

SCOMM

147:11



COOK INLET

AQUACULTURE ASSOCIATION

40610 KALIFORNSKY BEACH ROAD

KENAI, AK 99611

(907) 283-5761

FAX: (907) 283-9433

email: info@ciaanet.org

<http://www.ciaanet.org>

February 6, 2007

The Honorable Sarah Palin
Governor of Alaska
P.O. Box 110001
Juneau, AK 99811-0001

Dear Governor Palin:

The apparent failure of recent sockeye salmon runs to the Susitna River has captured the attention of resource managers, local and state officials and many individual citizens. There has been a notable amount of public discussion about this issue, and it has brought together the Alaska Department of Fish and Game (ADF&G) and the Cook Inlet Aquaculture Association (CIAA) in a joint effort to better understand the resource. This will benefit the citizens who directly or indirectly depend on its continued strength. You are being asked to be the catalyst that allows this joint effort to continue.

ADF&G has committed in excess of \$1,000,000 of work to evaluate both the number and distribution of adult sockeye salmon between the two major divisions of the Susitna River system, the Yentna River tributary system and the remainder of the mainstem Susitna River drainage.

CIAA, which has been working on selected sockeye salmon populations in the overall Susitna River system for the last twenty-seven years, has committed \$250,000 to focus on the causes of this current situation. Much of their past work has examined both the adult return to and the subsequent juvenile salmon production of significant lakes in the Susitna River system.

To understand why salmon runs are performing as they are today, it is necessary to take an integrated look at the entire life cycle. You can only make judgments about the adult return from the sea when you know the juvenile production the system sent to sea.

ADF&G and CIAA have come together to integrate their respective efforts to produce a more complete picture than either effort can do alone.

The total cost of the CIAA component of the project is budgeted at \$746,893 (FY 06 \$22,776, FY 07 \$278,341, FY 08 \$228,645, FY 09 \$217,131). In 2006, CIAA

SALMON ENHANCEMENT TODAY MEANS BETTER SALMON FISHING TOMORROW

requested \$500,000, a two-to-one match for their commitment of \$250,000, to be used over the next three years to make this joint effort possible. Thus, the three fiscal elements of this overall effort would be the existing ADF&G CIP of more than \$1,000,000, the \$250,000 committed by CIAA and the \$500,000 two-to-one matching CIP requested by CIAA.

In 2006, CIAA received \$200,000 of the CIP funding request, and is now asking for support from your office for a CIP appropriation of \$300,000 to complete the joint ADF&G/CIAA effort to understand why salmon runs of the Susitna River drainage are performing as they are today.

The CIAA investigations begun in 2006 involve studies on seven lakes, and CIAA has prior field experience at six of the seven. Three of the lakes are along the mainstem Susitna River and the Talkeetna River (Larson Lake, Stephan Lake and Byers Lake); and four are on tributaries on the Yentna River (Judd Lake, Shell Lake, Hewitt Lake and Chelatna Lake).

The CIAA studies employ both weirs for the enumeration of adult salmon escapements into each of the lakes and smolt traps for the enumeration of juvenile salmon emigrating from each lake. At the same time there will be an assessment of the background conditions in the freshwater environment they are utilizing. Both the adult and juvenile fish will be sampled for age, weight and length throughout the enumerations. Further investigations will include limnological sampling (water chemistry and zooplankton), the collection of dissolved oxygen, light and temperature data within each lake and the recording of outlet stream flow data. CIAA will integrate this newly gathered information with previously collected data.

As a result of experience and equipment held by ADF&G, the Department will conduct analyses of the lakes in the fall to survey fry production of each lake.

Simply as a function of the different constraints under which the private and public sectors must work, CIAA participation is significant in two ways. It will add to the absolute volume and nature of data gathered directly, and it will allow ADF&G to do more tagging work because they will not have to staff the various weir counting sites. As has always been the case, all data recorded by CIAA will be provided to ADF&G.

CIAA's participation in these studies in the fashion described will, in fact, strengthen the work ADF&G is doing by broadening the base of information from which conclusions will be drawn. These collaborative and complementary studies will not in and of themselves solve the problems Susitna River sockeye salmon seem to be having, but they will provide an informed basis for selecting the remedial measures with the greatest chance of success.

This is an opportunity to continue to do good work. There is a very real problem. There is a desire on the part of citizens and their elected representatives to seek a solution to the problem. The investment of public dollars can draw the additional investment of private dollars. The successful completion of this effort can be seen to benefit both a renewable natural resource and a substantial regional economic engine. The \$300,000 CIP appropriation to CIAA is worthy of your consideration and support.

Sincerely,

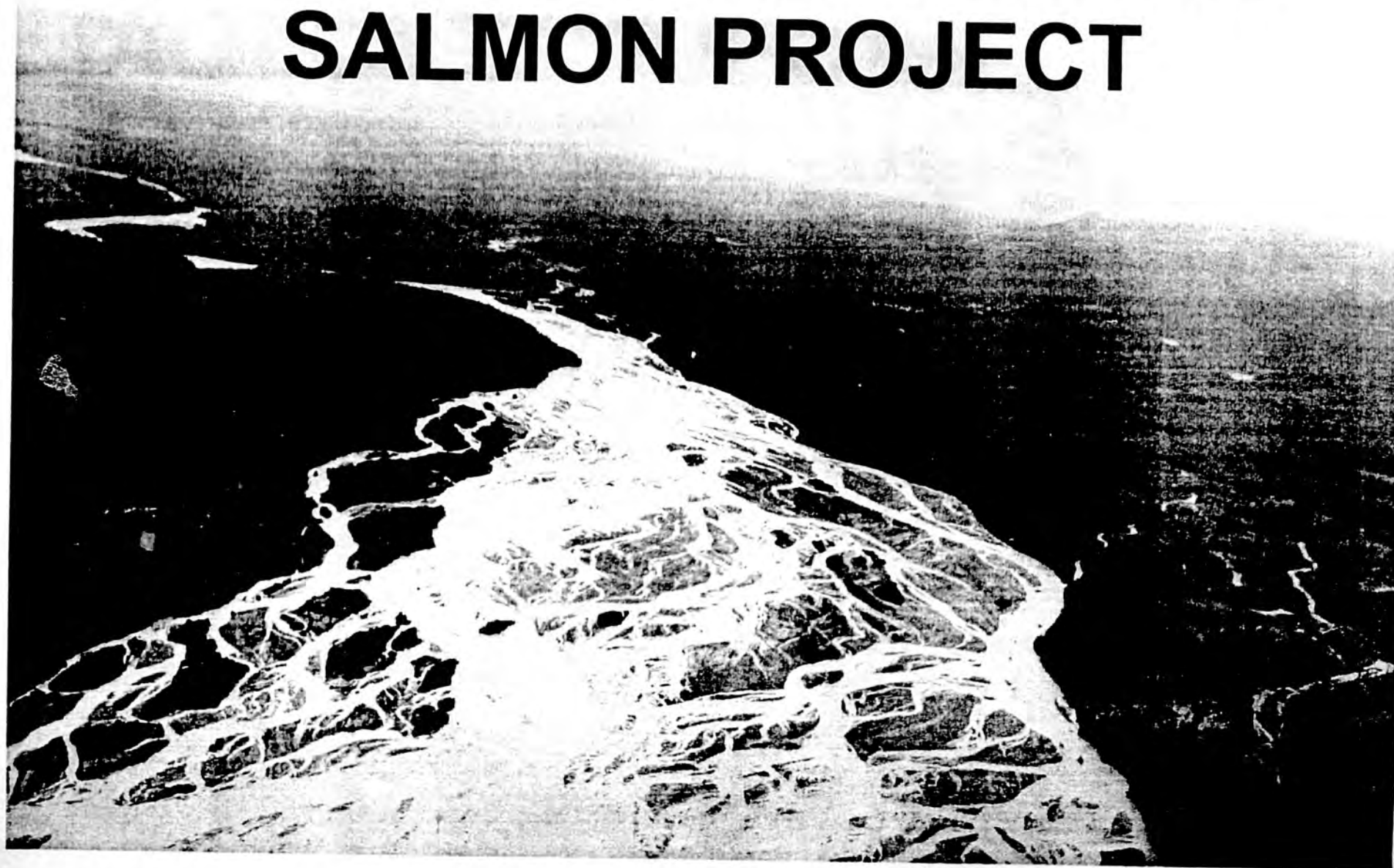


Gary L. Fandrei
Executive Director

Xcopy: Lyda Green, President Alaska State Senate
Representative John Harris, Speaker of the House
Senator Lyman Hoffman, Co-chair Senate Finance Committee
Senator Bert Stedman, Co-chair Senate Finance Committee
Representative Mike Chenault, Co-chair House Finance Committee
Representative Kevin Meyer, Co-chair House Finance Committee
Senator Charlie Huggins, Chair Senate Resources Committee
Representative Paul Seaton, Chair House Fisheries Committee
Denby Lloyd, Commissioner, Department of Fish and Game
Emil Notti, Commissioner, Department of Commerce, Community and Economic Development

Pasqua Integrated Transponder

2006 SUSITNA SOCKEYE SALMON PROJECT



EVALUATION OF SOCKEYE SALMON PRODUCTION FROM LAKES IN THE SUSITNA RIVER WATERSHED

1. Evaluate whether limnological conditions in each of the lakes have changed since the 1980s & 1990s. – (CIAA will collect samples/ADF&G will process)
2. Estimate the population size and mean body size of juvenile sockeye salmon and other juvenile fishes rearing in each of the lakes in the fall, and estimate the age composition of the juvenile sockeye salmon population.
3. Evaluate whether survivals from potential egg deposition to fall fry and from fall fry to smolt are lower in these 7 rearing lakes compared to other sockeye salmon stocks.

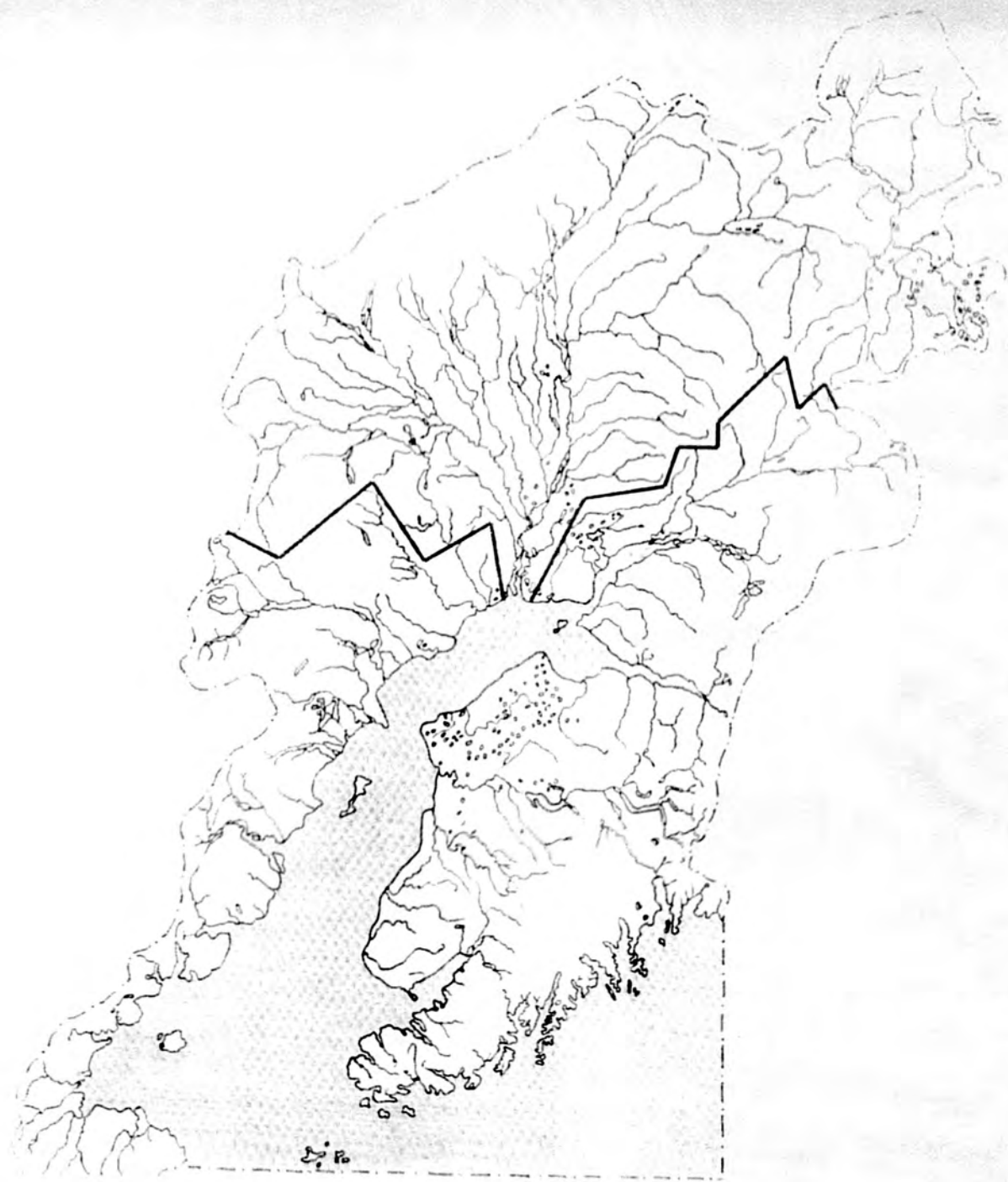
Compare w/
Hidden Lake
Big Lake
Bear Lake.

SUSITNA RIVER SOCKEYE SALMON ESCAPEMENT ABUNDANCE

1. Estimate the abundance of adult sockeye salmon migrating upstream of Flathorn (Susitna rkm 31) and Yentna from July 1 to August 20, 2006, such that, with 95% confidence, the estimate is within 10% of the true value; and at Sunshine (rkm 116) from July 1 to August 20, 2006, such that, with 95% confidence, the estimate is within 15% of the true value.

2. Estimate the age, sex, and length composition of the population of adult sockeye salmon migrating upstream of Flathorn at Chelatna, Hewitt, Shell, Judd, Byers, Stephan, and Larson Lakes) such that, with 95% confidence, estimates of the proportion in each length category are within 5 percentage points of the true value.

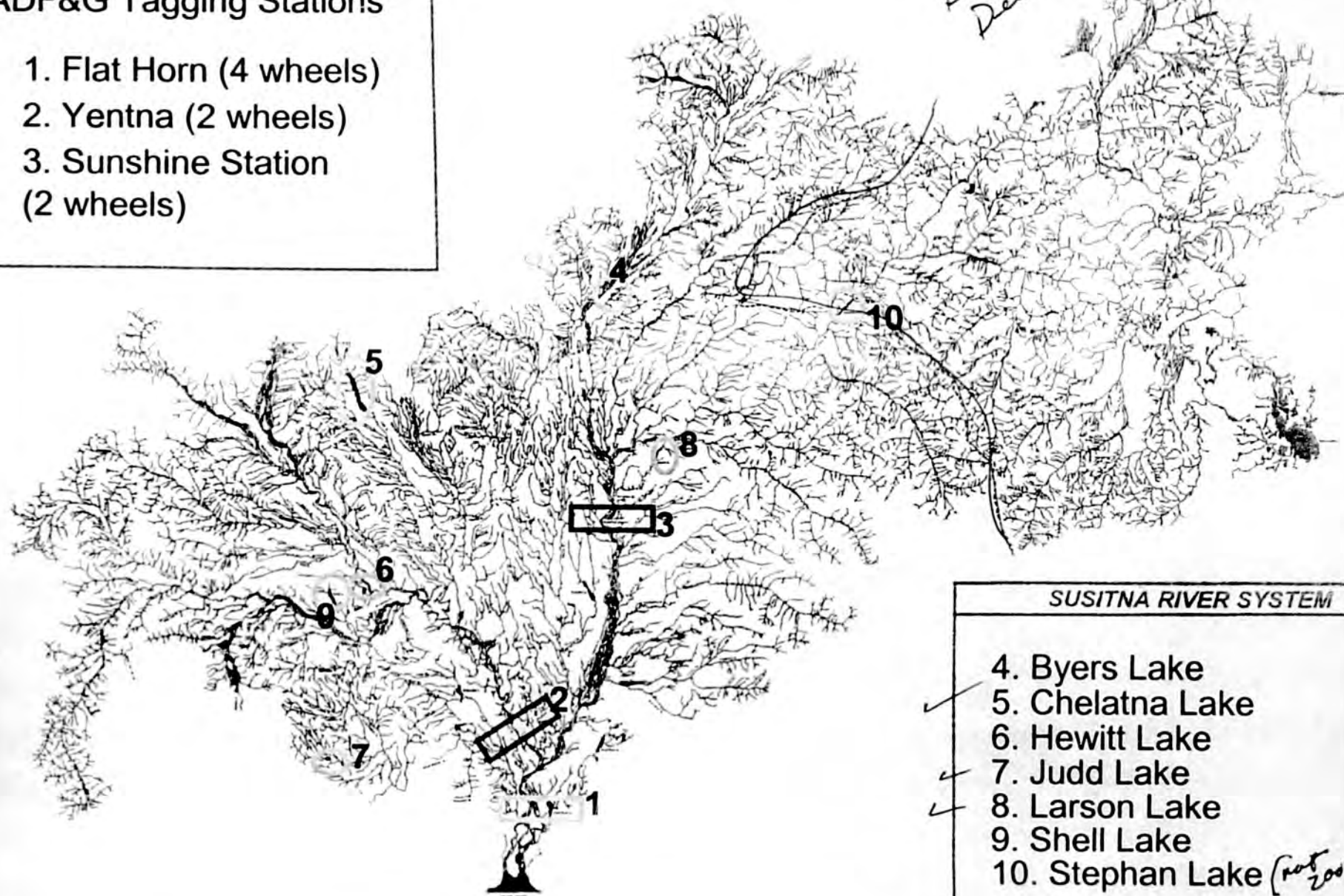
3. Identify sockeye salmon spawning areas in the Susitna River drainage such that 45 "major" areas can be detected with probability of 0.85.



ADF&G Tagging Stations

1. Flat Horn (4 wheels)
2. Yentna (2 wheels)
3. Sunshine Station (2 wheels)

*Drainage
Denali Canyon*

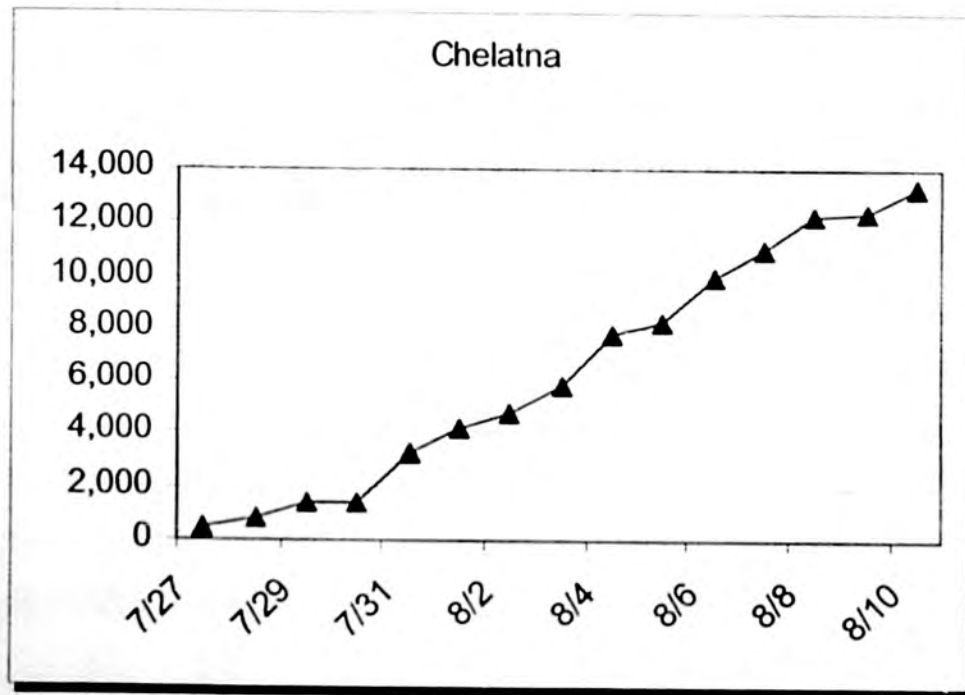


SUSITNA RIVER SYSTEM

4. Byers Lake
5. Chelatna Lake
6. Hewitt Lake
7. Judd Lake
8. Larson Lake
9. Shell Lake
10. Stephan Lake (not 2007)

CHELATNA LAKE

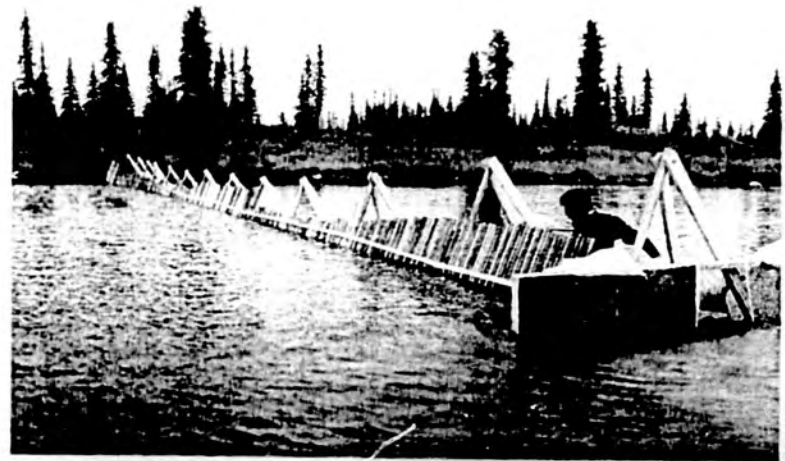
area=1,581 ha volume=970 million m³ max depth=125 m average depth=65 m



Midpoint = 8/4

Highest day = 1,918 on 8/4

Limnology Samples – 8/1 and 9/21



13,266 sockeye

1,483 pinks

19 kings

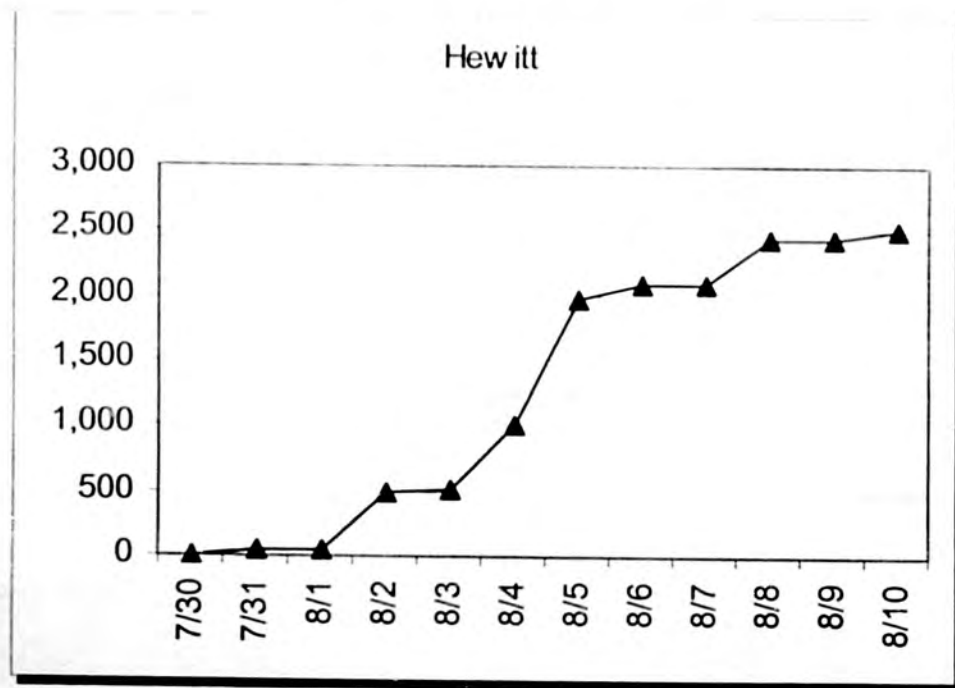
1 chum

130 age/130 genetic

81 PIT tags, 0 Radio tag

HEWITT LAKE

area=26 ha volume=38 million m³ max depth=34 m average depth=3.4 m



8/4 to 8/6 = 1,592

Midpoint = 8/5

Highest day = 948 on 8/5

Limnology Samples – 8/4 and 9/14



2,507 sockeye

226 pinks

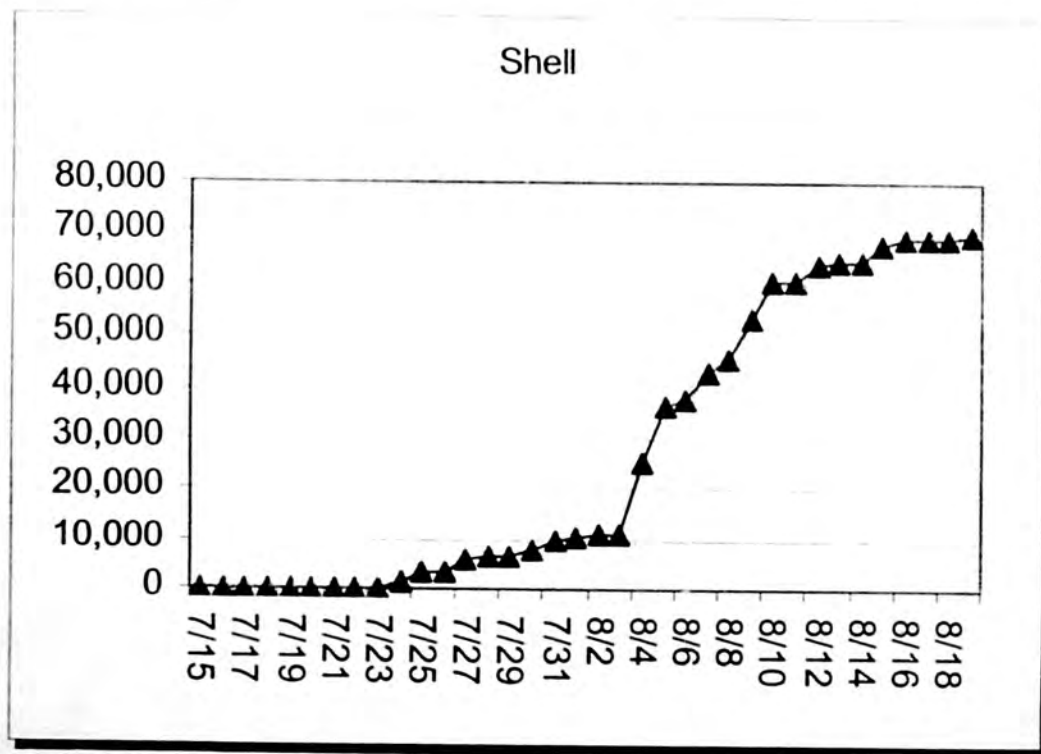
1 chum

115 age/65 genetic

3 PIT tags, 0 Radio tag

SHELL LAKE

area=523 ha volume=62 million m³ max depth=29 m average depth=12 m



Midpoint = 8/5

Highest day = 14,152 on 8/4

Limnology Samples – 8/11 and 9/14



69,747 sockeye

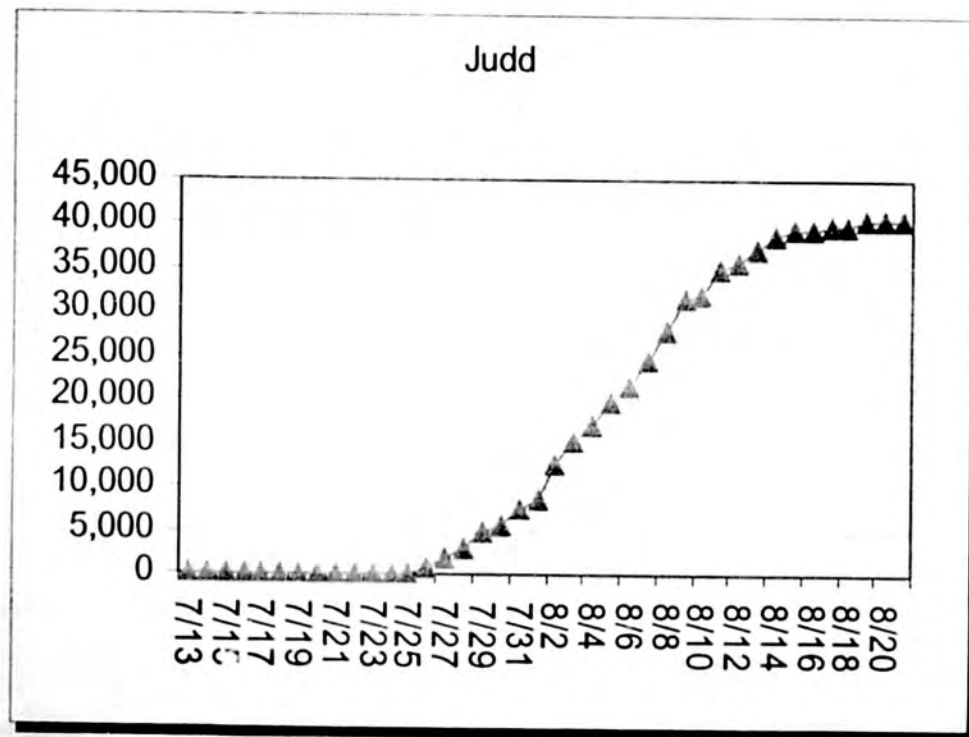
21 pinks

1 chum

587 age/200 genetic

1 PIT tags, 0 Radio tag

JUDD LAKE



Midpoint = 8/6

Highest day = 4,116 on 8/2

Limnology Samples – 8/11 and 9/14



40,630 sockeye

2,680 pinks

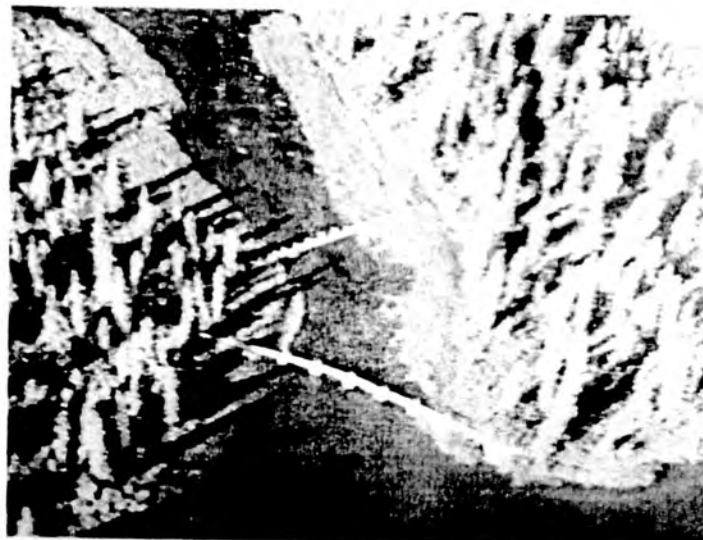
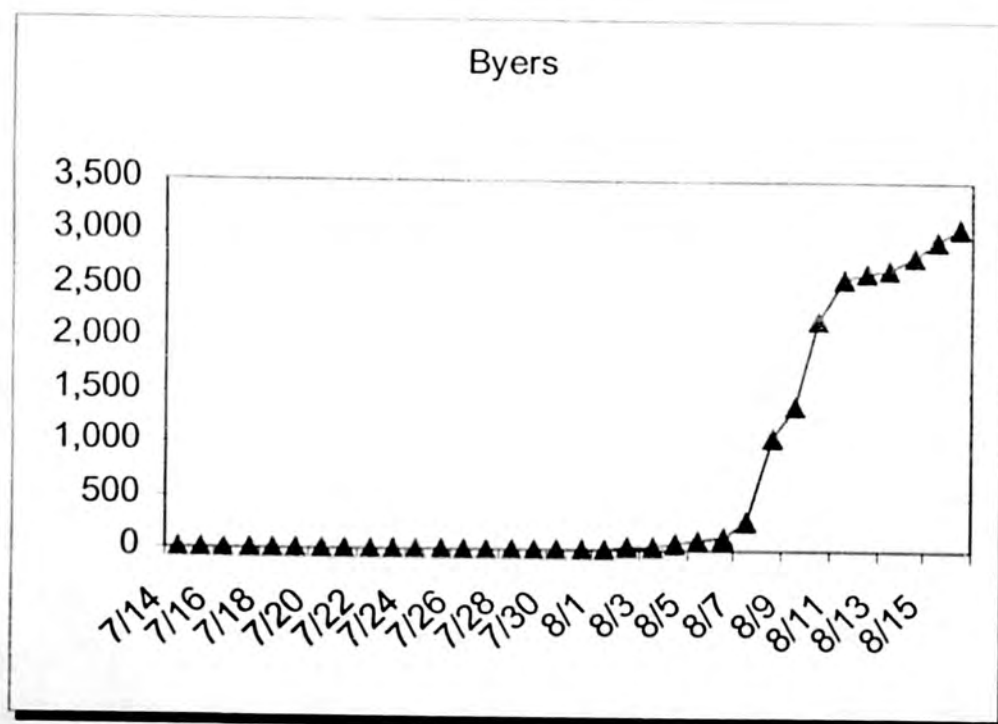
6 chum

600 age/200 genetic

51 PIT tags, 0 Radio tag

BYERS LAKE

area=132 ha volume=26 million m³ max depth=54 m average depth=20 m



3,074 sockeye

1,280 pinks

51 kings

49 chum

10 age/4 genetic

0 PIT tags, 1 Radio tag

8/8 to 8/11 = 2,318

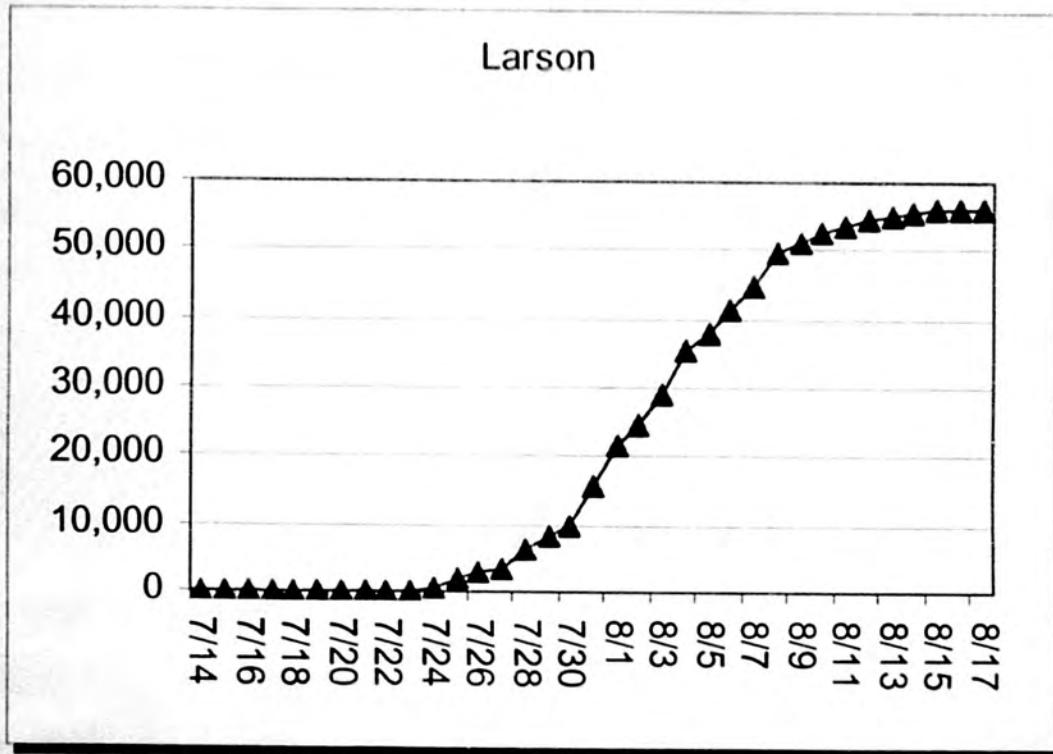
Midpoint = 8/10

Highest day = 816 on 8/8

Limnology Samples - 8/1 and 9/6

LARSON LAKE

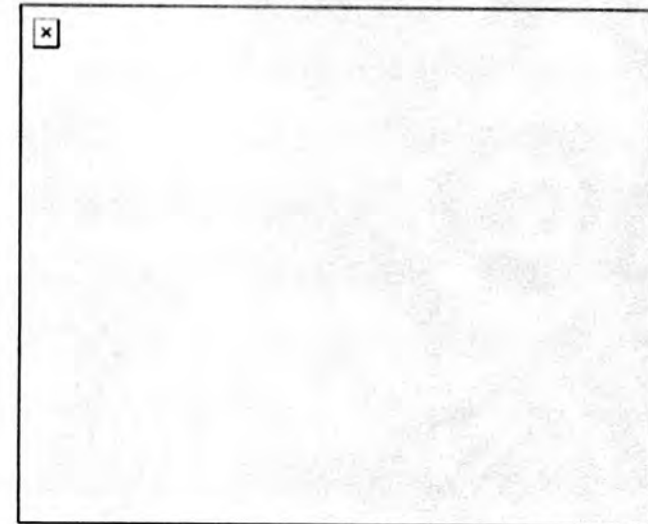
area=177 ha volume=29 million m³ max depth=46 m average depth=16 m



Midpoint = 8/3

Highest day = 6,364 on 8/4

Limnology Samples – 8/1 and 9/6



56,305 sockeye

224 pinks

25 kings

22 chum

600 age/200 genetic

693 PIT tags, 1 Radio tag

SUMMARY

Chelatna – 13,266 11% 0.3
81 tags recovered 38% 1.2
49% 1.3

Hewitt – 2,507 7% 1.2
3 tags recovered 74% 1.3
15% 2.3

Yentna – 92,051

Shell – 69,747 83% 1.2
1 tag recovered 8% 1.3
9% 2.2

Judd – 40,630 19% 1.2
51 tags recovered 66% 1.3
10% 2.3

Flathorn

Byers – 3,074 No age
0 tags recovered data

Sunshine (Susitna)

Larson – 56,305 70% 1.2
693 tags recovered 12% 1.3
14% 2.2

Stephan – NO DATA

NOTE: PRELIMINARY DATA. DO NOT PUBLISH

Susitna Project Budget

Time Frame

Amount

FY 2007 (July 1, 2006 thru June 30, 2007)	\$278,341	(spent to date \$148,199) <i>Adult wins</i> <i>smolt counts + water samples</i>
FY 2008 (July 1, 2007 thru June 30, 2008)	\$228,645	
FY 2009 (July 1, 2008 thru June 30, 2009)	<u>\$239,907</u>	
Total:	\$746,893	

Susitna Project Funding

Source

Amount

Cook Inlet Aquaculture Association	\$40,000
Southeast Sustainable Salmon Fund	\$210,000
State of Alaska (requested \$500,000)	<u>\$200,000</u>
Total:	\$450,000

Remaining amount from State of Alaska \$300,000

Grand Total: **\$750,000**