

MAT-SU BOROUGH FISH AND WILDLIFE COMMISSION PRESENTS



Mat-Su Salmon Research Plan

Howard Delo

MAT-SU SALMON RESEARCH, MONITORING & AND EVALUATION



PROJECT NEED

• Declining salmon stocks in Upper Cook Inlet

- Stocks at lowest levels since statehood
- 8 of 14 stocks of concern in Alaska are in UCI and Susitna River system
- Insufficient information and management goals impeding effective management of both sport and commercial fisheries of UCI
- Information is lacking about the movement of northern bound salmon



MAT-SU SALMON RESEARCH, MONITORING & EVALUATION



PROJECT GOAL

 Hire a fisheries research consultant to work with the Mat-Su Borough Fish and Wildlife Commission, ADF&G and other stakeholders to develop a *plan* for salmon research in UCI

The *plan* →Address all freshwater watersheds inhabited by salmon originating within the Mat-Su Borough

- ➡inventory past and ongoing salmon research studies
- →Determine data gaps
- →Identify areas where more research is needed
- ➡Create a prioritized strategic plan for UCI
- Develop a process for soliciting and selecting research projects
- Select projects to be funded with current and future grant funds

MAT-SU SALMON RESEARCH, MONITORING & EVALUATION



PROJECT TIMELINE /COST

Data gap analysis and strategic plan development —July, 2014 to June, 2015 (approx. \$194,000)

Research Projects — May, 2015 to June, 2018 (approx. \$1,456,000)

Total funds available for complete project \$1.6 million MATANUSKA-SUSITNA SALMON INFORMATION INVENTORY & GAP ANALYSIS



lune 2015

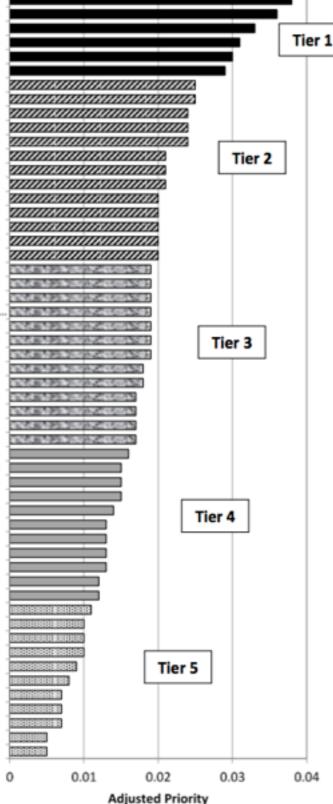


15 STAKEHOLDERS PARTICIPATED IN PLAN DEVELOPMENT



PRIORITY INFORMATION NEEDS

 2.1.1. Lack updated economic & social information
3.1.1. Need to monitor & evaluate invasive species ★ 2.2.1. Need stock-specific strategies in mixed stock fisheries 3.1.2. Pike are present in Alexander Cr & elsewhere 2.2.2. Insufficient information for inseason projections 3.1.3. Elodea is present in Alexander Cr 2.2.3. Lack management objectives for smaller stocks 2.3.1. Need ASL in sport harvest of chinook 3.2.1. Lack information to consider salmon in land use plans 1.1.1. Coho: No escapement goals in the Susitna 2.4.1. Inaccurate perception about hatchery production 3.2.2. Culverts block fish passage 1.2.1. Chinook: Imprecision exists in current assessment 1.3.1. Incomplete information on salmon use of streams 2.2.4. Need to improve preseason forecast 1.1.2. Chinook: Insufficient knowledge to establish BEGs 1.1.3. Sockeye: Historic baseline of escapement is unknown 1.2.2. Coho: Lack information on abundance 2.3.2. Insufficient information on catch & release mortality 2.4.2. Need to identify restoration opportunities 1.2.3. Sockeye: Abundance estimates are not representative 1.3.2. Coho: Insufficient understanding of genetic stocks 2.1.2. Lack variables about participation 3.2.3. Unknown impacts from unregulated floodplain.. 3.2.4. Information on impervious surfaces/runoff is out of date 3.3.1. Incomplete water quality baselines for Susitna salmon 3.3.2. Incomplete water quantity baselines for Susitna salmon 1.3.3. Sockeye: Apportionment is insufficient in detail 3.3.3. Lack information on changing habitat conditions 2.3.3. Lack information on mortality of net-marked salmon 3.1.4. Unclear occurrence of parasites & disease 3.1.5. Beaver dams may impede adult salmon passage 3.5.1. Losses of wetlands have not been quantified 3.2.5. Unknown effects of shoreline degradation at access 3.4.1. Lack information on estuarine & nearshore conditions 3.5.2. Streams are not accurately mapped 3.5.3. Poor understanding of water exchanges 1.4.1. Chinook: Lack information on productivity 1.3.4. Chinook: Need more discerning genetic baseline 1.4.2. Coho: Lack information on productivity 2.4.3. Unknown contribution of hatchery chinook to return 3.5.4. Poor understanding of river sediment processes 1.1.4. No basis for instituting SETs 1.4.3. Sockeye: Lack information on productivity 2.4.4. Unknown wild/hatchery spawning interactions 1.1.5. Pink: No escapement goals 1.1.6. Chum: No escapement goals 3.1.6. Poor understanding of varying levels of MDN 1.2.4. Chum: Trends in abundance are unknown 1.3.5. Chum: Lack information on stock structure 1.2.5. Pink: Lack information on escapement 1.3.6. Pink: Lack information on stock structure 3.1.7. Lack information on marine mammal predation 1.4.4 Chum: Lack information on productivity 1.4.5 Pink: Lack information on productivity



555 Different research needs for five salmon species



PROJECTS FUNDED

Project	Entity	Cost
Fisheries Research Program Planning	R2 Resource Consultants	\$194,131
Genetics for Coho on the Yentna River	Alaska Department of Fish & Game	\$249,554
Coho Genetic Stock Identification	Alaska Department of Fish & Game	\$242,059
Alexander Creek Pike Suppression	Alaska Department of Fish & Game	\$223,600
Jim Creek Weir	Alaska Department of Fish & Game	\$96,600
Pike Eradication in Cottonwood Creek	Alaska Department of Fish & Game	\$63,430
Economic Contributions of Sportfishing	Alaska Department of Fish & Game	\$50,000
Juvenile Salmon Monitoring	Aquatic Restoration & Research Institute	\$60,000
Beaver Dams, Fish Passage & Stream Ecology	Aquatic Restoration & Research Institute	\$20,000
Shell Lake Sockeye Salmon Monitoring	Cook Inlet Aquaculture Association	\$84,707
Conditions of Temperature Sensitive Streams	R2 Resource Consultants	\$101,723
Fishing Depths of ESSN Setnets	Kintama Research Services	\$70,000
	Total	\$1,455,804*

Projects completed to date

2015 ALASKA AMERICAN PLANNING ASSOCIATION ENVIRONMENTAL AWARD



Terry Nininger and Frankie Barker



Envisioning the future of planning in Alaska

2015 ENVIRONMENTAL PLANNING

Award -

MATANUSKA-SUSITNA BOROUGH SALMON PLAN FOR THE UPPER COOK INLET



MAT-SU BOROUGH FISH AND WILDLIFE COMMISSION PRESENTS



Mat-Su Salmon Stocks of Concern

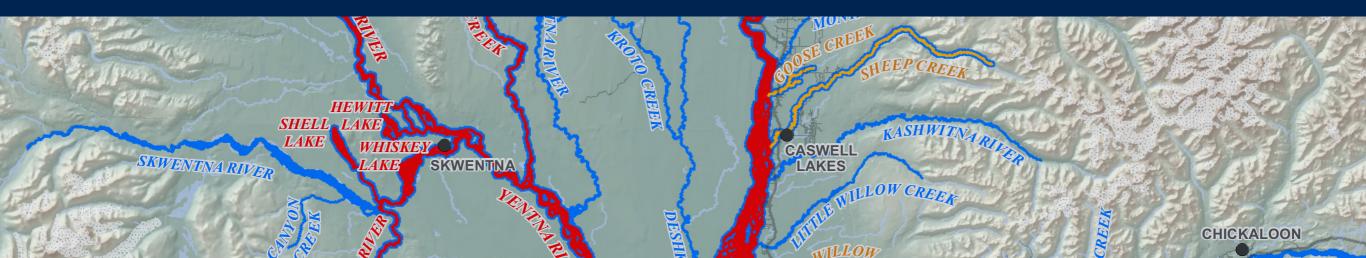
Andy Couc



8 of 14

stocks of concern in entire state

located in Northern Cook Inlet



Three Levels of Stock of Concern

Least

YIELD CONCERN

• Chronic inability to maintain expected yields above escapement needs over a four or five year period

MANAGEMENT CONCERN

 Chronic inability to maintain escapements for a salmon stock within specific management objectives for the fishery

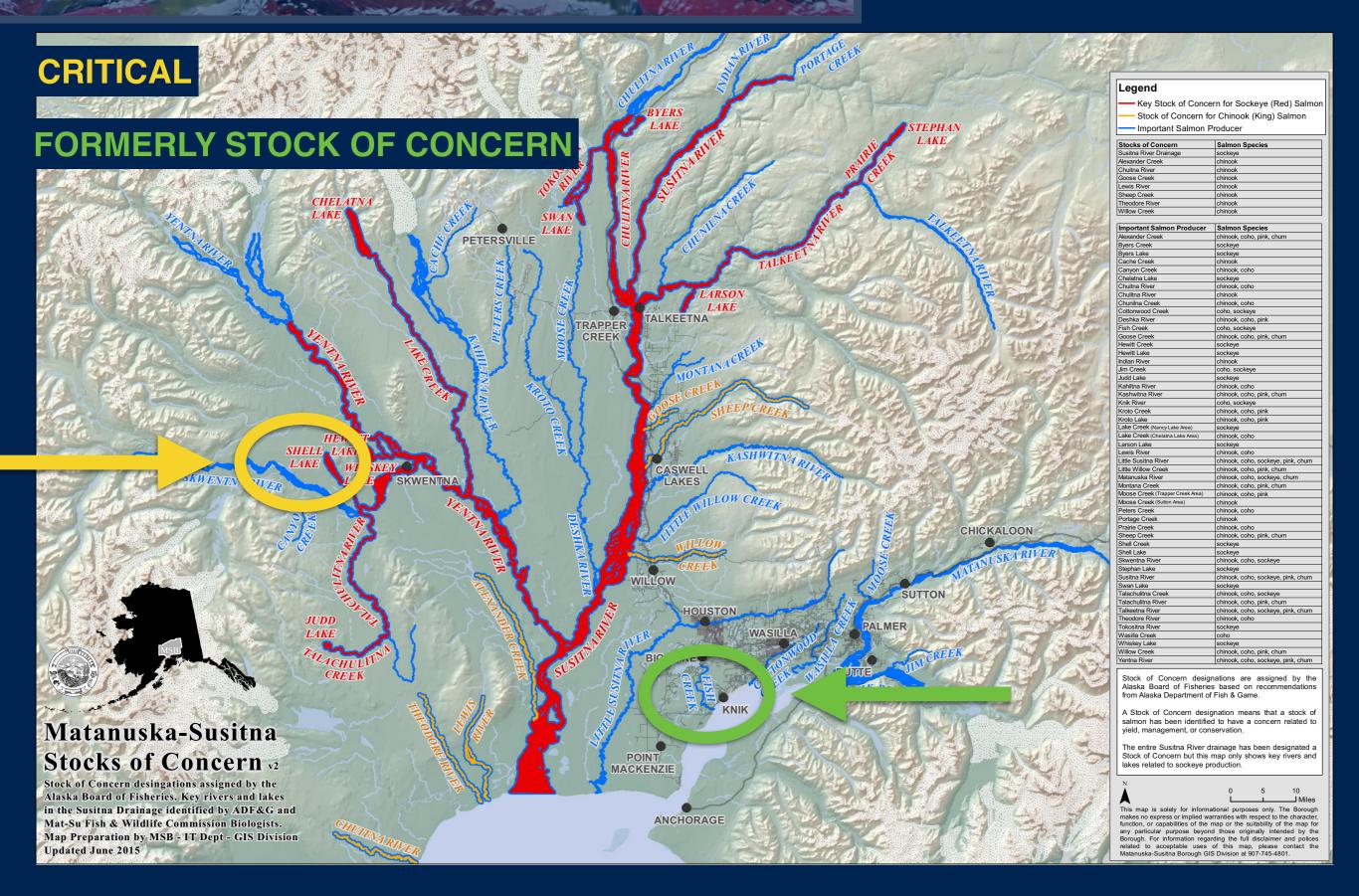
Greatest

CONSERVATION CONCERN

 Chronic inability to maintain escapements for a stock above a sustained escapement threshold (SET)

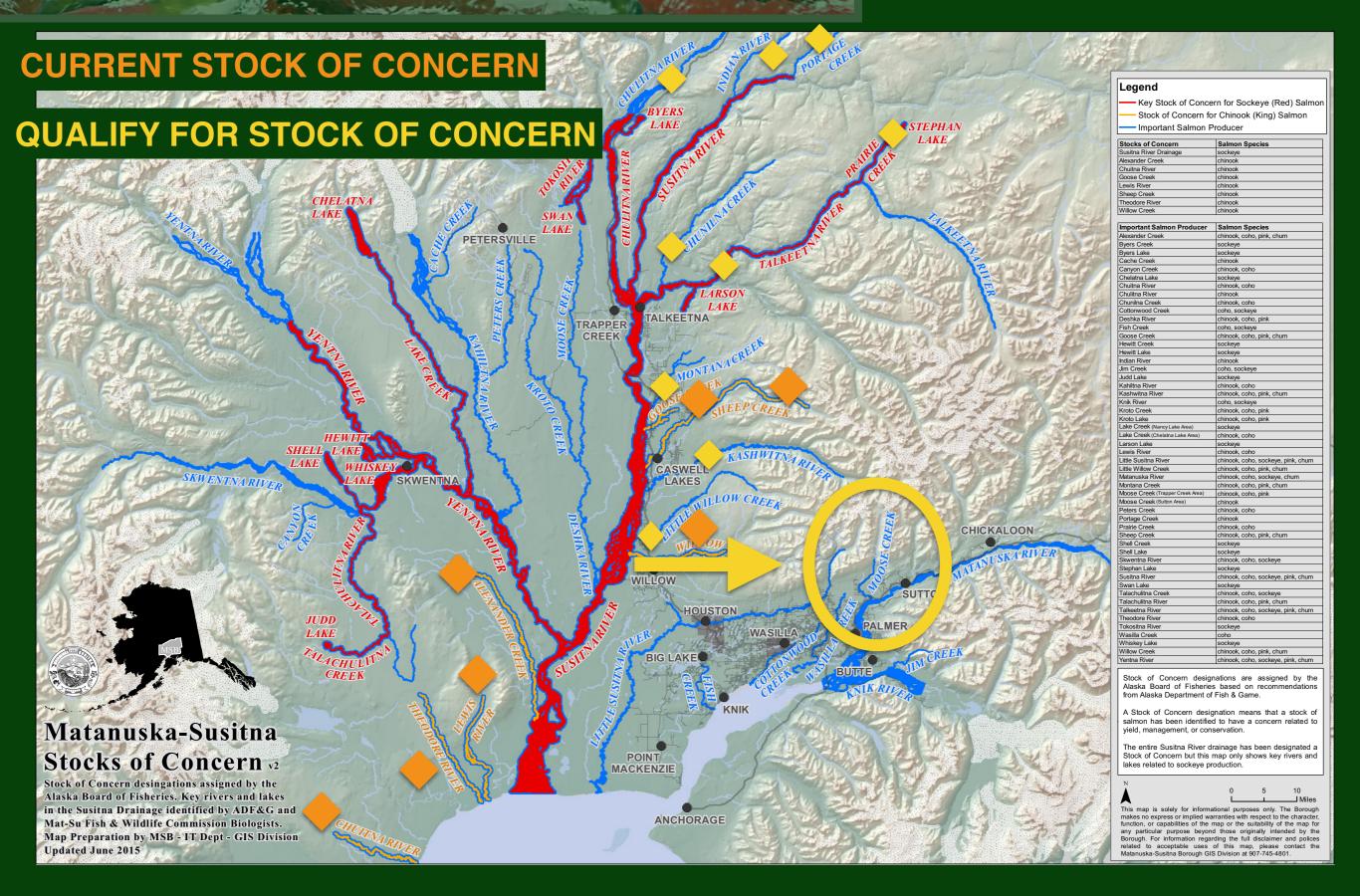
Sockeye Stocks of Concern

ALERT



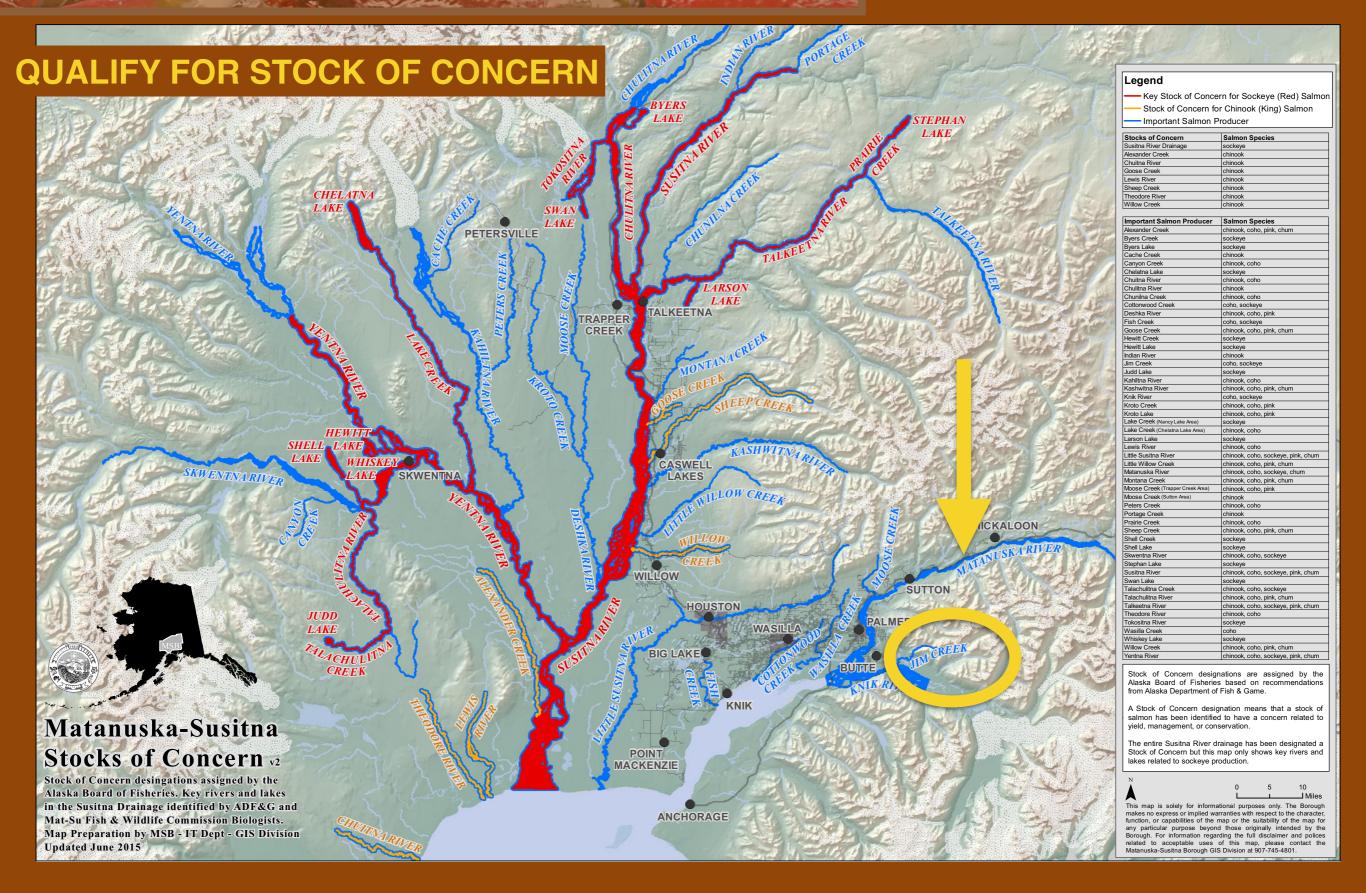
Kings Stocks of Concern

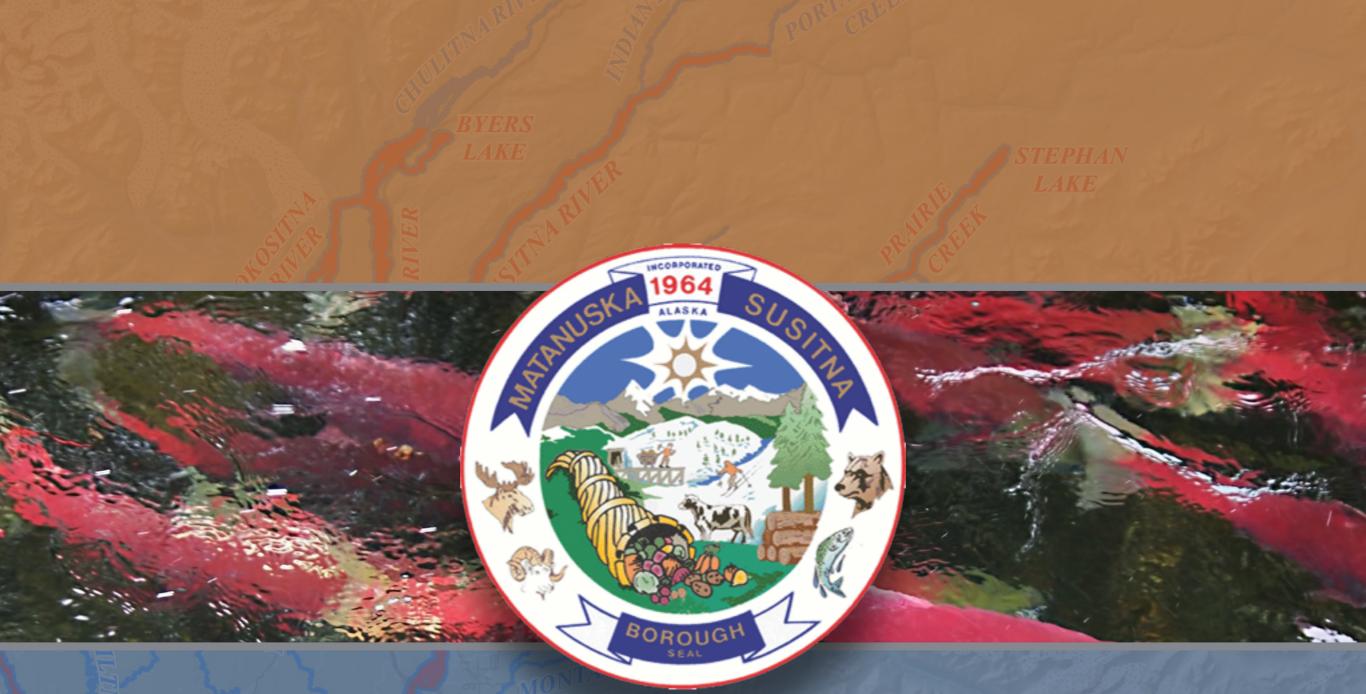
ALERT



Coho Near Stock of Concern

ALERT





MAT-SU BOROUGH FISH AND WILDLIFE COMMISSION

Howard Delo & Andy Couch

CHICKALOON