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West Coast of Vancouver Island

2020 Southern Salmon Post-Season

Dec 16, 2020

Review – South Coast - WCVI

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    - Chinook
    - Chum
    - Coho
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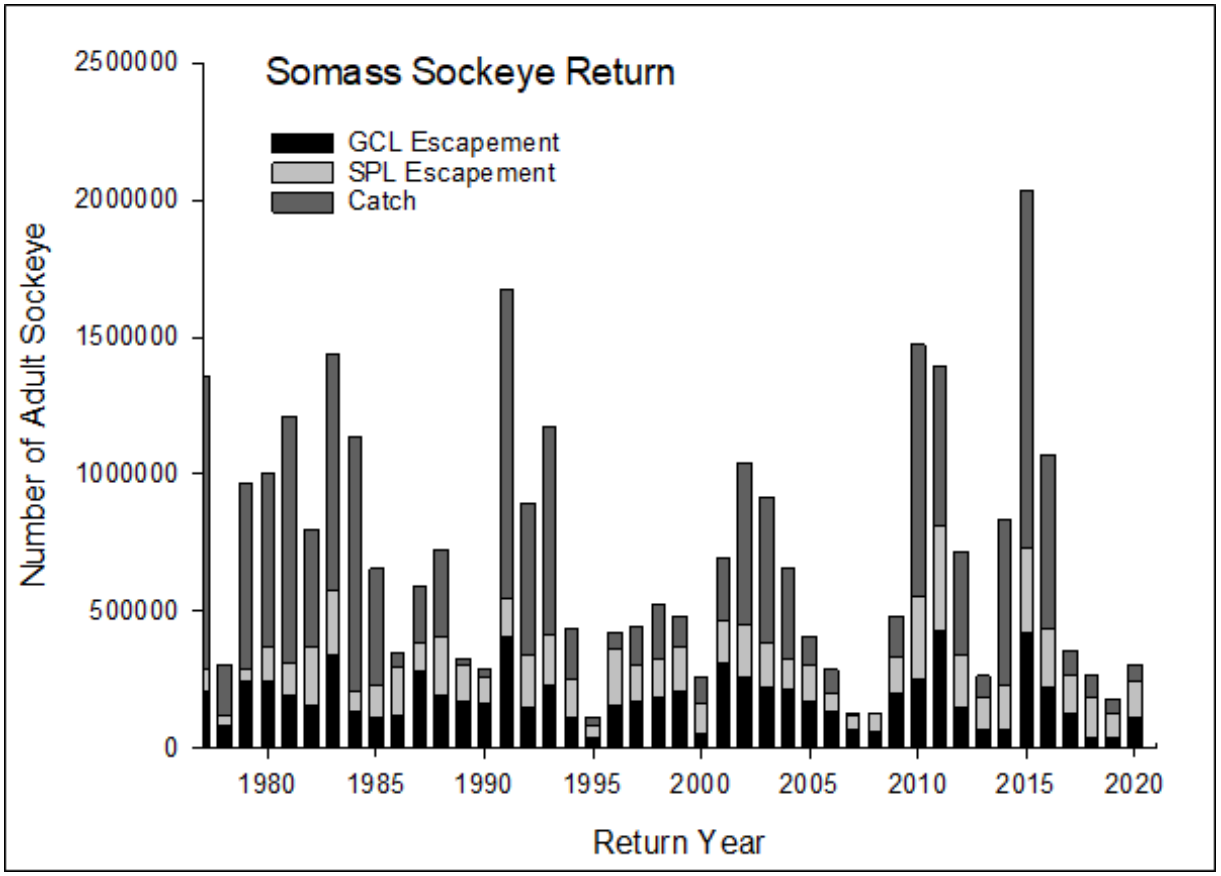
    - Commercial
        - Somass Sockeye
        - AABM/ISBM Chinook
        - Chum
    - Recreational
    - ESSR

WCVI 2020 Stock Status Overview

Sockeye

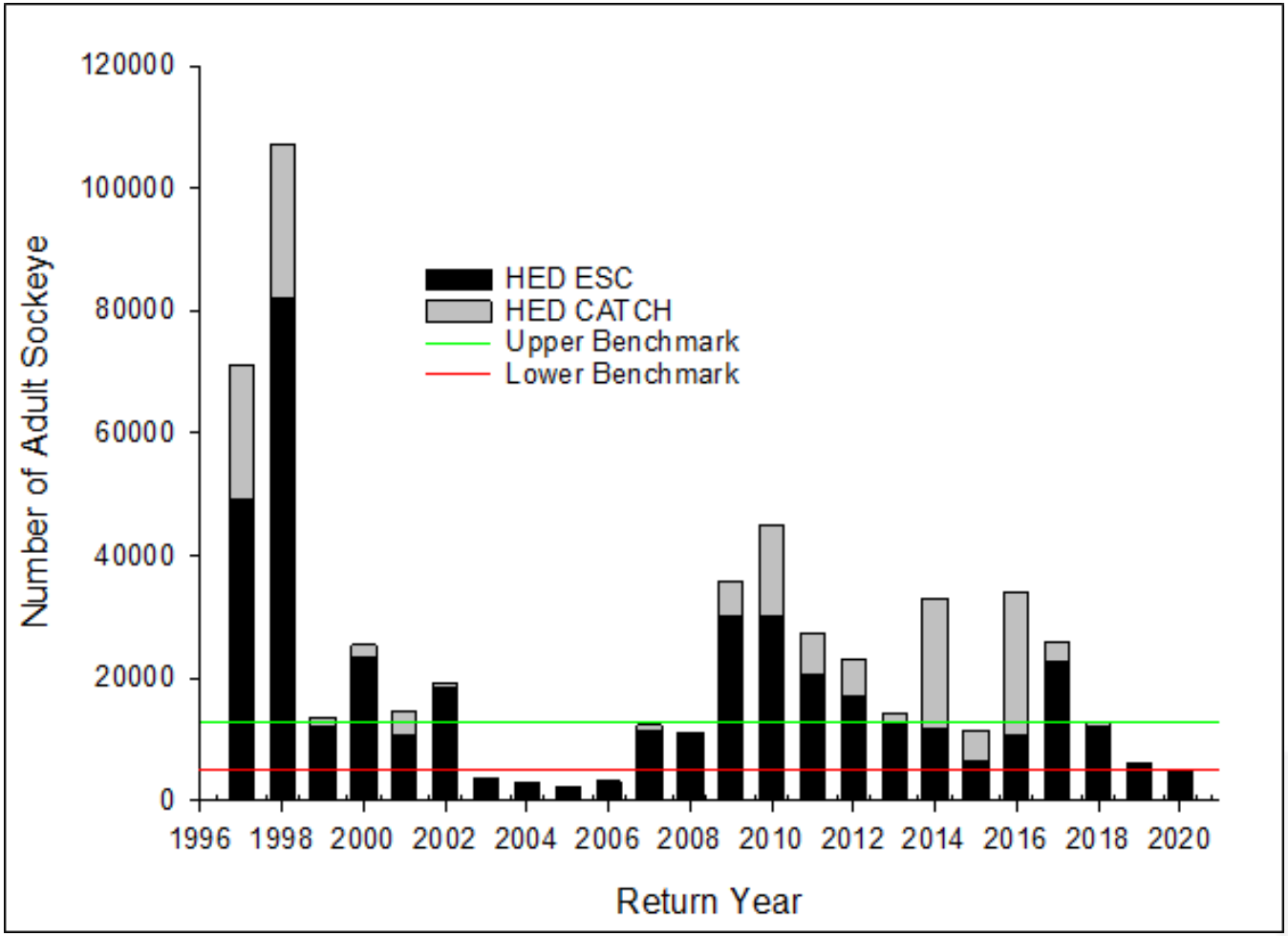
- **Somass** Sockeye stocks (Great Central and Sproat Lakes) exceeded upper biological benchmarks and the lower fishery reference point and supported directed fisheries.
- **Henderson** Sockeye escapement was predicted to (and did) fall below the lower biological benchmark, precluding directed fisheries.
- **Other WCVI** Sockeye stocks lack sufficient data and monitoring efforts to support status assessments. However, anecdotal information indicates mixed status: some populations may have been productive in recent years (*e.g.,* Gold River Sockeye) while others are almost certainly depleted (*e.g.,* Kennedy Lake Sockeye).

Somass Sockeye (Area 23)



- The 2020 return of Somass Sockeye (308K) was higher than the pre-season expectation (170K).
- Production from abundant escapements in 2015 and 2016 appears to have been poor.
- GCL comprised a higher proportion of the run (46%) than expected (23%) but was below its long-term average (56%).

Henderson Sockeye Status (Area



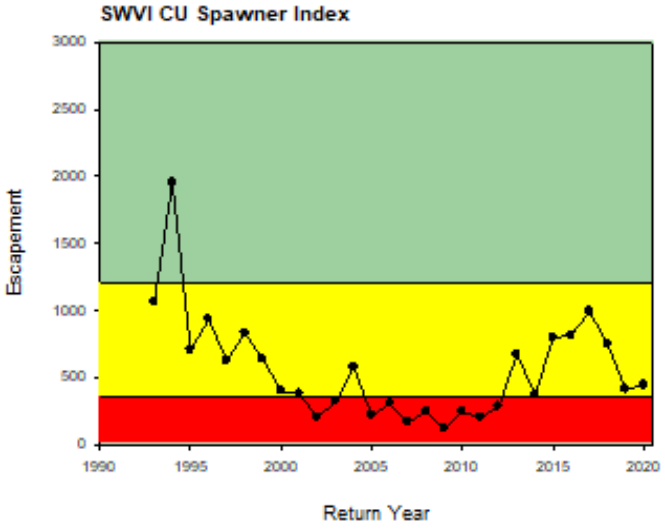
- Data are not final, but the total return for 2020 was ~5,000.
- Escapement (~4,500) was below the lower biological benchmark (5,000).
- Differential productivity between Henderson Sockeye and the Somass stocks is a persistent challenges for harvest management – *i.e.* planning fisheries to reduce impacts on Henderson when the Somass run is abundant.

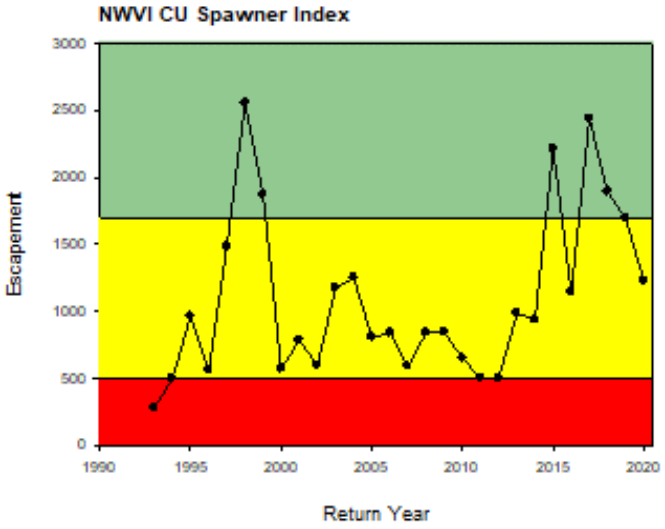
WCVI 2020 Stock Status Overview

Chinook

- **Wild/Natural** WCVI Chinook remain a stock of concern.
    - These stocks have been relatively stable over time, but remain below target and have not rebuilt from a decline in productivity observed during the early- to mid-1990's.
- The **Robertson Creek Hatchery** return was significantly higher than forecast, about 46% higher than the long-term average, and supported fishing opportunities in all sectors.
- The **Nitinat Hatchery** return was higher than the long-term average and the forecast by about 30%.
- The **Conuma Hatchery** return was slightly below the long-term average, but aligned with the 2020 forecast.

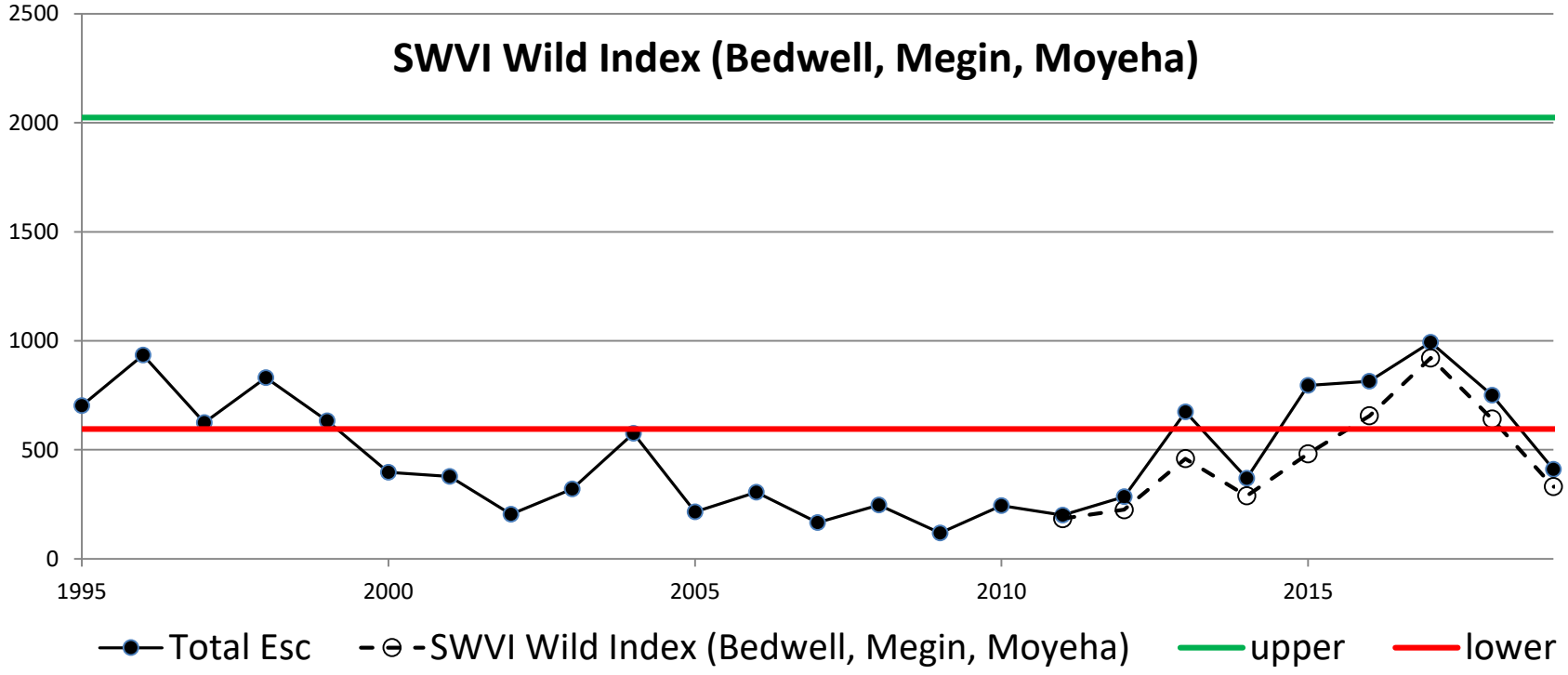
WCVI Chinook Status – SWVI and NWVI Conservation Units





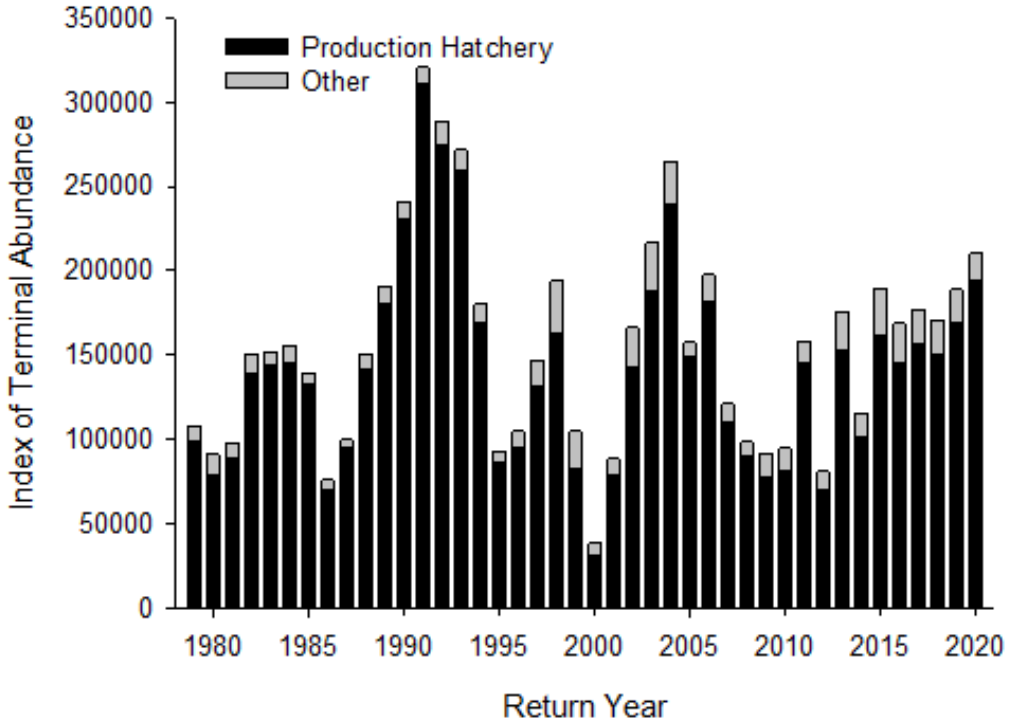
- Graphs show spawner abundances for "natural" index populations associated with the SWVI and NWVI Conservation Units:
  - "natural" = no or nominal levels of enhancement.
- Benchmarks are calculated from the estimated carrying capacity of the watersheds associated with the index populations (lower = .25 S_{MSY}, upper = .85 S_{MSY}).
- 2020 escapement estimates are preliminary:
  - abundance of "natural" populations remains low, particularly SWVI.
- WCVI 'Run Reconstruction' project is providing valuable information on stock-specific age-at-return, terminal harvest rates, hatchery contribution, and hatchery straying rates.

WCVI Wild Chinook Status – Clayoquot Sound



- Contributions from small hatcheries in Clayoquot have kept returns above the lower benchmark in four of the last eight years, while remaining a relatively small proportion of the total return.

WCVI Chinook Hatchery Contribution to Total Production



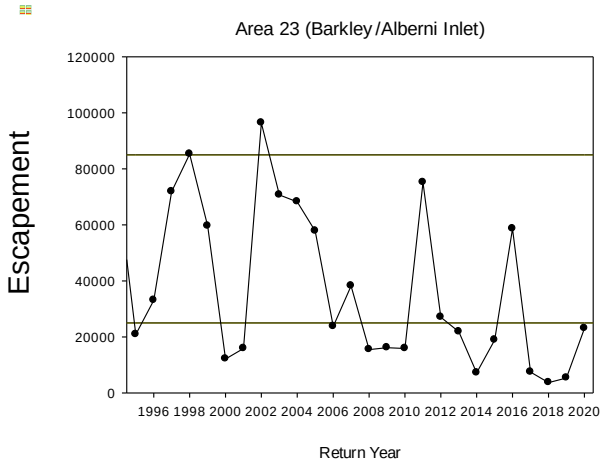
- Graph shows indexed terminal return. Hatchery origin fish are the main component (RCH, CON, NIT).
    - "Other" includes "natural" abundance and production from smaller hatcheries
- The 2020 estimate is preliminary

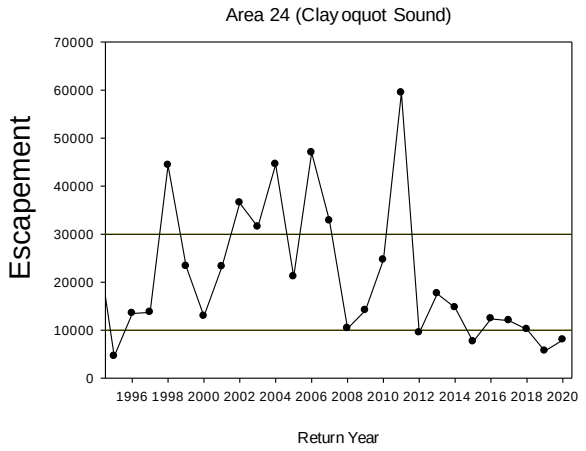
WCVI 2020 Stock Status Overview

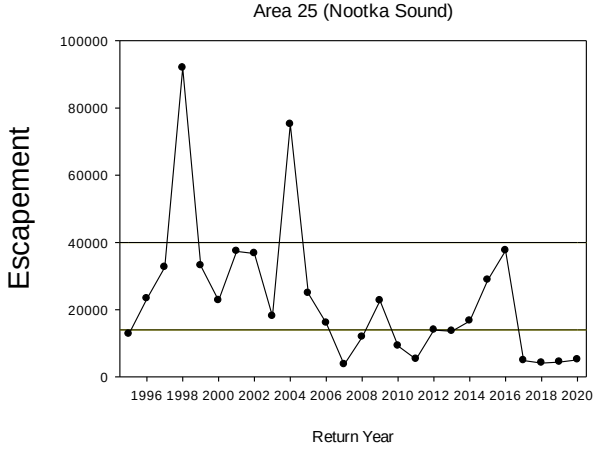
Chum

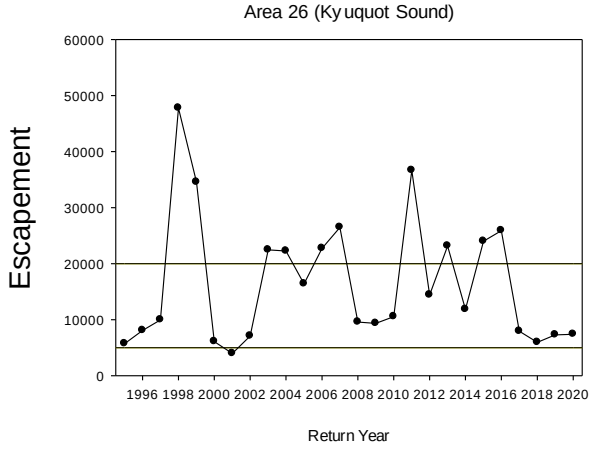
- Stock status has been low in recent years. Natural spawning populations in most areas remain below abundance targets despite precautionary harvest regimes.
- Production levels at the **Conuma and Nitinat Hatcheries**, have declined in recent years, partially due to low abundances (hatcheries have not been able to achieve brood-stock targets in some years).
- Despite hatchery production, catches in Areas 25 and 22 since 2016 have been low and are declining relative to historic levels. Survival rates appear poor for the 2015 and 2016 brood years.
- Preliminary returns in 2020 again appear below average across WCVI.

WCVI Chum Status – WCVI wild stock management units



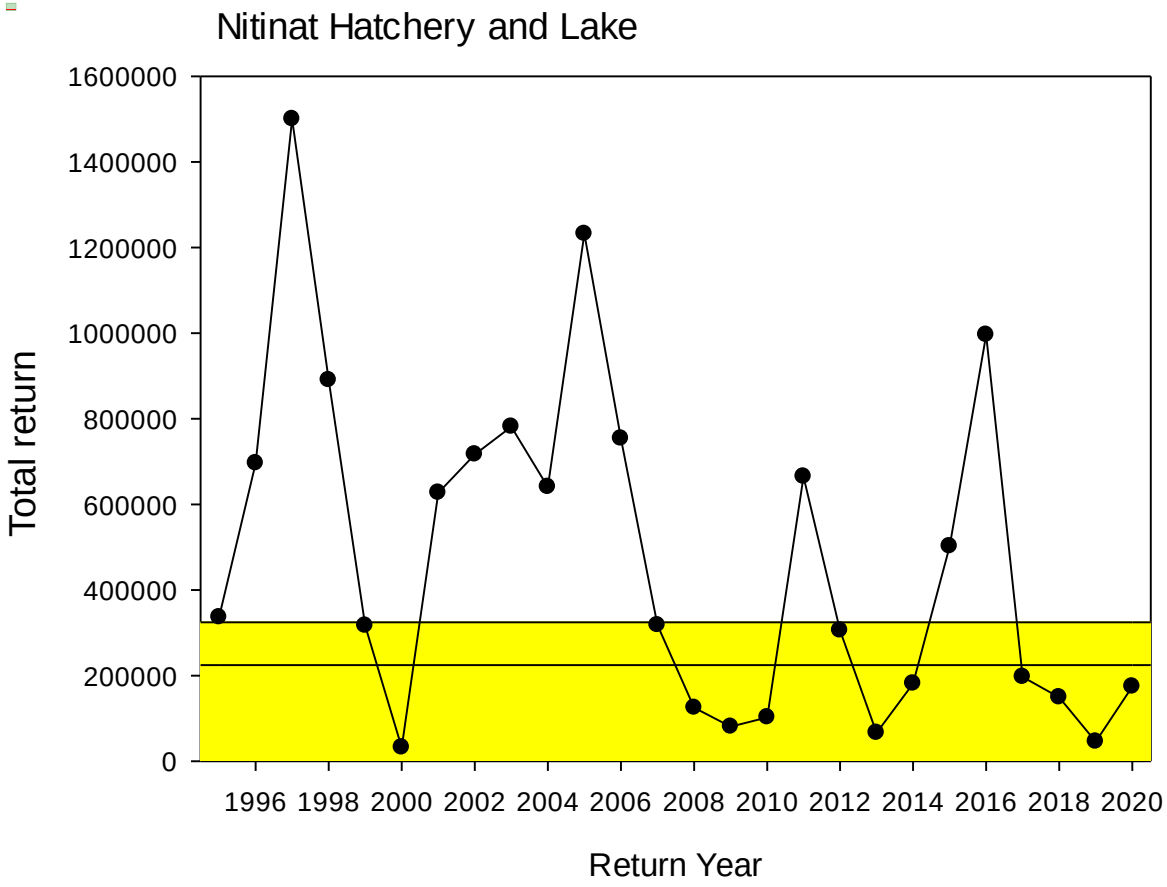






- Graphs show spawner abundances for wild stock management units in Areas 23, 24, 25, 26.
- Although Area 25 is a mixed wild-hatchery stock management unit, harvest rules in the Nootka Sound area are set according to wild stock objectives.
- 2020 preliminary escapement estimates indicate all returns are well below average.

Nitinat Chum – Hatchery stock management unit



- Nitinat is managed as an enhanced system; the fishery reference points of 225,000 and 325,000, are set according to production objectives (plotted in relation to abundance).
- Since 2016, returns have been consistently fallen below the forecast and lower fishery reference point.
- The 2020 preliminary return (174,600) surpassed the pre-season forecast (92,000), but remains below the lower fishery reference point

WCVI 2020 Stock Status Overview

Coho:

- In most recent years, spawning abundances for wild WCVI Coho populations are at about historic levels.
- The overall production of WCVI Coho is likely much lower than historic levels. Harvest rates were much higher in the past; current low harvest rates have allowed spawner abundances to remain consistent.
- Preliminary results for 2020 suggest below average returns relative to recent years. Escapement through **Stamp Falls** (12,184) was in the bottom 20% of all returns since 2000.
- Escapement of the **Carnation Creek** wild indicator stock (33) was below the long-term average (140).

Fishery Summaries

- First Nations FSC/Treaty
- Commercial
  - Somass Sockeye
  - AABM Chinook
  - ISBM Chinook
  - Chum
- Recreational Fisheries
- ESSR

First Nations Treaty and FSC

- In 2020 Treaty and FSC fisheries targeting Somass Sockeye, Chinook and Coho occurred in Area 23.
- Catch in other fisheries and areas were variable. FSC numbers are still being compiled at this time.
- The table below includes all catch reported as domestic (Treaty) and FSC off the WCVI.

Sockeye Kept	Coho Kept	Pink Kept	Chum Kept	Chinook	
				ISBM Kept	AABM Kept
53,262	21,927	0	1,442	8,608	3,709

Somass Sockeye

ASSESSMENT (TEST FISHERY)		6,314
FIRST NATION TREATY/FSC	Tsu-ma-uss	35,980
	Maa-nulth (Somass)	7,689
	Maa-nulth (Henderson)	187
	Total FN Treaty/FSC Catch	**50,145**
COMMERCIAL CATCH	Area D Gillnet	6,810
	Area B Seine	0
	Somass FN EO	0
	Total Comm Catch	**6,810**
RECREATIONAL	Inlet + River (Somass)	6,437
	Henderson bycatch	40
	Total Recreational Catch	**6,477**
TOTAL CATCH*		**63,432**
ESCAPEMENT	GCL adults	109,174
	SPR adults	131,529
	HED adults	4,589
	Total Adult Esc*	**245,292**
TOTAL ADULT RETURN (Somass + Henderson)		**308,7724**
Estimated HED Catch (included in catch totals above)		442

- The Somass sockeye return was above the pre-season expectations and esc split between GCL and Sproat were normal this year.
- Fishing opportunities were provided to most sectors.
- The Tsu-ma-uss Economic Opportunity Agreement was not in place for sockeye in 2020.

Commercial - AABM Chinook

Pre-Season Total Allowable Catch and Preliminary Catch Estimates for October 2019-September 2020 WCVI AABM Chinook

	Pre-Season TAC	In-Season TAC	Preliminary Catch
WCVI AABM Abundance Index	0.75	n/a	n/a
Maa-nulth Treaty	3,424	n/a	1,951
First Nations (FSC)**	5,000	n/a	1,758
Five Nations	7,724	n/a	4,170
AABM Recreational*	40,000	30,000	***13,741
Area G Troll	30,852	41,000	11,350
Total AABM Chinook	**87,000**	**87,148**	**32,970**

*Expected catch reduced to 30,000 prior to Aug. 1 Area G opening.
**First Nations FSC catch is being compiled.
***Does not include June estimates due to Covid-19

Commercial - AABM Chinook Fishery

- Area G Troll:
  - Delayed opening until Aug. 1 for Fraser Chinook
- Five Nations "Offshore Integrated Hook and Line" Fishery:
  - Restricted to inshore AABM areas before July 15 for Fraser Chinook
  - Maximum 80cm size limit July 15-31

MTH-YR	CHINOOK	
	AREA G	5 NATIONS
May-20		0
Jun-20		5
Jul-20		1,401
Aug-20	9,242	2,605
Sep-20	2,108	159
Total	**11,350**	**4,170**

Commercial - AABM Chinook Fishery

- Area G fishery:
  - no retention of Coho was permitted.
- Five Nations "Offshore Integrated Hook and Line" Fishery:
  - Hatchery marked Coho retention only until Sep 15
  - 2,000 pieces Hatchery marked and unmarked after September 15

MTH-YR	COHO			
	AREA G		5 NATIONS	
	Retained	Released	Retained	Released
May-20			0	0
Jun-20			0	0
Jul-20			13	33
Aug-20	0	4,283	52	7
Sep-20	0	993	0	0
Total	**0**	**5,276**	**65**	**40**

Commercial – ISBM Chinook

- In 2020 there were terminal fisheries targeting hatchery returns in Area 23 and Area 25.

FISHERY	AREA	CATCH
Area D Gillnet	23	24,919
Area B Seine	23	7,984
Somass EO	23	29,829
Area 23 Total	23	62,723
Area D Gillnet	25	9,980
Five Nations Nearshore/Terminal/Surplus	25	5,814
Area 25 Total	25	15,794

Commercial – Chum

- Nitinat IFR Steelhead window closure until Oct 23. In season low returns prevented any commercial fisheries.

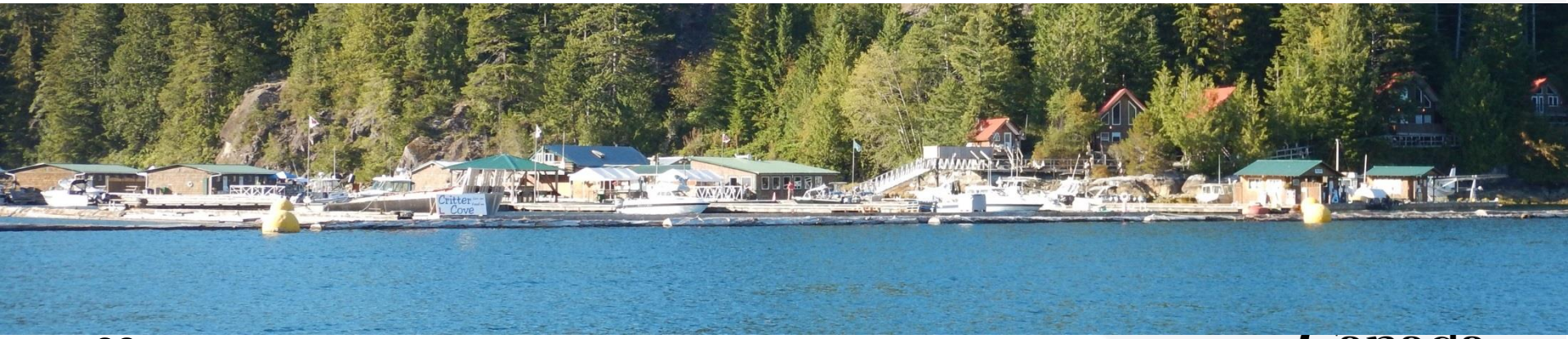
- Limited effort assessment gillnet fisheries (Stage 2) based on pre-season forecast with 15% target harvest rate
  - Esperanza - 5 vessels fishing 1.5 days/week x 4 weeks
  - Kyuquot - 4 vessels fishing for 1.5 days per week x 3 weeks

FISHERY	AREA	CATCH
Area D Gillnet	Esperanza 25	6,065
Area D Gillnet	Kyuquot 26	2,977

Recreational Fishery

Chinook

- WCVI Chinook management measures that were initiated in 2019 for Fraser Chinook continued in 2020.
  - Offshore WCVI Areas up until July 15 were Chinook non-retention.
  - July 15 – July 31 maximum Chinook size of 80 cm.
  - Previously implemented finfish closures remained in place.



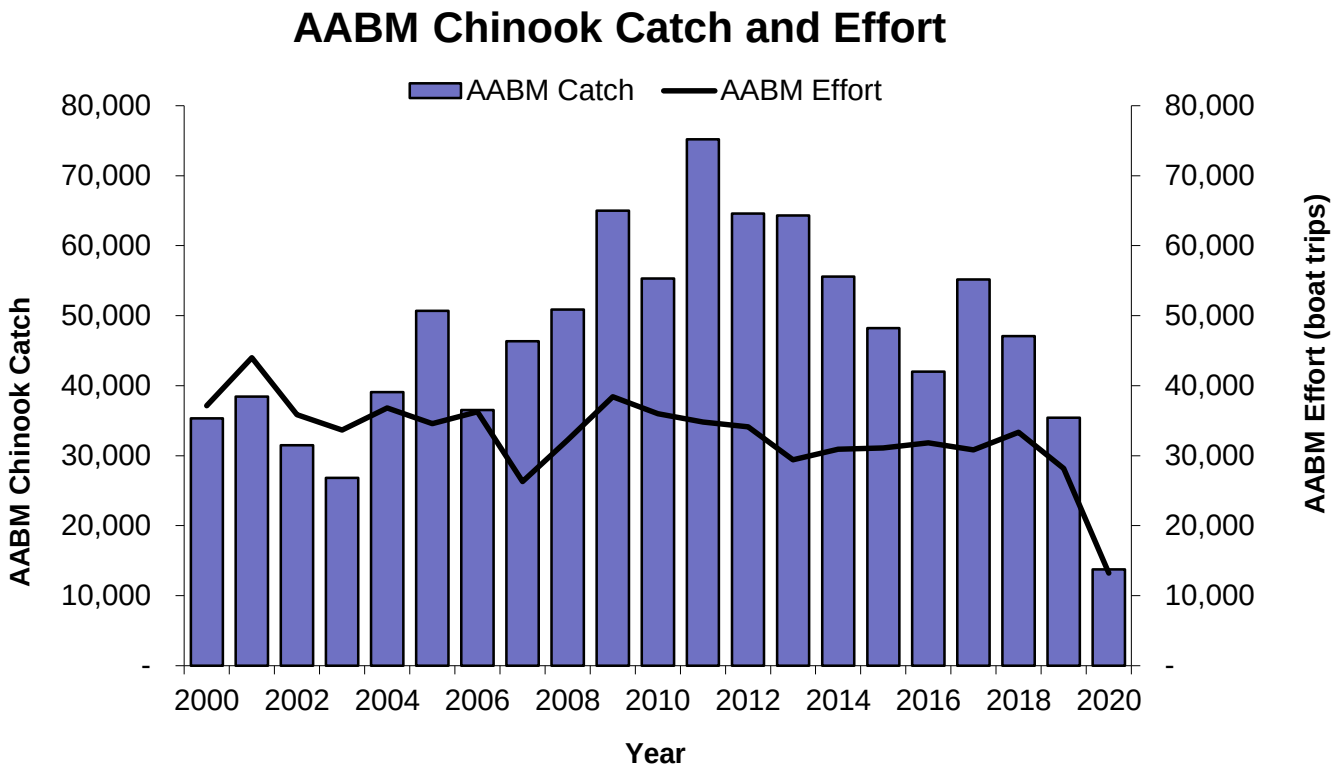
2020 WCVI and JDF Recreational Chinook Catch

Fishery (Area)	ISBM Chinook		AABM Chinook	
	Kept	Released	Kept	Released
Juan de Fuca (19,20E)	6,964	20,246	-	-
WCVI - Inshore (20W-27)	37,410	19,046	*4,296	*5,293
WCVI - Offshore (121-127)	-	-	*9,445	*3,691
Totals	44,374	39,292	*13,741	*8,984

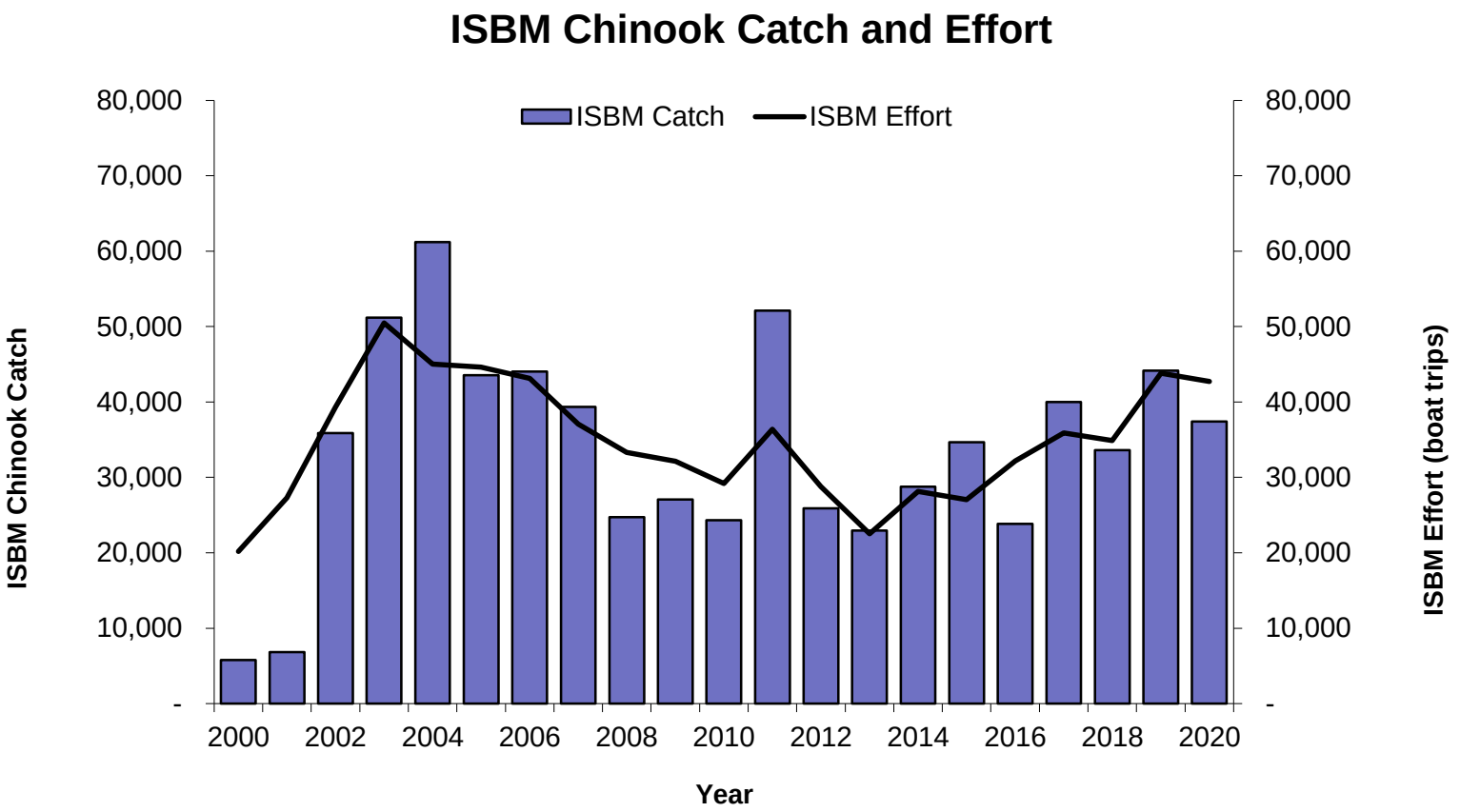
*Does not include June due to Covid-19

2020 WCVI REC and AABM Chinook Catch/Effort

Note: Effort does not represent species directed effort per se, rather total estimated recreational effort for all species. 2020 Estimate does not include June due to Covid-19.



2020 WCVI REC and ISBM Chinook Catch/Effort



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Recreational Fishery

Coho

- Wild Coho retention opportunities in offshore areas remained the same in 2020 (marked only) due to precautionary approach for IFR Coho
- Outlook for WCVI Coho was downgraded so wild Coho retention in WCVI inshore Areas 23-27 was reduced to 1/day in 2020
- In terminal areas adjacent to hatcheries, adipose fin clipped Coho retention was 4/day (same as 2019)
- Preliminary catch of Coho in the WCVI area is estimated at 19,230 including 11,423 and 7,807 from inshore and offshore areas respectively.

Recreational Fishery

Sockeye

•The Area 23 recreational fishery opened July 1 at 2/day based on in-season re-forecast.

- Both tidal and river fisheries were modestly successful. The preliminary estimated total catch is approximately ~7,505 Sockeye.

2020 WCVI and JDF Recreational Catch – Other spp.

Area	Sockeye		Coho		Pink		Chum	
	Kept	Rel	Kept	Rel	Kept	Rel	Kept	Rel
Juan de Fuca (19,20E)	18	50	13,781	35,409	121	96	59	0
WCVI - Inshore (20W-27)	10	18	11,423	8,165	48	104	7	6
WCVI - Offshore (121-127)	0	0	7,807	10,476	11	12	0	3

Note: Does not include June due to Covid-19

ESSR Fisheries

HATCHERY	SOCKEYE	CHINOOK*	COHO*	CHUM
Robertson	0	23,700	3,642	0
Nitinat	0	15,922	92	32,288

*Includes Jacks