



What do we do?

Wapato Revival is a group that seeks to bring together multiple stakeholders to protect the Willamette River Basin and all of its bounties.

Wapato Revival works with the Willamette Aquatic Invasive Network (WAIN) to collaboratively and strategically address the issue of aquatic invasive species to restore our freshwater habitats in the Willamette River Basin.



Photo: Volunteers hand pull Ludwigia in a paddle and pull event on Muddy Creek, a Willamette River tributary in Corvallis, OR. Photo Credit: Fred Joe (above) & Holly Crosson (below).

Major Invaders in the Willamette Basin: Floating Mat Aquatic Invasives

Water Primrose
(*Ludwigia hexapetala* & *peploides*)

Yellow Floating Heart
(*Nymphoides peltata*)



Photo Credit: Willamette Riverkeeper



Photo Credit: Karel Jakubec (bottom) & Chris Gladis (above)

What are aquatic invasive species (AIS)?

Invasive species are defined as organisms that are non-native to an ecosystem and whose introduction causes, or is likely to cause, economic or environmental harm or harm to human health. Wapato Revival specifically focuses on invasive species that are plants, which depend on aquatic and riparian habitats.

Water primrose, or Ludwigia, is a non-native, invasive, aquatic plant that is quickly spreading and causing problems throughout the Willamette Basin.

What does it look like?

Ludwigia can be identified by its bright, yellow flowers and alternating "willow-like" leaves. This organism can quickly dominate a wetland, forming a dense monoculture that is harmful to wildlife and impedes recreational activity.

Yellow Floating Heart is another AIS that threatens the health of our wetlands. It is not as widespread in Northern Oregon, but if you suspect you have found it, call it in!

What does it look like?

Yellow Floating Hearts often have 2 to 5 bright yellow, five-petaled, fringed flowers that are 2 - 4 cm in diameter. Stamens grow on stalks just above the water's surface. Leaves are yellowish-green and can be 3 - 12 cm across. They are either circular or heart-shaped, resembling lily pads.

Other Common AIS



Photos: Parrot's Feather (left) © Clifton Ladd, Purple Loosestrife (left-center) © Andreas Rockstein, Yellow Flag Iris (right-center) © Nicolas Olejnik, Japanese Knotweed (right) © Stew Stryker

Land acknowledgement

We acknowledge with respect and gratitude that the land on which we live, work, and gather as a community is the traditional land of the many Indigenous Tribes of the Willamette Valley, past and present. We must recognize the mistreatment of Indigenous peoples that have occurred and the inequalities that continue in order to reconcile the injustices. We commit ourselves to continuing to understand and respect the land that we inhabit.



Photo Credit: Mike Shaw (left), Northwest Indian Fisheries Commission (right)



How do floating mat AIS establish?

Floating mat AIS possess a few uncommon traits that give them a competitive advantage over many native aquatic plant species, and make them highly adaptable to a wide range of environmental conditions. So, what makes them so successful?

- They're **early establishers** - meaning they begin to grow earlier in the growing season than most native aquatic plants. This gives them access to sunlight and critical nutrients needed for growth before the native flora has a chance to begin growing.
- Their ability to spread through **fragmentation**. Once a piece of the plant gets broken off, it can re-root and continue spreading.

Why Should We Care?

Floating Mat AIS can:

- Form dense, monoculture mats on streambanks and over the water's surface in slow-moving, backwater areas
- Clog pipes and drains used for irrigation or stormwater runoff
- Hinder recreation activities like swimming, boating and kayaking
- Reduce woody, stream bank vegetation that's important for providing shade and nutrients to the Willamette River
- Accelerate sediment build-up in the streambed
- Alter water temperatures to be either too cold or too warm for important, native fish and invertebrates
- Reduce dissolved oxygen concentrations that fish like salmon need to survive
- Pollute waterways with an overabundance of nutrients like nitrogen and phosphorus
- Physically impede salmon stocks from reaching crucial spawning grounds



Photo Credit:
Willamette Riverkeeper



A success story in the works

Beginning in 2012, there has been an ongoing effort to reduce the spread of these pesky, non-native, floating mat plants in the Blue Heron Wetland in Northeast Portland. Through the hard work and collaboration of students, community members, and environmental contractors, the AIS were removed and replaced with native wetland plant species. This effort will provide critical habitat for the return of native wildlife like Great Blue Heron.

The Willamette River Basin is a treasured, natural resource we all rely on - for recreation, drinking water, aesthetic beauty, and support for native wildlife. It is important that we keep it clean and free of invasive species.

Projects like these are always ongoing and their success hinges on the continued efforts of **DILIGENT RIVERKEEPERS LIKE YOU**. So...

What Can YOU Do To Help?

- Report invasive species to the ODA at 1-866-invader (468-2337)
- **DO NOT** release aquarium plants/animals into the wild
- Purchase native and non-invasive plants
- Participate in the Clean, Drain, Dry your boat program
- Get involved in an invasive plant removal program
- Check out our website to find out more!

www.willamette-riverkeeper.org



Photo Credit:
WA Dept of Ecology (top),
UNICEF
(bottom)



Photo Credit:
Alexander Staunch



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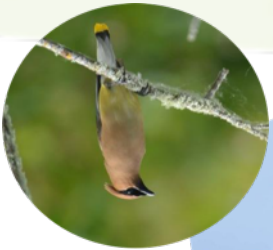


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Other Common AIS



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Water Primrose

(*Ludwigia hexapetala* & *peploides*)

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What does it look like?

Ludwigia can be identified by its bright, yellow flowers and alternating "willow-like" leaves. This organism can quickly dominate a wetland, forming a dense monoculture that is harmful to wildlife and impedes recreational activity.



Water Primrose flower (above) and floating mat (below) Photo Credit: Willamette Riverkeeper

Yellow Floating Heart (*Nymphoides peltata*)

Yellow Floating Heart is another AIS that threatens the health of our wetlands. It is not as widespread in Northern Oregon, but if you suspect you have found it, call it in!

What does it look like?

Yellow Floating Hearts often have 2 to 5 bright yellow, five-petaled, fringed flowers that are 2 - 4 cm in diameter. Stamens grow on stalks just above the water's surface. Leaves are yellowish-green and can be 3 - 12 cm across. They are either circular or heart-shaped, resembling lily pads.



Photo: *N. peltata* pads and flowers (above) & *N. peltata* flower (below) Photo Credit: Chris Gladis (above) & Karel Jakubec (below).

Major Invaders in the Willamette Basin:

Floating Mat Aquatic Invasives

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- Land Use Class**
- Public Forest
 - Private Industrial Forest
 - Private Non-Industrial Forest
 - Urban: Medium/High Intensity
 - Urban: Low Intensity
 - Urban: Open Space
 - Agriculture: Cultivated Crops
 - Agriculture: Pasture Hay
 - Other
 - Subbasin Boundary

Our Mission

is to bring together multiple stakeholders in protecting the Willamette River Basin and all of its counties. Through collaboration with local organizations and the community, we will address the issue of aquatic invasive species to restore the habitat.



WAPATO
REVIVAL

HELP OUR NATIVE WILDLIFE RECOVER

VOLUNTEER

WHAT ARE AQUATIC INVASIVE SPECIES (AIS)?



INVASIVE SPECIES

*Water
Primrose
Ludwigia spp.*

It is identified by its bright, yellow flowers and alternating "willow-like" leaves. Ludwigia spreads via fragments, forming dense mats over the water's surface. These mats are harmful to other wildlife and impedes recreational activities



*Yellow Floating
Heart
(Nymphoides peltata)*

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OTHER COMMON AQUATIC INVASIVE SPECIES



Japanese Knotweed



Parrot's Feather



Purple Loosestrife



Yellow Flag Iris