

Invasive Species Update

PSMFC 71th Annual Meeting
Boise, ID



LAKE POWELL

August 20, 2018

Stephen Phillips, Senior Program Manager

PSMFC Aquatic Invasive Species Program Since 1999

Main Species of Concern: Zebra and Quagga Mussels

Talk Outline

WRDA Reauthorization

Update on Quagga/Zebra Mussels

European Green Crab

Flowering Rush/Northern Pike

PSMFC AIS Program Support Provided by



Water Resources Reform and Development Act (WRDA) (2014, 2016, 2018?)

“Water Resources Reform and Development Act of 2014”(Public Law 113–121—June 10, 2014, Sec. 1039. Invasive species)

“(1) IN GENERAL

—In carrying out this section, the **Secretary may establish watercraft inspection stations in the Columbia River Basin to be located in the States of Idaho, Montana, Oregon, and Washington at locations**, as determined by the Secretary, with the highest likelihood of preventing the spread of aquatic invasive species at reservoirs operated and maintained by the Secretary.

- **April 2017:** Watercraft Inspection and Monitoring Cost Share Program Begins; PSMFC signs agreement to administer the \$\$\$ with the USACE (Walla Walla) on behalf of OR, ID, MT and WA.
- **50/50 match program;** significantly increased inspection capacity in all 4 NW states by increasing the number, hours and days of station operations

2018 WRDA REAUTHORIZATION

HOUSE -- HR 8 (Shuster, DeFazio, Graves) – passed house by a vote of 408 to 2 on June 6. [No Watercraft Inspection/Monitoring Language]

SENATE -- S. 2800 (Barrasso) - Out of EPW Committee on 5/22/18...awaiting floor action

C. 1024. WATERCRAFT INSPECTION STATIONS.

“(1) IN GENERAL.—There is authorized to be appropriated \$80,000,000 to carry out this section for each fiscal year, of which— “(A) \$30,000,000 shall be made available to carry out subsections (d)(1)(A)(i) and (ii);

“(A) WATERCRAFT INSPECTION STATIONS .—In carrying out this section, the Secretary shall establish, operate, and maintain new or existing watercraft inspection stations—

“(i) to protect the Columbia River Basin; and **[No 4 state language]**

“(ii) to protect the Upper Missouri River Basin. [New]

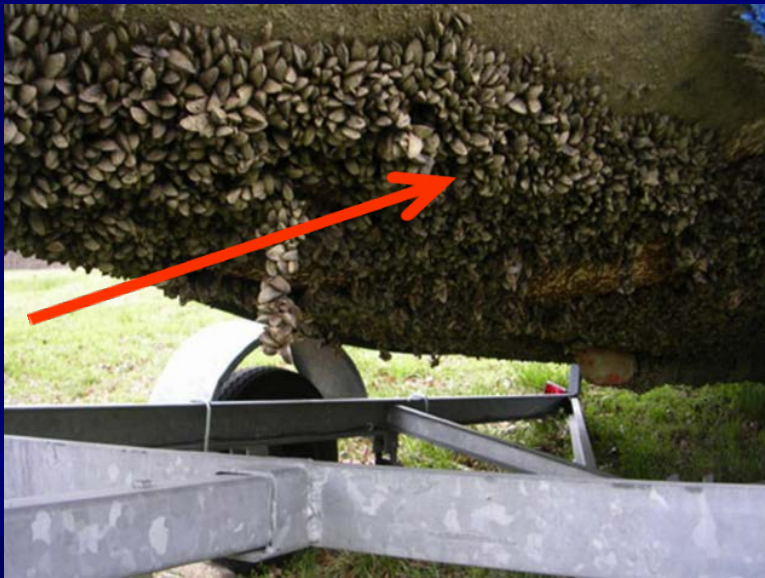
INTERIOR APPROPRIATIONS: HOUSE FY 2019 REPORT LANGUAGE

The Committee directs the Secretary of the Interior, in cooperation with the Chief of the Forest Service, through the Secretary of Agriculture, and the U.S. Army Corps of Engineers/Civil Works, to work with the Western Governors Association and individual western governors to **develop a joint Federal/State incident command system that would allow for cooperative and rapid response to new detections of invasive mussels in the West.**

Such incident command system must address appropriate division of labor between Federal and State governments, **identify pre-arranged mechanisms for the Federal/State partners to fund rapid response actions,** and address in advance any necessary environmental compliance requirements that might be associated with a predictable range of rapid response actions.

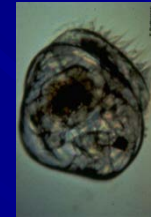
ZEBRA/QUAGGA MUSSEL (AKA Dreissenids)

- ❑ Significant Biofouler, filter enormous amounts of plankton disrupting the food chain, No natural predators of consequence
- ❑ Can live out of water for up to two weeks+
- ❑ Move by attaching to watercraft/equipment (adults) or by contaminated water (downstream flow, Ballast) (larvae AKA “veligers”)



Ballast Tanks in Recreational Watercraft (*wakeboard boats*)

Veliger



#1 DRESSSENID VECTOR: WATERCRAFT



Decon by NDOW staff at Lake Mead NRA

Photo Credit K. Vargas, NDOW

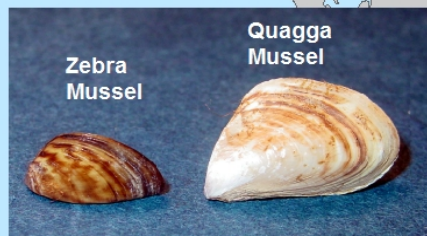
Zebra and Quagga Mussel Sightings Distribution
Dreissena polymorpha and *D. rostriformis bugensis*

**Tiber Reservoir, Missouri Basin
2016**



1988

2007

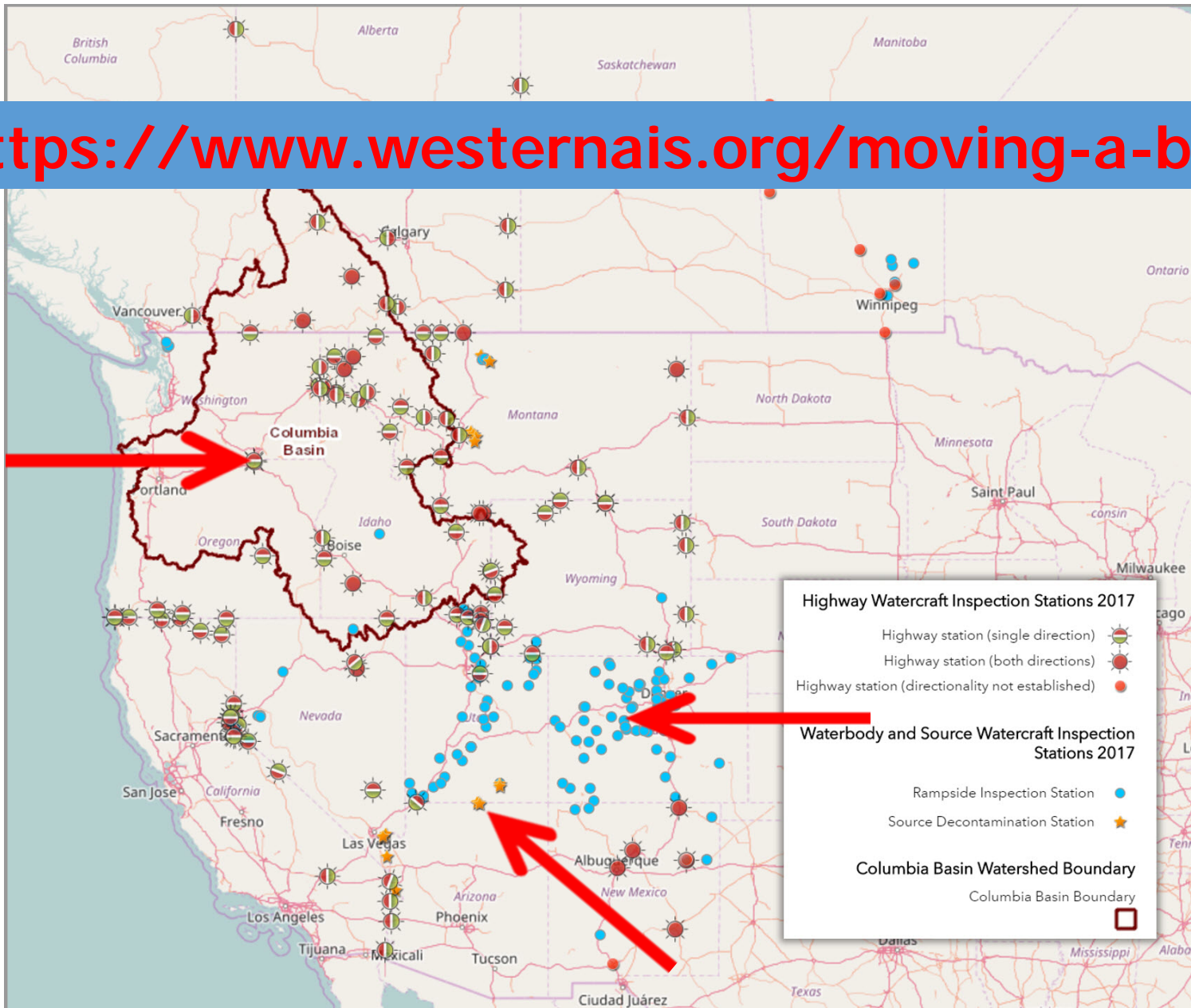


- Zebra mussel occurrences
- Quagga mussel occurrences
- ▲ Zebra or Quagga mussel occurrences
- Both species occurrences
- Zebra/Quagga mussels eradicated
- Zebra/Quagga mussels failed

Map of Watercraft Inspection Stations in Western N. A.

Does not include Interior California

<https://www.westernais.org/moving-a-boat>



PREVENTION: WATERCRAFT INSPECTION STATIONS

Samuels, ID

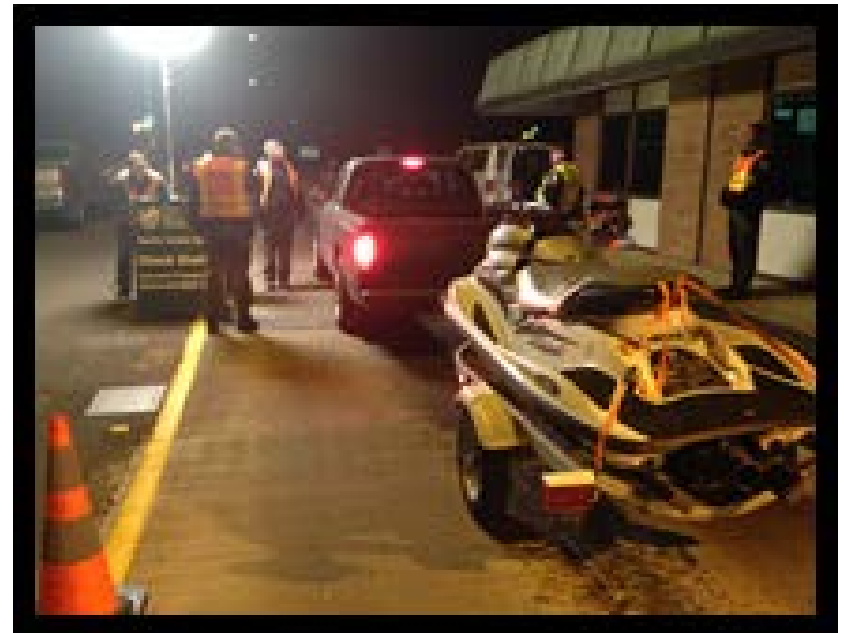


Albeni Falls, ID

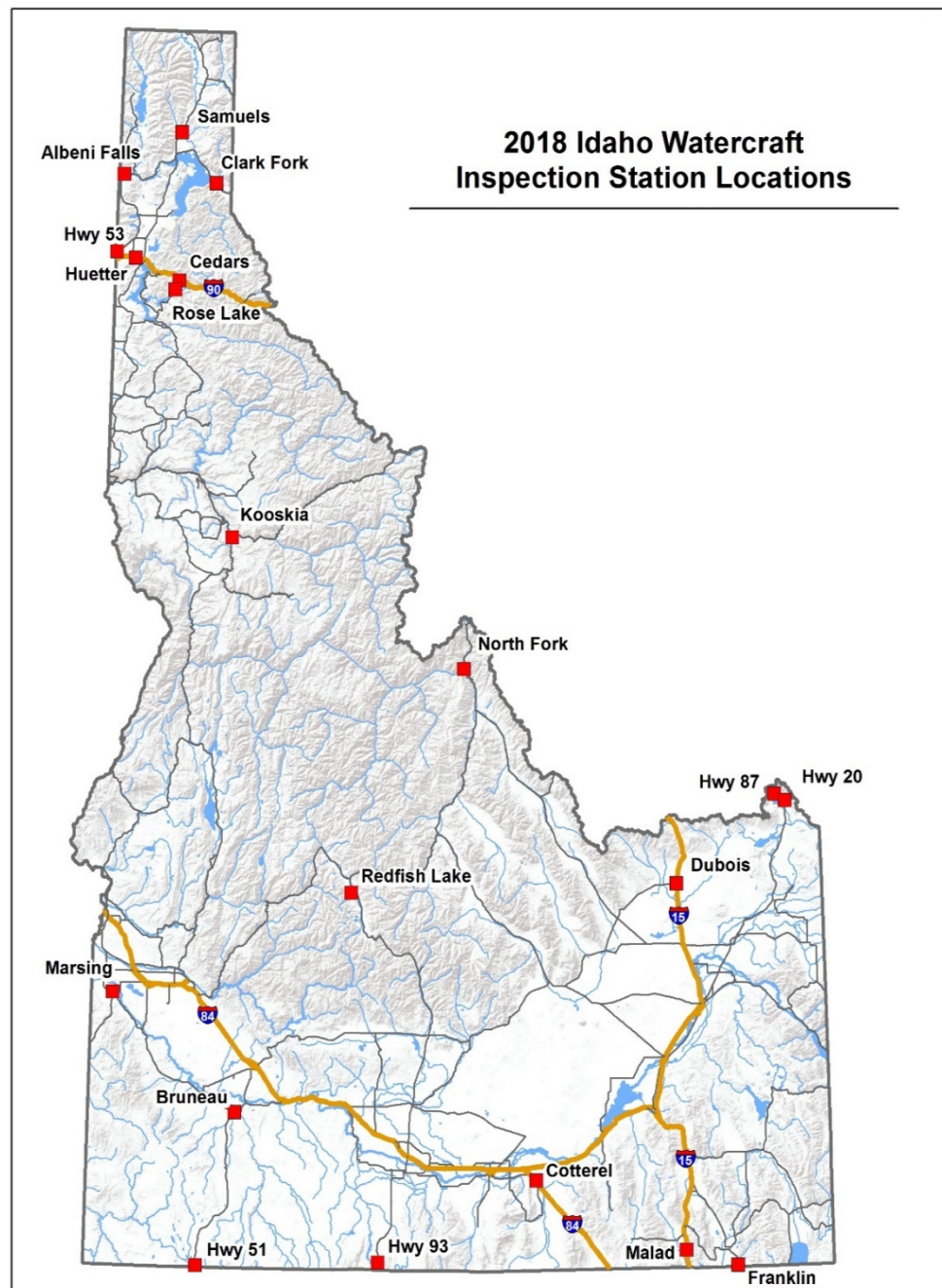


Spokane, WA

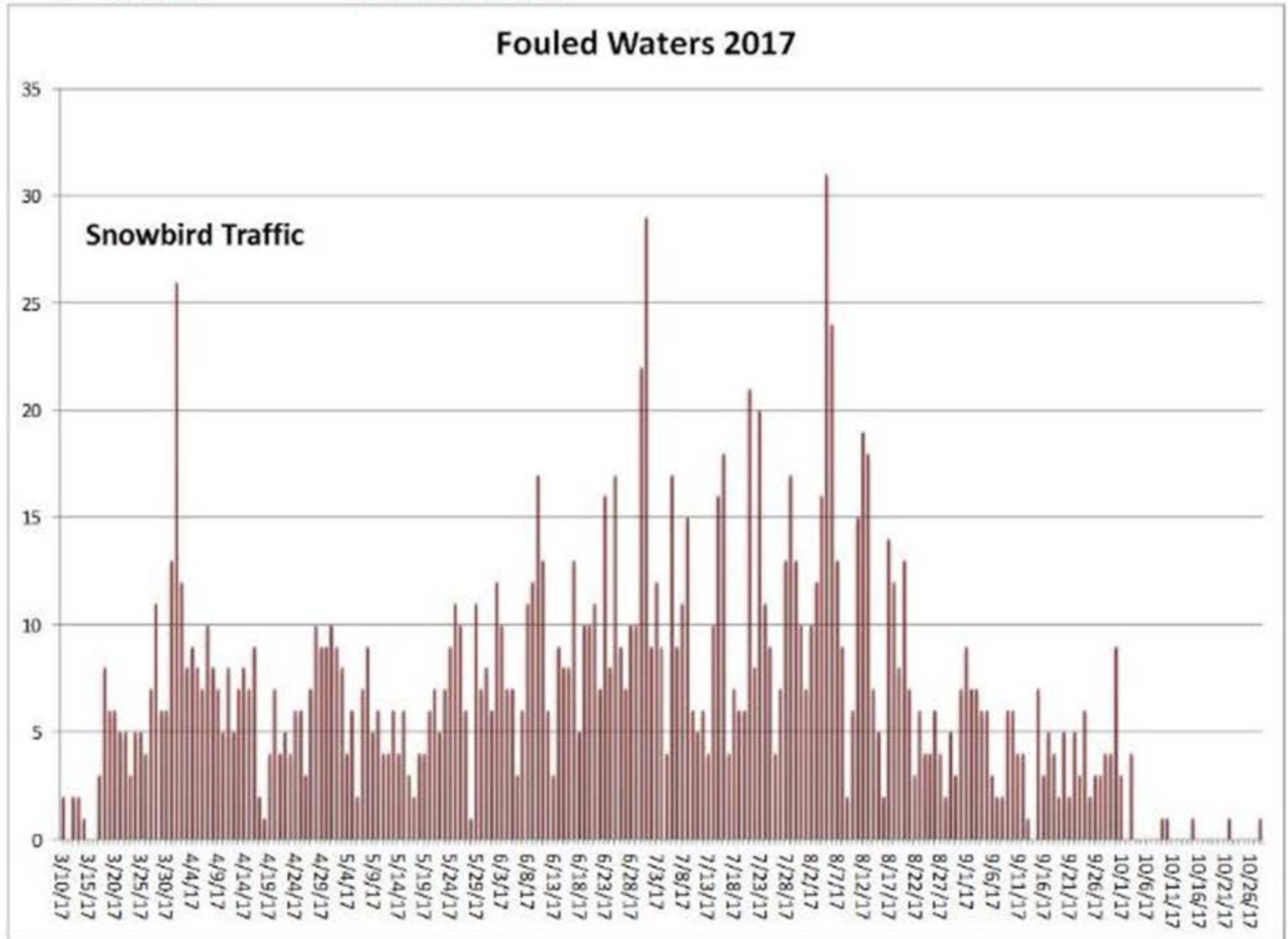
Ashland, OR



- **10th** Year of the inspection program
- **20** Inspection stations
 - 19 Cooperator stations
- **3** Roving crews- Boise, Coeur d'Alene, Idaho Falls
- New inspection stations
 - Kooskia (HWY 12) & North Fork (HWY 93)
- Expanded season duration
- Expanded night operations
 - 18 Hour (6AM-Midnight)
 - Malad (I-15 N), Cedars (I-90W), Jackpot (HWY 93 N)
 - 24 Hour
 - Cotterell (I-84W)

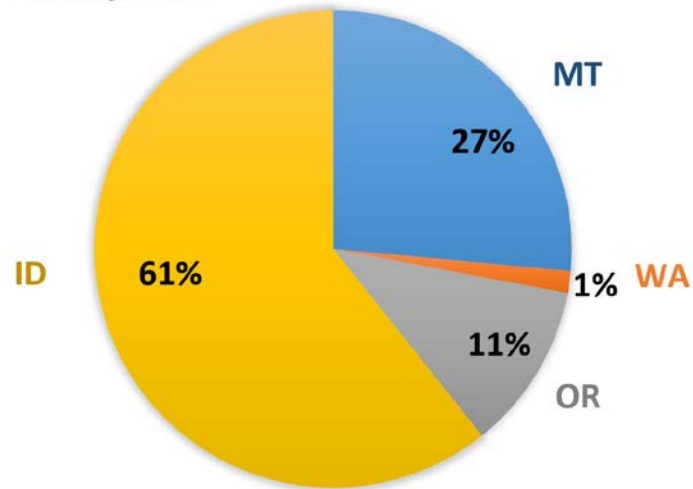


High Risk Idaho Watercraft



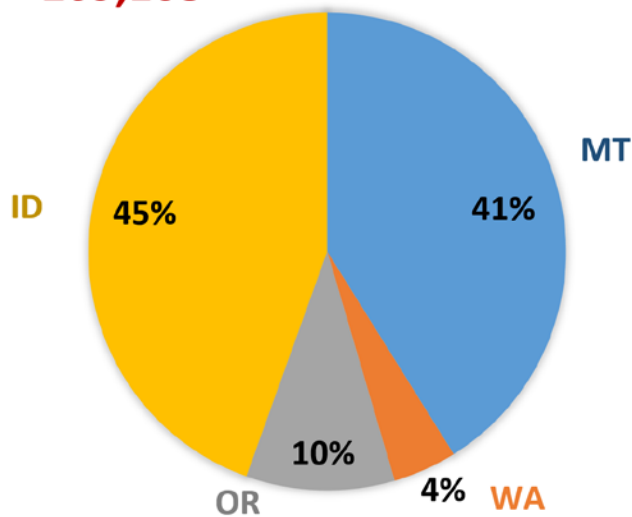
NUMBER OF INSPECTIONS 2016

Total = 147,256



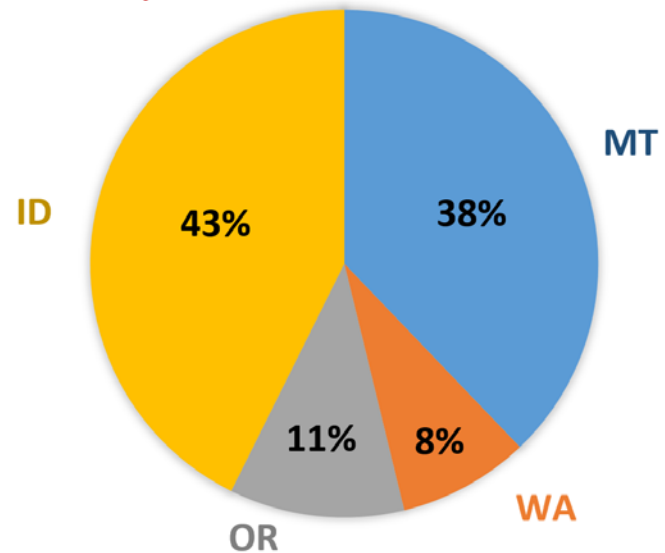
NUMBER OF INSPECTIONS 2017

Total = 209,168



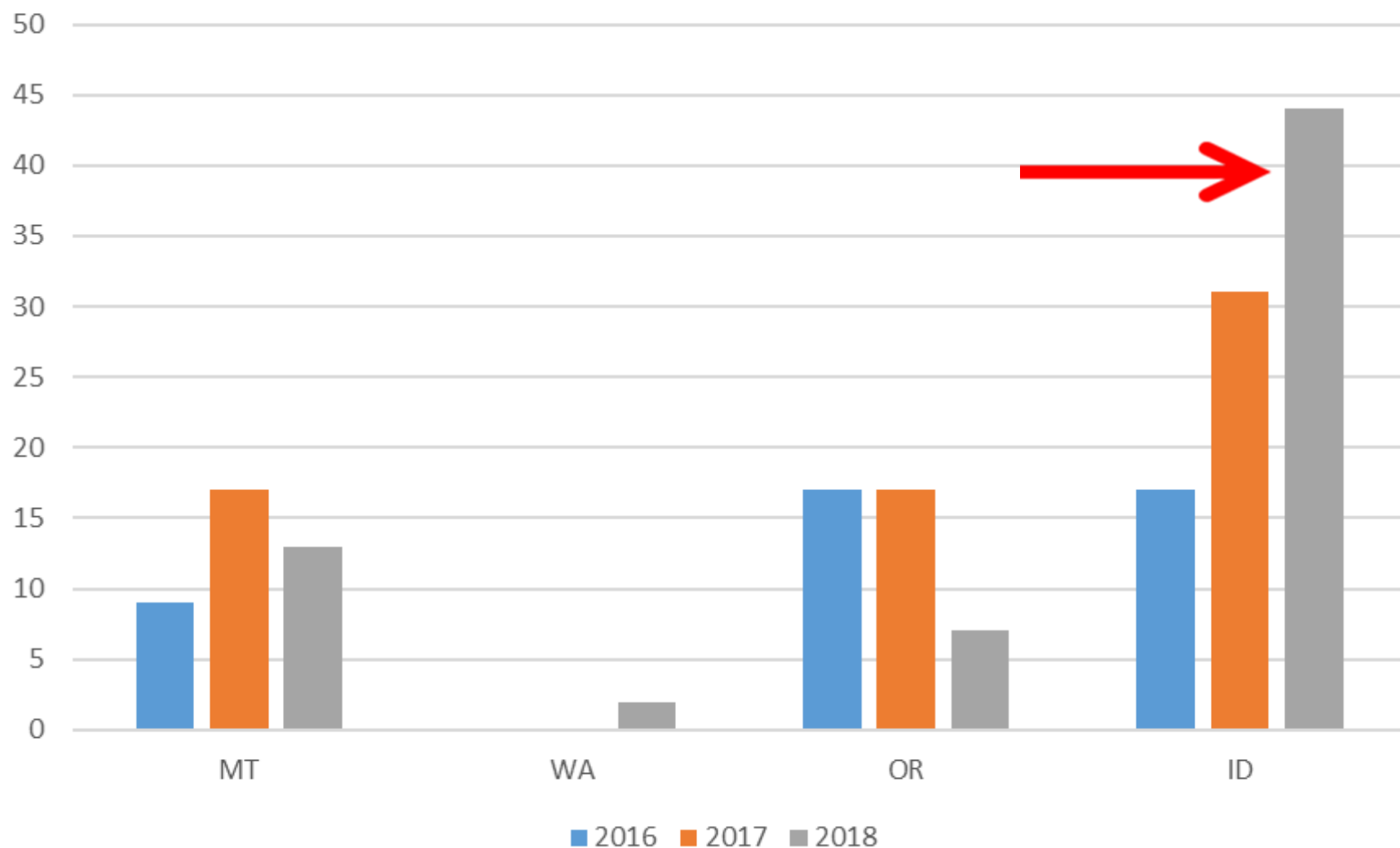
NUMBER OF INSPECTIONS 2018 THROUGH 8/1

Total = 174,367

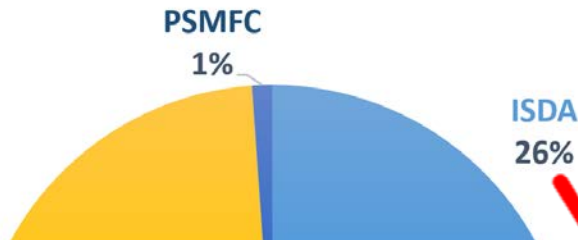


← 2017: WRDA \$\$\$\$\$ BEGIN

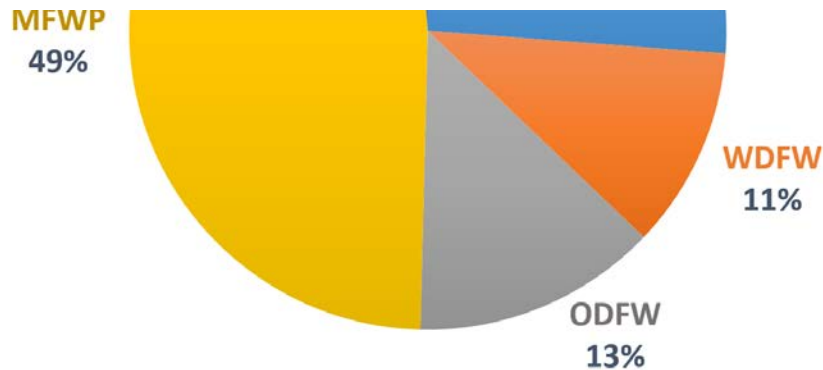
ADULT MUSSEL FOULED WATERCRAFT INTERCEPTIONS 2016, 2017 and 2018 (through 8/1)



2018 WATERCRAFT INSPECTION - \$4.1 Million



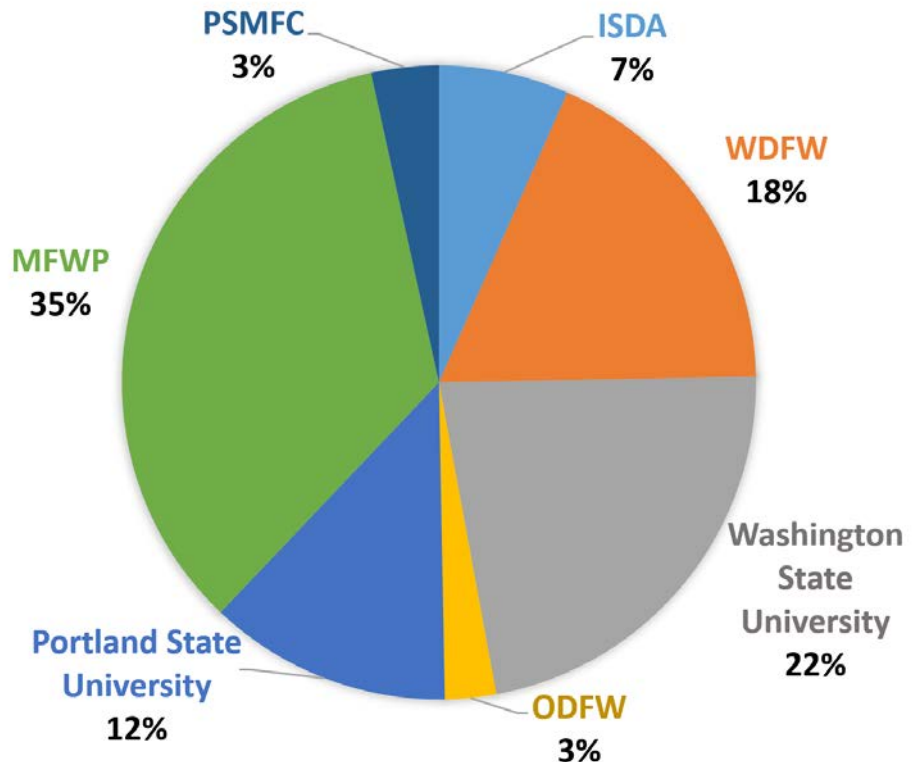
Match = X 2 = \$8.2 million



- Veliger (Larval) Monitoring
- Substrate/Shoreline Sampling
- Water Quality Sampling
- eDNA Sampling



2018 MONITORING PROGRAM - \$692,000



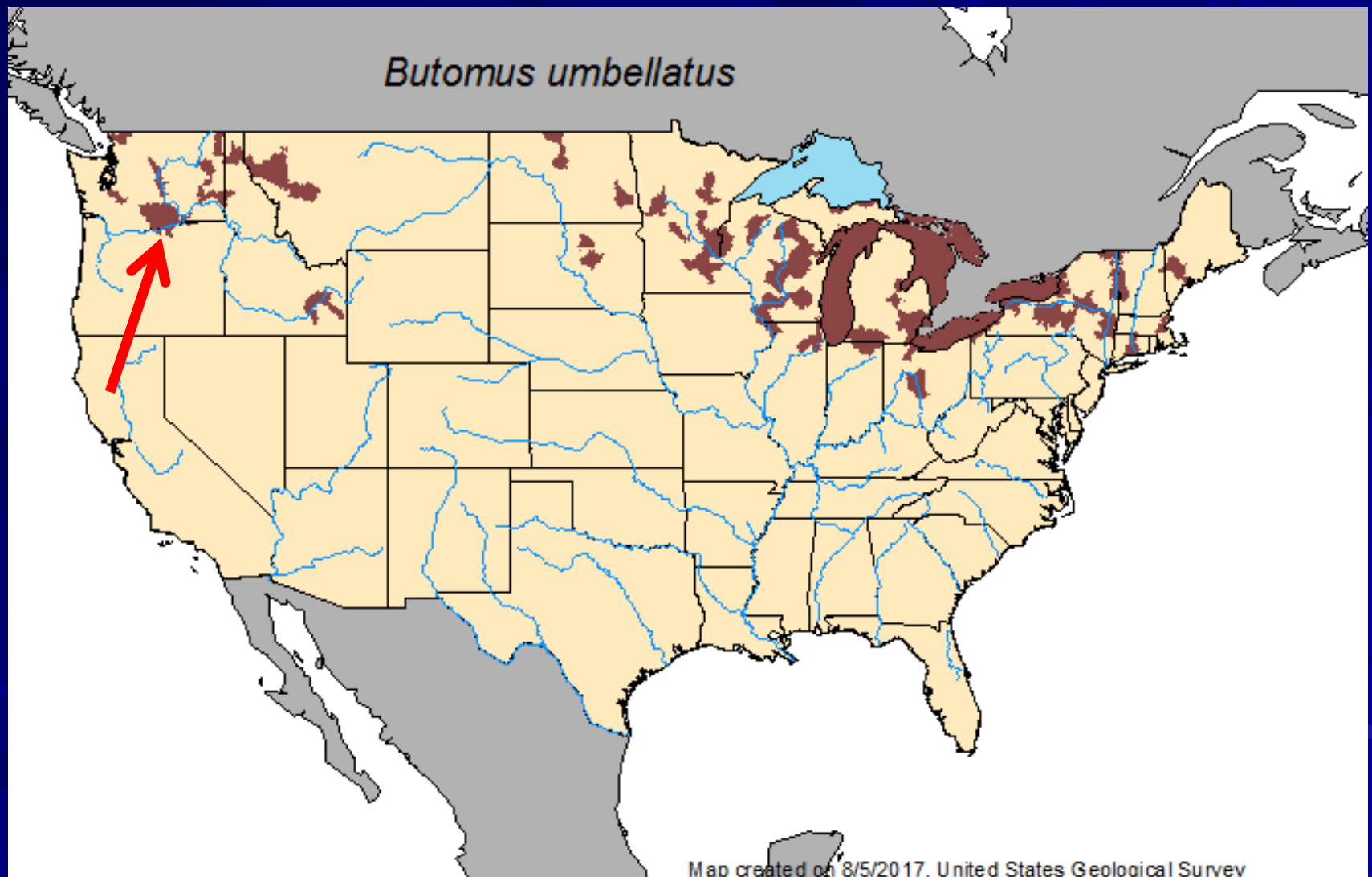
Flowering Rush (*Butomus umbellatus*)



Great Pike Habitat !!



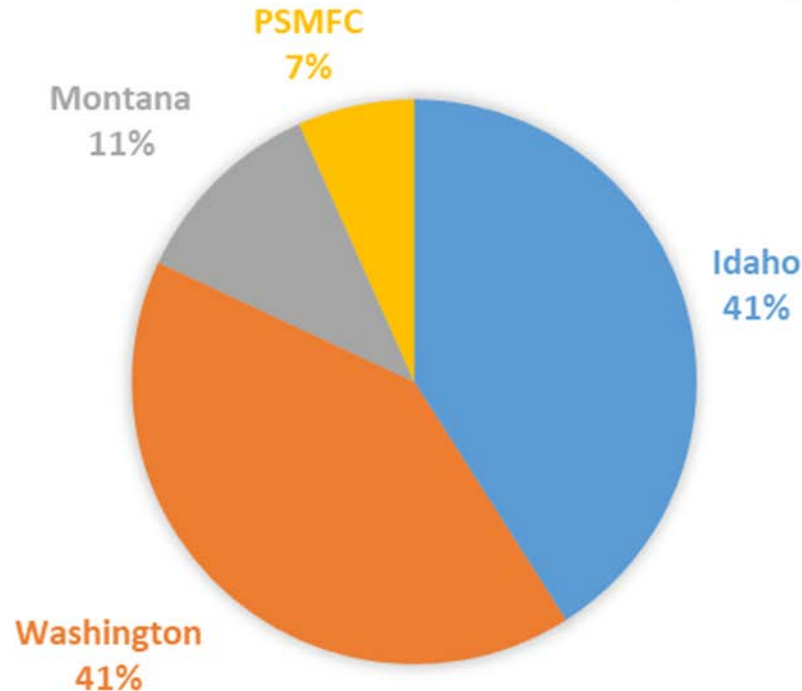
Flowering Rush



Flowering Rush Control

FY 2018 WRDA \$ 1 Million Authorized Nationwide

FLOWERING RUSH CONTROL \$270,000



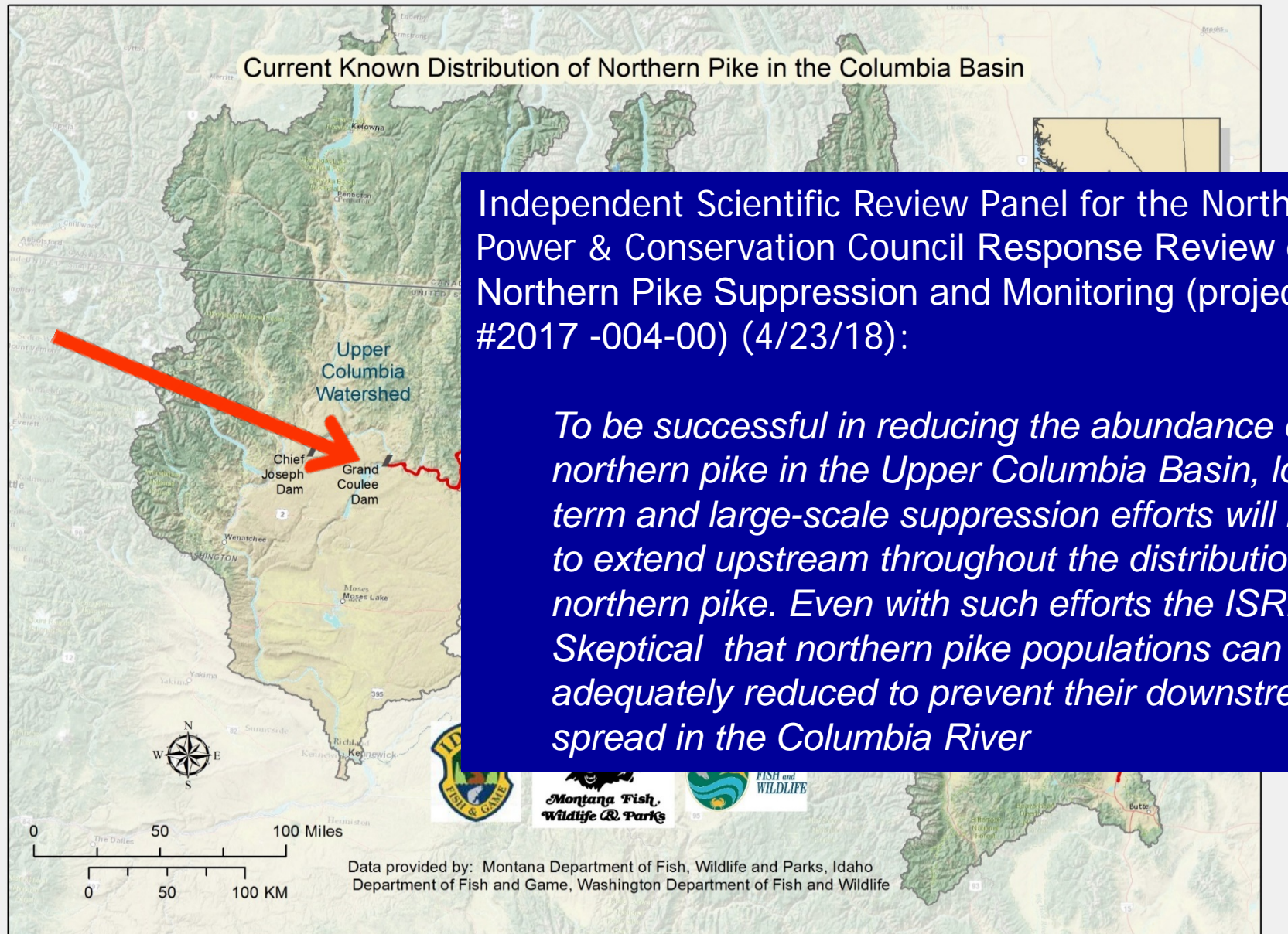
Notes:

- Oregon does not qualify (federal waters)
- Permitting Hold – 2018 project will not begin until **Spring 2019**

Northern Pike (*Esox Lucius*)



Northern Pike



European Green Crab (*Carcinus maenas*)



They prey on clams, oysters, mussels, "potentially" compete with Dungeness crab; **can eliminate eelgrass beds**

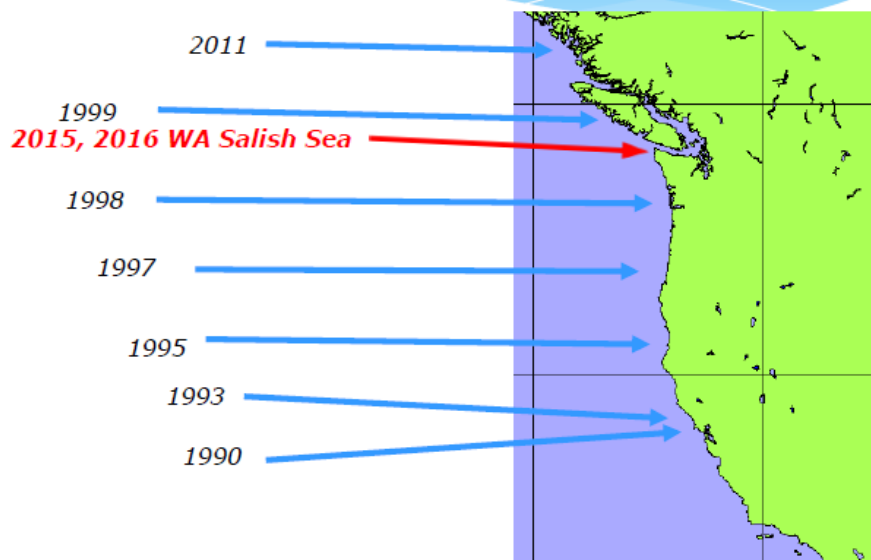
Introduced into California from the East coast in the 1970's/80's (bait was Likely vector)

By 1998 had moved north into Vancouver Island with an el Niño facilitated transport

Range expansion during el Niño /positive PDO years ..population **BOOMING**

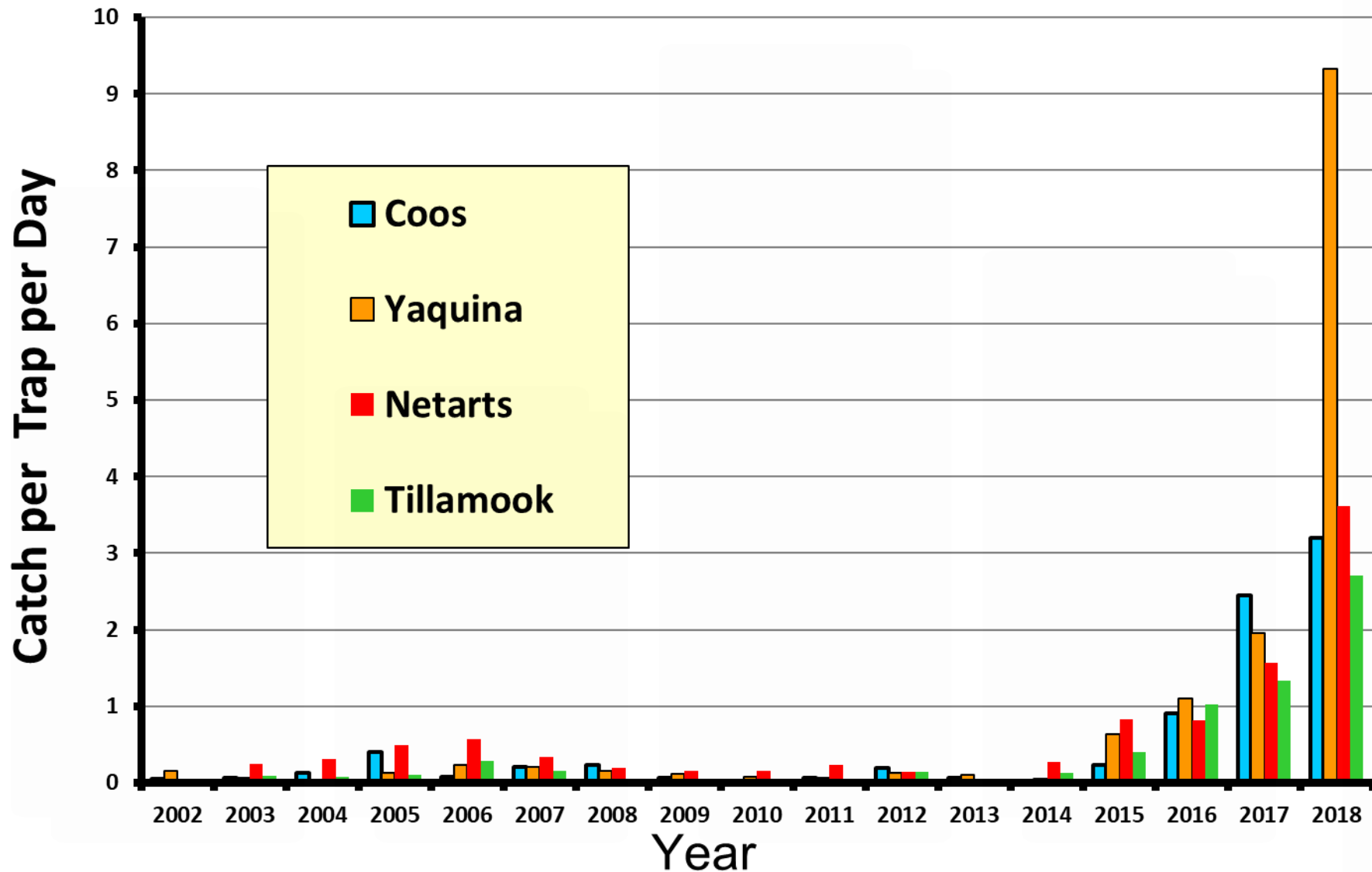
Currently PSMFC supports one seasonal WDFW monitoring staffer and in Oregon supports Sylvia Yamada, OSU

Range Expansion of Green Crabs on the Pacific Coast



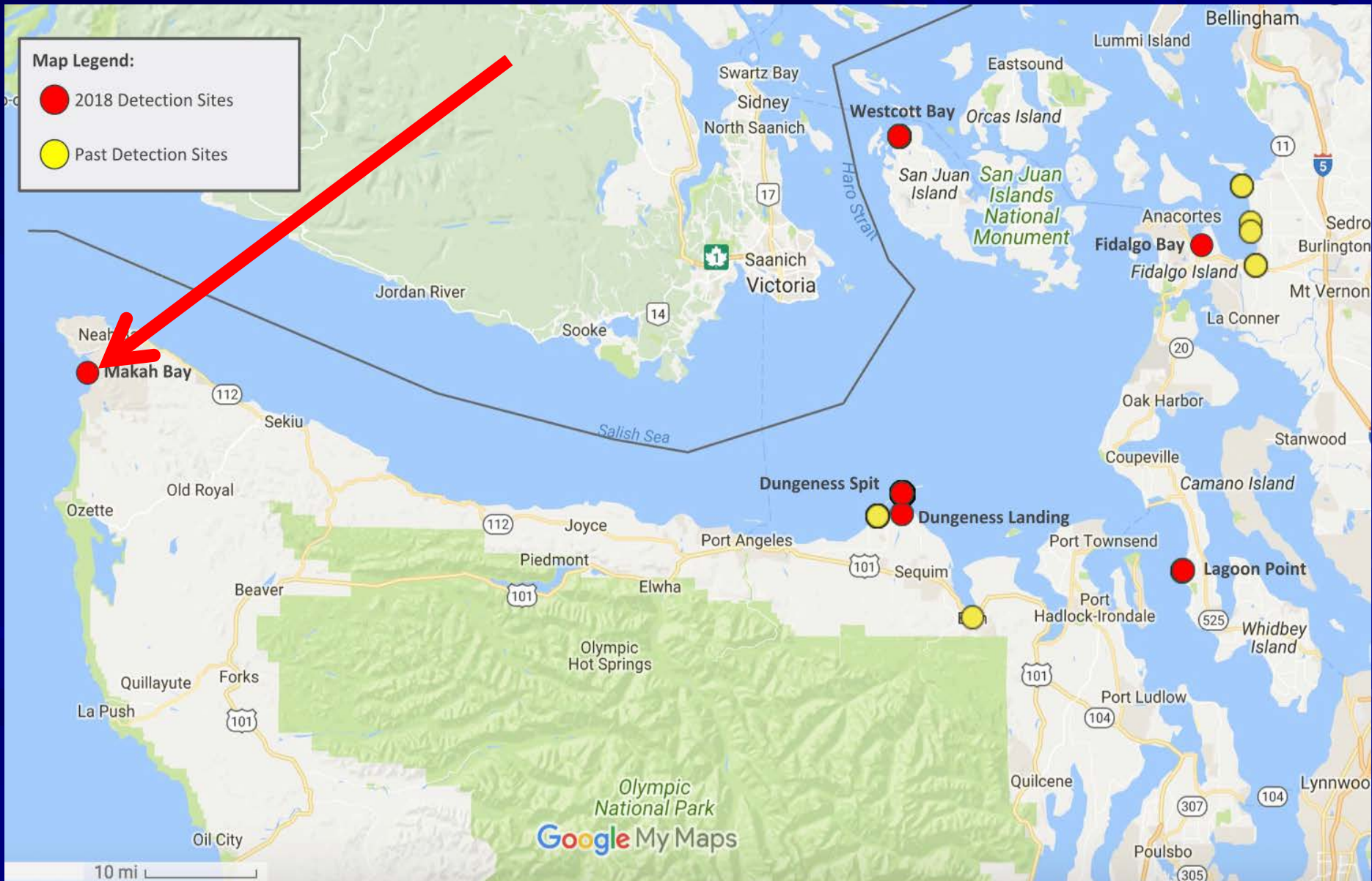
European Green Crab Abundance in Oregon

(# per trap per day, **Draft** Source: S. Yamada, OSU)



European Green Crab Locations in Washington

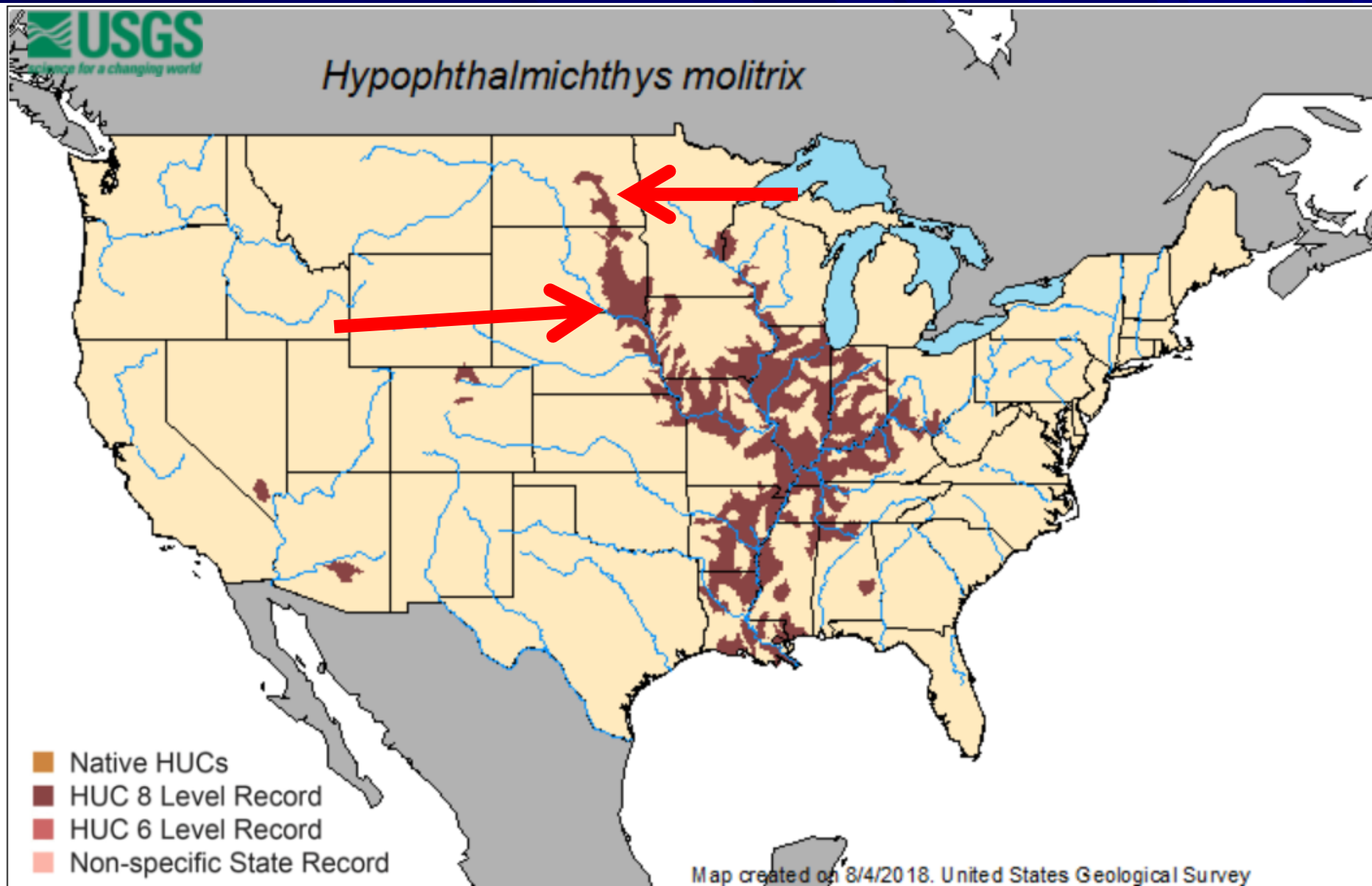
(Source: Washington Sea Grant)



Asian Carp (Mississippi/Missouri Drainages)



Asian Carp (Mississippi Drainage)



saving the
environment

one cat
at a time



no grains • no soy • no artificial ingredients



SIMPLY
1
INGREDIENT
THAT'S IT!

Wild-
Caught
Asian
Carp



NET WT. 1 OZ. (28.35g)

Thank You!

Questions?

PSMFC AIS WEBSITE: WWW.WESTERNAIS.ORG

