



# Hatchery-Wild Interactions Study

2018 SE Alaska

Chance Gray – Sitka Sound Science Center

# Sitka Sound Science Center





# Acknowledgments

- Field Crews
- Alaska Department of Fish & Game
- HWI Science Panel
- Resource Data, Inc. (RDI)
- Prince William Sound Science Center
- Funders

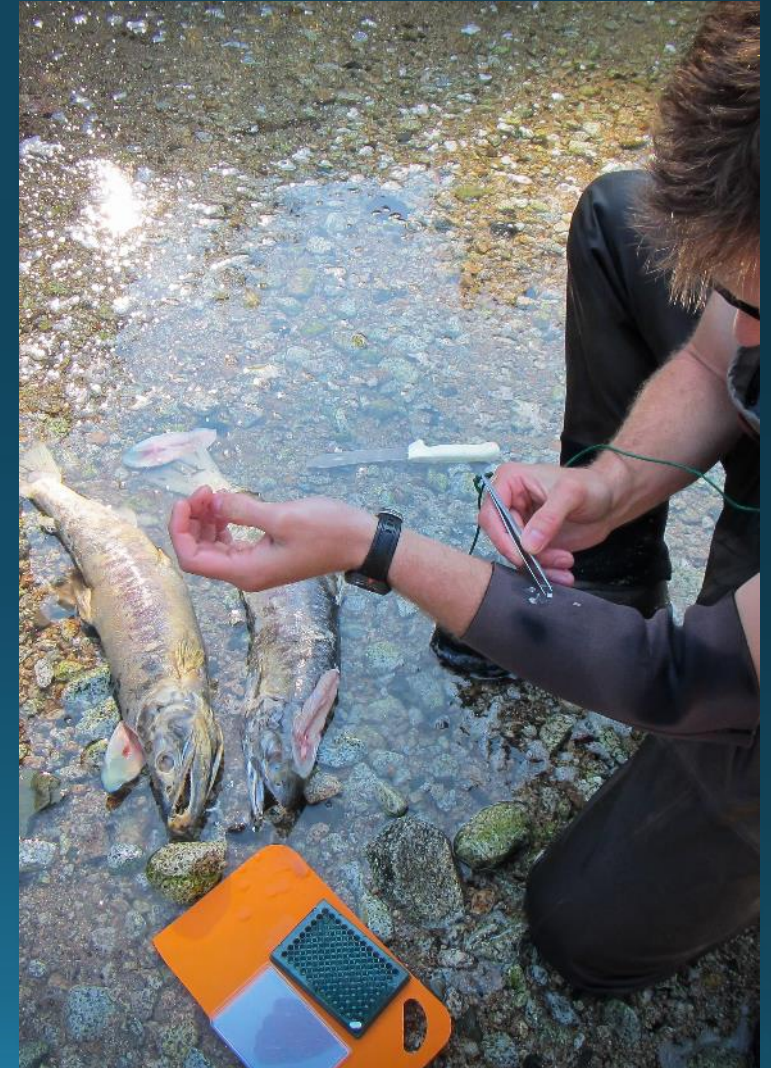
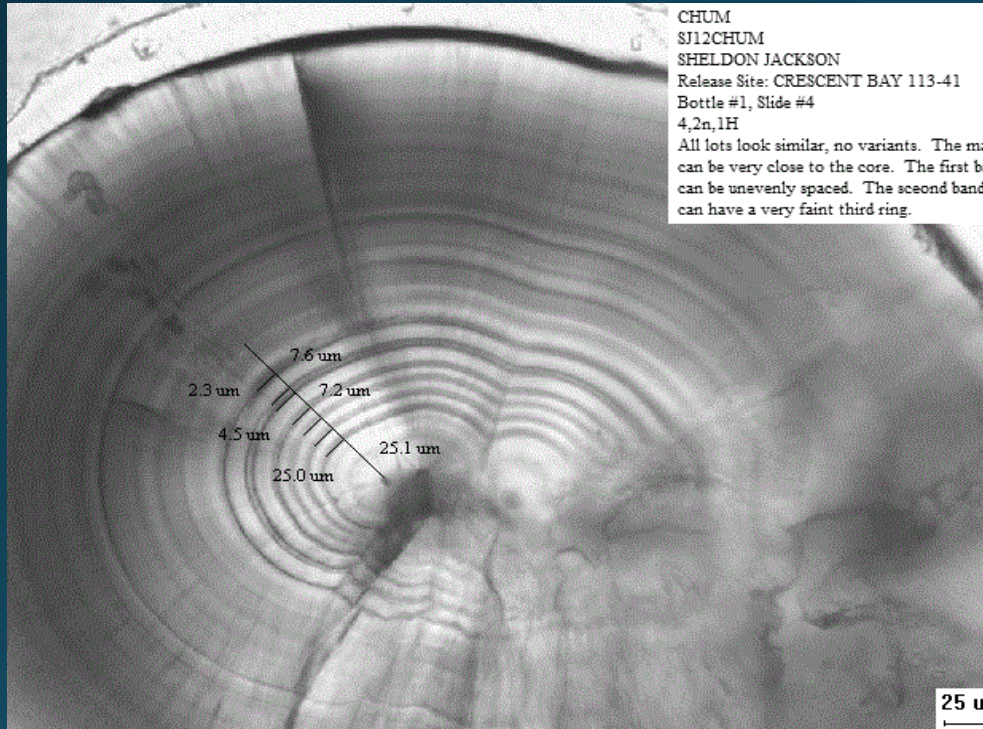
# Project Overview



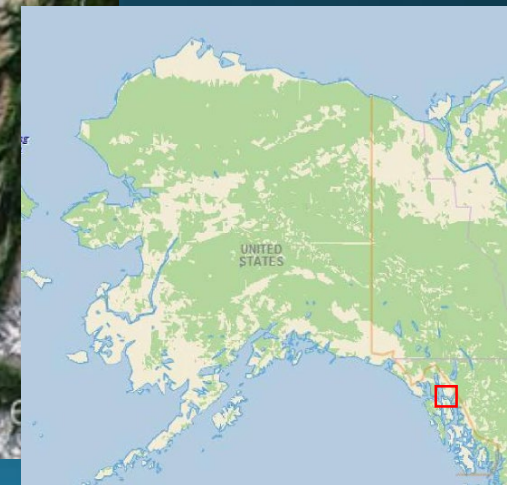
- Concerns about impact of hatchery salmon
- How do strays affect spawning populations?
  - Stock structure
  - Straying
  - Fitness

# Project Overview

- Thermal marks used to determine origin
- DNA tissue used to analyze parentage



# Survey Locations





# Survey Goals

- Sample collection
  - 60-80% (500 minimum fish)
- Schedule
  - Every other day
- Duration
  - Whole stream, whole season

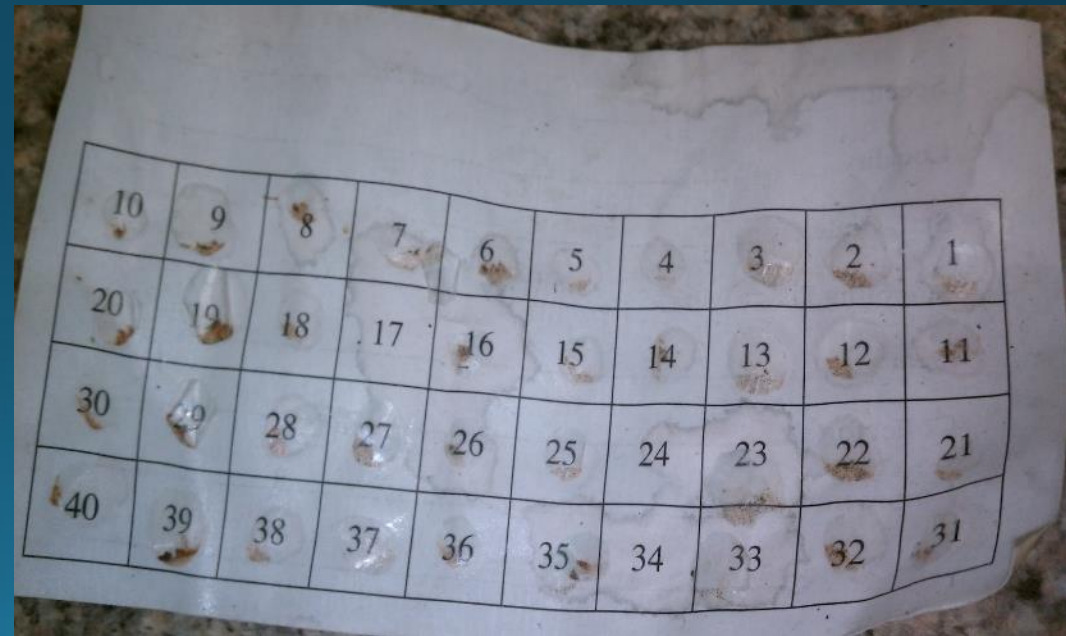
2017 – 6,215 fish sampled  
2018 – 1,307 fish sampled



# Data Collection



- Otoliths
- Tissue
- Scales





# SSSC Field Season



- Field crews
- Stream visits
- Weather, predation and run size





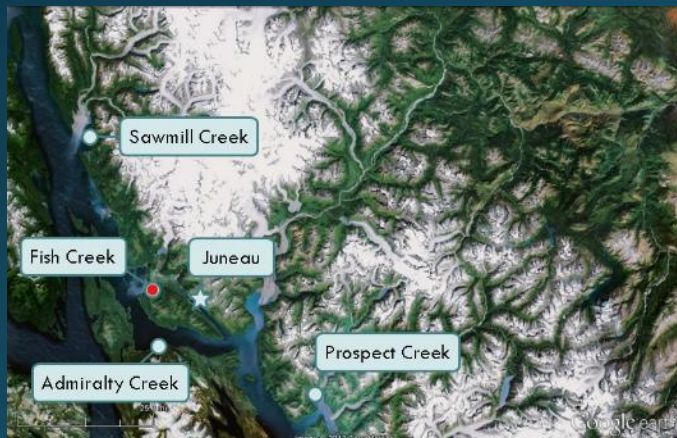
# Stream Visits

Stream Name	AWC Number	2017 Stream Visits	2018 Stream Visits	First Survey	Final Survey
Admiralty Creek	111-41-10050	18	18	7/21/2017 7/22/2018	8/25/2017 8/28/2018
Fish Creek	111-50-10690	17	19	7/20/2017 7/20/2018	8/22/2017 8/26/2018
Prospect Creek	111-33-10100	16	18	7/22/2017 7/21/2018	8/26/2017 8/27/2018
Sawmill Creek	115-20-10520	19	17	7/21/2017 7/21/2018	8/23/2017 8/25/2018

# Fish Creek – Douglas Island



- Whole stream, whole season
- Standard survey range
- Extended surveys



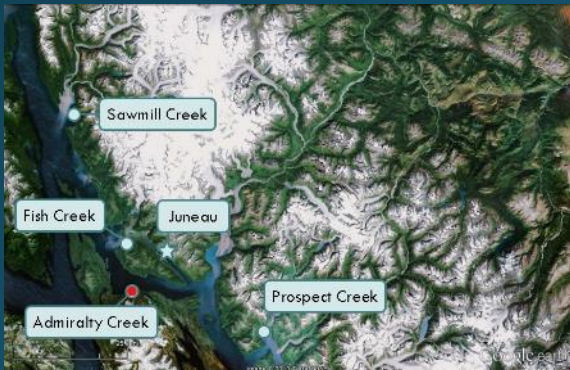


# Sawmill Creek – Berner's Bay

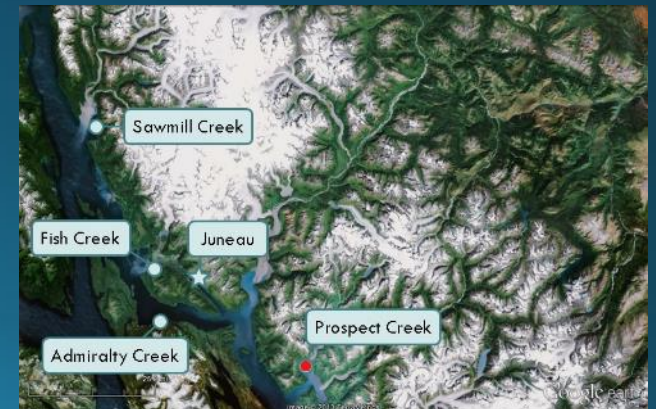
- No extended surveys



# Admiralty Creek



# Prospect Creek



# Impacts of Weather



- Drought conditions from mid-July to Aug. 8, 2018
- Flooding Aug. 8-10, 2018 on all creeks





# Predation





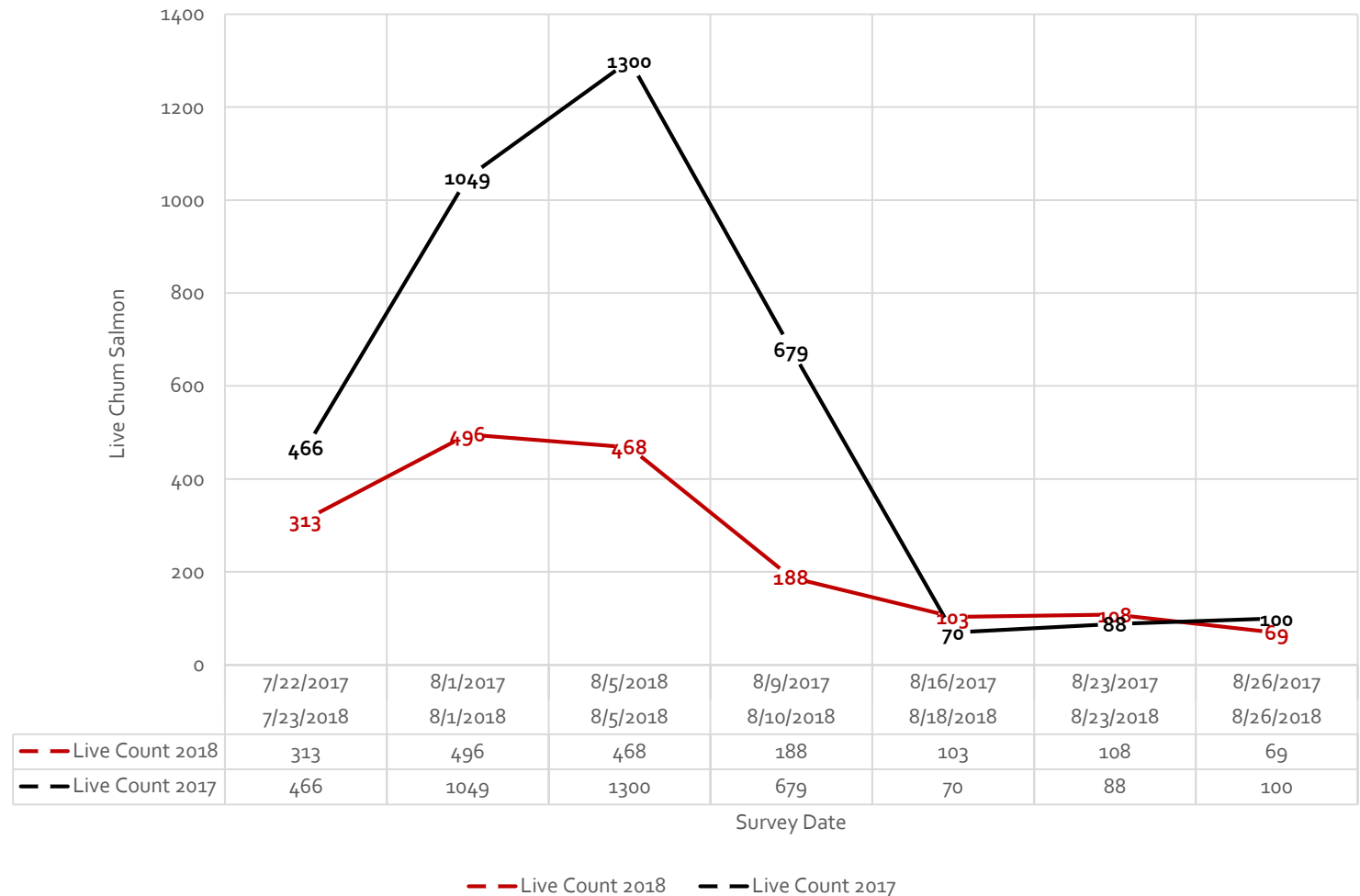


# Run Size

2017 – 6,215 fish sampled  
2018 – 1,307 fish sampled

- Fewer live chum salmon reported in 2018
- Drought kept fish from moving upstream
- Flood occurred around peak spawning

COMPARISON OF LIVE CHUM SALMON COUNTS  
PROSPECT CREEK



# Season Review

- Sampling
- Timing
- Challenges



# Summary



- Unpredictable seasons
- Communication
- Flexibility

