

It Takes Fish To Make Fish

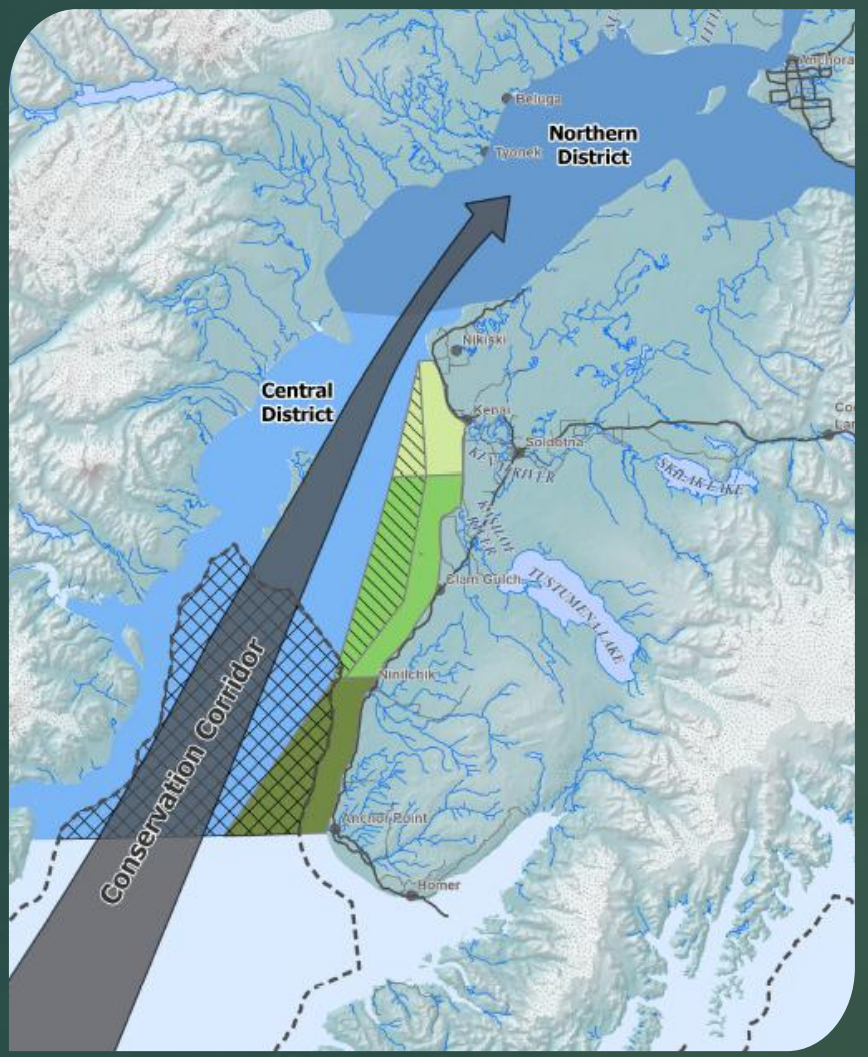


Photo Credit: Fernando Lessa



Matanuska-Susitna Borough
Fish & Wildlife Commission

2024

TABLE OF CONTENTS

2

MSB Fish & Wildlife Commission

4

Goals

5

The Conservation Corridor

7

Corridor History

9

Mixed Stock Fishery Complexity

12

UCI Districts & Fisheries

14

Federal Fishery Management

17

Inseason Management

19

Stocks of Concern

21

MSB Overview

23

Habitat In The Mat-Su

25

Fish Habitat Improvements

27

Opportunities & Takeaways

29

FWC Proposal

30

Alaska Constitution



Commissioners, from left to right: Howard Delo, Gabe Kitter, Peter Probasco, Andy Couch, Jim Sykes, Kendra Zamzow, Larry Engel. Not pictured: Tim Hale and Bill Gamble

The Mat-Su Borough Fish & Wildlife Commission was created to advise and make recommendations to the Assembly, Borough Manager, and/or any state or federal agencies, departments, commissions, or boards possessing jurisdiction in the area of fish, wildlife, and habitat on the interests of the borough in the conservation and allocation of fish, wildlife, and habitat.

- A 9-member volunteer board, appointed by the MSB Mayor, including two MSB Assembly members
- Members have pertinent expertise, some with decades of Alaska BOF service, and well over 100 years of combined expertise as State biologists, fishing and hunting guides, and other high level conservation and research-based careers.
- While engaging local citizens in fish and wildlife issues, the FWC/MSB has directed over \$20 million in Borough, State, and Federal appropriations towards improving fisheries research, management and fish passage.

This booklet was developed to inform and educate the public and decision makers about fisheries concerns that residents have with fisheries in both fresh and saltwater in Upper Cook Inlet and the streams that feed it.

Challenges:

- Declining king salmon populations over the past 15 years.
- Lack of scientific data regarding all salmon stocks.
- Lack of genetic data concerning stream origin of coho salmon.
- Interception of returning salmon by commercial fisheries throughout Cook Inlet.
- A higher number of Stocks of Concern than any other area in Alaska.

Management Concerns Relating to Unique Geography of Cook Inlet:

- Northern-bound salmon primarily swim through the center of the inlet when migrating through a mixed-stock fishery. They need to be protected from commercial overharvest.
- Management of Cook Inlet commercial fisheries revolves around one major stock of sockeye salmon. Many smaller stocks can be severely impacted if fishing time and area are not tightly controlled. More attention should be given to these smaller stocks.
- Significant differences exist in the productivity of the Cook Inlet's salmon stocks. Fishing pressures on these diverse stocks needs to be acknowledged when allowing harvest.
- A better forecasting method for identifying salmon run strength needs to be developed to aid in managing Cook Inlet fisheries.
- The potential Federal takeover of salmon management in the Federal waters of Cook Inlet creates a huge unknown for the future of salmon runs to the Northern District.

Efforts & Accomplishments:

- Establishing a “Conservation Corridor” through the middle of the inlet, allowing additional salmon to migrate past the drift fleet and into Northern District waters.
- Expanding the limited personal use fisheries in the Northern District.
- Reducing drift gillnet fishing times in specific areas.
- Securing funding for coho salmon genetics studies.
- Securing funding for weirs and enumeration counts of returning salmon.
- Expanding commercial fishing areas on the east side of the Central District in Cook Inlet.

The greatest success so far has been establishing and maintaining the Conservation Corridor. The Corridor has successfully pulsed more fish through the commercial drift fleet and into northern waters, allowing Northern salmon to return to their natal streams to spawn. **The Fish & Wildlife Commission is dedicated to maintaining the regulations currently supporting the Conservation Corridor and enforcing conservative fishery management for the Northern District in the future.**

COMMISSION GOALS



- 1 Long-term salmon conservation and protection of salmon habitat.
- 2 Maintain and enhance the Conservation Corridor in the drift gillnet fishery management plan.
- 3 Clarify or strengthen conservative management practices which provide protection for current and formerly identified Stocks of Concern.
- 4 Increase inriver returns of coho and sockeye salmon to Northern Cook Inlet river systems.
- 5 Adjust existing king salmon management plans and strategies to more adequately address conservation concerns for king salmon returning to Northern Cook Inlet drainages.
- 6 Maintain or extend personal use fishing opportunity for Alaskan residents fishing Northern Cook Inlet drainages.

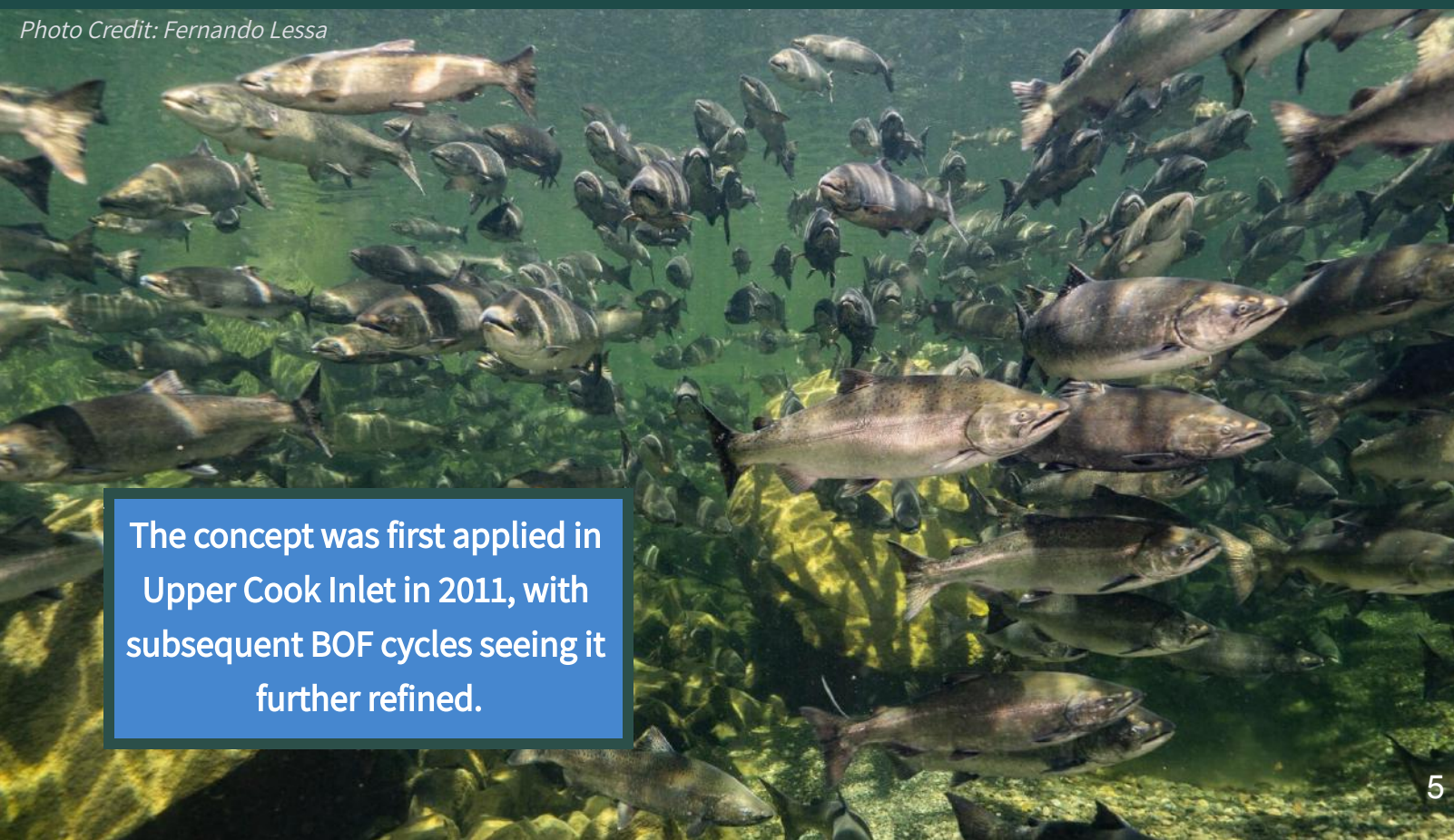
Photo Credit: Jonny Armstrong

THE CONSERVATION CORRIDOR

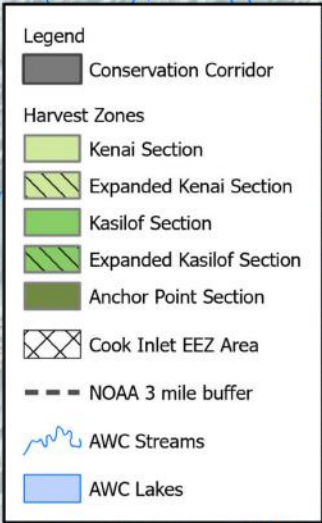
Management That Works

The Conservation Corridor concept provides for a more conservative approach to fisheries management. It is the practice of closing commercial fishing, except in nearshore "terminal" fishing areas, called harvest zones, to allow fish heading to northern streams to pass. The concept builds off of the highly successful terminal stock fisheries management program in Bristol Bay and, in our case, is designed to enable commercial fishermen to target Kenai and Kasilof sockeye closer to shore. It considers the unique geography of Upper Cook Inlet and the complexity of a commercial mixed-stock fishery, ensuring the Inlet's less productive salmon stocks and northern-bound coho and sockeye pass through the Central District to reach their spawning grounds in Northern District drainages.

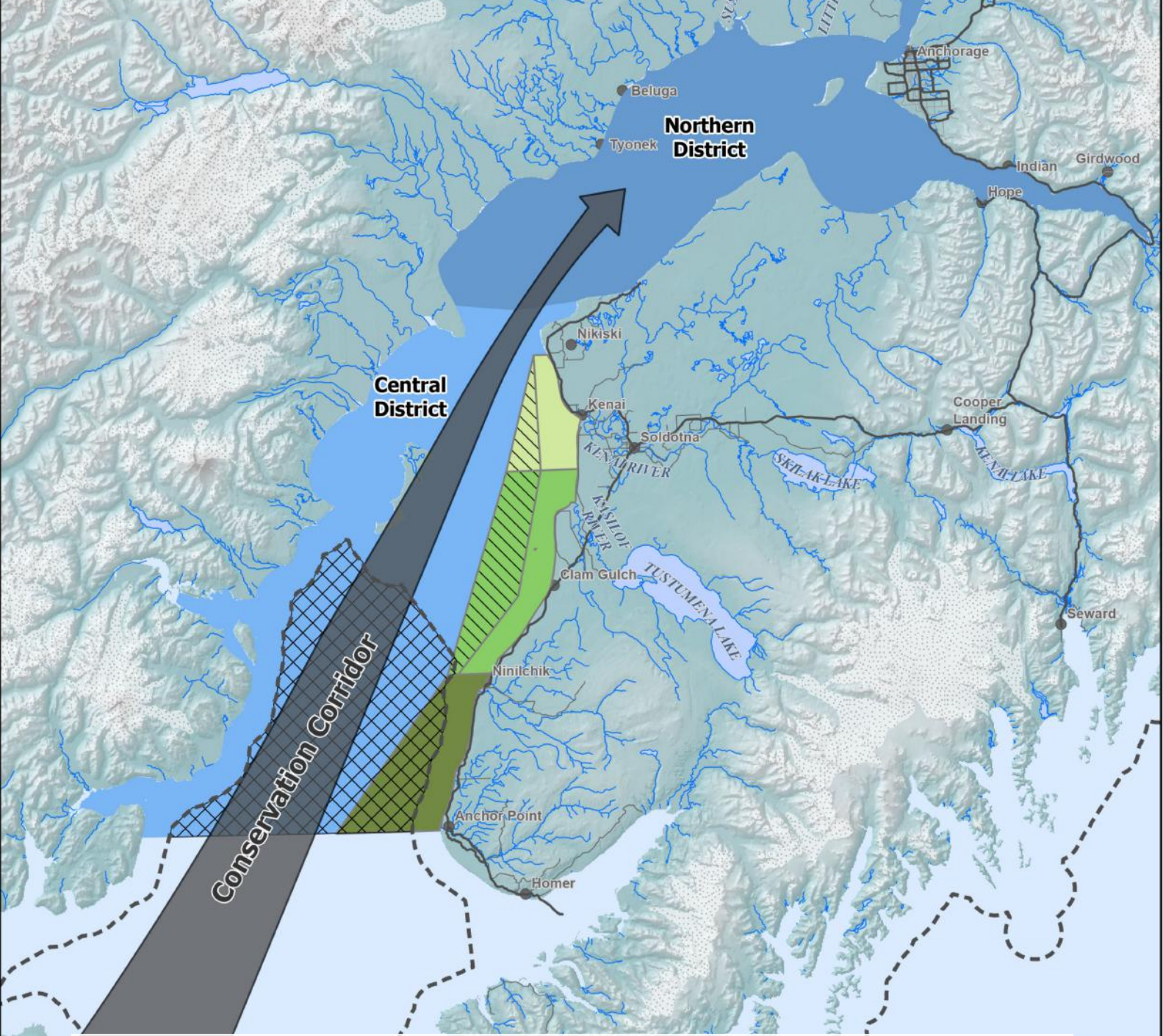
Photo Credit: Fernando Lessa



The concept was first applied in Upper Cook Inlet in 2011, with subsequent BOF cycles seeing it further refined.



It is impossible to harvest one stock at a time in a mixed-stock fishery like this one. However, "fishing for Kenai sockeye in the terminal harvest zones, closer to shore, will result in lower harvest numbers of Susitna sockeye and coho because these northern-bound salmon are primarily running up the middle of the Central District."* The Expanded Kenai, Expanded Kasilof and Anchor Point Harvest Zones are frequently employed to ensure stock specific harvests of Kenai Peninsula sockeye salmon.



BEFORE THE CORRIDOR

For decades, commercial fisheries management of Kenai River sockeye has impacted Upper Cook Inlet with little regard for appropriate harvest levels of Northern District fish stocks. As a result, the populations of northern-bound salmon have suffered drastically, local fishing opportunities have been restricted or eliminated, and residents and visitors have watched as Northern District commercial setnetters, personal use, and sportfishing needs took a back seat to Central District commercial interests.



Stock of Concern

Susitna sockeye was designated a stock of concern in 2008; 12 years later, in 2020, as a result of regulatory changes enforcing the Conservation Corridor, they were delisted.



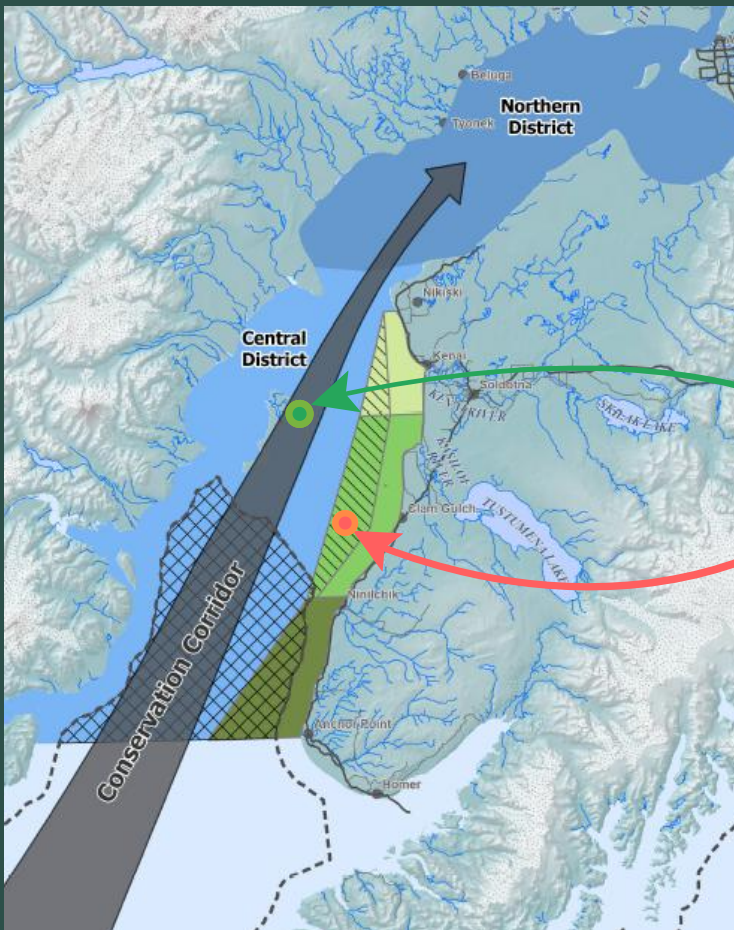
Coho Returns

Coho returns in Northern Cook Inlet streams reached record lows in 2011-2012. Regulations supporting the Conservation Corridor showed immediate improvements. The data below demonstrates the impacts commercial fishing locations can have on northern-bound coho.



Escapement

Attaining spawning escapement goals, the bedrock of fisheries management, had met chronic failure in the Northern District sockeye and coho streams, while the Central District often issued successive emergency orders to harvest more salmon.



From 2014-2019, drifters harvested an average delivery of 53 coho in the Conservation Corridor, versus 10 coho in the Harvest Zone, during the critical period from July 16-31.*

53 coho harvested per delivery

10 coho harvested per delivery

Data reinforces the importance of preserving the Corridor for northern-bound salmon passage, especially coho and sockeye.

*Source: ADF&G

WITH THE CORRIDOR



Photo Credit: Redoubt Reporter

2014

1 The commercial drift catch was more evenly balanced between the corridor and inshore areas.

2 More salmon moved through the corridor, successfully returning to the Northern District.

When the Conservation Corridor was established in 2011, Northern District salmon were almost universally in decline. In 2014, the Board of Fisheries voted unanimously to strengthen the Conservation Corridor by enforcing a clear directive that had been side-stepped for more than 35 years. Once the Corridor was established, during much of July, the drift fleet is redirected to fish inshore near the rivers where Kenai and Kasilof sockeye originate, allowing salmon to pass north, benefitting all Northern District users.

Fish Creek Sockeye Abundance Estimates



*Source: ADF&G

MIXED STOCK FISHERY COMPLEXITY

UCI RUN TIMING	May	June	July	Aug	Sep
Early Sockeye	[Red bar]				
Early King	[Blue bar]				
Late Sockeye		[Red bar]			
Late King		[Blue bar]			
Early Coho			[Purple bar]		
Late Coho				[Purple bar]	
Chum			[Orange bar]		
Pink			[Dark Blue bar]		

Every July, five different species of salmon, comprised of numerous stocks, swim through Upper Cook Inlet around the same time. Among the salmon are the Kenai sockeye, Kenai kings, Northern cohos, and Northern sockeye, all swimming in the same saltwater with commercial boats targeting Kenai sockeye. Farther upstream are the northern set gillnets. Still farther north are subsistence, personal use, and, finally, the inriver sport fishery.

Management of the Inlet's unique stocks and species often results in conflict among user groups. When commercial fishermen have a banner year for sockeye, sport fishermen often face closures because of low numbers of returning cohos. By further refining mixed-stock locations and identifying and fishing individual systems, harvest practices may be fine-tuned to benefit all users with an accurate, science-based approach. Given the variability of run timing year-to-year, and the current lack of inseason management tools in the Northern District, **a conservative approach to the Conservation Corridor concept is necessary to manage this complex fishery and maximize positive outcomes.**

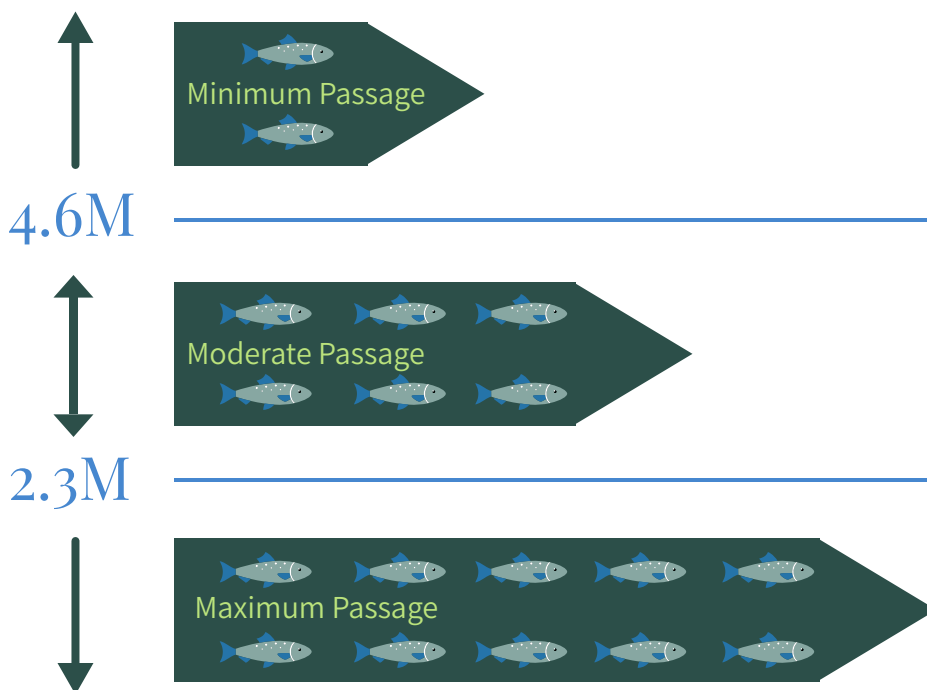
When ADF&G Forecasts a Large Sockeye Run, Fewer Salmon Return North to Spawn.

Historically, the larger the pre-season projections of Kenai sockeye by ADF&G, the fewer Susitna coho and sockeye successfully made it north to their natal streams to spawn. Large runs tend to trigger more liberal commercial fishing in the mixed-stock fishery of the Conservation Corridor. Fishing the drift fleet primarily in the harvest zones, even on years of high sockeye projections, is a compromise and the type of conservative management effort that supports healthy, sustained populations of salmon in the Northern District and all of Upper Cook Inlet.

Kenai Drives Management

Bigger Projections = Smaller Protections

KENAI PROJECTIONS VS NORTHERN-BOUND SALMON PASSAGE

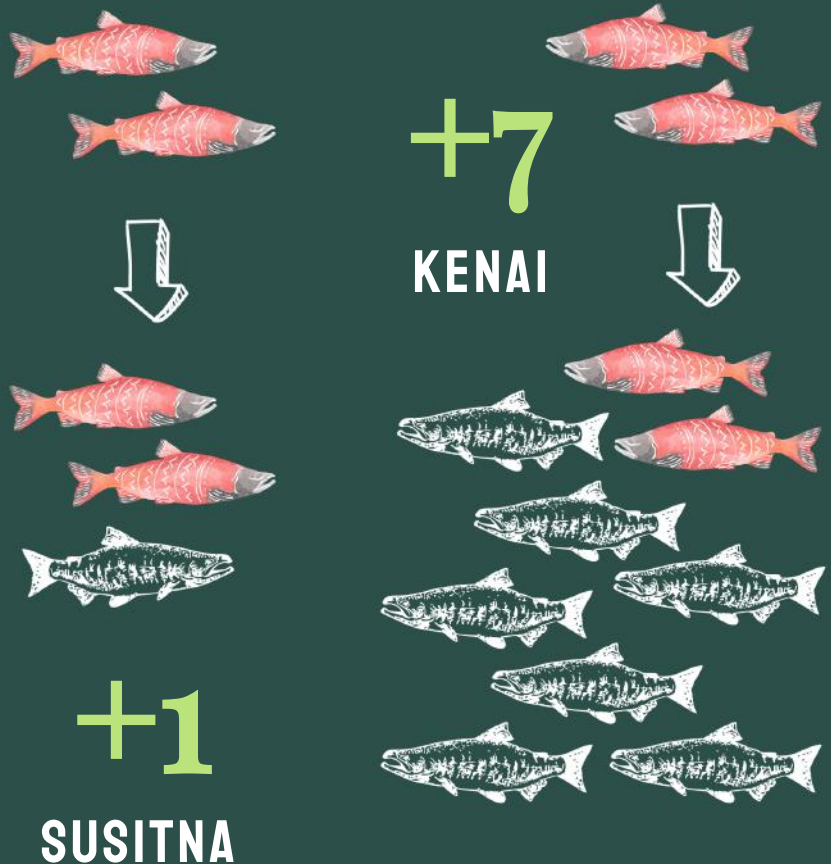


Managing fisheries in Cook Inlet is complex and management must consider many factors. Prior to the development of the Conservation Corridor, drift fisherman could fish in an area of their choice. Today, during a strong sockeye run with a projected escapement of up to 4.6 million fish, drifters are permitted only one 12-hour period per week in the mixed stock waters of the corridor from July 16-31. The higher the projection, the fewer restrictions on the drift fleet, and less northern-bound salmon make it through the corridor.

A Strong Conservation Corridor Protects Northern Salmon Stocks and the Health of Upper Cook Inlet Fisheries

A compounding factor in management is the productivity of the fish. Kenai sockeye produce more returning offspring than Northern sockeye: 4.5 fish per spawner to Susitna's less than 1.5 fish per spawner. This means only one Susitna sockeye offspring can be harvested to sustain the stock versus the seven eligible Kenai offspring. The less productive stocks cannot support the same high harvest rates as the strong Kenai stock, and in a mixed-stock commercial fishery, it is impossible to manage effectively.

A NATURALLY LESS PRODUCTIVE STOCK NEEDS MORE PROTECTION



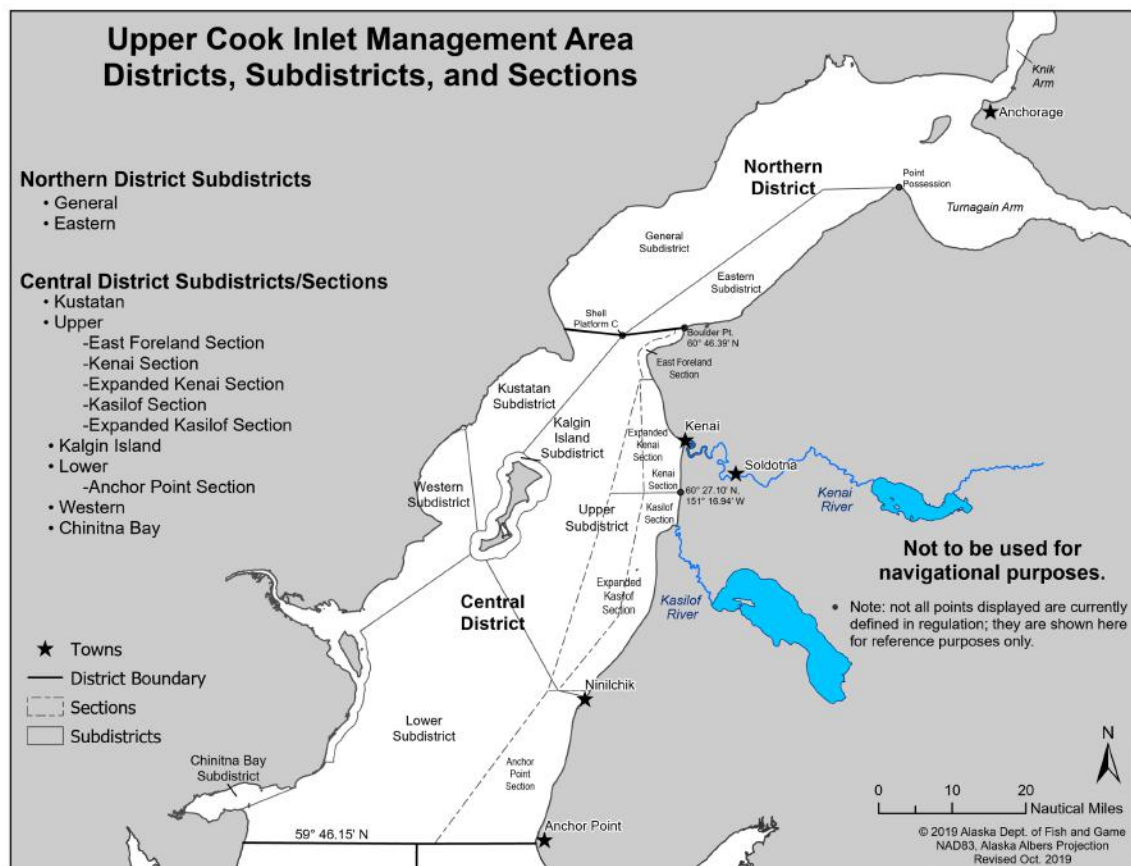
**ADF&G Sockeye Salmon productivity*

UPPER COOK INLET

Unique Geography & Commercial Fisheries

Upper Cook Inlet (UCI) is a 125-mile-long funnel-shaped estuary in southcentral Alaska, with circulation patterns impacted by tides, freshwater input, and surface winds. Much of the inlet's water is glacial and the tides are semi-diurnal, with a mean tidal range of 4.2 meters in the lower inlet and 9.0 meters to the north near Anchorage. The northern tidal range is the second most extreme variation in the world. Tidal currents average 1 to 2 knots maximum at the entrance to the inlet and 5 to 6 knots maximum around Anchorage.

The UCI commercial fishery management area consists of marine waters north of Anchor Point and is divided into the Central and Northern Districts. The Central District is about 75 miles long, averages 32 miles wide, and includes six sub-districts broken into six sections. The Northern District is approximately 50 miles long, averages 20 miles wide, and contains just two sub-districts, beginning near the narrowest part of Cook Inlet and extending up to the Susitna River, Knik River, and Turnagain Arm.



Regulations that govern the UCI Conservation Corridor are found in 5AAC 21.353, Central District Drift Gillnet Fishery Management Plan.

The purpose of this plan is to, "ensure adequate escapement and a harvestable surplus of salmon into the Northern District drainages."

Approximately half of Alaska's human population resides near the shores of UCI. This includes the city of Anchorage (288,121 in 2021) and an additional 110,000+ residing in the Matanuska-Susitna Borough. Primary freshwater sources into UCI include the major salmon-producing systems: the Susitna, Kenai, and Kasilof Rivers. Northern drainages are generally the largest producers of coho, chum, pink, and chinook salmon, whereas the Kenai Peninsula rivers dominate sockeye salmon production. The UCI commercial fishery harvests all five species of salmon.



Photo Credit: Joshua Foreman

FUTURE UNKNOWNNS DRIVE NEED FOR CONSERVATIVE MANAGEMENT

The commercial fishery in Cook Inlet has changed significantly over time and will continue to adapt as we learn more and are impacted by future unknowns, such as Federal fishery management and warming water temperatures. The MSB Fish & Wildlife Commission prioritizes conservative management that provides reasonable harvest opportunities for all user groups, supported by the Alaska State Constitution, which states, *“The legislature shall provide for the utilization, development, and conservation of all natural resources belonging to the State, including land and waters, for the maximum benefit of its people.”*

Run timings and migration routes overlap so much that the fishery has historically been mixed species and stocks in nature. Regarding commercial economic value, sockeye salmon are by far the most important component of the harvest, followed by coho, chum, pink, and chinook salmon. The ex-vessel value of the UCI commercial salmon fishery averaged approximately \$27 million from 1970 to 2021. The average annual harvest during this period was 3.9M salmon, of which 2.8M were sockeye. The drift gillnet fishery generally accounts for about 55% of the annual harvest, with set gillnets harvesting virtually all the remainder.

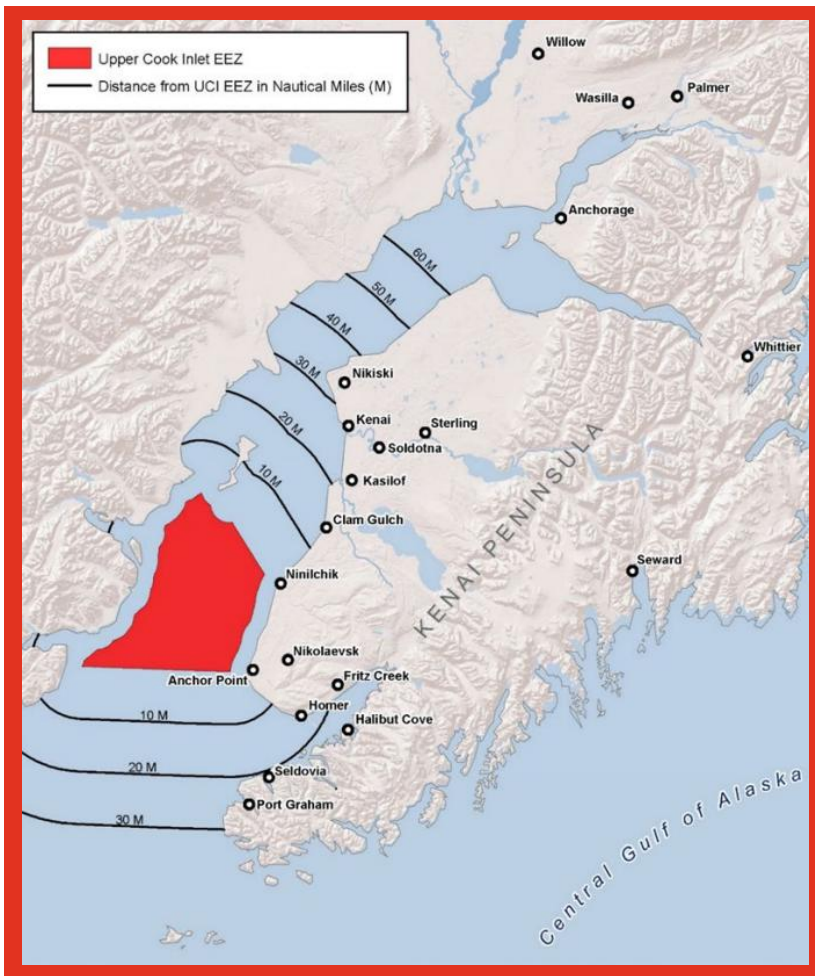
Set (fixed) gillnets are the only permitted gear in the Northern District, whereas both set gillnets and drift (mobile) gillnets are allowed in the Central District. Seine gear is restricted too, but seldom used, in the Chinitna Bay subdistrict. The Commercial Fishing Entry Commission reported that 567 active drift gillnet permits were issued in 2021, of which 74% were issued to Alaskans. In the set gillnet fishery, 730 permits were issued, 84% to Alaskans. Of those permits, 364 drift gillnet permit holders and 510 set gillnet permit holders reported harvest in 2021.



Photo Credit: Jonny Armstrong

FEDERAL FISHERY MANAGEMENT

COOK INLET EEZ



Source: NOAA Fisheries

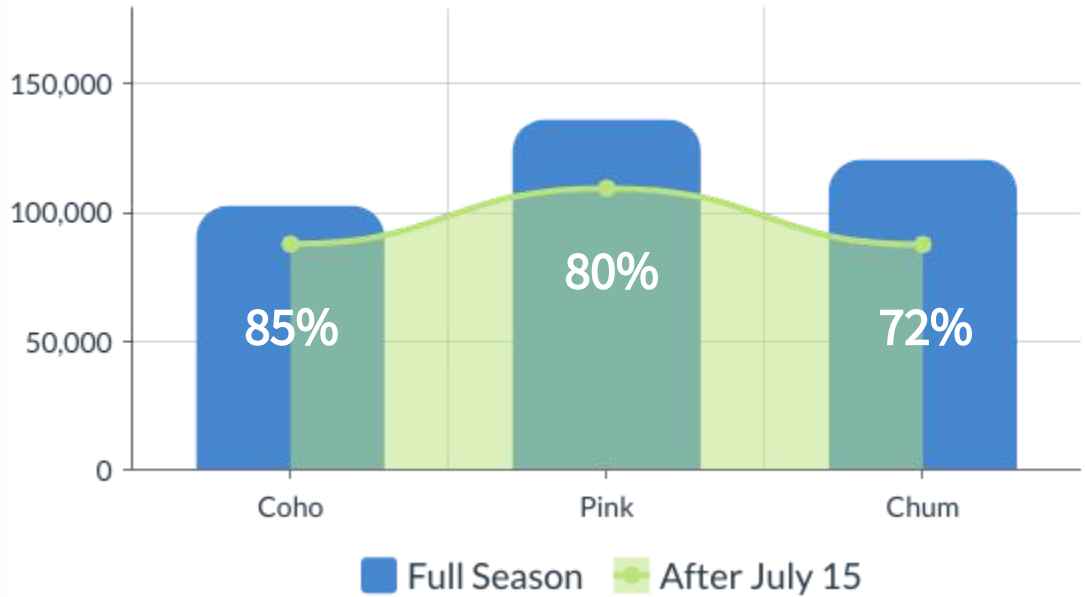
MANAGEMENT OF THE UCI COMMERCIAL FISHERY IS FACING MAJOR CHANGES.

The federal government is seeking public comment on a proposal that would implement federal management of the commercial fishery in the Exclusive Economic Zone (EEZ) waters of Cook Inlet. Previously, management of the EEZ was deferred to the State of Alaska and fishing occurred without respect to EEZ boundaries. The current proposal would result in federal management 'only' in the EEZ with state management throughout the remainder of UCI. EEZ waters start three nautical miles off shore, just south of Kalgin Island and cover roughly 1200 square miles of the inlet. This area is very important to the UCI drift gillnet fishery.

Federal management in the EEZ could devastate Northern District salmon stocks. Conservative management must be implemented for the immediate future.

- POTENTIAL TO DOUBLE THE COMMERCIAL DRIFT HARVEST
- LACK OF INSEASON MANAGEMENT TOOLS
- INABILITY TO MAKE TIMELY INSEASON MANAGEMENT DECISIONS

ANNUAL CENTRAL DRIFT GILLNET HARVEST



On a 20 year average, approximately 44% of king salmon, 62% of sockeye salmon, 85% of coho salmon, 80% of pink salmon, and 72% of chum salmon caught in the drift gillnet annual harvest occurs after July 15th.*

*Source: ADF&G

*"Commercial salmon fisheries in Cook Inlet begin in June under State regulations. Around this time, Chinook salmon are already present in Cook Inlet and sockeye salmon begin migrating into Cook Inlet from the Gulf of Alaska. As salmon begin to move into Cook Inlet, with the exception of Chinook, they typically group in large tide rips in the middle of Cook Inlet to start moving toward their spawning streams, rivers, and lakes... salmon stocks originating from throughout Cook Inlet are mixed together. As they move northward up farther into Cook Inlet, individual salmon stocks will eventually move shoreward into State waters to reach their spawning streams. Stocks returning to freshwater systems farther north in Cook Inlet tend to stay close to the middle of the inlet when they move through the Cook Inlet EEZ Area."***

**Department of Commerce. NOAA. Federal Register: Fisheries of the Exclusive Economic Zone Off Alaska; Cook Inlet Salmon; Amendment 16. Vol. 88, No. 201. October 19, 2023

The Fish and Wildlife Commission (FWC) has the following concerns with the proposed EEZ management plan:

- Amendment 16 proposes two 12-hour commercial fishing periods each week within the EEZ, on Monday from 7 a.m. until 7 p.m. and on Thursday from 7 a.m. until 7 p.m.
 - This change increases the ability of the drift gill net fleet to harvest large numbers of salmon in the EEZ, potentially doubling the commercial drift harvest.
 - The additional proposed fishing periods after July 15 increases fishing time during the critical period for moving fish through the Conservation Corridor, resulting in a greater harvest of northern-bound salmon and fewer fish reaching the Northern District.
- The National Marine Fisheries Service (NMFS) proposes to manage EEZ waters by regulating harvest using a Total Allowable Catch (TAC). Without adequate inseason management tools in the Northern District, the current data used to calculate a TAC is likely skewed toward the more abundant Kenai and Kasilof salmon stocks. This has the potential to allow overharvesting of the smaller and less productive stocks.
- The NMFS's ability to make timely inseason management decisions is severely hampered by their required processes. The Alaska Department of Fish and Game (ADF&G) has proven that salmon inseason management requires quick and timely management decisions. As is currently required, to implement an inseason adjustment, the NMFS must publish a temporary rule in the Federal Register, requiring a public comment period. This process could take weeks or months and does not allow NMFS to make timely management decisions required, often daily, to manage commercial salmon fisheries.
- The NMFS recognizes that it will take time to refine the application of their existing management tools as they develop management expertise and collect better data over time. Because of this, a more conservative management approach must be implemented for the immediate future.

As a result of these concerns the FWC recommends for the period from July 16 to August 15 to allow only one 12-hour EEZ fishing period per week and maintain the current drift gillnet length of 150 fathoms.

CURRENT STATE INSEASON MANAGEMENT

Since the Susitna counters are far up the inlet and farther up a vast river drainage, they provide limited real-time data useful for inseason commercial salmon management. While Kenai management immediately understands the abundance of its salmon runs, northern-bound salmon counts can be delayed by two to three weeks, depending on the time it takes to travel to their natal streams. The timing and the lack of conservative inseason management requires excessive use of emergency orders in the Northern District.

Because of this long travel time, through harvest fisheries, ADF&G has considered the Susitna drainage weir data as more of a post-season evaluation for salmon escapement rather than an effective inseason management tool. Even when Susitna sockeye escapement data shows abundances that could provide additional sustainable harvest, Susitna coho have a slightly later run timing, and their abundance levels may not sustainably support additional harvest. Additional and more timely inseason species, stock, and abundance data is needed. Concerning the federal fishery within the EEZ, there should be public discussion regarding how federal regulation enforcement will occur before fishing begins and how effective adjustments will be made inseason with the required lengthy administrative processes.

While Kenai management knows the abundance of its salmon runs more quickly, Northern-bound salmon counts are delayed by weeks.

TOOLS TO FACILITATE BETTER DATA-DRIVEN MANAGEMENT DECISIONS:

- **Test fisheries** at the Anchor Point line through August 15. An additional line of test net fishing should provide the same type of data for salmon that had successfully migrated through the EEZ.
- **Genetic testing** for sockeye and coho to determine productivity levels of various species and stocks; a different EEZ fishing pattern would impact these numbers.
- **Boat travel log trackers**, as used in East Coast fisheries, could better define EEZ drift gillnet locations where more discrete species/stock harvest could occur.
- **Consistent funding of escapement counts** using tools such as weirs or sonar throughout Upper Cook Inlet, especially in more remote areas. These tools would help gain accurate fish counts to manage inseason restrictions and identify historic run trends.
- **Restoration of the Genetic Stock Identification (GSI)** mark and recapture of the Susitna River sockeye salmon in conjunction with operation of the Judd, Larson and Chelatna Lake weirs to estimate run size and spawning escapement.



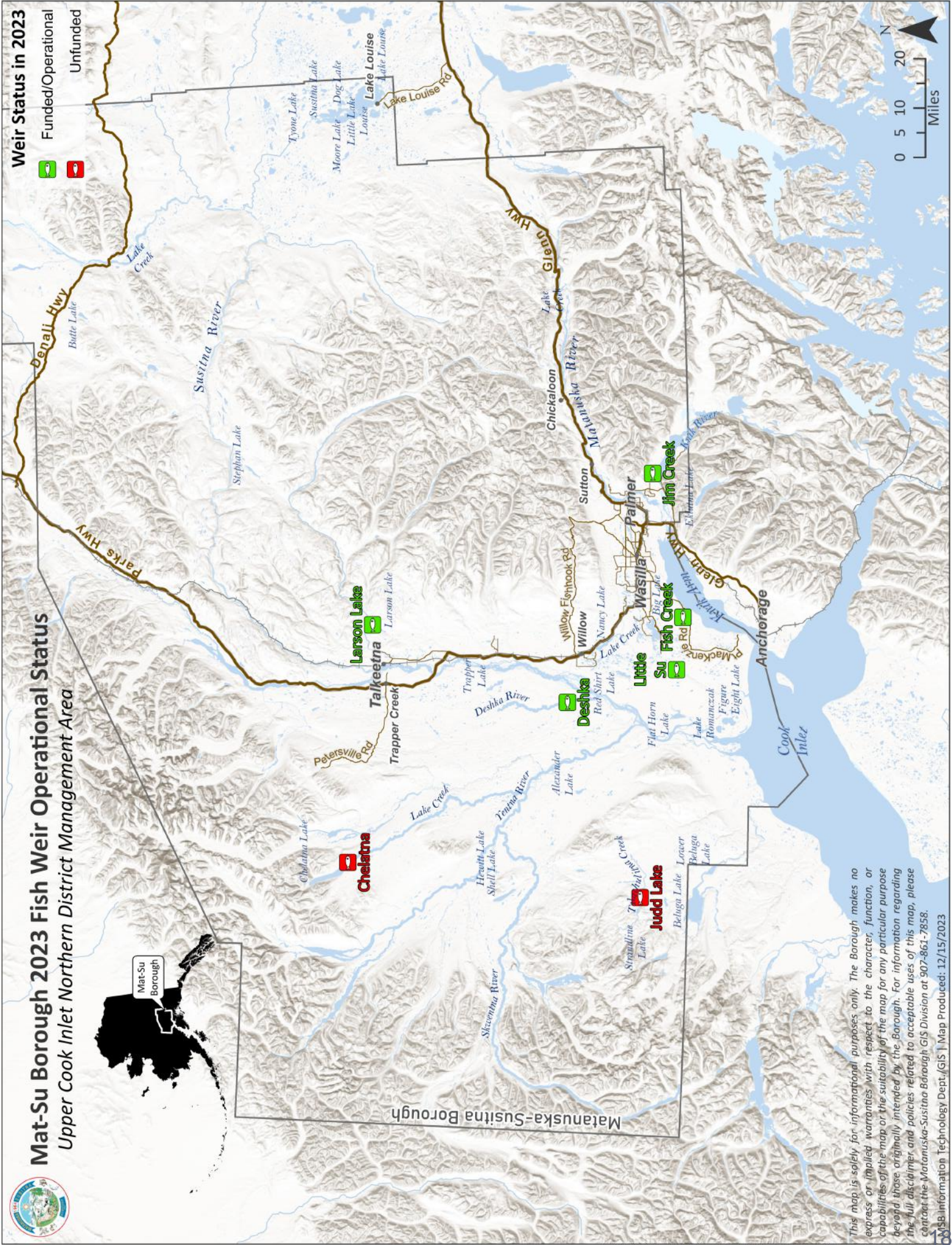


Mat-Su Borough 2023 Fish Weir Operational Status

Upper Cook Inlet Northern District Management Area



Weir Status in 2023
Funded/Operational
Unfunded



This map is solely for informational purposes only. The Borough makes no express or implied warranties with respect to the character, function, or capabilities of the map or the suitability of the map for any particular purpose beyond those originally intended by the Borough. For information regarding the full disclaimer and policies related to acceptable uses of this map, please contact the Matanuska-Susitna Borough GIS Division at 907-861-7858.

STOCKS OF CONCERN

Photo Credit: Jonny Armstrong



CURRENT Stocks of Management Concern

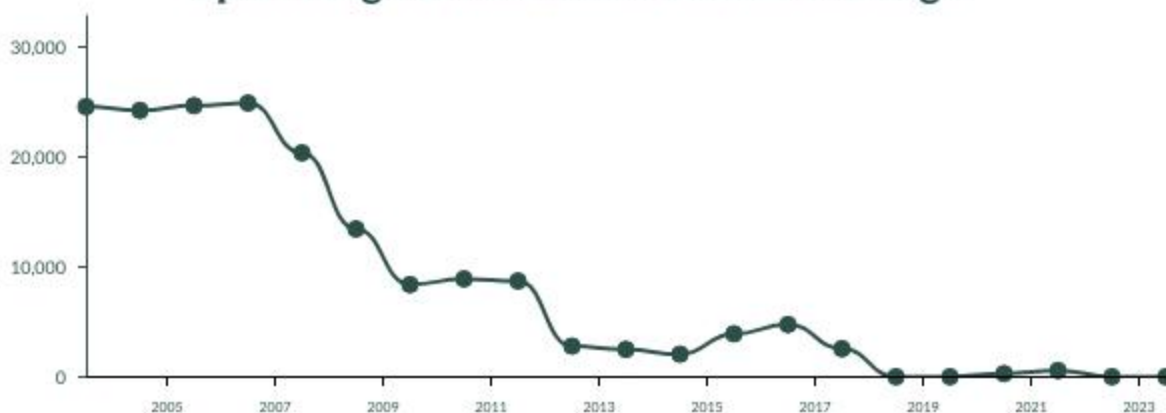
- King in Alexander Creek (2010)
- King in Chuitna River (2010)
- King in Theodore River (2010)
- King in East Susitna (2019)

Stocks of Concern are fish chronically struggling to maintain population stability despite conservative management efforts. The Susitna River sockeye was designated as a Stock of Yield Concern in 2008. With the establishment of the Conservation Corridor in 2011, and subsequent regulations reinforcing the Corridor in 2014, the Susitna River Sockeye population improved enough to be delisted as a Stock of Concern in 2020. It is important to celebrate the positive impacts of conservative management efforts like these, but to also recognize that it didn't happen overnight and there is more to be done. It can take years to feel the effects of regulatory changes and maintaining current protections should be a top priority for policymakers. **Due to the early run timing of the northern king salmon in Cook Inlet, the Conservation Corridor has NO significant impacts on these salmon populations.** Additional management methods need to be considered.

Susitna King Salmon: A Drainage-Wide Stock of Concern?

Despite the improvement for Susitna Sockeye, numerous king populations throughout Upper Cook Inlet continue to be listed as a stock of management concern, and many have been there for more than a decade. The results are a continuously struggling stock, limited catch-and-release fishing, and full-season closures for residents. This begs the questions, is careful conservative management doing enough? Is there more to be done?

Sport King Harvest within Susitna Drainage



The graph shows the result of significant and continuing declines in king salmon returns to the Northern District resulting in limited harvest opportunities for anglers. **2023 is the fourth season since 2018 with no king salmon sport harvest in the Susitna.** Drainage-wide Susitna harvest declines (4th largest king salmon producer in AK*) indicate a larger concern. The FWC respectfully requests listing all Susitna Drainage King Salmon as Stock(s) of Yield Concern. In comparison, Susitna sockeye was a Stock of Yield Concern from 2008-2020, having never reached harvest levels as low as the kings.

*Source: ADF&G

"A stock of conservation concern is defined in 5 AAC 39.222(I)(6) as "a concern arising from a chronic inability, despite the use of specific management measures, to maintain escapements for a stock above a sustained escapement threshold (SET); a conservation concern is more severe than a management concern."


"A stock of management concern is defined in 5 AAC 39.222(I)(21) as "a concern arising from a chronic inability, despite the use of specific management measures, to maintain escapements for a salmon stock within the bounds of the SEG, BEG, OEG, or other specified management objectives for the fishery; a management concern is not as severe as a conservation concern. "

"A stock of yield concern is defined in 5 AAC 39.222(I)(42) as "a concern arising from a chronic inability, despite the use of specific management measures, to maintain specific yields, or harvestable surpluses, above a stock's escapement needs; a yield concern is less severe than a management concern." The SSFP defines chronic inability as "the continuing or anticipated inability to meet expected yields over a 4 to 5 year period."



MAT-SU BOROUGH

The Matanuska-Susitna Borough lies at the head of Upper Cook Inlet and is Alaska's fastest growing region. Most of the Mat-Su's population resides in the core urban area surrounding the cities of Palmer and Wasilla, but despite it's growth, the majority of the region is wild and minimally developed. **The Mat-Su is more than 25,000 square miles, roughly the size of West Virginia, and is comprised mainly of pristine Alaskan wilderness,** with more than 50,000 miles of mapped streams and all five species of Pacific salmon.

-  5 salmon species
-  50,000+ stream miles
-  Region the size of West Virginia



DID YOU KNOW?

BABY SALMON LIVE HERE

**This is Important Salmon Habitat
Please Help Protect Their Home**

For more information, go to:
WWW.BABYSALMON.ORG

This message brought to you by the
Great Land Trust, in partnership with the
Mat-Su Salmon Habitat Partnership.

©2011 by GLT Inc. All rights reserved.
Contact: (907) 261-1100 or at www.greatlandtrust.org

GREAT LAND TRUST

Local groups increase public awareness about the importance of preserving habitat for baby salmon



Photo Credit: Fernando Lessa

What do salmon that successfully migrate to Upper Cook Inlet find?

ABUNDANT HABITAT FOR SPAWNING.



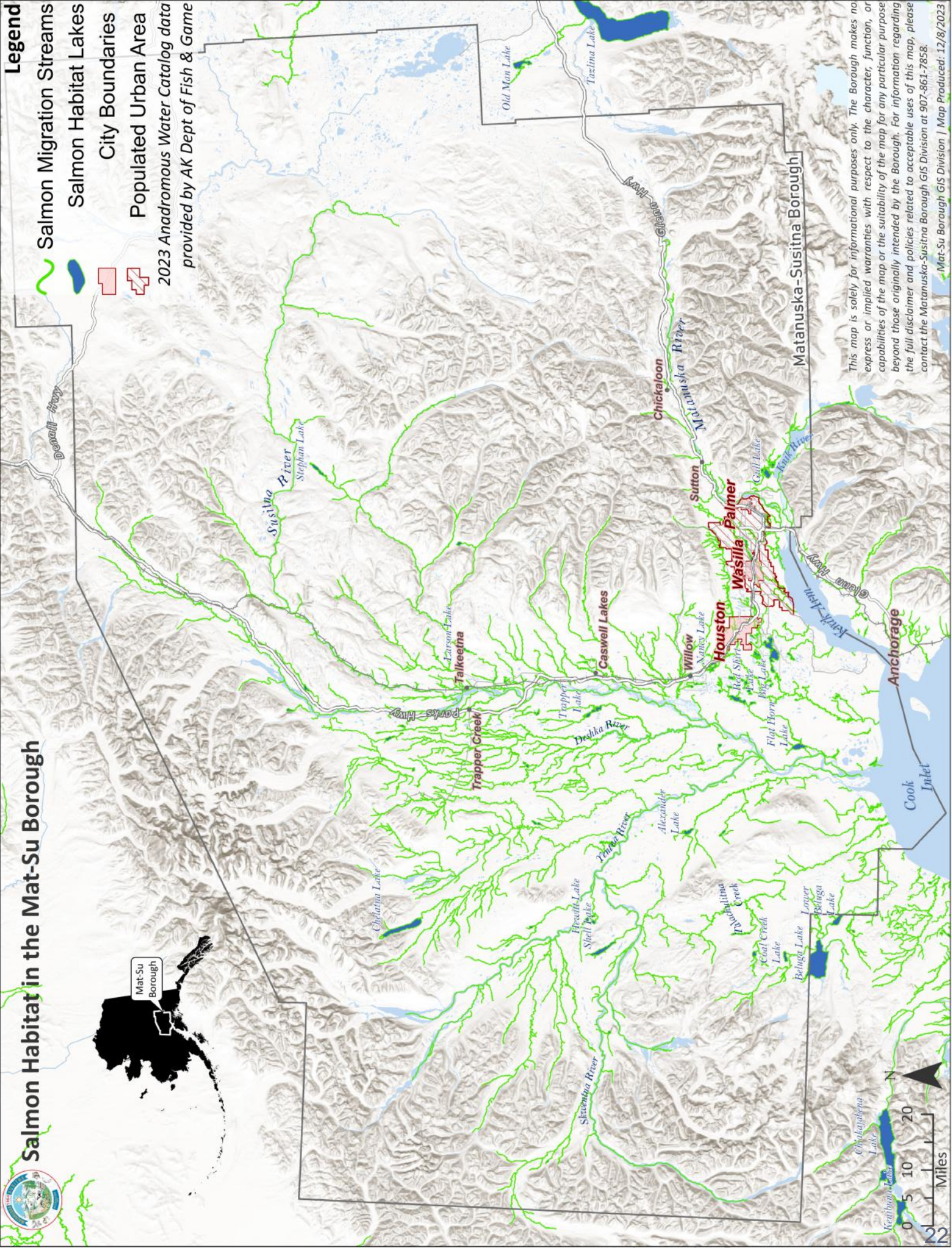
There are more than 4,000 miles of documented salmon habitat in the Susitna Basin alone. These streams produce the salmon that are critical for the long-term stability of salmon populations in Cook Inlet. Through conservative management, maintaining and enhancing the Conservation Corridor increases the likelihood that an adequate number of fish return to continue sustainable populations.



Salmon Habitat in the Mat-Su Borough



- Legend**
- Salmon Migration Streams
 - Salmon Habitat Lakes
 - City Boundaries
 - Populated Urban Area
- 2023 Anadromous Water Catalog data provided by AK Dept of Fish & Game



This map is solely for informational purposes only. The Borough makes no express or implied warranties with respect to the character, function, or capabilities of the map or the suitability of the map for any particular purpose beyond those originally intended by the Borough. For information regarding the full disclaimer and policies related to acceptable uses of this map, please contact the Matanuska-Susitna Borough GIS Division at 907-861-7858.

Mat-Su Borough GIS Division | Map Produced: 12/8/2023

HABITAT IN THE MAT-SU

for returning salmon

Photo Credit: Carl Johnson



Habitat Is Critical, But It Takes Fish To Make Fish

The Susitna Basin is approximately 20,612 square miles. The Susitna River, from source to salt, is about 321 miles with 229 river miles and 4,030 tributary stream miles documented in the Anadromous Waters Catalog (AWC). Recognizing that there is undoubtedly more salmon habitat in the Susitna basin that has yet to be evaluated, there is a minimum of 4,258 stream miles in the Susitna basin alone. Salmon habitat here has the potential to contribute significantly to Cook Inlet salmon stocks, assuming enough salmon return to their natal streams to spawn.

The Conservation Corridor provides the “pipeline” to help sustain this vibrant ecosystem, and the MSB Fish & Wildlife Commission believes it is essential, and more economical, to protect salmon habitat and populations instead of restoring them.

The Mat-Su Borough contains abundant anadromous fish habitat, mostly centered around the massive Susitna River drainage. Salmon, rainbow trout, Arctic Char, and many other fish populate the streams. Key issues in maintaining healthy fish populations include ensuring northern-bound passage through Cook Inlet, limiting the impacts of development on fish habitat, understanding where streams are warming, and managing invasive species such as northern pike and elodea.

WATERBODY SETBACKS

In 2023, the MSB formed a Waterbody Setback Advisory Board (WBSBAB) to address a high number of setback violations on borough lakes. The WBSBAB consists of local experts, scientists, realtors, developers, and MSB residents. The MSB Fish & Wildlife Commission and the Mat-Su Salmon Habitat Partnership both hold a seat. The purpose of the board is to address current violations to create a path towards compliance, and to set future standards for development near waterbodies as the borough continues to grow. Board recommendations could include development guidelines like riparian buffers, and regulatory recommendations, such as the enforcement of a mandatory Land Use Permit to better assist homeowners in following best practices and building responsibly on and near lakeshores.

COLD-WATER REFUGIA

In addition to utilizing and implementing management tools for new development, organizations like the Mat-Su Salmon Habitat Partnership continue to bring new research forward that could help guide future land use decisions. Identifying and mapping critical cold-water refugia, areas with consistently cool water temperatures, necessary for salmon survival is an example of data that could help protect habitat for sustaining healthy salmon populations.

THE PIKE PROBLEM



Photo Credit: iStock.com/abadonian

Northern Pike currently occupy **64 waterbodies** in the Mat-Su Borough, totaling **19,764 surface areas** and **70% of all AWC documented anadromous lakes and ponds**. Beyond that, 13% of all AWC lakes and ponds have had moderate to severe pike impacts, and an additional 26% of all AWC lakes and ponds have been completely destroyed by pike infestations. **Without human intervention, the presence of pike will only increase.** Because the impacts pike have on salmon populations take place below the surface and out of view, the issue has not gotten the urgent attention it needs. Additional research and dedicated funding will be necessary to eradicate pike from salmon spawning and rearing grounds.*

*Source: ADF&G

FISH HABITAT IMPROVEMENTS

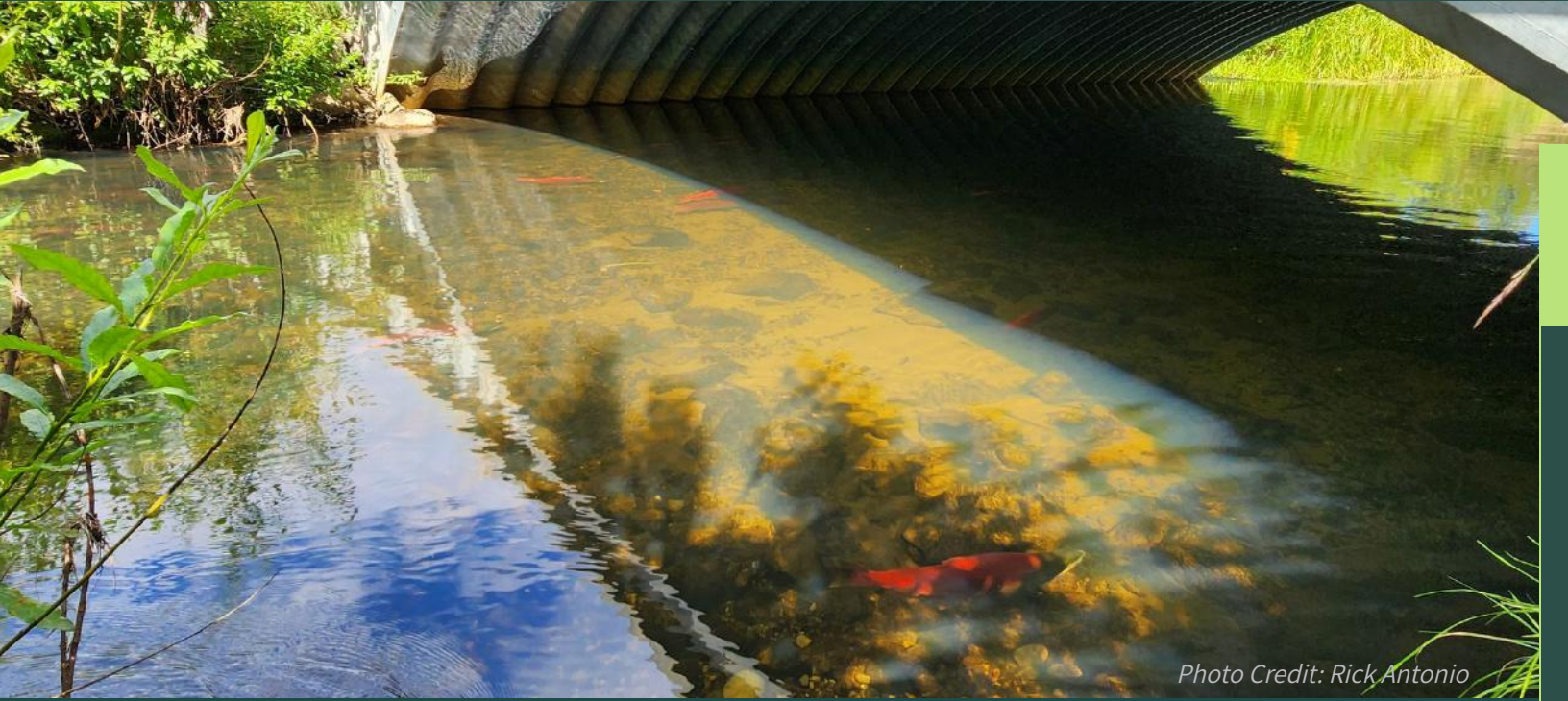


Photo Credit: Rick Antonio

The Matanuska-Susitna Borough is widely recognized for its extensive fish passage program that has **reopened over 1000 stream miles and more than 6000 acres of lake habitat for salmon rearing and spawning**. As of 2023, 153 culverts have been removed or replaced for fish passage within the region on State, Mat-Su Borough, Alaska Railroad, and privately owned land. This investment by local partners totals over \$20 million, and the Borough's robust culvert replacement program is ongoing as fisheries remain a priority.

The Mat-Su Borough has been a leader in this effort, as no other local government in Alaska has such an aggressive replacement program. The Mat-Su is lauded in Washington, D.C. by the U.S. Fish & Wildlife Service for doing it right and several national awards have been credited to the Mat-Su and its partners. The work continues with additional culvert replacement projects scheduled over the next few years. With high priority projects on many State, Alaska Railroad, and privately owned routes, it presents an opportunity for continued partnership in moving projects forward and successfully returning salmon to their natal streams.

Other partners have also invested in projects that improve and enhance salmon habitat within the Mat-Su Borough. Great Land Trust has completed 22 projects to date that have conserved nearly 10,000 acres of fish habitat, and 44 anadromous stream miles. The Native Village of Eklutna has partnered with Great Land Trust to provide conservation easements and together they have conserved thousands of acres of land for subsistence hunting, fishing and foraging. Knik Tribal Council and Chickaloon Native Village have contributed to habitat restoration throughout the region. Through numerous projects over the past several years, Chickaloon has restored more than 13 stream miles, and continues to plan future culvert replacement projects through the Chickaloon Native Village Tribal Fish Passage Program.

The Borough has demonstrated its commitment to this issue by annually approving funds specific for stream crossing replacement projects to be then used to leverage additional funding opportunities. Millions of dollars have been spent on this effort, shared by the Mat-Su Borough, NOAA’s Alaska Sustainable Salmon Fund, National Fish Habitat Partnership, and the U.S. Fish and Wildlife Service’s Partners for Fish and Wildlife and Fish Passage Programs. **In 2023, the MSB Fish & Wildlife Commission, through the MSB Assembly, requested \$2.5 million in State appropriations toward science, genetic research, and fish passage.**



Photo Credit: Jonny Armstrong

“The scale of the fish passage program in the Mat-Su is pretty unprecedented in the commitment to really seeing through and improving fish passage borough-wide.”

—Alaska Dept. Fish & Game

A REASONABLE OPPORTUNITY

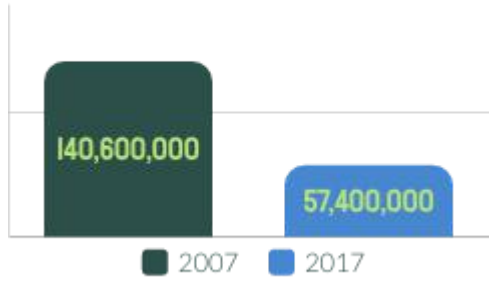


A mission of the MSB Fish & Wildlife Commission is to work towards adopting management plans conservative enough to reach midpoint escapement goals for Northern Cook Inlet sockeye, coho and king salmon, providing more realistic and reasonable shared harvest opportunities throughout the season, for all users.

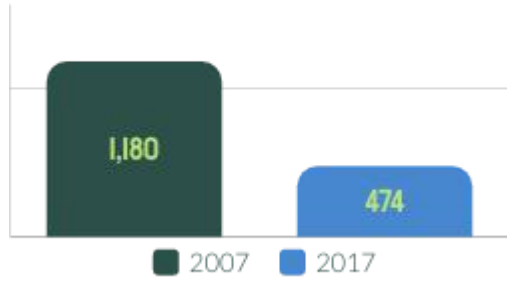


2007 AND 2017 STUDIES SHOW DECLINE IN MAT-SU BOROUGH SPORTFISHING

Direct Spending



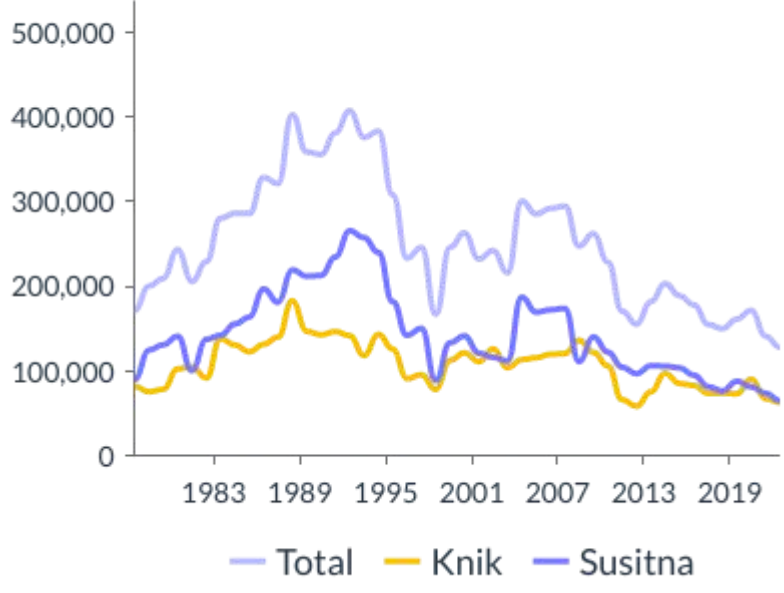
Employment



Tax Revenues



Mat-Su Borough Angler Days



ANGLER DAYS

Local fishing opportunity is an important economic driver for the Northern District and provides immeasurable benefits to visitors and residents who rely on summer salmon runs each year. The decline in angler days for sportfishing in the Northern District has stabilized slightly since the Conservation Corridor was put in place, but dipped to it's lowest count in 2021 and 2022, partially due to increasingly low king salmon returns which are not impacted by regulations in the Conservation Corridor. If the economy of local fisheries is a priority in the Northern District, more conservative management is necessary.

*Source: ADF&G

TAKEAWAYS

The Matanuska-Susitna Borough Fish & Wildlife Commission supports fisheries management using the best available science. Harvesting Upper Cook Inlet salmon stocks, primarily where directed harvests can best match individual stock production and abundance level, minimizes inseason restrictions and closures. This management approach will maximize the benefit for the state, the fishing economy, and the health of the fishery. The practice is proven. The most successful fishery in the world, Bristol Bay Sockeye, is regulated with terminal fishing districts.

THE CONSERVATION CORRIDOR WORKS AND SHOULD BE MAINTAINED AND ENHANCED TO CONTINUE MAKING POSITIVE IMPACTS.



All issues show the need for conservative management and maintenance of existing systems, such as the Conservation Corridor.

More fish does not always mean harvest should be increased.

A number of uncertainties have been identified and amplified by a lack of inseason data. This demonstrates the need for increased and more consistent funding for management tools like weirs, sonar, genetic studies, test fisheries, etc.

It takes fish to make fish, and it takes fish returning to natal streams in the Northern District to support healthy salmon populations alongside successful sportfishing economies.

PROPOSAL 231

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

Modify dates of the Susitna River dip net fishery as follows:

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

...

(h) salmon may be taken by dipnet in the Susitna River, only as follows:

(1) **July 17 – August 7:** [JULY 10 - JULY 31:] Open to fishing only on Wednesdays and Saturdays from 6 a .m . to 11 p .m .

What is the issue you would like the board to address and why?

Personal use harvests have been modest during the first three years of this fishery and harvest data indicates the first Saturday and Wednesday occur before there are many salmon available for harvest. Harvest and weir data indicate better abundance of the four salmon species open to harvest in this fishery later in the season. In addition, harvest data indicates that a few king salmon have been illegally taken in this fishery.

- The Northern District Salmon Management Plan specifically seeks to provide harvest opportunity based on abundance.
- The plan further specifies providing sport, guided sport, and OTHER INRIVER USERS a reasonable opportunity to harvest not just chum, pink, and sockeye salmon, but also coho salmon over the entire run.
- Illegally harvested king salmon are more likely to be caught in the early portion of July.

The MSB FWC proposes amending the Lower Susitna River personal use fishery to run one week later on Saturdays and Wednesdays from July 17 - August 7.

State of Alaska Constitution

Article 8 – Natural Resources

Sections concerning Fisheries

§ 1. STATEMENT OF POLICY

It is the policy of the State to encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest.

§ 2. GENERAL AUTHORITY

The legislature shall provide for the utilization, development, and conservation of all natural resources belonging to the State, including land and waters, for the maximum benefit of its people.

§ 3. COMMON USE

Wherever occurring in their natural state, fish, wildlife, and waters are reserved to the people for common use.

§ 4. SUSTAINED YIELD

Fish, forests, wildlife, grasslands, and all other replenishable resources belonging to the State shall be utilized, developed, and maintained on the sustained yield principle, subject to preferences among beneficial uses.

§ 5. FACILITIES AND IMPROVEMENTS

The legislature may provide for facilities, improvements, and services to assure greater utilization, development, reclamation, and settlement of lands, and to assure fuller utilization and development of the fisheries, wildlife, and waters.

§ 15. NO EXCLUSIVE RIGHT OF FISHERY

No exclusive right or special privilege of fishery shall be created or authorized in the natural waters of the State. This section does not restrict the power of the State to limit entry into any fishery for purposes of resource conservation, to prevent economic distress among fishermen and those dependent upon them for a livelihood and to promote the efficient development of aquaculture in the State. [Amended 1972]



Matanuska-Susitna Borough Fish & Wildlife Commission

With the Support of MSB Staff: Maija DiSalvo, Planning and Stefan
Hinman, Public Affairs // Maps by Heidi Whipple and Carla Goers, GIS