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Northwest **Power** and **Conservation** Council

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April 7, 2020

MEMORANDUM

TO: Council Members

FROM: Kendall Farley

SUBJECT: States' panel on Incident Command Response for invasive mussels.

BACKGROUND:

Presenter: Stephen Phillips, Pacific States Marine Fisheries Commission; Allen Pleus and Captain Eric Anderson, WDFW; Rick Boatner, ODFW; Thomas Woolf, Montana Fish Wildlife and Parks; Lloyd Knight and/or Nicholas Zurfluh, Idaho Department of Agriculture

Summary: Even the best prevention efforts cannot stop all invasive species. Early detection, followed by rapid response is a critical defense against the establishment of aquatic invasive species such as invasive quagga and zebra mussels. Rapid response increases the likelihood that localized invasive populations will be contained, and eradicated before they become widely established. If eradication and containment is not possible, it can also slow range expansion, and minimize costly long-term control efforts.

Since 2007, the states of the Columbia River Basin have held 11 response exercises that have primarily been discussion-based. In fall 2019, with funding provided by the U.S. Bureau of Reclamation, the Washington Invasive Species Council facilitated the first operations-based exercise in the Columbia River basin to prepare for an infestation of quagga and zebra mussels. The practice scenario brought together 59 responders from 15 organizations and two counties to test containment and perform a

mock treatment, inspect and decontaminate boats, and perform monitoring by skilled divers, dogs, and scientists.

The presentation will include an update from each state in the Basin on work within their jurisdiction related to their degree of readiness and preparedness for an infestation in invasive quagga or zebra mussels and their response plan. There will be a discussion of how states can work together and what more is needed collectively to appropriately address this Basin wide threat.

Relevance: 2014 Fish and Wildlife Program emerging priority #4: “Preserve program effectiveness by supporting: (1) expanded management of predators; (2) mapping and determining hotspots for toxic contaminants; and (3) aggressively addressing non-native and invasive species”

Background: Quagga and zebra mussels pose an enormous threat to the environment and economy and across the basin and Columbia Basin states and Canadian provinces are working together to keep invasive mussels out of the Pacific Northwest. However, no effort to prevent invasive mussels is perfect and it is possible that invasive mussels could slip into the Basin. Invasive mussels aren't the only threat to fish and wildlife in the Columbia River Basin.

Invasive quagga and zebra mussels are small, nonnative, freshwater mollusks that, if established, could cost more than \$500 million each year across the Columbia Basin just to keep the power and water infrastructure running. These mussels first arrived in the Great Lakes in the 1980s by way of ships' ballast water from the Caspian and Black Seas. Now, recreational boats primarily spread the mussels in the United States.

More Info: <https://invasivespecies.wa.gov/projects/kettle-falls-rapid-response-exercise/>

<https://www.westernais.org/rr-plans-exercises-groups>

States' Panel on Incident Command Response for Invasive Mussels



NWPCC, Portland
April 14, 2020

Stephen Phillips, Senior Program Manager



Aquatic Invasive Species Program Since 1999

Main Species of Concern: Zebra and Quagga Mussels

PSMFC Staff: GIS Manager: Van Hare; AA: Paula Hotaling

Contractors: Lisa A. DeBruyckere, Debra "Quagga D" Davis, Leah Elwell and Robyn Draheim;



**US Army Corps
of Engineers®**

Inter-agency Rapid Response Plan

Columbia River Basin Interagency
Invasive Species Response Plan:
Zebra Mussels and Other Dreissenid Species




Columbia River Basin Team, 100th Meridian Initiative
February 22, 2014

- Focused on Columbia River Basin
- Rapid response to Dreissenid *spp.*
- Multiple agencies signed
- Originally signed – Sept. 2008


Signature Page



State of Idaho (Date)
October 3, 2008



State of Montana (Date)
October 3, 2008



State of Oregon (Date)
October 3, 2008




State of Washington (Date)
October 3, 2008



NOAA Fisheries (Date)
October 3, 2008



USDOI Fish and Wildlife Service (Date)
October 3, 2008



Columbia River-Inter-Tribal Fish
Commission (Date)
October 3, 2008



Province of British Columbia (Date)
October 9, 2008

As signatories, the above parties agree to implement this plan as appropriate consistent with each signatory's laws, policies, and authorities in the event that zebra mussels or other dreissenid species are detected in Columbia River Basin waters.

The coordination structure described in this Plan is designed to comply with the requirements of the National Incident Management System (NIMS).

- The purpose of the *Plan* is to coordinate a rapid, effective, and efficient interagency response in order to delineate, contain, and when feasible, eradicate zebra, quagga, and other dreissenid mussel populations if they are introduced in CRB waters.
- The *Plan* recognizes that a dreissenid invasion is an environmental emergency and any hope of containment necessitates fast action
- The provisions of this *Plan* are intended to enhance interagency coordination beginning with the discovery of an infestation by implementing containment and initial control efforts.
- Updated in 2011; 2014
- RR Plan can be found at : <https://www.westernais.org> .. tab: “Rapid Response”
- Time for an update ...

TEST THE PLAN -- THOUGH TABLE-TOP EXERCISES

Hells Canyon, Idaho (May 2019) **ICS LIGHT**
Flathead Lake, Montana (September 2018)
Lincoln Rock State Park, Wenatchee, Washington (October 2017)
Jackson Lake, Wyoming (May 2016)
Prineville Reservoir, Oregon (April 2013)
Lake Koocanusa, Libby, Montana (October 2011)
Lake Roosevelt, Spokane, Washington (September 2010)
Boise, Idaho (April 2009)
Portland, Oregon (October 2008)
Vancouver, Washington (October 2007)

NEXT

2020 (May, **virtual**) – Lake Billy Chinook, Oregon (ODFW, OMB)
2020? (Fall) Fort Peck Reservoir, Montana (MTFWP)
2021 Wild Horse Reservoir, Nevada?

OTHER

WA Kettle Falls October 2019 (WDFW, WARCO, NPS, BOR, Tribes)

Rapid Response Exercises



2020 – New Developments



<http://www.crbdirt.com/>

ESA Manual For Dreissenid Mussels



This manual is intended to be used with the CRB Plan to implement an immediate and effective response to an introduction of dreissenids to the CRB by describing the core elements of the emergency consultation process, proposed action, listed species and critical habitats within the geographic scope of the CRB, best management practices to avoid, or minimize, impacts to listed species and critical habitat, and steps involved in post-emergency consultation.

NEW: RR DECLARATION OF COOPERATION

Summer 2020

The states of Oregon, Washington, Idaho, and Montana, the US Fish and Wildlife Service, National Oceanic and Atmospheric Administration Fisheries, the Columbia River Inter-Tribal Fish Commission, and the Province and British Columbia...and ??????

Recognizing the long-term detrimental economic, environmental, and cultural effects of dreissenids and other aquatic invasive species;

Taking into account the spread of dreissenids in North America and the proximity of dreissenids to the Columbia River Basin boundary;

Etc...

Etc...

Etc...

The signatories to this Declaration commit to a regular assessment of the progress made in dreissenid prevention efforts in the Basin, and to continued development and implementation of collaborative approaches to protect the Basin from economic, environmental, and cultural effects associated with a dreissenid introduction.

America's Water Infrastructure Act of 2018 (WRDA)

(C) RAPID RESPONSE.—The Secretary shall assist States within the areas described in subparagraph (A) with rapid response to any aquatic invasive species, including quagga or zebra mussel, infestation.”; and

Rapid Response Cooperative Program, Lead: U.S. Army Corps of Engineers, Walla Walla District

RR (WRDA) Funds can be used by States for purchase of RR equipment, training AND RR “actions”

50/50 Match

Summer 2020 – PSMFC*/USACE will sign agreement

***On behalf of OR, MT, ID and WA**

Thank You!

Questions?

PSMFC AIS WEBSITE: WWW.WESTERNAIS.ORG



Montana Mussel Response Readiness

THOMAS WOOLF
AIS BUREAU CHIEF



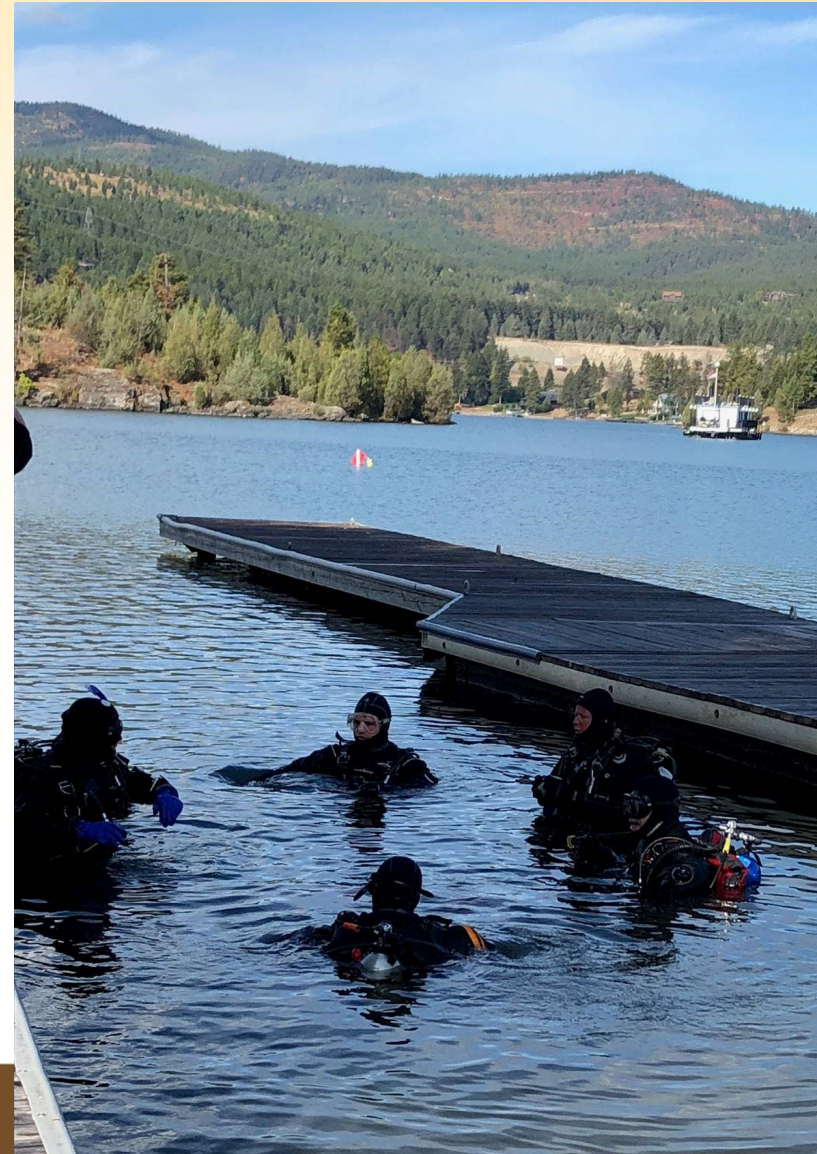
Mussel Response 2017

- Incident command established following mussel detection in Tiber and Canyon Ferry.
- Provided authority, staff and funding.
- Increased prevention, early detection and outreach efforts.



Response Readiness 2018 & 2019

- Mussel Response Guidelines formalized.
- Flathead Response Exercise.
 - PSMFC and US Fish and Wildlife Service.
 - Unified Command: FWP and CSKT.



Focus for 2020

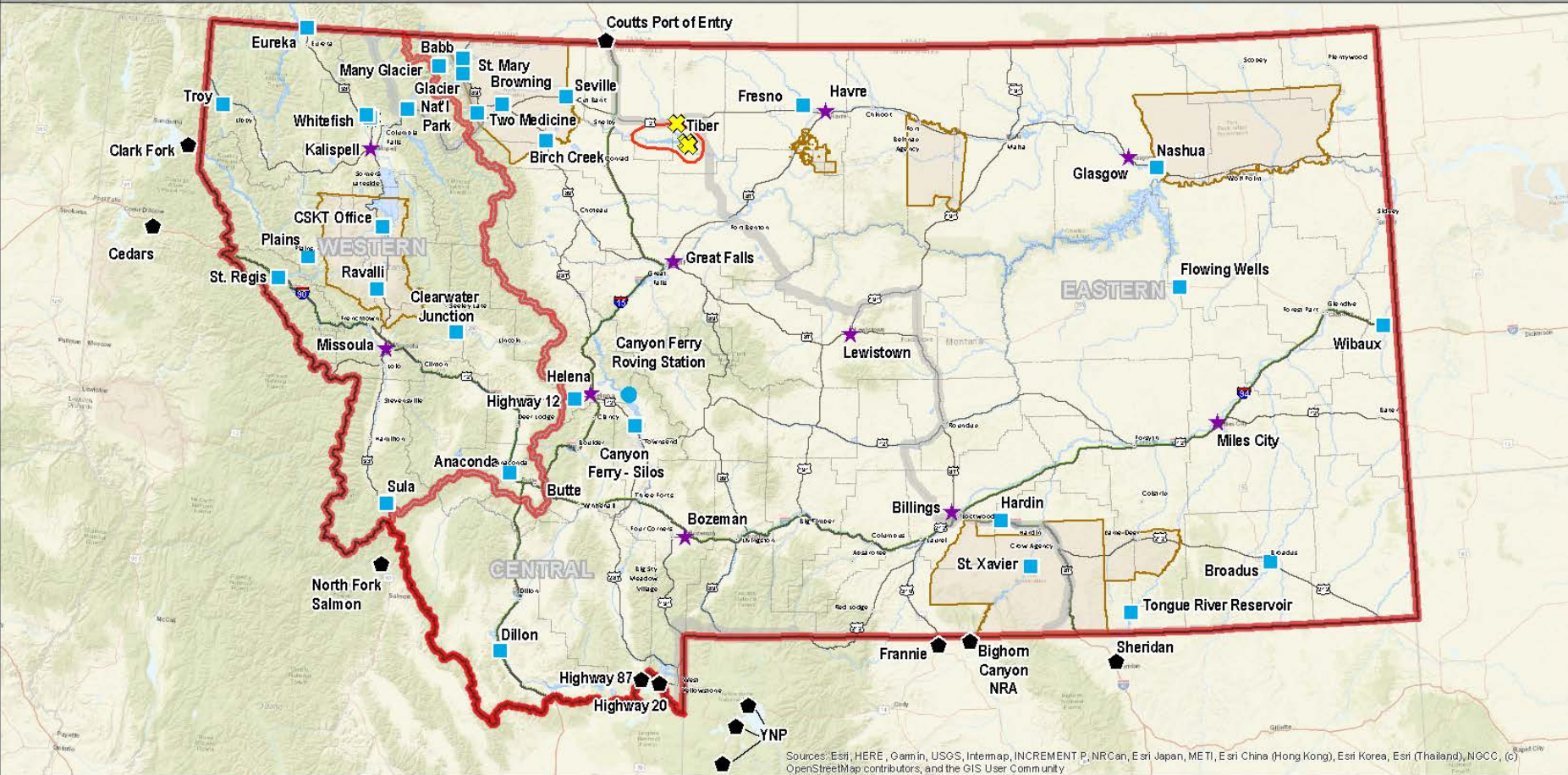
- Delist Canyon Ferry.
- Quality control and expanded enforcement.
- Added COVID protocols.
- Expanded partner involvement.



FWP Watercraft Inspection and Decontamination Stations



2020 Season

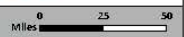


Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NOCC, (c) OpenStreetMap contributors, and the GIS User Community

- Decontamination Station
- Class I Inspection Station*
- Class II Inspection Station**
- Partner Agency Station
- Statewide Defense Perimeter
- Containment Zones
- Columbia River Basin Defense Perimeter
- Fishing District



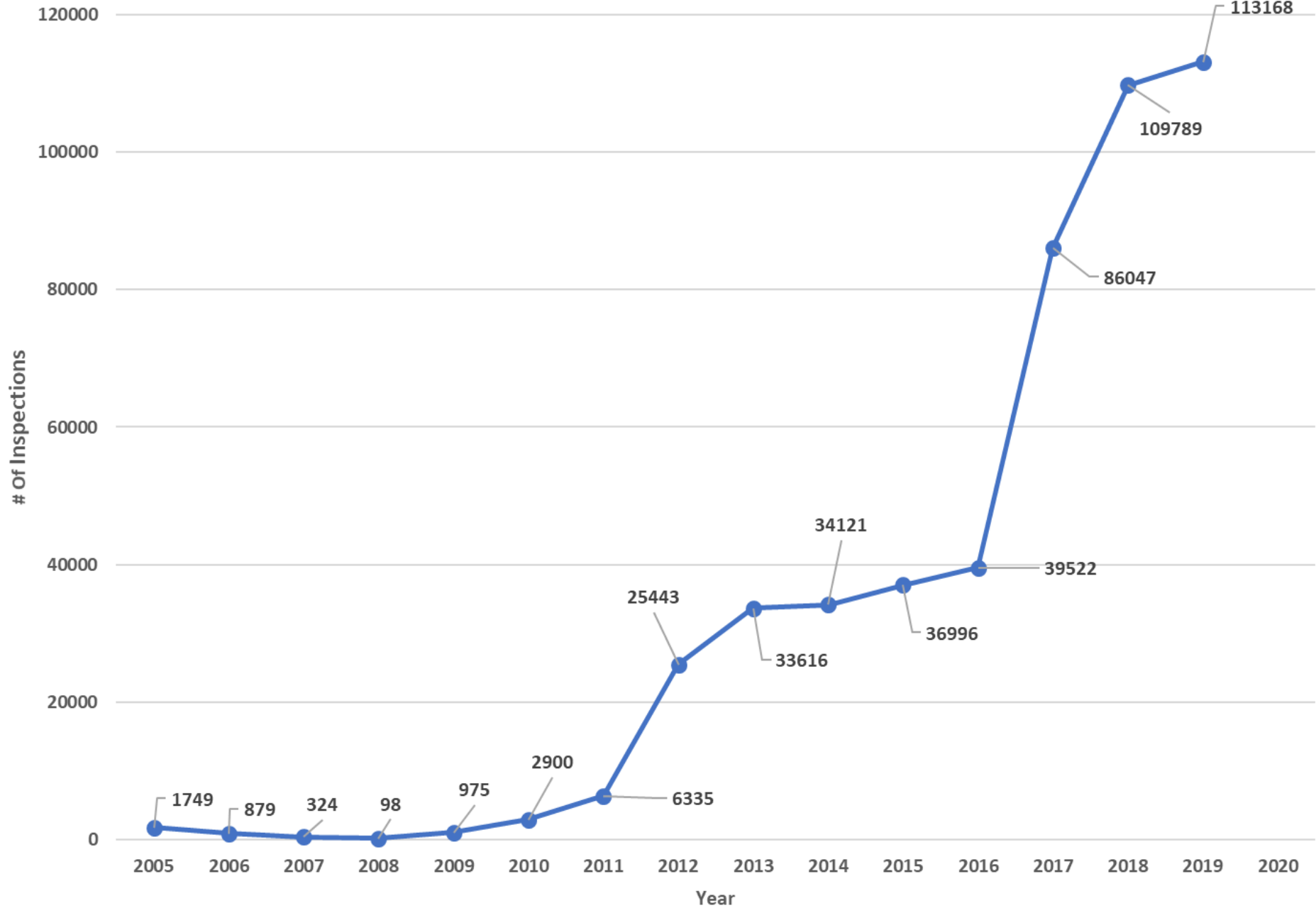
BoatInspectionStations_FY2020_Public.pdf
2/7/2020 Created by Geographic Data Services
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* Class I - full inspection and decontamination capability
** Class II - full assessment, screening, inspection and routing as needed



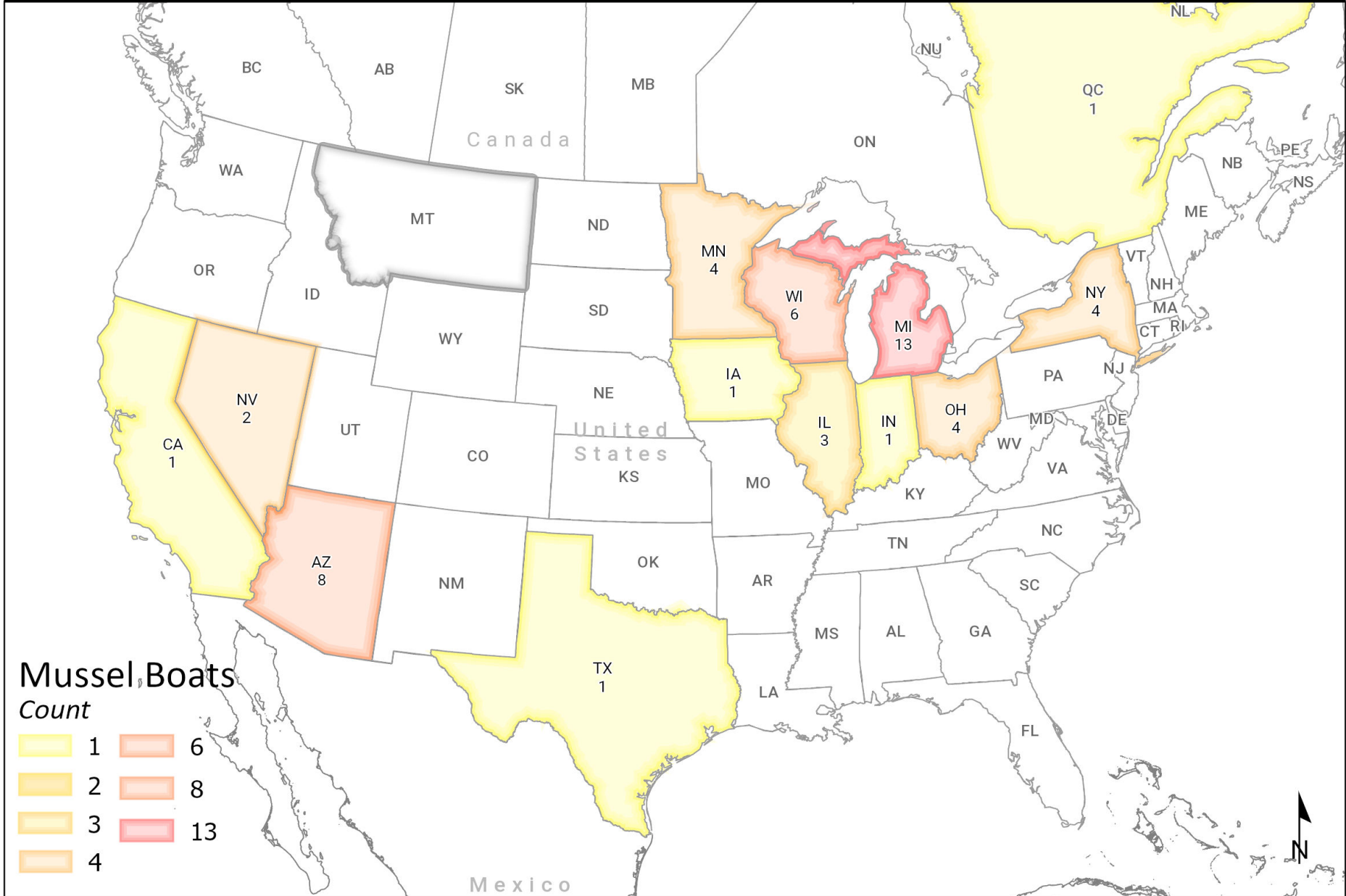
Watercraft Inspection Totals By Year



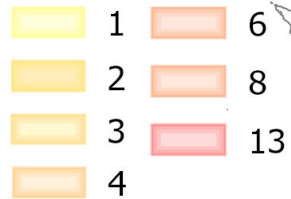
Origin and quantity of mussel boat interceptions in the State of Montana

MONTANA FWP

2017- 2019 Boat Inspection Season



Mussel Boats Count



Data Collected by FWP AIS field staff during the 2019 Season.

Administrative boundaries and FWP Lands data from Montana Fish, Wildlife & Parks, Helena, MT. Reference data from ESRI

ISR - 47637 RCA 12/19

0 175 350
Miles

Future Planning

- Fort Peck RR Exercise.
- Support South Dakota AIS efforts.
- Continue coordination for a better Powell solution.
- Address Midwest internet boat sales.
- Sustain existing efforts.
- Continually evaluate operations to more effectively and efficiently address risk.





CleanDrainDryMT.com



INVASIVE
SPECIES OF IDAHO

Idaho Invasive Species Program

Dreissenid Mussel Rapid Response

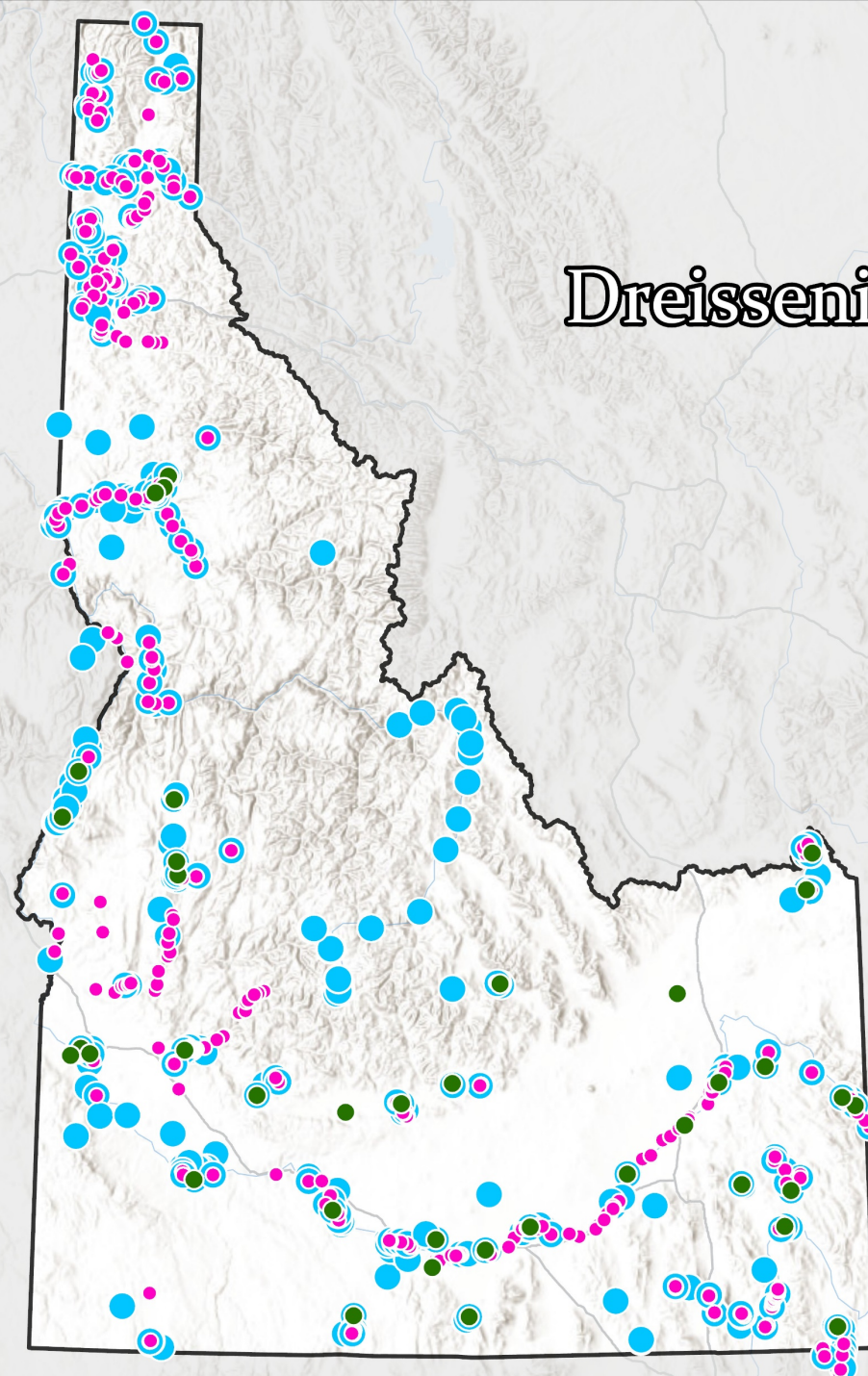
Northwest Power & Conservation Council





Dreissenid Mussel Surveys 2019

- 2010- 2019 over 8,000 sampling events
- 1600 annual veliger sample quota from over 80 waterbodies
 - Multiple sample events, bi-weekly, per waterbody
 - 2 week turnaround for lab analysis
- Adult monitoring through various methods
 - Reservoir drawdown, substrate and benthic grab sampling
- No suspicious detections in Idaho
- Assistance from partners (Idaho Power, Tribes, Lemhi County & others)
- Survey for invasive plants, snails, clams, mussels, crayfish, etc.
- Activate Idaho rapid response plan if detection occurs



- Adult Survey
- Veliger Survey
- DEQ Substrate Surveys



Idaho Waterways Survey
A Standard Operating Procedure for Aquatic Plants & Invasive Species



Idaho Rapid Response Plan Structure

- Plan available online here:
 - <http://invasivespecies.idaho.gov/invsp-programrp>
- Focuses on seven key areas:
 - Verification of detection
 - Initial notification
 - Activate CRB interagency plan
 - Define extent of infestation
 - External communication
 - Containment
 - Control
- Aligns with regional state plans
- Aligns with Columbia River Basin Interagency Plan
- Learning from other states' experiences

IDAHO RAPID RESPONSE PLAN FOR EARLY DETECTION OF DREISSENIID MUSSELS

(A supplement to the Columbia River Basin Rapid Response Plan)
Initially drafted 11/06/09
Updated 10/21/2015

Objective 1: Verify

Purpose: Confirm suspected identification of the Dreissenid species.

Lead entity: ISDA.

A waterbody will be identified as "Suspect" for Dreissenid mussels if:

- 1) Settled adult Dreissenid mussels are found and verified by two qualified experts **OR**
- 2) Dreissenid mussel veligers are found and confirmed utilizing **BOTH** of the following methods:
 - Microscopy identification of a sample from a qualified expert and concurrence from a second qualified expert: (EcoAnalysts, Bureau of Reclamation ("BOR"), Portland State University ("PSU")) **AND**
 - PCR (genetic) identification of a sample by a qualified expert and concurrence from a second qualified expert: (Pieces Labs, BOR)

A waterbody will be considered "Positive" for Dreissenid mussels if specimens are verified through the above protocol during two separate sampling events.

Objective 2: Make Initial Notifications

Purpose: Ensure that all parties that have jurisdiction in response decisions are informed of a suspect or infested identification within 48 hours.

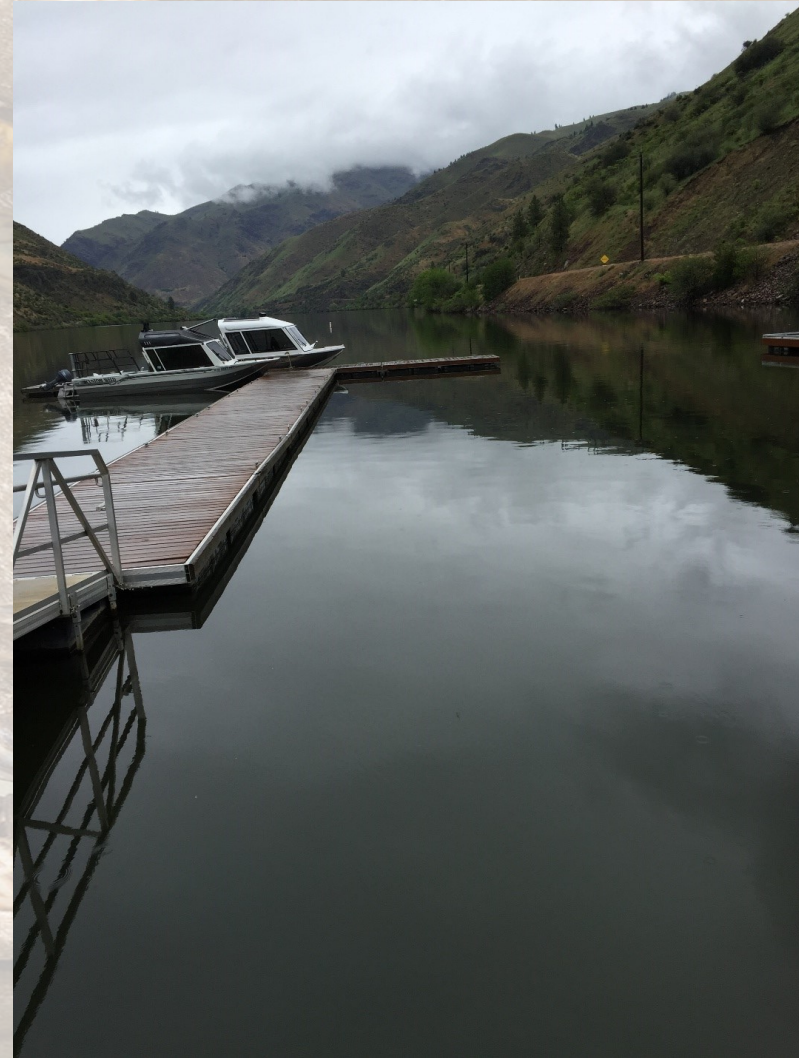
Lead entity: ISDA

Following a "Suspect" or "Positive" identification of Dreissenid mussels in the waters of Idaho, ISDA will conduct the following notifications. All communications outside the agency will be at the direction of the Directors Office:

- 1) Tier 1 Contacts:
 - ISDA Director
 - Governor's Office
 - ISDA Invasive Species Program and Management Staff
 - ISDA legal counsel/Office of the Attorney General
- 2) Tier 2 Contacts:
 - Directly impacted entities (State agencies, Federal agencies, power companies, irrigation districts, etc)

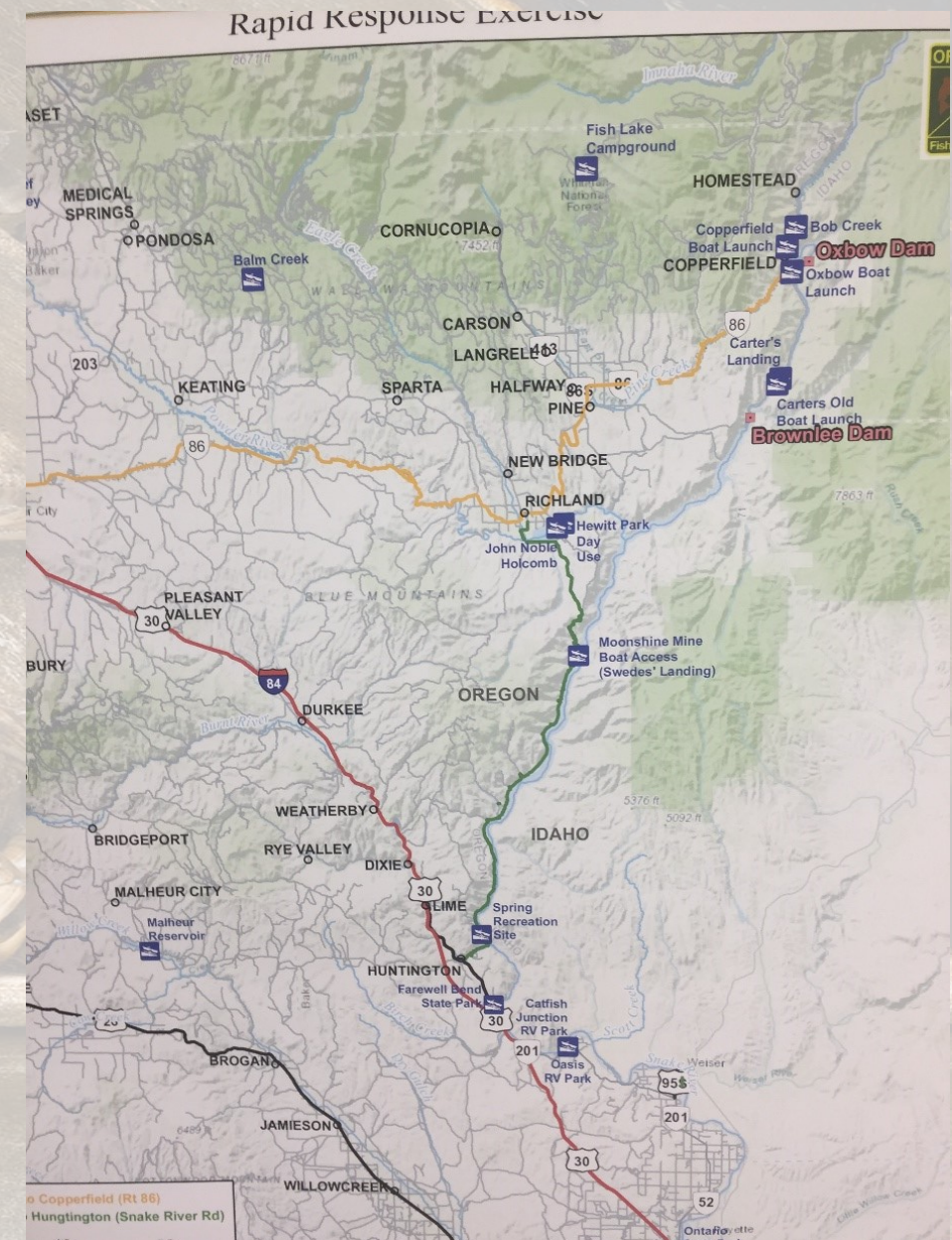
Idaho Rapid Response

- Report found here: <https://www.westernais.org/rr-plans-exercises-groups>
- Rapid response exercise – May 2019
 - Hells Canyon Complex
 - Idaho Power Company partner
 - State of Oregon
 - US Forest Service
 - Invasive Species Action Network (facilitator)
 - Pacific States Marine Fisheries Commission



Idaho Rapid Response

- Scenario
 - Hells Canyon Reservoir boat launch
 - Regulated by multiple dams in the surrounding area (Hells Canyon Complex)
 - Joint jurisdiction with Oregon and Idaho
 - May 20 & 21, 2019
 - Idaho Power ownership of launch area



Idaho Rapid Response

- Containment measures
 - Throughout the exercise ISDA and ODFW were able to source resources to hypothetically set up roadside inspections stations at pinch points leaving area.
 - Mock inspection station was established at launch by ISDA staff
- Containment measures
 - ISDA was able to source silt curtains within other state resources
 - Explored treatment options with multiple professional applicators and supplies
 - Discussed treatment permitting
 - Source treatment supplies locally





WDFW AIS BOAT INSPECTION PROGRAM & RAPID RESPONSE PREPAREDNESS



Preventative Measures

WA State Watercraft Check Stations



- Spokane & Plymouth*

- 7 days a week

**2020 planning to open year round*

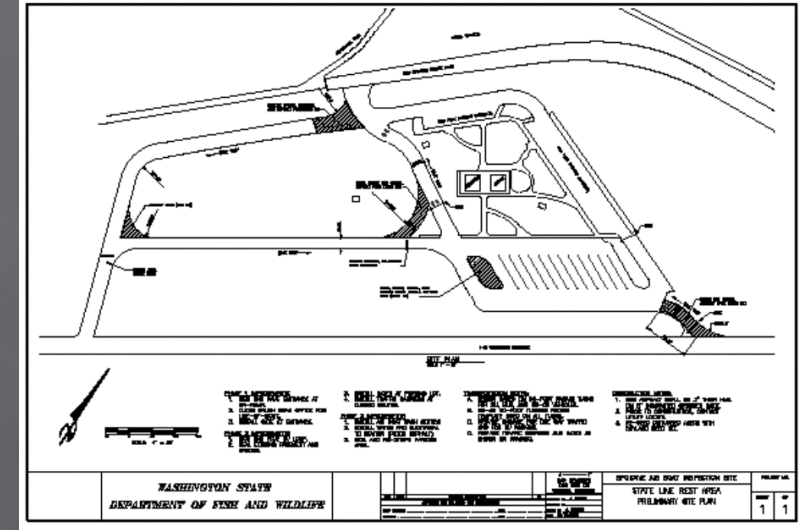


Boat Inspection Program growth

2016	2017	2018	2019
Check Station Days 86	Check Station Days 216	Check Station Days 469	Check Station Days <u>559</u>
Boats Inspected 2,180	Boats Inspected 9,054	Boats Inspected 24,645	Boats Inspected <u>32,502</u>

2019 *dealt with 18 watercraft with mussels*

Spokane Station will have a permanent Decontamination Unit.....



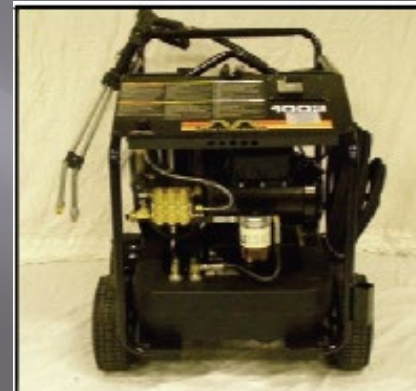
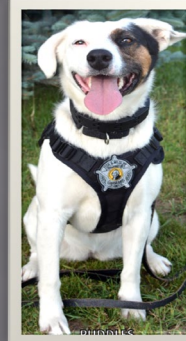
- ▣ Grant from WA State Recreation & Conservation Office for \$285K



Response Preparedness

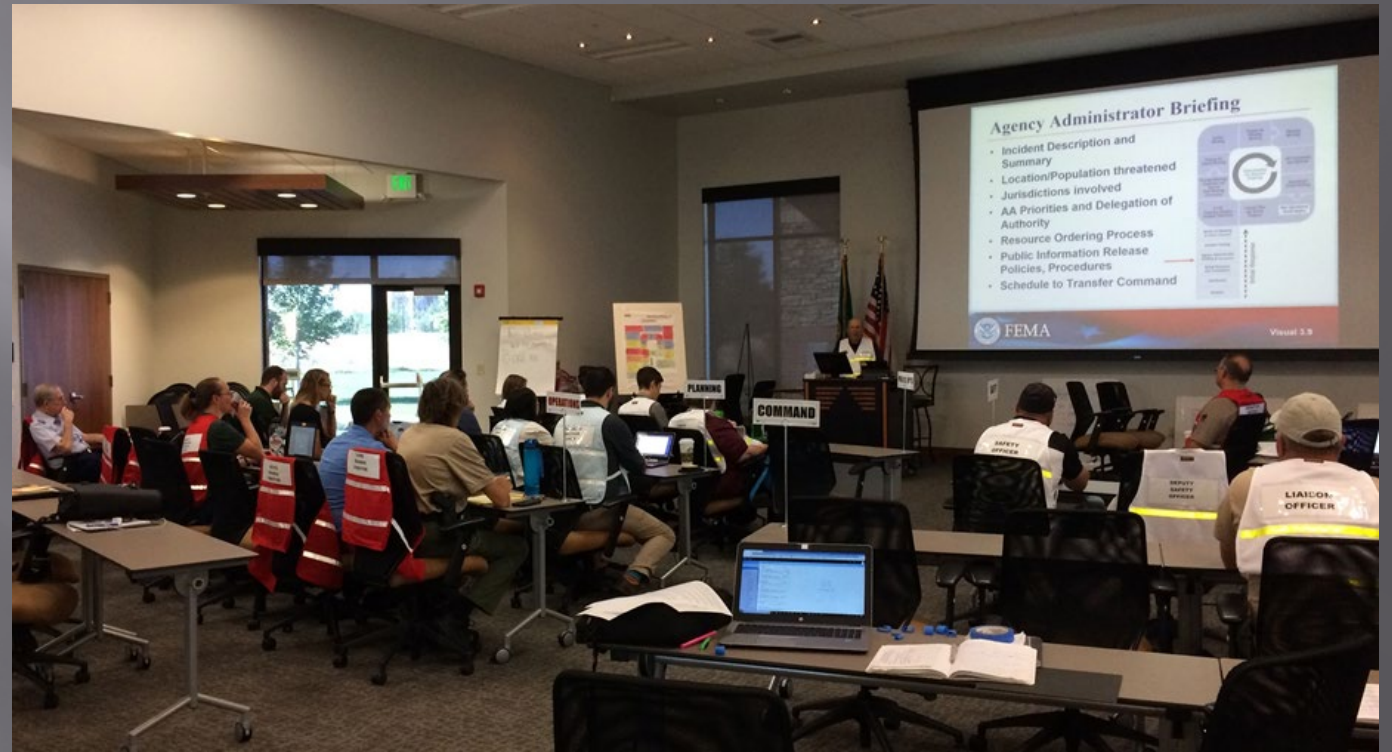
Equipment & Personnel

- ❑ Sgt. Taylor and Myself are WIT 3 Level Instructors & ICS Trained
- ❑ All Check Station Personnel are Inspection & Decontamination Certified (WIT Level 2) by Sgt. Taylor.
- ❑ Puddles – Train Detection K9 (boat & Shoreline detection)
- ❑ Cargo trailer out fitted for response (Portable Signs, Cones, Generator, PPE, ect.)
- ❑ 4 Mobile Messaging Boards
- ❑ 3 trailered decontamination Units
- ❑ 4 portable units (need elect & H2O)
- ❑ Dive Team (4 members) trained in Survey, Detection & Identification Z/Q Mussels (2019 Lk. Roosevelt RR Ex.).



Rapid Response Exercise – Lk. Roosevelt – Oct. 2019

WASHINGTON DREISSENID MUSSEL RAPID RESPONSE PLAN Version 1.0



Full Scale Exercise Funded by a Grant received by WA State Recreation and Conservation Office that was awarded by US Department of Interior/Bureau of Reclamation.



Kettle Falls Marina

A full scale exercise to test response capabilities in a “real world” setting. State, Federal, Local, Tribal, and international agencies participated.



Questions?



Oregon's Aquatic Invasive Species Prevention Program

Invasive Mussel Response Panel

April 14, 2020

Rick Boatner
Invasive Species, Wildlife Integrity Supervisor

Rick.j.boatner@state.or.us

(503) 947-6308



Outline

- AIS Inspection Program
- Monitoring
- Rapid Response Plans



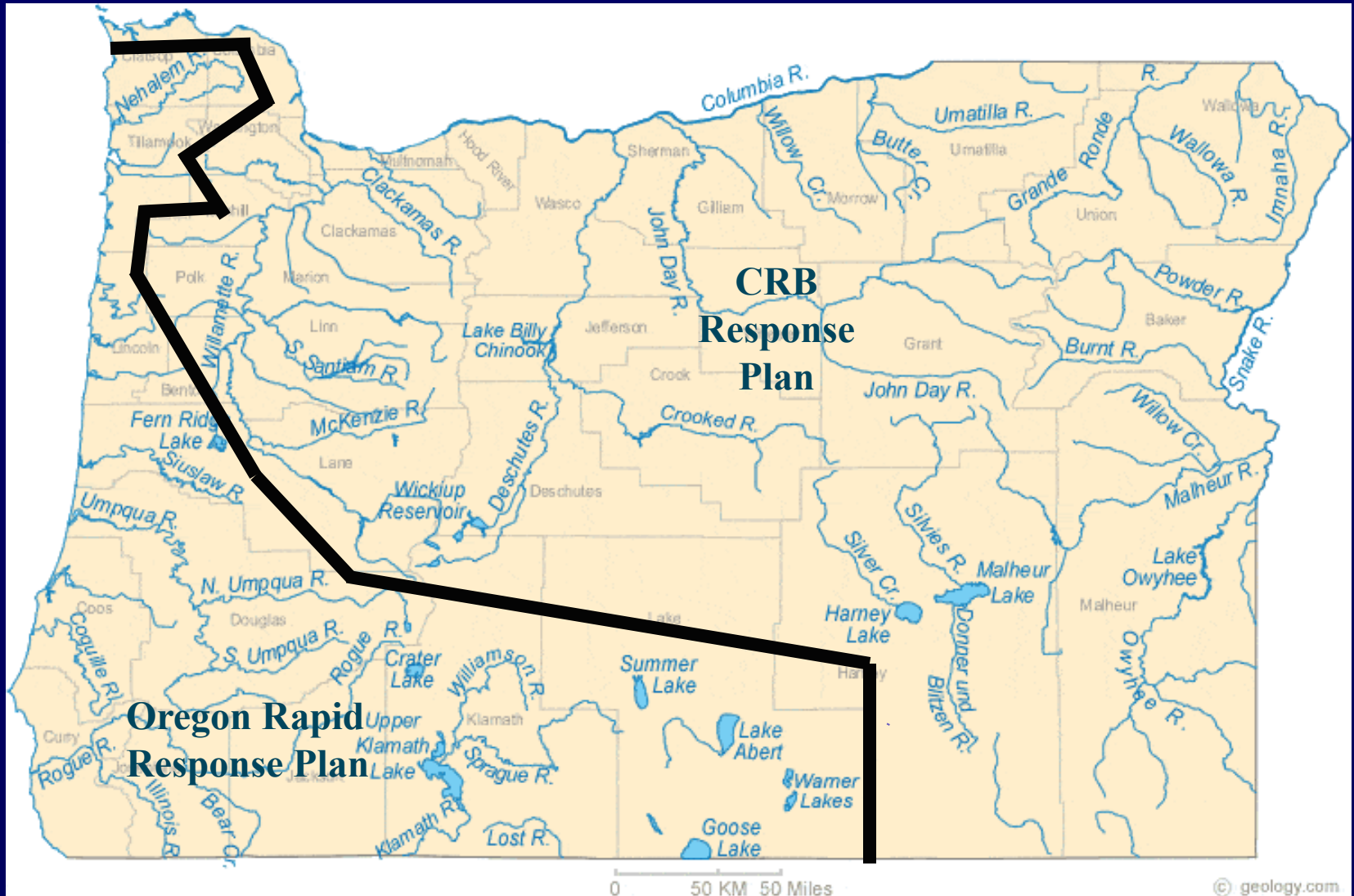
2nd Line of Defense, Monitoring



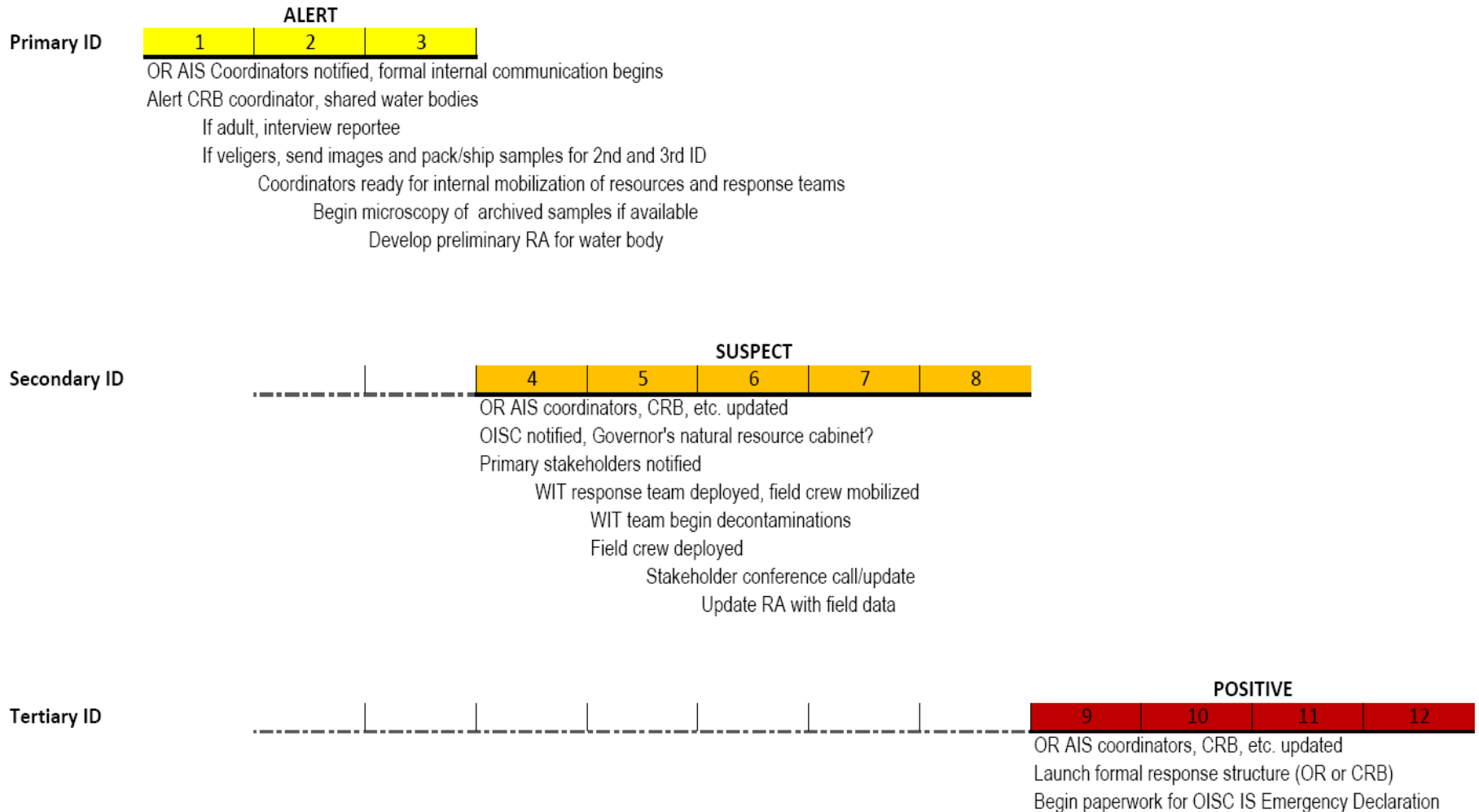
High Risk Water Bodies

Water Body Name	Ca ⁺⁺ mg/L	pH	Establishment	Introduction
Prineville Reservoir	33.4	7.72	High	High
Owyhee Reservoir	28.2	7.55	High	High
Paulina Lake	28.0	8.25	High	High
East Lake	25.5	7.25	High	High
Snake River, Brownlee Reservoir	31.3	8.13	High	High**
Snake River, Hells Canyon Reservoir	31.0	8.20	High	Medium
Applegate Reservoir	18.1	7.75	Medium	High
John Day River	17.3	7.79	Medium	High
Columbia River, Lake Celilo	17.0	8.07	Medium	High
Columbia River, Lake Bonneville	16.5	8.11	Medium	High
Ochoco Reservoir	20.1	8.40	Medium	Medium
Wallowa Lake	14.0	8.09	Low	High
Emigrant Lake	12.6	7.02	Low	High

Two Rapid Response Plans



Time Table for ODMRRP



Questions?

