# **Mainland Enhancement of Salmonoid Species Society**

M.E.S.S.S. Report - Rotation 7 DFO Area 12 Stock Assessment 2024

<u>Enumeration Period:</u> October 17 - October 24, 2024 <u>Stream Technicians:</u> Ian Clevenger, Abby Tinsley

#### 1. 2024 Stream Escapement and Biosample Data

Stream	Date m/d	PK	СМ	со	JK	SK/ MH	20 Min	Morts PK/CM/CO	Air Temp (°C)	H20 Temp (°C)	pН	DO mg/L
Hada	10/23	28/48	16/20	33/ <b>54</b>	12	3/4	0	16/1/0	8.5	7.7	6.14	16.16
Wahkana	10/23	0	0	0	0	0	0	0/0/0	9.2	8.5	6.02	15.05
Viner	10/23	0	50/133	3/4	0	0	0	0/65/0	11.4	9.0	6.27	15.37
Shoal	10/24	0	7/11	1/2	0	0	0	0/13/0	7.2	8.9	5.39	15.08
Mt Worthington	10/24	0	0	0	0	0	0	0/0/0	8.0	8.2	5.81	15.81
Scott Cove	10/17	0	0	9	6	0	0	0/0/0	9.5	12.5	5.45	13.93
Maple	10/21	0	0	0	0	0	0	0/0/0	9.0	8.0	4.47	15.59
Carriden	10/22	0	0	0	0	0	0	0/0/0	8.5	11.4	6.28	12.72
Embley	10/22	0	0	0	0	0	0	4/0/0	8.8	12.0	6.20	13.14
Simoom	10/22	0	0	1/2	0	0	0	0/0/0	8.4	8.7	5.90	15.35
Minihump	10/24	0	0	1/3	0	500/ <b>1,250</b>	1	0/0/0	8.5	10.3	5.32	14.95
Connector	10/24	0	0	0	1	0	-	0/0/1	8.5	7.7	4.87	14.47
Loose	10/24	0	0	4/7	1	0	-	0/0/0	9.2	8.1	5.20	16.45
John Lewis	10/20	0	0	0	0	0	-	0/0/0	10.2	9.0	4.77	15.17

<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 #7

	2023				2022				2021			
Stream	Date	PK	CM	СО	Date	PK	CM	СО	Date	PK	CM	СО
Wahkana	10/30	0/0	0/0	0/0	10/31	0/0	0/0	0/0	10/29	0/0	0/3	0/0
Hada	10/30	2/2	18/ <b>21</b>	55/68	10/31	45/80	9/18	1/2	10/29	0/0	0/0	0/0
Viner	10/29	0/0	0/0	21/ <b>34</b>	10/26	0/0	0/8	1/3	10/25	0/0	3/18	0/0
Shoal	10/28	0/0	0/0	2/5	10/29	0/0	0/1	0/0	11/02	0/0	1/1	1/2
Scott Cove	10/25	0/0	0/0	0/0	10/26	0/0	0/0	24/205	10/25	0/0	0/0	0/0
Embley	10/29	0/0	0/0	0/0	10/23	80/111	0/0	15/ <b>34</b>	10/30	0/0	0/2	0/0
Carriden	10/18	0/0	0/0	0/0	10/18	0/0	0/0	0/0	10/30	0/0	0/0	0/0
Maple Cove	10/26	0/0	0/0	0/0	10/28	0/0	0/0	0/0	10/26	0/0	0/0	0/0
Simoom	10/29	0/0	0/0/	0/0	10/19	0/0	0/0	1/1	10/04	0/0	0/0	2/4
Minihump	10/31	1419 / <b>2027</b>	0/0	0/0	10/30	-	-	-	11/01	1,290/ <b>1,720</b>	0/0	0/0
Mount Worthington	10/28	0/0	0/0	0/0	10/29	0/0	0/0	0/0	11/02	0/0	0/0	0/0
Connector	10/31	0/0	0/0	0/0	10/28	3/30	0/0	0/0	11/02	19/25	0/0	0/0
Loose	11/01	0/0	0/0	0/0	10/16	0/0	0/0	0/0	11/01	0/0	0/0	0/0
John Lewis	10/26	0/0	0/0	0/0	10/30	0/0	0/0	0/0	11/01	2/3	0/0	2/4

	2019				2018							
Stream	Date	PK	CM	СО	Date	PK	CM	CO	Date	PK	СМ	CO
Wahkana	10/28	0/0	0/0	0/0	10/23	0/0	0/0	0/0	10/13	0/0	15/22	0/0
Hada	10/28	0/0	0/0	0/0	10/23	0/0	10/26	0/0	10/23	14 <b>/47</b>	26/145	3/6
Viner	11/02	0/0	1/3	0/0	10/20	0/0	2/31	0/0	10/26	0/0	55/ 1017	0/1
Shoal	10/25	0/0	0/0	0/1	10/22	0/0	0/7	0/0	10/16	0/0	9/24	0/0
Scott Cove	10/25	0/0	0/0	6/48	10/20	0/0	0/0	0/0	10/22	0/0	0/0	1/100
Embley	10/22	0/0	0/0	0/0	10/25	0/0	0/0	0/0	10/29	0/3	0/3	0/0
Carriden	10/22	0/0	0/0	0/0	10/25	0/0	0/0	0/0	10/29	0/0	0/0	0/0
Maple Cove	10/26	0/0	0/0	1/1	09/30	0/0	0/0	0/0	10/26	0/2	0/0	0/0
Simoom	10/05	0/0	0/0	0/0	09/25	0/0	0/0	0/0	09/29	0/0	0/6	0/0
Minihump	10/21	0/1	0/0	0/0	10/22	98/ <b>490</b>	0/0	0/0	10/30	728/ 971	0/0	0/0
Mount Worthington	10/25	0/0	0/0	0/0	11/07	0/0	0/0	0/0	10/28	0/0	0/0	0/0
Connector	10/27	0/0	0/0	0/0	10/22	12/40	0/0	1/3	10/27	6/9	0/0	0/0
Loose	10/27	0/0	0/0	0/0	10/24	0/0	0/0	0/0	10/27	0/0	0/0	1/2
John Lewis	10/27	0/0	0/0	0/0	10/24	0/0	0/0	0/0	10/27	1/2	0/0	0/0

<u>Table 2 & 3.</u> Escapement records by MESSS from past rotation 2 surveys spanning 2018-2023. 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. Red text indicates escapement records for minihumps.

#### 1. Rotation 7 Highlights

#### Weather:

- Large rain event (>60mm) on October 18, two day delay for stream levels to return to surveyable condition.
- Visibility improved as the week progressed.
- Snow appearing in higher elevations, single digit air temperatures all rotation.
- Clouds and overcast conditions often resulted in flat light or glare in creeks.

#### Notes:

- High flows in most creeks due to the large rain event likely washed out many spawning and post spawn fish.
- High flows also provide improved fish passage in streams with impediments to fish movement
- We are beginning to see coho spawning in the tributaries to Loose Lake on Gilford Island.

#### 1. Stream Enumeration Notes

**Hada River** October 23, 2024 Enumerated by Ian Clevenger, Abby Tinsley



Photo 1 – Clear water and autumnal vibes in the Hada side channel.

# **Estuary Survey**

- No fish seen.

- Excellent surveying conditions compared to other streams, low clear water.
- Decrease in spawning and spawned out fish seen.
- Streambed movement and changes to general river morphology due to high flows.
- Coho still holding and not spawning.

#### **Wahkana Bay Creek** October 23, 2024 Enumerated by Ian Clevenger, Abby Tinsley



Photo 2 - Water levels in Wahkana Bay Creek.

#### **Estuary Survey**

- No fish seen.

- No fish seen.
- Improved surveying conditions now that the system has flushed.
- High water mark from rain event increased flows 3ft (500%).

#### **Embley Creek** October 22, 2024 Enumerated by Ian Clevenger, Abby Tinsley



Photo 3 - Hauling out last of gravel addition bags (go Ian!)

#### **Estuary Survey**

- No schools of fish seen in estuary.

- Slightly lower water levels than previous survey.
- Dead pinks encountered, washed up and dried on banks.
- Flat light and dark sections made for poor visibility.
- Removed last of gravel addition bags.

### **Carriden Bay Creek** October 22, 2024 Enumerated by Ian Clevenger, Abby Tinsley

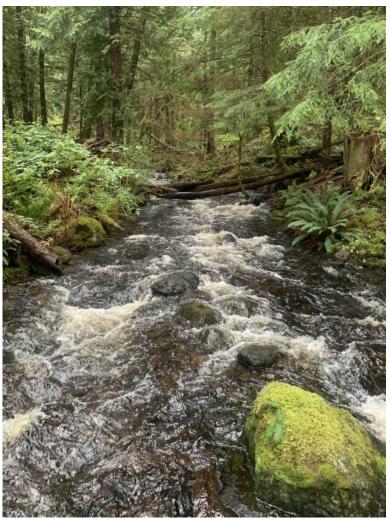


Photo 4 – Fast water throughout Carriden Bay Creek made for difficult wading and surveying.

#### **Estuary Survey**

- Little bird activity, no fish seen.

- Continued high stream levels.
- Large sections of whitewater made surveying conditions poor.

#### **Viner River** October 23, 2024 Enumerated by Ian Clevenger, Abby Tinsley



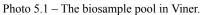




Photo 5.2 - A female chum spawning in Viner.

#### **Estuary Survey**

- Spawned out pink and chum seen in estuary.
- Large amount of eagles, ravens, crows and gulls eating salmon and salmon eggs.

- Large decrease in numbers of chum seen in system.
- High water likely pushing post spawn fish out of the river.
- Fresh spawning fish seen in lower 300m of river.

#### **Shoal Harbour Creek** October 24, 2024 Enumerated by Ian Clevenger, Abby Tinsley

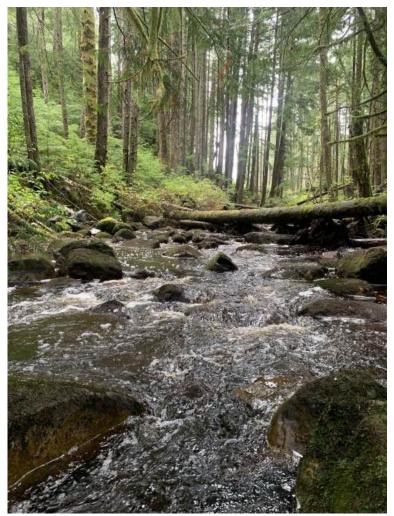


Photo 6- Water levels at the biosampling rock in Shoal Harbour..

#### **Estuary Survey**

- No new fish seen moving into system.
- One bald eagle eating fish remains where creek enters Shoal Harbour.

- Chum largely spawned out and hiding in stream.
- One coho seen moving up lower part of Shoal.

#### **Scott Cove Creek** October 17, 2024 Enumerated by Ian Clevenger, Abby Tinsley



Photo 7– High water levels at the lower falls.

- 9 adults and 6 jacks observed jumping at 1.5 kilometer falls during 20 minute jumper count.
- Decrease in fish activity at falls as the coho spawn in the tributaries begins.

## Maple Cove Creek October 21, 2024





Photo 8 - High water marks showing where the stream levels the stream reached after last weeks rain event.

#### **Estuary Survey**

- No fish seen.

- Continued high flows resulted in low survey visibility and confidence.
- High water mark was 3.5ft higher than regular flows (400% increase).
- Coho likely moving through system with ease.

#### **Simoom Sound Creek** October 22, 2024 Enumerated by Ian Clevenger, Abby Tinsley



Photo 9 - Spawning habitat in Simoom Sound Creek.

#### **Estuary Survey**

- No fish seen in the estuary.

- Good survey visibility throughout system.
- One coho seen in upper section of stream.
- Two trout encountered downstream of coho.

#### **Minihump Creek** October 24, 2024 Enumerated by Ian Clevenger, Abby Tinsley



Photo 10 - Minihumps schooling and spawning in Minihump Creek.

- No minihumps seen in first 300m of stream.
- High concentrations of minihumps spawning from 300m upstream of Loose Lake to the falls on Minihump creek.
- One coho with a beat up tail seen spawning on gravel just below the falls on Minihump creek.
- Higher water than last rotation made for decreased surveyablility and observer efficiency.

#### **Connector Creek** October 24, 2024 Enumerated by Ian Clevenger, Abby Tinsley



Photo 11 - Coho mort in Connector Creek, found shortly after bald eagle flew away.

- Jack coho seen at bottom of Connector creek where it meets Townee Lake.
- One pre spawn male mort found 200m upstream of road crossing. Likely killed by the eagle that was eating it.

#### **Loose Creek** October 24, 2024 Enumerated by Ian Clevenger, Abby Tinsley



Photo 12 - Redds and test digs in Loose Creek where the two coho and a jack were seen spawning.

- Four coho and one jack seen spawning in left braid of stream. Two spawning groups, one being two adults and a jack, the other consisting of two adults.
- Multiple redds or test diggs seen near spawning coho.
- Loose lake backflooding the lower part of stream.

#### **John Lewis Creek** October 20, 2024 Enumerated by Ian Clevenger, Abby Tinsley



Photo 13 - John Lewis creek at the road crossing.

- No fish seen in system.
- 3 significant large straining log jams made up of small woody debris, likely impeding fish movement.
- Loose lake backflooding the lower part of stream.

#### **Mount Worthington Creek** October 24, 2024 Enumerated by Ian Clevenger, Abby Tinsley



Photo 14 - One of the barriers to fish movement in Mt Worthington creek, this one being the lower of the two, located 150m upstream of the junction with Shoal Harbour Creek.

- No fish seen in the system.
- 2 blockages in the first 400m likely causing impediments to fish movement.