

Dreissenid Mussel Prevention Across the Pacific Northwest

20th International Conference on Aquatic Invasive Species

Fort Lauderdale, Florida

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Authorized by Congress in 1947, the Pacific States Marine Fisheries Commission (PSMFC) is one of three interstate commissions dedicated to resolving fishery issues.

Member States: California, Oregon, Washington, Idaho, and Alaska

Aquatic Invasive Species Program Since 1999

Main Species of Concern: Zebra and Quagga Mussels

PSMFC Staff: GIS/Database Manager: Van Hare; AA Susan Anderson
Contractors: Lisa A. DeBruyckere, Debra Davis, Leah Elwell and Robyn Draheim;



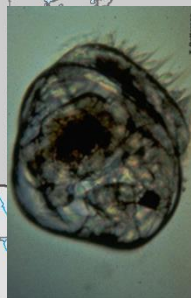
#1 DRESSSENID VECTOR: WATERCRAFT



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*



CANYON FERRY
"Suspect"
2016

Tiber Reservoir
"Positive"
2016



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



Montana Fish, Wildlife & Parks

NEWS

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FOR IMMEDIATE RELEASE

Nov. 8, 2016

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Water samples positive for invasive mussel larvae in Tiber Reservoir

Water samples from Tiber Reservoir east of Shelby have tested positive for the larvae of aquatic invasive mussels, with similar tests from Canyon Ferry Reservoir near Helena showing “suspect” or inconclusive results, according to officials at Montana Fish, Wildlife and Parks .

FWP, along with other state and federal agencies and the Montana Invasive Species Advisory Council (MISAC), are now working to determine whether adult mussels are present in Tiber Reservoir and to get further test results on Canyon Ferry.

MONTANA RESPONSE DREISSENID RESPONSE TIME LINE

November 2016: Governor Bullock forms rapid response team (ICS) to address aquatic invasive species

May 2017: MT Legislature -- \$6 million per year... for FWP for AIS (~6x increase)

☐ **fee for hydro-electric facilities (\$ 3.7 million a year in funding)**

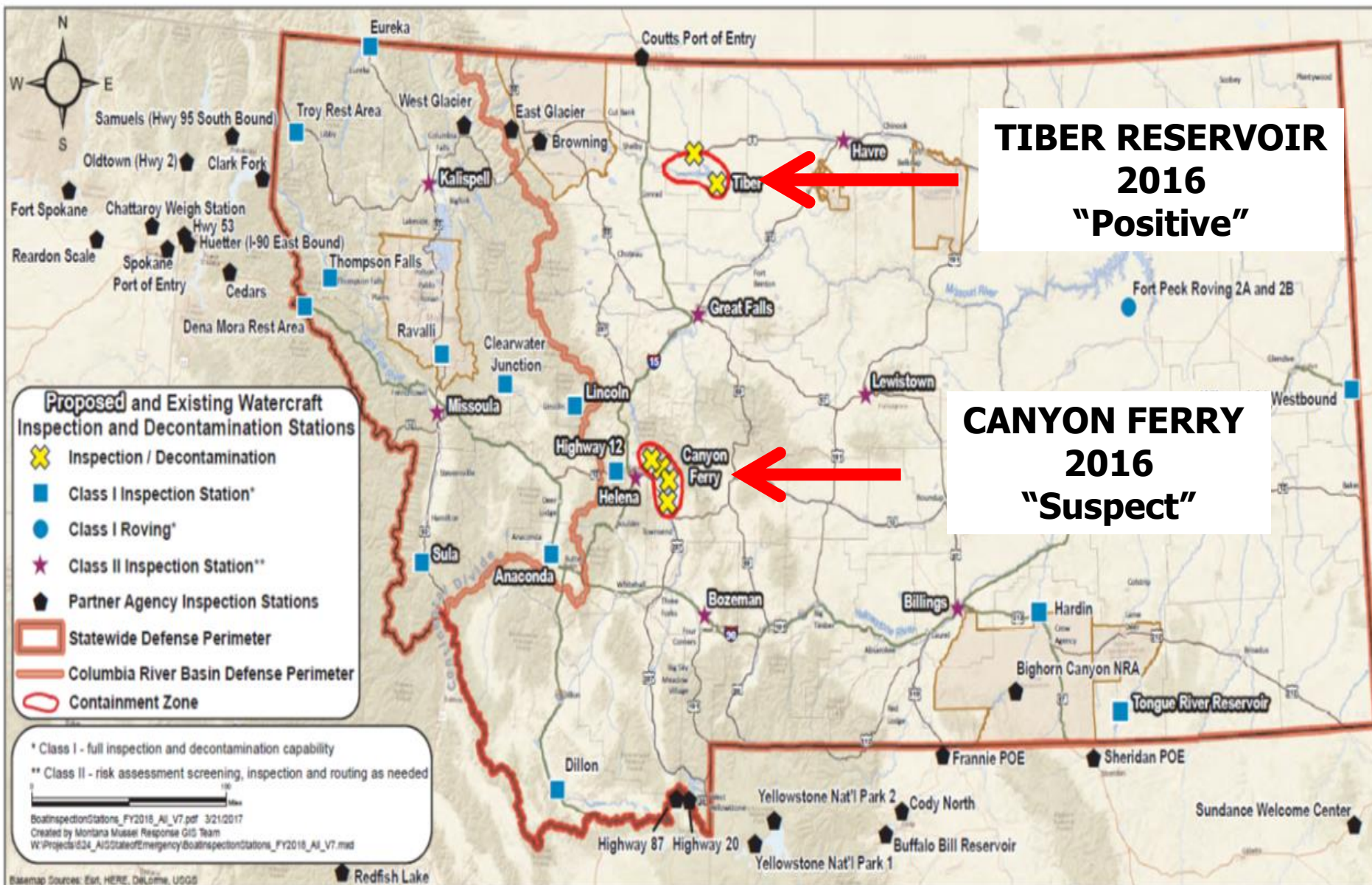
Through October 20, 2017: Good News -- Dogs, Divers and Plankton Samples **all negative**



Divers with the U.S. Fish & Wildlife Service and Montana FWP prepare to dive at Tiber Dam to look for adult zebra and/or quagga mussels, August 7, 2017.



Proposed and Existing Watercraft Inspection and Decontamination Stations - FY2018-19



CONTAINMENT: WATERCRAFT INSPECTION STATIONS

Canyon Ferry, MT



WATERCRAFT INSPECTION STATIONS

Canyon Ferry, MT



PREVENTION: WATERCRAFT INSPECTION STATIONS

Samuels, ID



Lake Tahoe



Spokane, WA

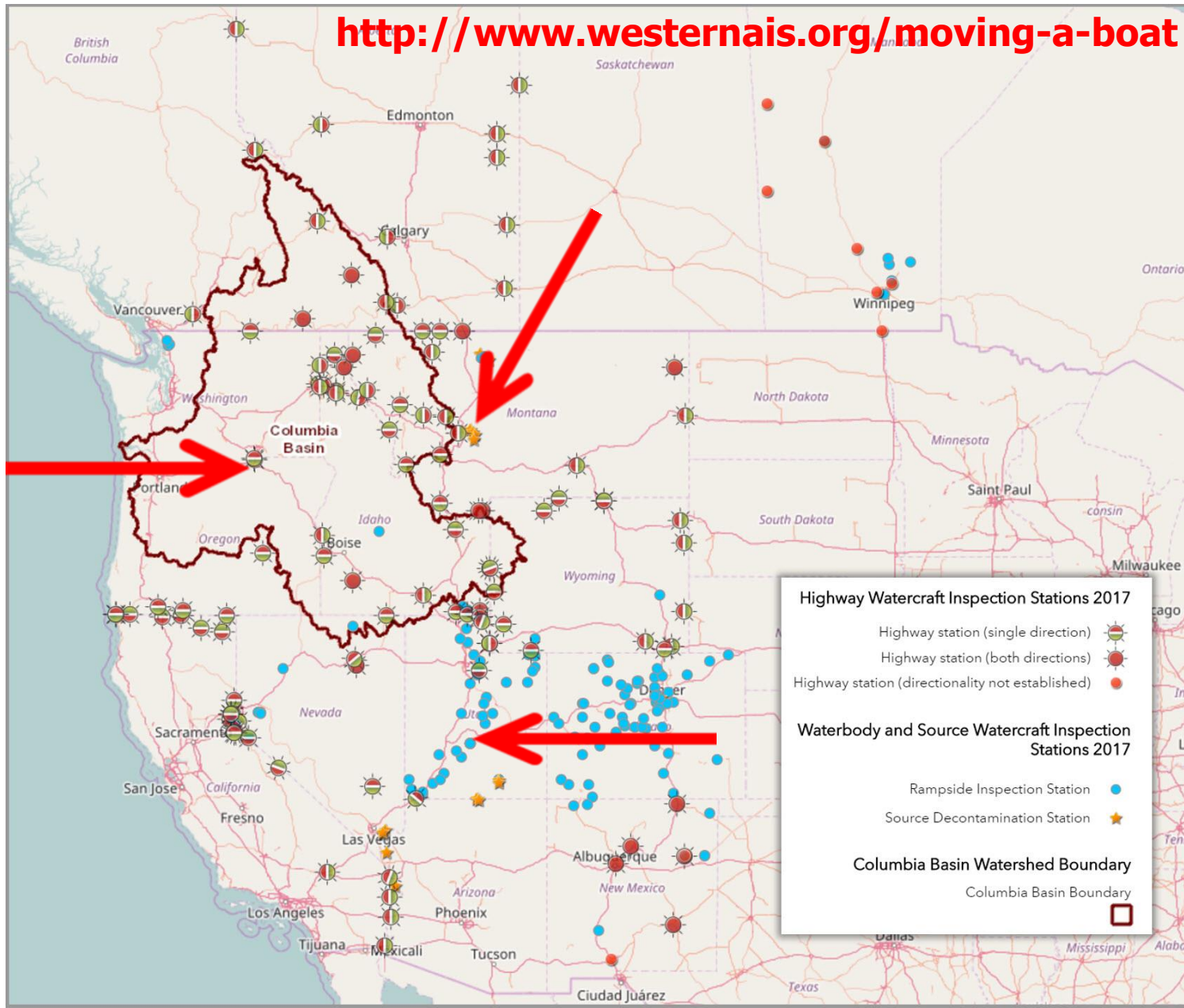
Ashland, OR



Map of Watercraft Inspection Stations in Western N. A.

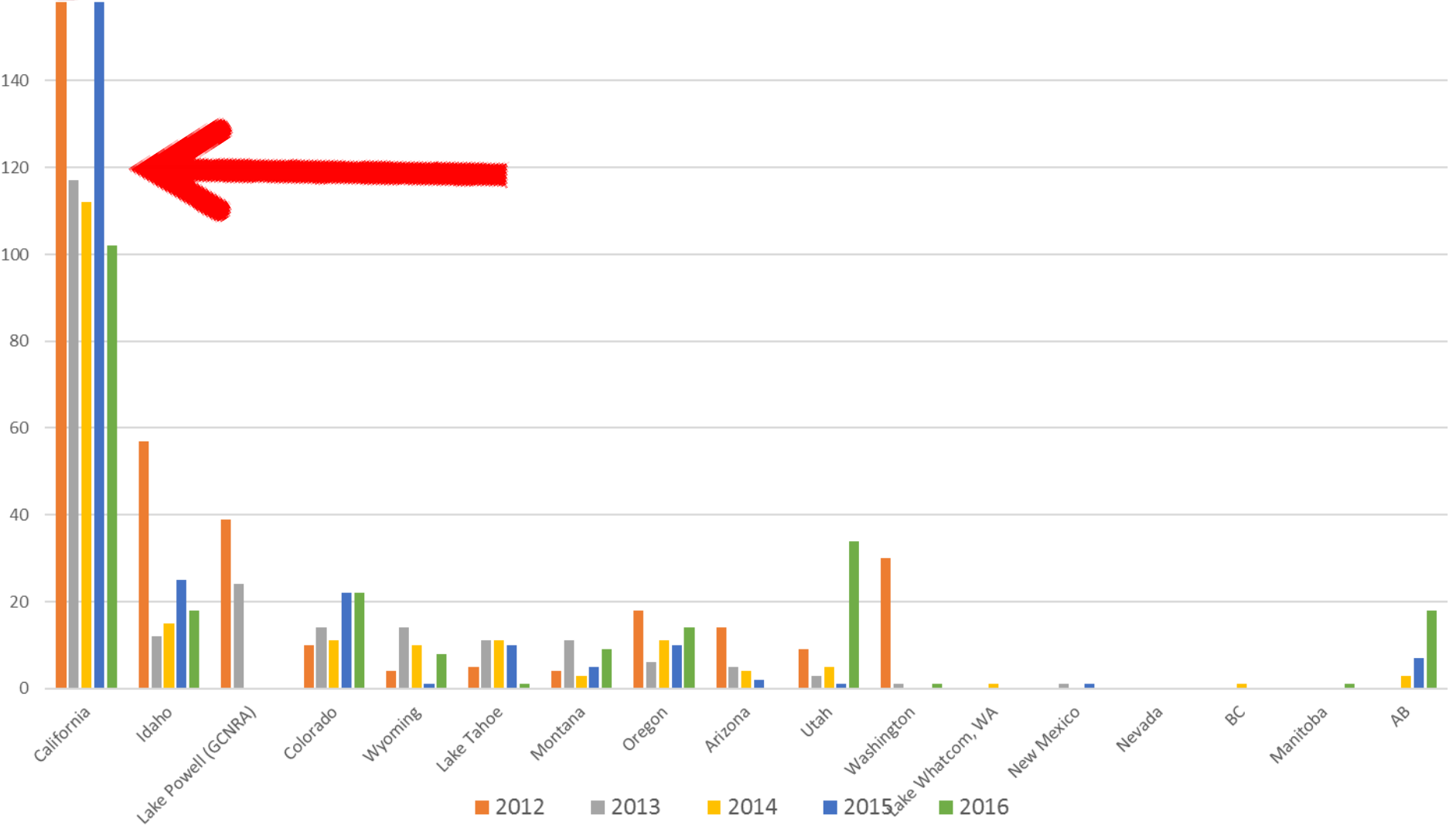
Does not include Interior California

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



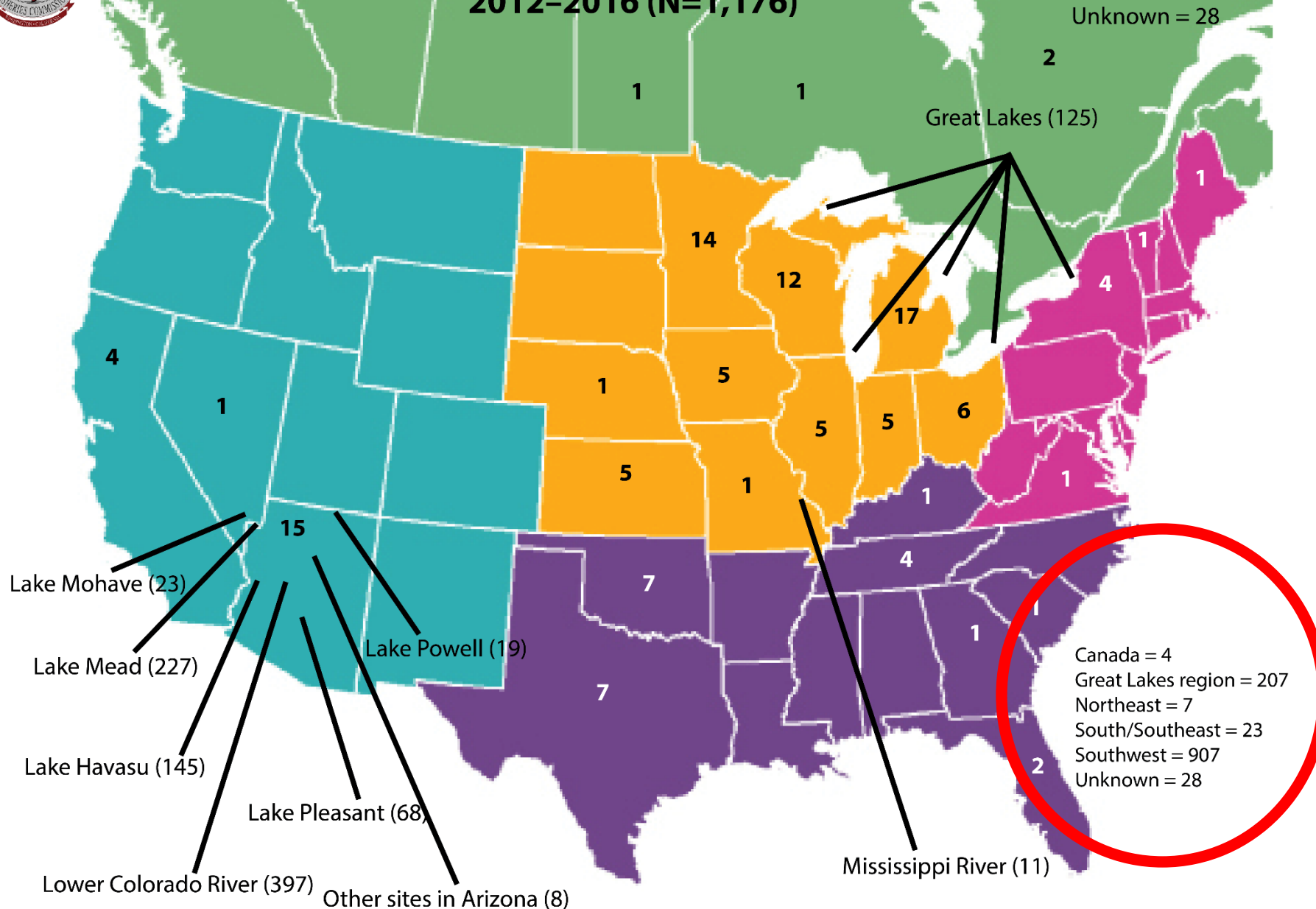


Contaminated Dreissenid Watercraft Intercepted by State/Province





Source of Intercepted Watercraft with Adult Dreissenid Mussels 2012–2016 (N=1,176)



Water Resources Reform and Development Act 2014

“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.....**

Water Resources Reform and Development Act

December 2015: FY 2016 USACE APPROPRIATIONS: \$4 million for watercraft inspection stations,

April 2017: PSMFC signs agreement to administer the \$\$\$ on behalf of OR, ID, MT, WA with the USACE (Walla Walla)

~ DOUBLES INSPECTION EFFORT: 1:1 Match = $\$3.7 \times 2 = \7.4 MILLION

May 2017: FY 2017 USACE APPROPRIATIONS: \$5 million for watercraft inspection stations **and related monitoring.**

- August 2017 - Monitoring begins (Thx USACE)

FY 2018 USACE APPROPRIATIONS – (Senate/House) - \$6/\$5 Million,
Senate Includes **Rapid Response** and **Flowering Rush**

Expansion of State WI Programs: WRDA

Montana Idaho Oregon Washington

ALL 4 STATES INCREASED THE NUMBER, HOURS AND DAYS OF STATION OPERATIONS

MONTANA

ESTABLISH DECONTAMINATION STATIONS AT TIBER AND CANYON FERRY RESERVOIRS
4 ADDITIONAL INSPECTION STATIONS LOCATED ALONG THE CONTINENTAL DIVIDE

IDAHO

NEW INSPECTION STATIONS ON HWY 3 (ROSE LAKE), HWY 12 (KOOSKIA) AND I-15 (DUBOIS).
24-HOUR OPERATION AT THE COTTERELL (I-84) STATION.

OREGON

ADDING BURNS (HWY 20) AND UMATILLA (HWY 82) STATIONS

WASHINGTON

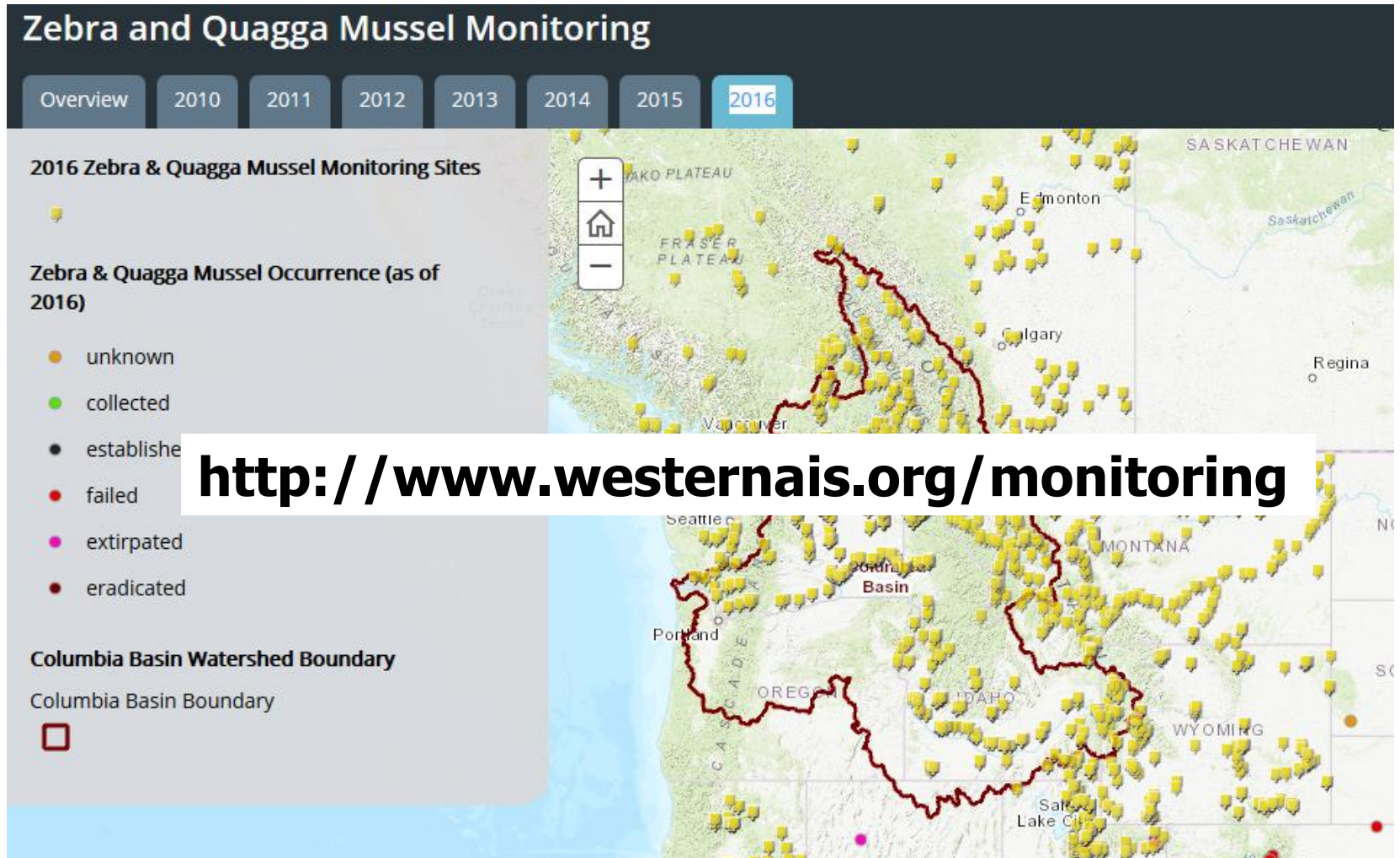
TWO NEW PERMAMENT STATIONS: Spokane (I-90) Plymouth (Hwy-395)

ADULT MUSSEL FOULED WATERCRAFT INTERCEPTIONS 2013- 2017

| State | 2013 | 2014 | 2015 | 2016 | 2017 (10/20) |
|--------|------|------|------|------|-----------------|
| ID | 12 | 15 | 25 | 18 | 31 |
| OR | 6 | 11 | 10 | 14 | 13 |
| MT | 11 | 3 | 5 | 9 | 16 |
| WA | 1 | 0 | 0 | 1 | 0 decons |
| TOTALS | 30 | 29 | 40 | 42 | 60 |

***Note: British Columbia 24 Boats – YTD
Alberta: numerous***

Dreissenid Monitoring in the CRB



- **Why increased monitoring \$\$\$\$ are needed NOW:** *We conclude that the current level of effort expended **does not** provide for high-probability detection of larval dreissenids or other planktonic taxa when they are rare in these reservoirs. Timothy D. Counihan & Stephen M. Bollens. Environ Monit Assess (2017) 189:98*

USACE WRDA FUNDED MONITORING FY 2017

(50 % USACE \$/50 % STATE \$)

Washington Department of Fish and Wildlife

Washington State University (BIA/CRITFC Match)

Washington State University

Oregon Department of Fish and Wildlife

Portland State University (Bonneville Power Administration Match)

Montana Department of Fish Wildlife and Parks

\$373,974 x 2 = ~\$750,000

***** Doubled Monitoring Effort + Montana *****

What Next -- 2018

(FALL 2017 PLANNING)

Watercraft Inspection: Review the year ...programmatic adjustments, lessons learned,

Monitoring:

Database: Data standardization, CRB ? Westwide? Federal Mussel Initiative -- BOR....

Review Strategy-- Who, Where , When , How much is enough, what are we missing, eDNA pros, cons.

2017 water quality data collection (ODFW, WDFW) – incorporate new data

Rapid Response:

Opportunity, If!: If Adults, containable, isolated ..we must trywith ESA listed species “we” (states) will need to consult with feds ...there may be a “take” or impact to critical habitat .

PSMFC just entered into a cooperative agreement with USFWS (PDX) for ESA Section 7 consultation (BA) assistance

Thank You

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