



MEMORANDUM

TO: Forrest R. Bowers, Director, Division
of Commercial Fisheries

DATE: March 24, 2026

Israel Payton, Director, Division of
Sport Fish

SUBJECT: Kodiak Management Area
Escapement Goal Memorandum

THRU: Ben Daly, Regional Supervisor, 
Division of Commercial Fisheries,
Region IV

Kristine Dunker, Regional Supervisor, 
Division of Sport Fish,
Region II

FROM: M. Birch Foster, Regional Research 
Coordinator, Division of Commercial
Fisheries, Region IV

Nick DeCovich, Regional Research
Coordinator, Division of Sport Fish, 
Region II

The Alaska Department of Fish and Game (department) reviewed escapement goals for Pacific salmon (*Oncorhynchus* spp.) stocks in the Kodiak Management Area (KMA) as part of the 2026–2027 Alaska Board of Fisheries (board) regulatory cycle.

Summary of findings for this review:

- No change to escapement goals for any king, chum, or pink salmon stocks.
- Updating the Buskin River sockeye salmon biological escapement goal to a range of 4,000–8,500 fish.
- Updating the Buskin River coho salmon sustainable escapement goal to a range of 2,500–6,000 fish.
- Updating the Pasagshak River coho salmon lower bound sustainable escapement goal to a sustainable escapement goal range of 1,500–4,500 fish *when* enumerated via aerial drone survey methodology.

Summary details of the escapement goal review committee findings are found below, and an overview of this review will be provided at the Alaska Board of Fisheries work session in October 2026. Staff are preparing a report to document this escapement goal review in more detail, including all changes to escapement goals, as well as detailed descriptions and figures of the analyses performed on all stocks. This report will be published prior to the January 2027 Kodiak Finfish board meeting. A more detailed oral report concerning escapement goals will be presented to the board in January 2027 as well.

The *Policy for Statewide Salmon Escapement Goals* (5 AAC 39.223) recognizes the establishment of salmon escapement goals as a joint responsibility of the Alaska Department of Fish and Game the Alaska Board of Fisheries and describes the concepts, criteria, and procedures for establishing and modifying salmon escapement goals. Under the policy, the board recognizes and describes the department's responsibility for establishing and modifying biological escapement goals (BEG) and sustainable escapement goals (SEG).

An interdivisional salmon escapement goal committee, including staff from the divisions of Commercial Fisheries and Sport Fish, met to discuss salmon escapement goals in the KMA. Escapement goals for this area have been set and evaluated at regular intervals since 2001 and many of these stocks have long-term historical datasets. The review was based on the *Policy for the Management of Sustainable Salmon Fisheries* (5 AAC 39.222) and the *Policy for Statewide Salmon Escapement Goals* (5 AAC 39.223). Two important terms are

5 AAC 39.222 (f)(3) “*Biological Escapement Goal* (BEG): the escapement that provides the greatest potential for maximum sustained yield (MSY);” and

5 AAC 39.222 (f)(36) “*Sustainable Escapement Goal* (SEG): a level of escapement, indicated by an index or an escapement estimate, that is known to provide for sustained yield over a 5-to-10-year period, used in situations where a BEG cannot be estimated or managed for.”

Currently, 21 escapement goals are established in KMA : 2 king, 11 sockeye, 4 coho, 3 pink, and 1 chum salmon goals (Table1). Due to the comprehensive previous analyses (Foster et al. 2023; McKinley et al. 2019; and Schaberg et al. 2016), the review committee focused its attention on updating the datasets with the most recent data (2022 to 2025). Based on the addition of these new data, the team determined if enough information was added to justify revising existing escapement goals or creating new goals for systems that do not have goals. The team did not identify any systems suitable for creating new goals, and all systems with goals currently in place were further evaluated.

Following these analyses, the team developed updated estimates of escapement goals for each stock, compared these with the current escapement goal, and agreed on a determination to keep the current goal, revise the goal, or eliminate the current escapement goal. The methods used to evaluate KMA escapement goals as well as the rationale used to make subsequent findings on each escapement goal are described in detail in a forthcoming report. Preliminary results are summarized below.

King Salmon

There are 2 escapement goals for king salmon in the KMA (Table 1). Both goals were assessed in 2016 by fitting age-structured state-space spawner recruit models to data from both stocks (Fleischman and McKinley 2013). The assessment resulted in a change to the Ayakulik River BEG to the current escapement goal of 4,800–8,400 fish, while the existing Karluk River BEG of 3,000–6,000 fish was deemed appropriate (Schaberg et al. 2016). The data were examined again in 2019 and 2023 and the teams determined the escapement goals were appropriate and no changes were warranted. However, in both reviews, there was discussion about whether to change the Kodiak king salmon goals from BEGs to SEGs due to lack of age data and uncertainty in escapement and model estimates. During this cycle, the team assessed the recent returns for these stocks and agreed that a reevaluation of these goals was not warranted.

Sockeye Salmon

There are 11 escapement goals for sockeye salmon in the KMA (Table 1). The team conducted analyses on all sockeye salmon systems and determined that current escapement goals for all but one system (Buskin River sockeye salmon) were still appropriate.

Buskin River

Buskin River currently has a weir-based BEG of 5,000–8,000 fish for sockeye salmon. A weir has been operated at Buskin River since 1985. The escapement goal was last revised in 2011 by fitting spawner recruit model to the data (Nemeth et al. 2010). The Buskin River sockeye salmon goal was reassessed by fitting an age-structured state-space spawner recruit model (Fleischman and McKinley 2013) and the results indicated that the BEG should be revised. The team determined that a weir-based BEG of 4,000–8,500 fish would be appropriate for Buskin River sockeye salmon.

Coho Salmon

There are 4 escapement goals for coho salmon in the KMA. The American, Olds, and Pasagshak Rivers are lower-bound SEGs (LB SEG), and the Buskin River is an SEG. The Buskin and Olds Rivers goals were revised in 2020 (McKinley et al. 2019). The team reviewed the most recent escapement data available for KMA coho salmon stocks and determined that changes were warranted to 2 systems (Buskin and Pasagshak Rivers).

Buskin River

Buskin River currently has a weir-based SEG of 4,700–9,600 fish for coho salmon. A weir has been operated at Buskin River since 1985. The escapement goal was last revised in 2020 using the percentile method (McKinley et al. 2019). More recently, later-timed coho runs in the region have shifted abundance later into the season and after the typical coho monitoring timeframes. As such, the portion of the run monitored inseason for Buskin River coho has decreased and the weir is no longer a complete enumeration of escapement. Reanalysis of the data using more recent timeframe (2011 to 2025) and considering the partial weir counts as an index of total abundance suggests a modification to the goal is required. The team determined that a weir-based SEG of 2,500–6,000 fish would be appropriate for Buskin River coho salmon.

Pasagshak River

Pasagshak River currently has a foot survey-based lower bound SEG (LB SEG) for coho salmon of >1,200 fish for sockeye salmon. Foot surveys on Pasagshak River coho began in 1980 and have been conducted consistently since 1996. Advances in technology and interest in applying more feasible and precise survey methods resulted in aerial drone surveys beginning in 2017. Drone surveys track foot surveys and count a larger portion of the total escapement. The drone survey dataset now spans 9 years; we evaluated the aerial-drone counts using the percentile approach as it is the preferred monitoring method moving forward. The team determined that modifying this goal to a drone survey-based SEG range of 1,500–4,500 fish would be appropriate for this system. If drone surveys are not conducted during a season, the goal would default back to the LB SEG based upon foot survey methods.

Pink Salmon

There are 3 aggregate goals for KMA pink salmon that include even- and odd-year specific SEGs for the Kodiak Archipelago. All three SEGs were revised in 2011 using spawner-recruit models and recent escapements were within historical ranges. Additionally, recent year returns of wild-stock pink salmon in the KMA are some of the strongest returns on record. The team concluded there was no compelling reason to revise the 3 aggregate goals for KMA pink salmon.

Chum Salmon

There is one aggregate LB SEG for chum salmon in the KMA. The Kodiak Archipelago aggregate LB SEG was revised in 2017 (Schaberg et al. 2016). Because it was fairly recently revised, recent escapement indices were within the range of historical observations, and all 17 index streams have consistently been surveyed since inception of the goal in 2017, the team determined that no change to the Kodiak Archipelago LB SEG was warranted.

Summary

In summary, this comprehensive review of the 21 existing escapement goals in the KMA resulted in 18 goals remaining unchanged, the revision of 3 goals (Buskin River sockeye and coho salmon and Pasagshak River coho salmon). None of these changes are anticipated to have management or allocative implications to the subsistence, commercial, or sport fisheries.

References Cited

- Clark, R. A., D. M. Eggers, A. R. Munro, S. J. Fleischman, B. G. Bue, and J. J. Hasbrouck. 2014. An evaluation of the percentile approach for establishing sustainable escapement goals in lieu of stock productivity information. Alaska Department of Fish and Game, Fishery Manuscript No. 14-06, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/FMS14-06.pdf>
- Foster, M. B., T. B. Polum, M. L. Wattum, E. K. C. Fox, T. R. McKinley, K. L. Schaberg, and H. Finkle. 2023. Review of salmon escapement goals in the Kodiak Management Area, 2022. Alaska Department of Fish and Game, Fishery Manuscript No. 23-03, Anchorage. <https://www.adfg.alaska.gov/FedAidPDFs/FMS23-03.pdf>

References Cited (Continued)

Fleischman, S. J., and T. R. McKinley. 2013. Run reconstruction, spawner–recruit analysis, and escapement goal recommendation for late-run Chinook salmon in the Kenai River. Alaska Department of Fish and Game, Fishery Manuscript Series No. 13-02, Anchorage. <https://www.adfg.alaska.gov/FedAidPDFs/FMS19-07.pdf>

McKinley, T. R., K. L. Schaberg, M. J. Witteveen, M. B. Foster, M. L. Wattum, and T. L. Vincent. 2019. Review of salmon escapement goals in the Kodiak Management Area, 2019. Alaska Department of Fish and Game, Fishery Manuscript No. 19-07, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/FMS19-07.pdf>

Nemeth, M. J., M. J. Witteveen, M. B. Foster, H. Finkle, J. W. Erickson, J. S. Schmidt, S. J. Fleischman, and D. Tracy. 2010. Review of escapement goals in 2010 for salmon stocks in the Kodiak Management Area, Alaska. Alaska Department of Fish and Game, Fishery Manuscript Series No. 10-09, Anchorage. <https://www.adfg.alaska.gov/FedAidPDFs/FMS10-09.pdf>

Schaberg, K. L., M. B. Foster, M. Wattum, and T. R. McKinley. 2016. Review of salmon escapement goals in the Kodiak Management Area, 2016. Alaska Department of Fish and Game, Fishery Manuscript Series No. 16-09, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/FMS16-09.pdf>

Table 1.–Summary of current escapement goals, escapements since last review 2022 to 2025 and committee findings for salmon stocks in Kodiak Management Area, 2026.

System	2026 Goal Range		Type	Initial Year	Assessment Method	Escapement				Review Findings Action for 2027
	Lower	Upper				2022	2023	2024	2025	
KING SALMON										
Karluk River	3,000	6,000	BEG	2011	Weir	2,629	379	76	93	No Change
Ayakulik River ^a	4,800	8,400	BEG	2017	Weir	2,845	590	354	444	No Change
SOCKEYE SALMON										
Afognak (Litnik) River ^b	20,000	50,000	SEG	2020	Weir	29,509	35,559	32,218	22,195	No Change
Karluk River Early Run	150,000	250,000	BEG	2017	Weir	177,008	188,890	67,801	67,489	No Change
Karluk River Late Run	200,000	450,000	BEG	2017	Weir	326,801	598,660	430,771	200,182	No Change
Ayakulik River Early Run	140,000	280,000	SEG	2011	Weir	251,690	200,143	221,701	355,800	No Change
Ayakulik River Late Run	60,000	120,000	SEG	2011	Weir	100,772	117,956	96,293	85,186	No Change
Upper Station River Early Run	43,000	93,000	BEG	2011	Weir	82,824	63,129	30,252	81,806	No Change
Upper Station River Late Run	120,000	265,000	SEG	2020	Weir	168,880	181,290	222,131	162,325	No Change
Frazer Lake	75,000	170,000	BEG	2008	Weir	137,565	100,447	78,504	92,875	No Change
Saltery Lake ^c	15,000	35,000	BEG	2011	Weir	22,228	47,936	63,259	44,885	No Change
Pasagshak River (weir)	2,000	8,000	SEG	2024	Weir	4,377	4,495	7,641	5,366	No Change
Buskin Lake	5,000	8,000	BEG	2011	Weir	8,121	1,761	9,704	10,584	BEG: 4,000 – 8,500 ; Weir
COHO SALMON										
Pasagshak River	1,200		LB SEG	2011	Foot Survey	618	2,297	1,289	1,824	SEG: 1,500 – 4,500; Drone Survey
Buskin River ^d	4,700	9,600	SEG	2020	Weir	2,526	649	2,238	5,015	SEG: 2,500 – 6,000; Weir
Olds River	500		LB SEG	2020	Foot Survey	1,129	857	201	913	No Change
American River	400		LB SEG	2011	Foot Survey	360	434	440	104	No Change
PINK SALMON										
Mainland District	250,000	1,000,000	SEG	2011	Aerial Survey	579,900	729,600	158,000	918,700	No Change
Kodiak Archipelago (odd)	2,000,000	5,000,000	SEG	2011	Aerial Survey		5,170,013		5,676,124	No Change
Kodiak Archipelago (even)	3,000,000	7,000,000	SEG	2011	Aerial Survey	5,153,824		3,383,009		No Change
CHUM SALMON										
Kodiak Archipelago ^c	101,000		LB SEG	2017	Aerial Survey	102,300	245,249	72,000	117,100	No Change

-continued-

Table 1.–Page 1 of 2

Note: Shaded cells indicate escapement below the escapement goal that existed at the time. Grayed numbers indicate incomplete escapement estimates. BEG = biological escapement goal; SEG = sustainable escapement goal; LB SEG = lower-bound SEG.

- ^a Final escapements include estimated weir counts due to flooding at weir during king run. King salmon sport harvest since 2011 is assumed to be zero as the fishery was closed to retention. All years include fish counts from post-weir aerial surveys
- ^b Afognak (Litnik) River sockeye salmon escapement does not incorporate egg take removals.
- ^c Saltery Lake sockeye salmon escapements are weir counts minus fish removed for egg-takes.
- ^d Buskin River coho salmon escapement estimates from 2022 to 2024 are incomplete due to flooding at the weir.
- ^e The Kodiak Archipelago aggregate chum salmon goal comprises 17 index streams.