Mainland Enhancement of Salmonoid Species Society

M.E.S.S.S. Report - Rotation 5 DFO Area 12 Stock Assessment 2023

Enumeration Period: October 1-7, 2023

Stream Technicians: Ian Clevenger, Bogdan Kraft, Olivia Cornies, Charlotte Dawe, Mikaere

Berryman-Kamp.

1. 2023 Stream Escapement and Biosample Data

Stream	Date MM.DD	PK	СМ	СО	JK	SK/ MH	20 min	Morts PK/CM/CO	Air °C	H2O °C	pН	DO mg/L
Ahta (5)	10.05	1979/ 5281	20/ 50	15/38	1	4/10	0	111/13/0	17	12.4	7.44	14.74
Viner (5)	10.05	13/23	56/101	20/ 50	6	1/2	0	19/0/0	14.5	11.2	7.16	14.91
Shoal (5)	10.02	4/7	18/ 29	0	0	0	0	0/0/0	14.5	12.3	6.36	14.15
Scott Cove (5)	10.01	0	0	33/660	10	0	0	0/0/0	11.5	13.9	6.60	13.55
Wahkana (5)	10.05	0	0	0	0	0	0	0/0/0	16	12.2	7.43	12.98
Maple (5)	10.03	0	0	2/3	0	0	10	0/0/0	14	11.0	5.25	15.05
Carriden (5)	10.01	0	0	0	0	0	0	0/0/0	14	14.5	6.55	10.67
Embley (4)	10.02	0	7/11	11/ 17	0	0	0	0/0/0	12	14.7	6.52	13.90
Simoom (2)	10.07	0	0	0	0	0	1	0/0/0	14	11.5	7.67	15.01
Gilford (1)	10.02	0	0	9	0	0	0	0/0/0	14	12.9	6.30	14.01
Minihump (1)	10.07	0	0	0	0	35/ 58	-	0/0/0	18	14.8	6.30	15.01

<u>Table 1.</u> Area 12 systems escapement and biosample data. Observed numbers (non-bold) represent salmon observed. **Bolded** numbers represent estimates expanded factoring observer efficiency.

Abbreviations: Pink Salmon (PK), Chum (CM), Coho (CO), Jacks (JK), Sockeye (Sk), 20 minute estuary survey (20 min)

1. Escapement Records For Rotation #1

	<u>2017</u>				<u>2018</u>				<u>2019</u>			
Stream	Date	Pink	Chum	Coho	Date	Pink	Chum	Coho	Date	Pink	Chum	Coho
Ahta	10/03	78/ 98	63/235	10/19	10/02	402/ 494	204/ 273	35/44	10/11	17/ 23	75/119	2-3
Viner	10/03	14/ 18	277/ 839	2/14	10/06	0/0	1609/ 2332	0/0	10/08	0/0	18/40	0/0
Shoal	10/07	0/0	0/16	0/0	10/05	0/0	18/47	0/0	10/09	0/0	0/1	0/0
Scott Cove	10/06	0/0	11/15	9/156	10/04	0/0	0/0	10/16 8	10/08	0/0	0/0	5/82
Wahkana	09/24	0/0	2/3	0/0	09/18	0/1	7/12	0/1	10/11	0/0	0/0	0/0
Embley	10/05	0/0	15/25	1/6	10/08	2/8	0/0	0/0	10/12	0/0	0/0	0/0
Maple	09/26	0/0	0/0	0/0	09/26	0/2	0/0	0/0	09/30	0/0	0/0	0/0
Carriden	09/16	0/0	0/0	0/0	09/29	0/0	0/0	0/0	10/12	0/0	0/0	0/0
Simoom	09/15	0/0	0/0	0/0	09/29	0/0	0/0	0/0	09/25	0/0	0/0	0/0
Minihump	10/06	14/ 35	0/0	0/0	10/04	290/ 414	0/0	0/0	10/09	238/ 476	0/0	0/0
Gilford	10/07	0/0	0/0	0/1	09/26	0/0	0/0	2/51	10/10	0/0	0/0	0/0

	2021				2022							
Stream	Date	Pink	Chum	Coho	Date	Pink	Chu m	Coho	Date	Pink	Chum	Coho
Ahta	10/05	61/82	4-5	3-5	10/04	57/ 221	27/13 2	1/2	10/03	5531/ 6570	34/53	5/7
Viner	10/06	0/0	12-23	0/0	10/05	5/8	334/ 440	0/0	10/06	2/2	17/35	1/1
Shoal	10/01	0/0	1-3	0/0	10/07	0/0	68/ 176	7/13	10/04	0/0	1/11	0/0
Scott Cove	10/06	0/0	0/0	1-8	10/02	0/0	0/0	4/37	10/04	0/0	0/0	1/16
Wahkana	10/05	0/0	0/0	0/0	10/04	0/0	1/2	0/0	10/03	0/0	0/0	0/0
Embley	10/09	0/0	0/0	0/0	10/03	0/0	0/0	0/0	10/02	200/ 212	0/0	7/15
Maple	10/07	0/0	0/0	0/0	10/07	0/1	0/0	0/0	10/05	0/0	0/0	0/0
Carriden	10/09	0/0	0/0	0/0	10/03	0/0	0/0	0/0	10/08	0/0	0/0	0/0
Simoom	10/05	0/0	0/0	0/0	10/04	0/0	0/0	2/4	10/08	0/0	0/0	0/0
Minihump	10/07	835/10 45	0/0	0/1	10/08	763/1, 272	0/0	0/0	10/04	0/0	0/0	0/0
Gilford	09/23	0/0	0/0	0/0	10/02	0/0	0/0	0/0	10/07	1-1	0/0	8-26

<u>Table 2 & 3.</u> Escapement records by MESSS from past rotation 2 surveys spanning 2016-2021. Area 12 pink salmon spawn on a fixed two year cycle with a stronger even year, chum salmon run on a 3, 4 and 5 year cycle and coho salmon on a 3 year cycle generally. *Surveys taken from different rotation reports to provide a better representation based on more similar dates.

1. Rotation 4 Highlights

Weather:

- Recent storm provided increase in flows, new wind throw across creeks and roads.
- Fair weather during surveys, low precipitation, good light.

Water Levels/Quality:

• Continued cooling of stream temperatures and stabilization of flows.

Visibility:

• Good visibility across all streams as water levels stabilize.

Notes:

- Continued movement of fish into Scott Cove creek
- High occurrence of spawning occurring in streams with fish, chum, pinks spawning at high rate.
- Bears seen in Gilford, Shoal, Ahta River
- First count of the season for Gilford and Minihump Creek

1. Stream Enumeration Notes

Ahta/Hada October 5, 2023

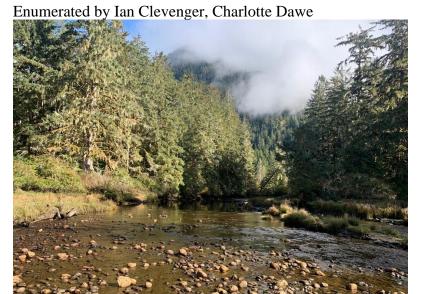


Photo 1 – Water levels in the Ahta Side channel.

Estuary Survey

- -0 jumpers seen in bay.
- -4 seals seen, 2 immature bald eagles

River

- -Good counting conditions in entire stream other than upper segment.
- -Unable to cross near falls in order to count falls pool.
- -Continued spawning of pinks, chum, sockeye.
- -Grizzly encountered near start of segment 2

Viner River October 5, 2023

Enumerated by Ian Clevenger, Charlotte Dawe

Photo 2 – The lower stretch of Viner, chums spawning throughout.

Estuary Survey

- -0 Jumpers.
- -150 gulls, 50 ducks.
- -Fresh grizzly bear sign.

River

- -Chums seen spawning throughout first segment.
- -Coho observed in a pool with fresh looking chum at top of second segment.

Shoal Harbour Creek

Enumerated by Ian Clevenger, Bogdan Kraft



Photo 3- A chum, likely predated on by a bird, on the banks of shoal harbour creek.

Estuary Survey

- -No fish seen.
- -Extremely high tide (18ft at time of survey).

River

- -Good visibility in stream with chum seen spawning in majority of lower river.
- -Northern Goshawk observed at first tributary split.
- -One grizzly bear encountered, stream side, napping.

Scott Cove Creek October 1, 2023

Enumerated by Ian Clevenger



Photo 4 – Water levels at the lower falls on Scott Cove creek, same location where 20 min jumper survey occurs.

Estuary Survey

- -Fish: 0 jumpers.
- -3 seals in water, 20+ on boom sticks.

River

- -Moderate levels of activity at both falls, consistent jumping with a third of fish making the leap.
- -Notes: Scott Cove surveys are more beneficial for presence/absence data than population estimates because of how little of the system we are able to survey. Our numbers are largely based on jumper counts. Carrington Bridge was also assessed.

Wahkana Bay Creek

Enumerated by Ian Clevenger, Charlotte Dawe

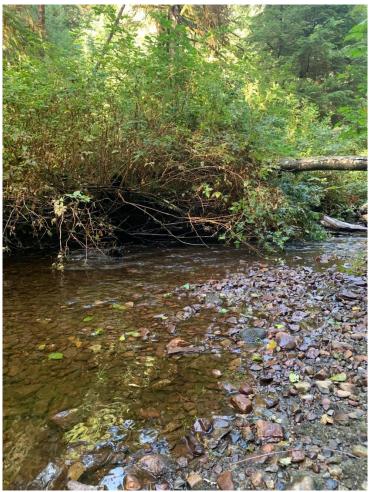


Photo 5– Improved flow and visibility on the middle section of Wahkana creek.

Estuary Survey

- -No jumpers seen.
- -Tens of thousands of moon jellies seen, dozens of lions mane jellies.

River

- -Improved water levels, better visibility than previous surveys.
- -New wind throw in creek.

Maple CreekEnumerated by Ian Clevenger, Olivia Cornies

October 3, 2023

Estuary Survey

- -10 Jumpers seen.
- -Gulls and Geese present in estuary.

River

- -First count with fish seen.
- -No pinks observed but two coho seen at segment 1/2 split.

Carriden Creek October 1, 2023

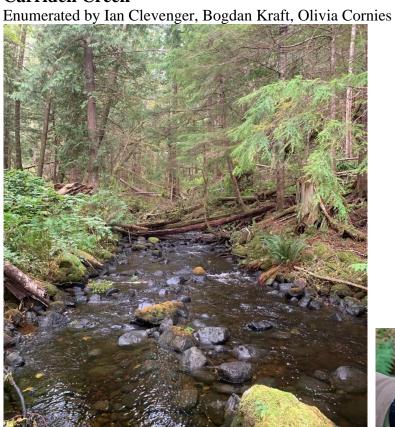




Photo 6 – Flow reaching across the banks of lower Carriden Creek and scales found in the stream.

Estuary Survey

- -0 jumpers
- -No seals, sign of eagles or bears

River

-No fish seen.

- -Salmon scales seen in creek.
- -Increased flow due to recent rains.

Simoom Sound Creek

Sept 22, 2023

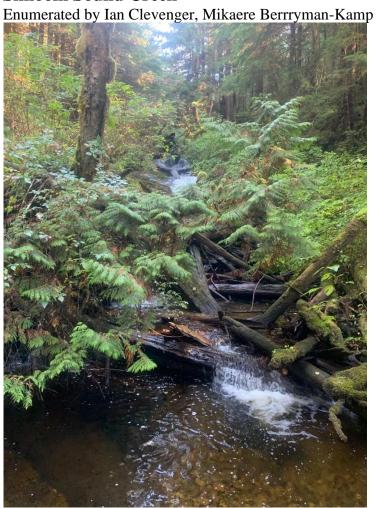


Photo 7 – Simoom Sound Creek just below the falls.

Estuary Survey

-1 jumper during survey, 1 seen post.

River

- -No fish seen.
- -Adequate water levels for fish movement.

Embley Creek October 1, 2023

Enumerated by Ian Clevenger, Bogdan Kraft, Olivia Cornies Estuary Survey

-0 jumpers seen.

River

- -More coho and fresh chum seen.
- -Areas where gravel placements occurred were heavily dug out and spawned on.
- -Fish congregating in reaches where gravel placements occurred.

Gilford October 2, 2023

Enumerated by Ian Clevenger, Bogdan Kraft



Photo 8 – Step pool section of Simoom Sound creek

Estuary Survey

- -0 jumpers seen.
- -Bear scat seen.

River

- -One coho seen holding in deep pool. Poor visibility overall in deep pools.
- -Sow black bear and cub seen halfway up segment 2.

Minihump creek

October 7, 2023



Photo 9 – Minihumps seen starting to create redds and spawn. One minihump seen center photo.

River

- -First spawners of season seen. Some fish in post spawn condition.
- -No herons or mergansers seen predating on fish at time of survey.