

PREPARING FOR CRB DREISSENID ERADICATION AND CONTROL

A Decadal Journey and Key Next Steps

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WHITE PAPER

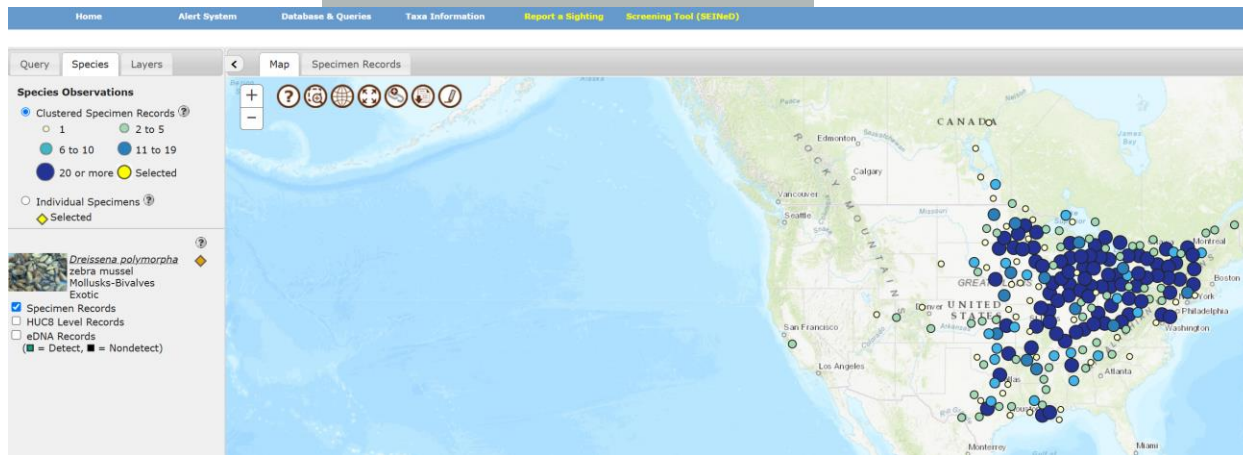
Where We've Been

Where We Are

Where We're Headed

Recommendations



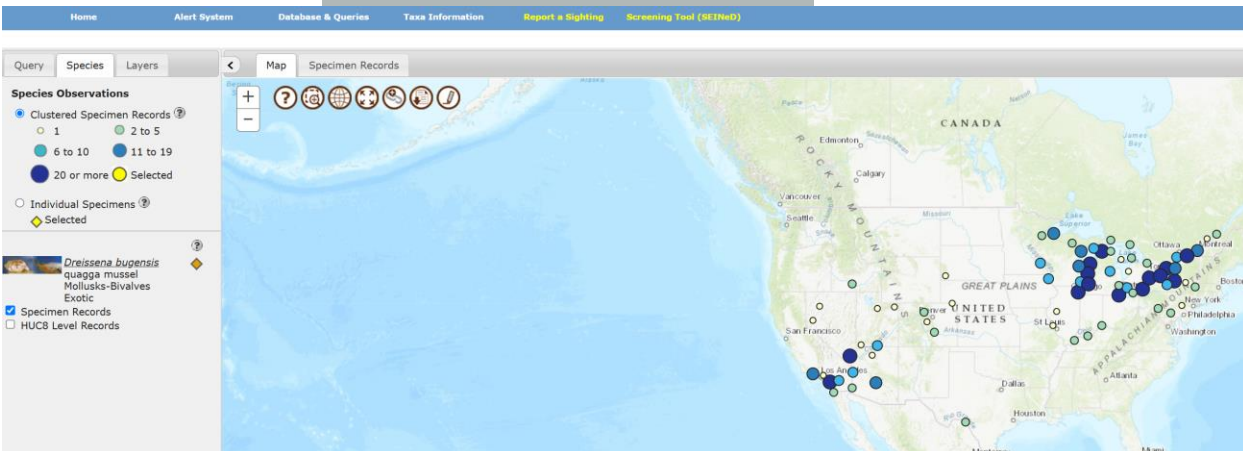


BACKGROUND

Introduced via ballast water in the Great Lakes region in the late 1980s, dreissenids have been spreading throughout North America.

There are significant economic, environmental, social, and cultural costs to dreissenids.

They're knocking on/at the door of the CRB given the 2023 detection in Idaho's Lower Snake River.

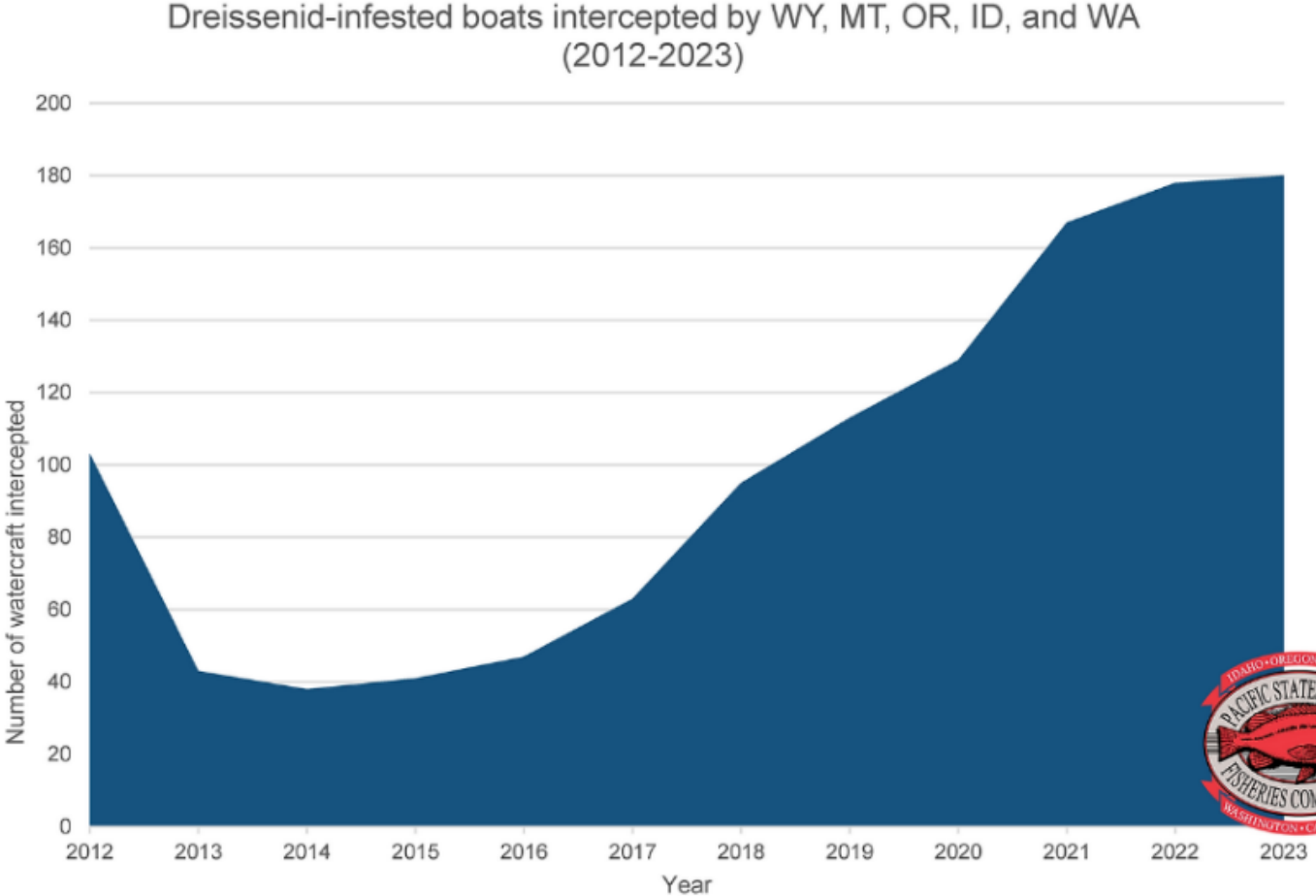




WHERE WE'VE BEEN
Prevention efforts

Source: Washington Department of Fish and Wildlife

DREISSENID-INFESTED WATERCRAFT INTERCEPTED

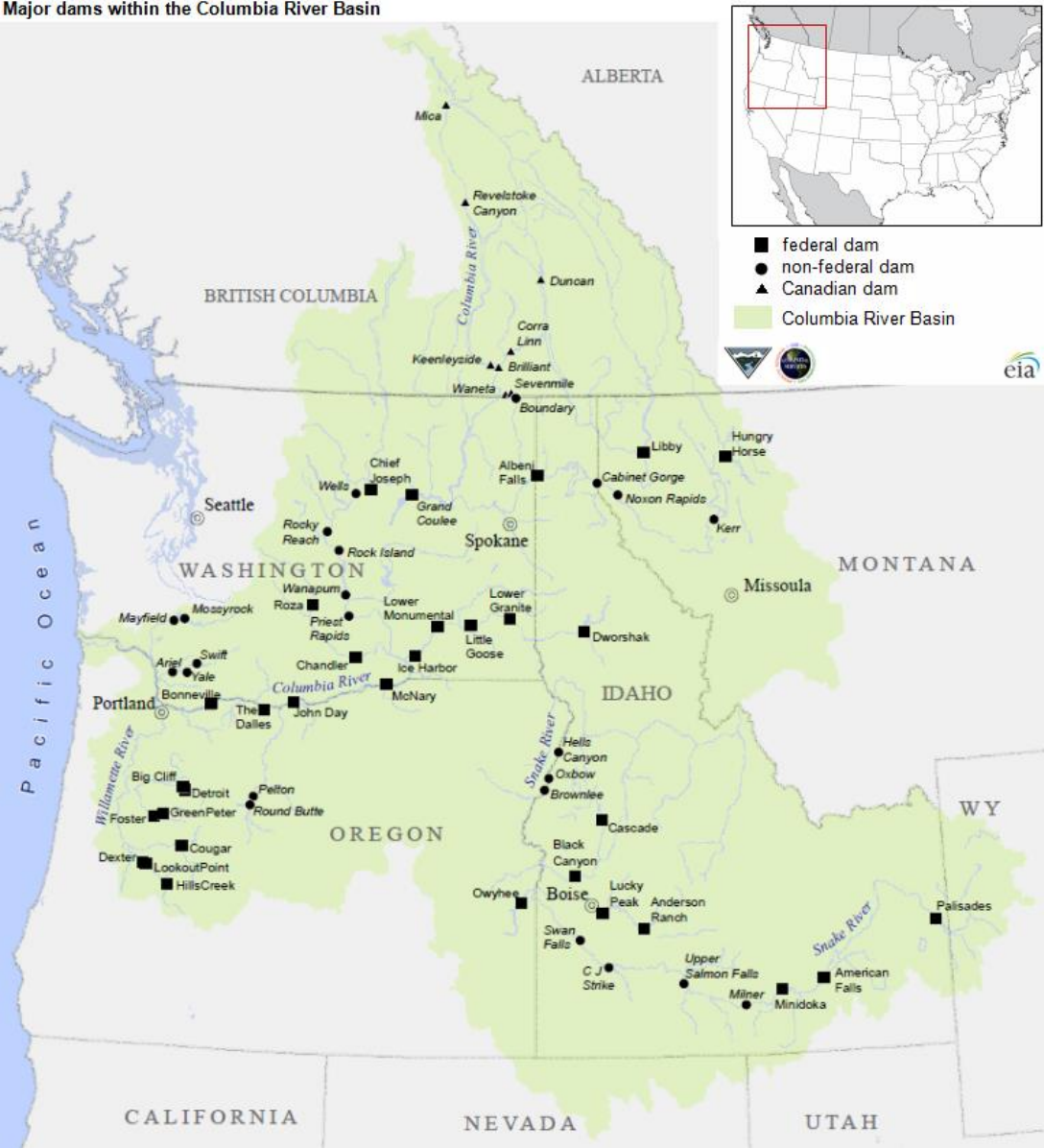



From 1 Jan-30 May 2024, a total of 42 dreissenid-infested watercraft have been intercepted by these 5 states.



WHY IS THIS SO IMPORTANT? CRB ECONOMY, NATURAL RESOURCES, AND DREISSENID RISK OF INTRODUCTION AND ESTABLISHMENT

Major dams within the Columbia River Basin



- **Hydropower**
 - The CRB provides more than 40% of total U.S. hydroelectric generation
 - ~70% of capacity of facilities owned and operated by USACE and BOR; power transported by BPA
 - ~19% owned and operated by municipalities
 - ~12% privately owned.
 - British Columbia accounts for ~92% of all electricity generated in the province – BC Hydro and Power Authority
- **Hatcheries** -141 anadromous fish propagation facilities in the U.S. CRB – use raw water
- Fish passage facilities, Irrigation, Recreation, Tourism, etc.
- Listed species and critical habitats
- Bollens et al. 2021 

Risk of Introduction	Risk of Establishment	Potential Economic Impacts	Potential Ecological Impacts
High	Medium	Extremely High	Extremely High

ESA PRIMER

- The Services are responsible for protecting listed species and critical habitats.
- Agencies must ensure their activities are not likely to jeopardize the continued existence of listed species or their habitats.
- Federal agencies must consult with the Services to determine if an action may jeopardize the continued existence of a species or its critical habitat
- Consultation may lead to an opinion by the Service that an action will jeopardize listed species or harm their critical habitat unless certain **reasonable and prudent alternatives** are implemented.



ESA PRIMER (CONTINUED)

- Actions in which there is a federal nexus – Section 7 consultation
- Actions in which there is no federal nexus – may be initiated by a state or other entity – Section 10 consultation
 - Generally requires Habitat Conservation Plan
 - Results in Incidental Take Permit
 - Historically, it has taken many years to realize results of consultation



TIMELINE

2016
PSMFC reaches out to USFWS, EPA, and NMFS to explore response options and efficient and effective ways to navigate ESA issues



2019
Dreissenid Mussel Rapid Response in the CRB: Recommended Practices to Facilitate ESA Section 7 Compliance

2018
USACE Walla Walla District develops draft biological assessment for dreissenid rapid response in the CRB

OCT 2023
Idaho detects dreissenids in Lower Snake River and implements action using Natrix

JUNE 2024
No BiOp
USACE commenting on USACE draft BA; USFWS chooses emergency consultation

It is both foreseeable and predictable that dreissenids will eventually be detected in the CRB.

ANY OTHER EXAMPLES OF BIOPS WITH PARALLELS TO THE CRB AND DREISSENIDS?

Programmatic BiOp on the National Program for the Aerial Application of Long-term Fire Retardants

- Signed in 2022
- Action agencies – U.S. Dept Agriculture and U.S. Forest Service
- Intent – Establish minimum requirements for fire retardant chemicals and safety and to assess the risk of applying those retardants to listed species and designated critical habitat.

NATIONAL MARINE FISHERIES SERVICE ENDANGERED SPECIES ACT SECTION 7 BIOLOGICAL OPINION	
Title:	Programmatic Biological Opinion on the National Program for the Aerial Application of Long-Term Fire Retardants
Consultation Conducted By:	Endangered Species Act Interagency Cooperation Division, Office of Protected Resources, National Marine Fisheries Service
Action Agency:	U.S. Department of Agriculture, U.S. Forest Service
Publisher:	Office of Protected Resources, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce
Approved:	 DAMON RANDALL, KIMBERLY DRLY.BETH.1365 76.13624108 821093 01/08/2022 Kimberly Damon-Randall Director, Office of Protected Resources
Date:	February 25, 2022
Consultation Tracking Number:	OPR-2021-9236
Digital Object Identifier (DOI):	

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AN EXERCISE IN COMPARISONS

National Program for the Aerial Application of Long-Term Fire Retardants

Columbia River Basin Program for the Application of Chemicals to Control or Eradicate Dreissenids

Proposed Action	Mixed programmatic	Mixed programmatic
Intent	Protect individuals and communities from threats caused by wildfires	Protect the CRB from the deleterious effects of dreissenids
Primary tool	Long-term fire retardants qualified products list	Dreissenid control qualified products list
Monitoring and reporting	Following each fire, annual coordination meetings, 5-year program reviews	Following each control action, annual coordination, 5-year program reviews
Mitigation and Conservation Measures	1) mapping and guidance, 2) establishment of buffer zones, 3) provide funding for research on the effects of fire retardants on listed species and critical habitats, and 4) development and maintenance of a spill calculator to estimate the effects of fire-retardant intrusions into streams.	
Decision Making	Managing wildfires using fire retardants involves decision making at numerous levels/tiers	Implementing a dreissenid action in the Columbia River Basin using chemicals involves decision making at numerous levels/tiers
Jurisdictional Boundaries	Fires do not respect jurisdictional boundaries	Dreissenids do not respect jurisdictional boundaries
Listed Species in the Action Area and Designated Critical Habitat	2 whales, 16 salmon ESU, 12 steelhead trout DPS, 4 sturgeon DPS and 1 additional sturgeon species, Pacific Eulachon Critical habitat for sturgeon, Pacific Eulachon, and salmonids	https://www.crbdirt.com/esa-species-and-critical-habitats

WHEN A PROJECT MAY JEOPARDIZE LISTED SPECIES OR ADVERSELY AFFECT CRITICAL HABITAT AND THERE ARE NO VIABLE REASONABLE AND PRUDENT ALTERNATIVES

IF THE SERVICES DETERMINE THAT NO RPAS WOULD ALLOW THE PROJECT TO PROCEED AND PREVENT JEOPARDY, **POTENTIAL APPLICANTS** CAN APPLY FOR AN EXEMPTION FOR A FEDERAL ACTION DESPITE THE EXISTENCE OF LISTED SPECIES OR CRITICAL HABITATS. THE ACTION AGENCY MAY APPLY TO THE NATIONAL ENDANGERED SPECIES COMMITTEE (**AKA GOD SQUAD**) FOR AN EXEMPTION FROM ESA REQUIREMENTS (NOTE: EXEMPTION PROCESS INCORPORATED AS AN AMENDMENT TO THE ESA IN 1978 - ALLOWS MAJOR ECONOMIC FACTORS TO OUTWEIGH ESA'S MANDATE TO RECOVER A SPECIES.

REASONABLE AND PRUDENT ALTERNATIVES

Reasonable and prudent alternatives refer to alternative **actions** identified during **formal consultation** that can be implemented in a manner consistent with the intended purpose of the **action**, that can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction, that is economically and technologically feasible, and that the **Director** believes would avoid the likelihood of jeopardizing the continued existence of **listed species** or resulting in the **destruction or adverse modification of critical habitat**.

WHO CAN APPLY?

Potential applicants that can apply for an exemption for a federal action despite its effects on listed species or their critical habitat include:

- **The federal action agency** interested in proceeding with the action.
- An applicant for a federal license or permit
...
- **The Governor of the state where the action occurs.**

The ESC is composed of the Secretary of the Interior (serves as chair), the Secretary of Agriculture, the Secretary of the Army, the Chairman of the Council of Economic Advisors, the Administrator of the Environmental Protection Agency, the Administrator of the National Oceanic and Atmospheric Administration and one individual from each affected state. (If multiple states are involved, each state has an appropriate fraction of a vote).

There have been three completed applications for an exemption

- Dam on the Tellico River (denied), Tennessee
- Water project (Grayrocks Dam) on the Platte River in Wyoming and Nebraska
- Bureau of Land Management timber sales in Oregon.

In addition, applications were filed for three other projects (Pittston Refinery in Eastport, Maine; Docking Area in Mound City, Illinois; and Dredging Alligator Pass in Suwanee Sound, Florida), however, these applications were withdrawn or abandoned.



WHITE PAPER RECOMMENDATIONS

- **Model the Biological Assessment for dreissenid mussel rapid response (2018) after the approach taken to develop a biological opinion for wildfire retardant. Engage with BOTH Services to negotiate a biological opinion.**
- **In the interim, inform all PNW state governors of the potential to apply to the Endangered Species Committee (ESC) (aka God Squad) for an exemption from ESA requirements to conduct dreissenid eradication actions in the CRB.**
 - Base request on the evidence that there are no reasonable and prudent alternatives, the benefits of proceeding with an action outweigh the benefits of alternative courses of action consistent with conserving species and their habitat, that the action is in the public interest and of national or regional significance, and that there was no prohibited irretrievable or irreversible commitment of resources before the exemption.
- **Host a basin-wide RR exercise with potential actions in 10+ locations throughout the basin.**

