

# Smallmouth Bass in Cultus Lake, BC

## 2024 Field Season Update

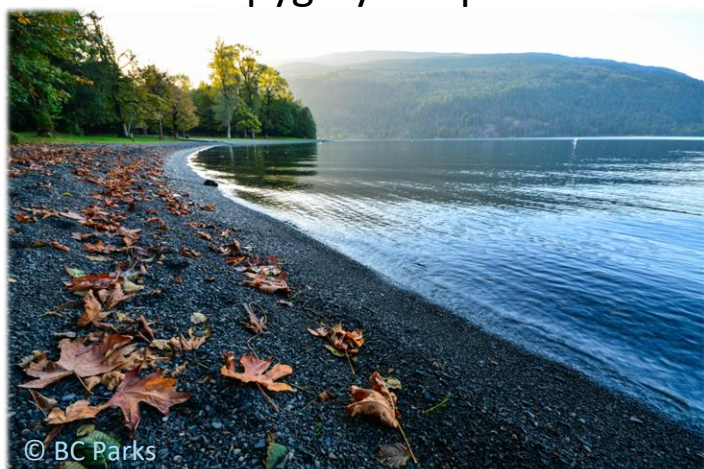
September 5, 2024

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Water, Fisheries and Coast Division

# Cultus Lake Values



Cultus Lake sockeye salmon and  
pygmy sculpin





# Smallmouth Bass

## INVASIVE SPECIES ALERT!

### SMALLMOUTH BASS (*Micropterus dolomieu*)

#### NATIVE RANGE

Smallmouth Bass are native to central and eastern North America, extending from the Great Lakes in Quebec to as far south as central Texas.

#### DESCRIPTION

Smallmouth Bass...

- Are grey-green to brown on dorsal (back) side
- Are lighter in colour with dark vertical bands on sides
- Are white on ventral (bottom) side
- Have two dorsal fins that are fused together; the most anterior section of dorsal fin has spines and posterior section has soft rays
- Have a mouth that extends just below the eye
- Can grow to be 25-40 cm long as adults
- Have a flat and oval shaped body

#### WHY SHOULD WE CARE?

Smallmouth Bass...

- Can have adverse ecological effects on native species and ecosystems
- Are to blame for the decline and local extinction of native prey species (fish and amphibians) in other regions where they have been introduced
- Can feed on juvenile salmon, thus posing a risk to recreational and commercial fisheries in B.C.
- Are known carriers of parasites that can be harmful to native fish species

#### BIOLOGY AND SPREAD

Smallmouth Bass are spreading into B.C. primarily by intentional introductions for sport fishing. Natural dispersal has also occurred from the US through the Columbia River system and other trans-boundary rivers and streams. Once introduced, populations can increase quickly as females lay thousands of eggs at a time and spawn several times per season. Their ability to feed on a wide range of prey species further allows them to spread and invade a variety of habitat types. The diet of Smallmouth Bass can include aquatic invertebrates, juvenile fish, amphibians, and even small birds.

**REPORT INVASIVE SPECIES**  
[www.reportinvasives.ca](http://www.reportinvasives.ca)



**PRIMARY IMPACT:**  
Are voracious feeders, preying on a variety of prey species.



**DID YOU KNOW?**  
Male Smallmouth Bass prepare a nest site along the water's edge for a female to spawn. The female leaves the site immediately after laying her eggs, leaving the male to guard and tend to the nest and young.

## Known Locations of Smallmouth Bass, 2024

Atlin

Fort Nelson

Fort St. John

Smithers

Prince Rupert  
Masset

Prince George

Williams Lake

Revelstoke

Kamloops

Campbell River

Nelson

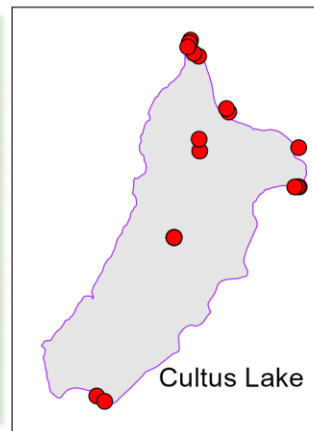
Cranbrook

Vancouver  
Nanaimo

Cultus Lake

Victoria

Since 2018



Cultus Lake





# Management challenges



# Suppression Plan Project



## Two goals:

- 1) Determining a suppression strategy to maximize effective suppression and reduce impacts on sockeye salmon and pygmy sculpin populations.
- 2) Understanding which suppression options will result in the lowest opposition from anglers and community members.



Fisheries and Oceans  
Canada



# Suppression Plan Project

## 1) Suppression activities

- Nest destruction (2023 & 2024)
- Boat electrofishing (2023 & 2024)
- Fishing regulations (NA)

## 2) Monitoring activities

- Spring marking (2023 only)
- Acoustic telemetry (2023 only)
- Fishery monitoring (2023 & 2024)  
(creel surveys)



# 2024 Field Season Results



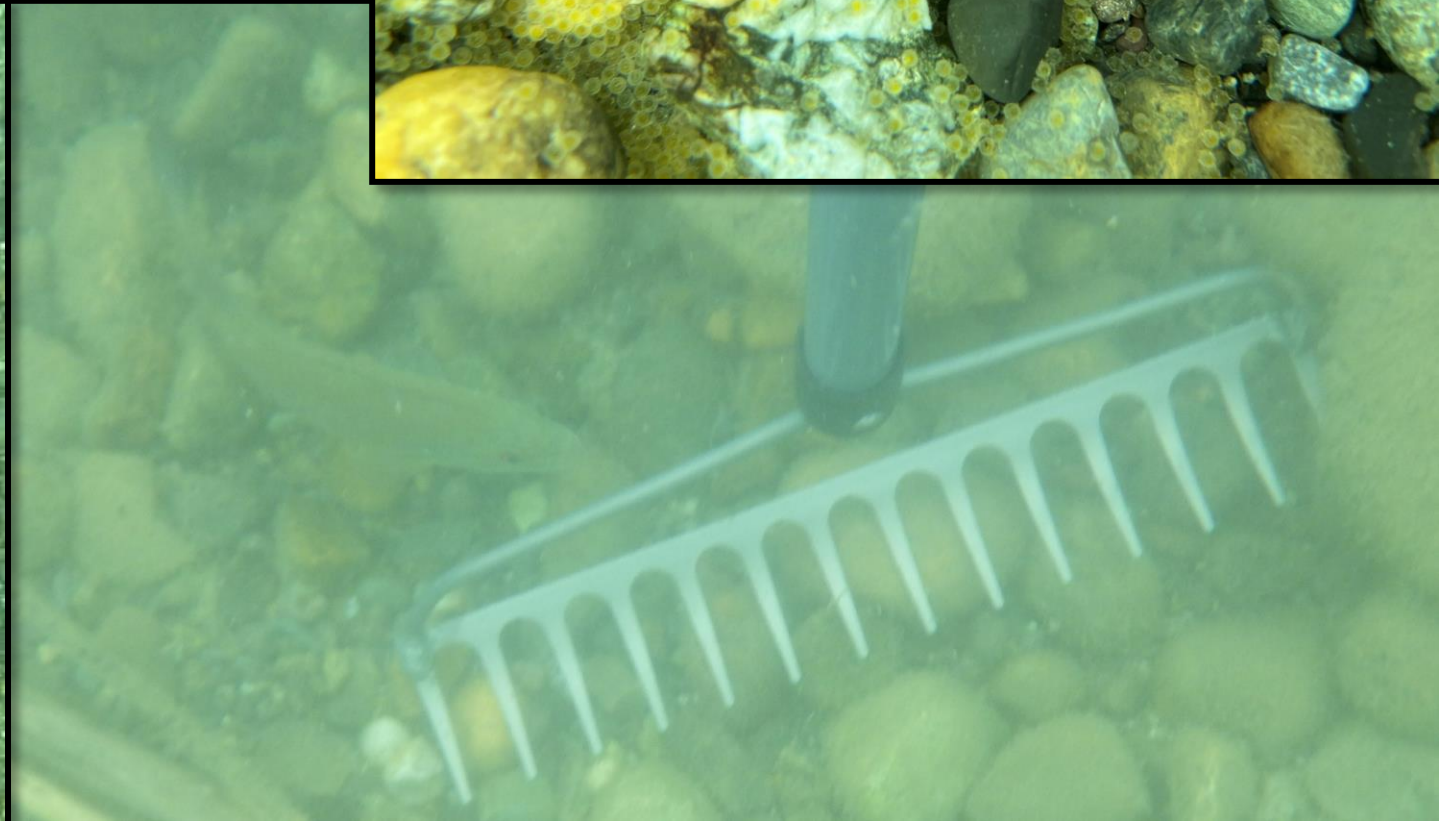


# Nest Surveys



118 nests destroyed (compared to 108 in 2023); 802 fry removed







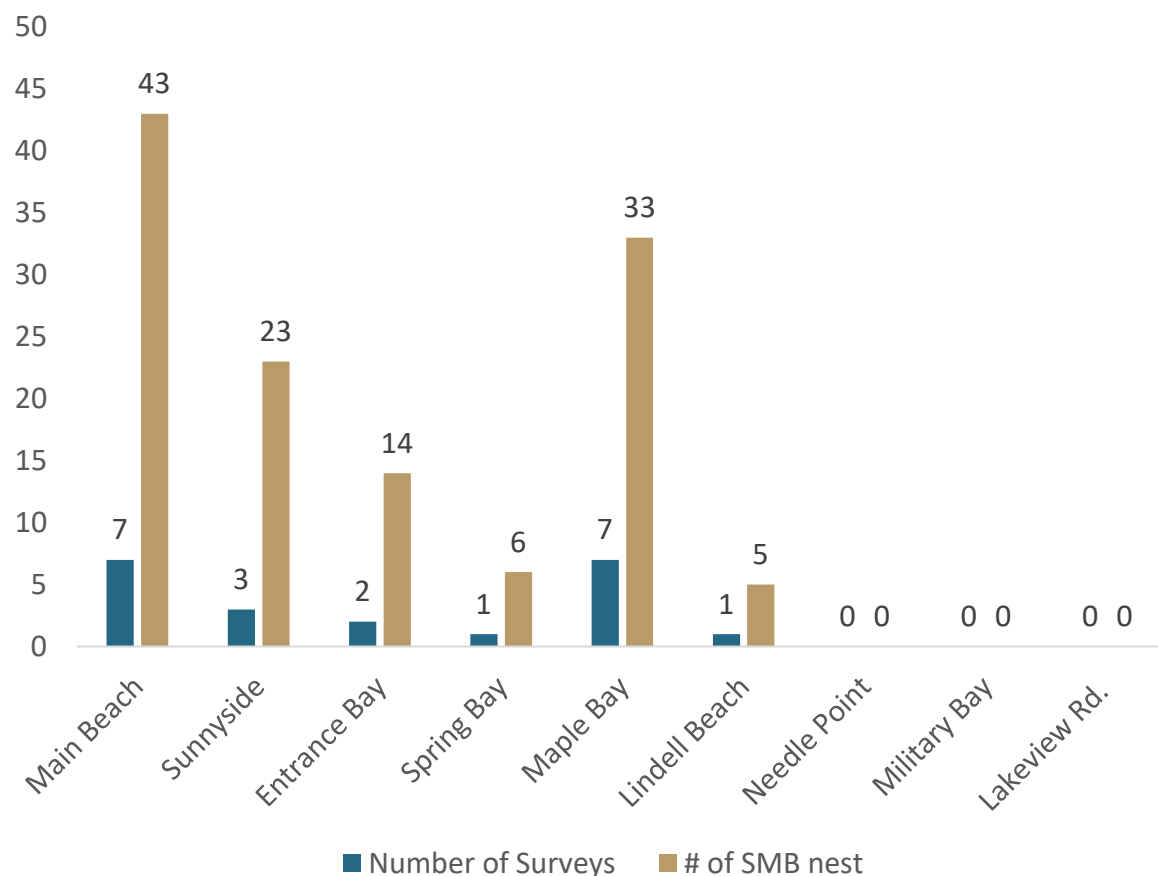
# Nest Surveys





# Nest Survey Results

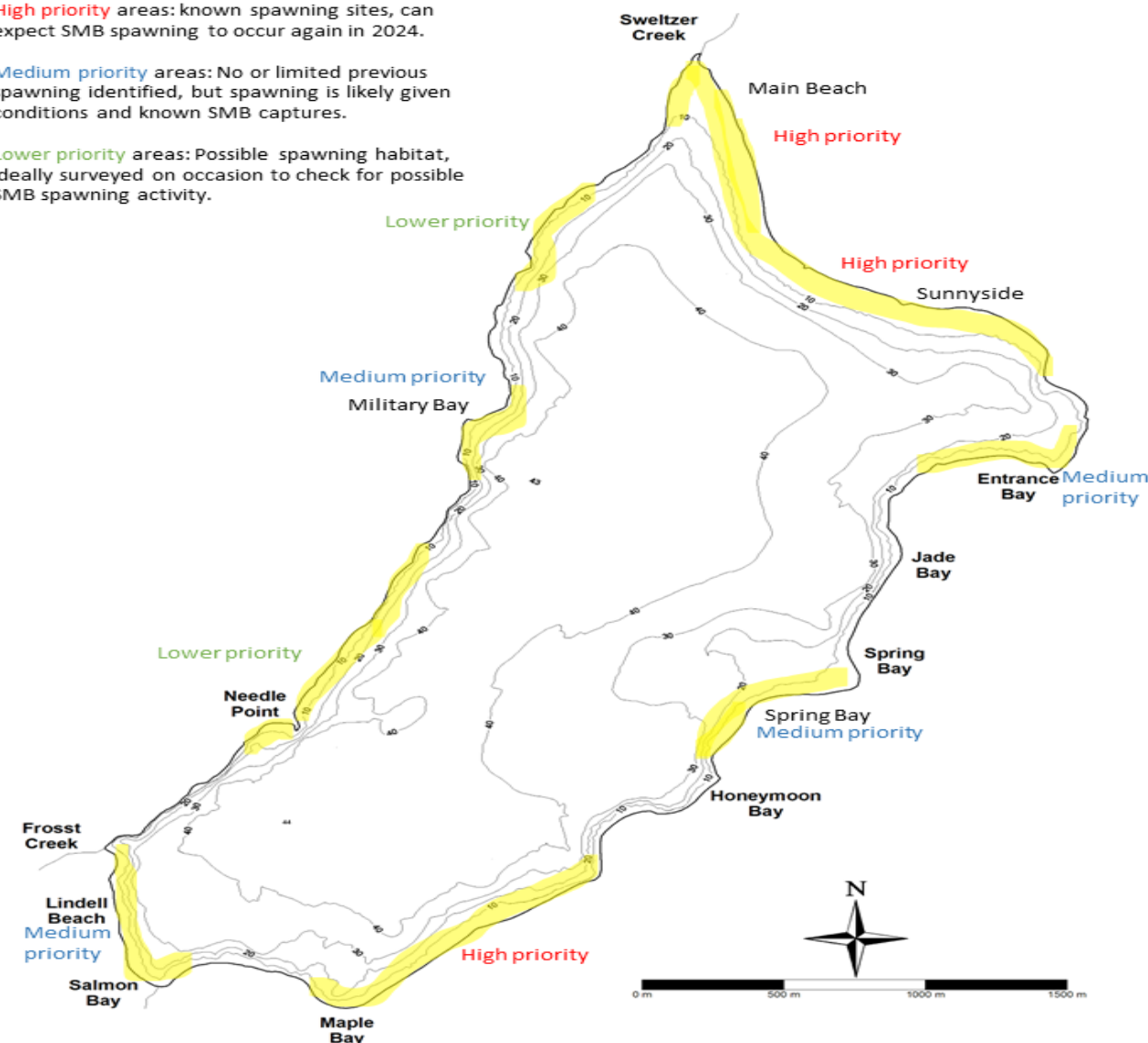
Snorkel survey effort and nest abundance at each site



**High priority** areas: known spawning sites, can expect SMB spawning to occur again in 2024.

**Medium priority** areas: No or limited previous spawning identified, but spawning is likely given conditions and known SMB captures.

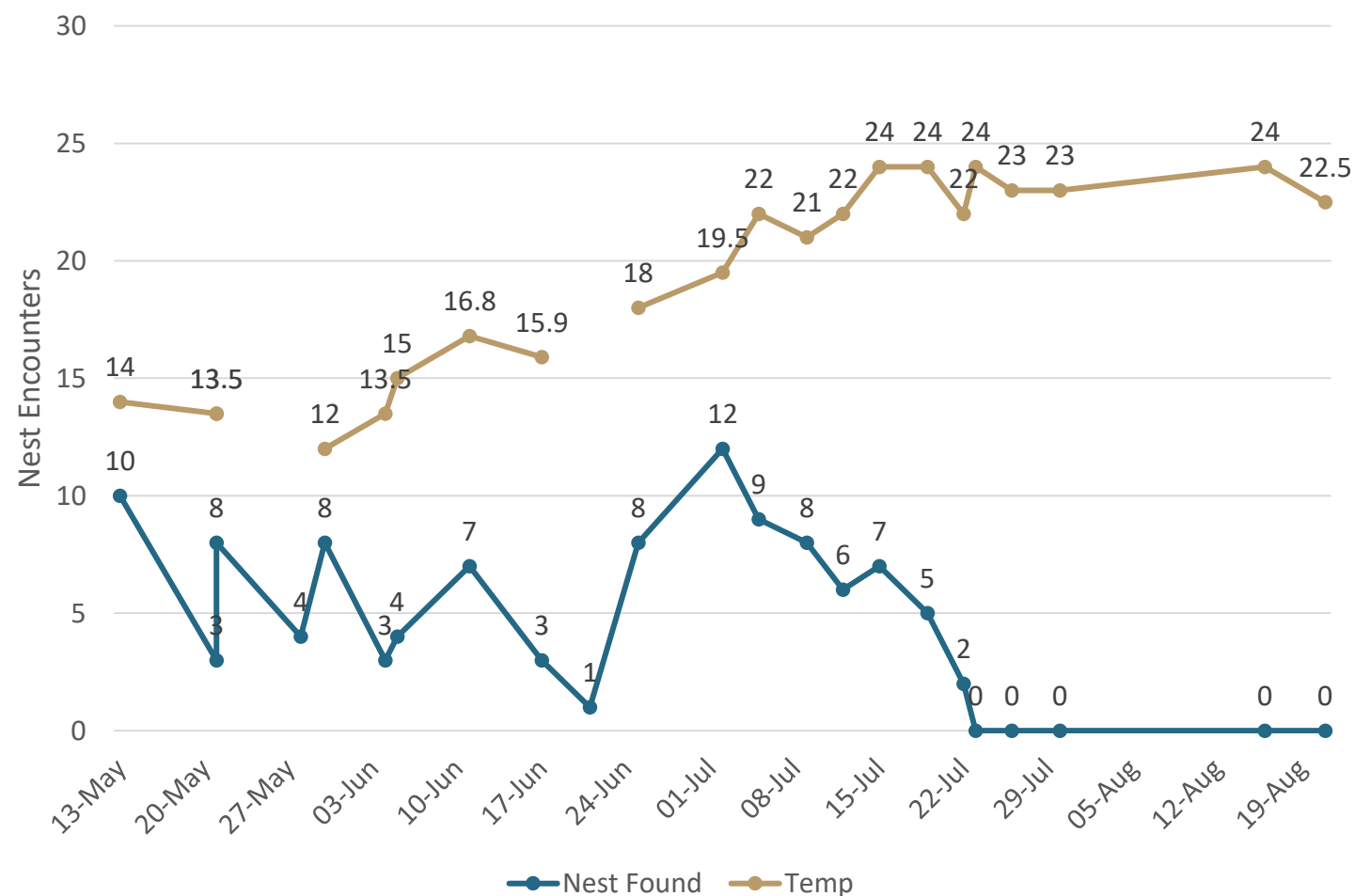
**Lower priority** areas: Possible spawning habitat, ideally surveyed on occasion to check for possible SMB spawning activity.





# 2024 Nest Survey Results

Progression of Nest Abundance and Temps





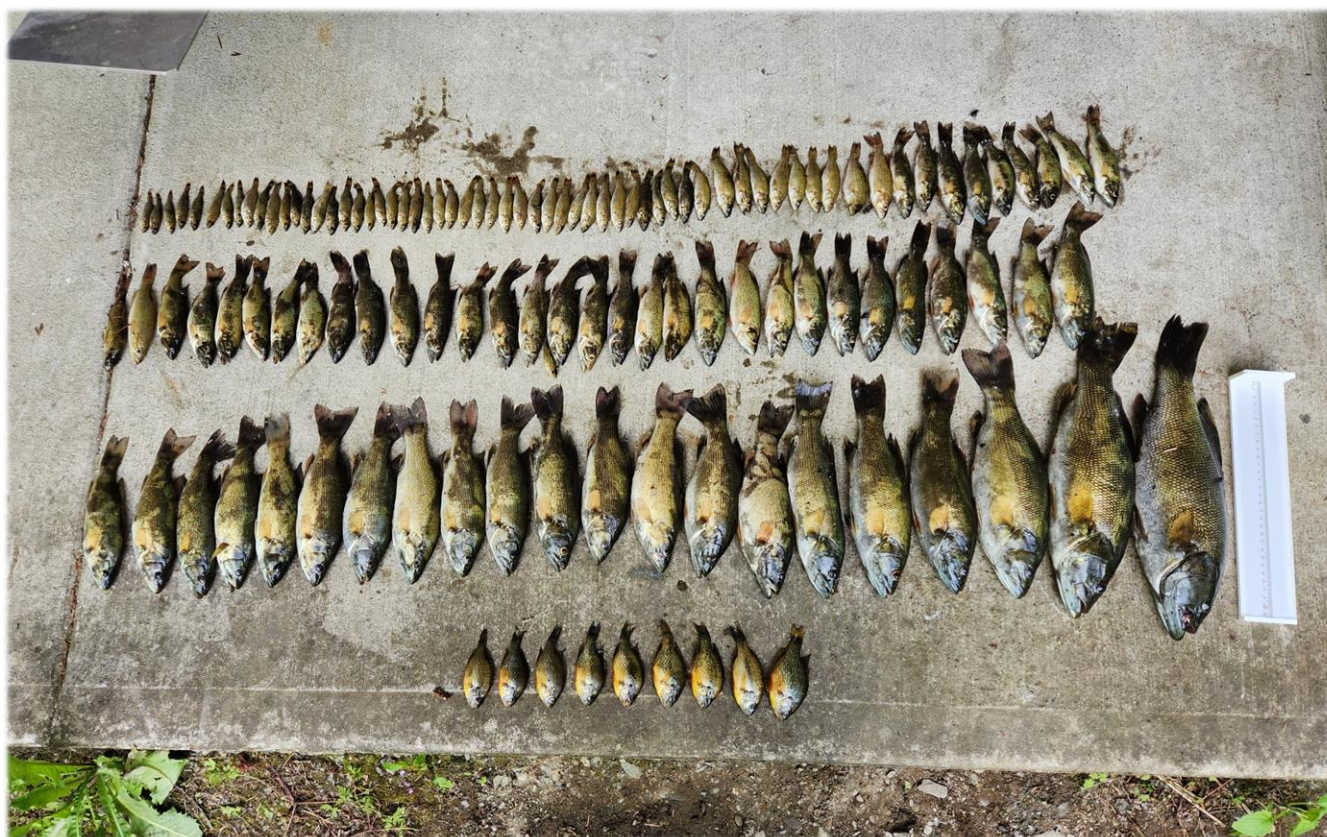
# ROV Surveys



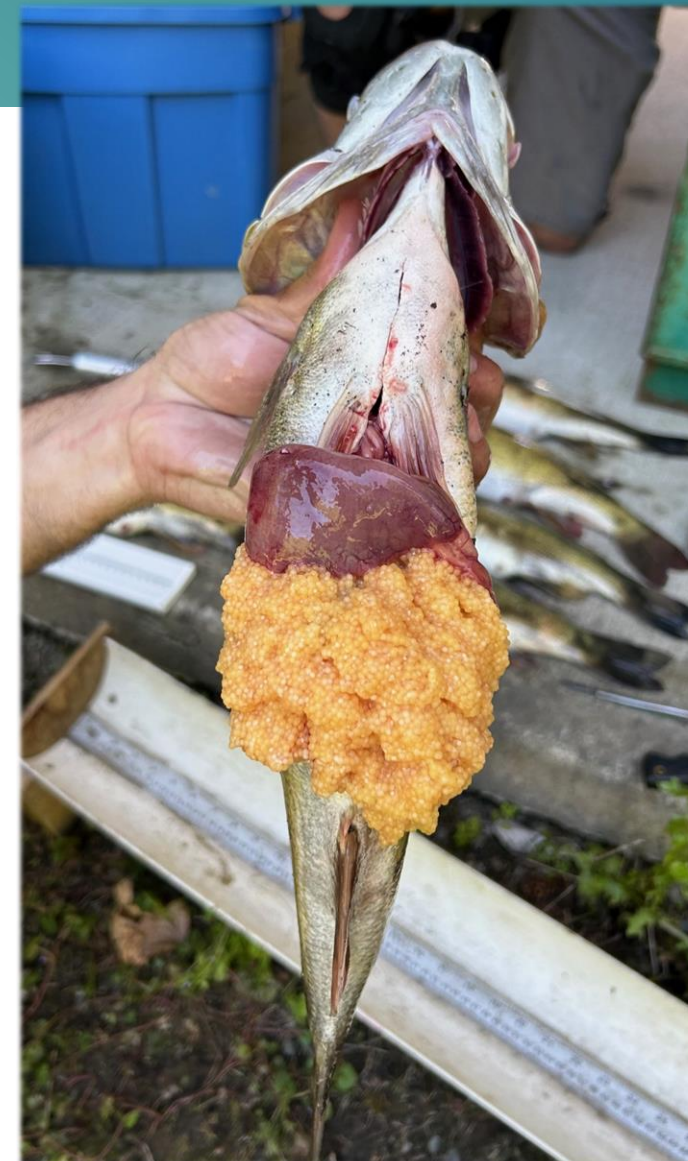


# 2024 Boat electrofishing results

1653 bass and 60 sunfish captured in 2024



Compared to 982 bass captured in 2023, with 903 PIT tags and 25 acoustic tags





# 2024 Sweltzer Creek Survey





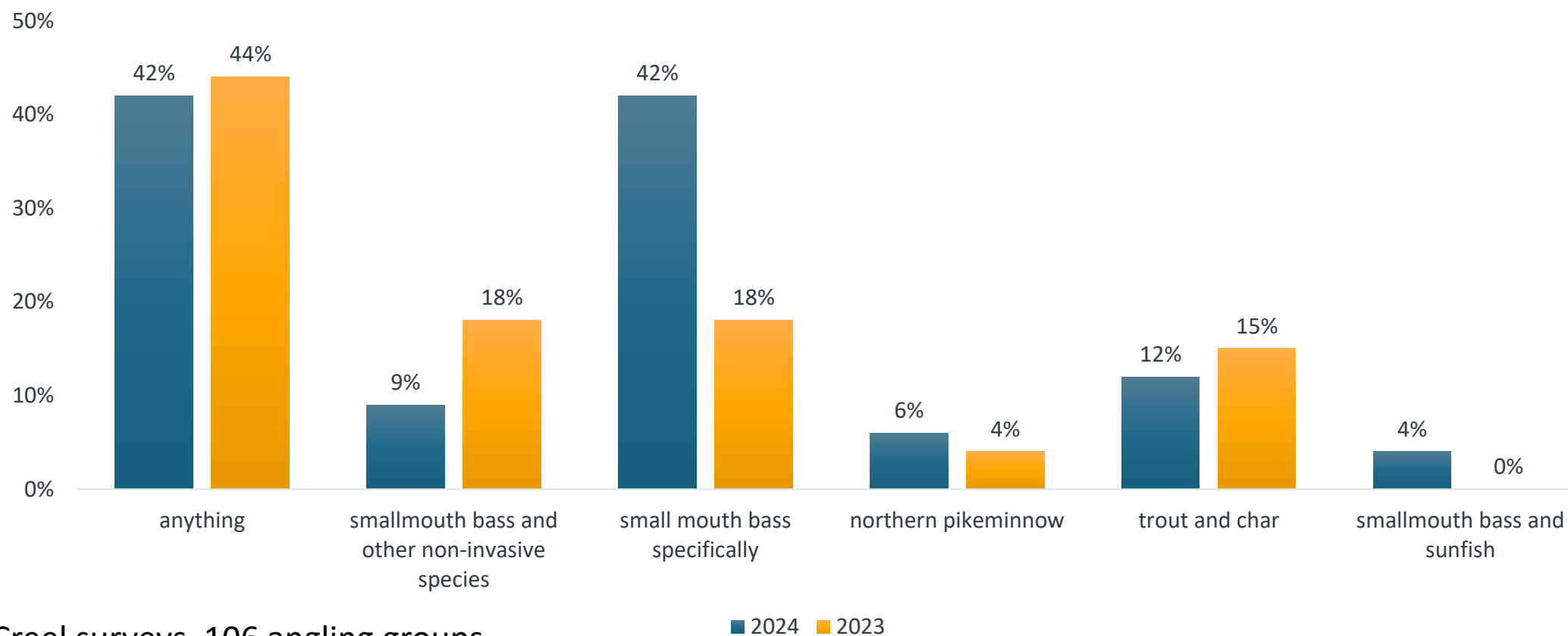
# 2024 Sweltzer Creek Survey





# 2024 Creel Surveys

## Preferred catch species



■ 2024 ■ 2023

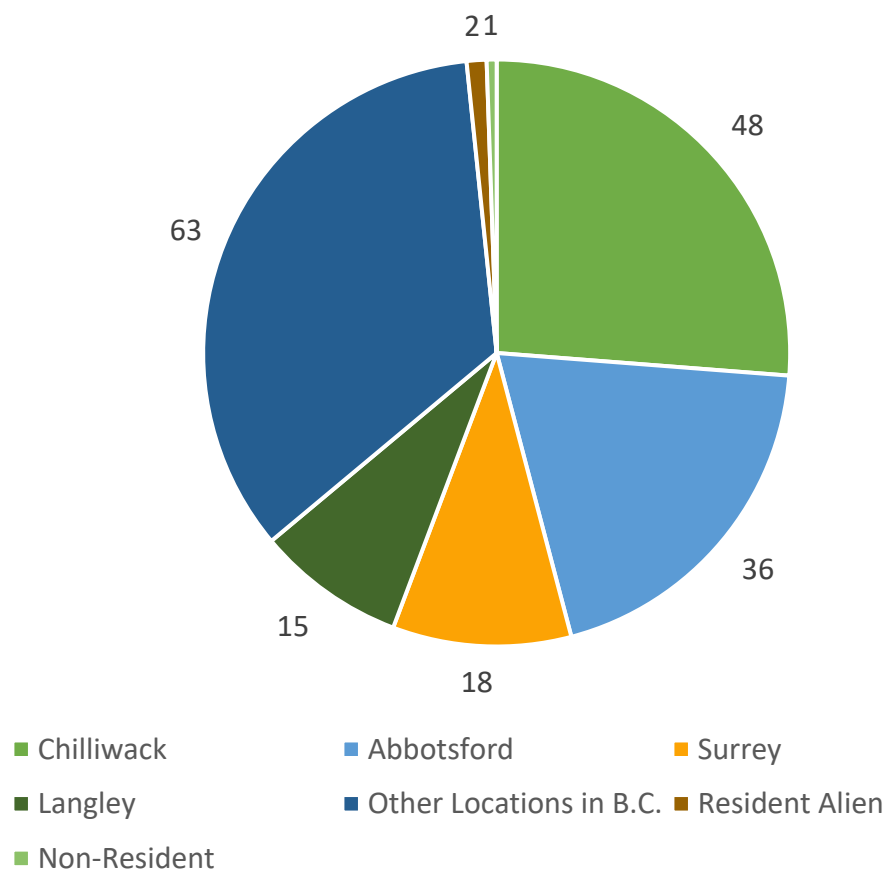
2024: 34 Creel surveys, 106 angling groups

2023: 49 Creel surveys, 63 angling groups

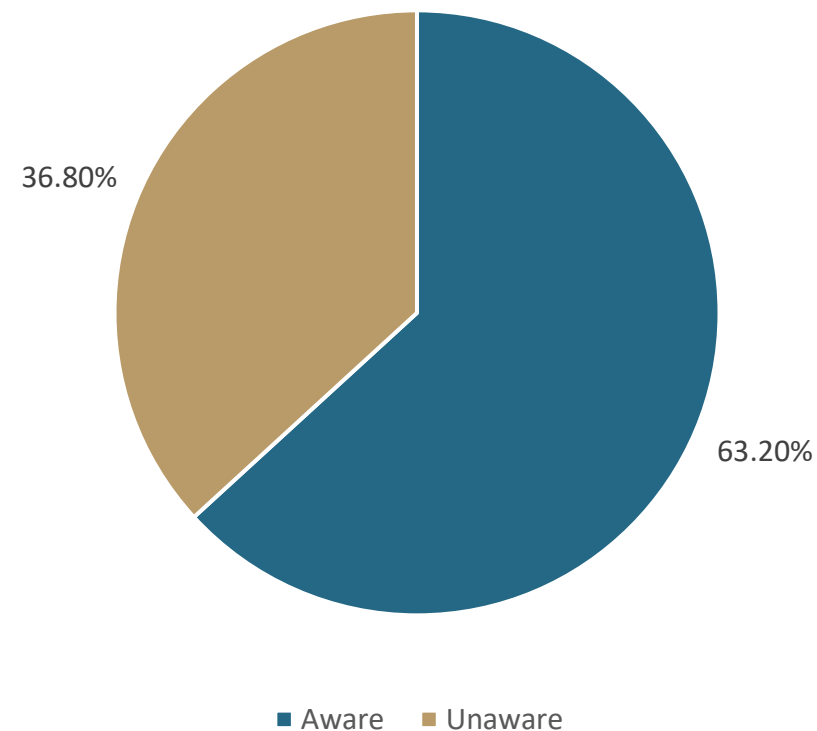


# 2024 Creel Surveys

Location of angler residence



Angler awareness that SMB are invasive





# Questions?

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[www.gov.bc.ca/invasive-species](http://www.gov.bc.ca/invasive-species)

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