

Using Stock Assessment Projects to Manage Sport Fisheries in the Mat-Su Area

1. What is salmon management?
2. Stock Assessment Projects
3. Escapement Goals
4. Inseason management



Sam Ivey
Alaska Department of Fish and Game
Sport Fish Division

Division of Sport Fish Strategic Plan

- manage for sustained yield and maximize sport fishing opportunity

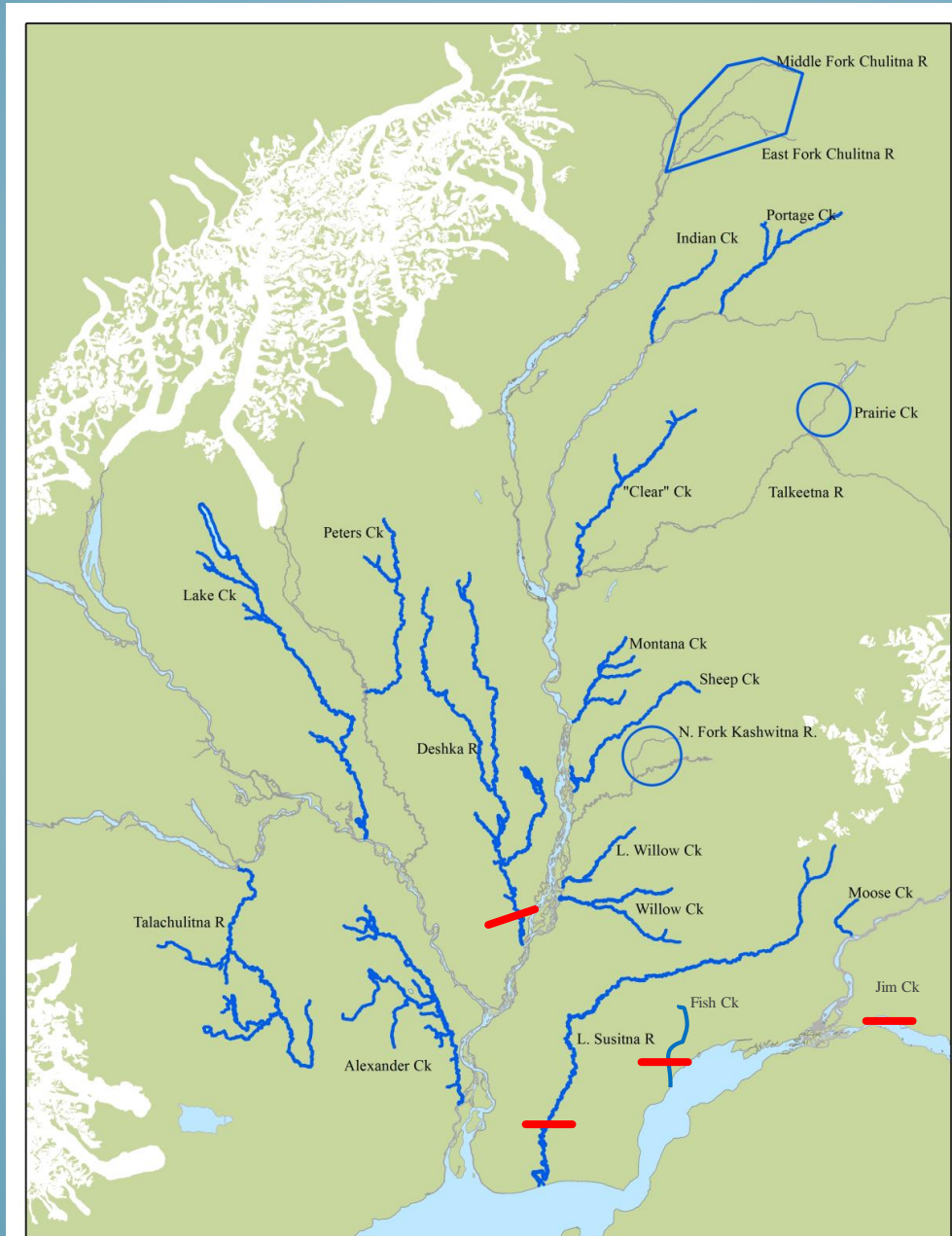
How do we do that?

Matsu Area Stock Assessment Projects

- 6 Weir Projects
- 33 Spawning Index Surveys



WEIR LOCATIONS





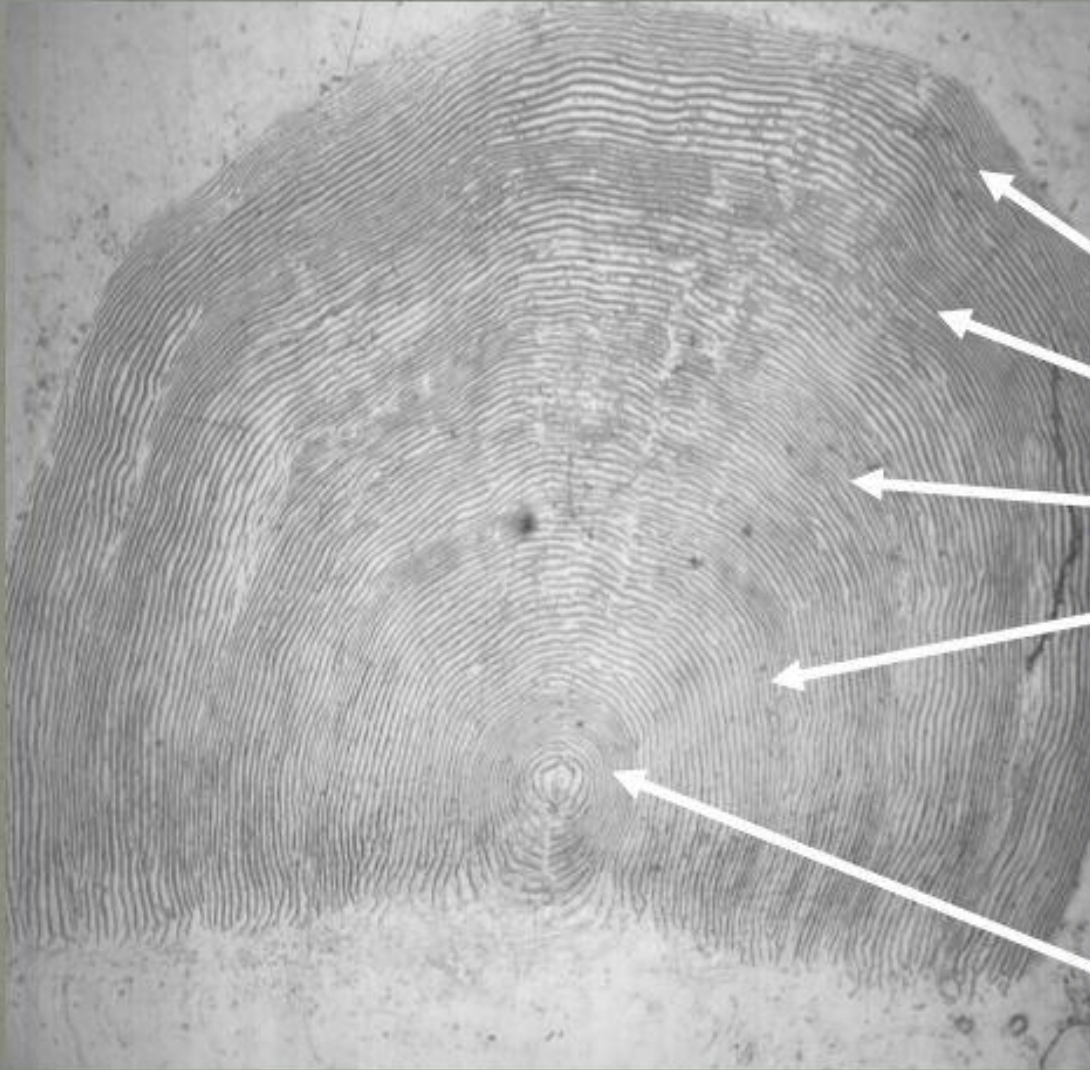
- Rig it

Salmon counted as they exit a fish trap





Scale from a 6-yr old Chinook Salmon

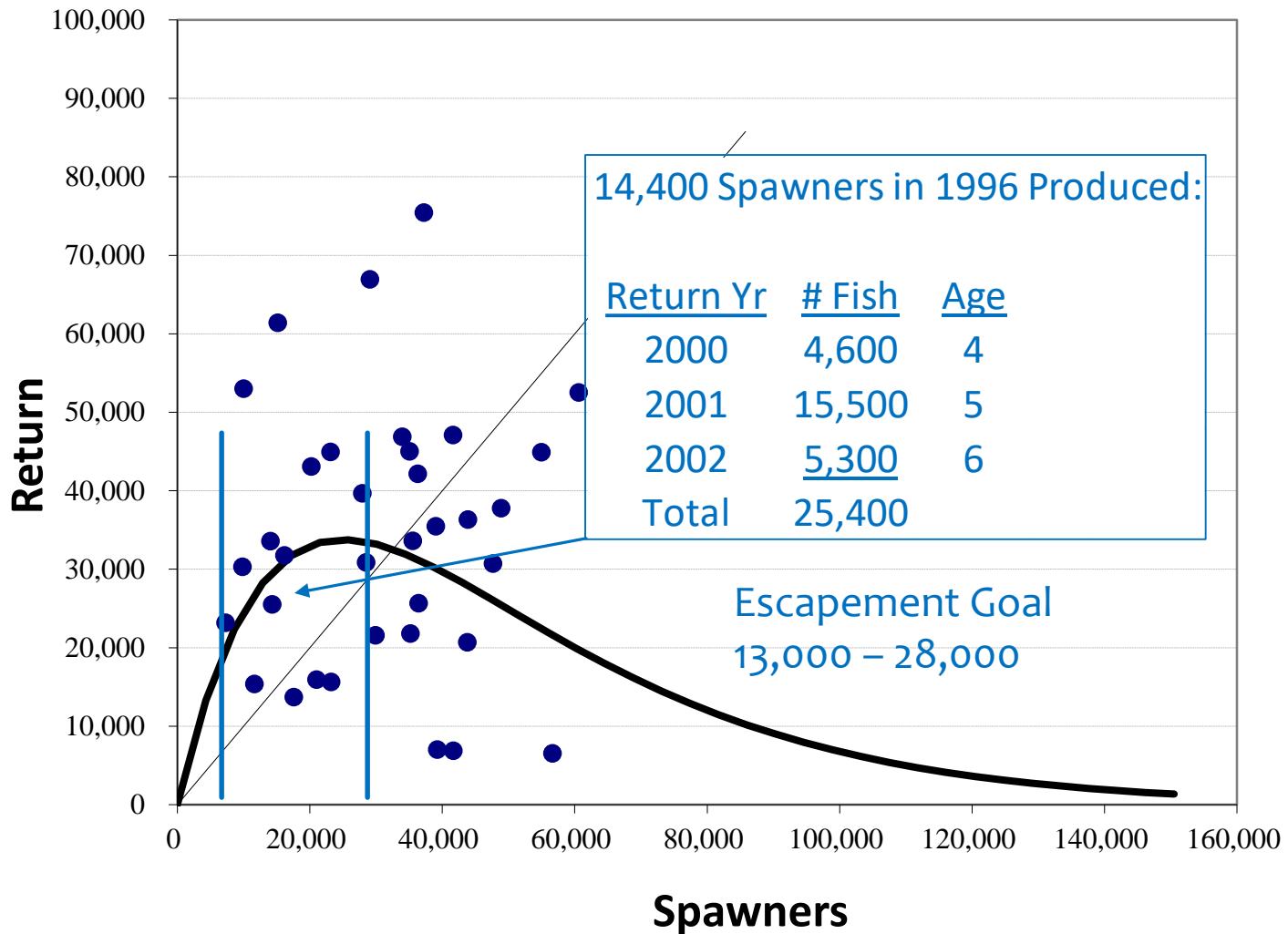


Saltwater
winter
checks

Freshwater
winter
check

Scales are not actual size.

Deshka River Chinook Production Model



Matsu Area Chinook Survey Streams



Aerial Survey:

- **Assess run strength relative to other years (Index).**



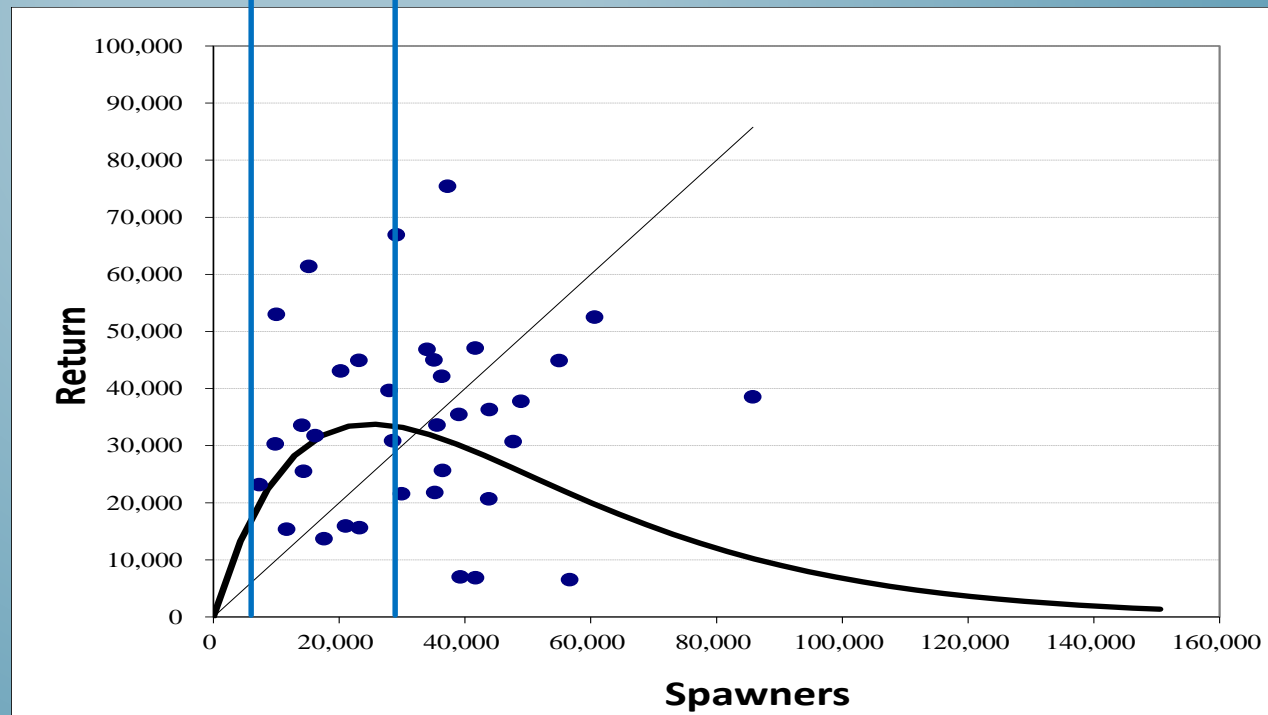
Percentile Approach to Setting an Escapement Goal

- Rank count data
- Data contrast and harvest rate determine which percentiles to select for upper and lower goal values of goal.

Escapement Goal
13,000 – 28,000

20% 65%

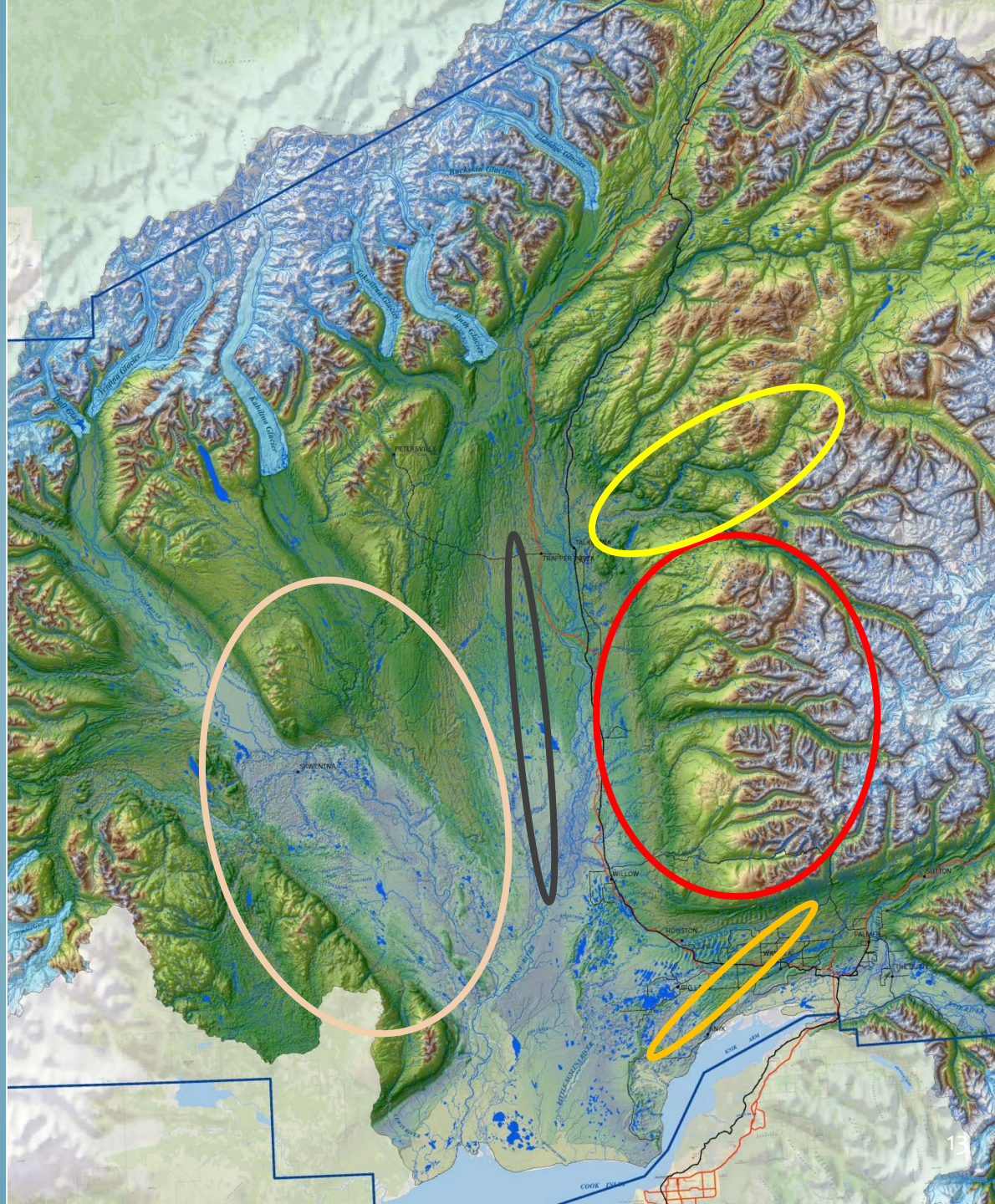
Weir count	7,533	10,048	11,960	14,354	18,714	29,004	29,428	29,649	31,150	34,662	35,587	37,725	40,069	57,934
Year	2008	1995	2009	1996	2007	2001	2002	1999	2006	2000	1997	2005	2003	2004



Chinook Goals

Deshka

Yentna
Peters
Lake Creek
Talachulitna



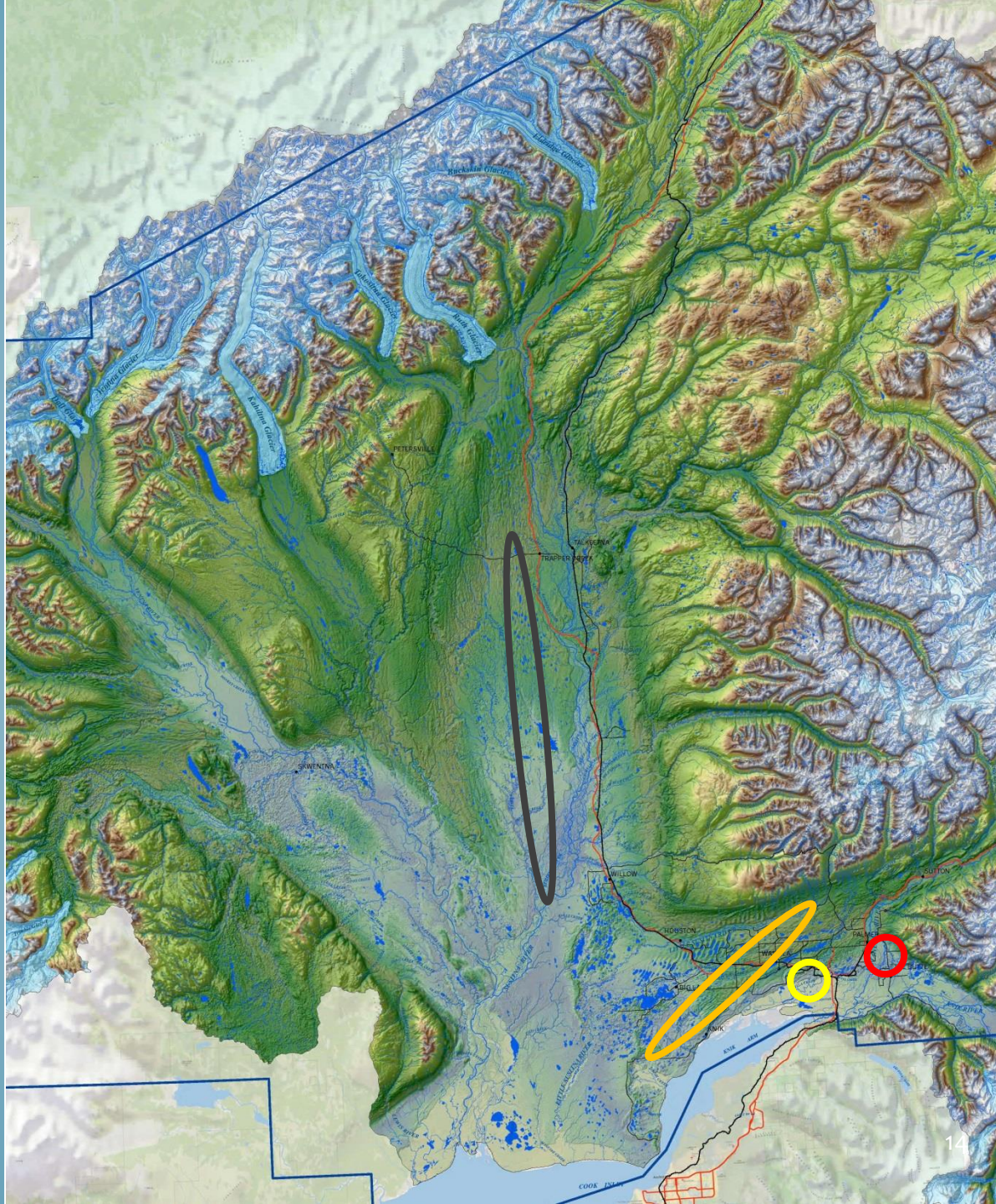
Talkeetna
Clear
Prairie

Eastside Su
Montana
Goose
Sheep
Little Willow
Willow

Little Su

Coho Goals

Deshka



Jim Creek

Little Su

Fish Creek

**Managing to Achieve
Escapement Goals**

=

**Managing for Sustained
Yield**

Inseason Management

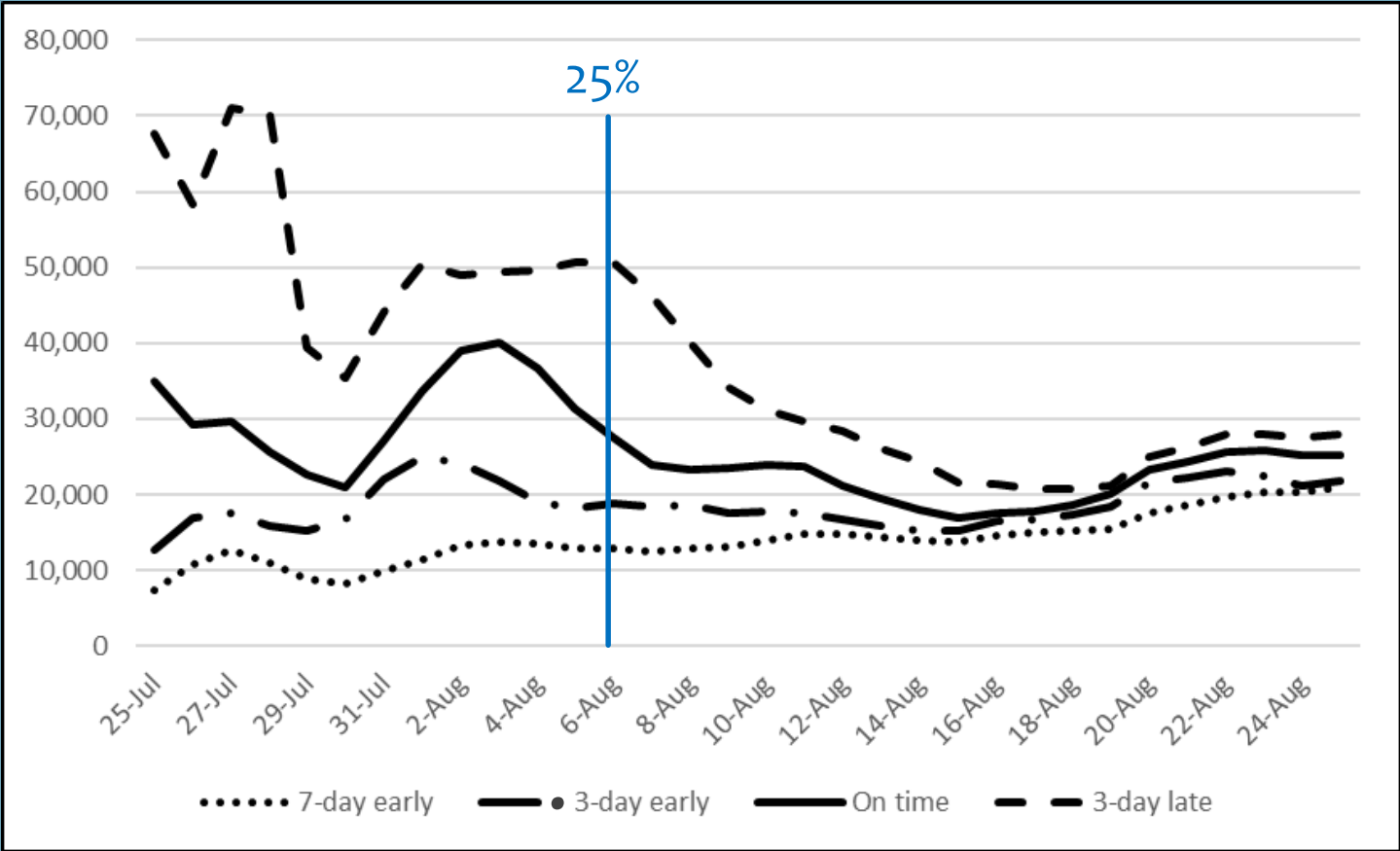
(Fish Creek Weir)



08/22/2014

Little Susitna Coho Salmon Run Size Projections, 2014

Goal range: 10,100 – 17,700



SPORT FISHING

Emergency Order

ALASKA DEPARTMENT
OF FISH & GAME

Under Authority of AS 16.05.060

Emergency Order No. 2-SS-2-51-14

Issued at: Palmer, Friday, August 15, 2014

Effective Date: 12:01 a.m., Saturday, August 16, 2014

Expiration Date: 11:59 p.m. Wednesday,
December 31, 2014, unless superseded by
subsequent emergency order.

EXPLANATION:

This emergency order increases the bag and possession limit for salmon, other than king salmon, 16 inches or greater in length to three per day and in possession, of which, all three may be coho salmon, for the waters of Little Susitna open to salmon fishing downstream of the Parks Highway bridge.

REGULATION:

The provisions of 5 AAC 60.122. Special provisions for seasons, bag, possession, and size limits, and methods and means for the Knik Arm Drainages Area. (9)(F) are superseded by this emergency order. Under this emergency order, the following provisions are effective beginning 12:01 a.m., Saturday, August 16, through 11:59 p.m. Wednesday, December 31, 2014:

5 AAC 60.122. Special provisions for seasons, bag, possession, and size limits, and methods and means for the Knik Arm Drainages Area.

(9) in the Little Susitna River drainage,

(F) salmon, other than king salmon, 16 inches or greater in length; bag and possession limit is three fish, of which all three may be coho salmon; a person, after taking a bag limit of salmon, other than king salmon, 16 inches or greater in length from the Little Susitna River, may not sport fish that same day for any species of fish in waters open to sport fishing for salmon on the Little Susitna River;

Cora Campbell,
Commissioner

By delegation to:

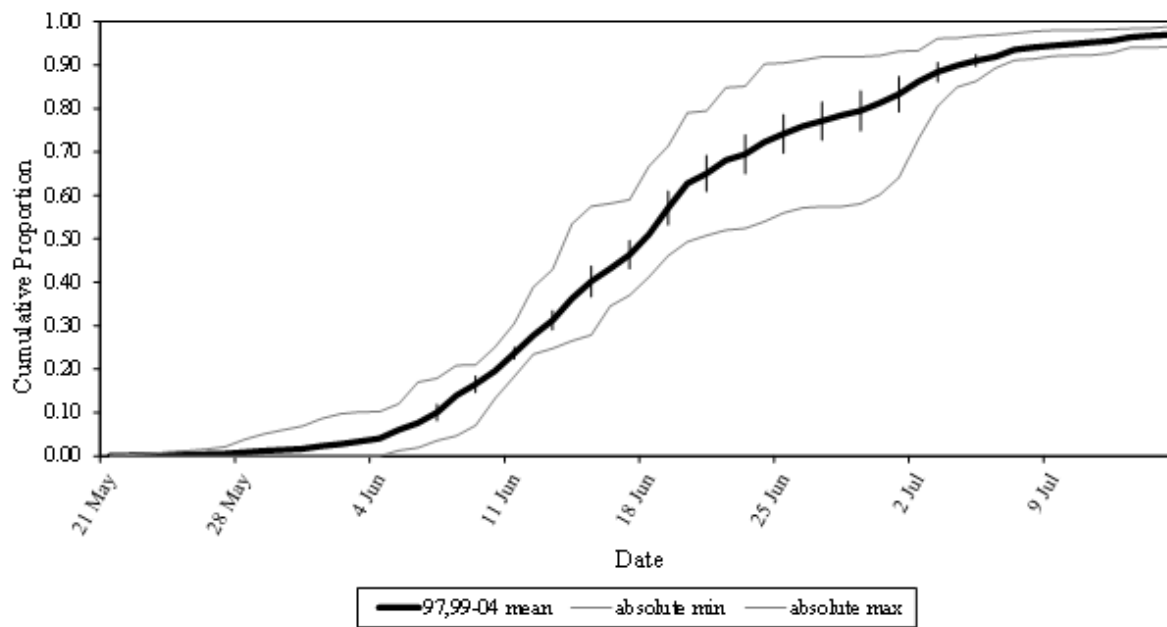
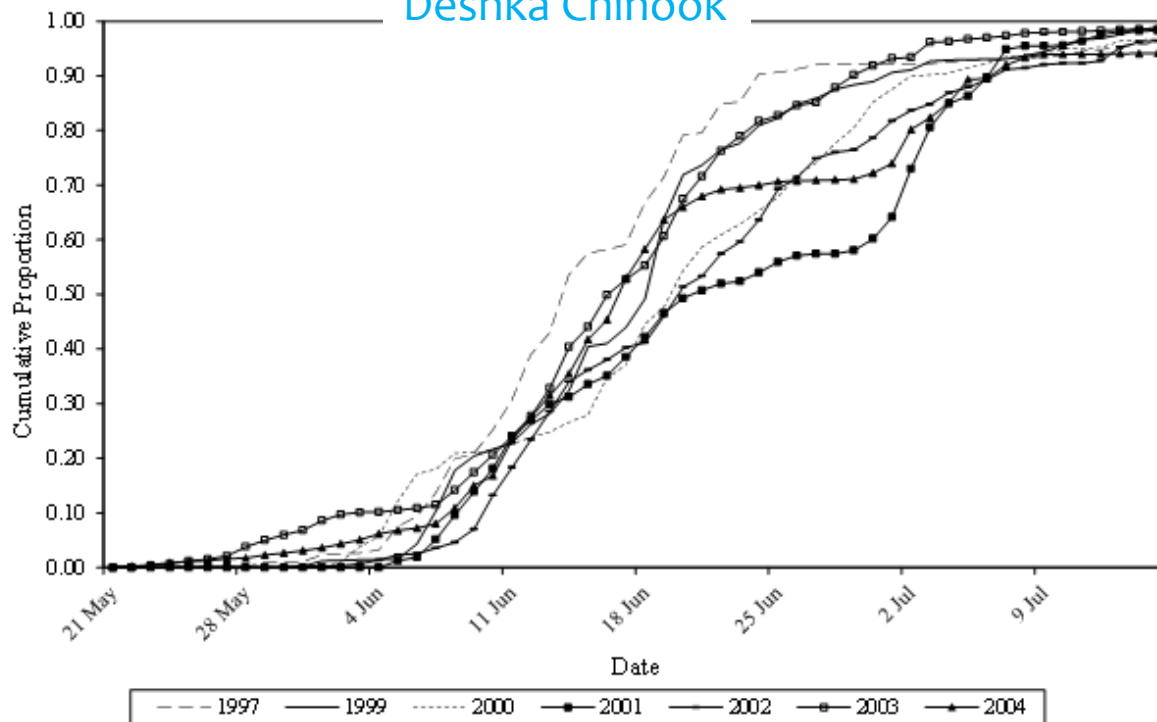
Samantha Oslund,
Assistant Area Management Biologist

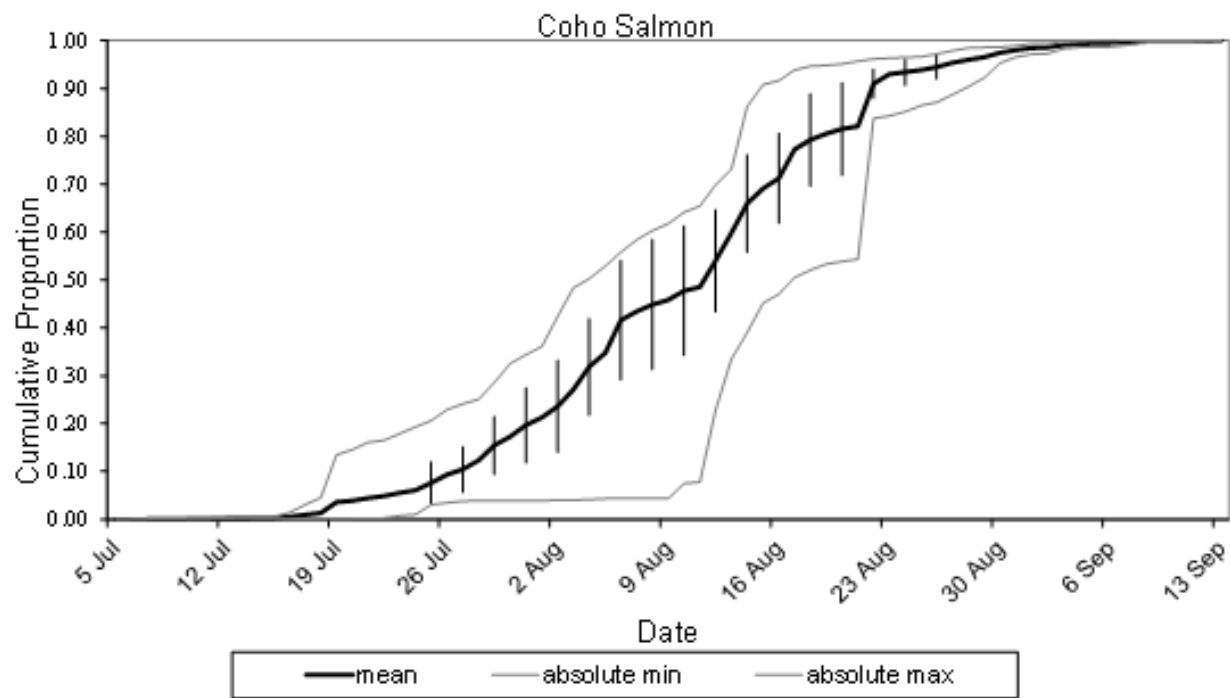
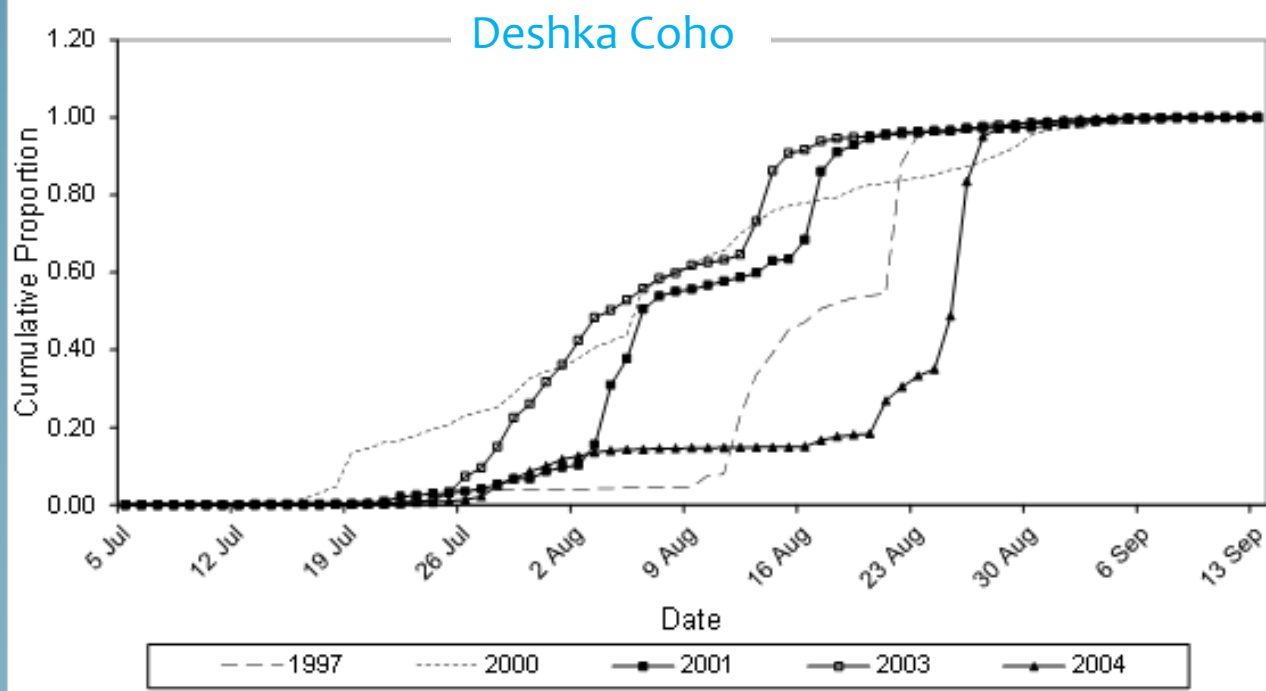
JUSTIFICATION:

The sustainable escapement goal (SEG) for coho salmon in the Little Susitna is 10,100-17,700 fish. As of August 14, 10,048 coho salmon have passed the Little Susitna weir. Based on average run timing and current weir counts, the department is projecting to exceed the SEG. By August 6, as much as 50 percent of the harvest has typically taken place in the sport fishery. It is not anticipated that increased



Deshka Chinook





Other Indices of Run Strength

1. Weir crew observations
2. Angler/Guide reports of fishing success and observations
3. Staff surveys
4. Commercial manager insight
5. Environmental factors
6. There are many others.









Lower Montana Creek Chinook Survey

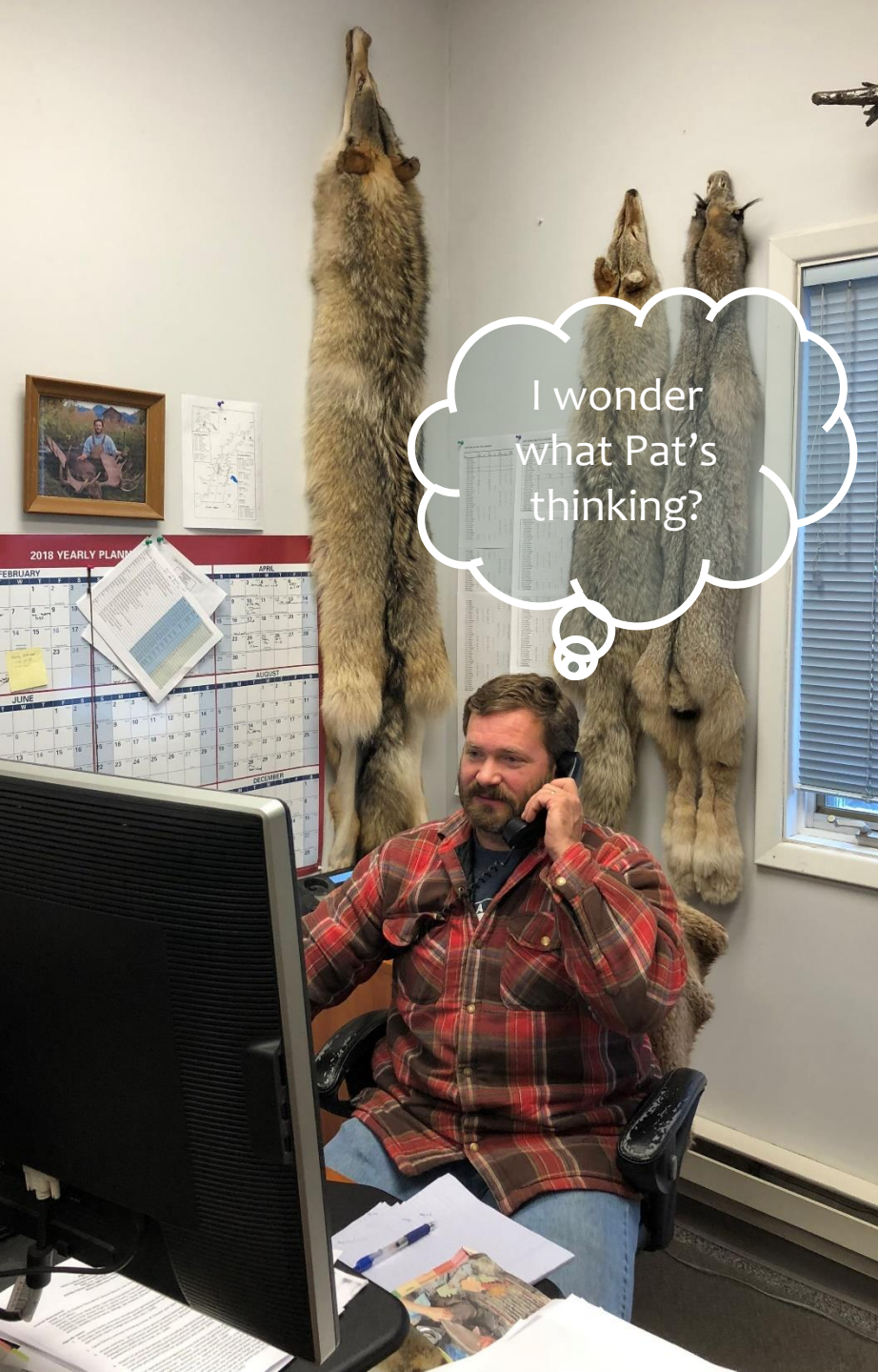


Upper Jim Creek



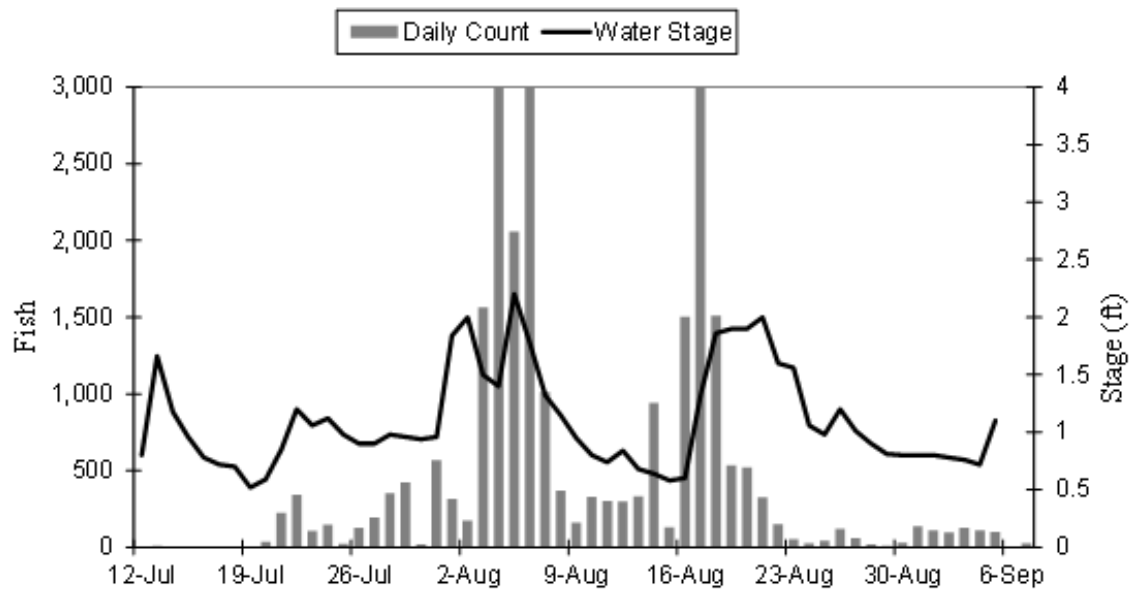
Lower Little Su



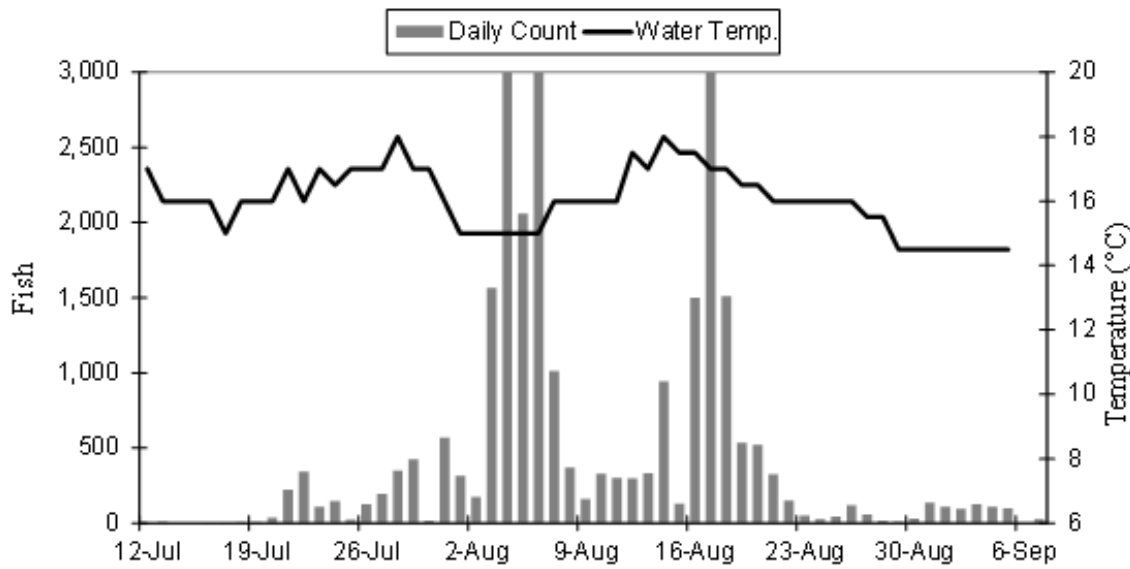


I wonder what Pat's thinking?



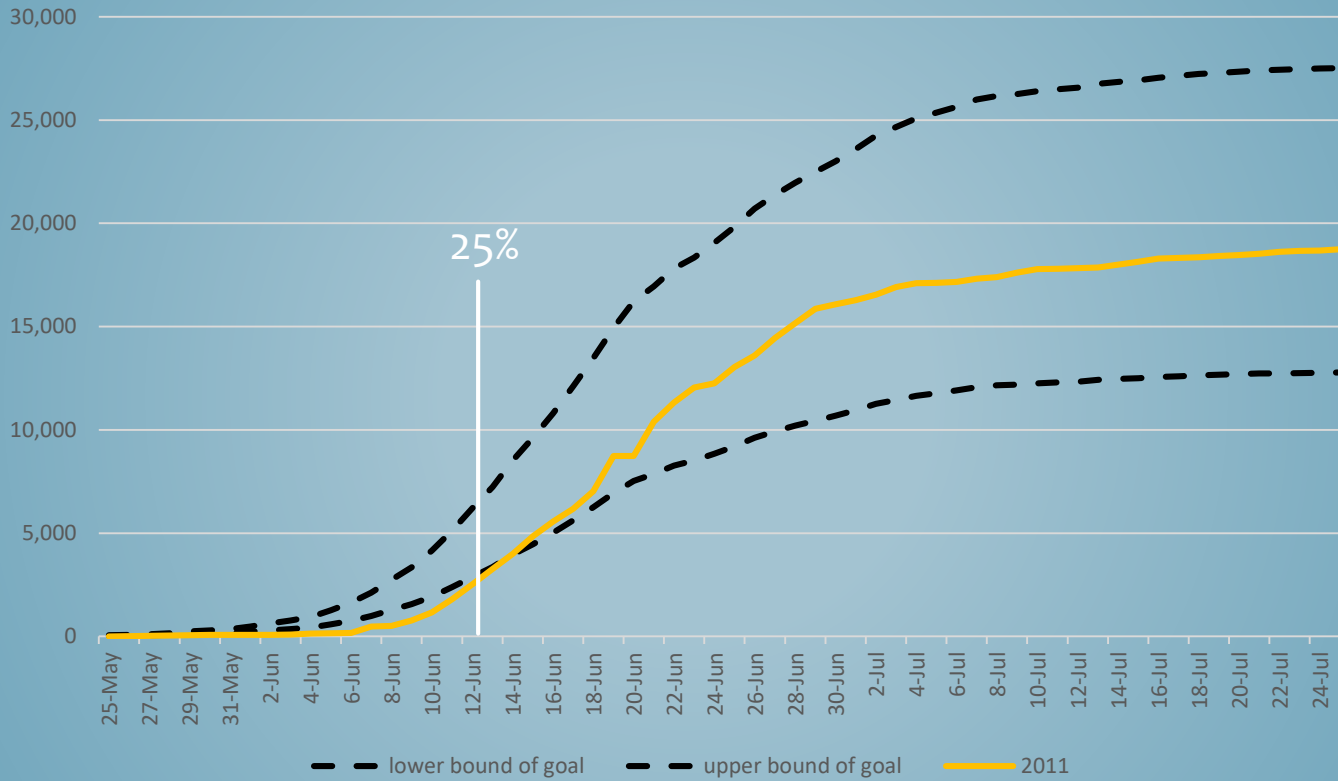


2001 Daily Coho Counts vs. Stage

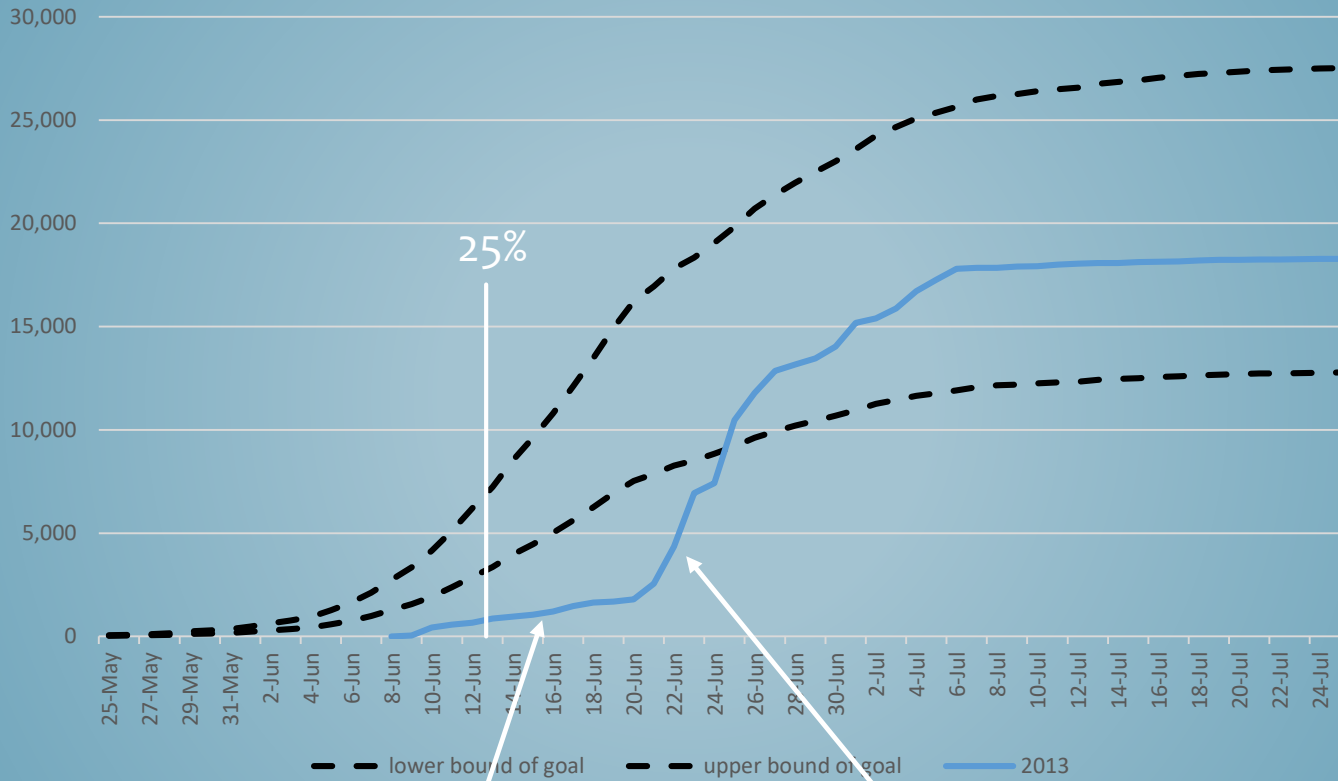


2001 Daily Coho Counts vs. Water Temperature

Cumulative weir count and goal range set to average run timing: Deshka Chinook, 2011



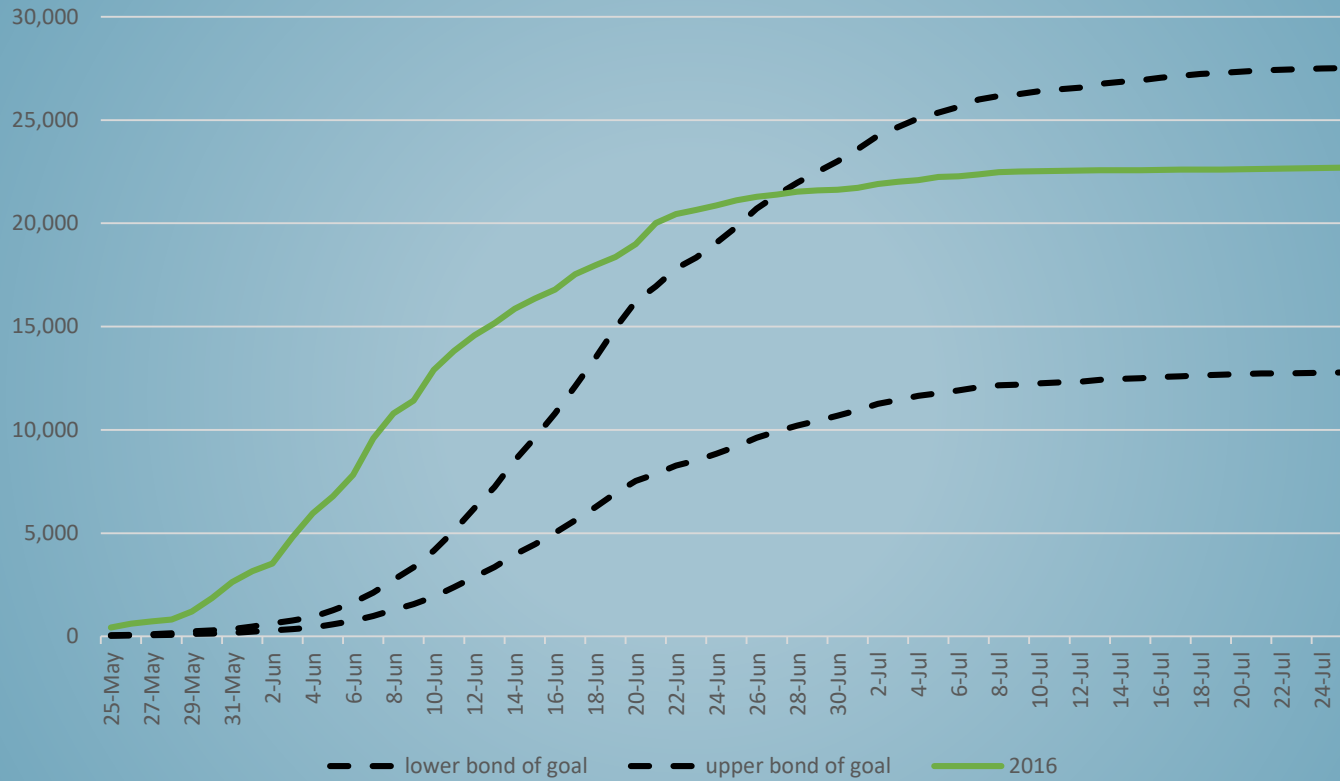
Cumulative weir count and goal range set to average run timing: Deshka Chinook, 2013



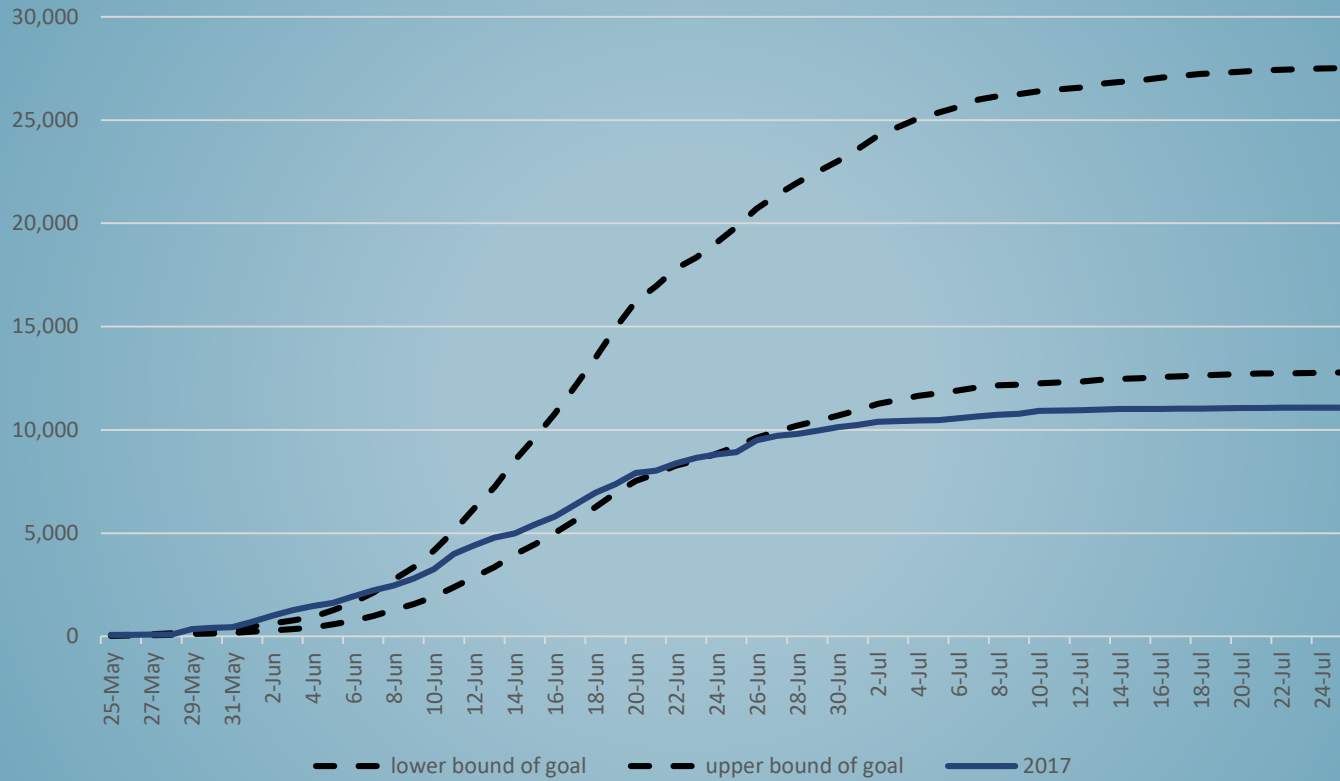
Fish stalled

Mass migration

Cumulative weir count and goal range set to average run timing: Deshka Chinook, 2016

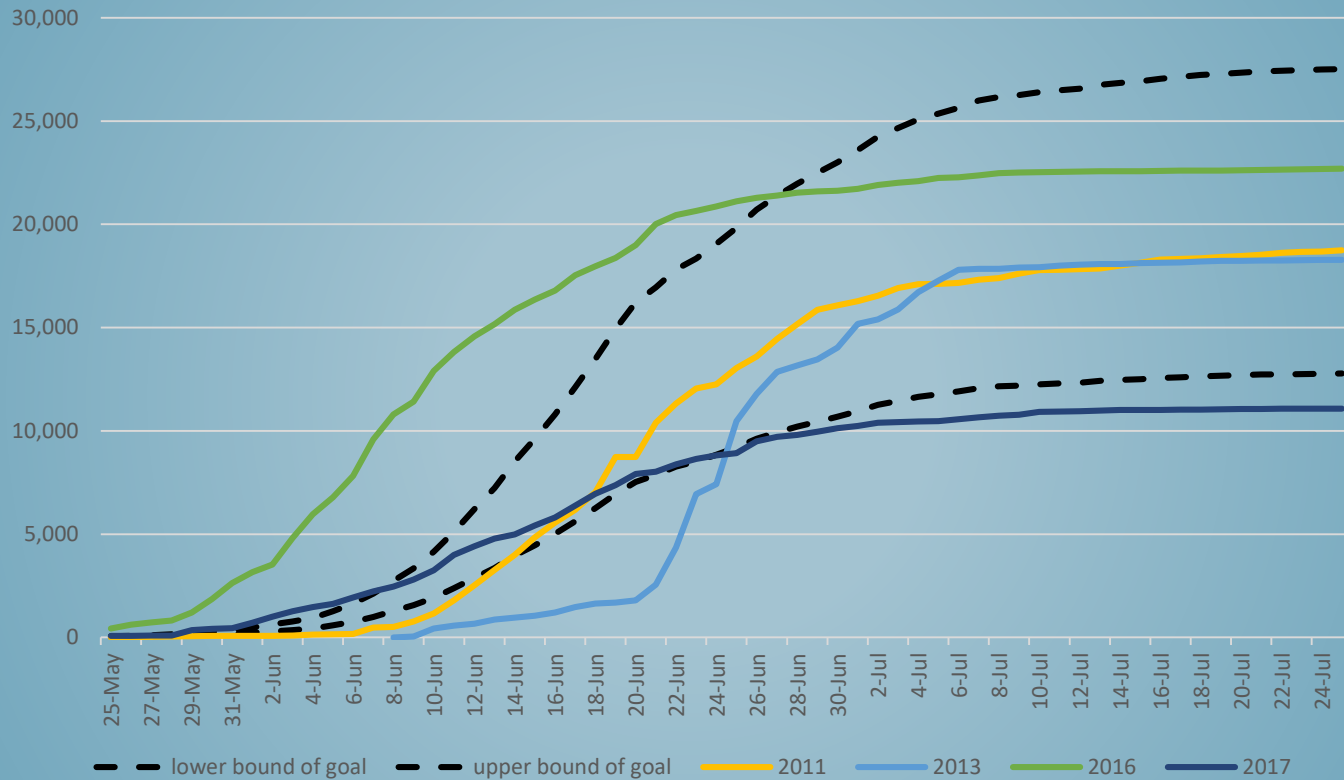


Cumulative weir count and goal range set to average run timing: Deshka Chinook, 2017

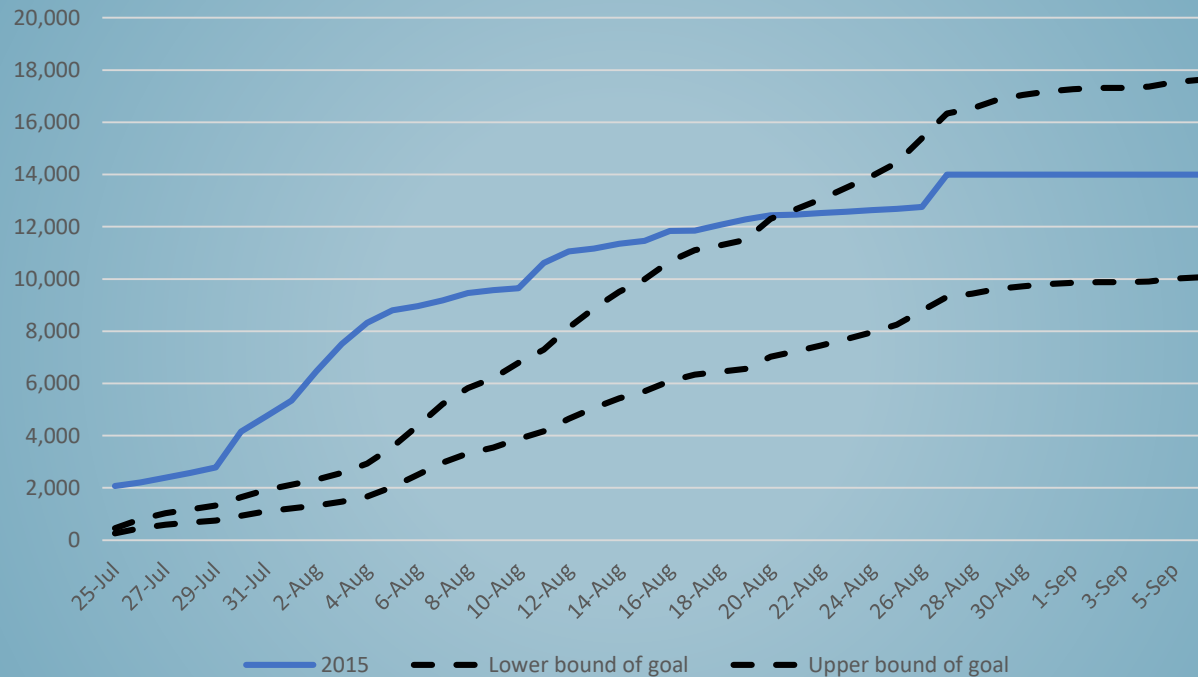


Run timing on Deshka has been 10 days early to 7 days late in recent years.

Other indices of run strength are important and inform management!



Cumulative weir count and goal range set to average run timing: Little Susitna Coho, 2015





Thank You

