

Washington Department of Fish and Wildlife Aquatic Invasive Species Prevention Protocols & Cross- Program/Department Collaboration

Jesse Schultz Lennah Shakeri Mohar
AIS Prevention Program Lead EGC Field Operations Biologist
Fish Program, Aquatic Invasive Species Unit



Columbia River Basin Team Annual Meeting, December 2023

Washington Department of Fish and Wildlife (WDFW)

WDFW has over 2,000 full time employees (FTEs)

- Fish Program (most FTEs)
- Wildlife Program
- Habitat Program
- Enforcement Program
- Capital Asset and Management Program (CAMP)
- Directors Office
 - Communications and Public Engagement (CAPE)
 - Financial Services
 - Information Technology
 - Human Resources



Aquatic Invasive Species (AIS) Unit = Fish and Enforcement Programs

- Others in Fish Program working on AIS
 - Hatcheries – Ringold Hatchery purging fish before outplanting
 - Inland Fish – issues Scientific Collection Permits (SCPs) to professionals conducting research or display for non-amphibian species. The AIS Unit reviews applications for species and decontamination procedures
 - Inland Fish – issues fishing contests permits. Watercraft must be decontaminated if used in non-Washington waters
 - Shellfish and Fish Health – issues transport permits to prevent new AIS and distribution of current AIS such as European green crab (EGC)
- Wildlife Program – issues SCPs for amphibian species
- Habitat Program – the lead on invasive amphibians and issues Hydraulic Project Approval (HPA) Permit for anyone planning hydraulic projects in or near state waters. Decontamination protocols must be followed
- CAMP – conducts maintenance for hatcheries to constructing new boat ramps for WDFW. Updating their electronic work order system automatically alerts of New Zealand mudsnails to conduct level 2 decontamination procedures
- CAPE – Vital. We have a dedicated EGC outreach specialist and support for other AIS





Invasive Species Management Protocols (ISMP)

Internal Strategy

WDFW Policy & Procedure 5310

- Approved February 2011
- Provides direction for preventing invasive species spread
- Establishes Dept. actions and personnel
 - Invasive Species Management Committee

WA Department of Fish and Wildlife POL 5310 Page 1 of 4

POLICY 5310

See Also: POL 5307 – Managing Weeds on WDFW Lands
POL 5104 – Executing Fish Health Standards
POL 5103 – Planting Triploid Grass Carp

POL – 5310 MANAGING INVASIVE SPECIES

This policy provides direct (Department) practices with respect to invasive species, to address the risk to the economy of Washington State. Invasive species are categorized as follows:

This policy applies to all Department procedures. In the event of a conflict, the language shall prevail. This policy shall be available for review.

DEFINITIONS:

Invasive Species: Fish and Wildlife regulated aquatic and Noxious Weed.

Manage – to prevent the spread of invasive species.

Nonnative species: species occurring within the limit of Washington State that require human intervention to control.

Noxious weed: plant that requires control by cultural practices.

WA Department of Fish and Wildlife PRO 5310 Page 1 of 2

PROCEDURE 5310

Approval and Date: *[Signature]* 2/2/11

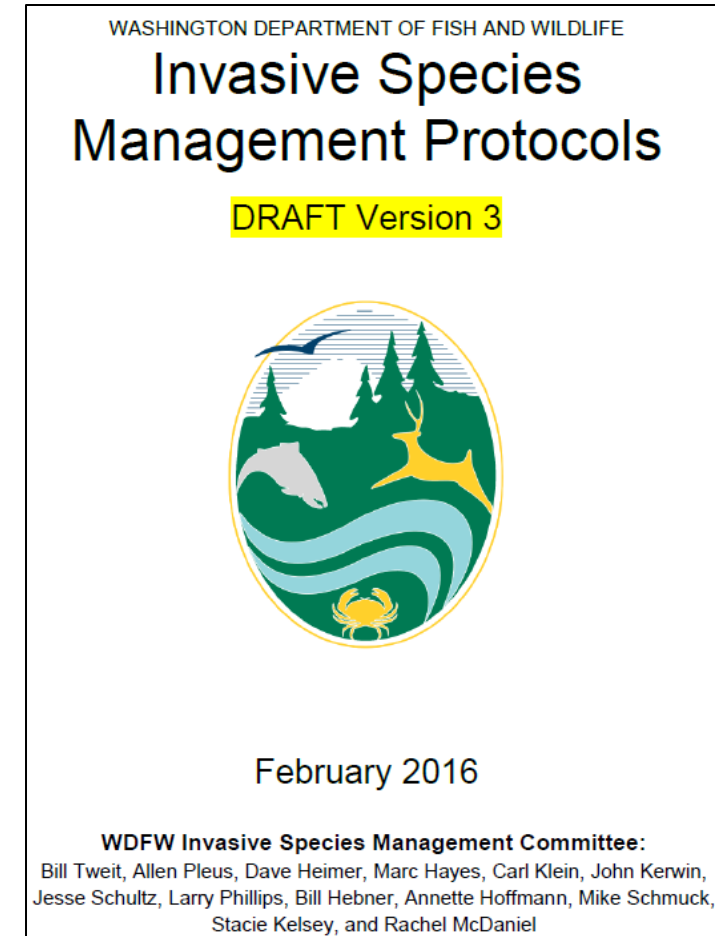
PRO 5310 MANAGING INVASIVE SPECIES

Action By	Action
Director	Designates Department's policy lead for invasive species (IS) management who will serve as the designee for the Washington Invasive Species Council, or similar multi-agency forum.
Program Assistant Director	Designates Department's IS expert leads for aquatic, terrestrial, and enforcement strategic planning and program leads for IS management; monitors program compliance with Department protocol.
Enforcement Chief	Develops guidelines for determining when public safety concerns pre-empt the need for Officers to follow IS protocols.
Regional Director	Nominates regional lead for IS management.
Invasive Species Policy Lead	Develops and updates Department protocols; develops strategic plans for rapid response capacity; monitors implementation of protocols; ensures training needs are met; represents Director on Invasive Species Council; develops multi-agency agreements to facilitate rapid response and resource sharing. Chairs Department's Invasive Species Management Committee (ISMC) and coordinates with the Department's Safety Officer concerning decontamination materials and protocols.
Department's Invasive Species Expert Leads (Aquatic, Terrestrial, Enforcement)	Provide primary technical expertise and advice to the Department on IS management, serve on ISMC (likely also serve as Program Leads).
Program Leads	Ensure all program field staff has received training in appropriate protocols, are following the protocols, and are provided with necessary decontamination supplies. Represent Program on ISMC.



Invasive Species Management Protocols (ISMP)

- Version 1 July 2011
- Version 2 November 2012
- Draft Version 3 February 2016
 - No funding
- Funding October 2021 for Decontamination Biologist (Lennah!)



Current Status

Version 4

- Finalized September 2022
- Included input from 5 programs across 3 state agencies

Best available science

Major changes in Heavy Equipment, Stream Restoration, Diving Equipment

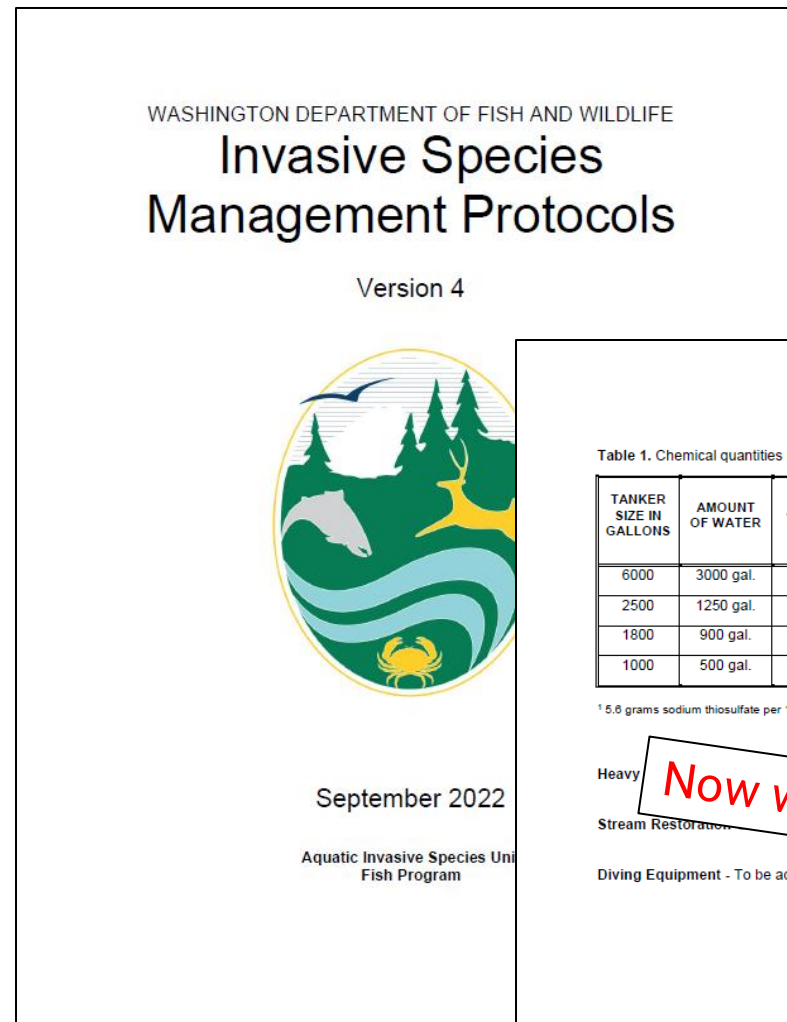


Table 1. Chemical quantities required for tanker disinfection.

TANKER SIZE IN GALLONS	AMOUNT OF WATER	AMOUNT OF 12% BLEACH FOR 20 PPM	AMOUNT OF 12% BLEACH FOR 30 PPM	POUNDS OF SODIUM THIOSULFATE TO NEUTRALIZE 20 PPM ¹ / 30 PPM
6000	3000 gal.	1811 ml	2717 ml	3.8 / 5.7
2500	1250 gal.	764 ml	1160 ml	1.6 / 2.4
1800	900 gal.	566 ml	849 ml	1.1 / 1.7
1000	500 gal.	311 ml	481 ml	0.6 / 0.9

¹ 5.8 grams sodium thiosulfate per 10 gallons of 20-ppm chlorine.

Heavy Equipment - To be added later.

Stream Restoration - To be added later.

Diving Equipment - To be added later.

Now with guidelines!

WDFW Invasive Species Management Protocols
DRAFT Version 3: February 2016 Page 12

Lennah Was Too Good

- Became the EGC field lead in January 2023
- Interviewing for the new Decontamination Biologist and anticipated start date February 1, 2024



Develop and Implement ISMP Certification Program

- Goal is to certify all WDFW staff needing the training
 - Online and in-person trainings
 - General AIS information
 - Overview of ISMP
 - Make the training available to anyone who wants it once WDFW staff certified



Develop and Implement AIS Hatchery Inspections

- Develop inspection protocols based on the Western Invasive Species Coordination Effort's best management practices and in coordination with WDFW Hatchery staff
- Inspect WDFW's over 70 hatcheries

WDFW Schultz 12/06/2023

Aquatic Invasive Species Fish Rearing and Holding Facilities Inspection Form

INSPECTION DATE (MM/DD/YY) _____ INSPECTION FORM NUMBER 23-001

Facility Information:
 Name _____ Address _____
 Phone Number _____ Email Address _____
 Water Source _____

Inspector Information:
 Company _____ Inspector Name _____
 Phone Number _____ Email Address _____

Inspection Information:

1) Aquatic invasive species (AIS) detected during inspection:

Quagga Mussels (<i>Dreissena Bugensis</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Zebra Mussels (<i>Dreissena Polymorpha</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
New Zealand Mudsnail (<i>Potamopyrgus Antipodarum</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Asian Clam (<i>Corbicula Fluminea</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Chinese Mystery Snails (<i>Cinangopaludina Chinensis</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Crayfish (any not <i>Pacifastacus Leniusculus</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Didymo (<i>Didymosphenia geminate</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Flowering Rush (<i>Butomus Umbellatus</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Floating Primrose-Willow (<i>Ludwigia Perloides</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Variable-Leaf Watermilfoil (<i>Myriophyllum Heterophyllum</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
West Indian Spongeplant (<i>Limnobiium Laevigatum</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Brazilian Elodea (<i>Egeria Densa</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Eurasian Water-Milfoil (<i>Myriophyllum Spicatum</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Other: Scientific Name _____	Yes <input type="checkbox"/> No <input type="checkbox"/>
Other: Scientific Name _____	Yes <input type="checkbox"/> No <input type="checkbox"/>

2) Thorough visual inspection of the facility and water source conducted Yes No

3) Kick net, and/or scrape surface sampling throughout the facility focusing on areas known for AIS such as outlet of facility, raceways, ponds, water sources, filters and screens conducted Yes No

4) Sample utilizing plant rakes to access areas where plants cannot be other wised sampled conducted Yes No

5) Plankton tow sampling for microscopic analysis conducted Yes No If yes, provide report from the laboratory and where was the sample (s)



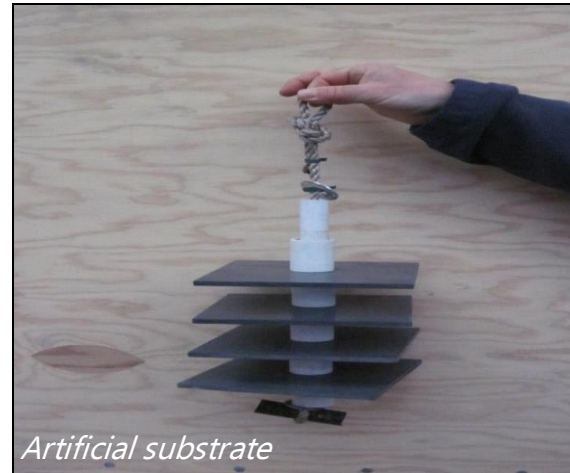
Potential Methods

Visual survey

Kick net/ Plankton tow samples

Artificial Substrates

eDNA samples





Nonnative goldfish collected from a stormwater retention pond

Questions?

Jesse.Schultz@dfw.wa.gov

WDFW AIS Hotline: AIS@dfw.wa.gov; 1-888-WDFW-AIS

