



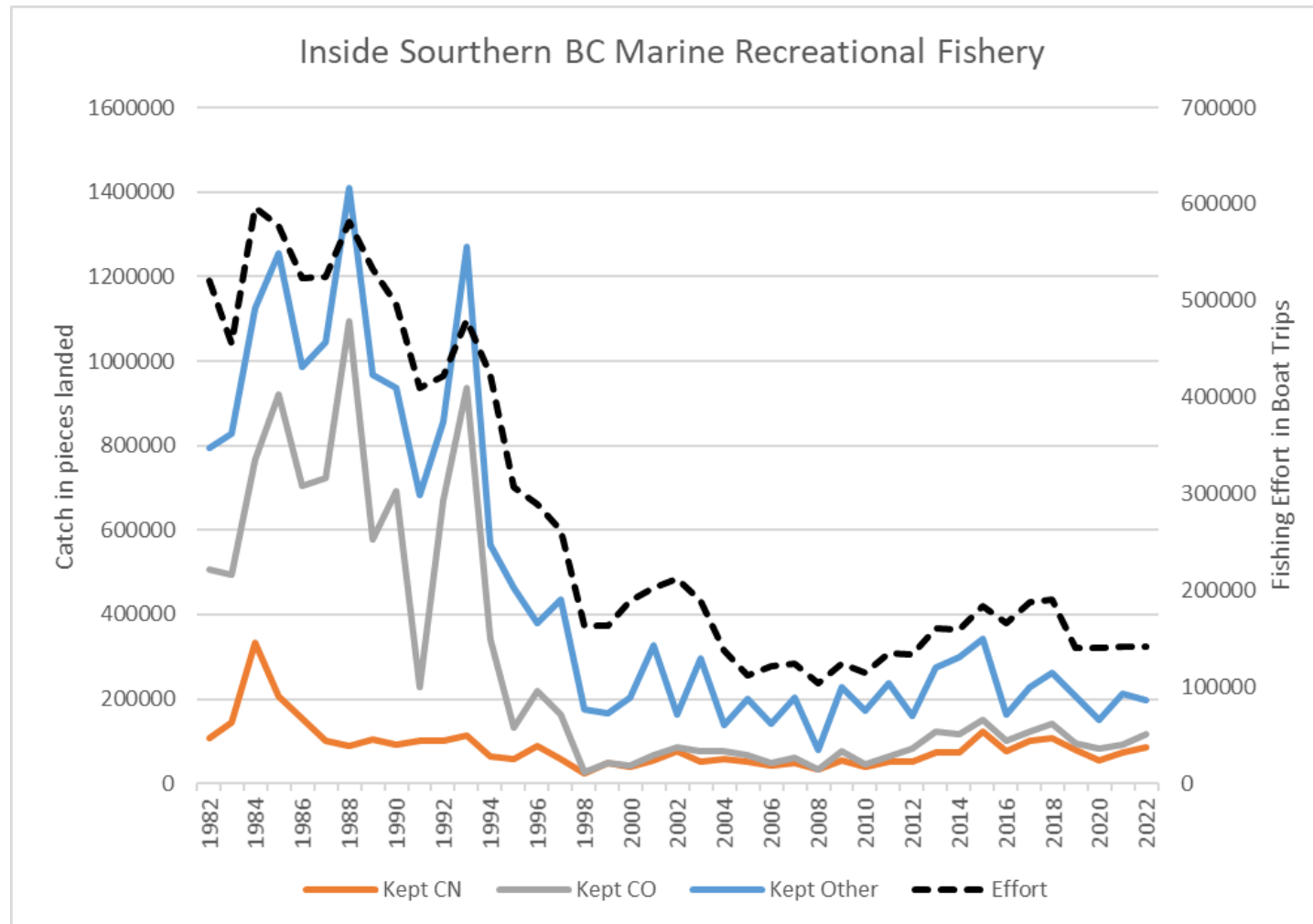
SPORT FISHING
INSTITUTE
OF BRITISH COLUMBIA

British Columbia's Avid Angler Program:
Using citizen science to gather data

Outline

- Origins of Avid Angler
- Methods
- Current status
- Uses of Data
- Pros and Cons of Citizen science
- The Future of Avid Angler in BC
- Questions

Context: Decline in the Southern BC recreational fishery



- Public fishing effort has declined 80% from pre 2000 levels.
- Salmon catch has declined even more.
- Why the declines in opportunity And expectation?

Issue: Fishery management response to declining stock status has an increasing emphasis on “Precautionary”.

1. Declining productivity in several salmon stocks... is not disputed.
2. Lack of scientific information at appropriate scales... Finer spatial and temporal resolution needed in management actions.
3. Increasing government risk aversion.
4. Decisions are creating disruption within sectors and acrimony between sectors.

Objectives from Avid Angler point of view.

- Make fishery stability a key socio-economic objective for all sectors.
- Fishery management should be based on best available Science. Data informed and data driven management.
- Support science through out the fishes life cycle
- Users have a responsibility to provide needed data = Citizen Science.
- Increase focus on management tools which can improve productivity of Chinook stocks of concern and sustain benefits.

Avid Angler reporting and sampling

Local Expertise in Fishery Science

Avid Angler Catch & Biological Data Report



Fisher or Guide #	Name		Date	# Anglers / Rods	Hours Fished	Gear Deployed	Gear Pulled	Interviewed at the dock?	Not Regular Fishing <input type="checkbox"/>
			YYYY / MON / DD	/		HH : MI	HH : MI	Y / N	
Fish #	Creel Subarea	Chinook or Coho?	Adipose Clip	Kept or Released	Fork Length(cm)	Weight (kg)	Dna Cell #	Head Label #	Comments <small>(Fishing location, sub-area fishing times, catch comments i.e. flesh colour, sex etc.)</small>
		Chin / Coho	Y / N	Kept / Rel Legal / Rel Sub					
		Chin / Coho	Y / N	Kept / Rel Legal / Rel Sub					
		Chin / Coho	Y / N	Kept / Rel Legal / Rel Sub					
		Chin / Coho	Y / N	Kept / Rel Legal / Rel Sub					
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		Chin / Coho	Y / N	Kept / Rel Legal / Rel Sub					
		Chin / Coho	Y / N	Kept / Rel Legal / Rel Sub					



Other Species Encountered			
Creel Subarea	Species	Qty	Kept or Released
			Kept / Rel Legal / Rel Sub
			Kept / Rel Legal / Rel Sub
			Kept / Rel Legal / Rel Sub
			Kept / Rel Legal / Rel Sub
			Kept / Rel Legal / Rel Sub
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Mammal Encounters: (Mammals encountered, fish lost, positions moved, etc.)

Environmental Conditions: (General Weather, Water & Air temp, etc.)

Ecological Conditions: (Jumpers, finners, bait balls, stomach contents etc.)

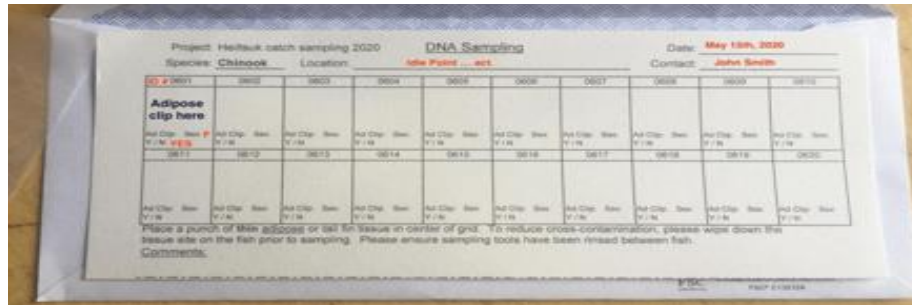


Adipose fin missing? It's A Hatchery Fish

- Check for closures before retaining
- Remove head & submit to a Salmon Head Recovery Depot



Protocol is to sample First fish of the day OR ALL the fish for the day.



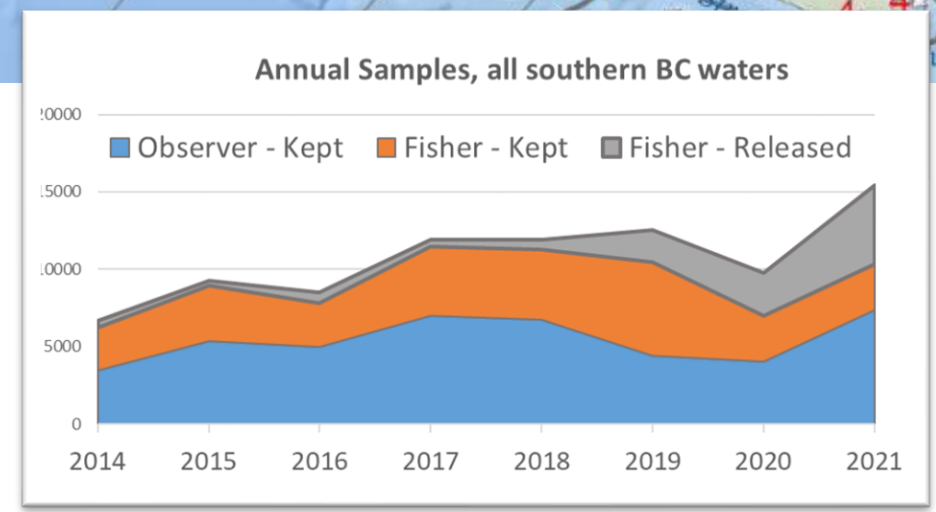
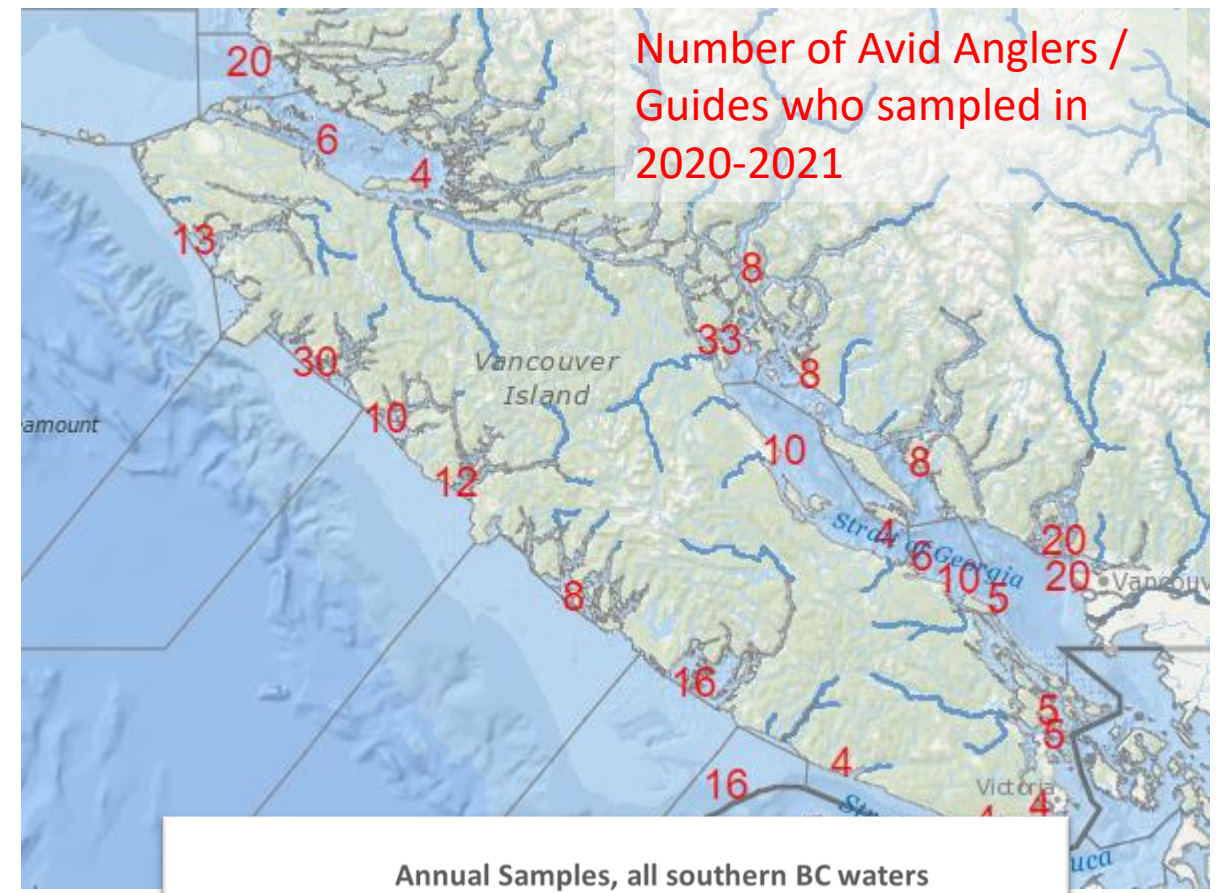
Response: Avid Angler program started in 2013

Who are Avid Anglers (fishers):

- Experts, significant days on the water, and trustworthy regarding data recording. Can be a fishing guide or regular angler.
- Willing to work with government.
- Annual training.

Avid Angler value:

- 620 volunteer fishers sampling KEPT and RELEASED catch
- In total fishers collected 45,000 total samples in 2014-2021.
- At almost no cost to government.
- In contrast 40-50 government creel survey observers collected another 45,000. Significant cost to government.

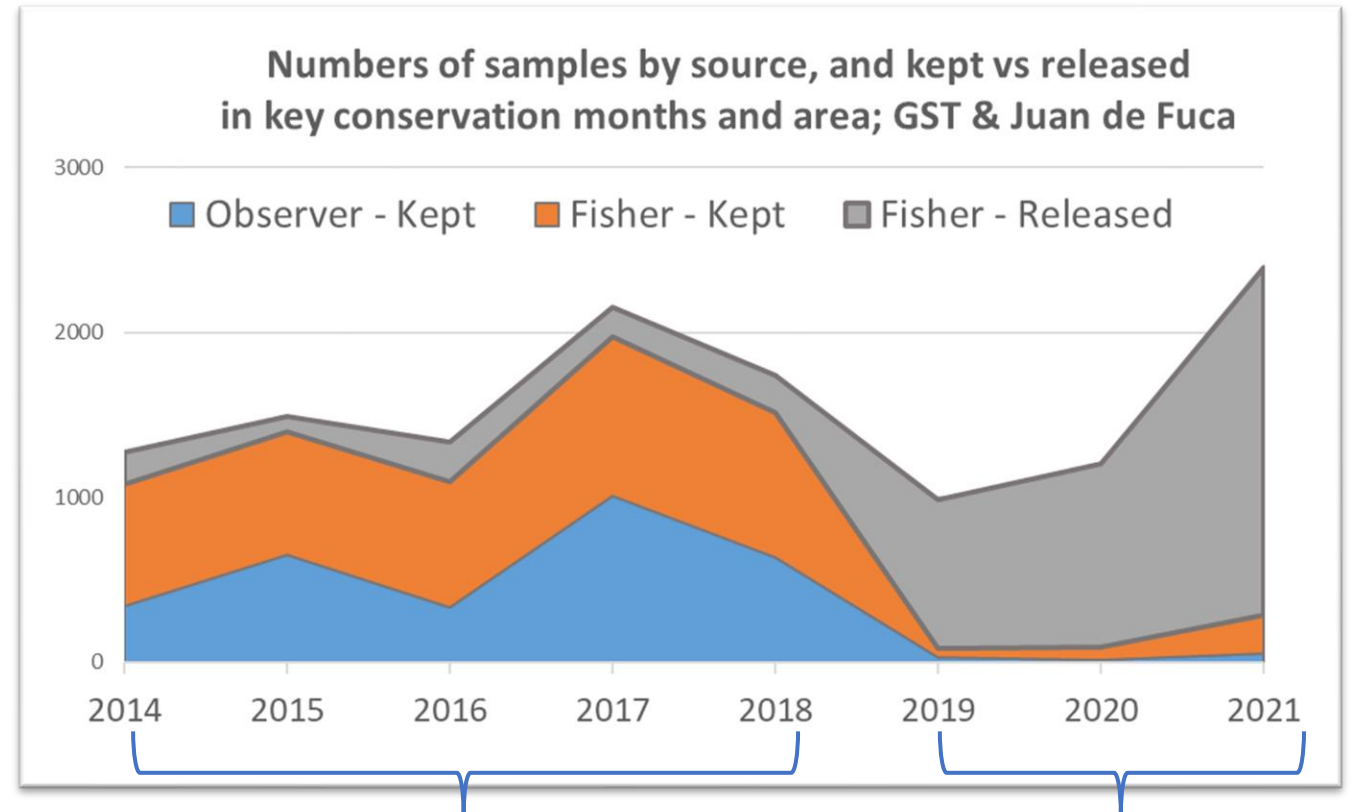


Key strength: Avid Angler sampling releases

New management era... Broad non-retention areas initiated in 2019 or process toward Mark Selective Fisheries.

Either way, sampling of releases will be important in order to estimate impacts on wild stocks of concern.

ONLY FISHERS CAN SAMPLE RELEASES. The value of the Avid Angler sampling program increases dramatically under non-retention of wild salmon!

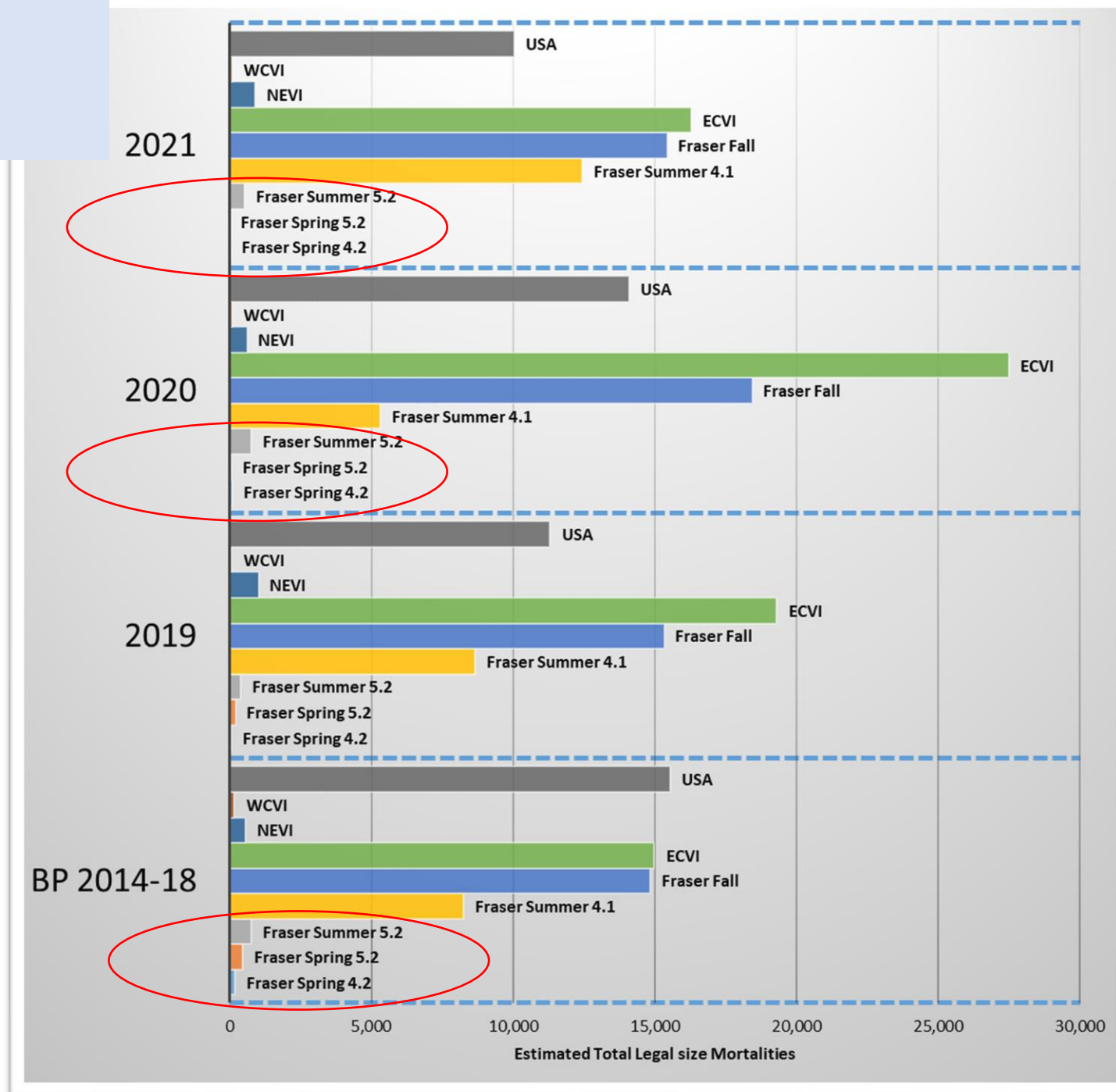


Base Period prior to broad closures. Over 50,000 samples taken in total is informing management decisions.

Sampling during key conservation period. Avid Anglers sampling releases is a key to assessment.

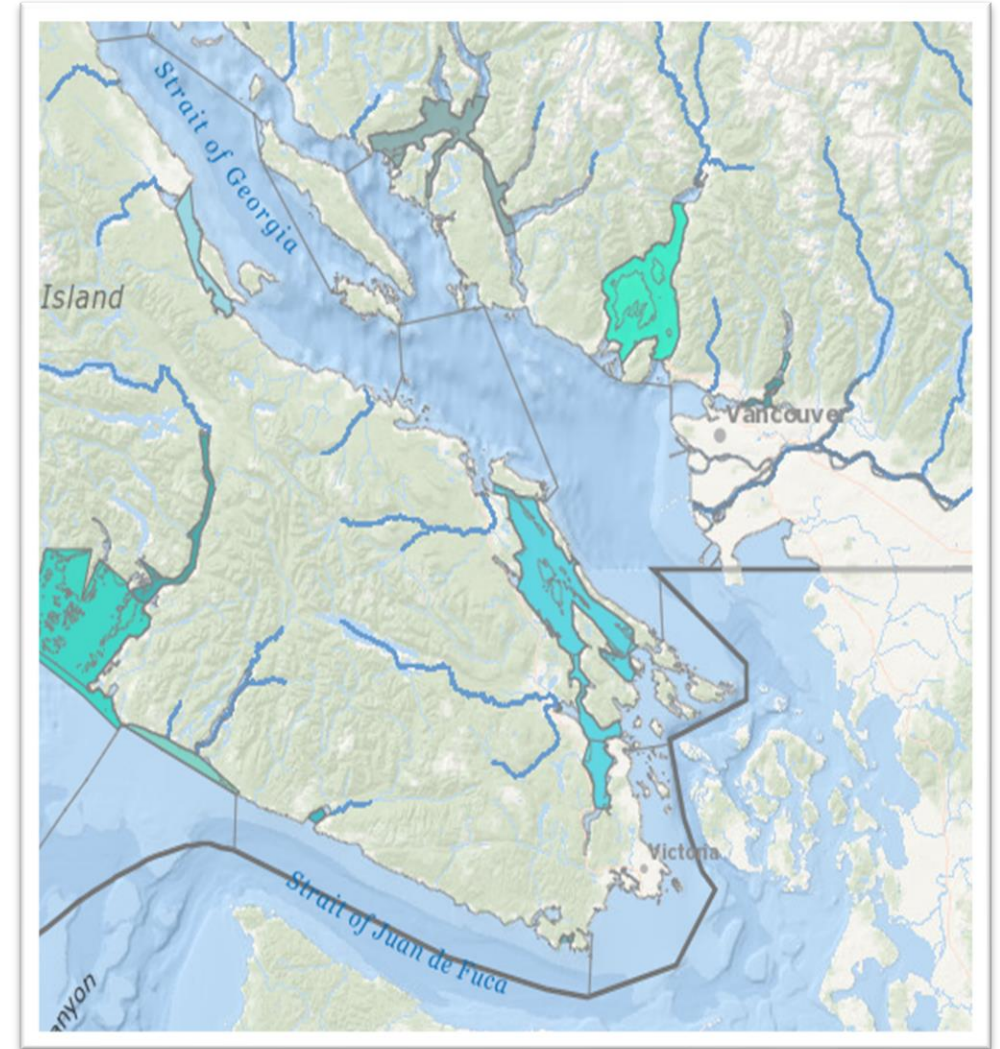
Example Result

- DNA results showing annual stock composition by year for Strait of Georgia fishery.



How is the data used?

- To create fishing opportunity in a complex, conservation oriented environment.
- Avid angler stock composition by area and time provides the ability for micromanagement.
- Avoidance based on prevalence is key.



Citizen Angler Science in BC

Pros:

- Cost effective
- Angler engagement
- Leadership and communication
- Demonstrates conservation attitude.

Cons:

- Managing anglers costs. ie fuel
- The data must be used.
- Needs constant support (also a pro).
- Maintaining consistent standards.

Future...

- How to maintain engagement and participation.
- AGM's
- Sharing and validation of data
- Combine with other methods (test fisheries) in remote areas.
- Potential to address time and area specific concerns.
- Increase release sampling to address MSF.
- Funding.