



Moose Creek Juvenile Salmon Distribution and Outmigration Timing Project

Chickaloon Village Traditional Council



Presented by: Jerrid Hixon & Jessica Winnestaffer

Study Objectives (2017-2019)

For Chinook and coho juvenile salmon in Moose Creek:

1. Establish distribution
2. Learn movement patterns
3. Understand growth rates and sizes



Chinook Salmon: Łuk'ae Ce'e



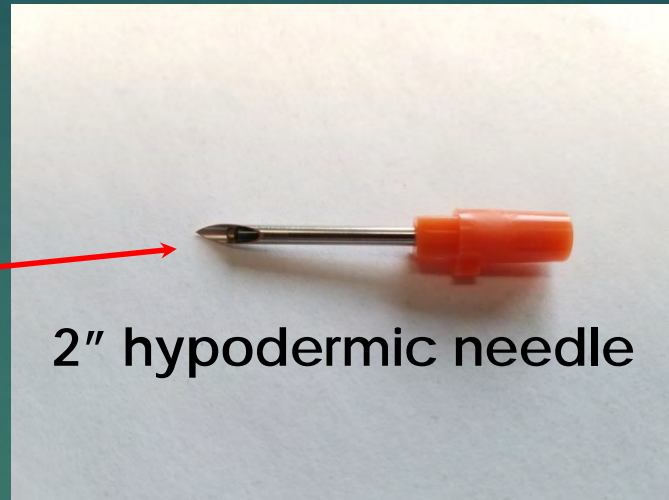
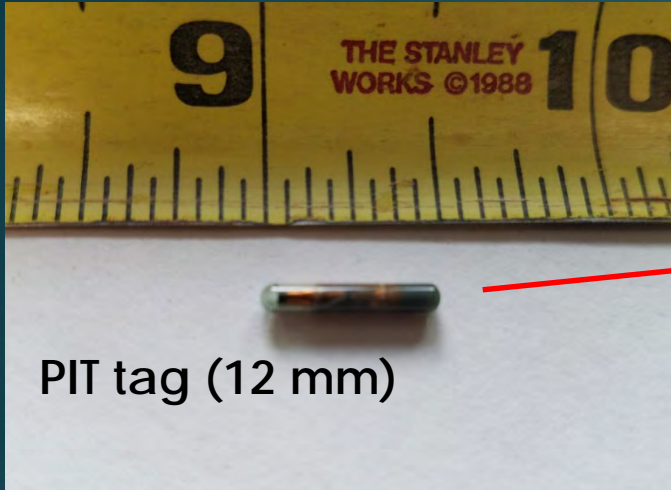
Coho Salmon: Xay Lugge'

Moose Creek PIT Tag Project



- Minnow trap at 8 reaches
- 4-6 hour trapping (2017,2018)
- 20-24 hour trapping (2019)
- Inject PIT tags in all Chinook and coho juveniles $\geq 55\text{mm}$

Passive Integrated Transducer (PIT) Tag Equipment

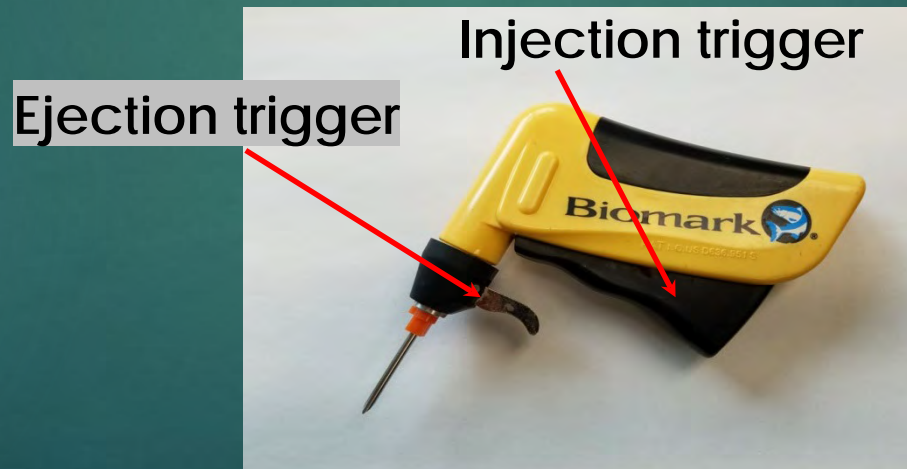


Unique serial number

3DD.003C00B80A



Tray of 100 needles



PIT tag injection gun

Array Site



Biomark Master Controller



Thermoelectric Generator



4 Biomark PIT tag antennas

Floating PIT Tag Array

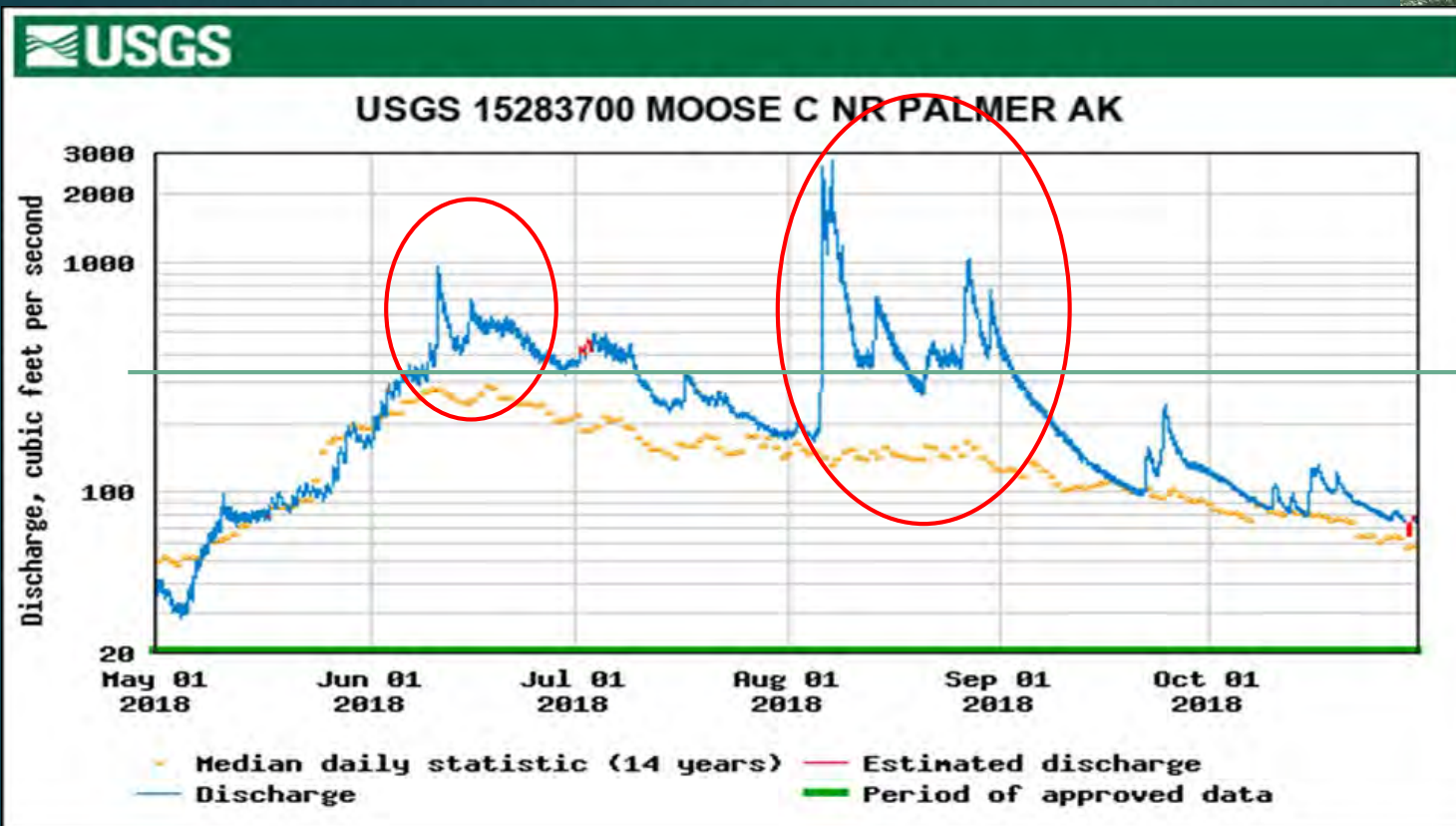
- Total of **1071** PIT-tags detected as of November 6, 2019 (2700 deployed)
- 99% detection probability



2018 Flooding

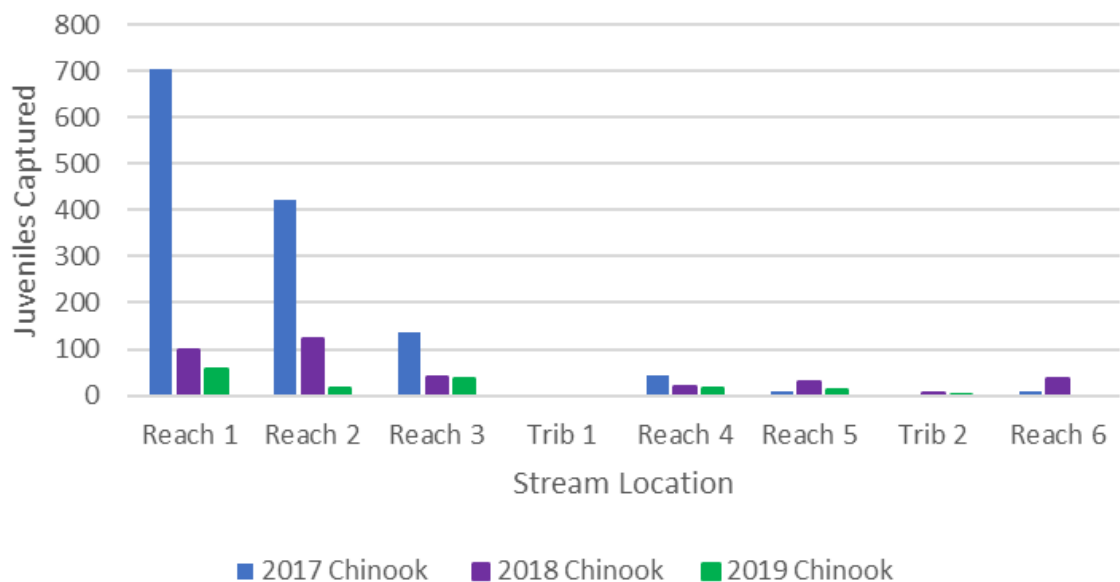
- June & August – September
- Equipment damage/ malfunctions

Monday August 6, 2018





Chinook Capture by Reach & Year

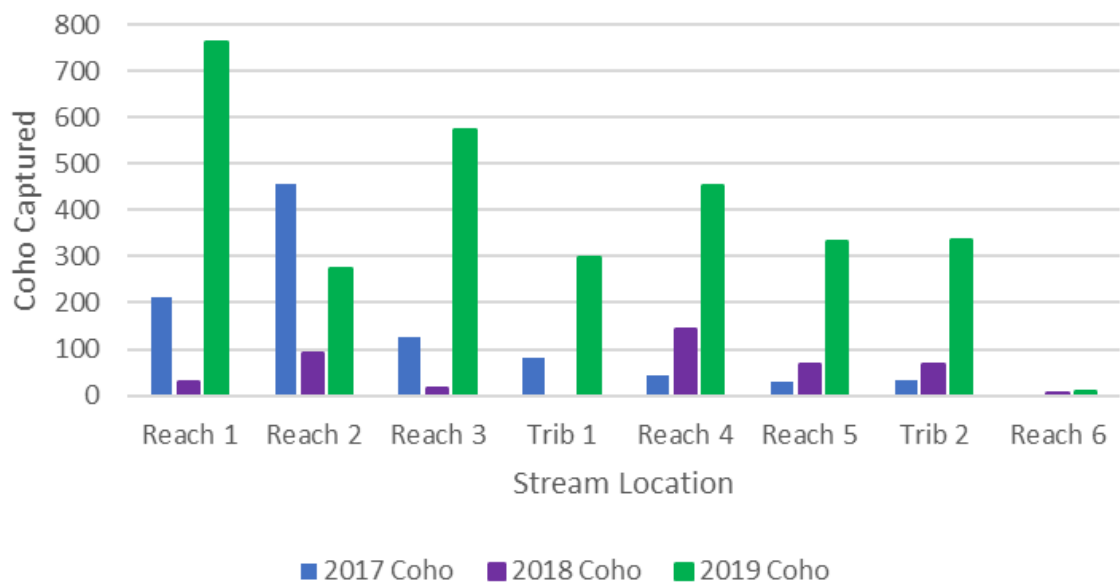


Captures by Reach

Chinook

- 2017 capture = 1323
- 2018 capture = 348
- 2019 capture = 143

Coho Capture by Reach & Year



Coho

- 2017 capture = 980
- 2018 capture = 421
- 2019 capture = 3031

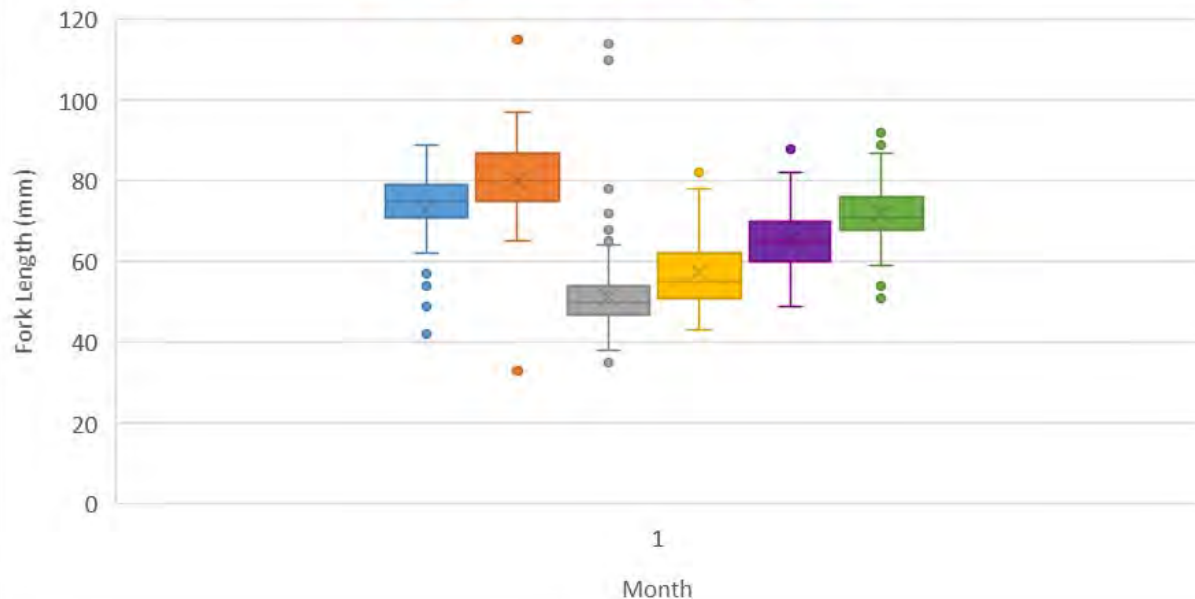
Length by Month

Chinook

Coho

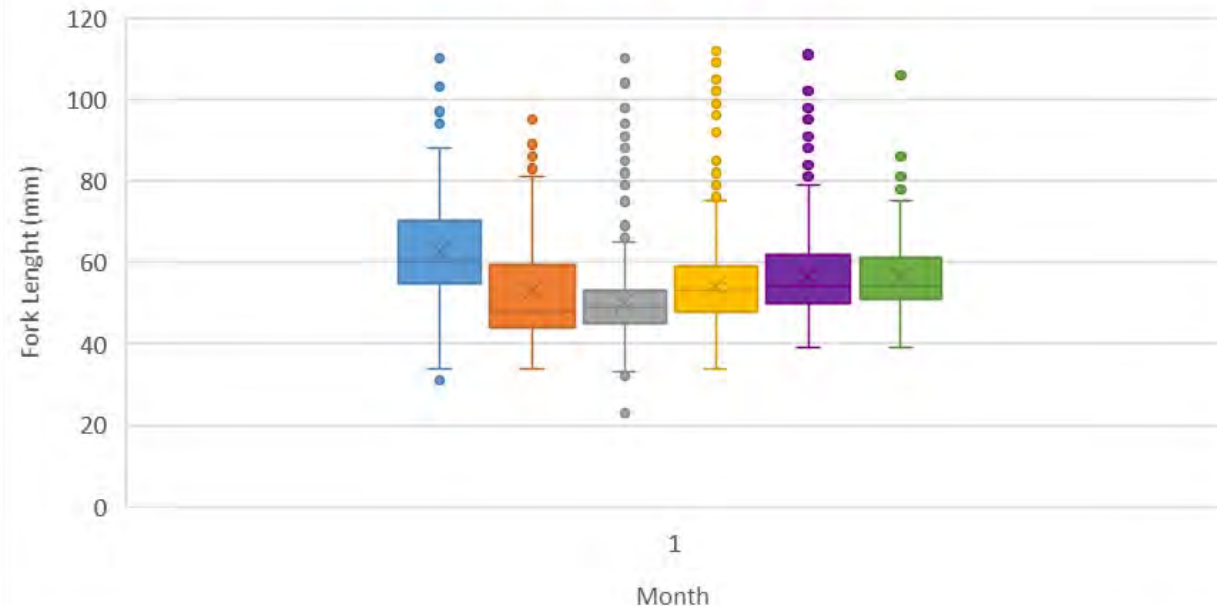
Chinook Fork Length by Month (3 yr)

■ May ■ June ■ July ■ Aug ■ Sept ■ Oct

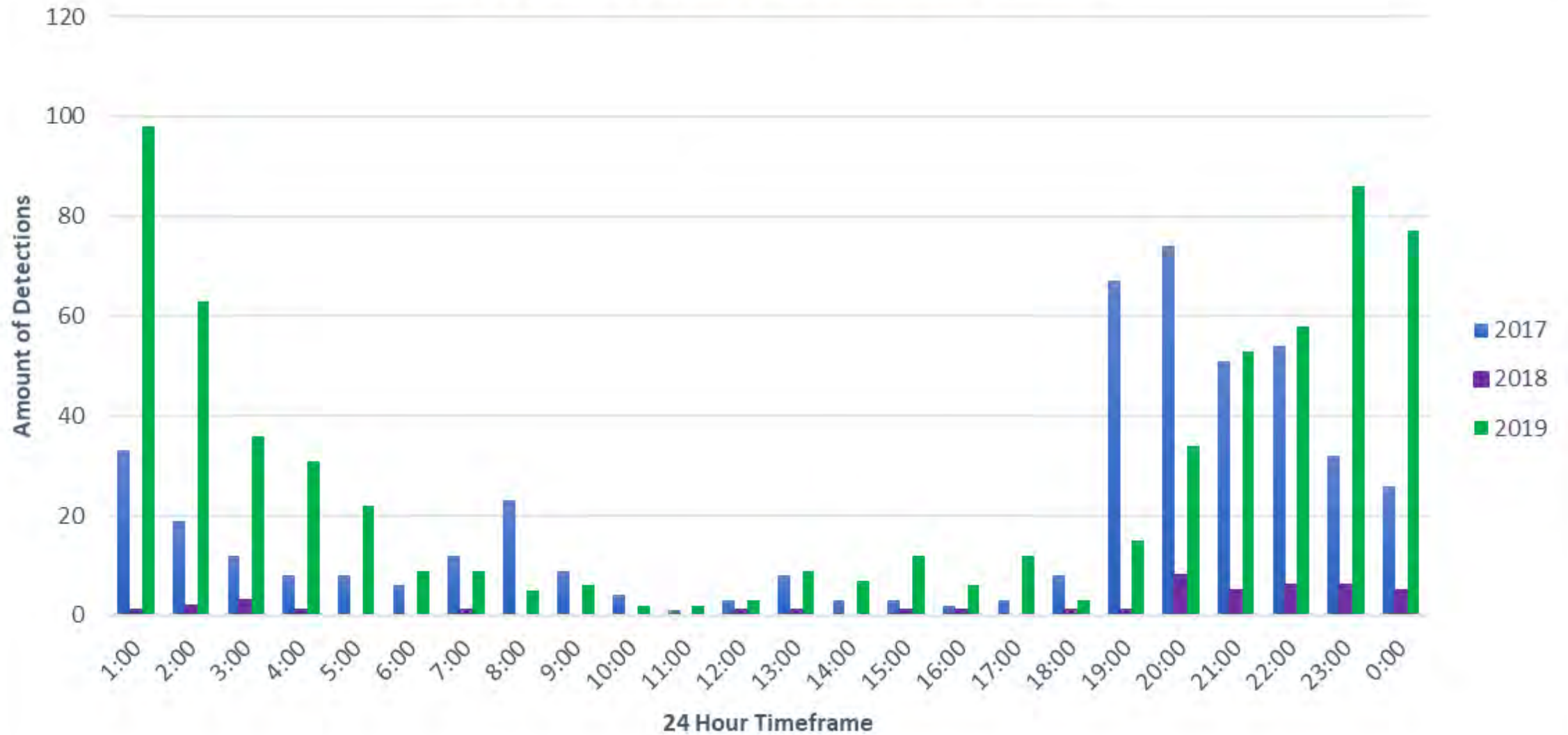


Coho Fork Length by Month (3 yr)

■ May ■ June ■ July ■ Aug ■ Sept ■ Oct

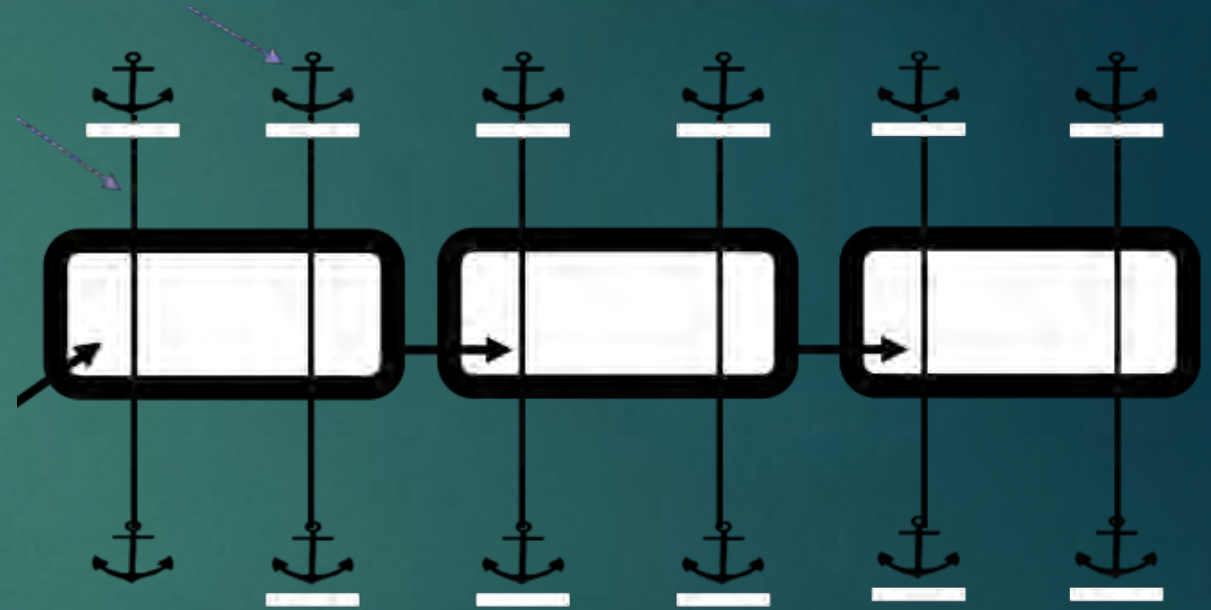


2017-2019 Array Detection Times



Winter Array Configuration

October 2019 – Spring 2020




- Secured antenna to creek bottom
- Learn winter and early spring juvenile salmon movement

Lessons Learned

- Daily - check, download and analyze PIT Tag Array data
- Minnow trap overnight
- Exotic traps 1/8" mesh best to catch small juvenile salmon





Alignment with the Mat-Su Fish Habitat Partnership's Strategic Action Plan

- Better understanding of habitats important for salmon at each life stage (spawning, rearing, and overwintering)
- Identify locations of salmon habitats
- Stream temperature baseline and monitoring

Management Implications



Project results help land/water managers understand when and where juvenile are, to make decisions for the protection of salmon.

Tsin'aen (Thanks) To:

- USFWS - Jon Gerken & Dan Rinella
- Technicians: Willow Hanson, Kurt Schoephorster & Adrian Baer
- Bureau of Indian Affairs: Dr. Glenn Chen
- ADF&G - Palmer office
- Landowners: Ken Peltier, Lanphier Family, Jennifer Simmermeyer
- Eklutna Inc.



Questions?



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