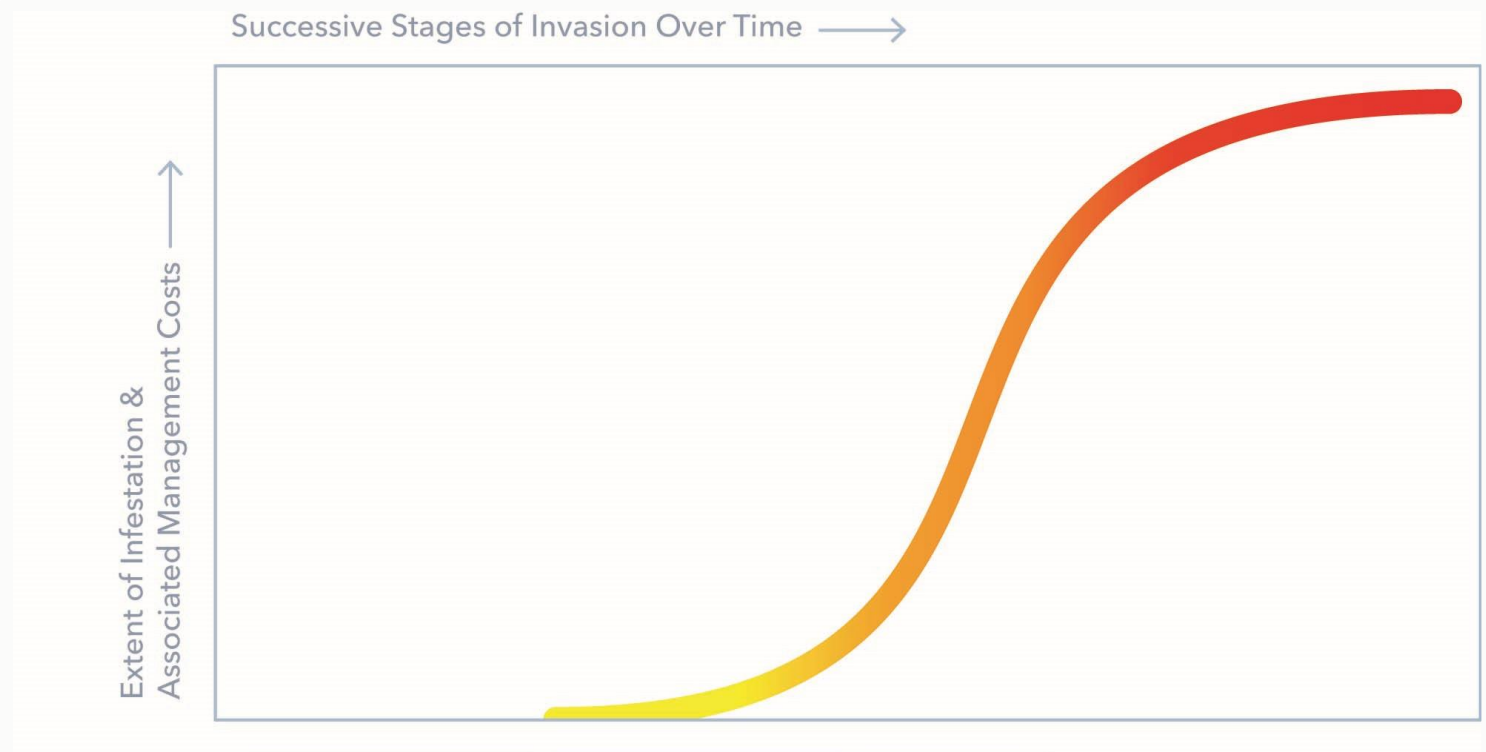
- Cardiovascular disease, depression

## 4. Species extinctions

Cheatgrass-fueled fire

*The <u>effects</u> of nonnative species* ***threaten our way of life***

# STAGES OF INVASION




| | Prevention | Eradication | Containment | Long Term Management |
|---|---|---|---|---|
| Population: | Not present in Oregon | Small localized | Rapid increase | Widespread and abundant |
| Strategy: | Most effective and inexpensive point of intervention | Eradication most feasible with rapid response protocols | Eradication feasible with abundant resources | Eradication unlikely; long term sustained resources needed to limit effects and protect resources |

# RETURN ON INVESTMENT


**$1** invested now to keep these 100 out of Oregon
saves **$34** in future management and containment activities!

# PATHWAYS INTO OREGON

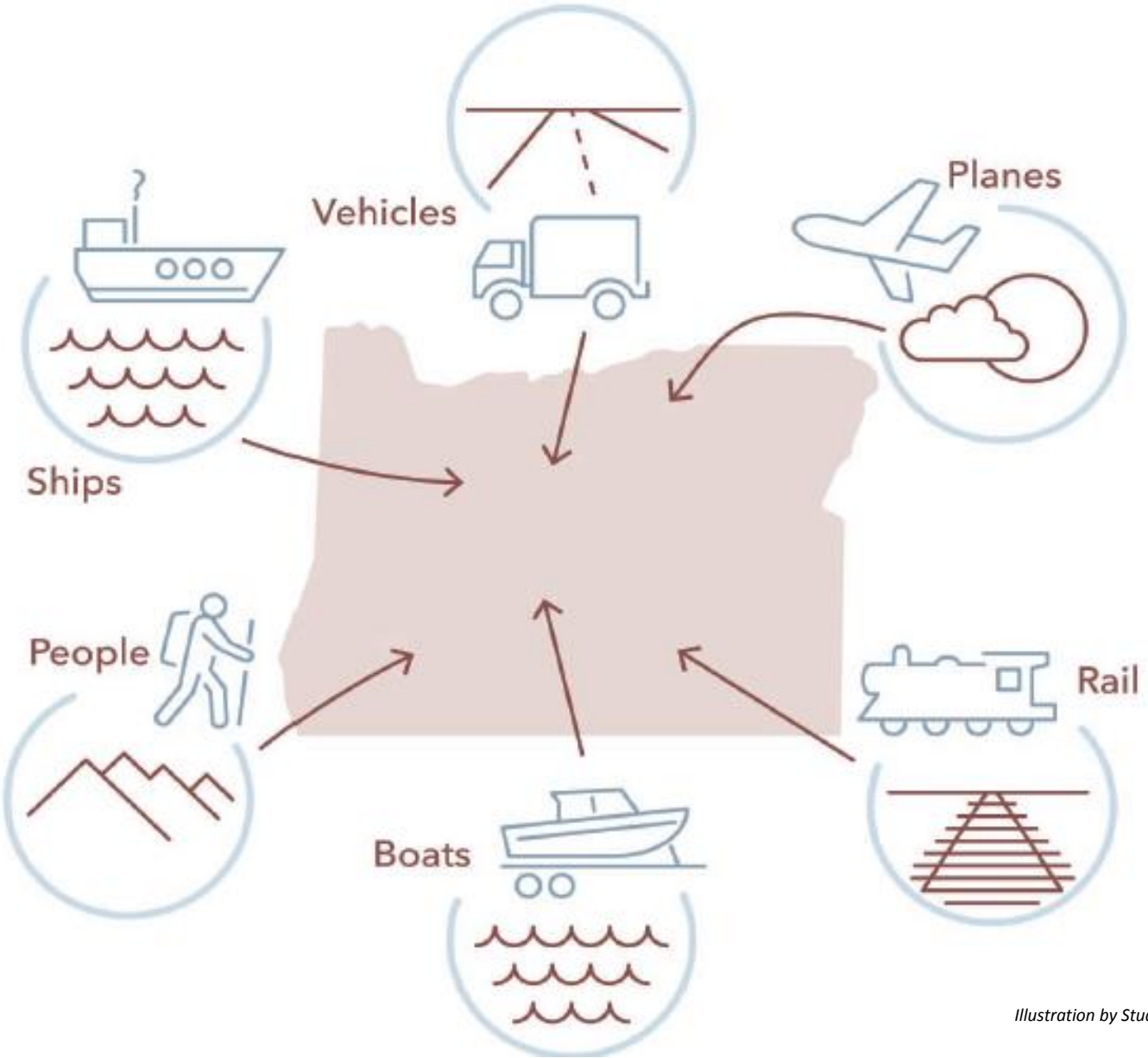



*Illustration by Studio Clear*


Cross-agency collaboration to treat Asian gypsy moth in Portland, 2016

No one entity covers all of invasive species issues.
Demands a coordinated and comprehensive effort.

# INVASIVE SPECIES NETWORK


*Sample of the entities working on invasive species issues*

There are many agencies and NGOs implementing programs to protect Oregon from invasive species

# OREGON INVASIVE SPECIES COUNCIL

The OISC was created in 2001 as “a leader for the conducting of a coordinated and comprehensive effort” to resist introduction and spread of invasive species.

## 7 state institutions (permanent seats):

## 10 rotating members (2-year terms):

# OREGON INVASIVE SPECIES COUNCIL


**Responsibilities set in ORS 570.755 include:**

- Maintain an invasive species **reporting** hotline
- **Educate** the public about invasive species
- Develop a **statewide plan** for invasive species
- Provide a grant/loan program for **eradication** of invasive species

# OREGON INVASIVE SPECIES COUNCIL

Since creation, the OISC has been effective in coordinating between agencies and stakeholders through a variety of efforts:

## Reporting Tools

Oregon Invasive Species Online Hotline

www.oregoninvasiveshotline.org | 1-866-INVADER

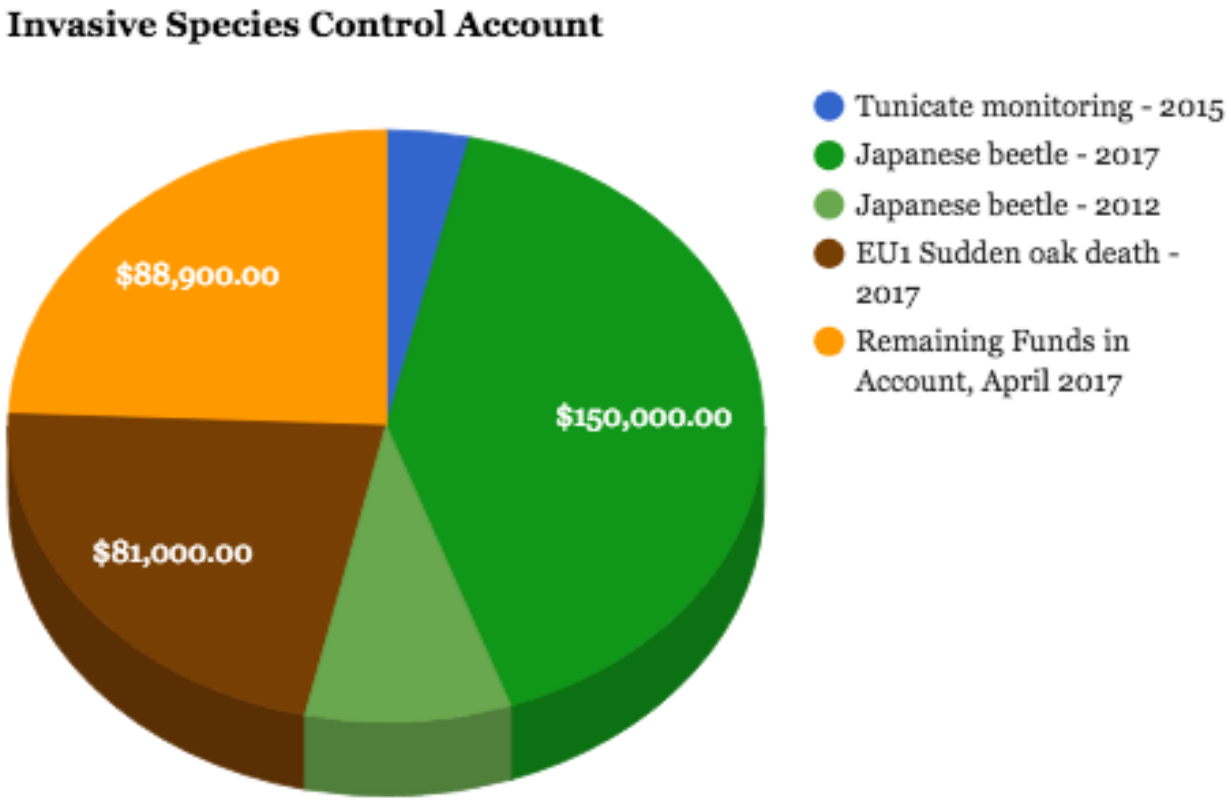
## Public Outreach Campaigns

The Silent invasion


# OREGON INVASIVE SPECIES COUNCIL

Meetings,
Events &
Statewide
Planning


# INVASIVE SPECIES CONTROL ACCOUNT




*Per ORS 570.810*

**Funding appropriated in 2009**

# Statewide Strategic Plan for Invasive Species

## STRATEGIC OBJECTIVES 2017 - 2027



I. Prevention

II. Early Detection & Rapid Response

III. Control & Management

IV. Education & Outreach

V. Coordination & Leadership

# PREVENTION

Strategies include:

- Best Management Practices
- Regional Partnerships

# EARLY DETECTION & RAPID RESPONSE


Strategies include:

- Targeted Monitoring Efforts
- Capacity for Rapid Response

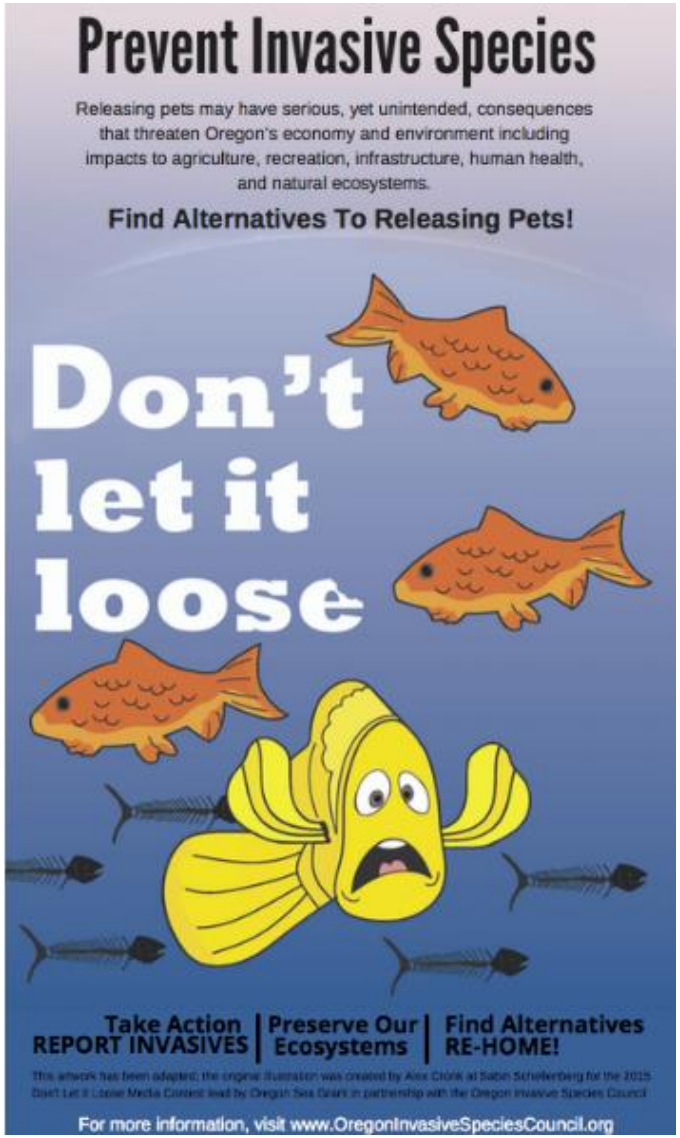
# CONTROL & MANAGEMENT

*Credit © Eric Coombs, Oregon Department of Agriculture*

Strategies include:

- Pathways in and out of affected areas
- Ecosystem Resilience

# EDUCATION & OUTREACH




Strategies include:

- Collaboration: pool expertise and resources
- Promote inclusive outreach

# COORDINATION & LEADERSHIP

Strategies include:

- Funding available to be effective
- Close coordination with Governor's Natural Resources Office

# CURRENT ISSUES

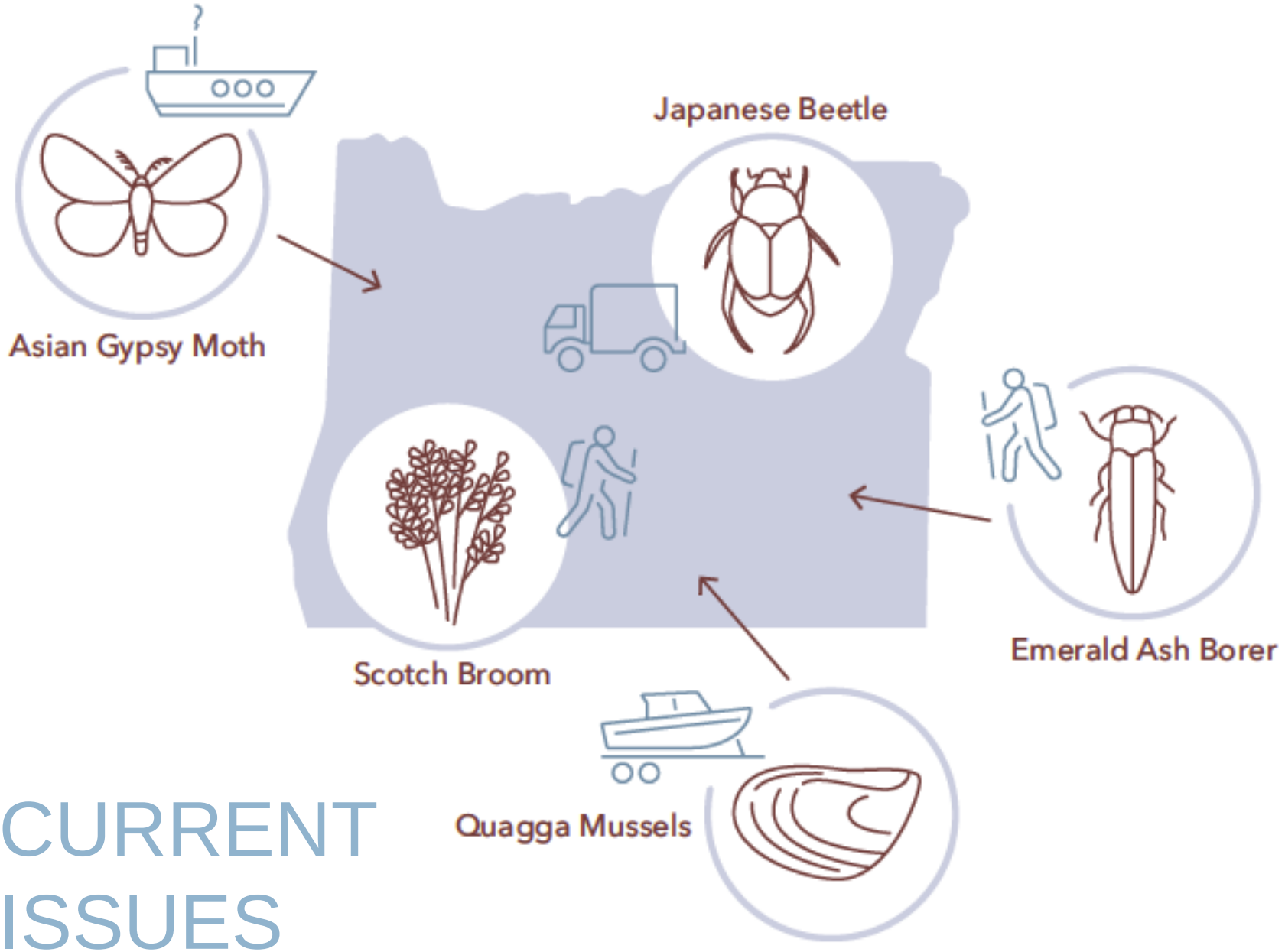



*Illustration by Studio Clear*

# Plant Protection and Conservation Programs

# Prevention

## Early Detection and Rapid Response

- Prevent Introduction of Invasive Pests
- Prevent Establishment
- Reduce Adverse Impact
- Reduce Unnecessary Pesticide Applications
- No Quarantine Restrictions
- More Economic

# Largest Japanese Beetle Infestation

## 2016:

- Japanese Beetle (369) Detections in Cedar Mill and Bethany, NW Portland

## 2017:

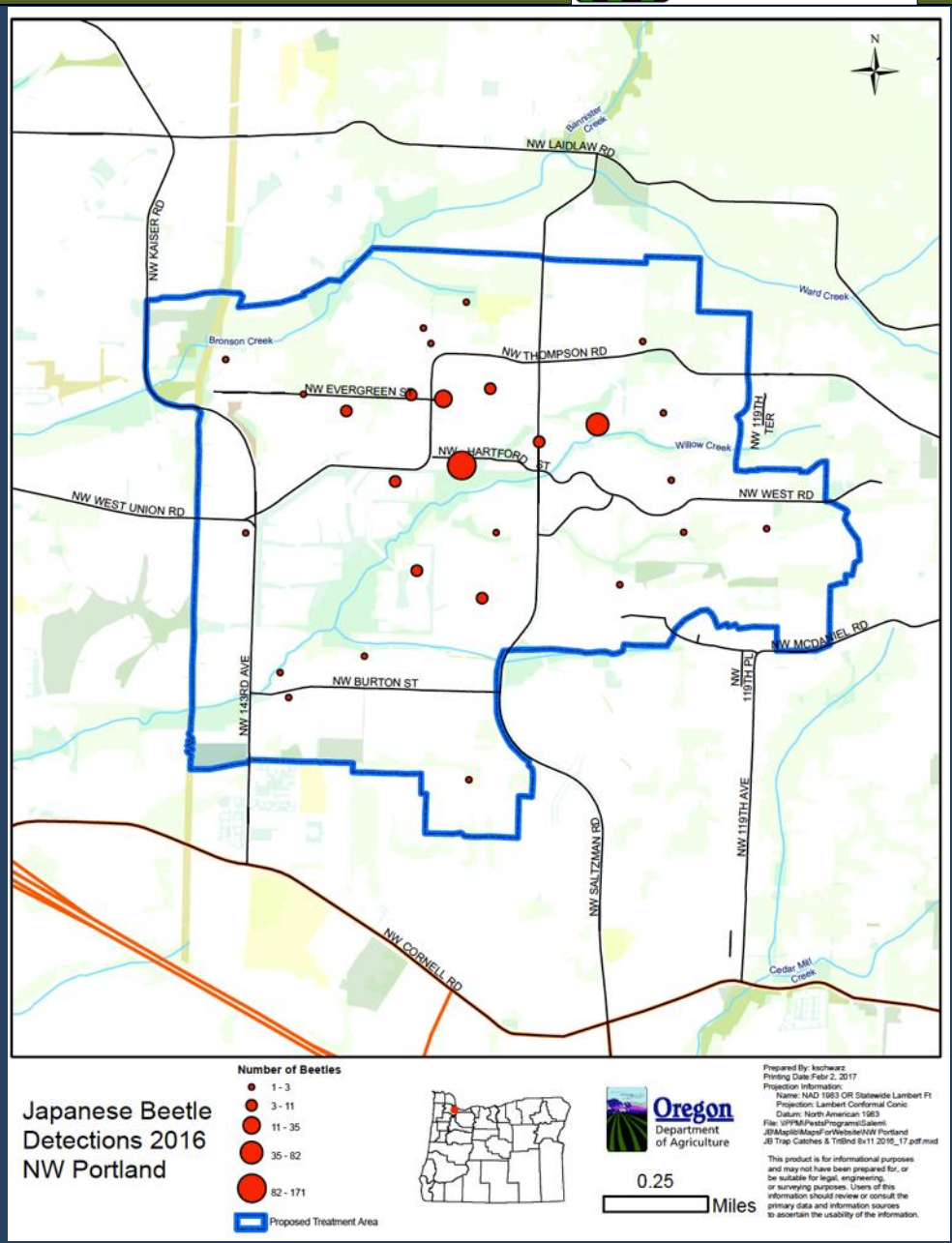
Largest Infestation in 72 years

~2,500 Properties

1,000 Acres

5-year Project

$2.0 Million



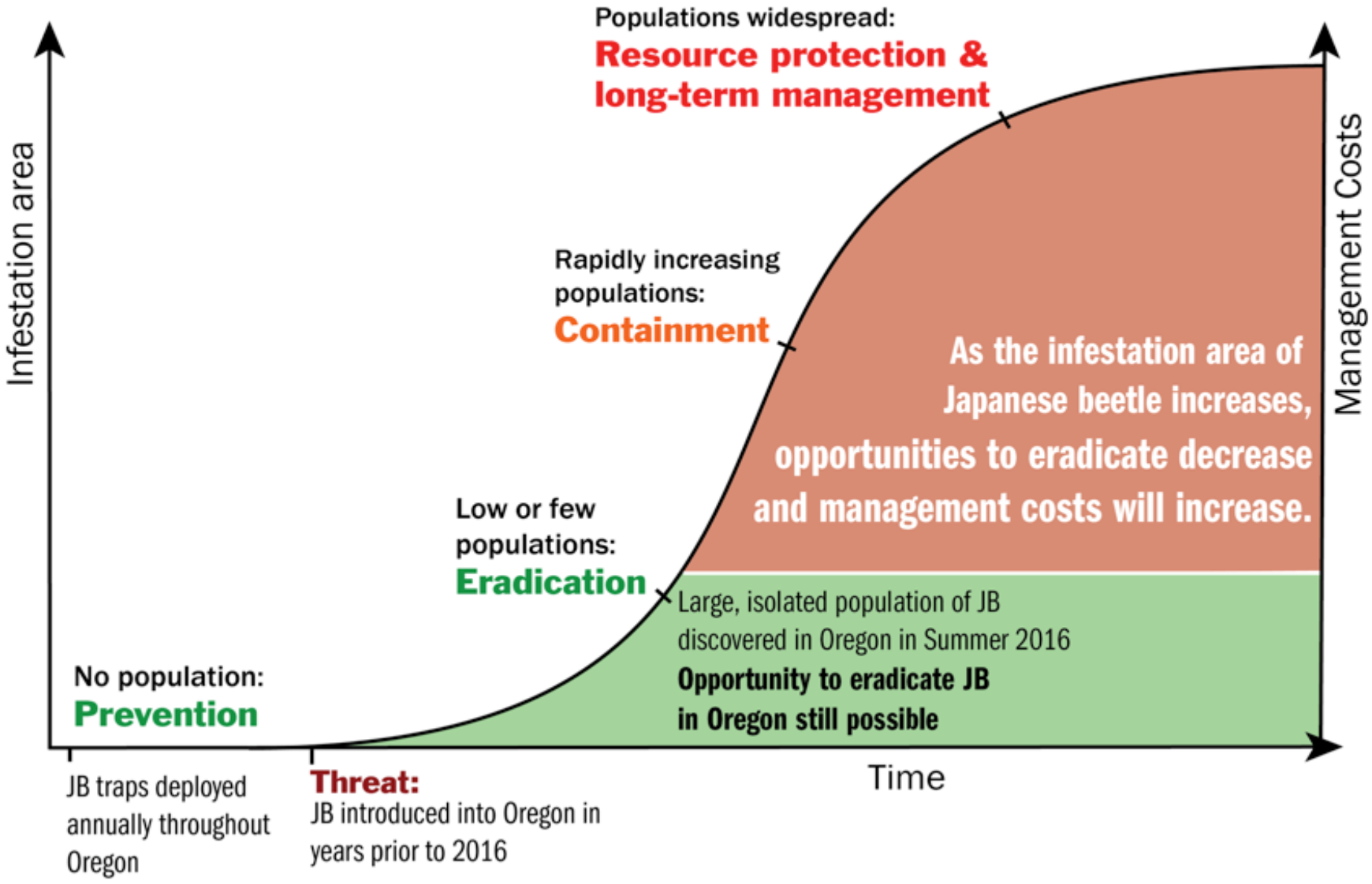
# Why do we care?

**It likes to eat what we eat.**

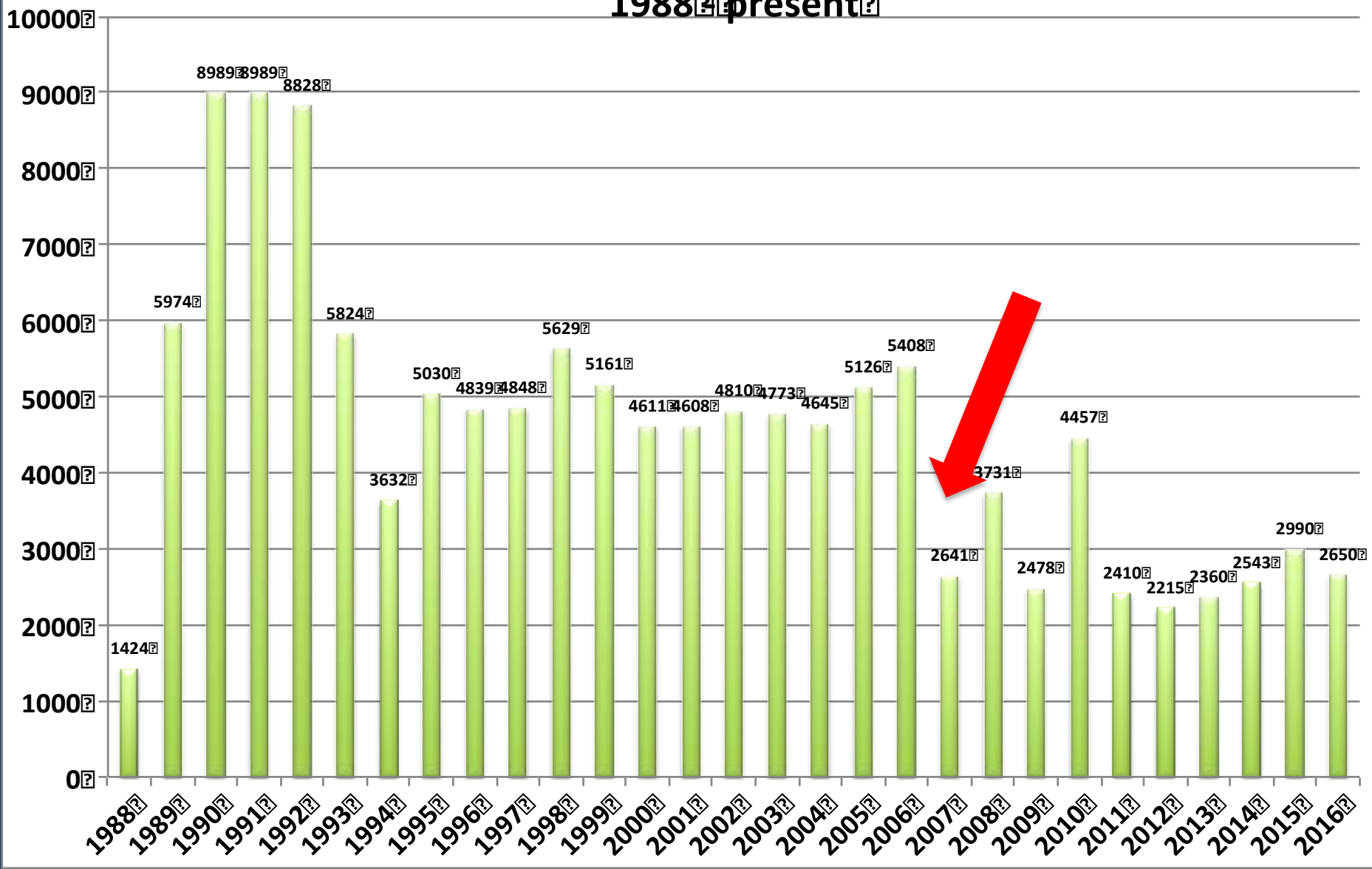

**300+ species**

# Oregon's Nursery Industry is worth $900M

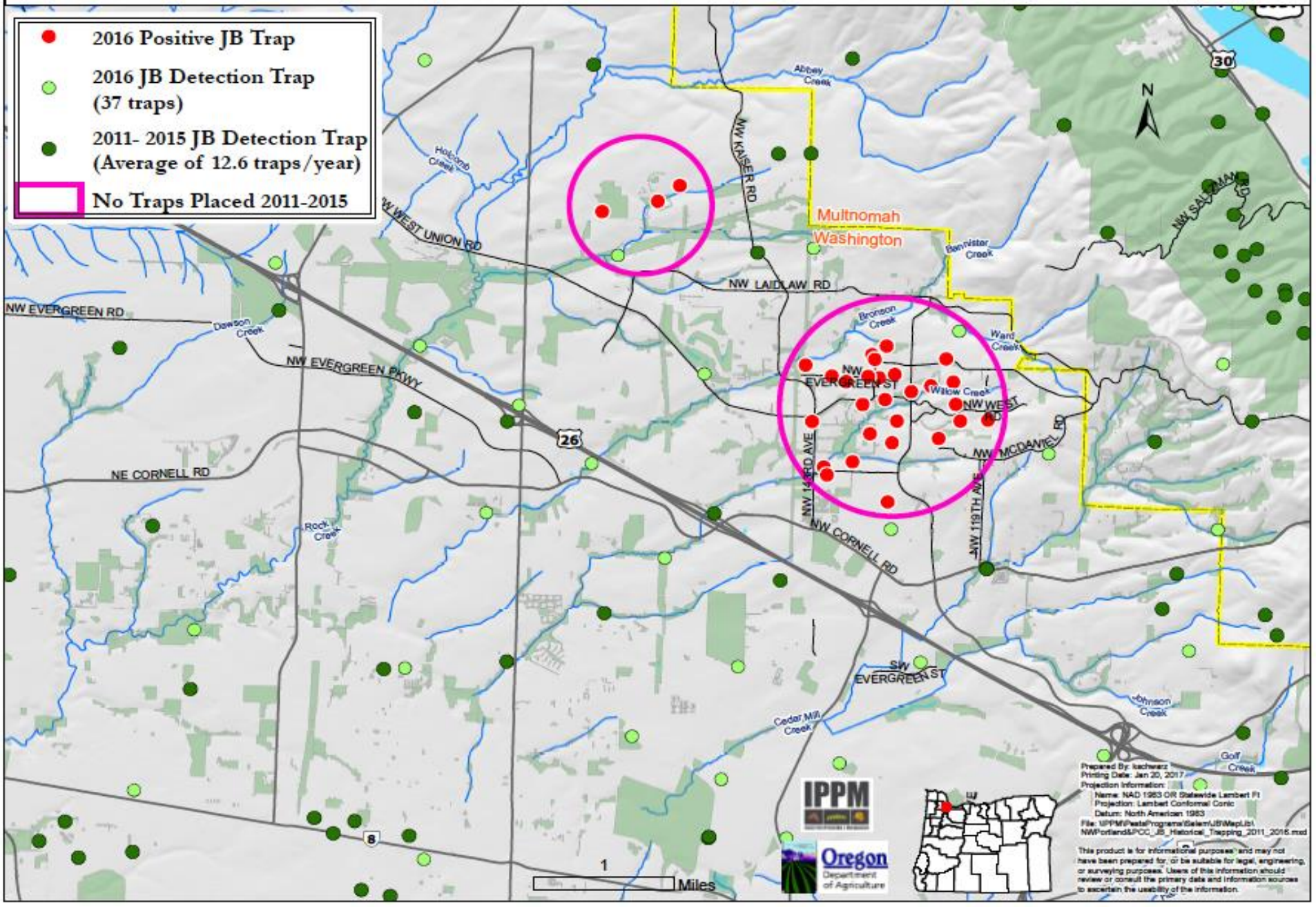
# Oregon's Wine Industry is worth $120M


Populations widespread:
Resource protection &
long-term management
Rapidly increasing
populations:
Containment
Low or few
populations:
Eradication
No population:
Prevention
Infestation area
Management Costs
Time
As the infestation area of
Japanese beetle increases,
opportunities to eradicate decrease
and management costs will increase.
Large, isolated population of JB
discovered in Oregon in Summer 2016
Opportunity to eradicate JB
in Oregon still possible
JB traps deployed
annually throughout
Oregon
Threat:
JB introduced into Oregon in
years prior to 2016

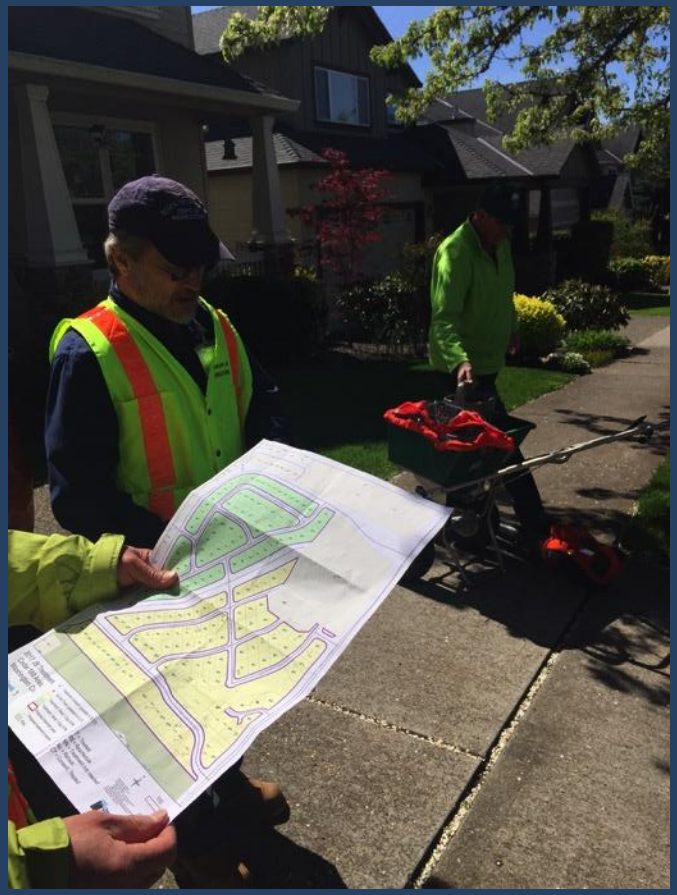
# Number of Japanese beetle traps placed in Oregon 1988 - present



# Japanese Beetle Traps Placed 2011-2016 NW Portland, Oregon

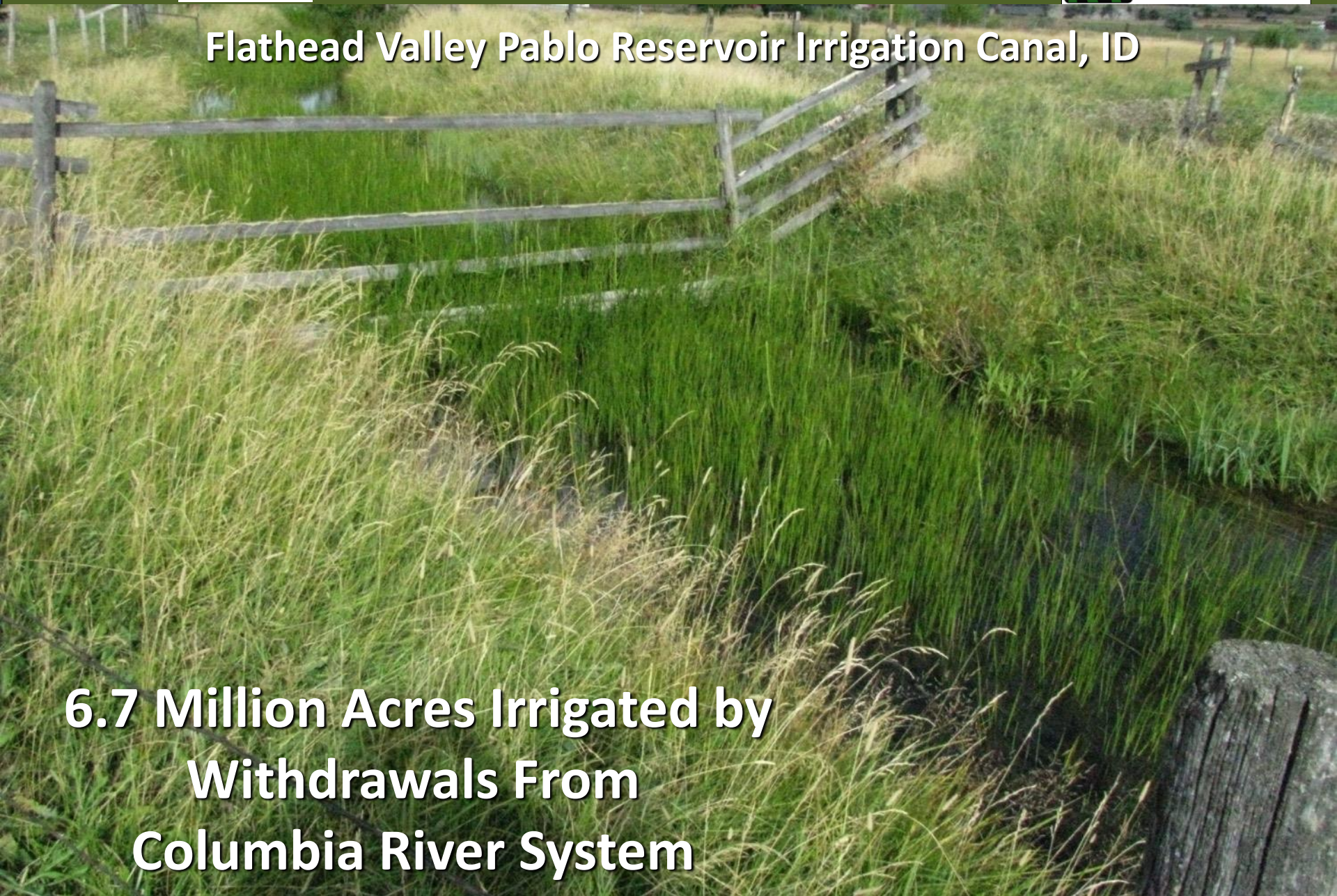


# Eradication Efforts Underway



# Flowering Rush Invading Columbia River

East Bay Flathead Lake, MT



## Flathead Valley Pablo Reservoir Irrigation Canal, ID

# 6.7 Million Acres Irrigated by Withdrawals From Columbia River System

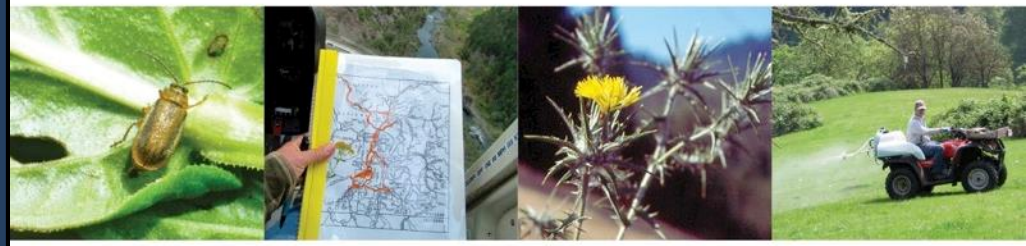
# Prevention

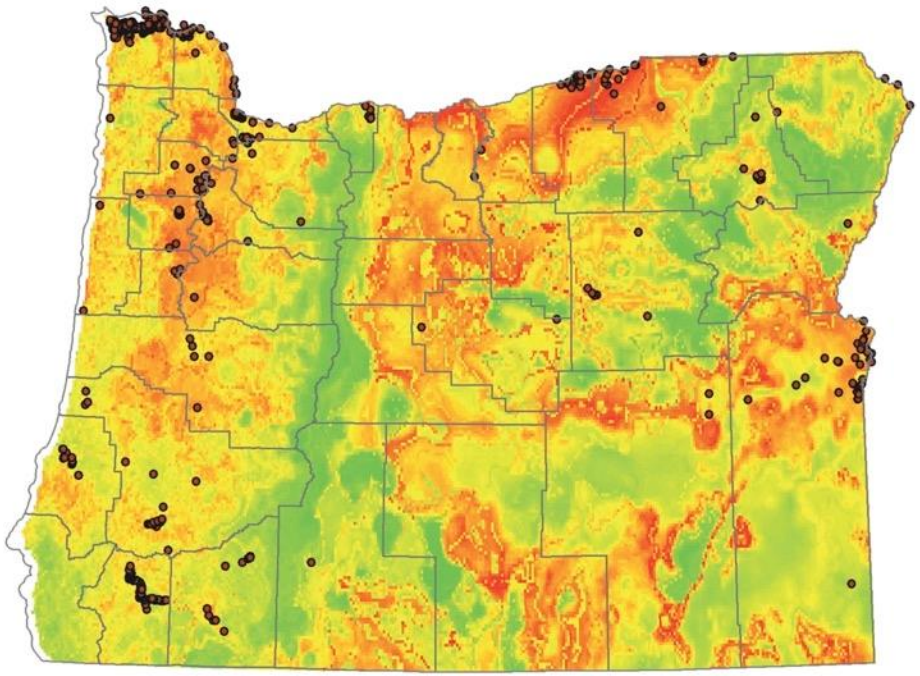
## Early Detection and Rapid Response

- 25 Noxious Weeds causing $83 Million in Economic Damage to Oregon Annually
- If unchecked: Damages up to $1.8 Billion

# Scotch Broom and Blackberry: $80 Million/year

## Economic Analysis of Select Noxious Weeds in Oregon





Oregon Department of Agriculture Plant Program Area
Noxious Weed Control Program

# Biological Control of Weeds

## 1:34 (cost/benefit)

- **77 Agents**
  - beetles
  - flies
  - moths
  - **mites**
  - **nematodes**
  - **Pathogens**
- **31 Noxious We**

# *Ludwigia* Aerial Survey Willamette River

# Plant Health

| Plant Pathogens | Disease |
| --- | --- |
| • *Phytophthora ramorum* | • Sudden Oak Death |
| • *Xylella fastidiosa* | • Pierce's disease, leaf scorch |

# Protecting Oregon's Natural and Agricultural Resources

- Protecting Oregon's Economy
- Watersheds and Water Quality
- Reducing Pesticide Applications
- Biodiversity


- Goal: Train <u>professionals</u> how to identify key invasive pests
- Hybrid online and face-to-face workshops
- Field courses with mock infestations
- SAF, Pesticide, ISA credits

# Sudden Oak Death (*Phytophthora ramorum*)

- ODF detected *P. ramorum* in Curry County, 2001
- ODF: Detection, Eradication, Slow-the-Spread of SOD
- Kills tanoak (*Notholithocarpus densiflorus*) in Oregon


# Previous invaders to Oregon's forests

## White pine blister rust

- Introduced **1910** in Oregon
- Western white pine virtually eliminated from large parts of natural range

## Balsam woolly adelgid

- Introduced **1930** in Oregon
- Subalpine fir mortality in 1950s-1960s
- 10-year average: **100,000 acres/year** of heavy damage in OR

## Port-Orford-cedar root disease

- Introduced **1952** in Oregon
- Drastic drop in Asian export market

## Sudden oak death

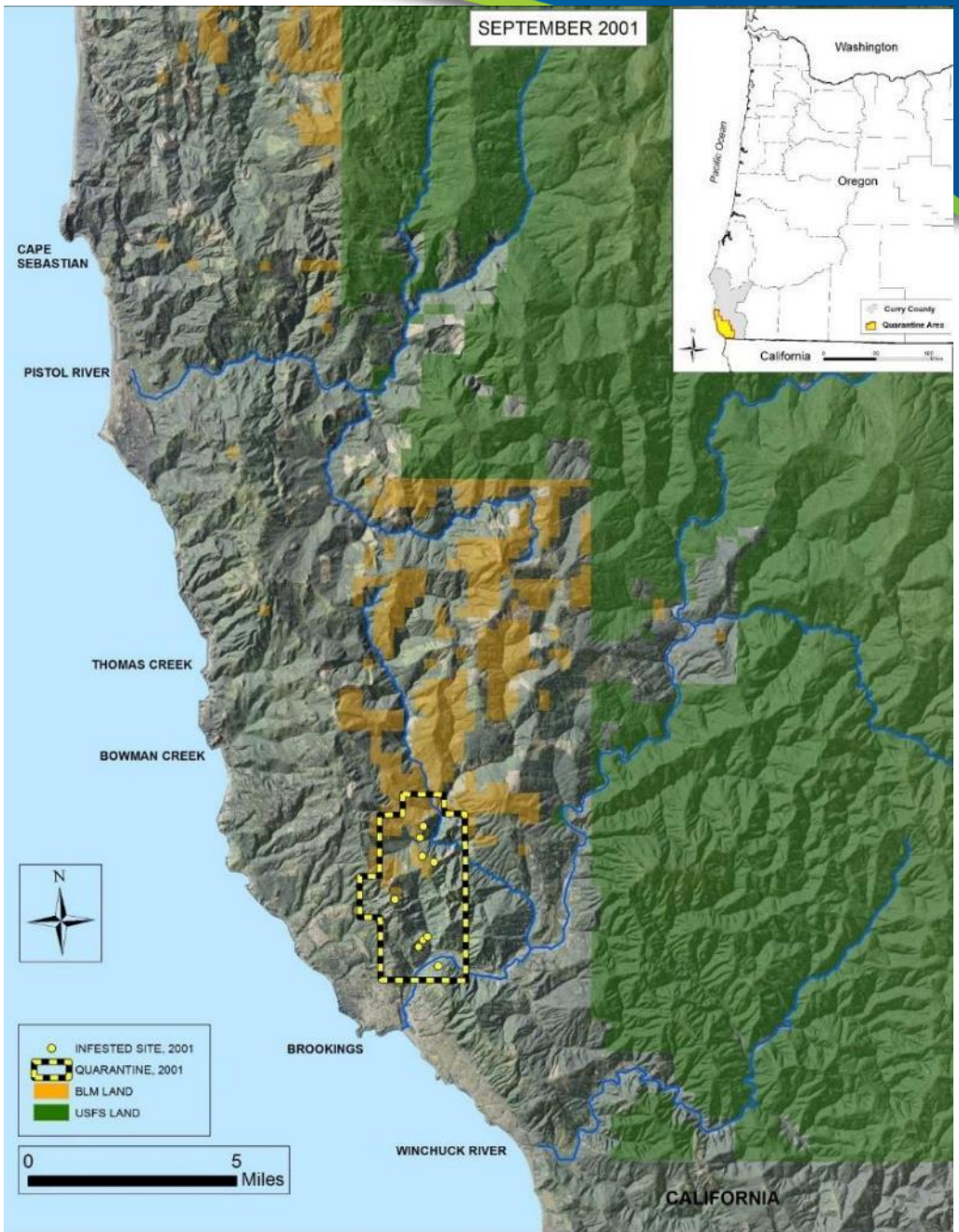
- Introduced **2001** in Oregon
- Kills larch and Douglas-fir in United Kingdom plantations


Danny Norlander photo

# Sudden Oak Death 2001

**New to Oregon in 2001:**

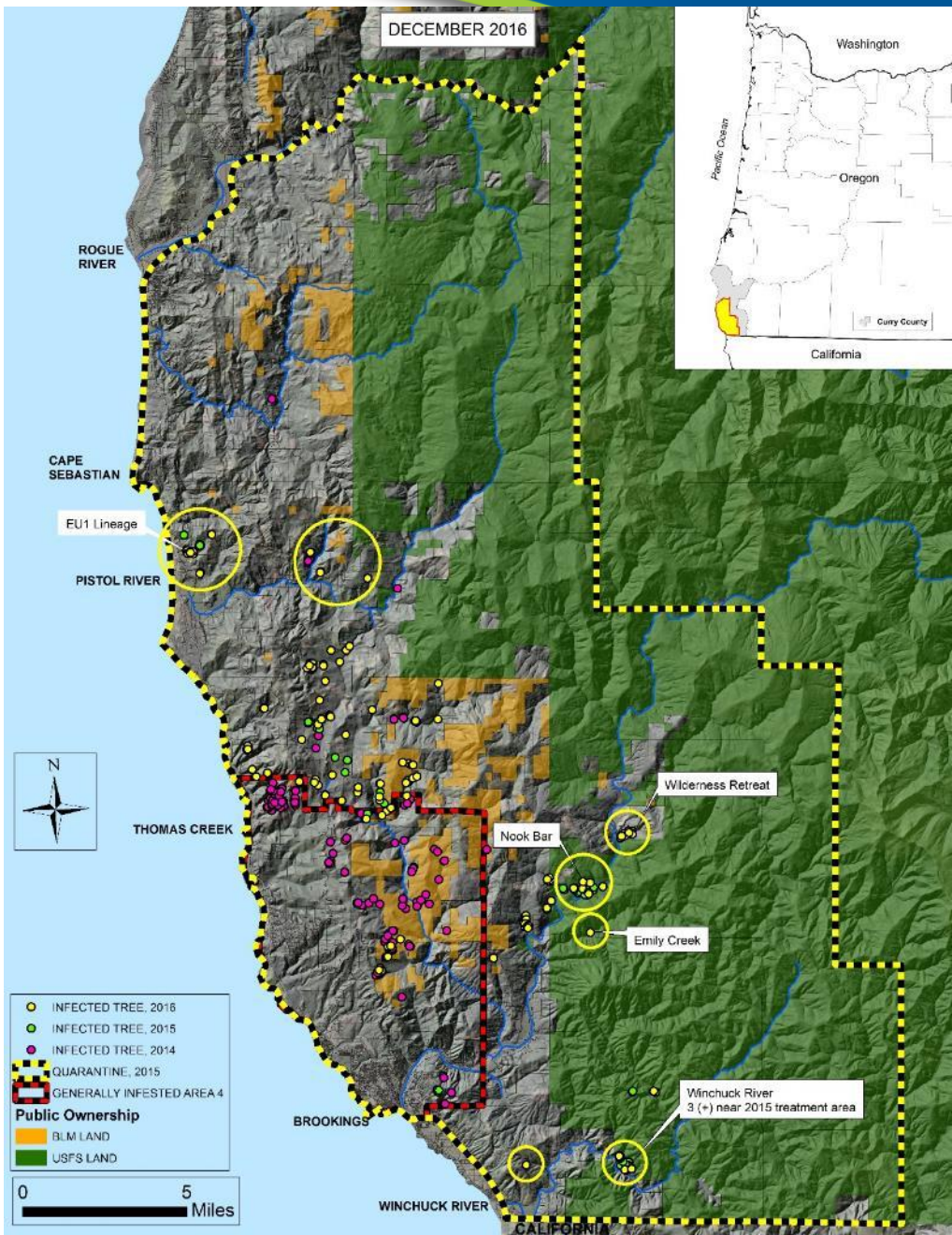
- Nine infestation sites
- Quarantine = 9 sq.mi



# Sudden Oak Death 2016 Update:

**New for 2016:**

- 64 infestations (18 in 2015)
- 600 acres, $2.0 M in <u>potential</u> treatment costs
- EU1 lineage detected (Pistol R.)
- Potential quarantine violation
- E-board funding, Task Force



# Oregon is NOT ready for the next invasion

## We need…

### Increased education and training

- **Detecting new invasive species early and often is key to success**

### Efficient emergency response

- Employ **Incident Command Structure**; similar to wildland fire
- Dedicated funding for invasive species emergencies
- ICS was used for the 2016 Asian gypsy moth eradication

### Research & development

- **New techniques** for early detection, eradication, long-term management

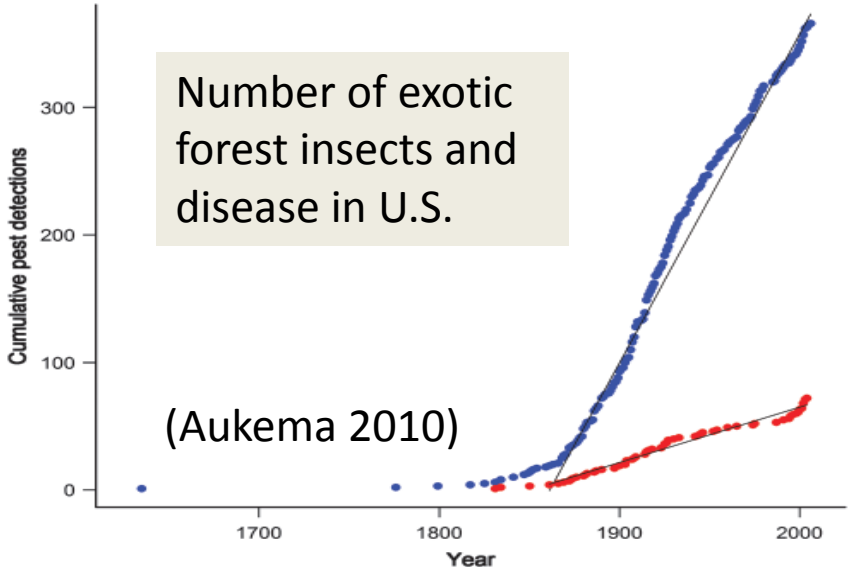
### New regulations

- Tough penalties for importing damaging invasive forest species
- Consider **fee-based protection** of forest assets

# Summary

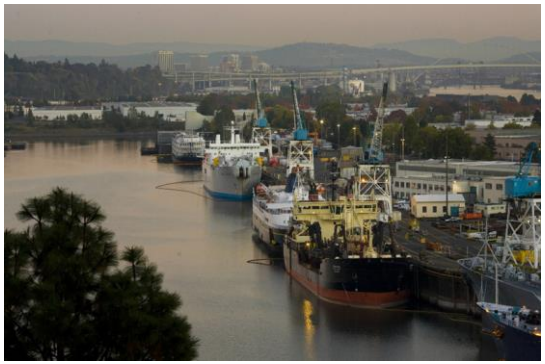
- Invasive species are accelerating
- Oregon has been successful in eradicating new species
- Requires group effort to meet challenges
- Similar to climate change and fire, **new invasive species will affect Oregon's forests**

32% chance that new invasive species, as costly as EAB, will invade the U.S. within the next 10 years (Aukema 2011)



# AQUATIC Invasive Species

# Oregon Ballast Water Program (DEQ)



## Program Objective

**Prevent** AIS from commercial shipping ballast water transfer (transoceanic and domestic voyages)

## Strategy

Establish and enforce management practices that:

- prevent transfer and release of non-indigenous aquatic species to Oregon waters, and
- are compatible within the broader federal and international shipping regulatory framework

# Oregon Ballast Water Program (DEQ)

- Program Activities
  - Pre-arrival screening for regulatory compliance and high-risk ballast transfer
  - Inspection and compliance verification sampling
  - Outreach and technical assistance
  - Stakeholder coordination
  - Policy analysis and development

- Program funding
  - 50/50 cost share between vessel fee and GF
  - Supports 1.6 FTE effort



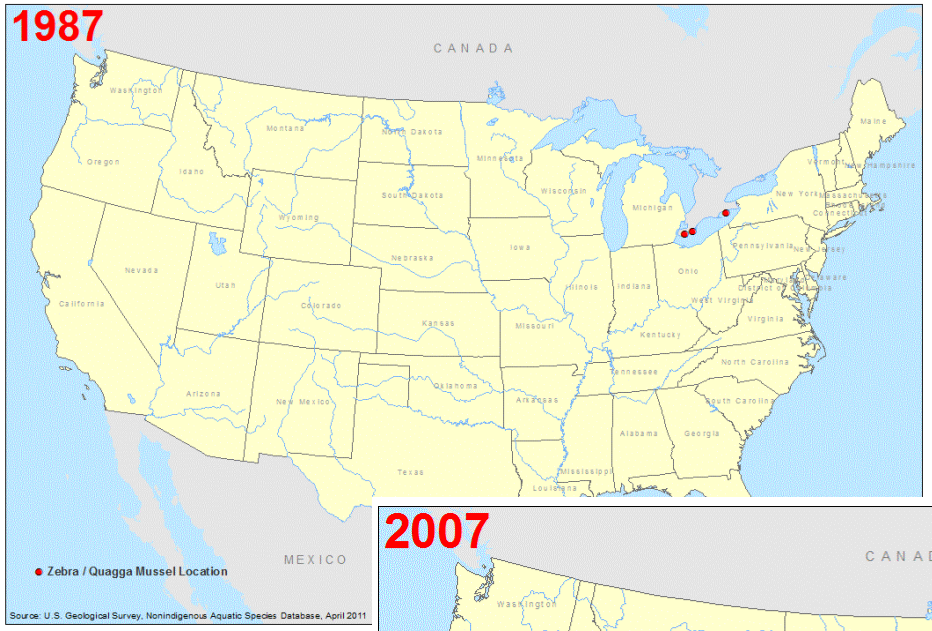
Oregon Ballast Water Management Program (webpage: http://www.deq.state.or.us/lq/cu/emergency/ballast.htm)

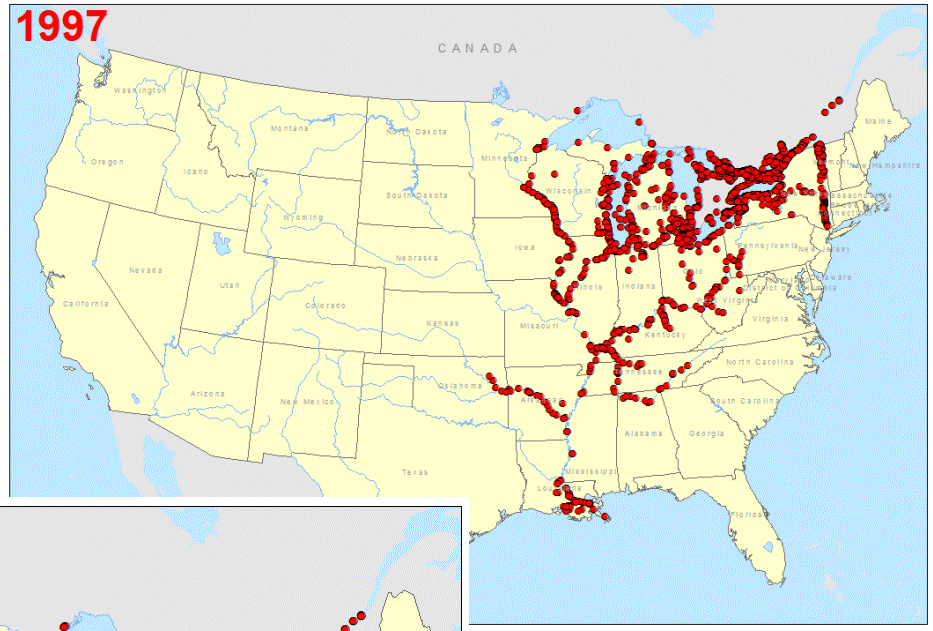
# Zebra & Quagga Mussels

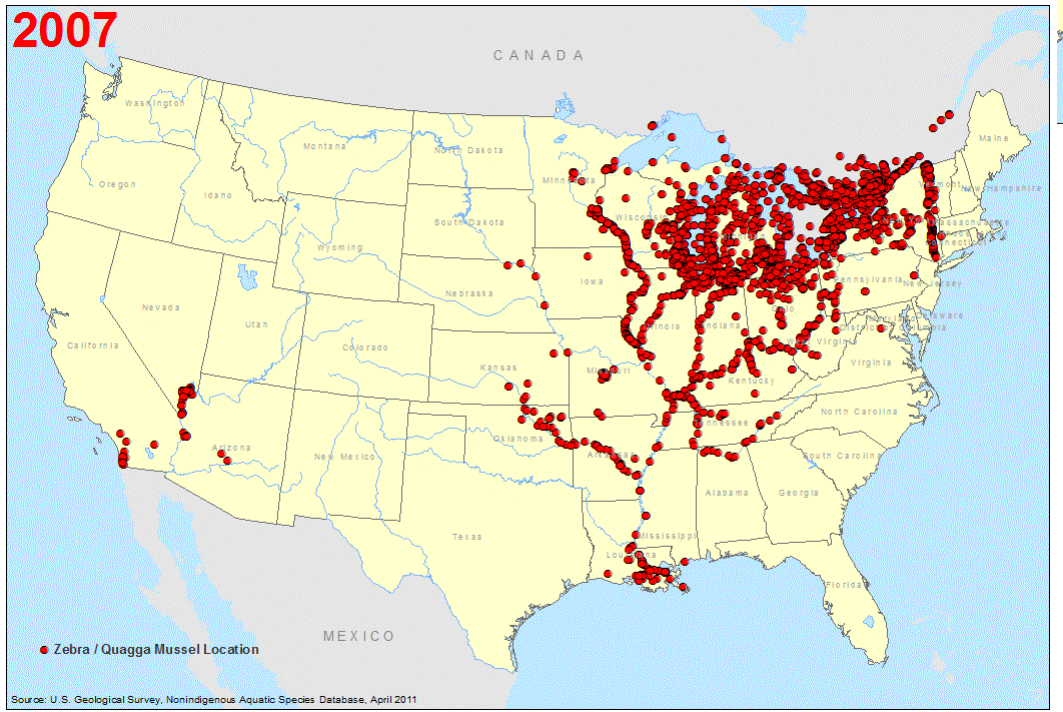
Transported during the 1980's within the ballast water of transoceanic ships to the Great Lakes



# Zebra & Quagga Mussels



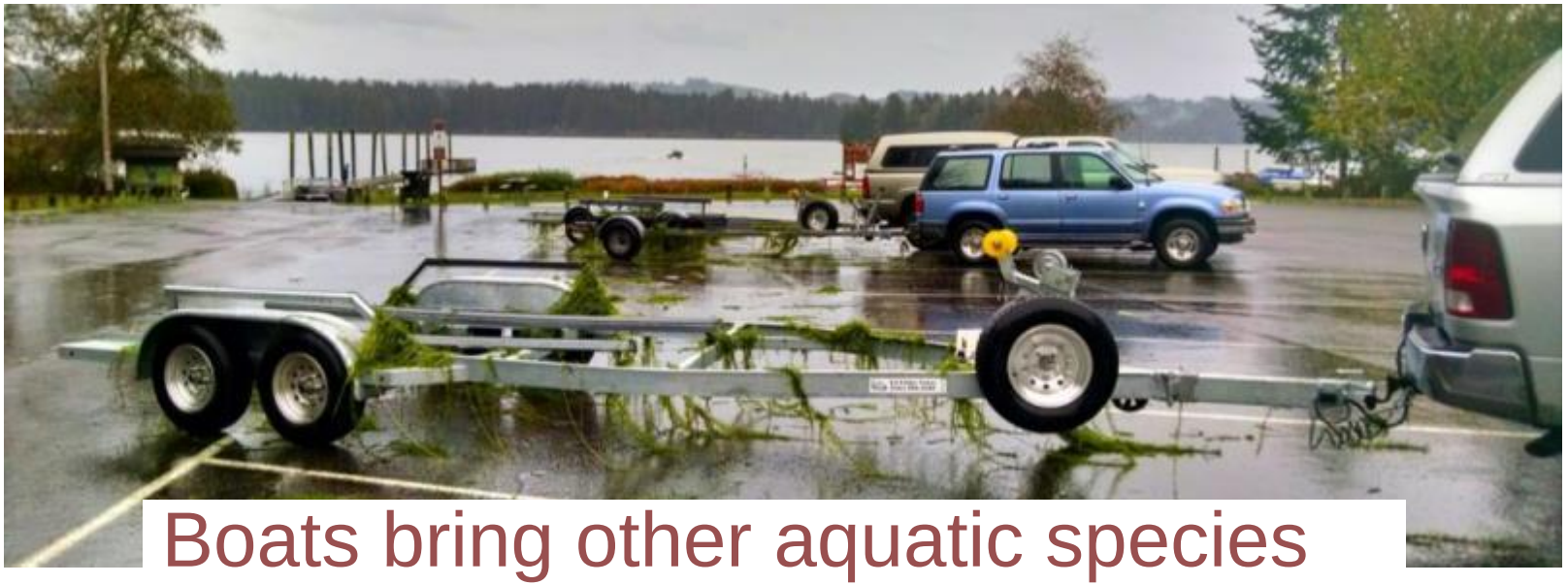



# PATHWAYS OF MOVEMENT

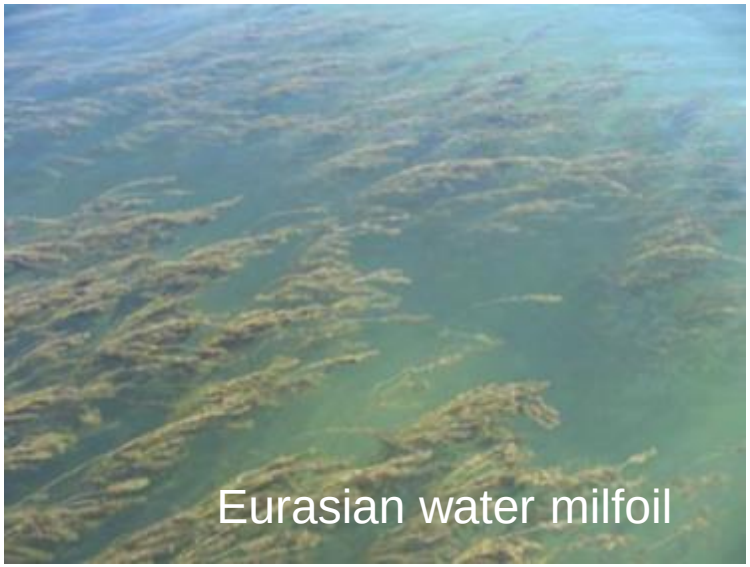
Boats from infested waters with:

- Attached Zebra/Quagga mussels
- Standing water in boat

# PATHWAYS OF MOVEMENT



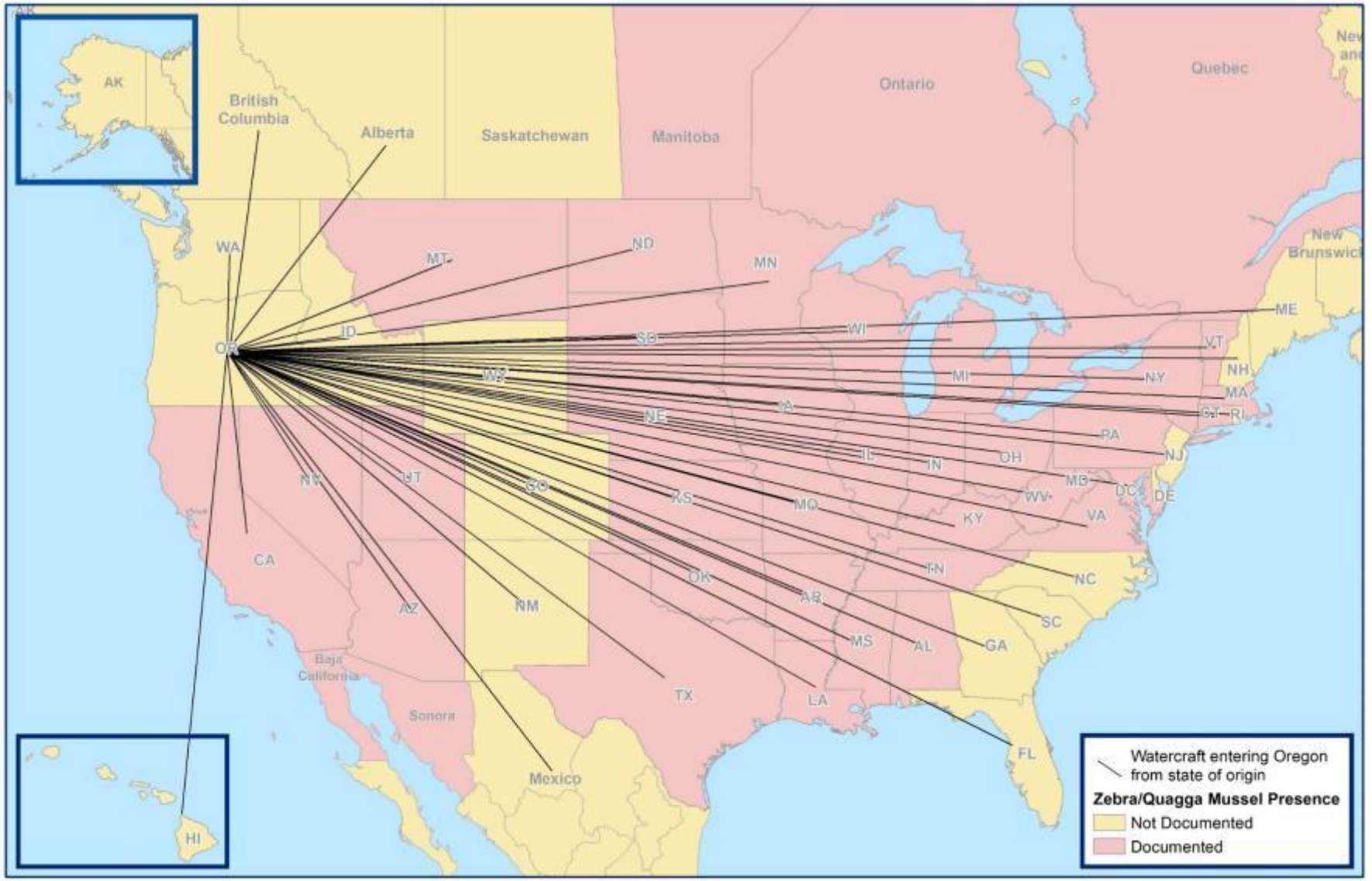
Boats bring other aquatic species



Eurasian water milfoil


Hydrilla

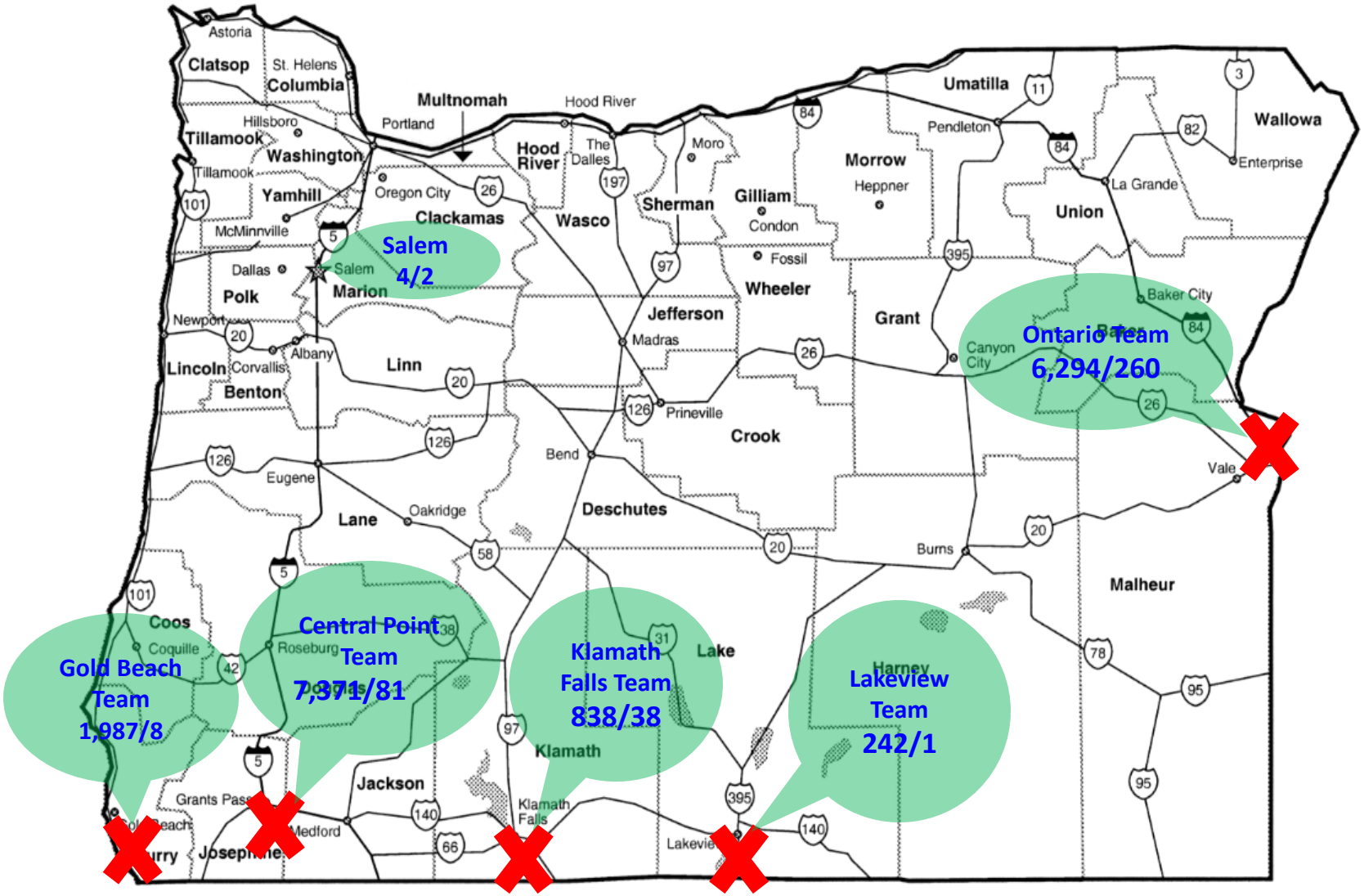
# WHERE ARE THEY COMING FROM?



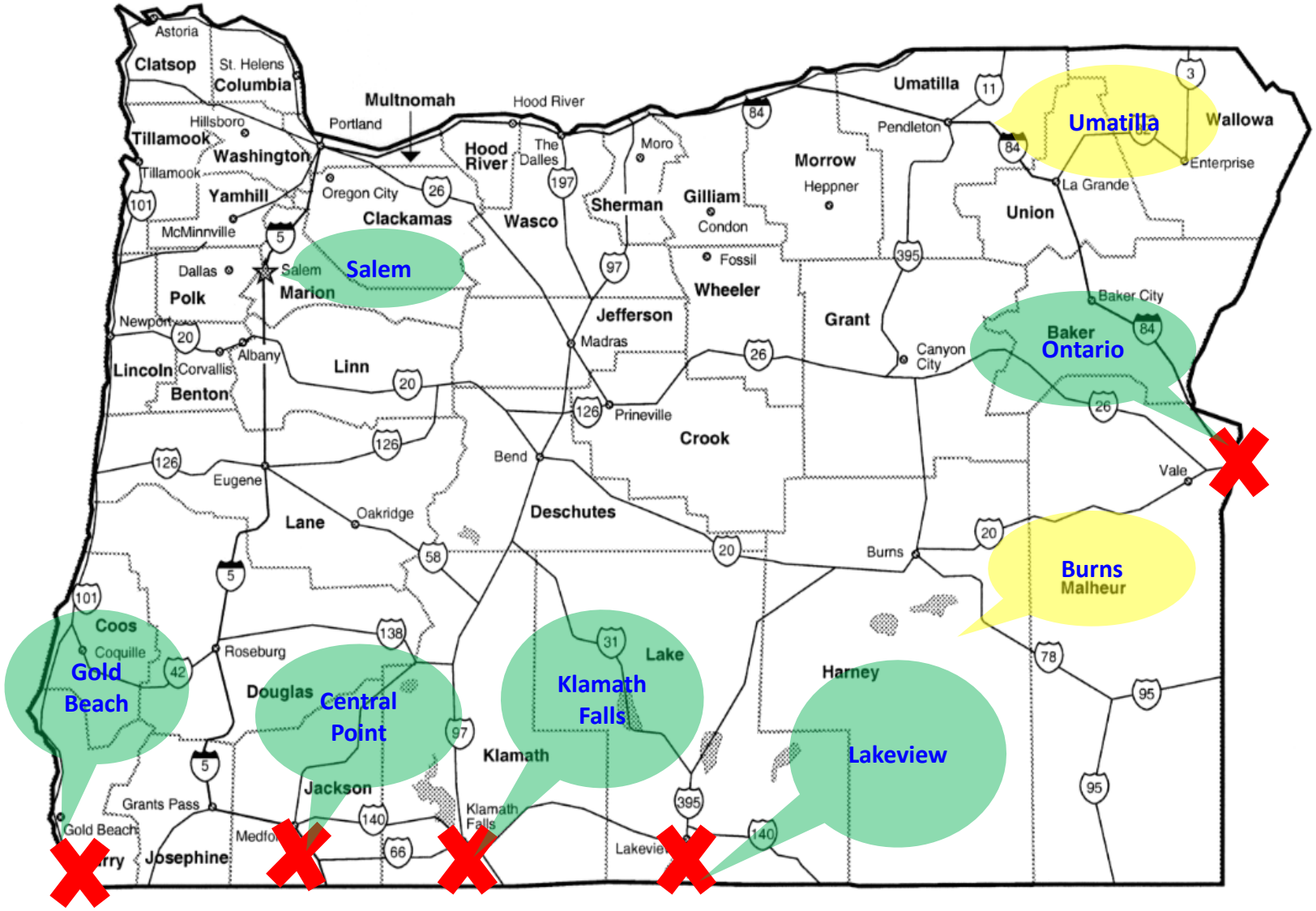
# ECONOMIC IMPACTS

- Z/Q mussels have cost more in prevention and control than any other aquatic species to invade the United States, costing an estimated $5 billion in prevention and control efforts since their arrival in the 1980's
  - Metropolitan Water District of Southern California has spent about $40 million over the last eight years to control the quagga mussel infestation of their water supply system.
  - BOR at Hoover Dam spends $1 million annually on quagga mussel control.

# 2016 Summary of Watercraft Inspections and Decontaminations



# 2017 Watercraft Inspection Stations



OREGON INVASIVE SPECIES COUNCIL

# *Everyone has a role in protecting Oregon from invasive species*

www.oregoninvasivespeciescouncil.org

DON'T LET IT LOOSE VIDEO BY OREGON HIGHSCHOOL STUDENT