

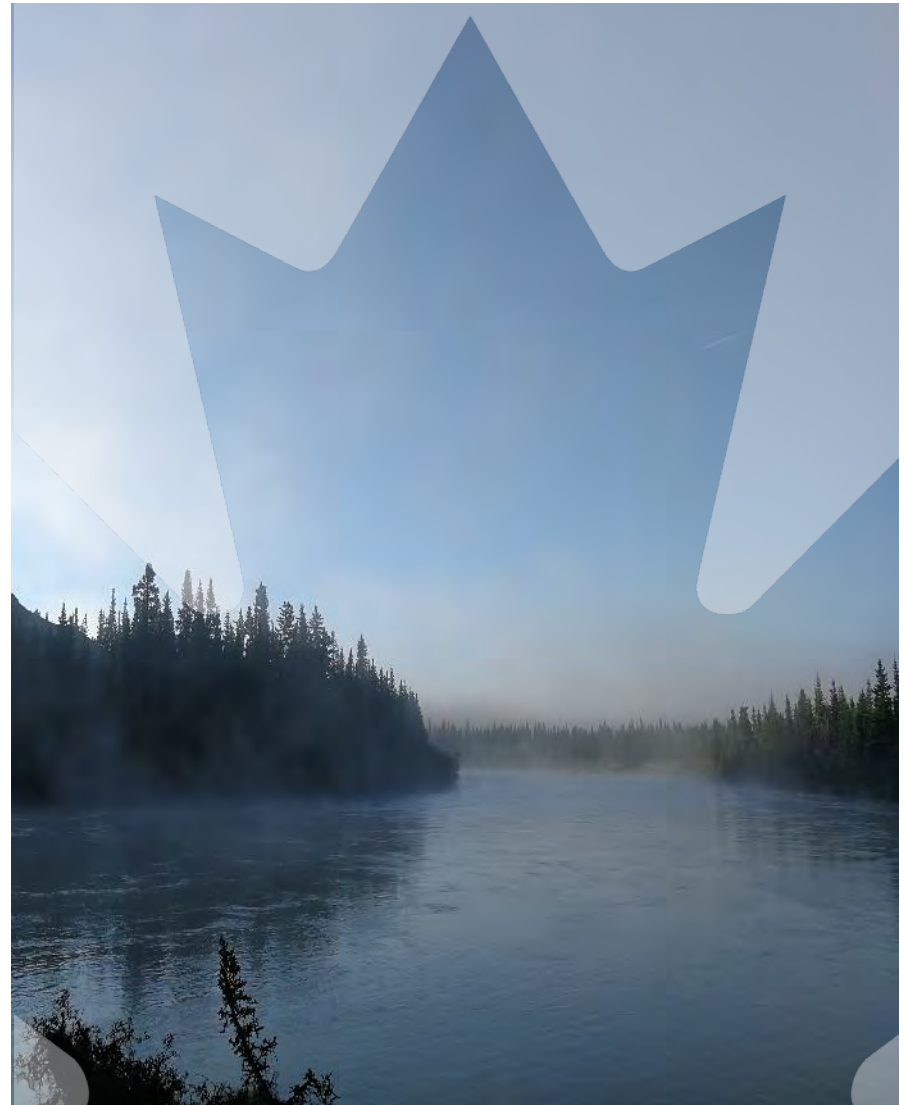


2020 Yukon River Chinook Salmon Post-Season Review: Canadian Reporting

Presented to:
Yukon River Panel

Yukon River Treaties
and Fisheries

January 26, 2021



2020 Canadian-Origin Chinook Salmon Yukon River Mainstem



Presentation Outline

1. Review 2020 Yukon River Panel Recommendations
2. Time Series of Assessment and Associated Management
 - Preseason
 - In-Season
 - Post Season
3. Post Season Summary of Assessment Projects
4. Review of Canadian Environmental Conditions

2020 Yukon River Panel Fishery Management Recommendations

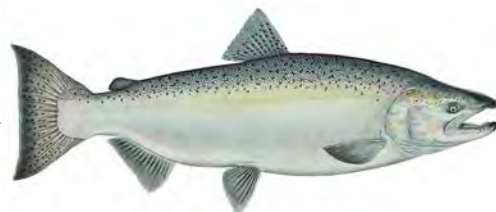
In April 2020 The Yukon River Panel provided the following four (4) recommendations for the 2020 Season:

1. The Canadian-origin Chinook salmon run should be managed to ensure escapement falls within the 2020 IMEG range (42,500 – 55,000) and provide for agreed harvest shares in both countries as outlined within the Yukon River Salmon Agreement.
2. To provide for Canadian-origin Chinook salmon conservation, limit use of gill nets to 6" mesh or smaller upstream of the Tanana River / Yukon River Mainstem confluence for the duration of the Chinook salmon migration consistent with the regulatory structures in both countries."



2020 Yukon River Panel Fishery Management Recommendations Continued

3. Environmental conditions, in particular extreme events, should be considered in-season to inform fishery management measures implemented and resulting harvest opportunities.
4. In the event that in-season assessment programs are unable to operate in 2020 due to circumstances beyond Agency control, fishery harvest opportunities should be provided conservatively based on 2020 pre-season outlooks and associated Total Allowable Catch and harvest share allocations.



Canadian Implementation of the 2020 Yukon River Panel Management Recommendations

1. “managed to ensure escapement falls within the 2020 IMEG range (42,500 – 55,000) and provide for agreed harvest shares in both countries as outlined within the YRSA”
 - Canadian Fishery management strategies designed and implemented to support YRP recommendation.
 - Allocations to Canadian fisheries varies with run size with intent to support re-building and stock recovery.
 - Allocation limited to First Nation fishery if spawning escapement likely to be less than 55,000.
 - In-season assessment and information informs in-season Canadian management decisions.

Canadian Implementation of the 2020 Yukon River Panel Management Recommendations

2. “ ...limit use of gill nets to 6” mesh or smaller upstream of the Tanana River / Yukon River Mainstem confluence for the duration of the Chinook salmon migration....”
 - Condition of Licence for commercial and domestic fisheries in 2020.
 - Mesh size for gillnets shall be a maximum of 152.4 mm (6-inch) during the period from July 1, 2020 to October 25, 2020.

Canadian Implementation of the 2020 Yukon River Panel Management Recommendations

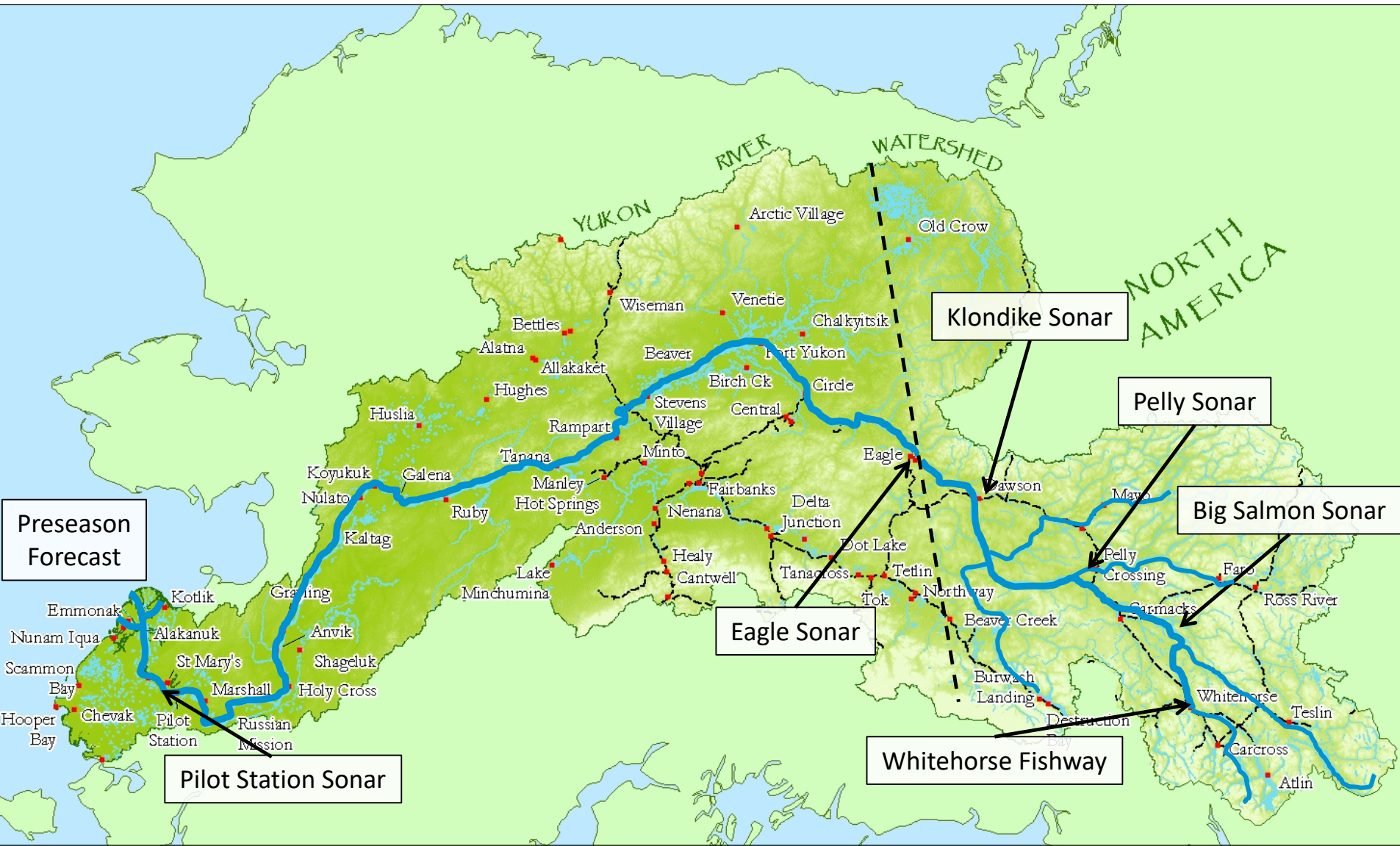
3. “Environmental conditions, in particular extreme events, should be considered in-season to inform fishery management measures implemented and resulting harvest opportunities.”
- Water temperature and levels in Canada were monitored throughout the season.
 - Water temperatures and flows experienced by migrating adult Chinook in Canada were unlikely to have posed substantial threat to survival.
 - Information did not support management action to change harvest opportunities.

Canadian Implementation of the 2020 Yukon River Panel Management Recommendations

4. “[If] in-season assessment programs are unable to operate...fishery harvest opportunities should be provided conservatively based on 2020 pre-season outlooks and associated Total Allowable Catch and harvest share allocations.”
- Pilot Station and Eagle Sonars operational through 2020.



Yukon River Mainstem Chinook Salmon Assessment Sites



Yukon River Canadian-Origin Chinook: Management Overview – April, May 2020

Pre-Season Outlook	Pilot Station Passage (CDN-Origin Estimate)	Expected Border Passage (Minimum)	Eagle Sonar Passage Estimate	Interim Management Escapement Goal	Expected Canadian Fishery Allocation
~74,500 (59,000 to 90,000)	Nil (not started)	49,860	Nil (not started)	42,500 to 55,000	4,500 to 7,400

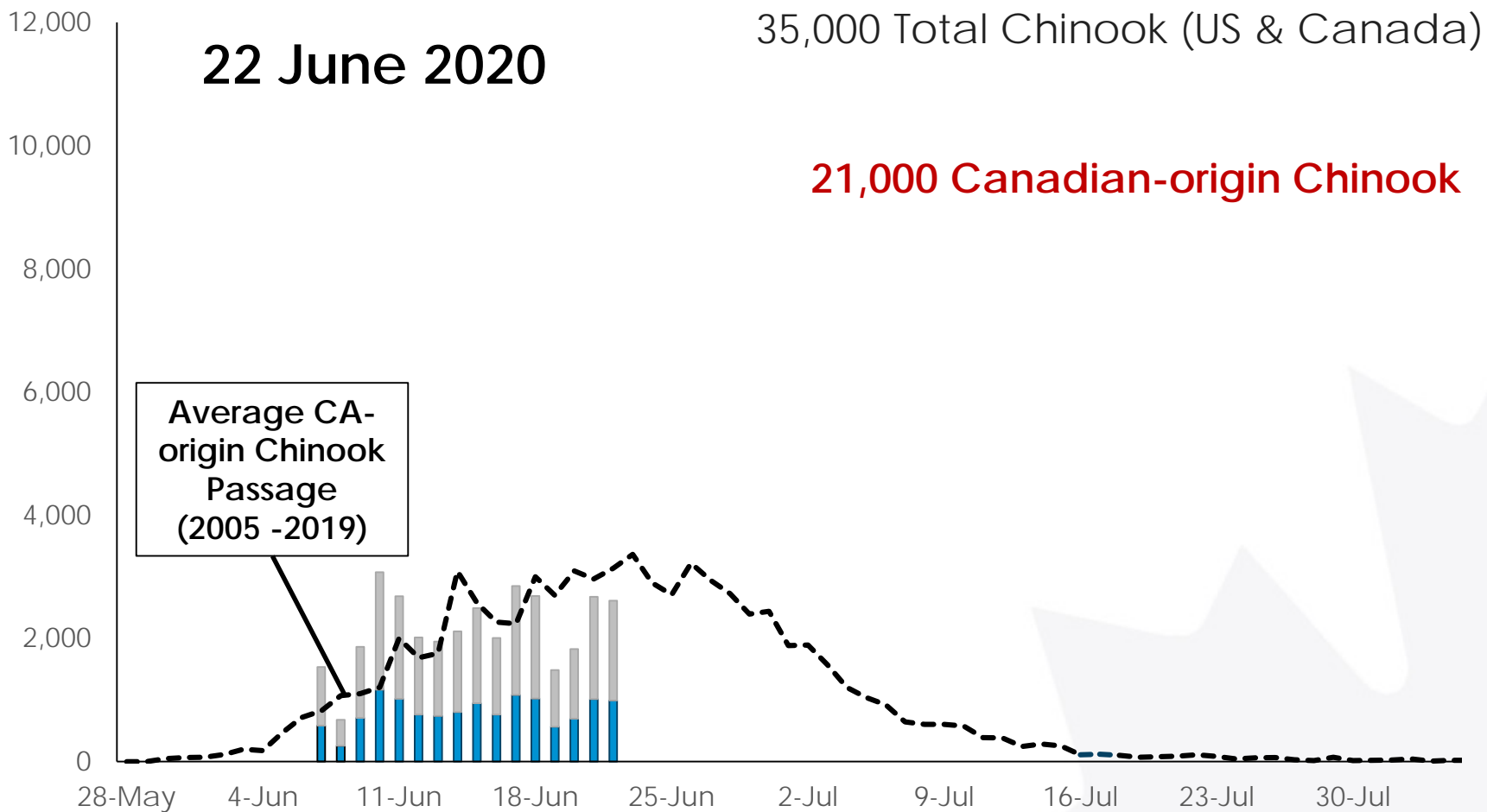
Fishery Expectations:

- Allocation available to Canadian Fisheries with opportunities limited to Yukon First Nation Subsistence Fishery.
- Season to commence on July 1st.
- First Nation Governments to initiate harvest conservatively.

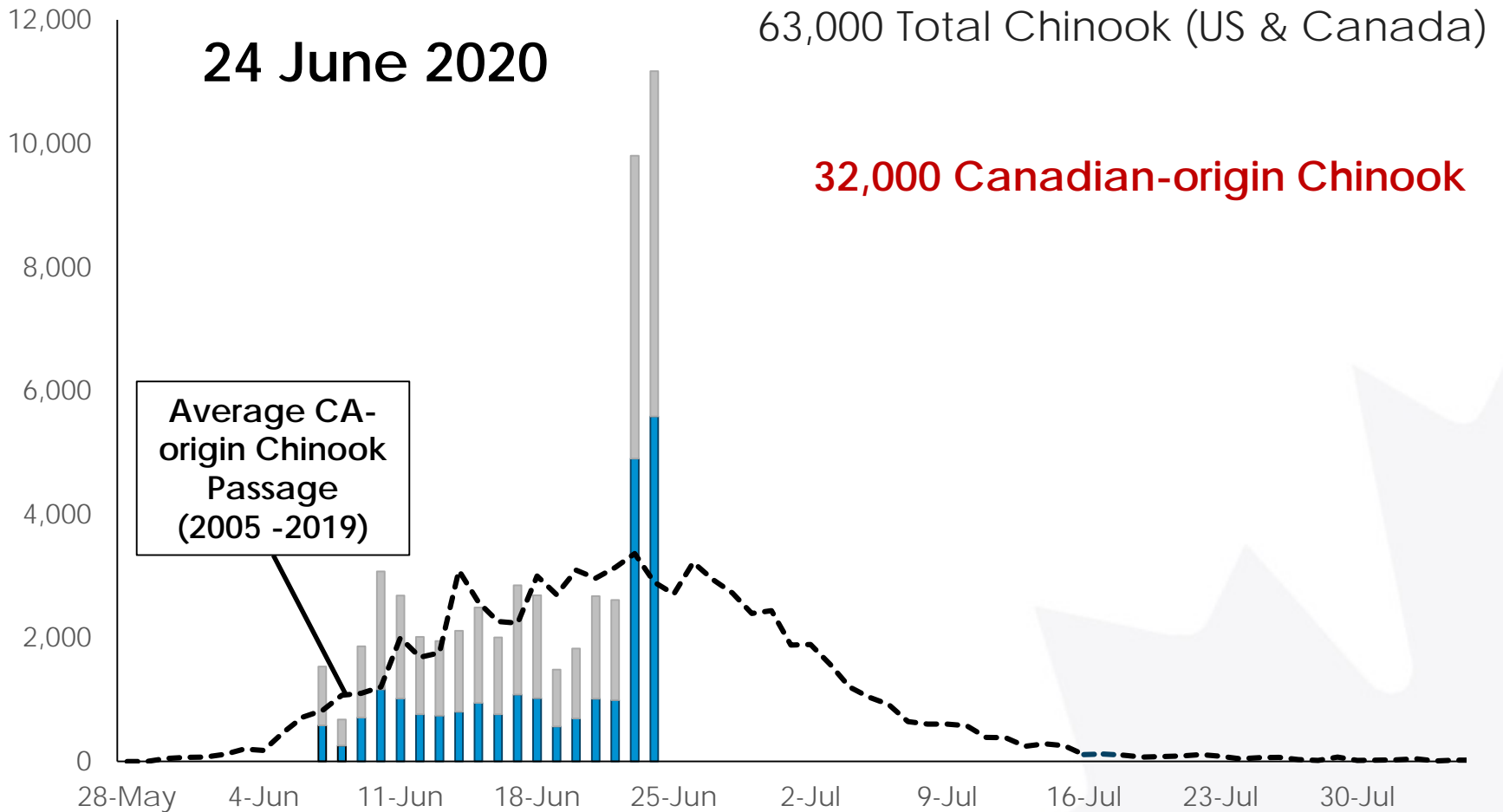
Management Planning and Engagement:

- Yukon River Panel Pre-Season Virtual Meeting.
- DFO Pre-Season virtual engagement with First Nation Governments, Yukon Salmon Sub-Committee (YSSC), and stakeholders.

Pilot Station – 2020 Daily Passage Estimates



Pilot Station – 2020 Daily Passage Estimates



Yukon River Canadian-Origin Chinook: Management Overview – June 24, 2020

Pre-Season Outlook	Pilot Station Passage (CDN-Origin Estimate)	Expected Border Passage (Minimum)	Eagle Sonar Passage Estimate	Interim Management Escapement Goal	Expected Canadian Fishery Allocation
~ 74,500 (59,000 to 90,000)	32,000	49,860	Nil (not started)	42,500 to 55,000	4,500 to 7,400

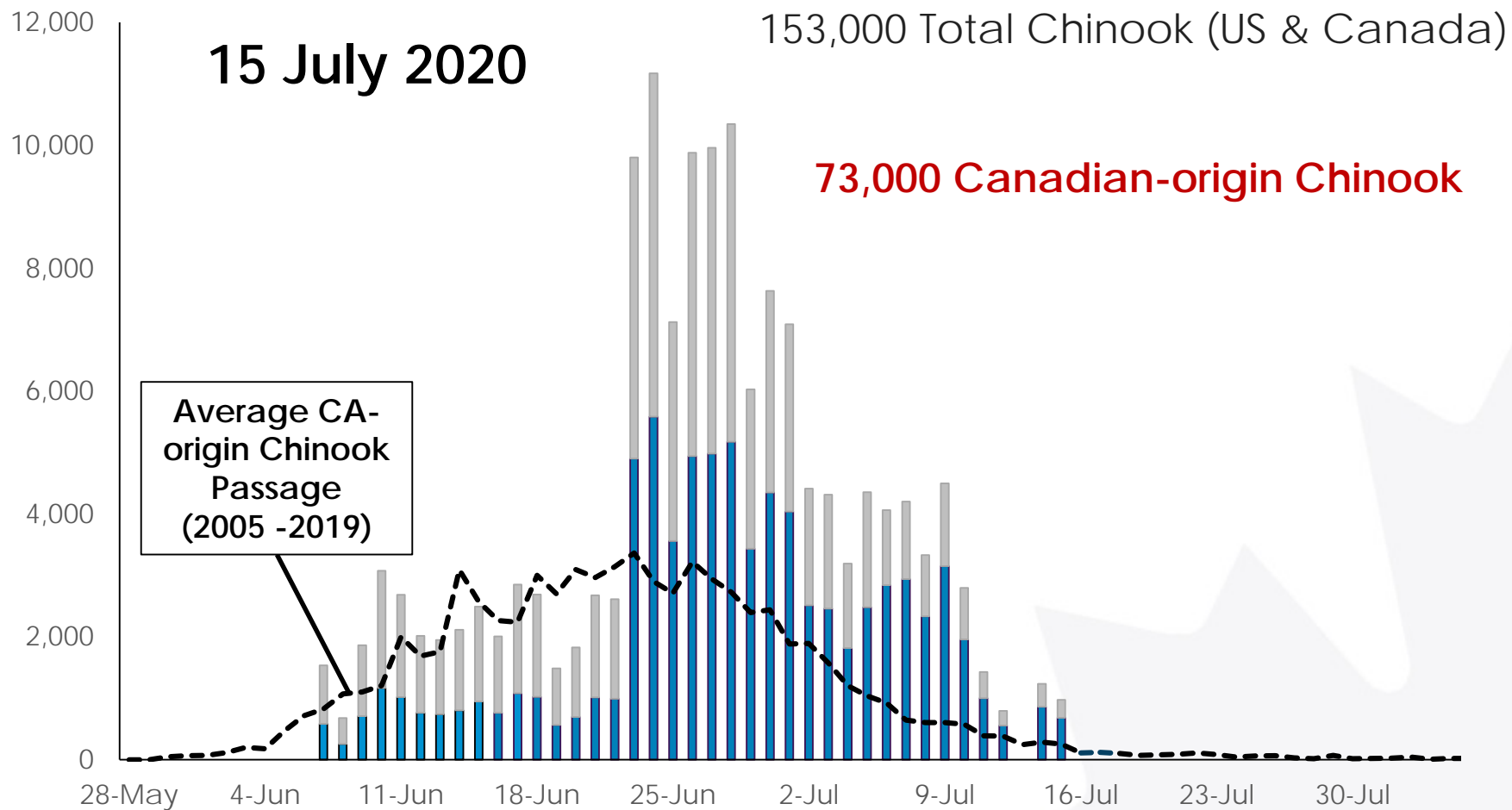
Management Actions:

- YSSC provides Canadian fishery allocation and management recommendations to DFO Minister.
- Public angling catch and retention limit reduced to zero.
- Commercial and Domestic Fisheries Closed.

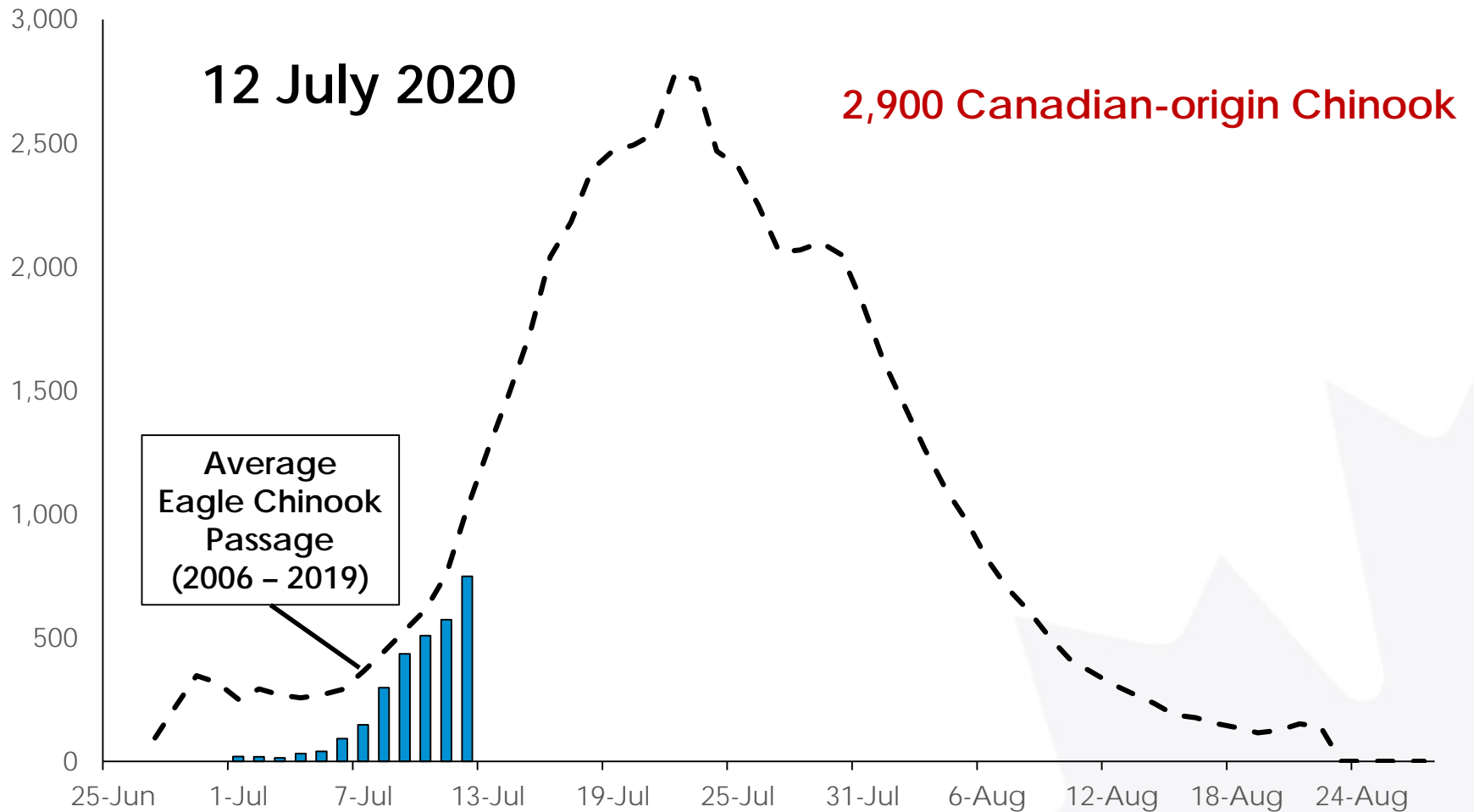
Management Planning and Engagement:

- In-season meetings with Yukon First Nations and YSSC.
- Canadian Integrated Fisheries Management Plan (IFMP) Finalized.
- Weekly YRDFA teleconference calls and meetings with ADF&G.

Pilot Station – 2020 Daily Passage Estimates



Eagle Sonar – 2020 Daily Passage Estimates



Yukon River Canadian-Origin Chinook: Management Overview – July 15, 2020

In-Season CDN Run Size Projection	Pilot Station Passage (CDN-Origin Estimate)	Expected Border Passage (Minimum)	Eagle Sonar Passage Estimate	Interim Management Escapement Goal	Expected Canadian Fishery Allocation
~75,000	73,400	49,975	4,911	42,500 to 55,000	4,600 to 7,475

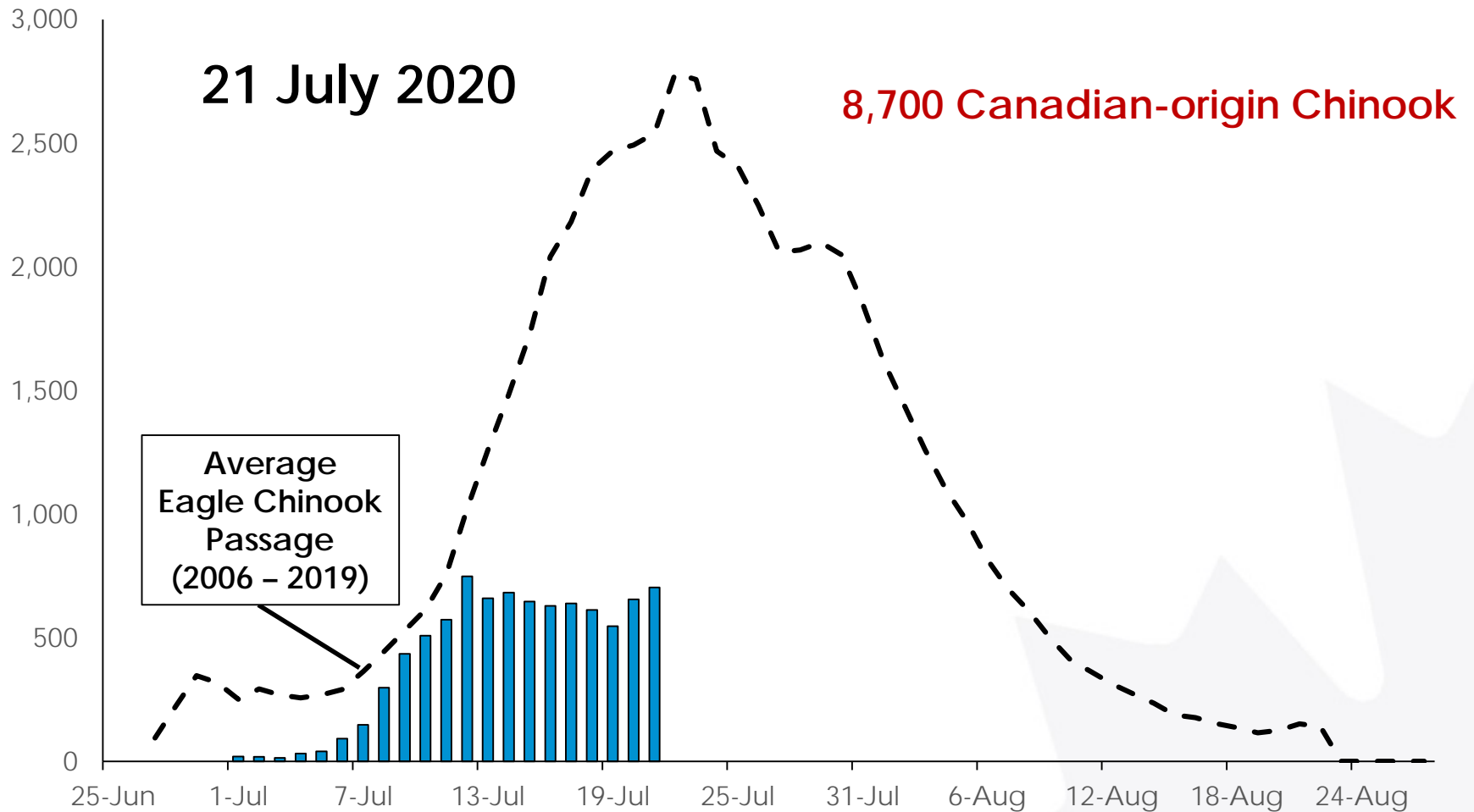
Management Actions:

- Allocation limited to First Nation Subsistence Fishery

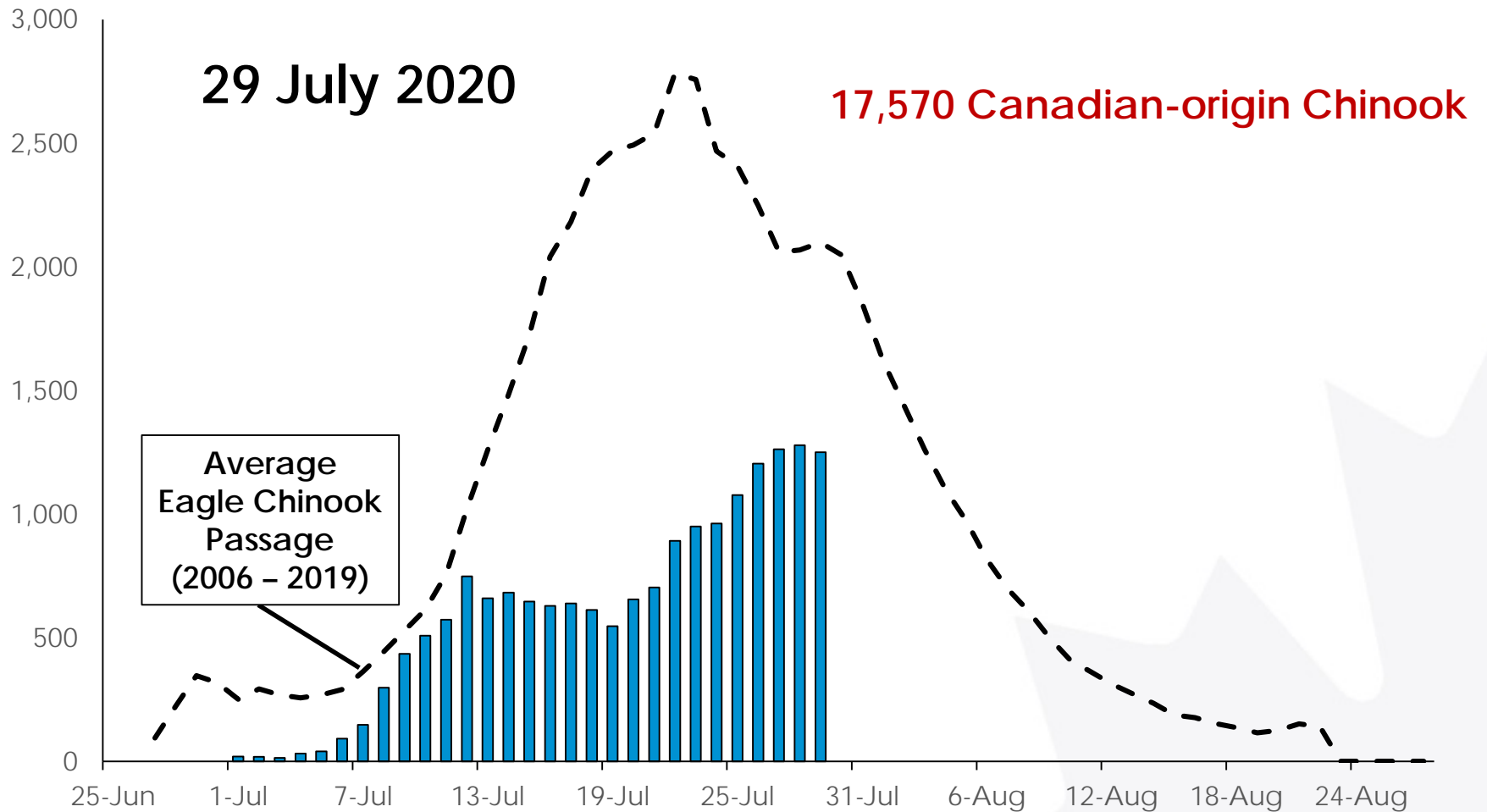
Management Planning and Engagement:

- IFMP implementation underway.
- Continue in-season meetings with Yukon First Nations and YSSC.
- Distribute assessment and management updates to First Nations and fishery licence holders.
- Continue to share and received information through weekly YRDFA calls and DFO/ADF&G meetings.

Eagle Sonar – 2020 Daily Passage Estimates



Eagle Sonar – 2020 Daily Passage Estimates



Yukon River Canadian-Origin Chinook: Management Overview – July 29, 2020

In-Season CDN Run Size Projection	Pilot Station Passage (CDN-Origin Estimate)	Expected Border Passage (Minimum)	Eagle Sonar Passage Estimate	Interim Management Escapement Goal	Expected Canadian Fishery Allocation
~76,300	75,600	50,275	17,570	42,500 to 55,000	4,900 to 7,775

Management Actions and Activities:

- All angling for salmon in the Yukon River and its tributaries prohibited July 29 through September 22.
- Canadian in-season fishery update meeting held on July 22,
- Shared information with First Nations that Canadian-origin Chinook abundance estimated at Pilot not transpiring at Eagle Sonar.

Yukon River Canadian-Origin Chinook: Management Overview – Aug. 4, 2020

In-Season CDN Run Size Projection	Pilot Station Passage (CDN-Origin Estimate)	Expected Border Passage (Minimum)	Eagle Sonar Passage Estimate	Interim Management Escapement Goal	Expected Canadian Fishery Allocation
~76,700	76,000	50,275	24,710	42,500 to 55,000	Spawning escapement goal unlikely to be achieved.
		Realistically: <42,500			

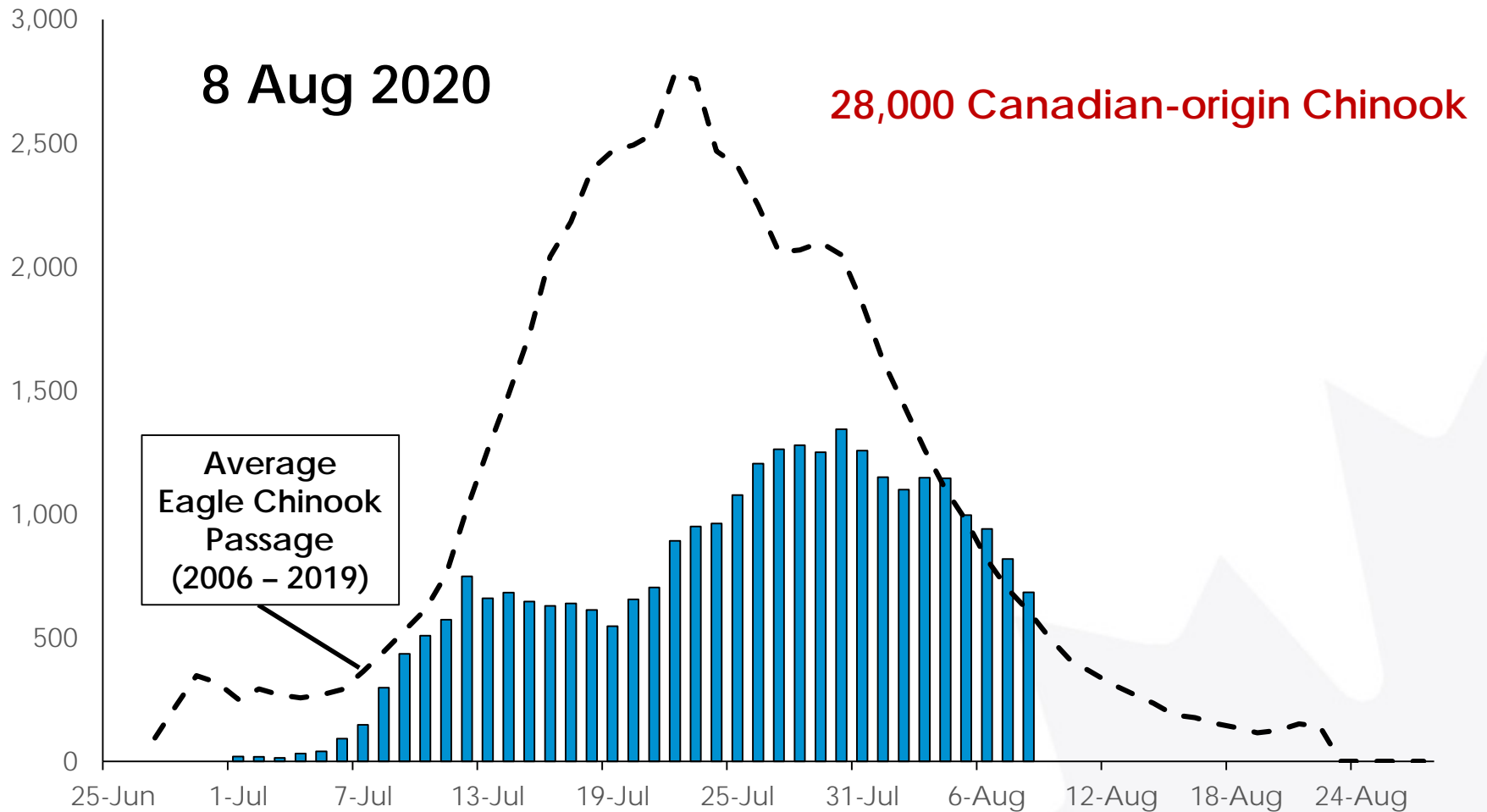
In-Season Information:

- Eagle sonar passage well below Pilot estimate.

Management Actions:

- Maintain angling, commercial and domestic fishery closures.

Eagle Sonar – 2020 Daily Passage Estimates



Yukon River Canadian-Origin Chinook: Management Overview – Aug. 13, 2020

In-Season CDN Run Size Projection	Pilot Station Passage (CDN-Origin Estimate)	Expected Border Passage (Minimum)	Eagle Sonar Passage Estimate	Interim Management Escapement Goal	Expected Canadian Fishery Allocation
~76,000	76,100	50,275	30,616	42,500 to 55,000	Spawning escapement goal unlikely to be achieved.
		Realistically: <42,500			

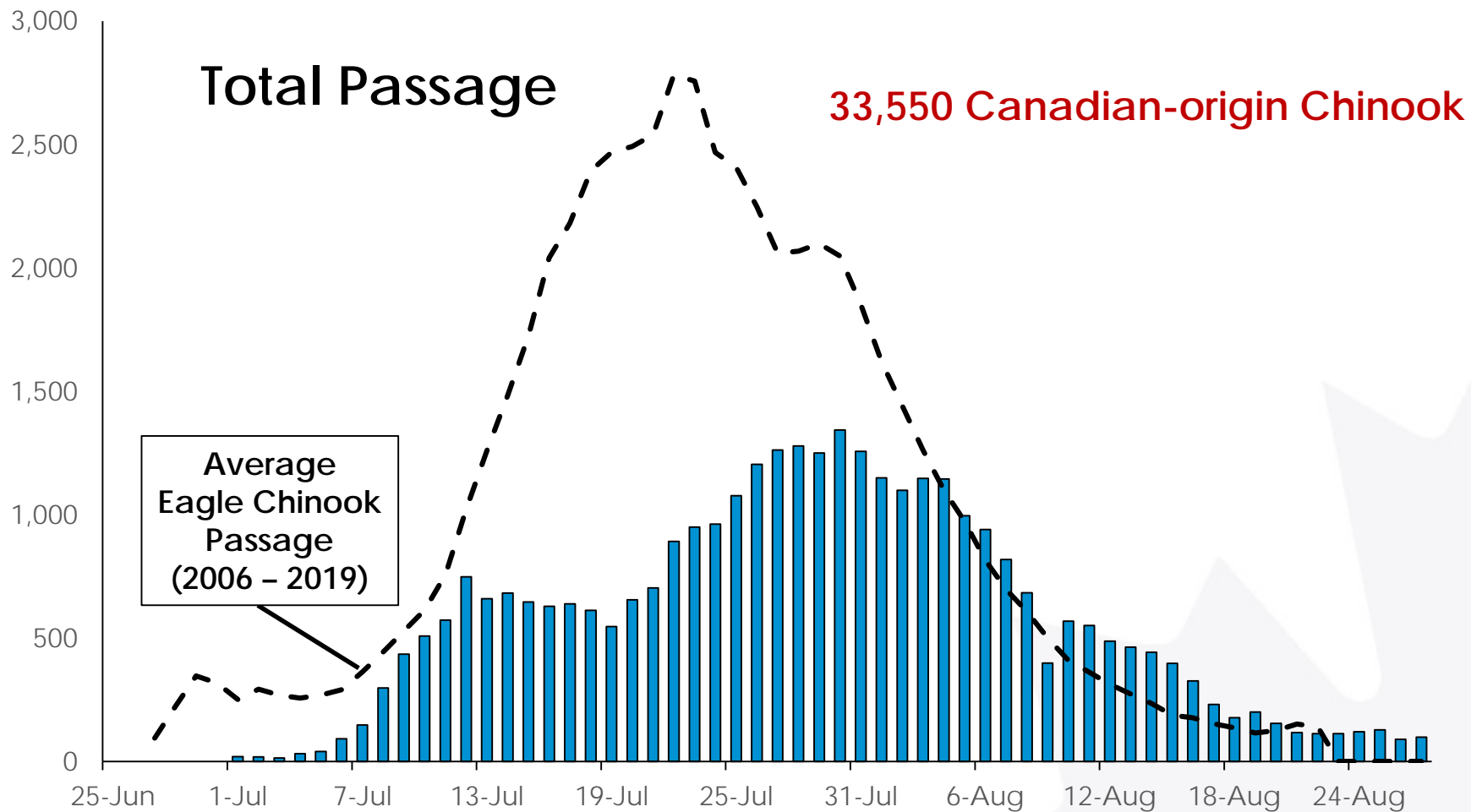
In-Season Information:

- Canadian run size estimated at 76,000 at Pilot (sonar and GSI supported).
- Eagle sonar passage well below Pilot Estimate.

Management Actions:

- YSSC recommends First Nations discontinue harvest due to low abundance.

Eagle Sonar – 2020 Daily Passage Estimates



2020 Chinook Salmon Fishery Management Summary Yukon River Mainstem

Federal (Fisheries and Oceans Canada) Chinook Salmon Management Actions:

- Commercial & Domestic fisheries closed for duration of season.
- Chinook retention prohibited in the public fishery on Yukon river, tributaries and Porcupine river.
- Public fishery closed to angling for salmon July 29 through Sept 22.
- Provide information to Yukon First Nations; host in-season conference calls.

Yukon First Nation Government Fishery Management Actions:

- First Nation Governments engage Citizens.
- Consider in-season information, updates, including recommendations from the Yukon Salmon Sub-Committee to implement additional measures to conserve Chinook salmon.



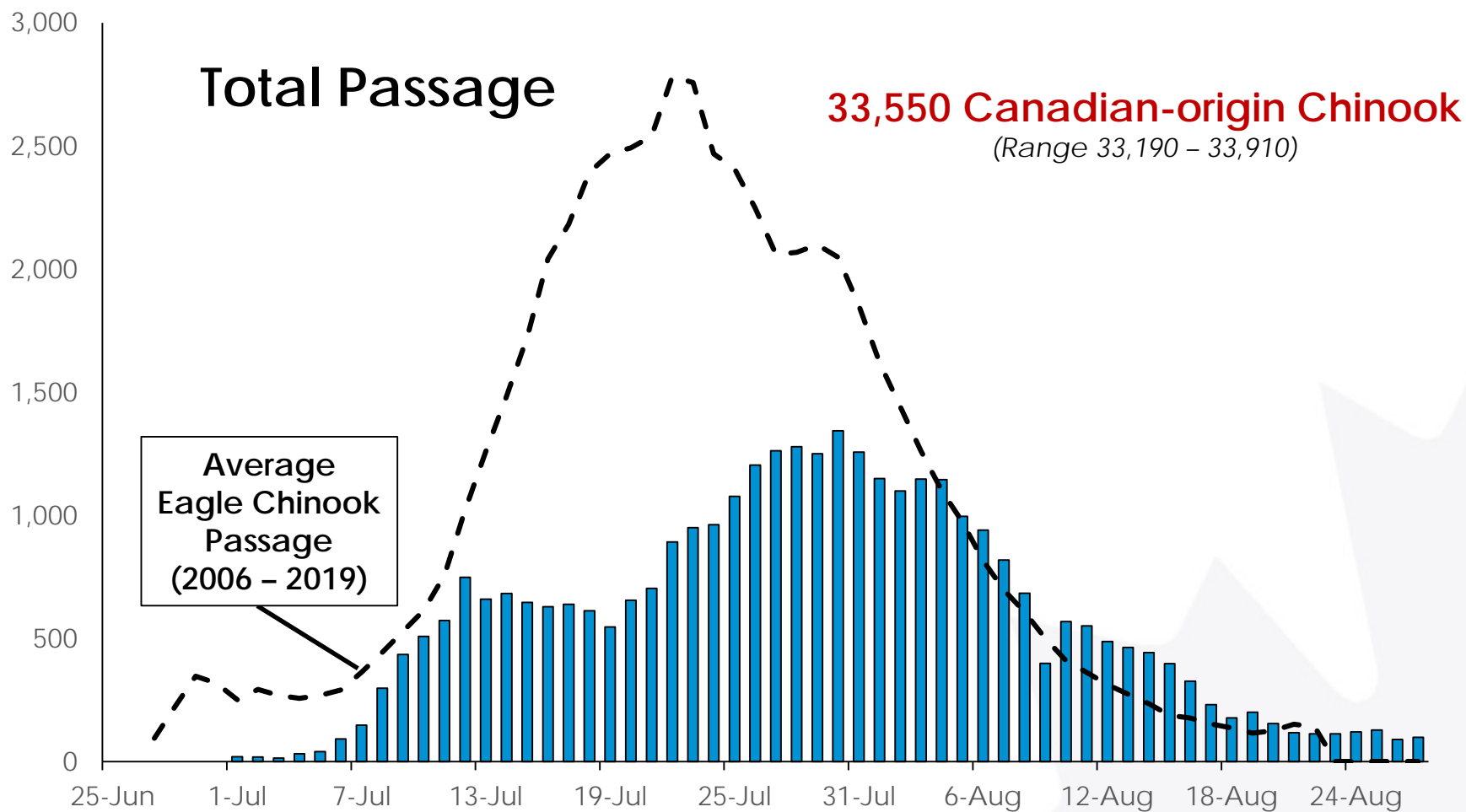
Yukon River Canadian-Origin Chinook: 2020 Post-Season Report Card

Total CDN-Origin Run Size	U.S Harvest Share	U.S. Harvest	Border Objective	Border Passage	Canadian Harvest Share	Canadian Harvest of Yukon River Mainstem Chinook	Spawning Escapement Estimate
45,501	0 - 2,401	12,171	42,890	33,330	0 - 780	2,363	30,967

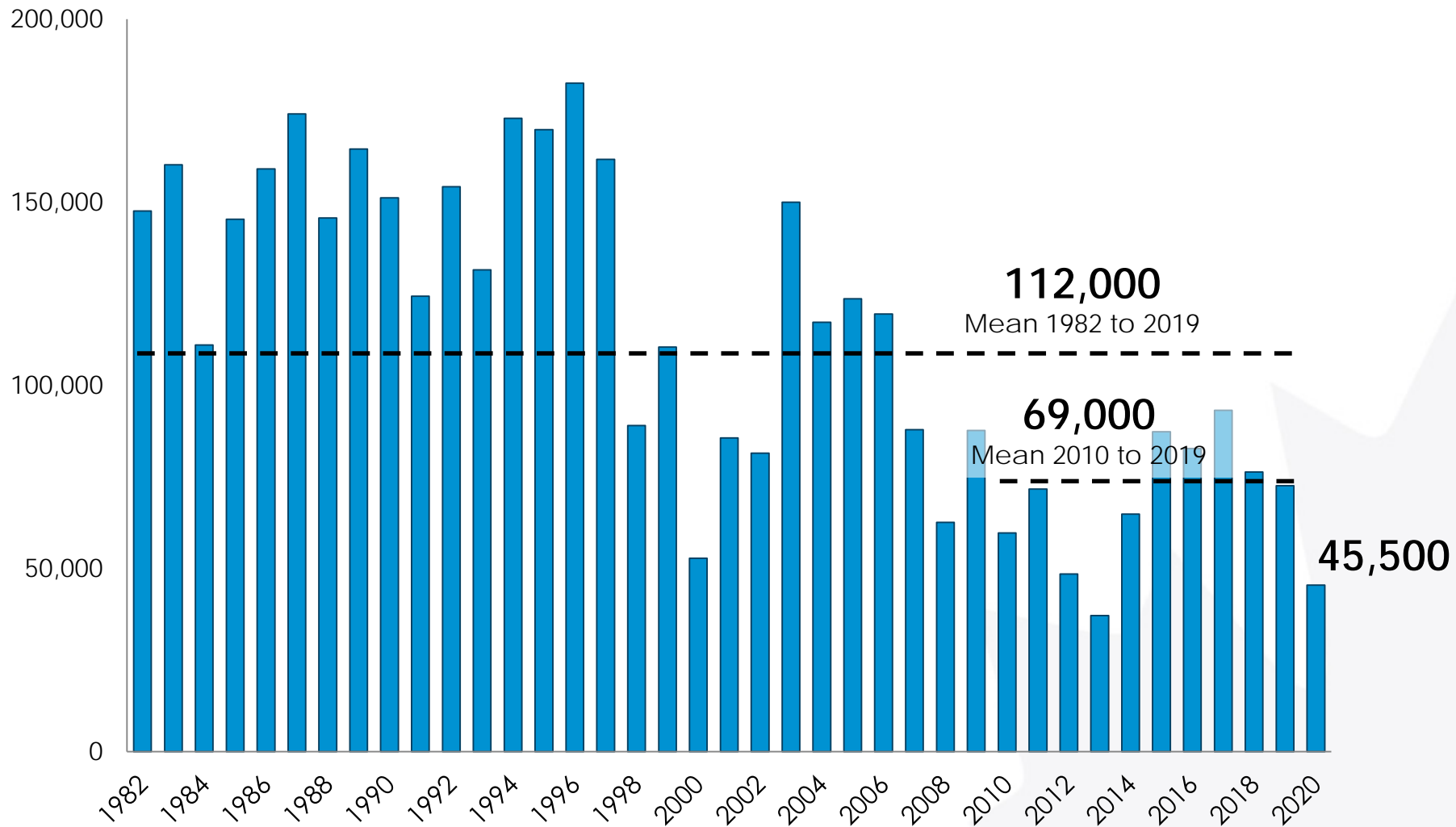
Harvest and Escapement outcomes

- Total Canadian-origin run size sufficient to meet IMEG (42,500 – 55,000)
- US and Canada exceeded Chapter 8, PST harvest shares
- Border passage did not meet border objective (spawning escapement goal + mid point of Canadian harvest share)
- Spawning escapement did not meet IMEG

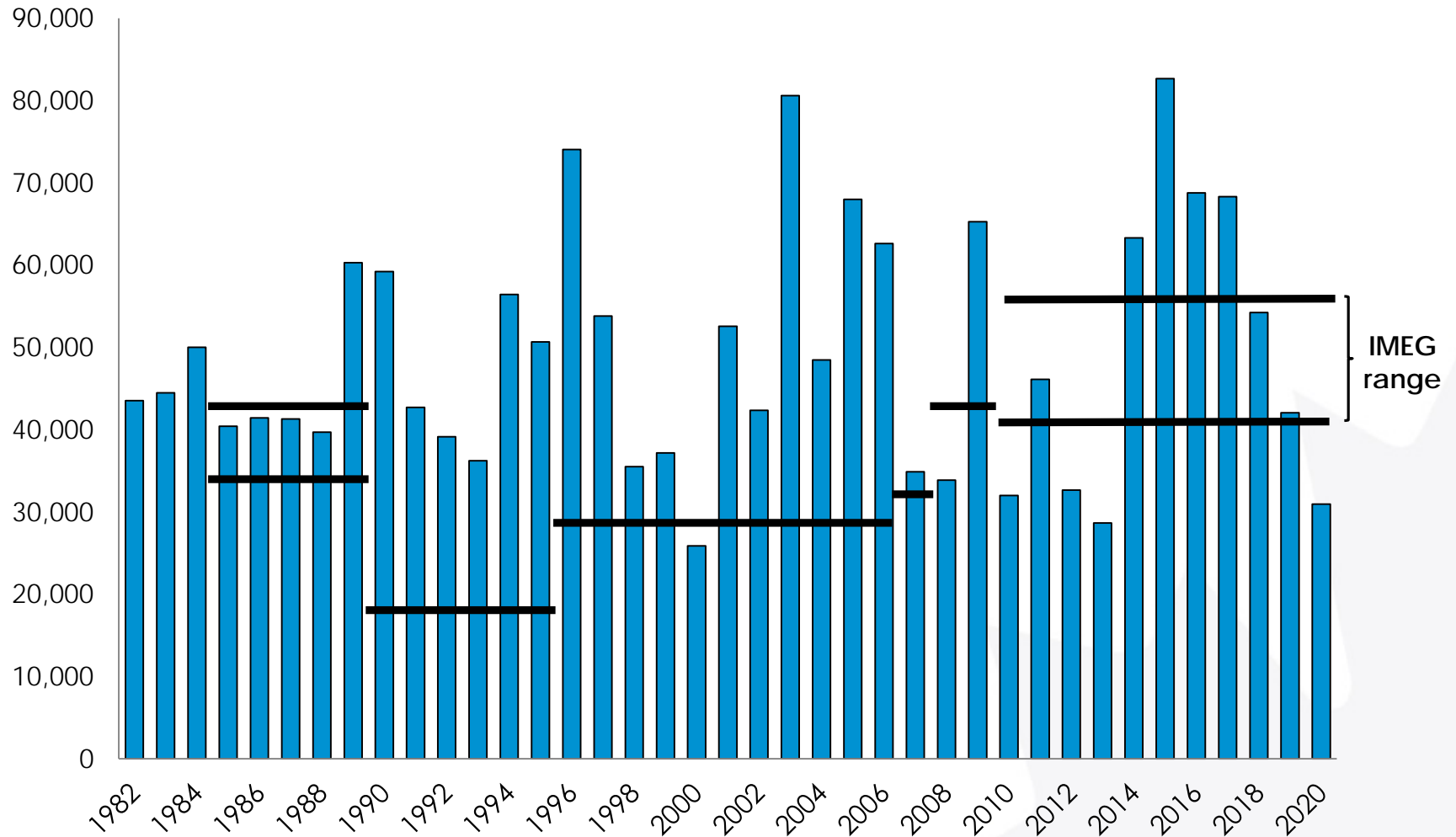
Eagle Sonar – 2020 Daily Passage Estimates



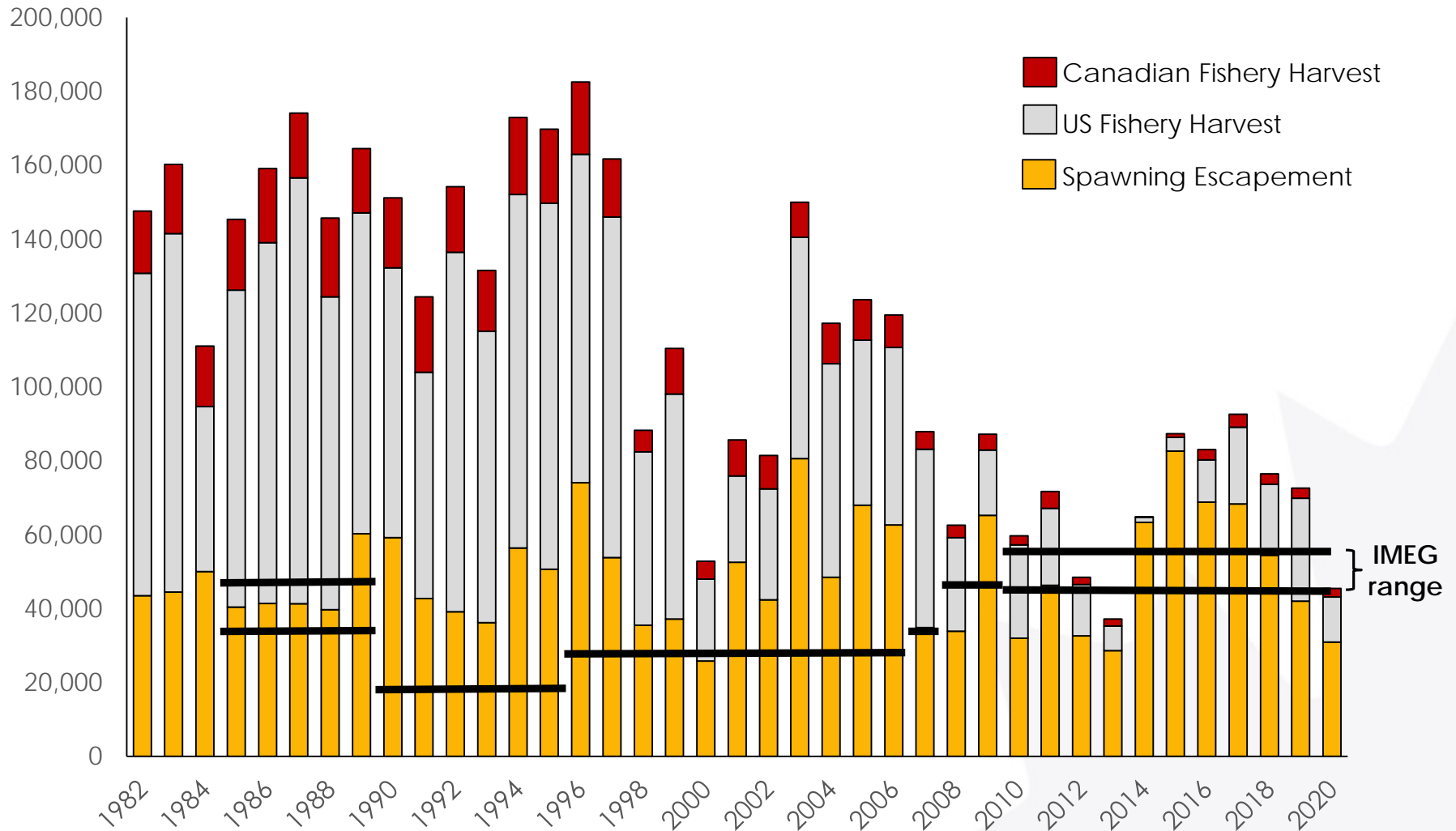
Estimated Total Run Size Mainstem Canadian-Origin Chinook



Estimated Spawning Escapement Mainstem Canadian-Origin Chinook



Estimated Harvest and Spawning Escapement Mainstem Canadian-Origin Chinook

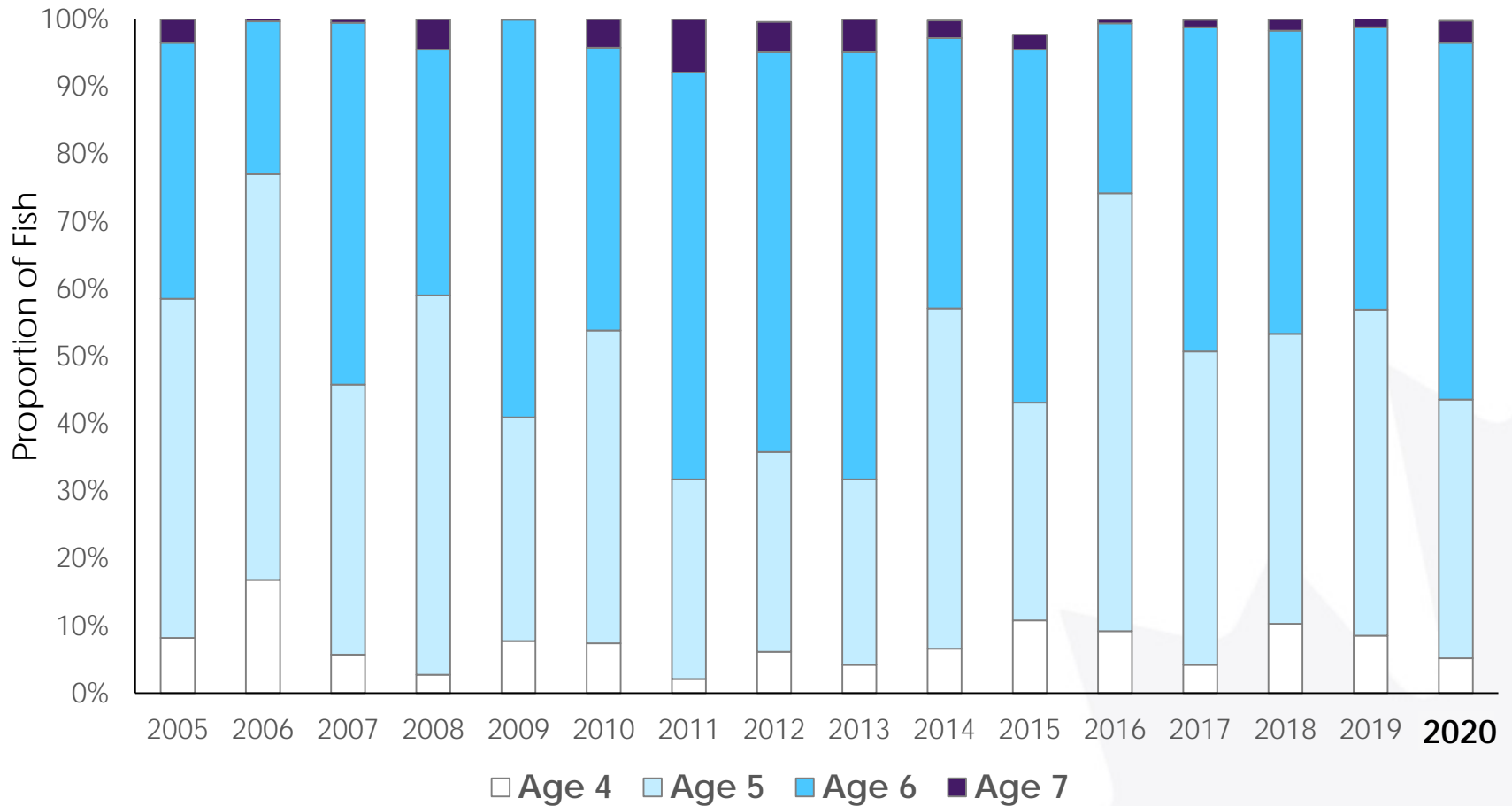


Yukon Mainstem Assessment Summary

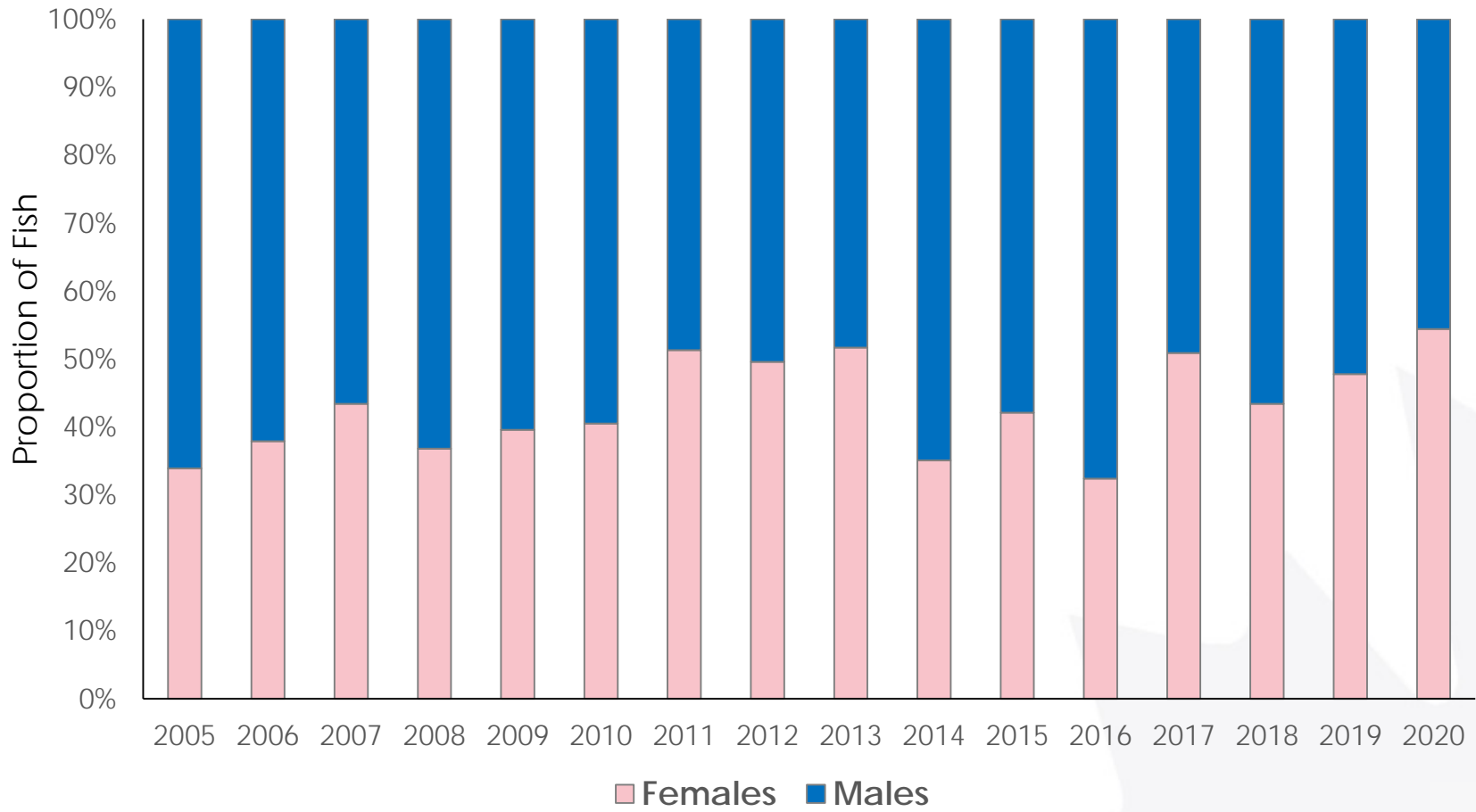
Project	2020 Passage	Relative to Average	Years of Operation	Run Timing (Days Late)
Pilot Station Sonar (CA-origin)	77,000	91%	26	6
Eagle Sonar	33,550	56%	16	3
Klondike Sonar	470	*	4	*
Pelly Sonar	5,576	71%	5	4
Big Salmon Sonar	1,574	31%	16	5
Whitehorse Fishway	216	18%	45	6

Chinook Age Composition by Year

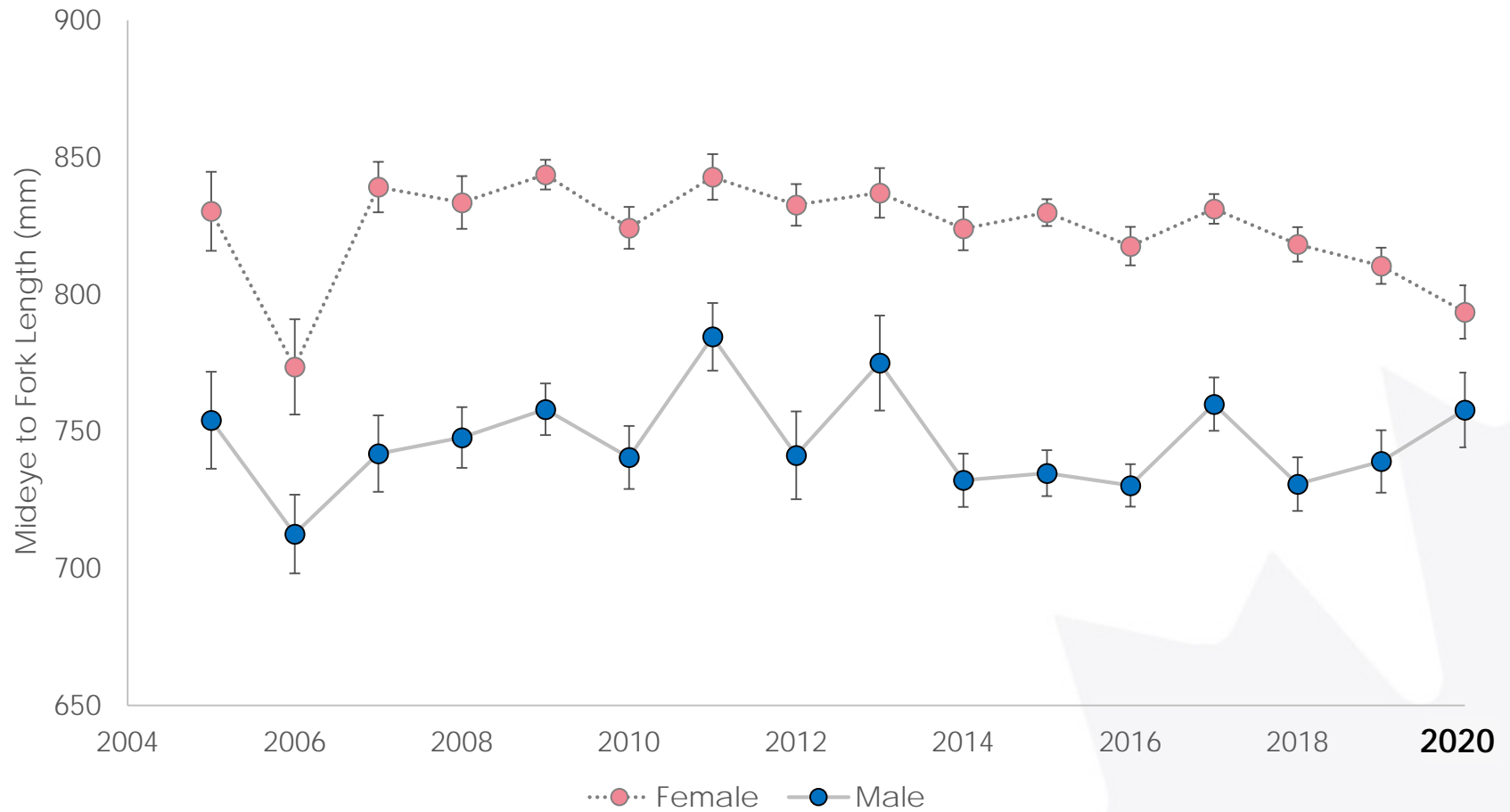
Eagle Sonar



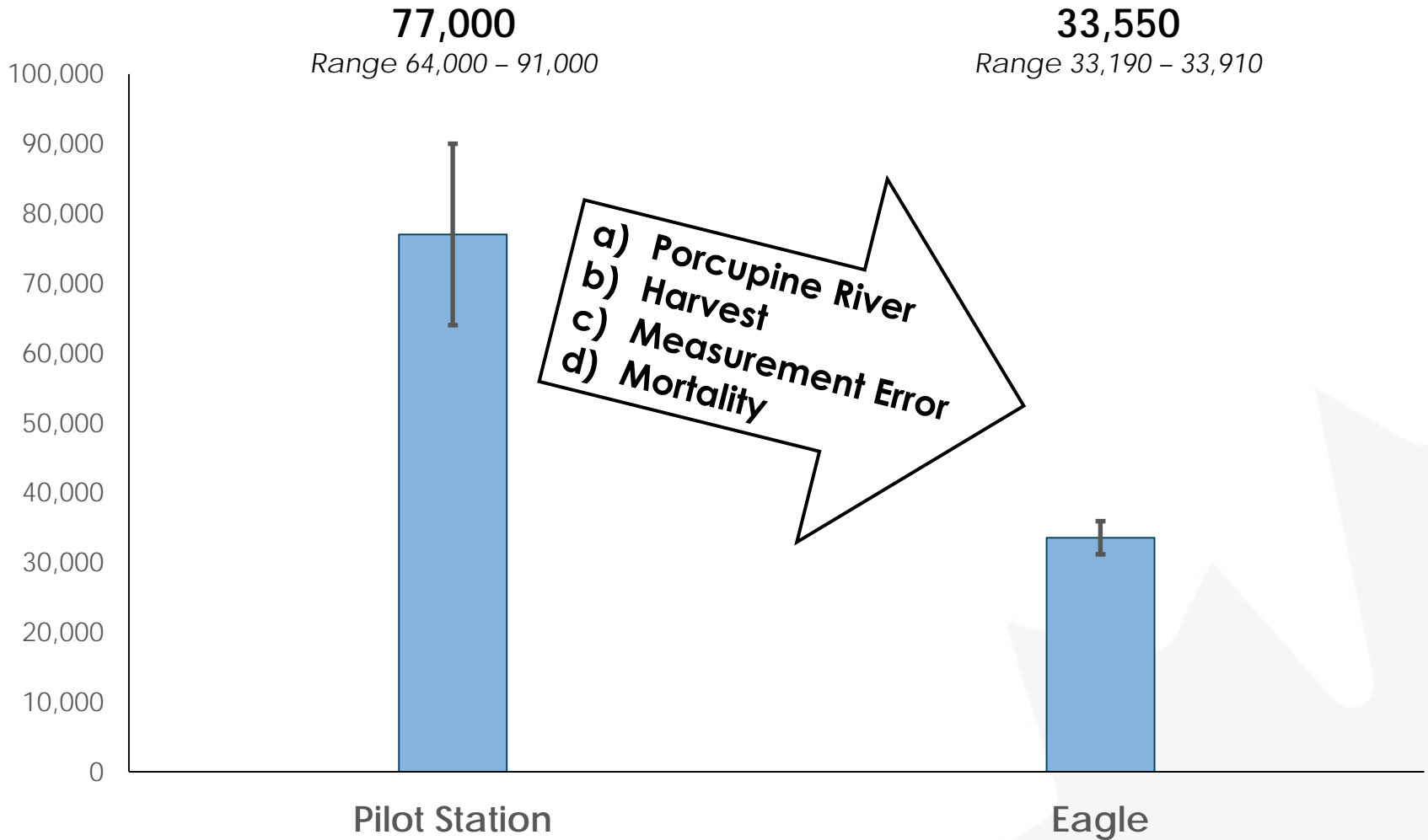
Chinook Female / Male Composition by Year Eagle Sonar



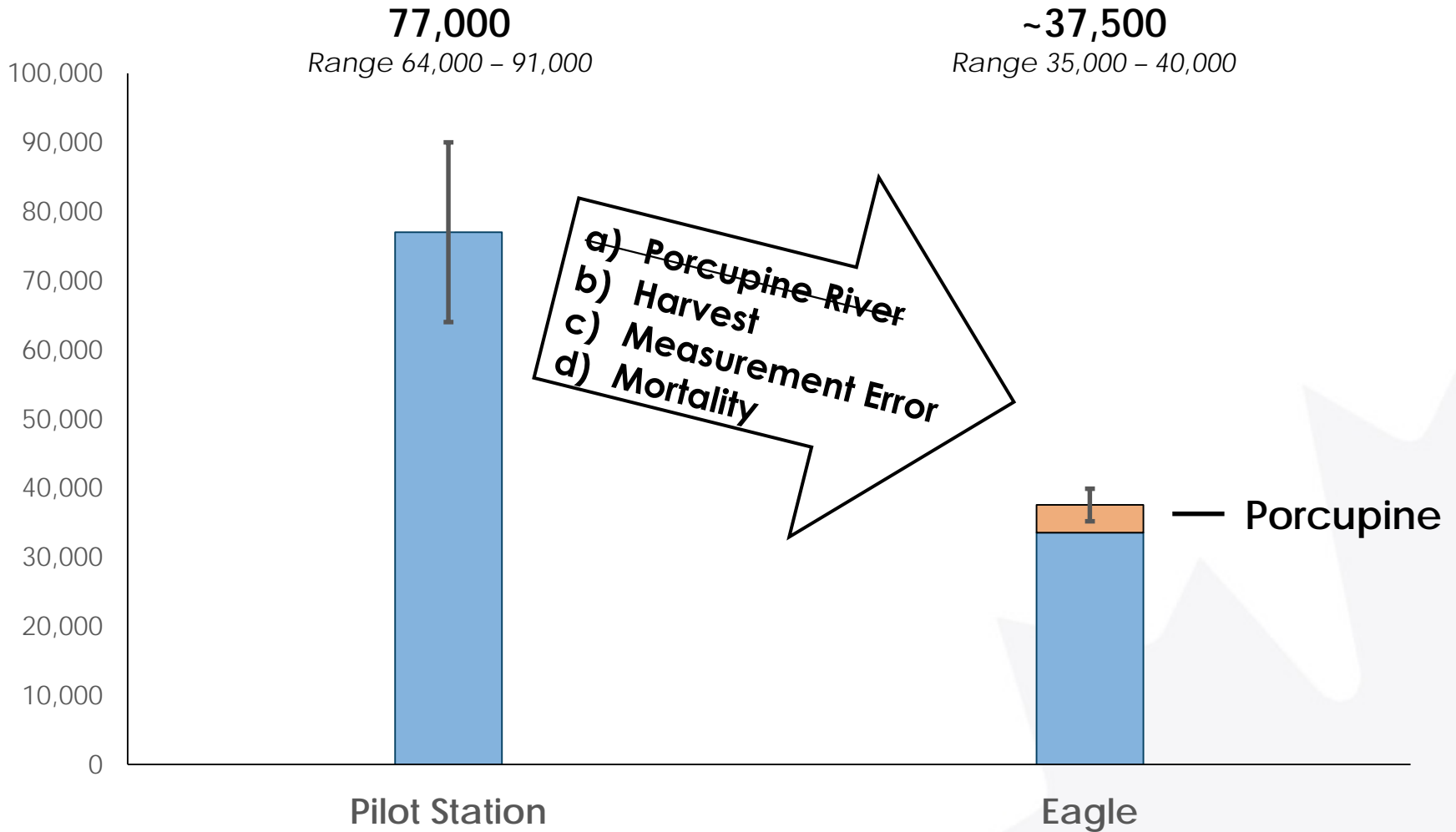
Chinook Female/Male Average Length Eagle Sonar



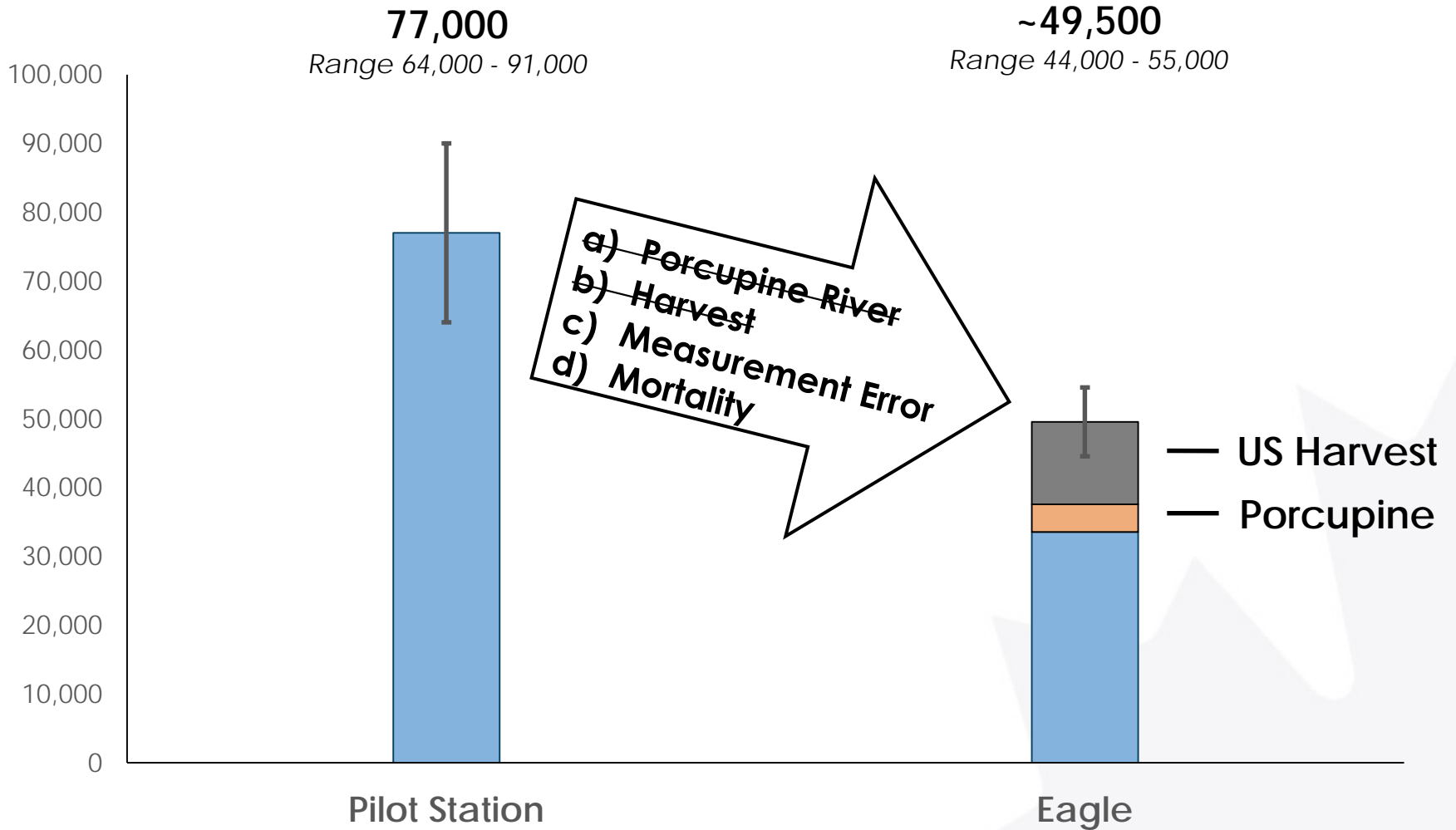
2020 Comparison between Pilot Station Sonar and Eagle Sonar



2020 Comparison between Pilot Station Sonar and Eagle Sonar



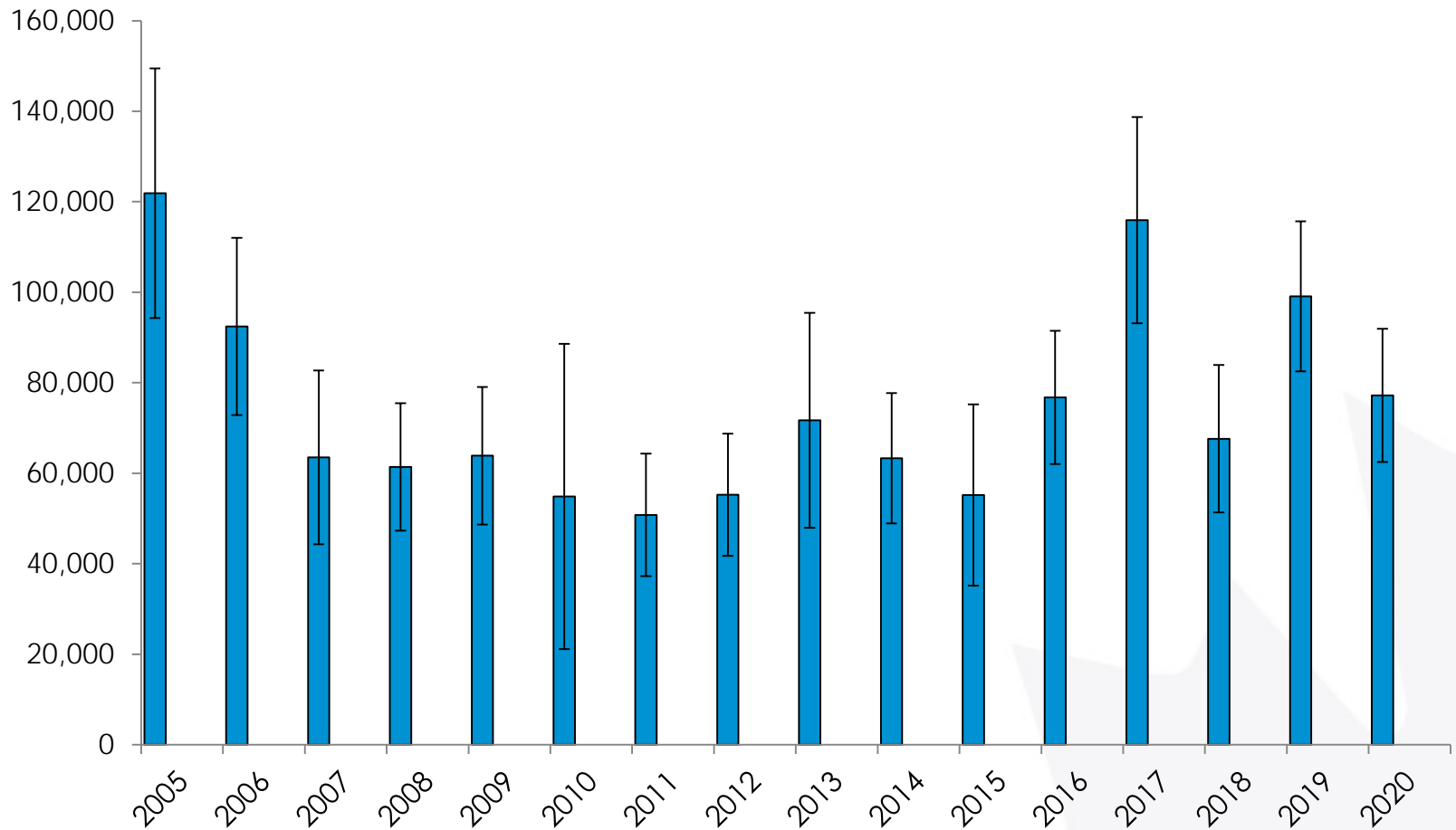
2020 Comparison between Pilot Station Sonar and Eagle Sonar



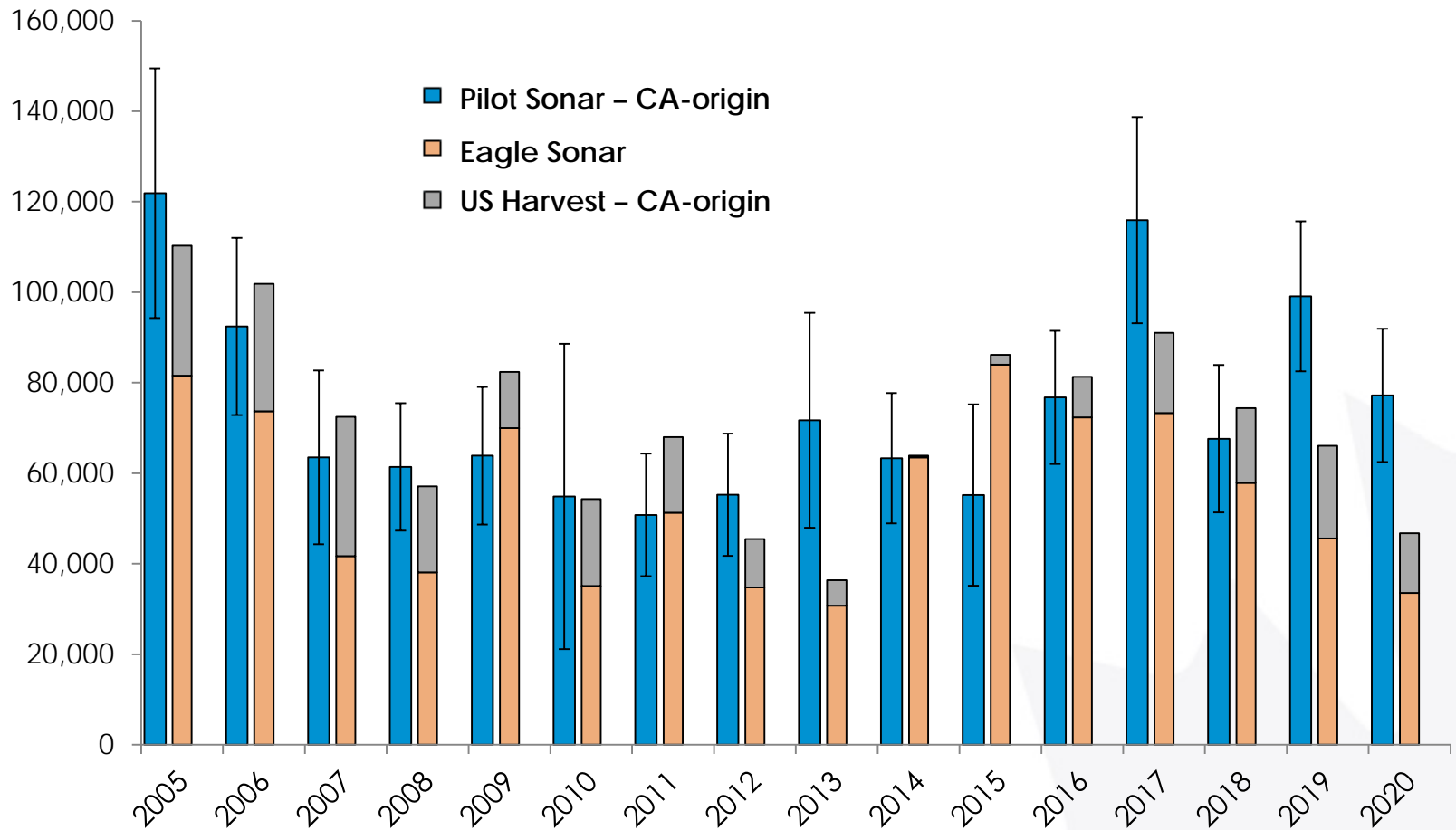
2020 Comparison between Pilot Station Sonar and Eagle Sonar

	Point Estimate
Eagle Sonar Passage	33,550
Porcupine River	4,000
US Fishery Harvest	12,170
Total CA-origin Run Estimate (Mainstem & Porcupine)	49,720
Pilot Station Sonar Passage	77,000
Fate not Determined	27,280

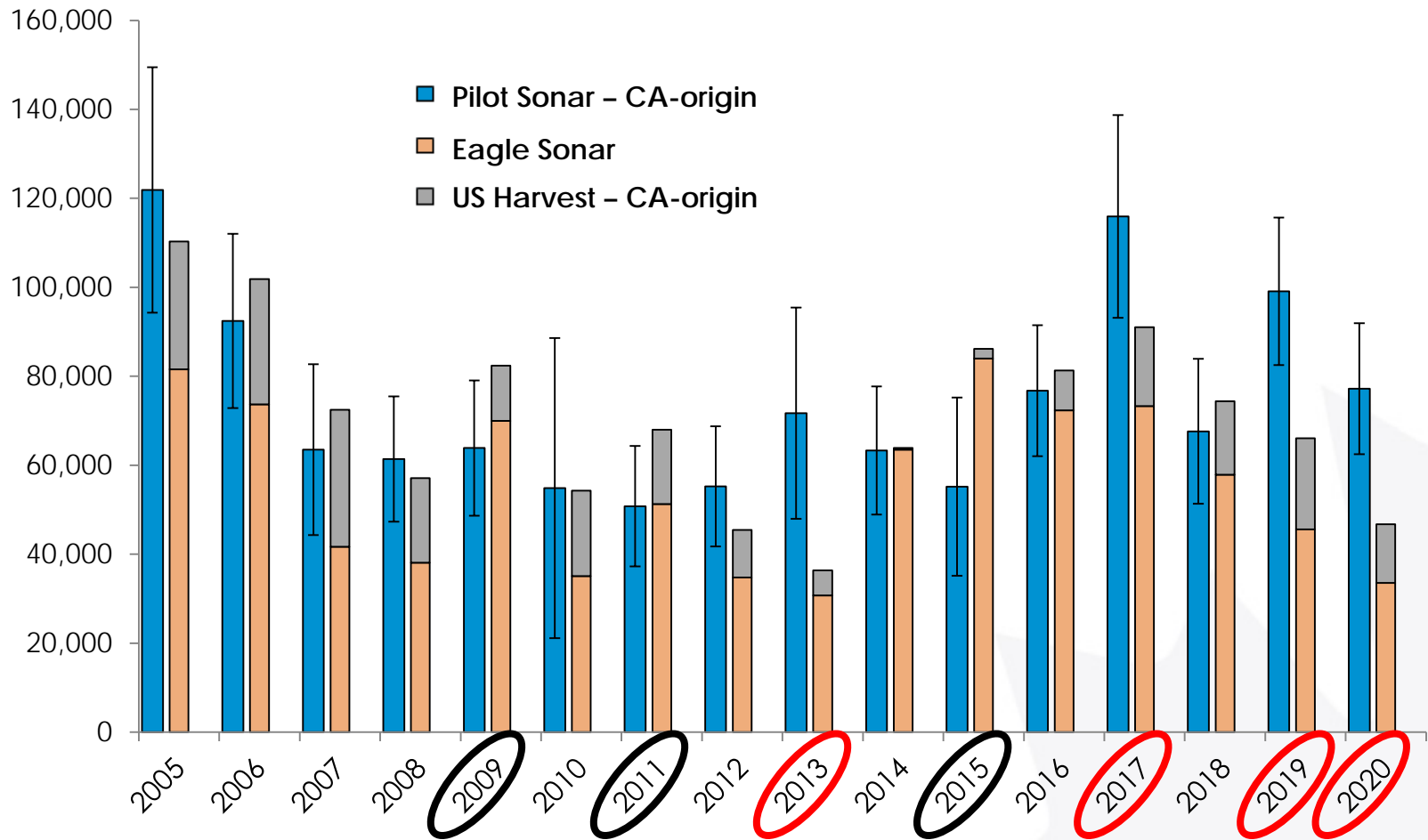
Comparison of Pilot Station Sonar and Eagle Sonar by Year



Comparison of Pilot Station Sonar and Eagle Sonar by Year



Comparison of Pilot Station Sonar and Eagle Sonar by Year



Pilot overestimate
Pilot underestimate

Environmental Conditions (Canada - 2020)



White River – 17 Aug 2020

Canadian Environmental Conditions 2020

Lower and Middle Yukon River and Tributaries

- High water levels consistent through the Chinook migration and spawning period (*Surpassed record high levels at numerous stations*).
- Cooler than average water temperatures through July and August (*Brief spike to average or above average in late August, before returning to average temperatures*).

Upper Yukon River and Tributaries

- Water levels average to slightly above average (*Less notable than middle and lower river*).
- Water temperatures consistently below average through entire period

Porcupine River and Tributaries

- Water levels near average through migration and spawning period
- Water temperatures not available (*Air temperatures near average, following warmer than average spring*).



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