

# Mainland Enhancement of Salmonoid Species Society

M.E.S.S.S. Report - Rotation 8  
DFO Area 12 Stock Assessment 2023

Enumeration Period: November 5 - November 14, 2023

Stream Technicians: Ian Clevenger, Chris Bennet, Bogdan Kraft.

## 1. 2023 Stream Escapement and Biosample Data

Stream	Date MM.DD	PK	CM	CO	JK	SK/ MH	20 min	Morts PK/CM/CO	Air °C	H2O °C	pH	DO mg/L
Ahta (8)	11/14	0	1/3	19/73	0	2/4	-	0/0/1	7	6.3	6.20	25.22
Viner (8)	11/10	0	0	5/6	1	0	-	0/3/0	7	7.5	6.24	19.72
Shoal (8)	11/7	0	0	0	0	0	-	0/1/0	11	8.2	5.65	19.30
Scott Cove (8)	11/16	0	0	6/30	0	0	-	0/0/0	9	10.4	5.90	18.88
Wahkana (8)	11/14	0	0	0	0	0	-	0/0/0	4	6.7	6.13	20.68
Maple (8)	11/8	0	0	0	0	0	-	0/0/0	10	7.6	4.92	21.93
Connector (3)	11/8	0	0	1/2	0	0	-	0/0/0	10	7.2	5.01	21.95
Loose Lake (3)	11/9	0	0	0	0	0	-	0/0/1	8	8.0	5.47	22.15
Minihump (4)	11/8	0	0	7/10	0	347/ 408	-	0/0/0	11	9.0	5.65	20.35
John Lewis (3)	11/9	0	0	0	0	0	-	0/0/0	7	7.7	5.18	20.93
Mt Worthington (2)	11/7	0	0	2/3	0	0	-	0/0/0	12	7.8	5.56	23.32
Billy Proctor (2)	11/7	0	0	12/14	0	0	-	0/0/0	12	8.5	5.21	18.10
Embley (7)	11/6	0	0	0	0	0	-	0/0/0	9	10	6.18	20.18
Embley (8)	11/1	0	0	13/130	0	0	-	0/0/0	9	9.5	5.73	17.07
Chris Bennet (2)	11/9	0	0	0	0	0	-	0/0/0	9	8.2	5.94	19.59

Table 1. 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 #8

Stream	<u>2017</u>				<u>2018</u>				<u>2019</u>			
	Date	Pink	Chum	Coho	Date	Pink	Chum	Coho	Date	Pink	Chum	Coho
Ahta	11/02	0/0	0/0	0/0	11/06	0/0	2/13	0/0	11/04	0/0	12-17	2-2
Viner	11/06	0/0	0/0	1/5	11/08	0/0	0/42	0/0	11/2	0/0	13/26	0/0
Shoal	11/02	0/0	0/0	0/0	10/16	0/0	9/24	0/0	11/03	0/0	0/0	0/0
Scott Cove	11/05	0/0	0/0	2/140	11/05	0/0	0/0	0/0	11/02	0/0	0/0	0/0
Wahkana	10/12	0/0	2/3	0/0	10/13	0/0	15/22	0/0	11/04	0/0	1/2	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
Embley	11/04	0/0	0/0	0/0	10/29	0/3	0/3	0/0	11/06	0/0	0/0	0/0
Connector	11/12	7/8	0/0	0/0	11/16	0/0	0/0	4/8	11/03	40/57	0/0	0/0
Loose Lake	11/14	0/0	0/0	1/3	11/16	0/0	0/0	1/2	11/05	0/0	0/0	0/0
Minihump	11/11	1263/1590	0/0	0/0	11/09	0/2	0/0	0/0	11/03	59/110	0/0	0/0
John Lewis	11/14	0/0	0/0	1/2	11/16	0/0	0/0	0/0	11/05	0/0	0/0	1-1
Mt Worthington	11/12	0/0	0/0	0/0	11/17	0/0	0/0	0/0	11/16	0/0	0/0	0/0
Billy Proctor	11/12	0/0	0/0	0/0	11/17	0/0	0/0	0/2	11/15	0/0	0/0	0/0
Chris Bennett	11/14	0/0	0/0	3/6	11/16	0/0	0/0	0/0	11/05	0/0	0/0	2-3

Stream	<u>2020</u>				<u>2021</u>				<u>2022</u>			
	Date	Pink	Chum	Coho	Date	Pink	Chum	Coho	Date	Pink	Chum	Coho
Ahta	11/10	0/0	0/0	5-6	11/10	0/0	0/2	2/7	11/12	14/21	2/2	4/5
Viner	11/13	0/0	0/0	0/0	11/07	0/0	2/13	0/0	11/08	0/0	0/0	0/0
Shoal	11/09	0/0	0/0	0/0	11/12	0/0	0/3	0/0	11/06	0/0	0/0	0/0
Scott Cove	11/09	0/0	0/0	0/0	11/07	0/0	0/0	0/0	11/06	0/0	0/0	2/30
Wahkana	11/10	0/0	0/0	0/0	11/10	0/0	0/2	0/0	11/12	0/0	0/0	0/0
Maple	11/11	0/0	0/0	0/0	11/08	0/0	0/0	0/0	11/09	0/0	0/0	0/0
Embley	11/01	0/0	0/0	0/0	10/30	0/0	0/2	0/0	11/02	4/9	0/0	0/0
Connector	10/27	0/0	0/0	0/0	11/12	1/3	0/0	0/2	11/11	27/46	0/0	0/0
Loose Lake	11/12	0/0	0/0	0/0	11/11	0/0	0/0	0/3	11/07	0/0	0/0	0/0
Minihump	11/01	0/16	0/0	0/0	11/11	0/0	0/0	2/8	11/07	2/44	0/0	0/0
John Lewis	11/12	0/0	0/0	0/0	11/11	0/0	0/0	5/9	11/11	0/0	0/0	0/0
Mt Worthington	11/11	0/0	0/0	0/0	11/12	0/0	0/0	0/0	11/11	0/0	0/0	0/0
Billy Proctor	11/11	0/0	0/0	0/0	11/12	0/0	0/0	30/48	11/09	0/0	0/0	0/3
Chris Bennett	11/12	0/0	0/0	1-1	11/11	0/0	0/0	9/21	11/07	0/0	0/0	0/0

Table 2 & 3. 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 8 Highlights

### Weather:

- Warmer air temperatures than last rotation.
- Southeasterly winds, at times up to 40 knots.
- Rain events before start of rotation and continuing daily rain throughout rotation.
- Cloudy/overcast skies making for higher than usual glare.

### Water Levels/Quality:

- High water levels in all systems due to steady rain.
- Increase in water temperatures due to higher air temperatures.

### Visibility:

- Often decreased visibility due to rain effects on water surface.
- Reduced visibility in deep pools and undercut banks with increase in flows.

### Notes:

- Very opportune timing for observing coho movement and spawning.
- Coho observed moving through spawning tributaries such as Billy Proctor and Minihump creek.
- No estuary surveys as counting focus is now on spawning channels.
- Final round of counts for the season. Thanks to everyone for their contributions and support.



## 1. Stream Enumeration Notes

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### **Ahta/Hada**

November 14, 2023

Enumerated by Ian Clevenger, Chris Bennett.



Photo 1 – Looking downstream at the Ahta logjam. New woody debris visible in photo center.

### River

- High flows with low visibility.
  - No bear sign.
  - Very few fish observed, mostly coho.
  - One post spawn chum observed.
  - Two sockeye seen holding in a run.
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## Viner River

November 10, 2023

Enumerated by Ian Clevenger, Chris Bennett.



Photo 2 – Lower Viner, just before the estuary.

### River

- Decreased number of coho in upper Viner, staging near tributary confluences.
  - No chum spawning in river, reduced bear activity.
  - Increased flow, redds seen throughout lower river.
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## Shoal Harbour Creek

November 7, 2023

Enumerated by Ian Clevenger, Chris Bennett.



Photo 3- Upper Shoal Harbour Creek where coho have been observed.

### River

- Increased flow since previous survey.
  - No coho noted spawning in mainstem up to Bridie lake beaver dam.
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## Scott Cove Creek

November 6, 2023

Enumerated by Ian Clevenger, Bogdan Kraft.



Photo 4 – Water level at the old hatchery intake on Scott Cove creek.

### River

-No activity at upper falls. Six coho seen jumping at lower falls.

-Note: 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.

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## Wahkana Bay Creek

November 14, 2023

Enumerated by Ian Clevenger, Chris Bennett.



Photo 5– Decent visibility in the lower reaches of Wahkana Bay Creek.

### River

- Best stream visibility of the season due to rain.
  - Surveyed up to anadromous barrier (waterfall).
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## Maple Creek

November 8, 2023

Enumerated by Ian Clevenger, Chris Bennett.



Photo 6 – Freshly killed coho on Maple Cove creek, eggs found along carcass indicate pre spawn female.

### River

-Trout seen.

-One freshly killed pre spawn female coho found on bank.

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## Embley Creek

November 6, 2023

Enumerated by Ian Clevenger, Bogdan Kraft.



Photo 7 – High water overtopping the beaver dam at the end of Segment 1.

### River

- Increase in water compared to previous survey, stream reaching bankfull.
  - No fish seen in lower segment.
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## Embley Creek

November 11, 2023

Enumerated by Ian Clevenger, Chris Bennett.



Photo 8 – Chris Bennett observing coho schooling and spawning where the gravel placement occurred in the spring of 2023. Flagging tape on left indicating gravel placement site.

### River

- Surveyed all areas where gravel placement occurred in spring of 2023.
  - Coho seen spawning and holding on and near gravel placements in upper river.
  - Stream over bankful.
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## Minihump Creek

November 8, 2023

Enumerated by Ian Clevenger, Chris Bennett.



Photo 9 – Water levels at minihump creek where the bridge crosses the lower section. Same pool where 3 adult coho were seen holding.

### River

- No significant change in stream flow, slight increase.
  - Minihumps still spawning in upper part of segment.
  - Coho seen holding at bridge pool, spawning 100m upstream of bridge.
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## Connector Creek

November 8, 2023

Enumerated by Ian Clevenger, Chris Bennett.



Photo 10 – Deep and dark, Connector creek.

### River

- One coho noted in upper segment above Connector Creek culvert.
  - Flow connectivity throughout stream.
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## Loose Lake Creek

November 9, 2023

Enumerated by Ian Clevenger, Chris Bennett.



Photo 11 – A post spawn female coho found near her redds, center photo and center right.

### River

- One spawned out female coho found in lower side channel tributary.
  - Redds seen in side channel tributary.
  - No fish observed spawning or holding in mainstem.
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## John Lewis Creek

November 9, 2023

Enumerated by Ian Clevenger, Chris Bennett

### River

- No fish seen holding or spawning.
- Large amount of suitable spawning areas for fish.

## Mt Worthington Creek

November 7, 2023

Enumerated by Ian Clevenger, Chris Bennett.



Photo 12 – Water flows at the lower waterfall on Mt Worthington Creek, approximately 200m up from where the spawning pair were seen.

### River

- Two spawning coho observed downstream of Shoal Mainline bridge.
  - No spawning activity or holding fish in cascades upstream of bridge.
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## **Billy Proctor Creek**

Enumerated by Ian Clevenger, Chris Bennett.

November 9, 2023

### River

- Moderate flows, fish observed moving up from Bridie Lake.
  - Fish seen spawning and staging throughout stream.
  - No post spawn fish observed.
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## **Chris Bennet Creek**

Enumerated by Ian Clevenger, Chris Bennett.

November 9, 2023



Photo 15 – Taking water quality measurements (pH, dissolved oxygen and water temp) on the lower reach of Chris Bennett Creek.

### River

- No coho seen in stream.
  - High density of dolly varden observed spawning throughout stream.
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