



Non-native fish predators of the Chehalis River

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Background – non native fish predators in the Pacific Northwest

- Non-native fish predators were introduced in the early 1900s in the Pacific Northwest for fishing opportunities
 - Smallmouth bass, largemouth bass, etc...
- Spatial distributions have expanded since introduction
 - Colonizing new habitat
 - Climate change
- Ecological impacts on native fish
 - Predation



Background – Non-native fish predators in the Chehalis River

- Little information existed prior to this work
- Three non-native fish predators present
 - Smallmouth Bass (*Micropterus dolomieu*)
 - Largemouth bass (*Micropterus salmoides*)
 - Rock bass (*Ambloplites rupestris*)
- One native fish predator
 - Northern pikeminnow (*Ptychocheilus oregonensis*)



Smallmouth bass

- Opportunistic predator
- Cooler and faster water compared to largemouth bass



Largemouth bass

- Opportunistic predator
- Warmer and slower water compared to smallmouth bass



Rock bass

- Opportunistic predator
- Margin habitat
- Less information available on predation patterns
- Probably the most numerically dominant non-native fish predator in Chehalis



Northern pikeminnow

- Opportunistic predator
- Faster moving water
- One study suggested predation on coho smolts was low in the Chehalis (Fresh et al 2003).

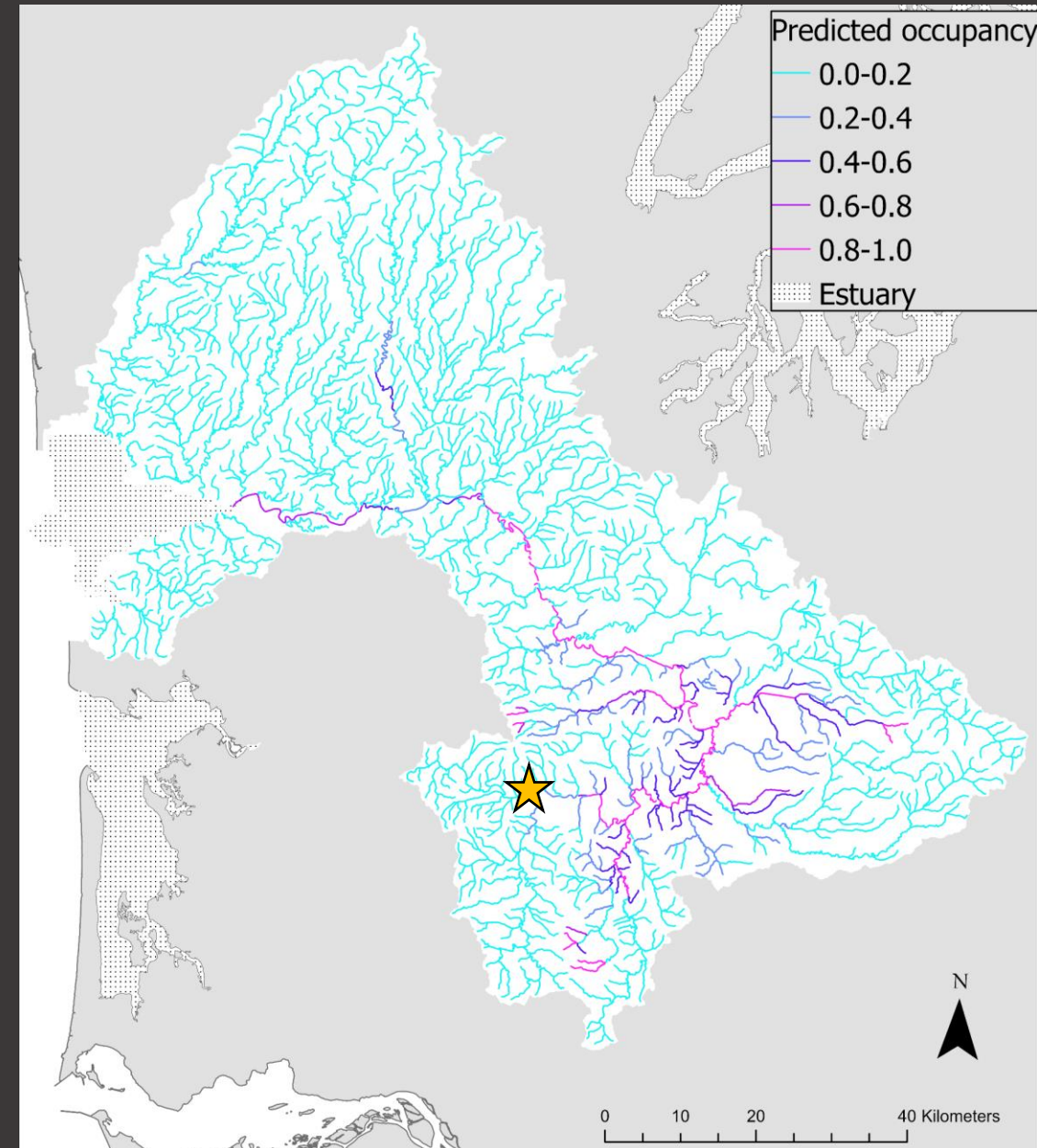


Background – What we've accomplished so far

Year	Objective
2019	Spatial distributions
2020	Pilot predation study
2021	Predation study
2022	Predation study

Where are non-native predators distributed?

- Spatial distributions of smallmouth bass
 - Strongly correlated with stream temperature
 - Warmer reaches = more likely occupied
 - Main stem Chehalis
 - Lower main stem of major tributaries
 - Skookumchuck
 - Newaukum
 - South Fork Chehalis
 - NOT upstream of Rainbow Falls
 - Barrier
 - NOT in Olympic Mountain tributaries
 - Cool stream temperatures



What are non-native predators eating?

- Preliminary results from predation study

	Chinook	Coho	Steelhead
Rock bass	24%	3%	3%
Smallmouth bass	47%	5%	2%
Largemouth bass	35%	9%	0%
Pikeminnow	27%	4%	3%



Where are we going?

- Quantify spatial distributions of other non-native fish predators – rock bass, largemouth bass
- Understand spatial and temporal predation patterns
- Predation on Chinook salmon
- Abundance of non-native fish predators
- Habitat use by non-native fish predators



Questions?

