

Salmon Stock Status and Escapement Goals in Southeast and Yakutat

**Alaska Board of Fisheries
January 4–January 15, 2022
Ketchikan**

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Steve Heint and Andy Piston,
Division of Commercial Fisheries**



**Oral Report:
RC 3 – Tab 13**

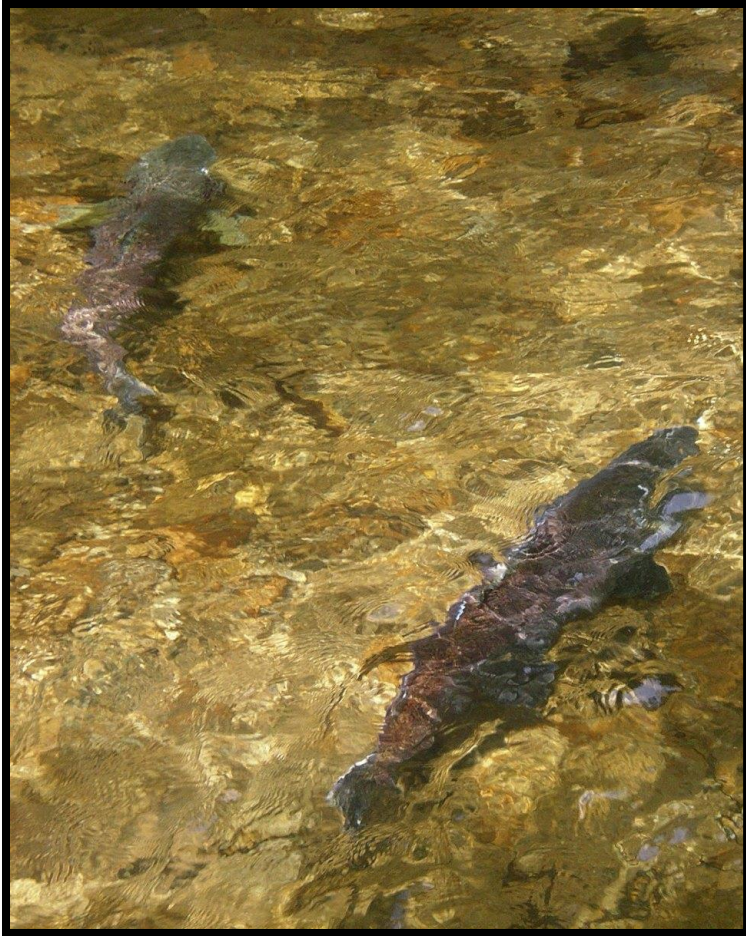
**Written Report:
RC 3 – Tab 1**

Presentation Outline

- Escapement goal policies and definitions
- Current escapement goals
- Stock status
- Recommendations for escapement goal revisions



Escapement Goal Policies



- ***Policy for the Management of Sustainable Salmon Fisheries (SSFP; 5 AAC 39.222)***
 - Reviewed potential stocks of concern as defined in the SSFP

- ***Policy for Statewide Salmon Escapement Goals (5 AAC 39.223)***

- Adopted to ensure salmon stocks are conserved, managed, and developed using the sustained yield principle

Escapement Goal Policies

Transboundary Rivers (U.S./CAN Management):

- **Management under the auspices of the Pacific Salmon Treaty**
- **Review by the PSC technical committees and panels including staff from ADF&G and DFO**
- **Additional review by the Canadian Science Advisory Secretariat**



Escapement Goal Policies - Definitions

Biological Escapement Goal (BEG)—

The escapement that provides the greatest potential for maximum sustained yield (MSY).



Escapement Goal Policies - Definitions

Sustainable Escapement Goal (SEG)—

A level of escapement, indicated by an index, estimate or value, that provides sustained yield over a 5 to 10 year period and used in situations where a BEG cannot be managed for or developed.



Escapement Goal Policies - Definitions

Optimal Escapement Goal (OEG)—

A specific management objective for salmon escapement that considers biological and allocative factors and may differ from the SEG or BEG.



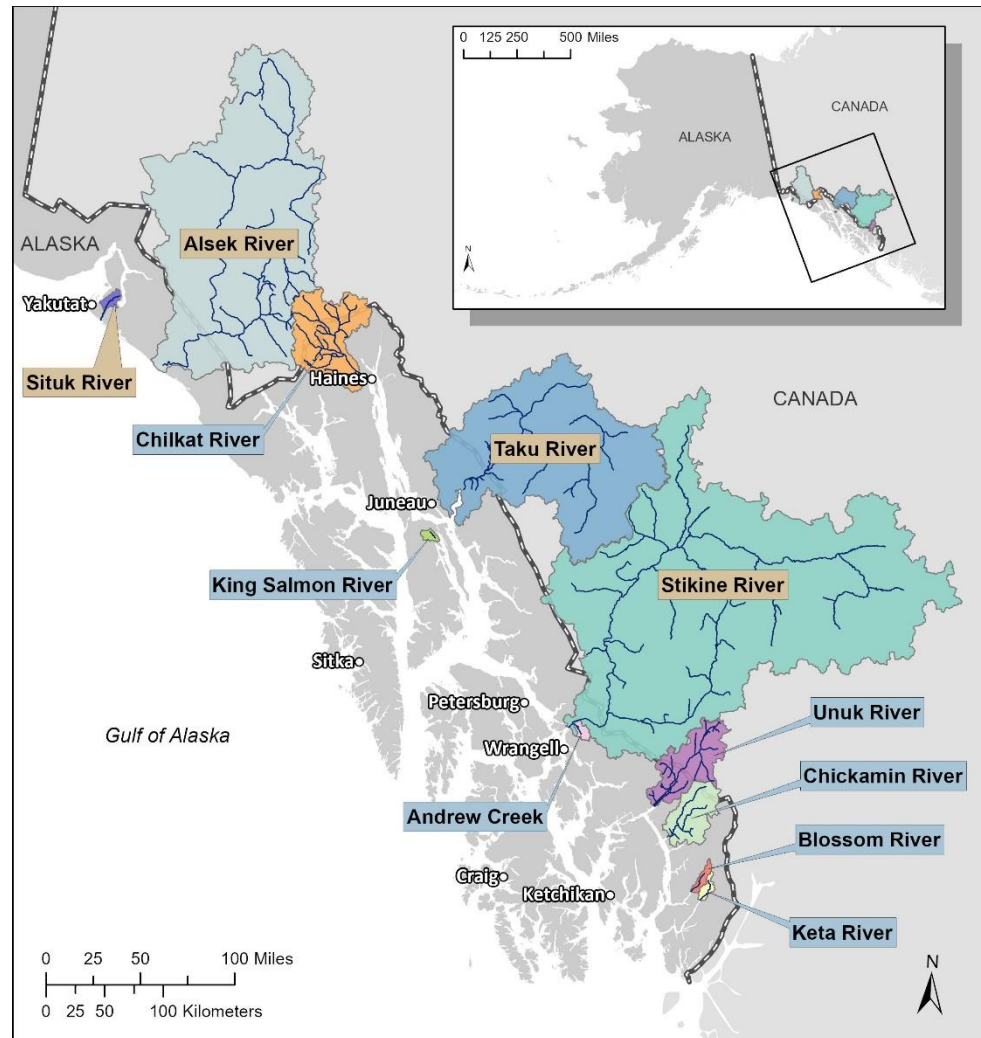
Escapement Goals – King Salmon

King Salmon Biological Escapement Goals

Stock	Lower Bound	Upper Bound
Situk	450	1,050
Alsek	3,500	5,300
Chilkat	1,750	3,500
Taku	19,000	36,000
King Salmon	120	240
Stikine	14,000	28,000
Andrew	650	1,500
Unuk	1,800	3,800
Chickamin	2,150	4,300
Blossom	500	1,400
Keta	550	1,300

Abundance-Based Management

- The majority (80%+) of the region's known wild stock production is monitored annually



King Salmon Stocks

Inside Rearing:

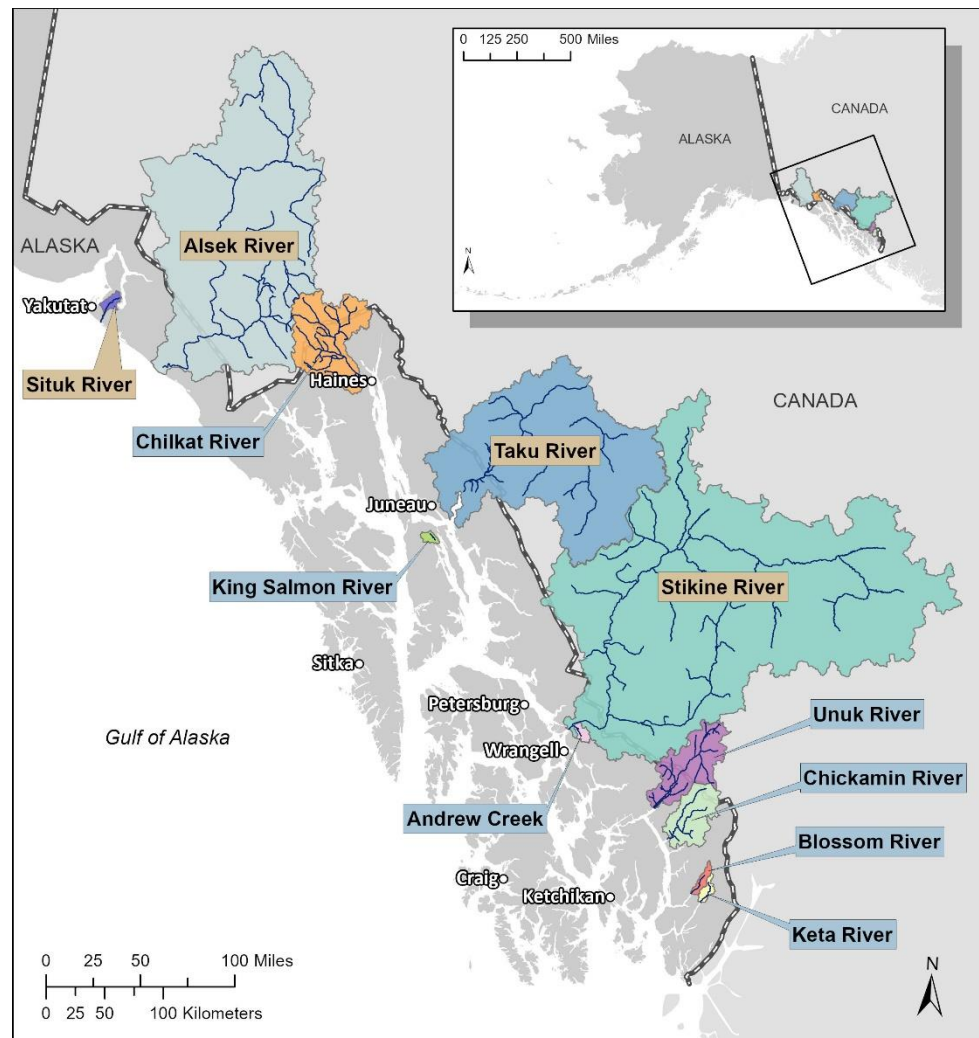
Chilkat River
King Salmon River
Andrew Creek
Unuk River
Chickamin River
Blossom River
Keta River

Outside Rearing:

Situk River
Alek River
Taku River
Stikine River

Full Indicator Stocks:

Chilkat River
Taku River
Stikine River
Unuk River



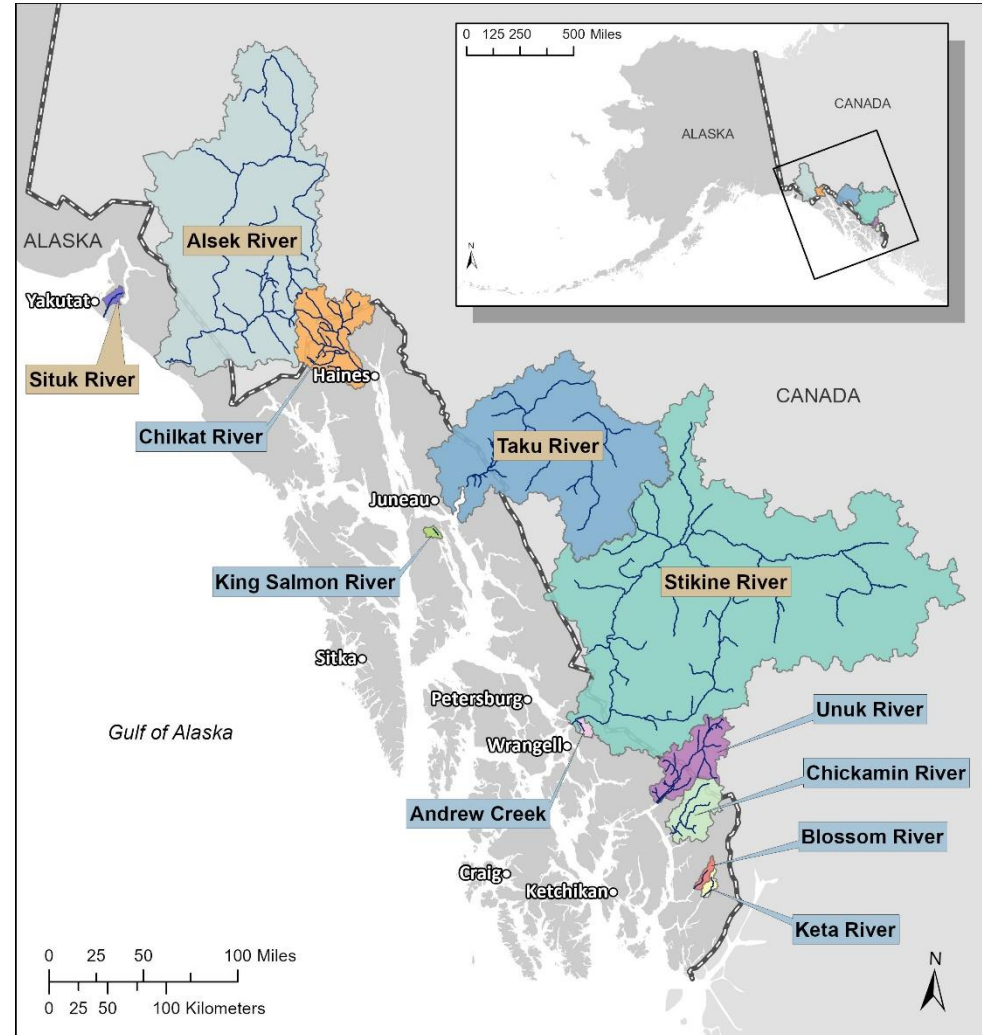
King Salmon Stocks

Inside Rearing:

- Mature & rear in SEAK, GOA & Bering Sea
- Primarily harvested in SEAK fisheries as rearing fish throughout the year; also as mature fish returning in the spring and summer

Outside Rearing:

- Mature and rear mostly in GOA & Bering Sea
- Primarily harvested in SEAK fisheries as mature fish returning in the spring and summer



King Salmon Stocks

Full Indicator Stocks:

Juvenile marking/tagging

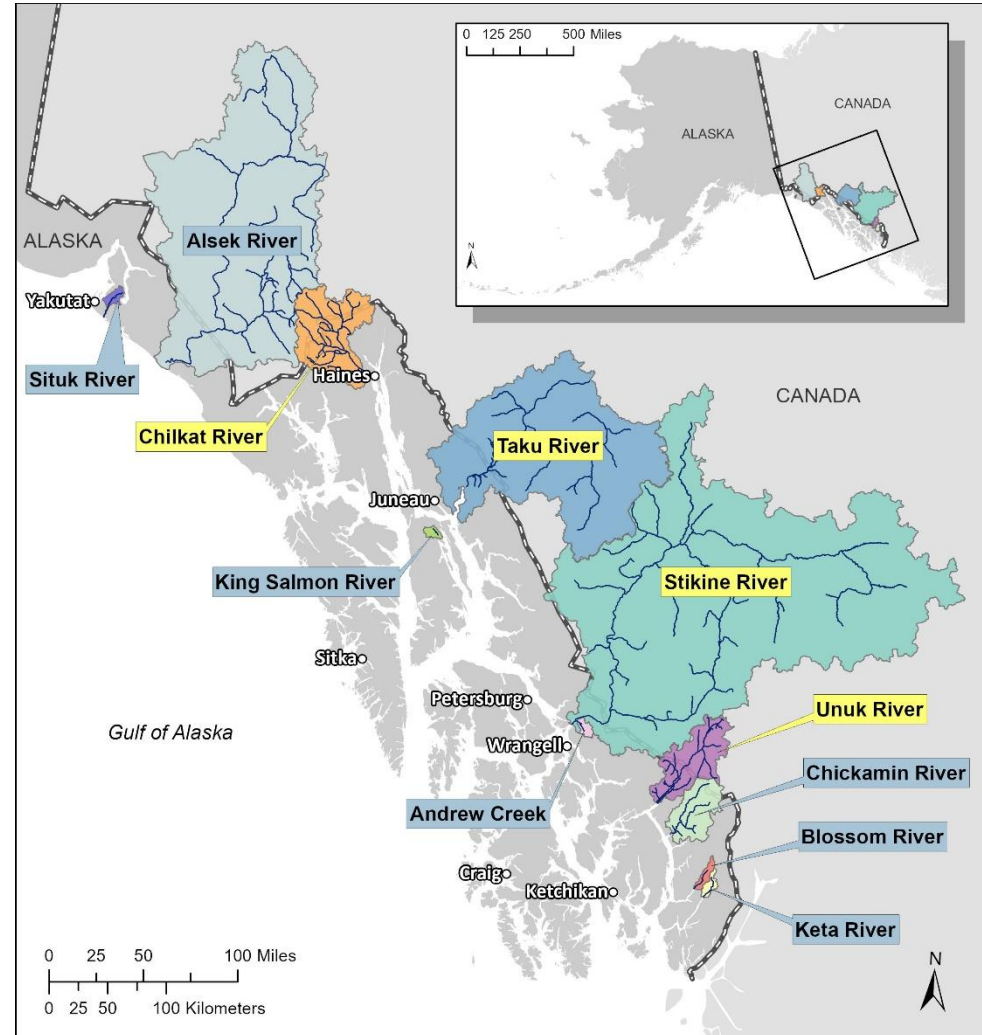
- Estimates of total smolt production
- Estimates of marine (smolt-adult) survival
- Estimates of freshwater (overwinter) survival

Harvest Sampling

- Estimates of harvest by gear, area, time

Adult Escapement

- Estimates by age, sex, and length



King Salmon – Stock Status

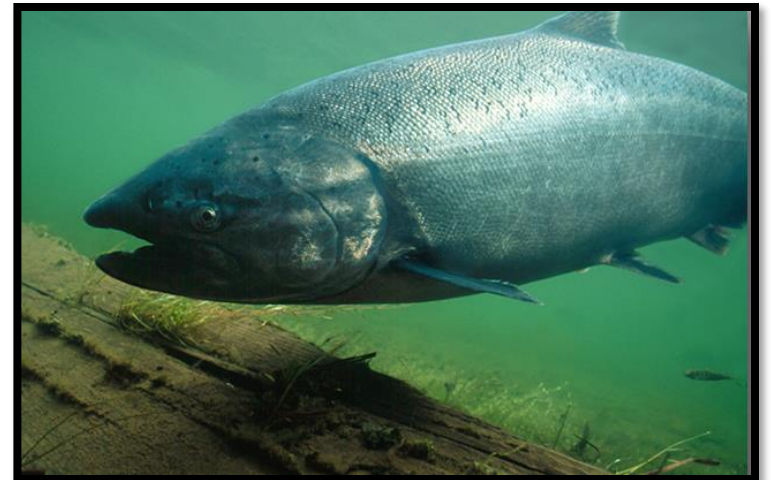
Escapement Goal Performance

- King salmon runs met or exceeded the lower bound of the BEG 52% of the time over the last decade



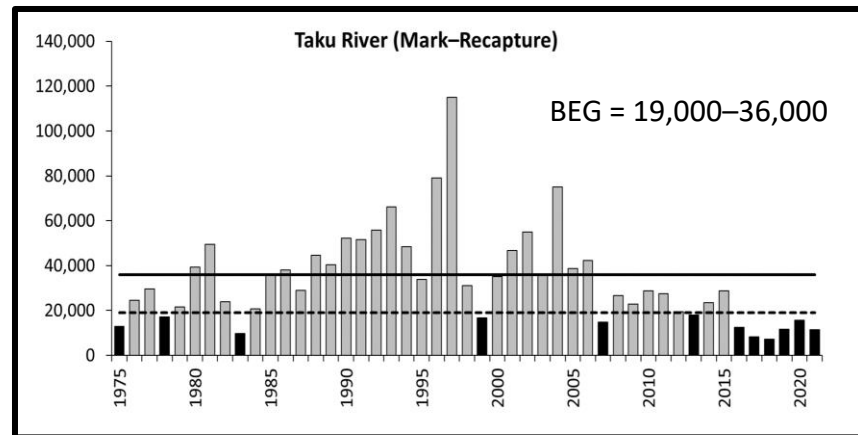
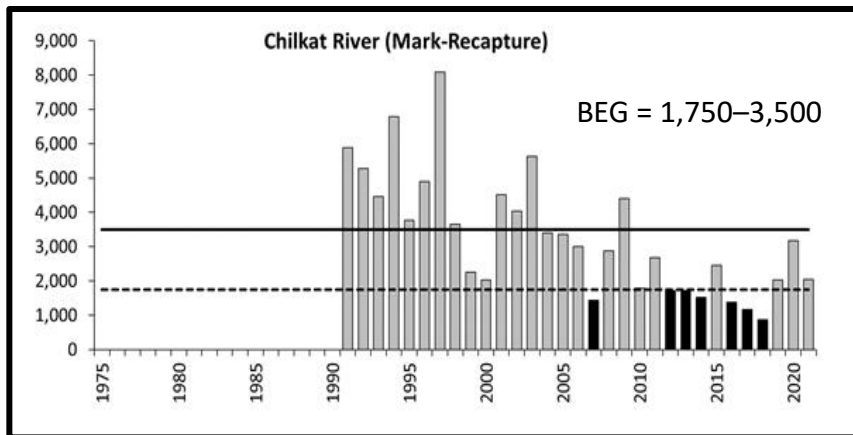
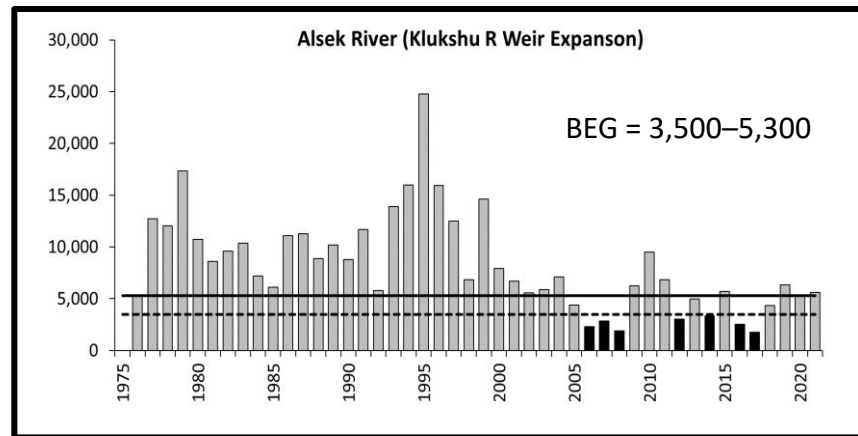
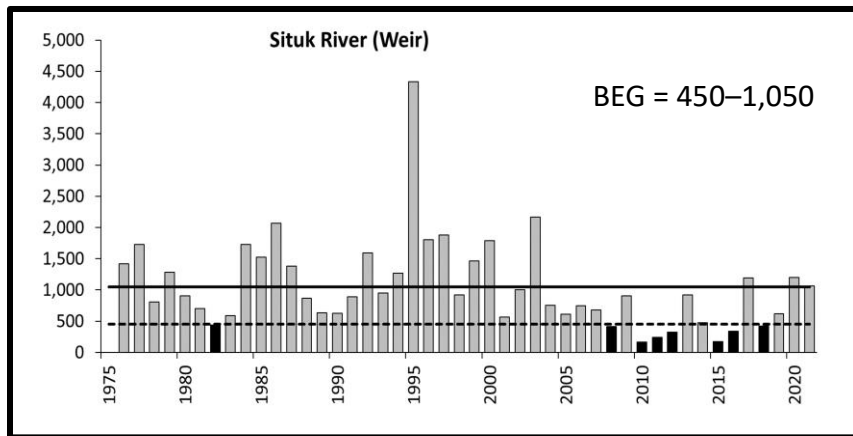
Stocks of Concern

Designated 2017	Designated 2020
Chilkat River	Taku River
King Salmon River	Stikine River
Unuk River	Andrew Creek
	Chickamin River



King Salmon Escapement Trends - 1

Spawning Escapement

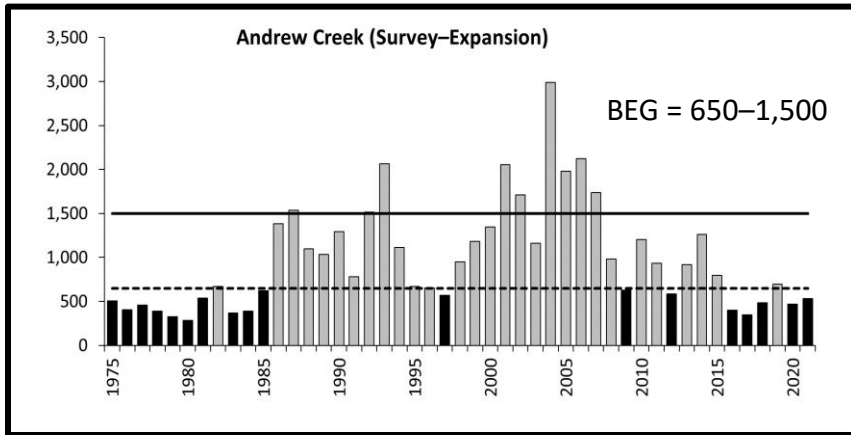
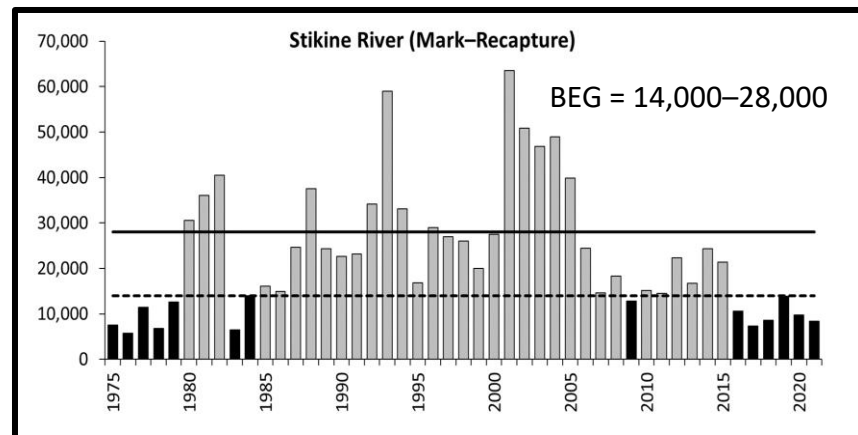
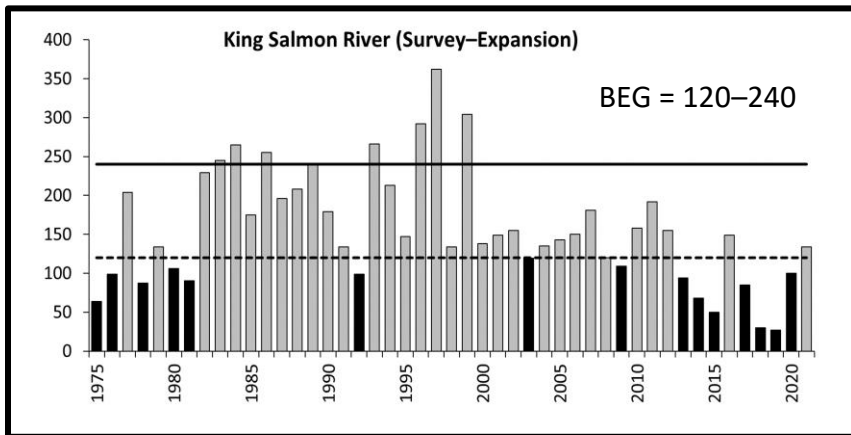


■ Achieved Goal

■ Below Goal

King Salmon Escapement Trends - 2

Spawning Escapement

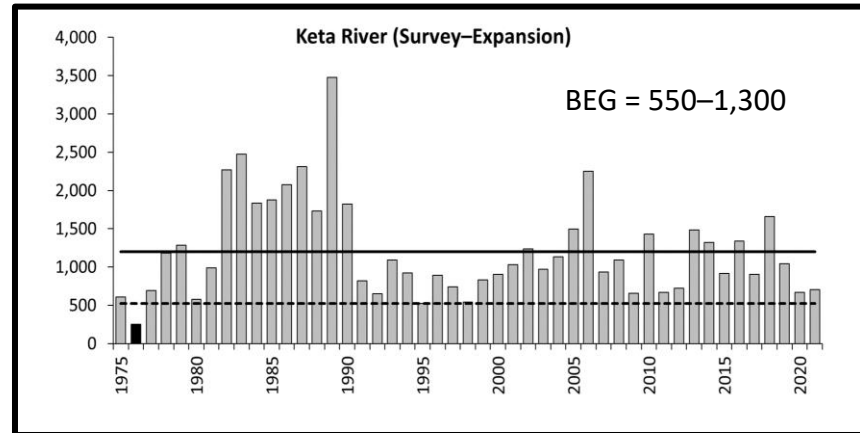
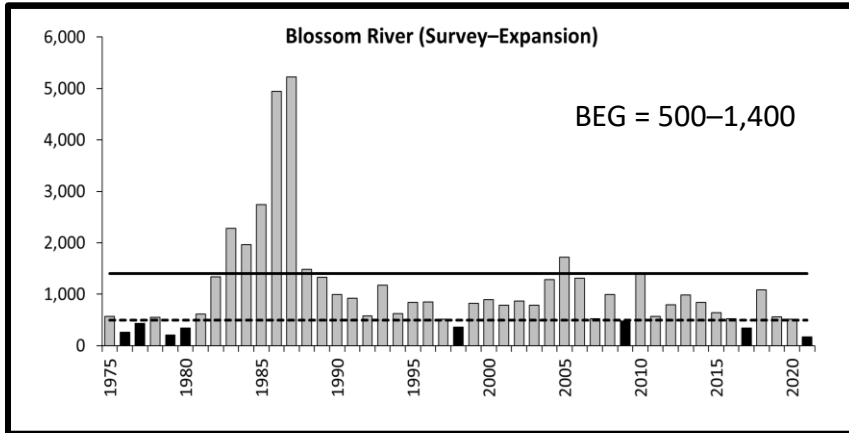
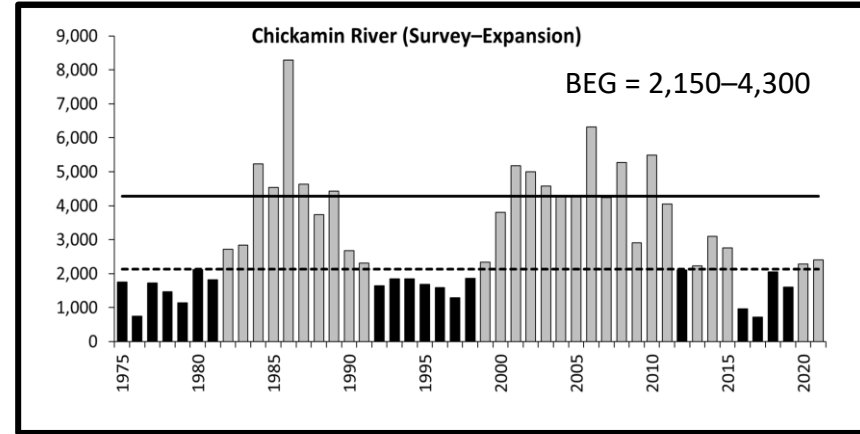
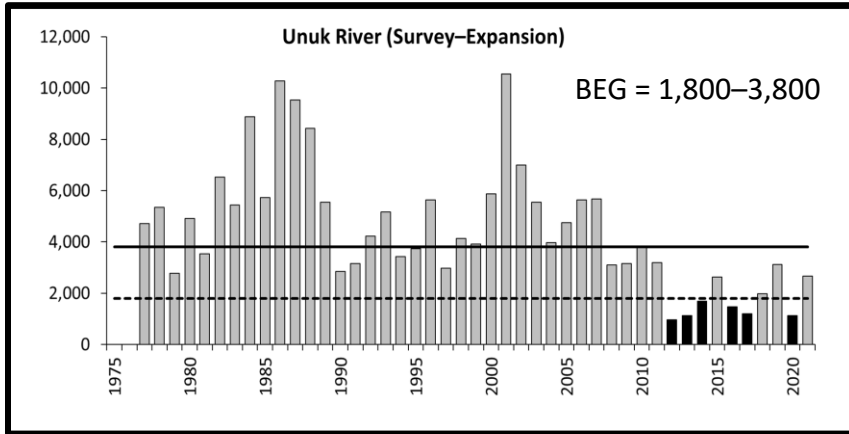


■ Achieved Goal

■ Below Goal

King Salmon Escapement Trends - 3

Spawning Escapement

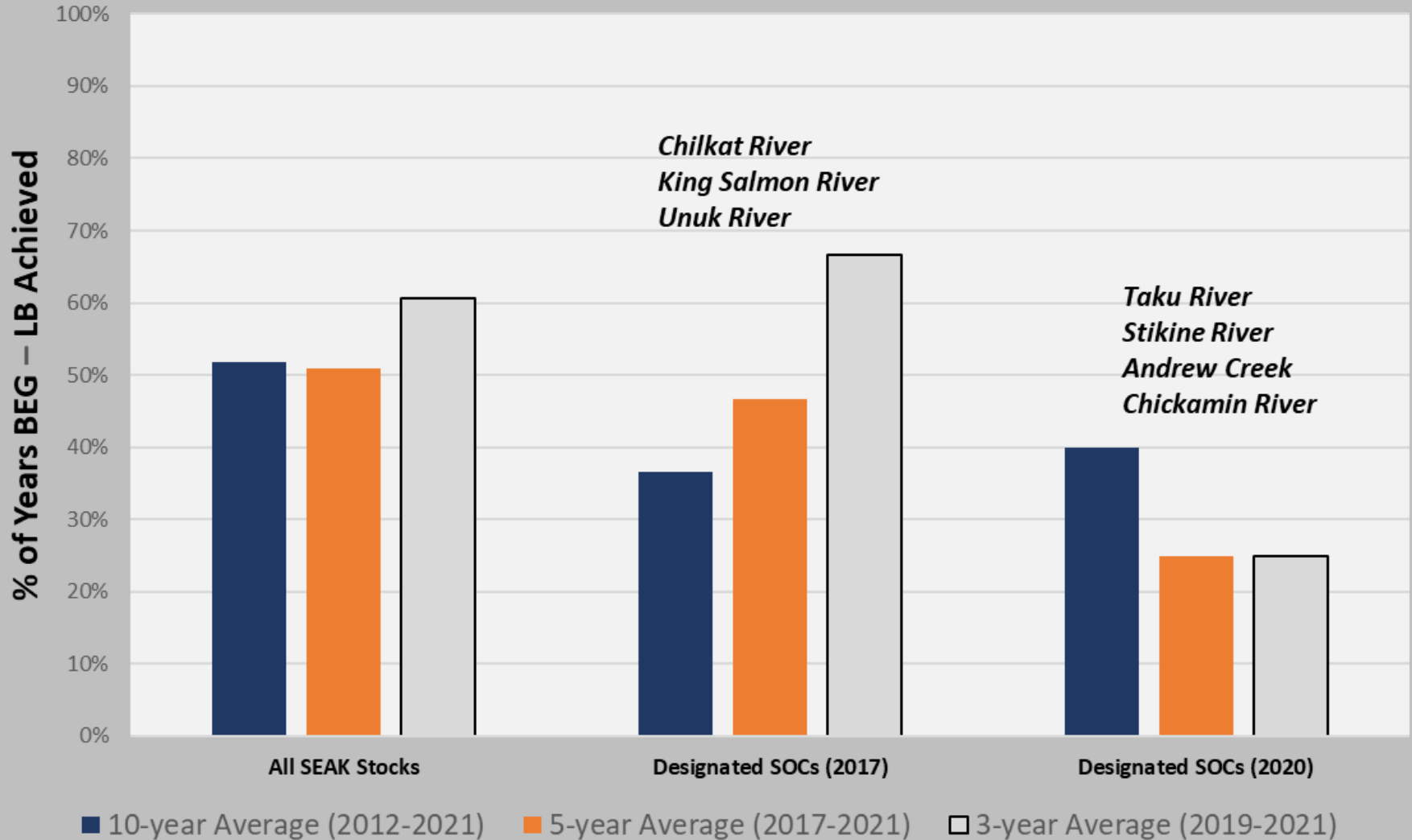


■ Achieved Goal

■ Below Goal

Regional King Salmon Escapement Trends

Escapement Goal Performance: Stocks of Concern



Pink Salmon

- Pink salmon index streams

Northern
Southeast
Outside

Northern
Southeast
Inside

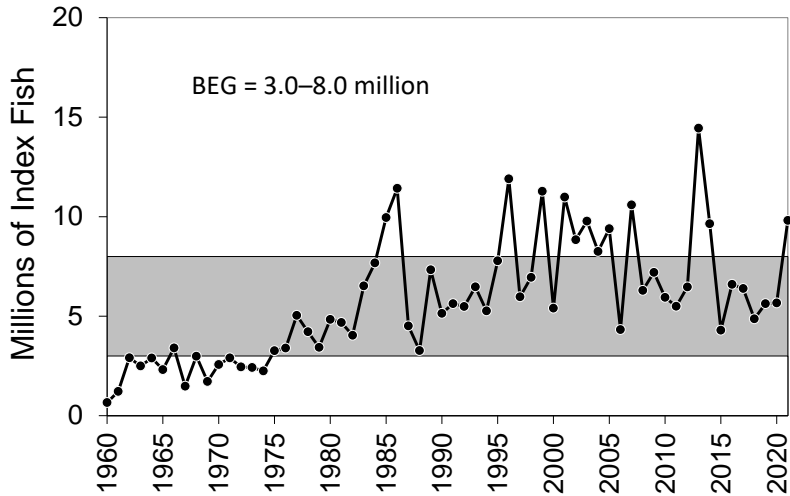
Southern
Southeast

Pink Salmon Escapement Goals

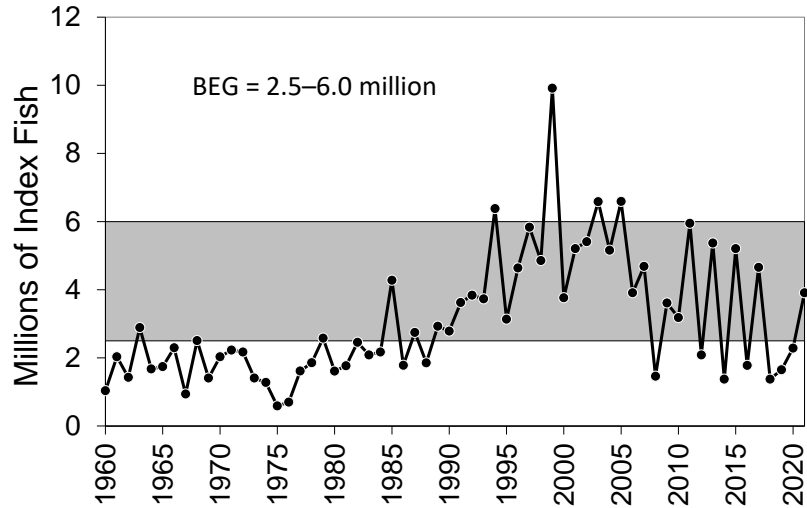
System	Goal Type	Lower Bound	Upper Bound
Southern Southeast	BEG	3,000,000	8,000,000
Northern Southeast Inside	BEG	2,500,000	6,000,000
Northern Southeast Outside	BEG	750,000	2,500,000

Pink Salmon

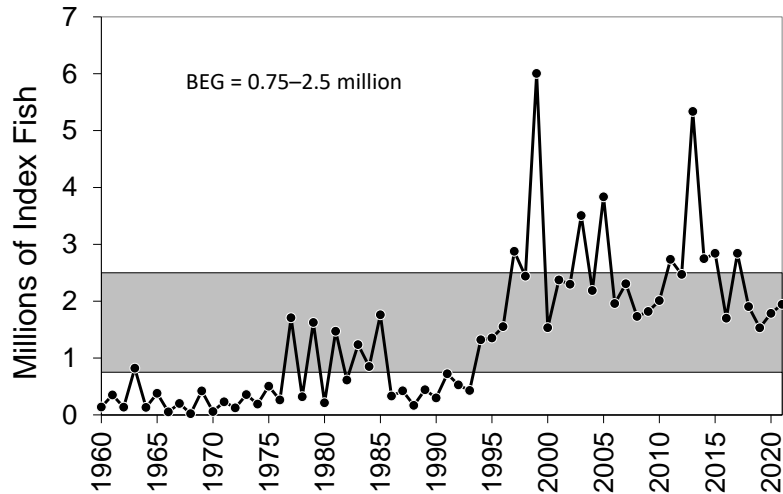
Southern Southeast (Aerial Survey)



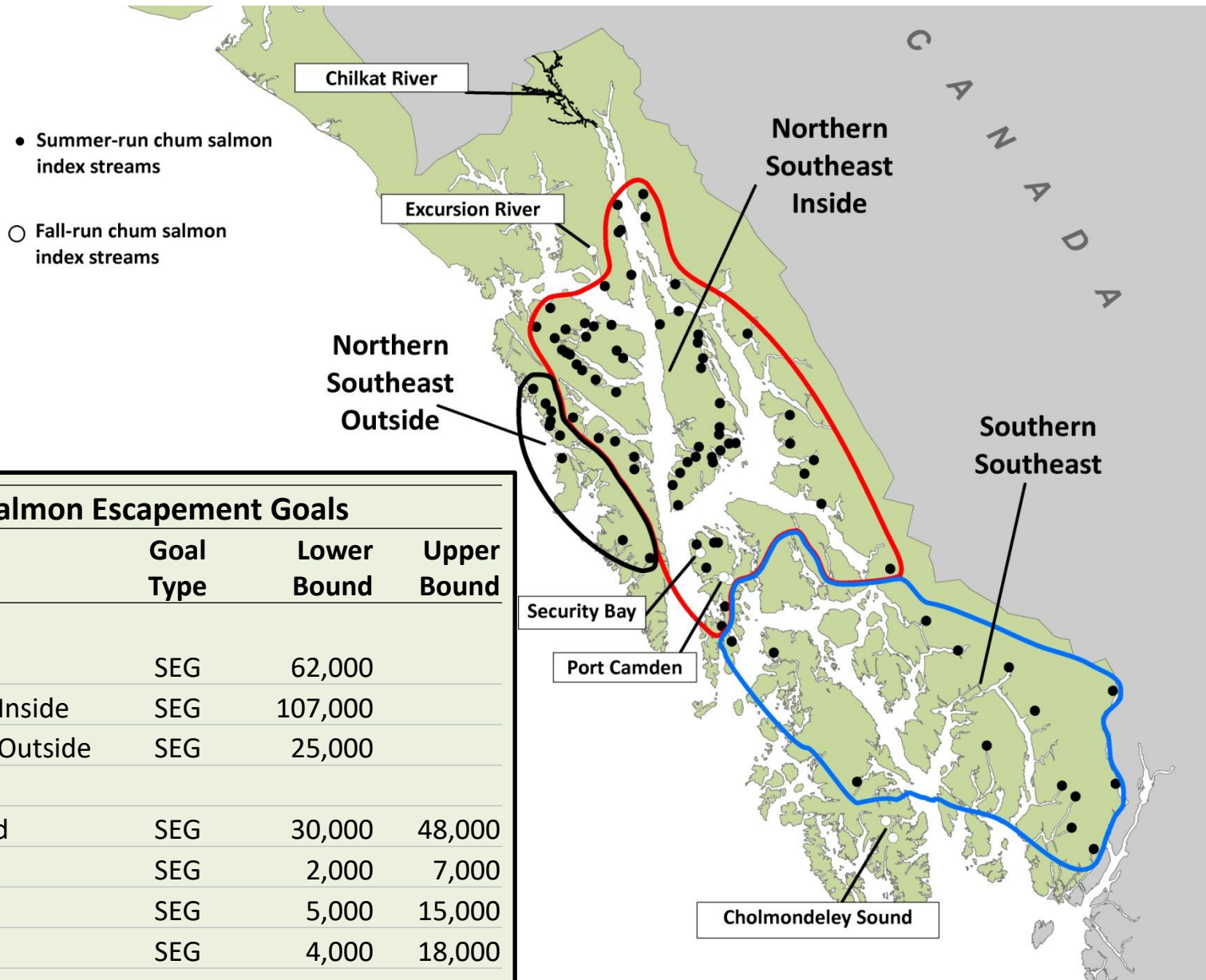
Northern Southeast Inside (Aerial Survey)



Northern Southeast Outside (Aerial Survey)



Chum Salmon

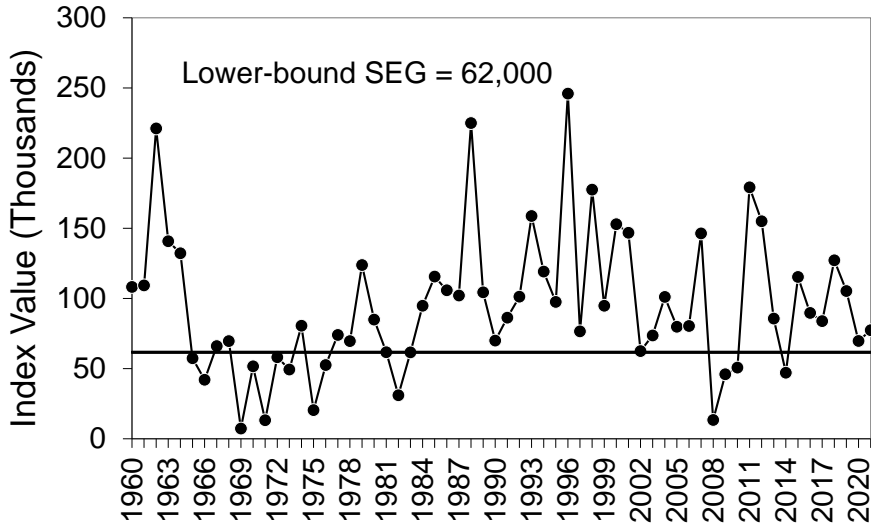


Chum Salmon Escapement Goals

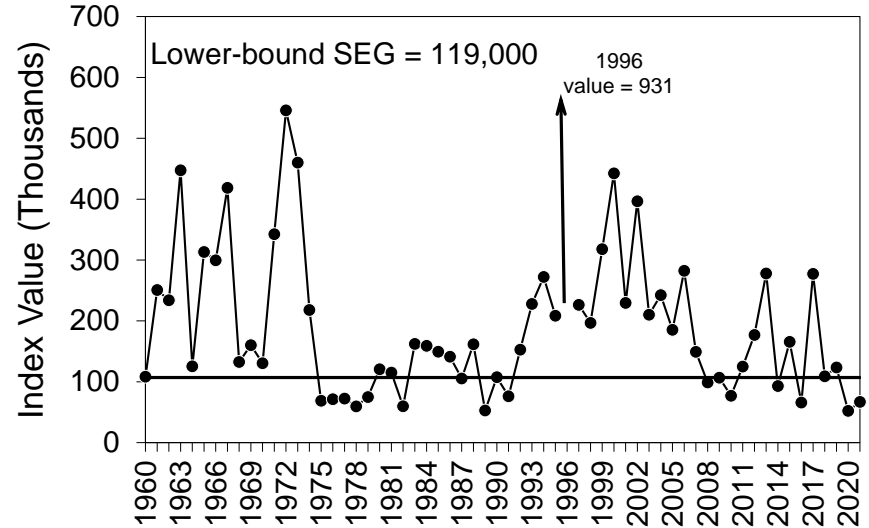
System	Goal Type	Lower Bound	Upper Bound
Summer-run:			
Southern Southeast	SEG	62,000	
Northern Southeast Inside	SEG	107,000	
Northern Southeast Outside	SEG	25,000	
Fall-run:			
Cholmondeley Sound	SEG	30,000	48,000
Port Camden	SEG	2,000	7,000
Security Bay	SEG	5,000	15,000
Excursion River	SEG	4,000	18,000
Chilkat River	SEG	75,000	250,000

Summer Chum Salmon

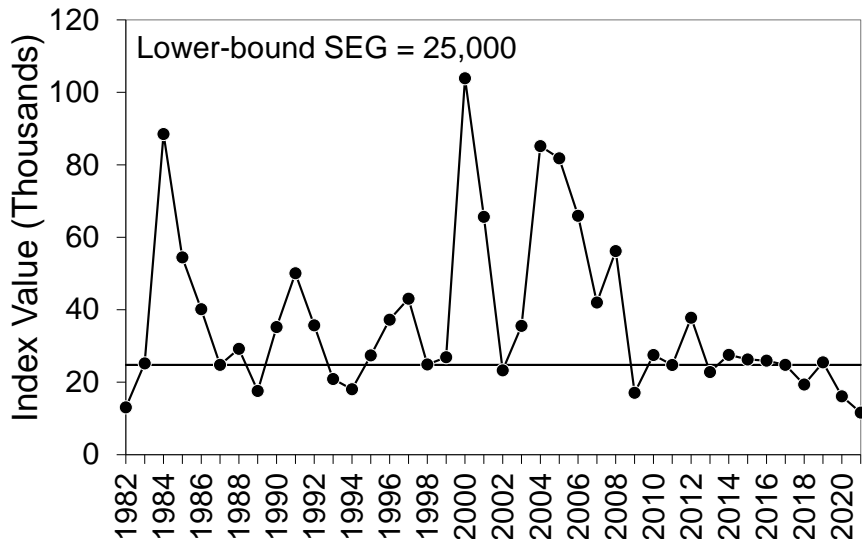
Southern Southeast (Index Survey)



Northern Southeast Inside (Index Survey)

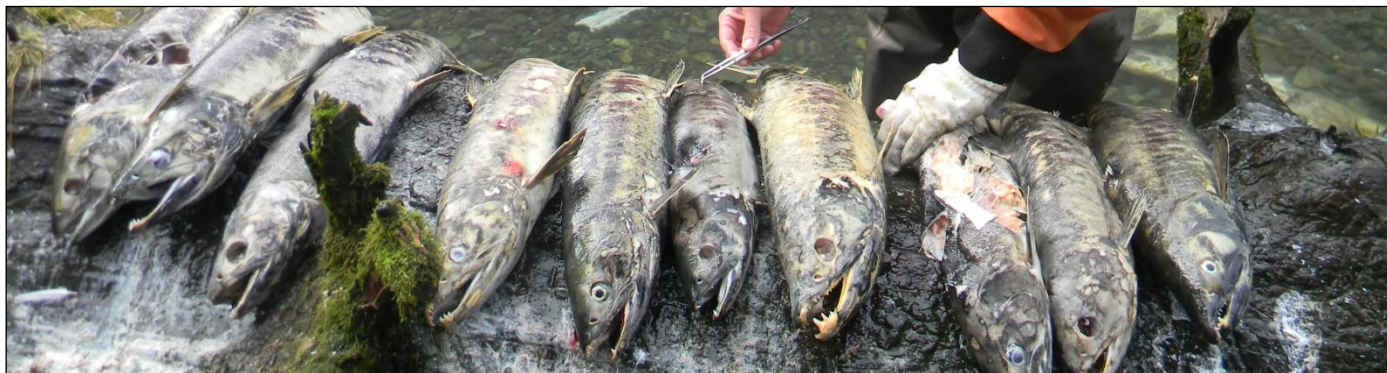


Northern Southeast Outside (Index Survey)

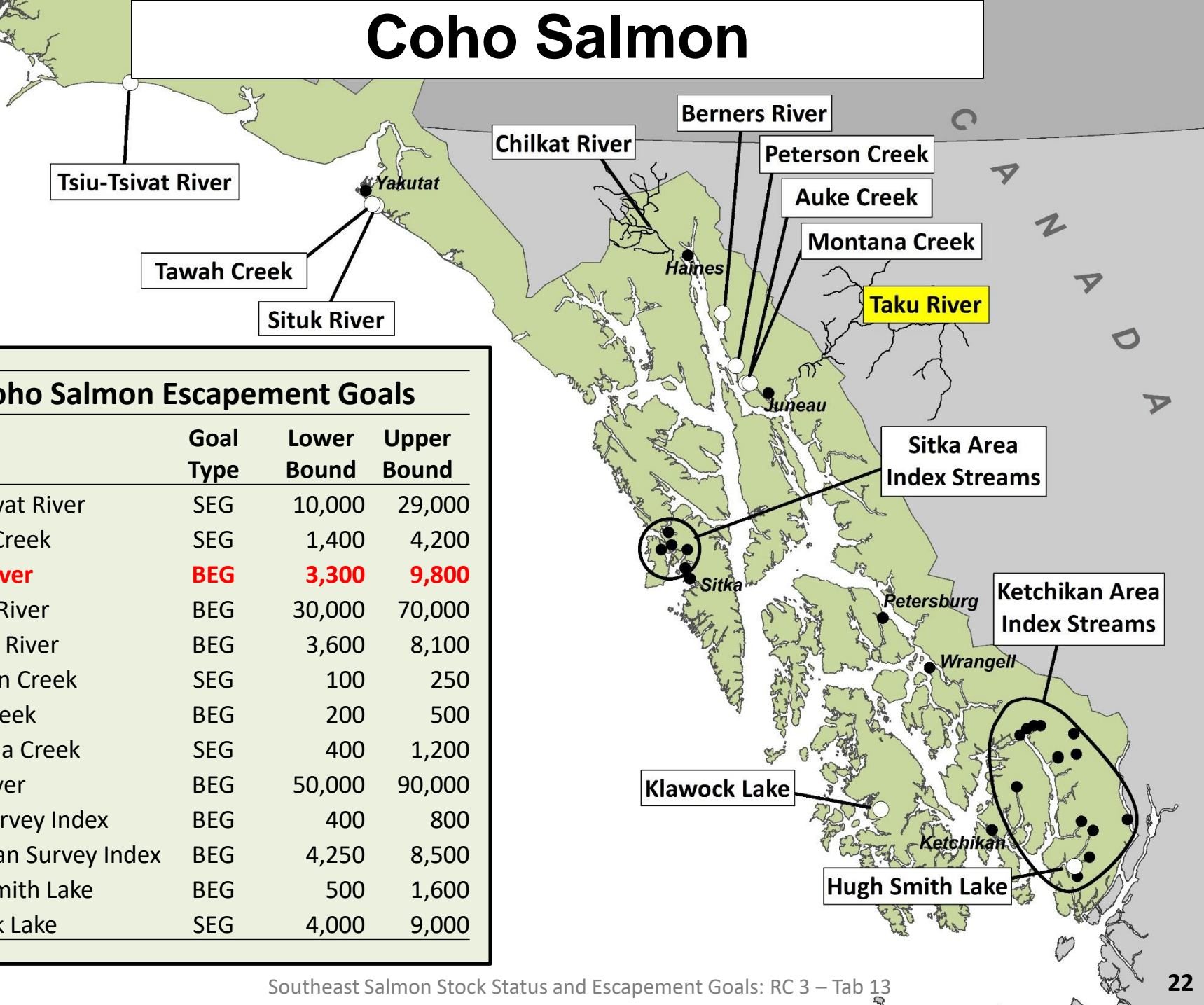


Fall Chum Salmon

	Cholmondeley Sound	Port Camden	Security Bay	Excursion River	Chilkat River
Stock Enumeration Method	Peak Index	Peak Index	Peak Index	Peak Index	Estimated Escapement
Run-type	Fall	Fall	Fall	Fall	Fall
No. Streams	2	2	1	1	1
2017	52,000	4,200	15,500	14,500	130,000
2018	70,000	1,000	5,600	6,200	ND
2019	20,000	4,800	14,300	3,600	224,000
2020	30,000	1,500	11,500	200	23,000
2021	55,000	2,200	3,000	1,900	172,200
<u>Goal Range:</u>					
Lower Bound	30,000	2,000	5,000	4,000	75,000
Upper Bound	48,000	7,000	15,000	18,000	250,000



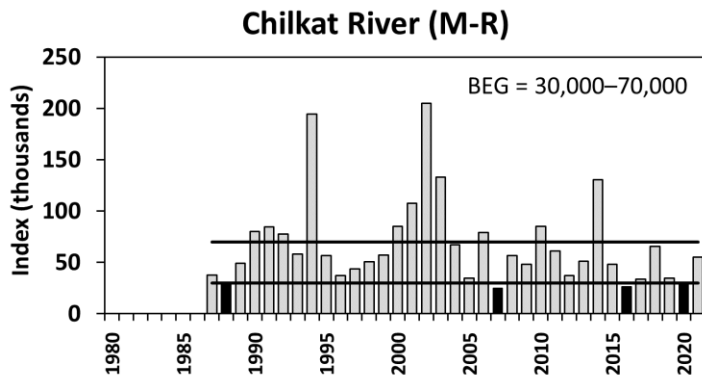
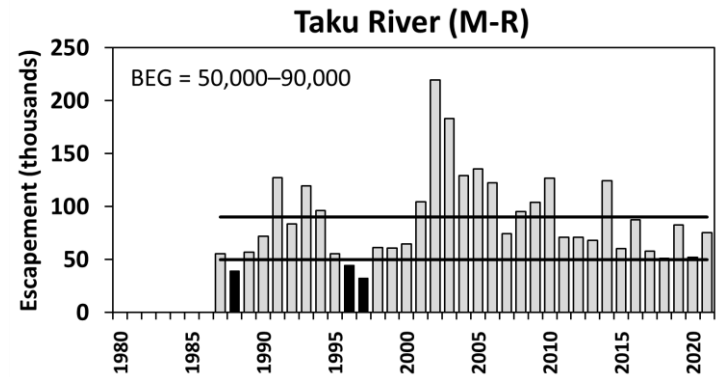
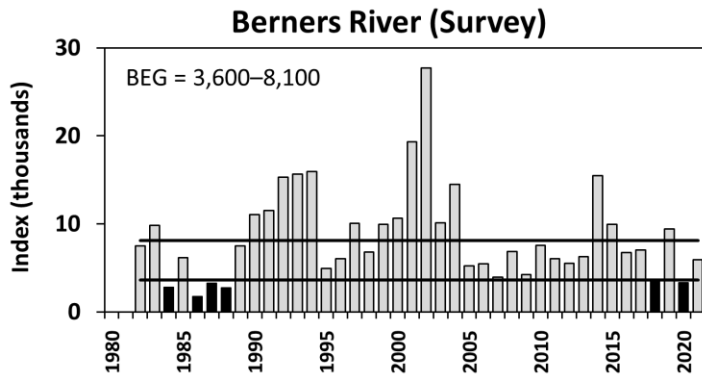
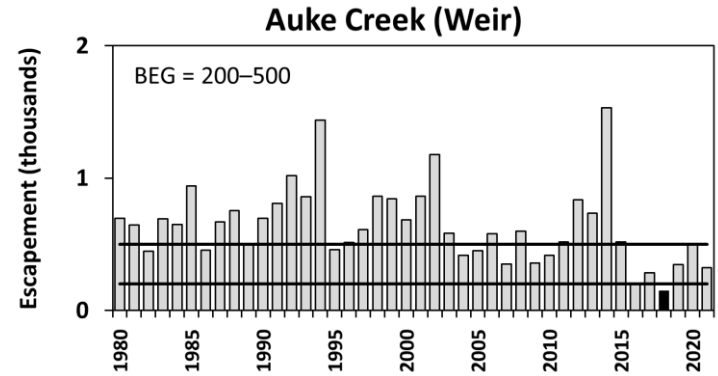
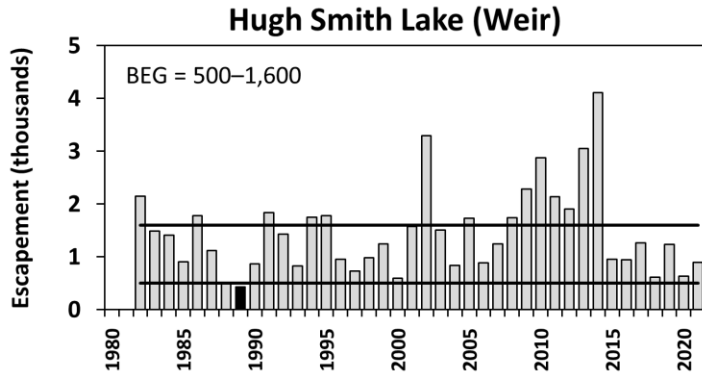
Coho Salmon



Coho Salmon Escapement Goals

System	Goal Type	Lower Bound	Upper Bound
Tsiu-Tsivat River	SEG	10,000	29,000
Tawah Creek	SEG	1,400	4,200
Situk River	BEG	3,300	9,800
Chilkat River	BEG	30,000	70,000
Berners River	BEG	3,600	8,100
Peterson Creek	SEG	100	250
Auke Creek	BEG	200	500
Montana Creek	SEG	400	1,200
Taku River	BEG	50,000	90,000
Sitka Survey Index	BEG	400	800
Ketchikan Survey Index	BEG	4,250	8,500
Hugh Smith Lake	BEG	500	1,600
Klawock Lake	SEG	4,000	9,000

Coho Salmon – CWT Indicator Stocks

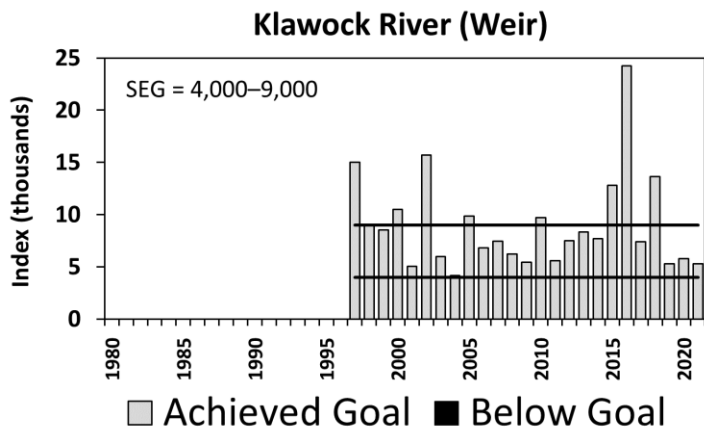
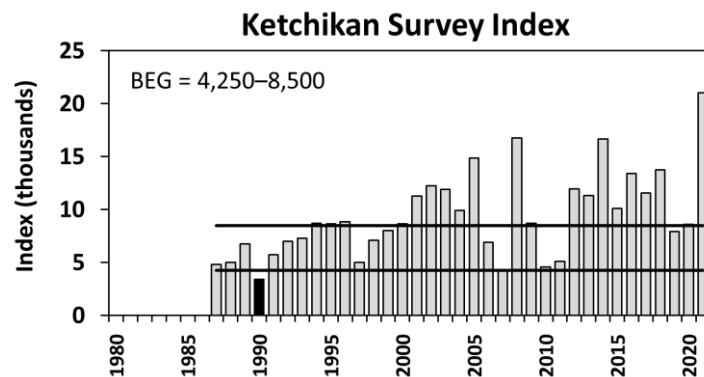
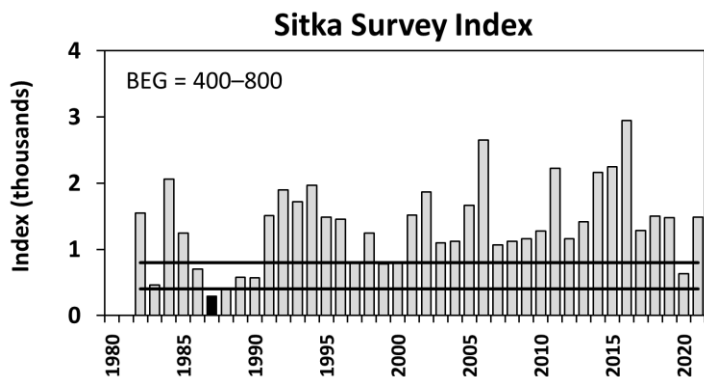
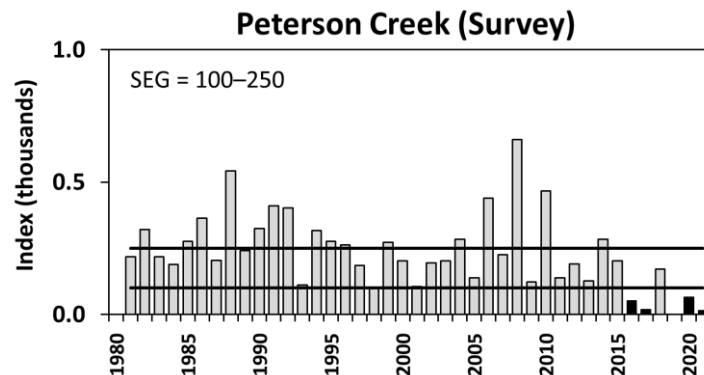
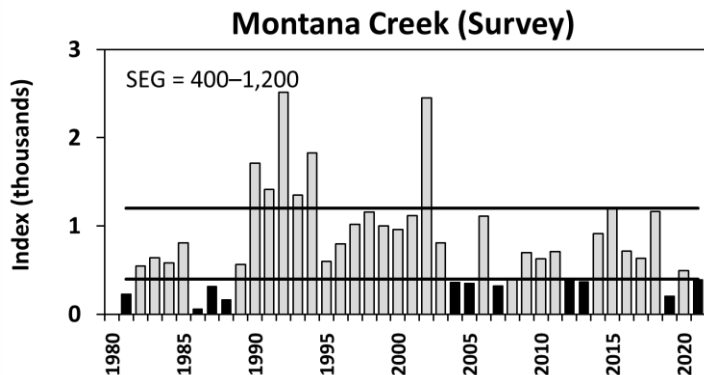


□ Achieved Goal ■ Below Goal

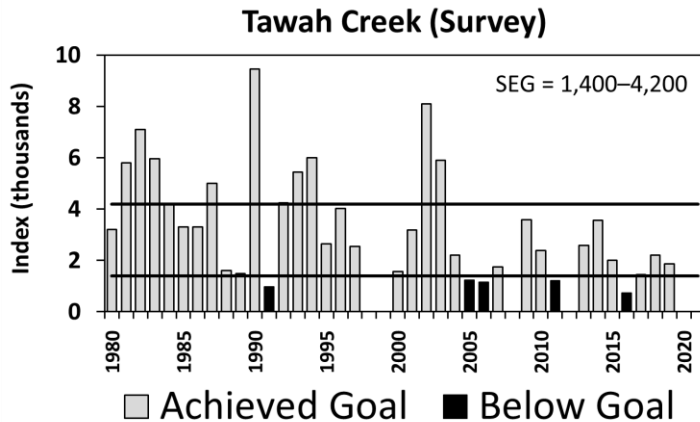
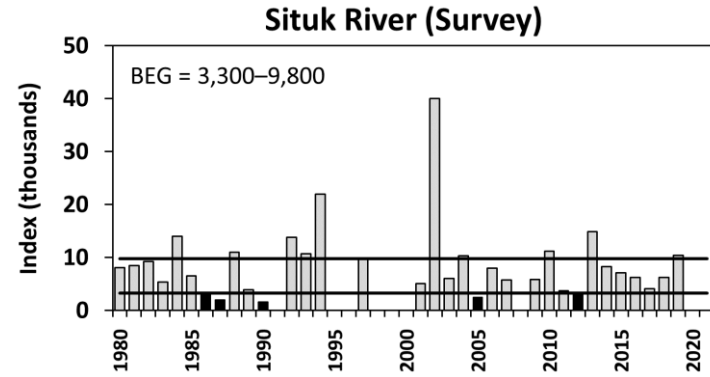
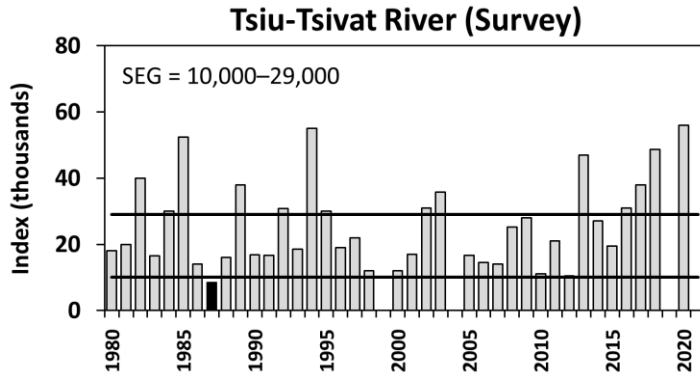


Photo by Justin Priest

Coho Salmon – SE Stocks



Coho Salmon – Yakutat Stocks



- **Coho runs met or exceeded goals 81% of time over the past decade.**
- **No stocks of concern.**

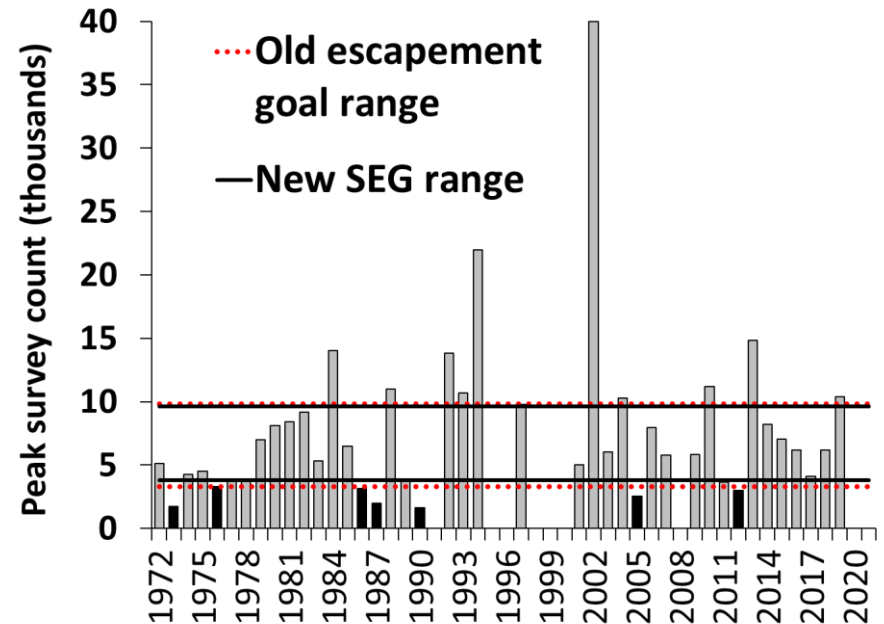
Coho Salmon – *Recommended Goal Revision*

Situk River

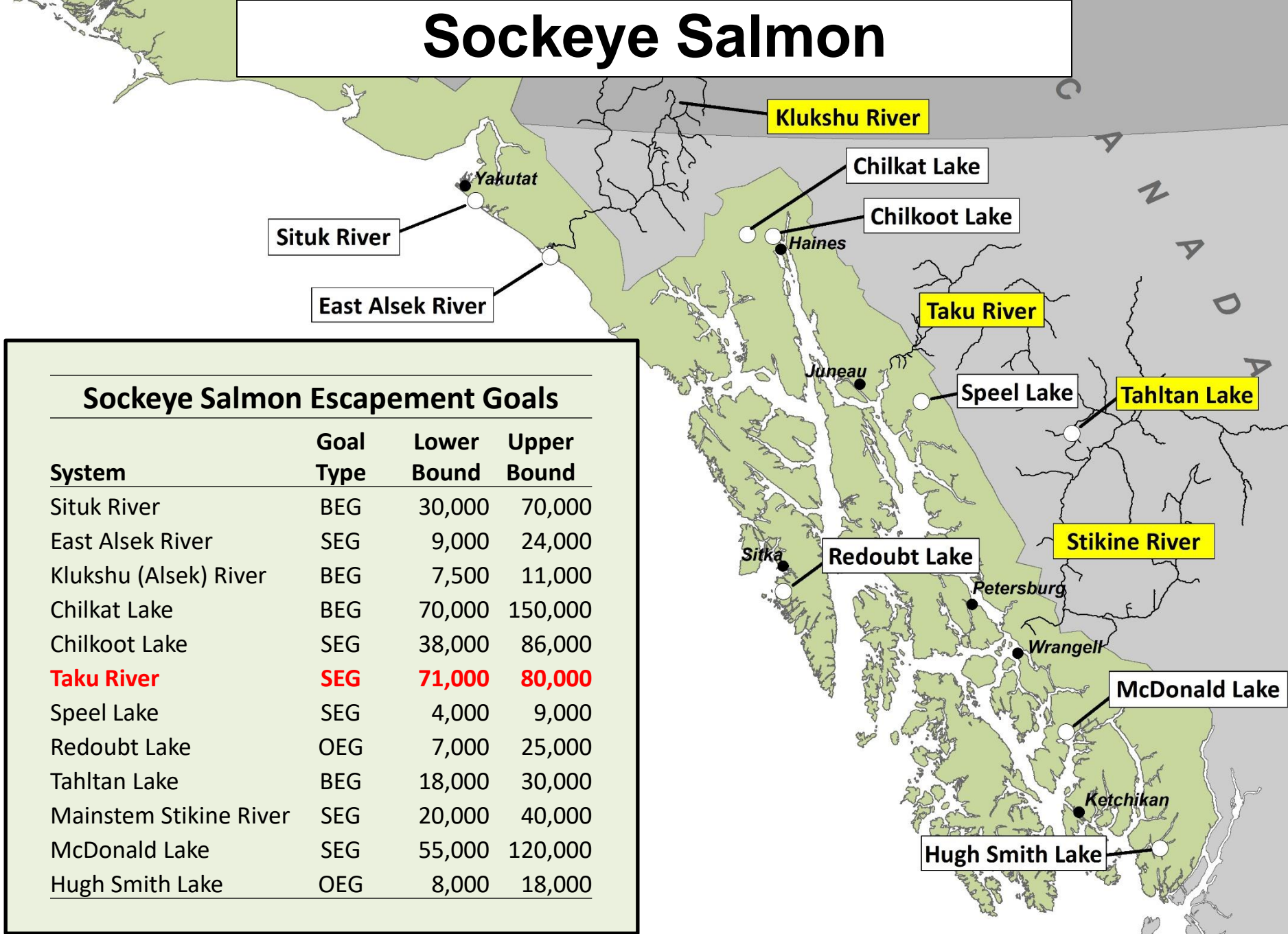
- Current BEG: 3,300–9,800 (1994).
- Data: Boat survey counts.
- EG Method: Percentile Approach.
- Recommended SEG 3,800–9,600.



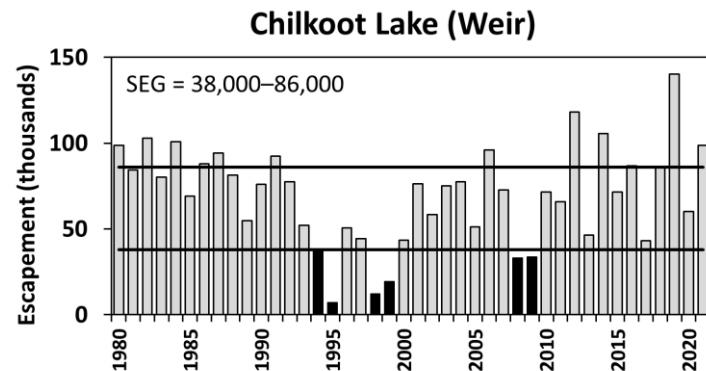
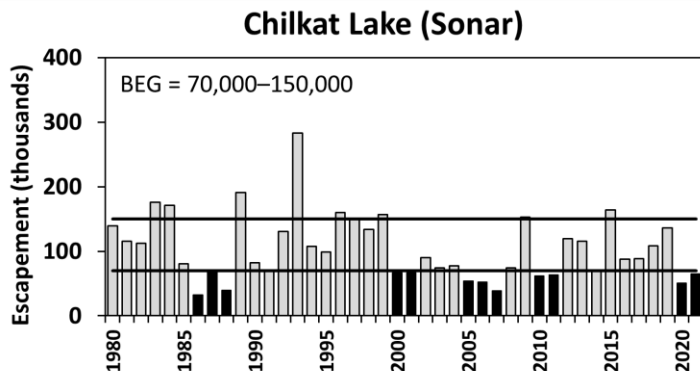
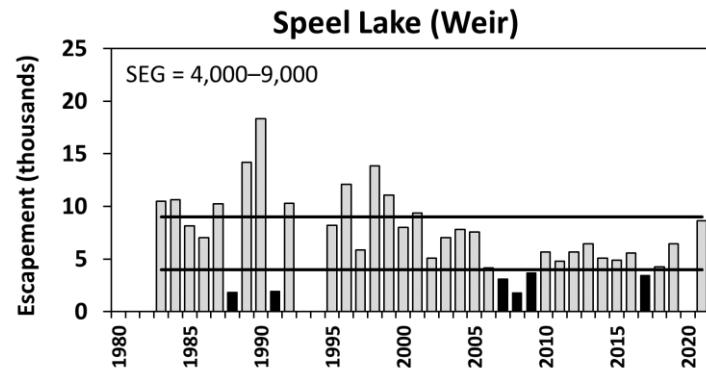
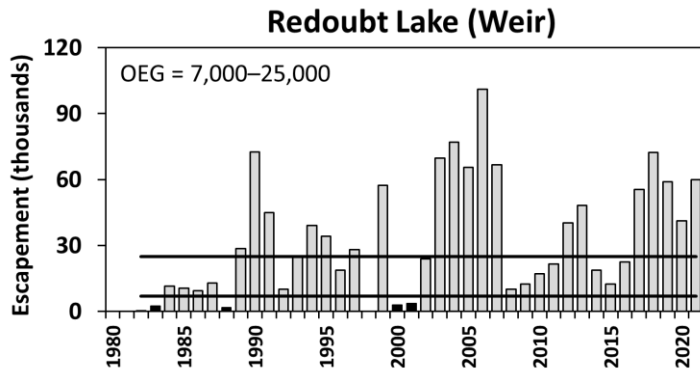
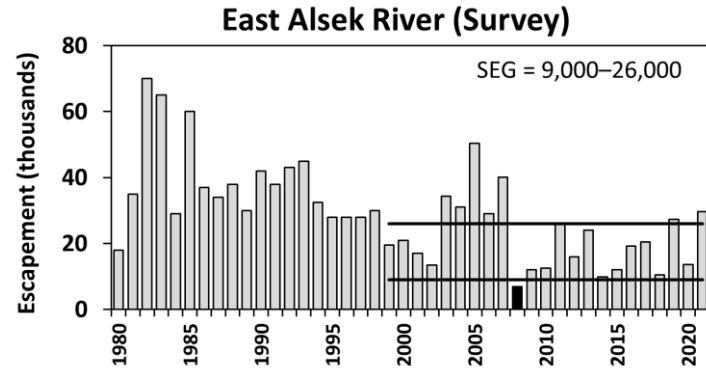
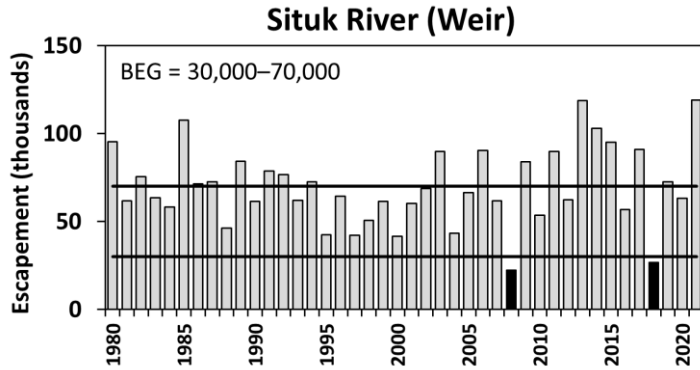
Situk River mouth



Sockeye Salmon



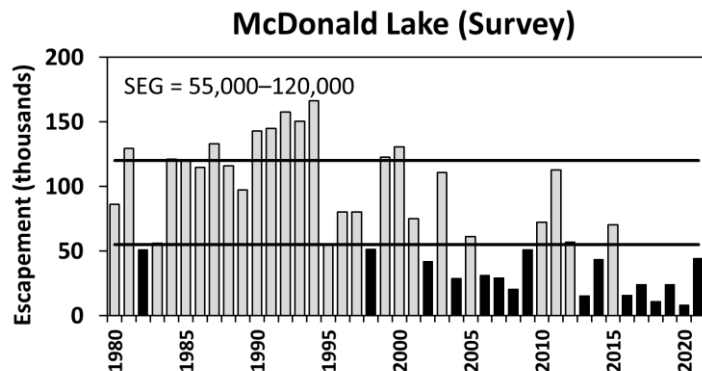
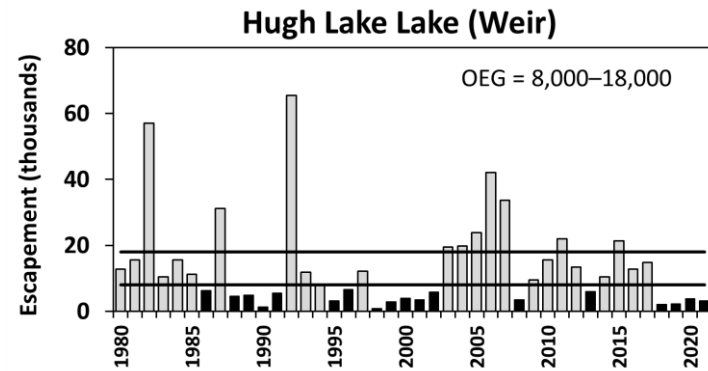
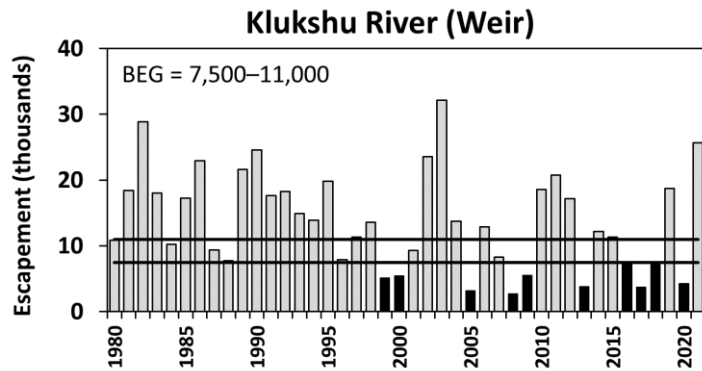
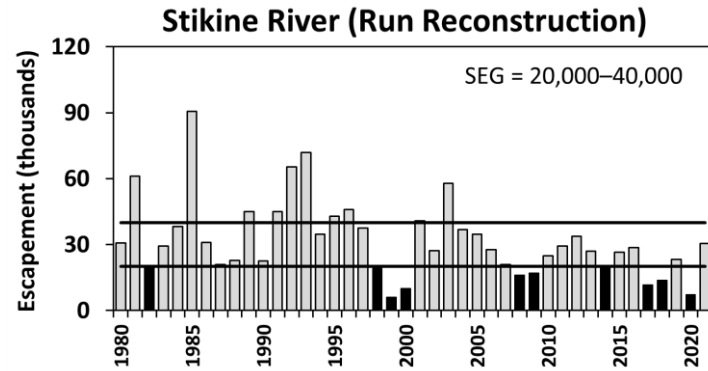
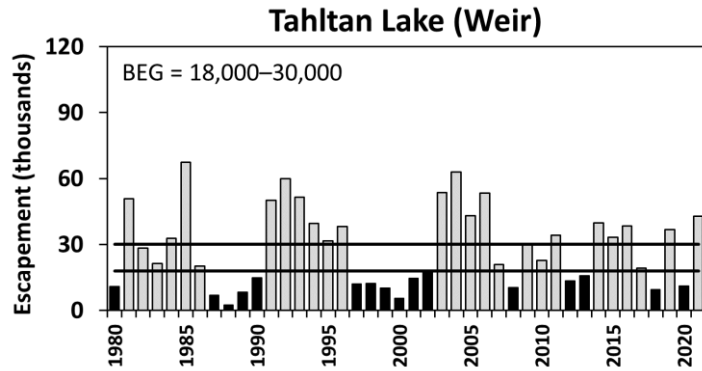
Sockeye Salmon - 1



■ Achieved Goal

■ Below Goal

Sockeye Salmon - 2



■ Achieved Goal ■ Below Goal

- Sockeye runs met or exceeded goals 73% of time over past decade.
- Two current stocks of concern.

Sockeye Salmon – *Recommended Goal Revision*

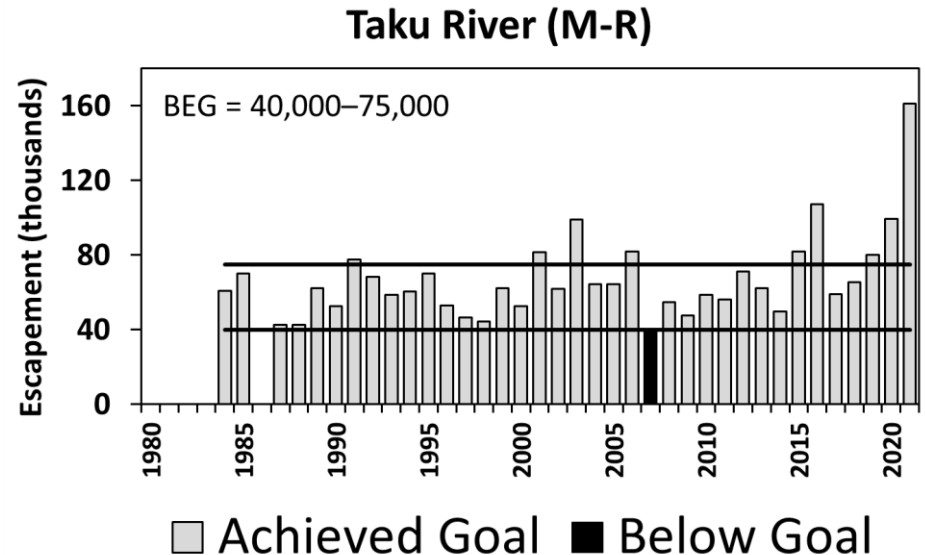
Taku River:

- Old SEG: 71,000–80,000 (1985).
- Data: Revised mark–recapture estimates (1980–2018).
- EG Method: Stock–recruit analysis.
 - Recommended new BEG range: 40,000–75,000.
 - Adopted by Transboundary River Panel in 2020.



Taku River mouth

Photo: Jeff Williams



Review Summary

Recommended revisions to 2 of 47 escapement goals:

- **Taku River sockeye salmon:**
 - Establish new BEG range of 40,000–75,000 fish.
- **Situk River coho salmon:**
 - Establish new SEG range of 3,800–9,600 fish.
- **45 escapement goals remain status quo.**

