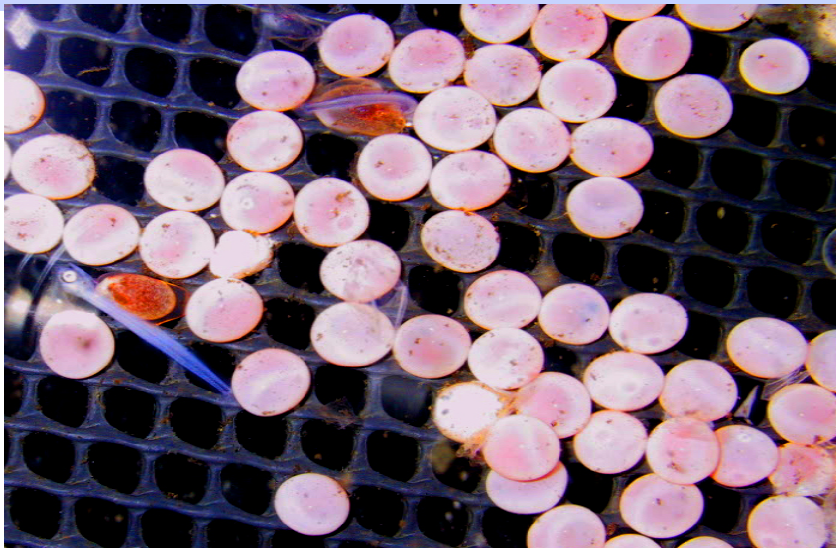
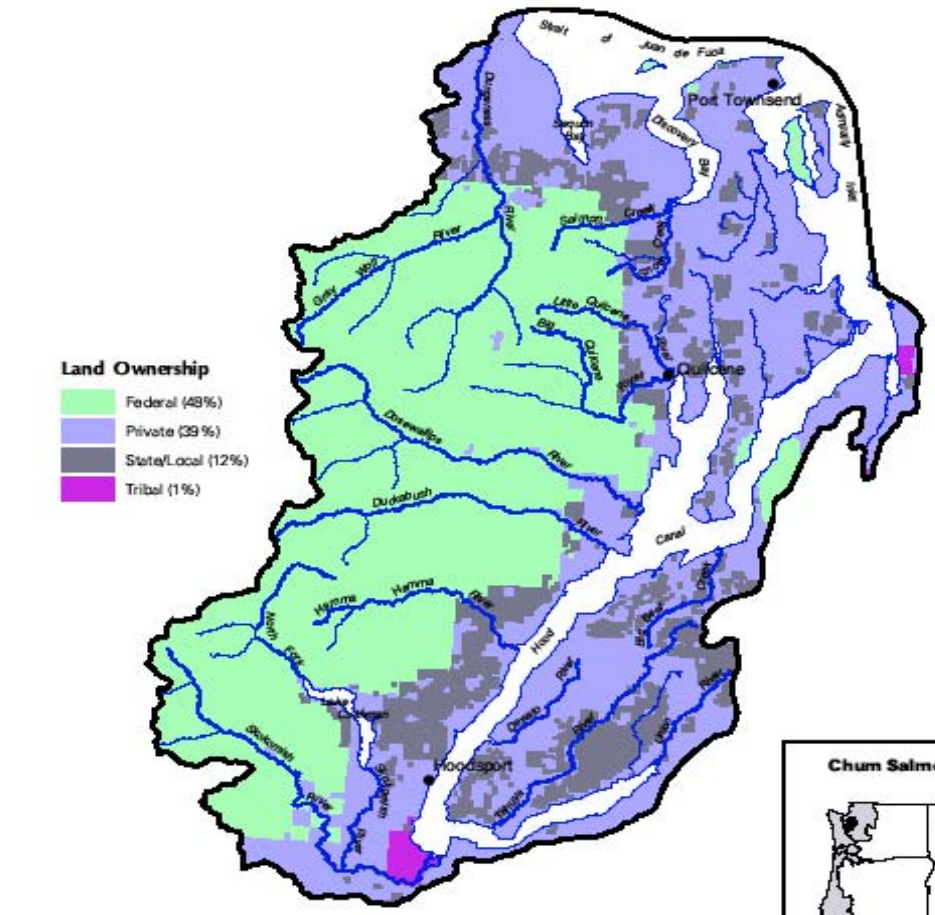
Implementation and Operation of an ESA-listed Hood Canal Summer Chum Recovery Project: The Nuts and Bolts

Ed Jouper,
Washington Department of Fish and Wildlife



HOOD CANAL SUMMER-RUN CHUM SALMON ESU



Note: Map is for general reference only.

United States Department of Commerce
National Oceanic & Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
HABITAT CONSERVATION DIVISION
525 N.E. Oregon St., Suite 410
Portland, OR 97232
Tel (503) 231-2223

Scale:

MAP DATE: 3/8/99

Chum Salmon ESUs

Union/Tahuya Summer Chum Supplementation/Reintroduction Project

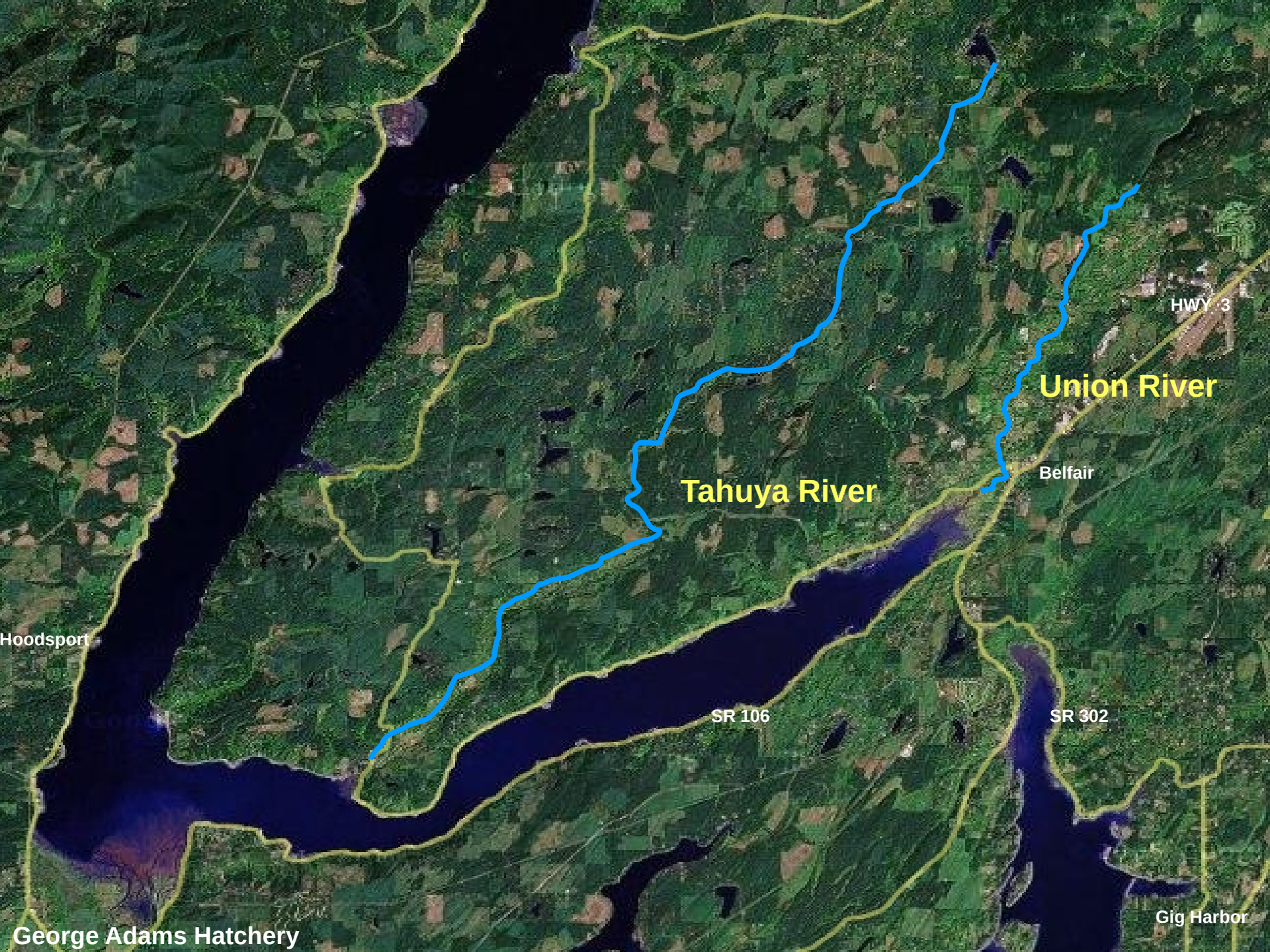
Supplementation Phase

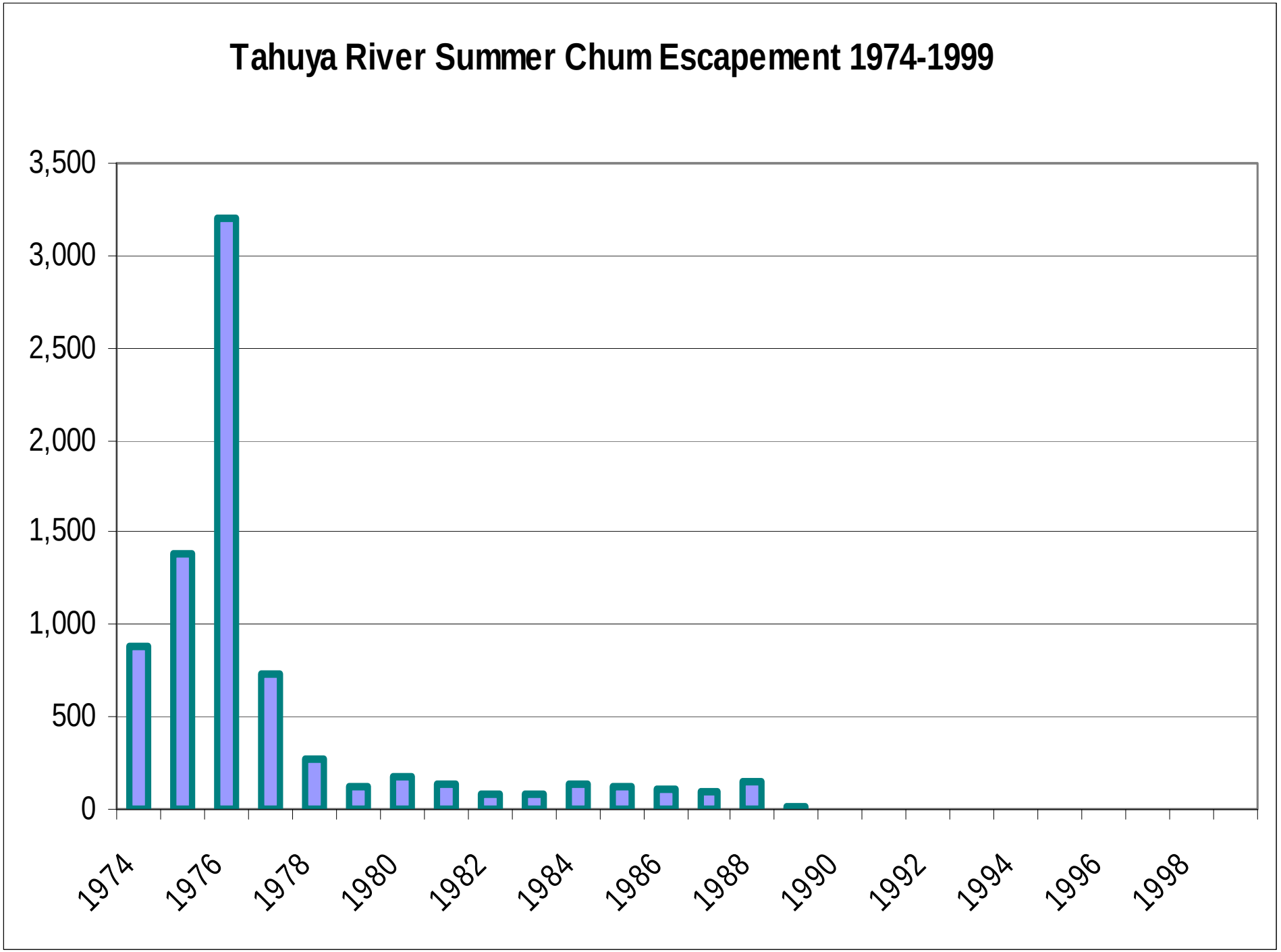
Union/Tahuya Project Goal

Reintroduce a healthy, natural, self-sustaining population of summer chum in the Tahuya River

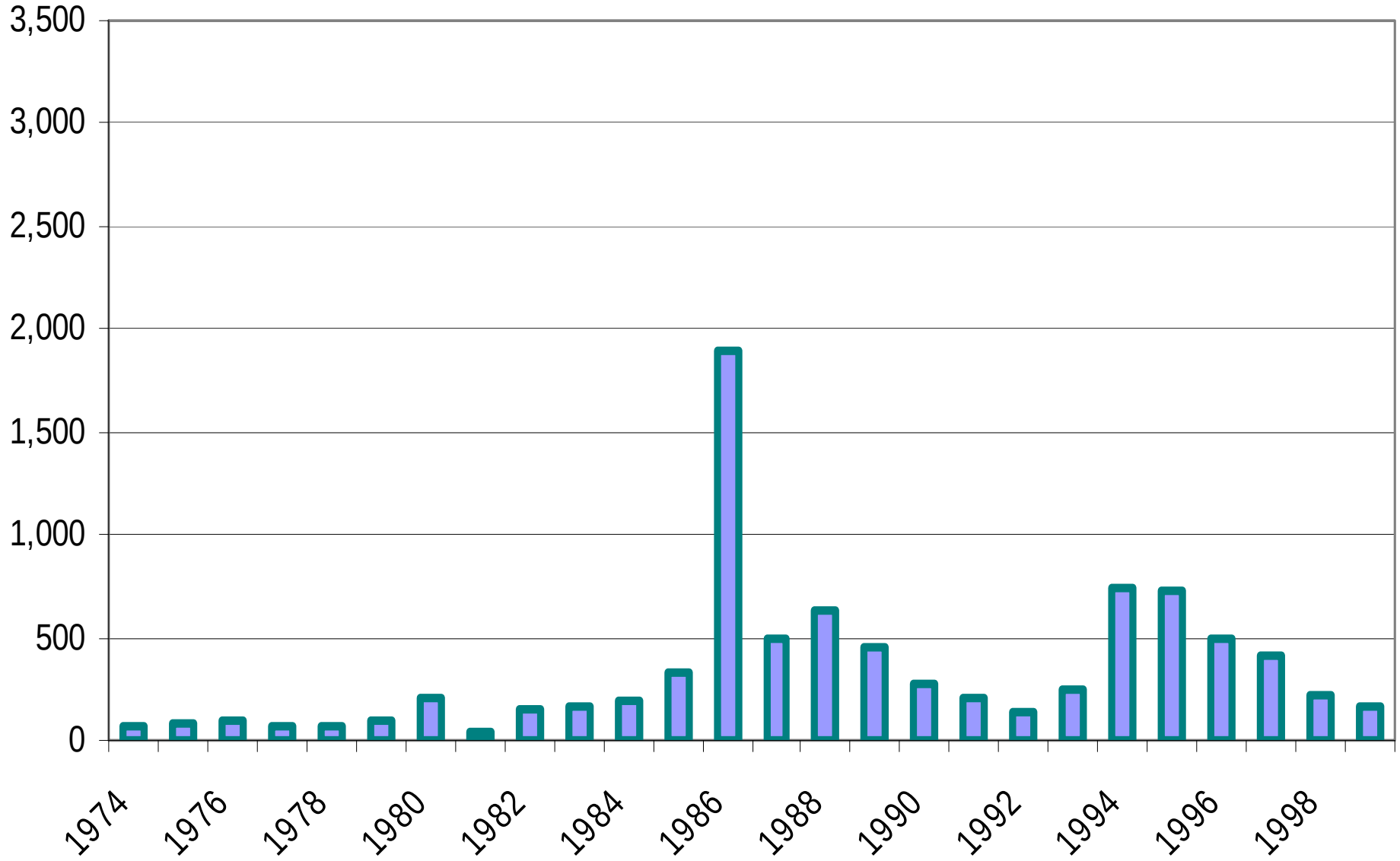
Union/Tahuya Project Strategy

Boost the number of returning adults in the Union River above identified escapement levels so that excess broodstock can be used for reintroduction into the Tahuya River


HWY 3
Union River
Belfair
Tahuya River
Hoodsport
SR 106
SR 302
Gig Harbor
George Adams Hatchery


Tahuya River Summer Chum Escapement 1974-1999
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998

Union River Summer Chum Escapement 1974-1999



HCSEG staff, volunteers, and interns at work

Project Needs

- Adult trapping facilities
- Trap monitoring and security
- Biological sampling- staff and equipment
- Equipment for transporting gametes
- Incubation and otolith marking systems
- Incubation, rearing, and release sites

Union River trap and green pen with holding tubes

Union River trap and monitoring facilities

HCSEG volunteer passing female summer chum upstream

Lightly clubbing a ripe female summer chum
don’t smash the otoliths!....or my fingers!

Collecting biological data from summer chum broodstock

Removing eggs from females and collecting ovarian fluid

Preparing eggs and milt for transport to George Adams Hatchery

Collecting milt from summer chum males

Oxygenating milt to maintain viability

Kidney and spleen tissue sample collection

Scale, Otolith, and DNA Sampling by HCSEG

Preparing eggs for matrix spawning at George Adams Hatchery

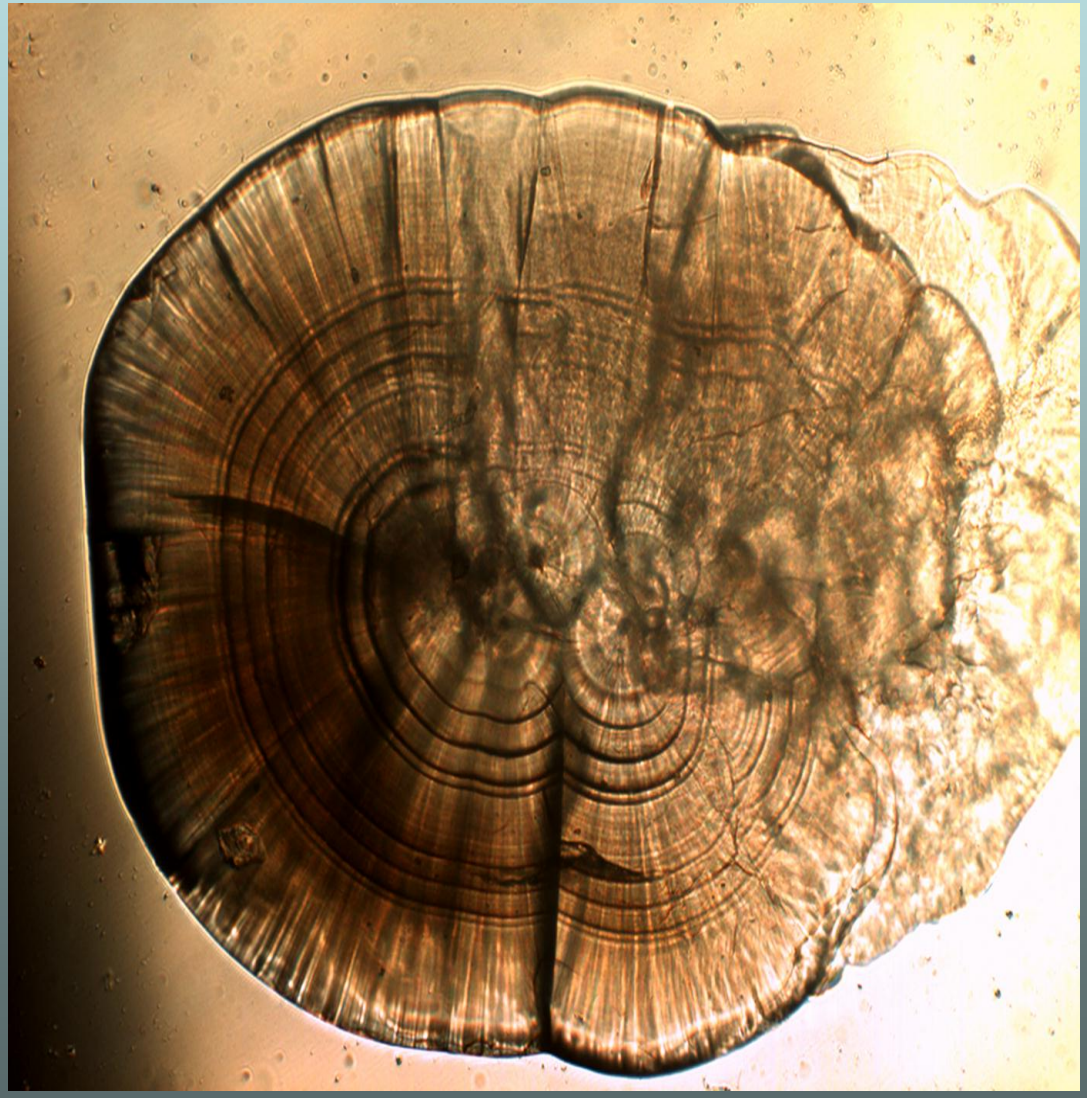
Applying milt in a 3 X 3 matrix

Isolation incubation system at George Adams Hatchery

Pressurized Formalin delivery system for fungus control

Removing egg mortalities and eyed egg inventory

Thermal marking system and marked otolith

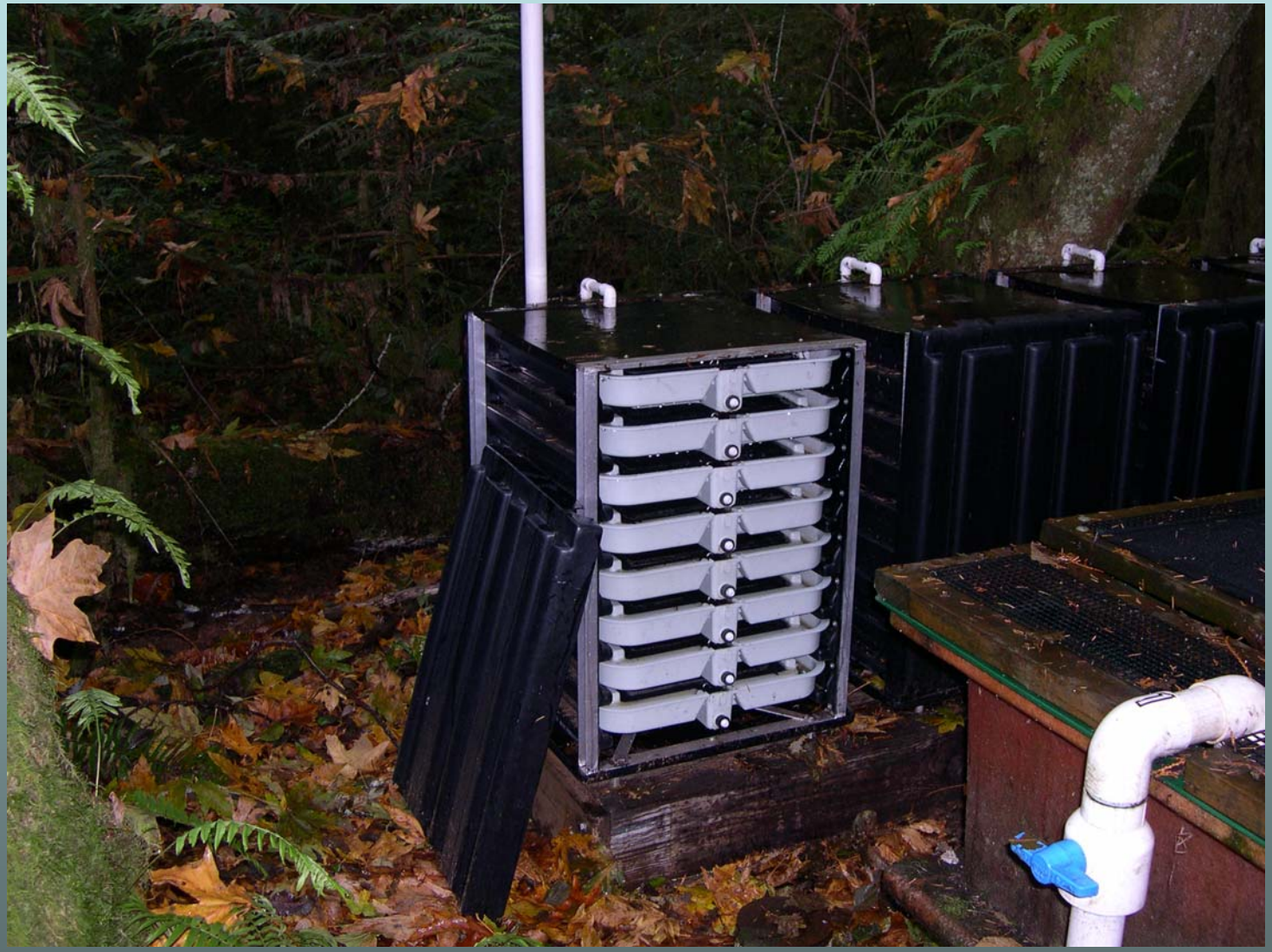


Huson Springs summer chum incubation, rearing, and release site

Huson Springs incline screen water intake

Huson Springs incubation water clarifiers

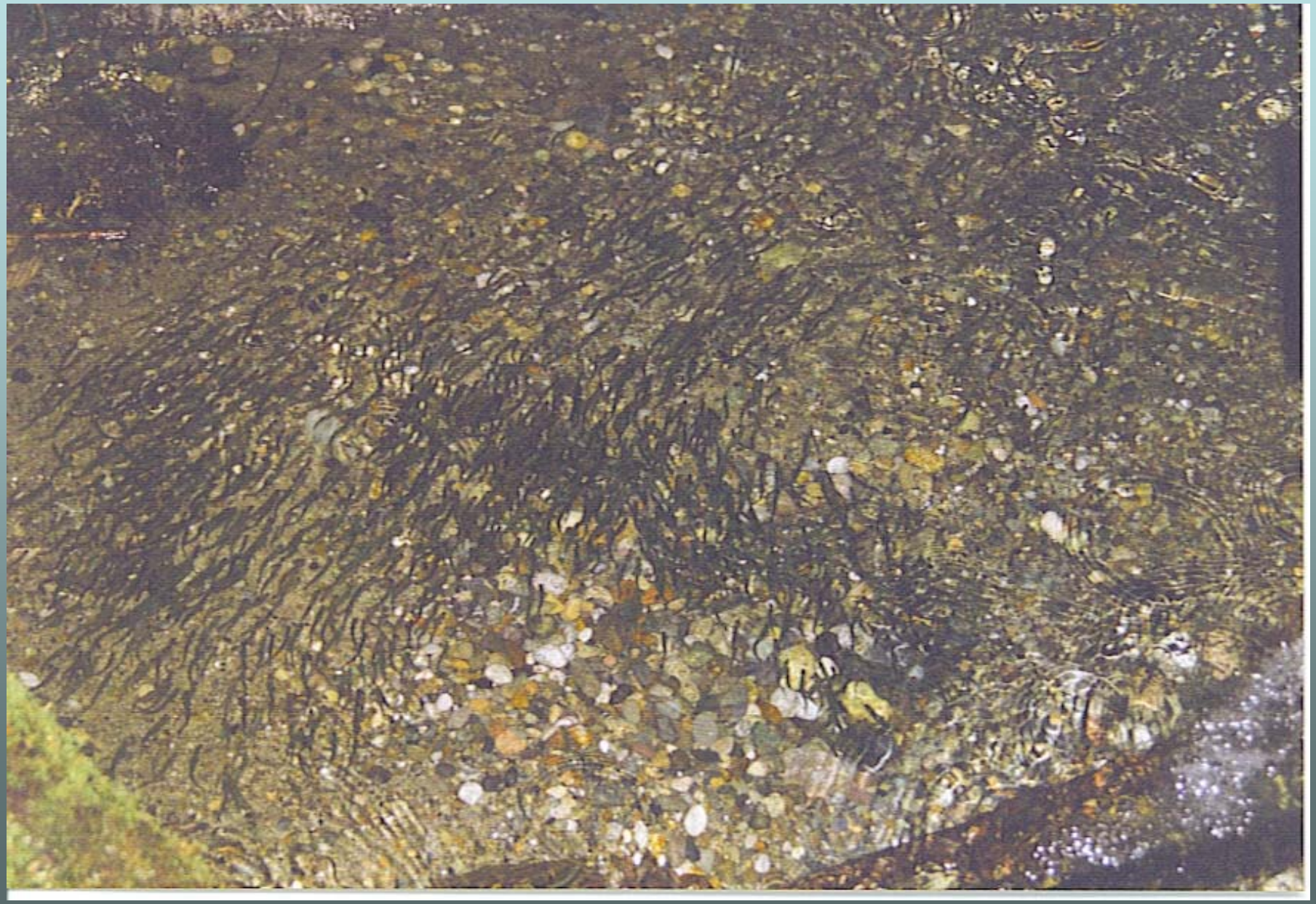
Vertical incubators at Huson Springs- modified to exclude light



HCSEG feeding summer chum

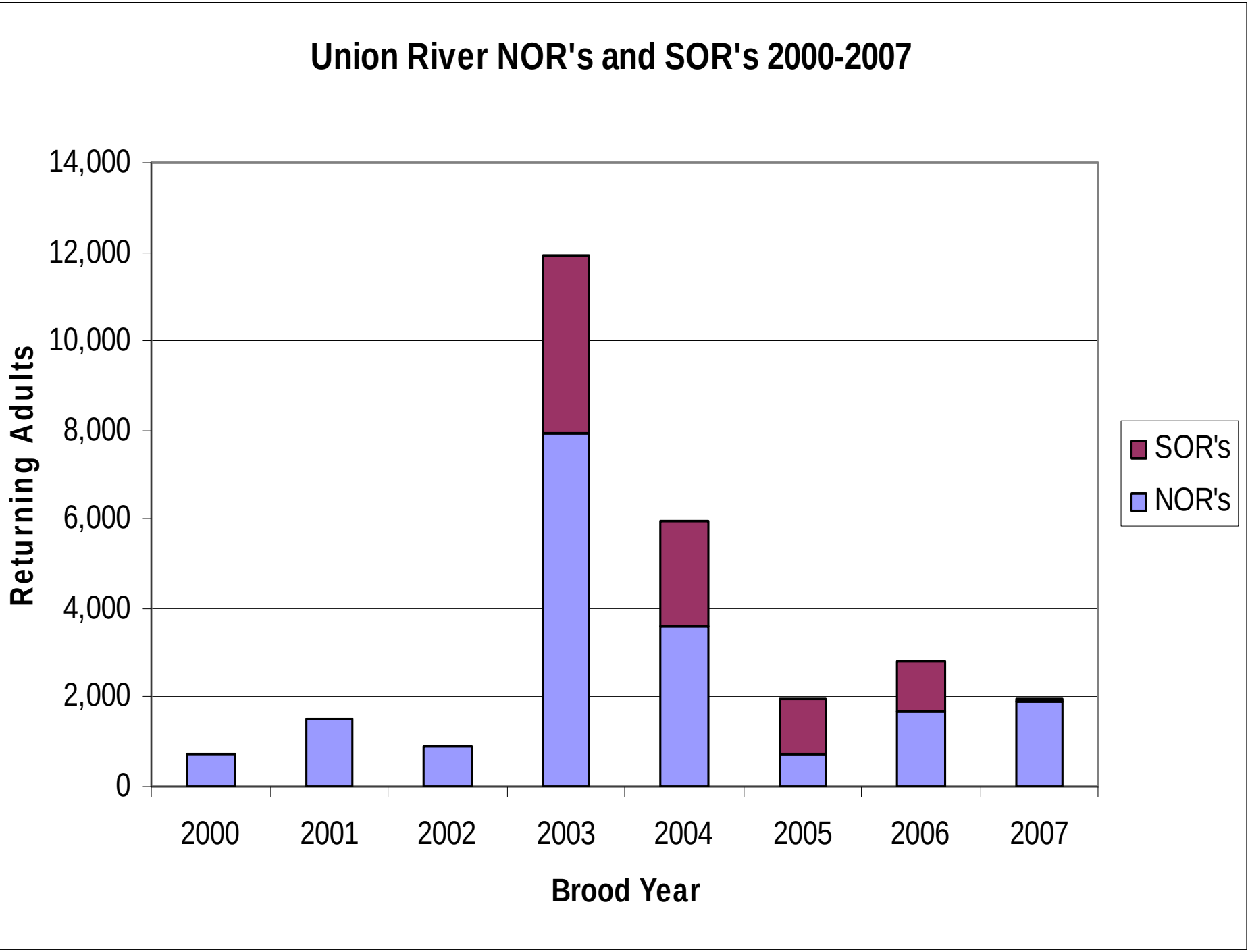
Interns from HCSEG taking length and weight measurements

First release of summer chum into the Union River- BY 2000



Union River Releases and Return Rates

Brood Year	No. Fry Released	Return Rate
2000	75,876	4.43%
2001	73,472	2.81%
2002	82,636	1.79%
2003	35,434	1.85%

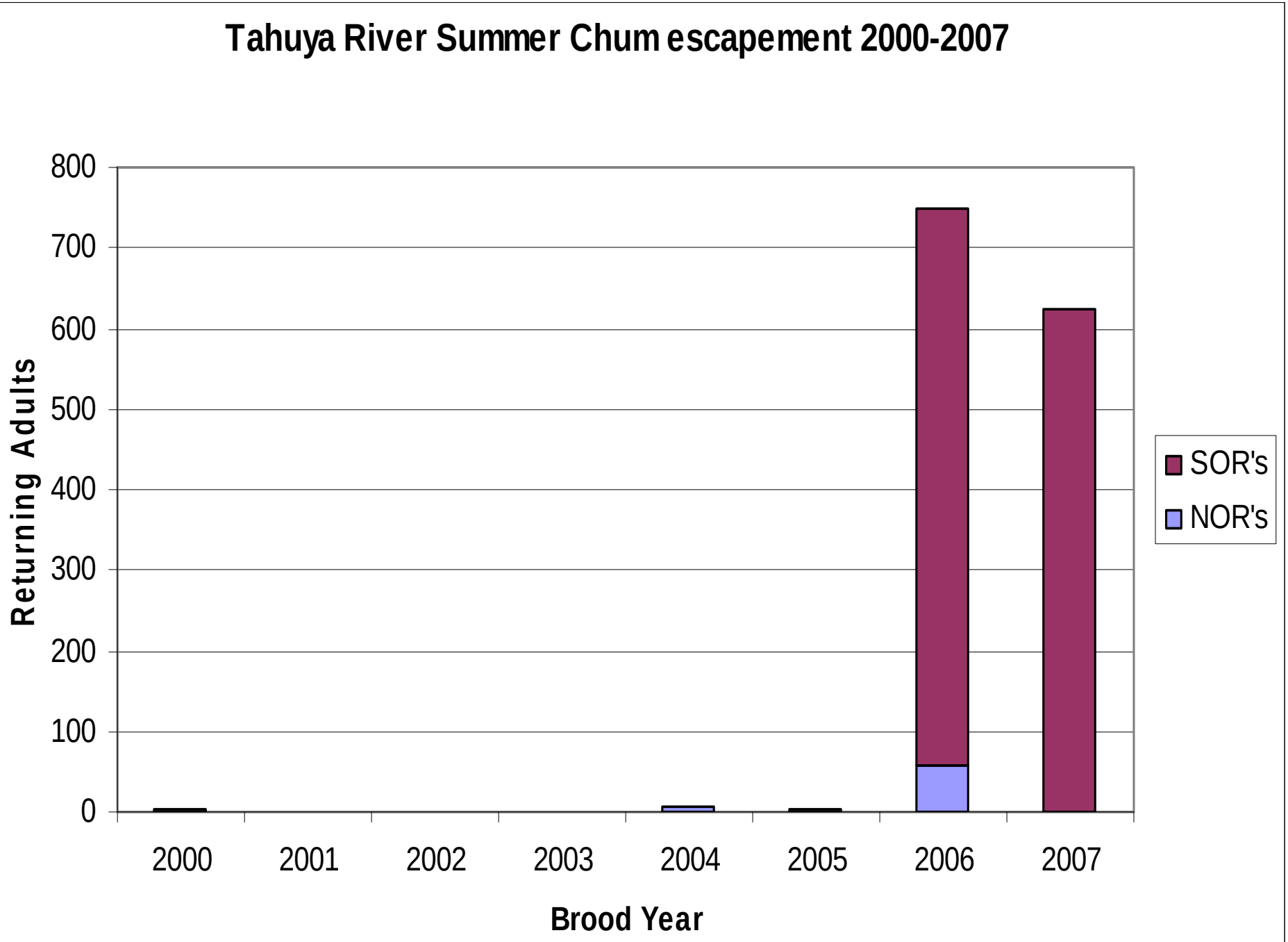

Union River NOR's and SOR's 2000-2007
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Returning Adults
2000
2001
2002
2003
2004
2005
2006
2007
Brood Year
SOR's
NOR's

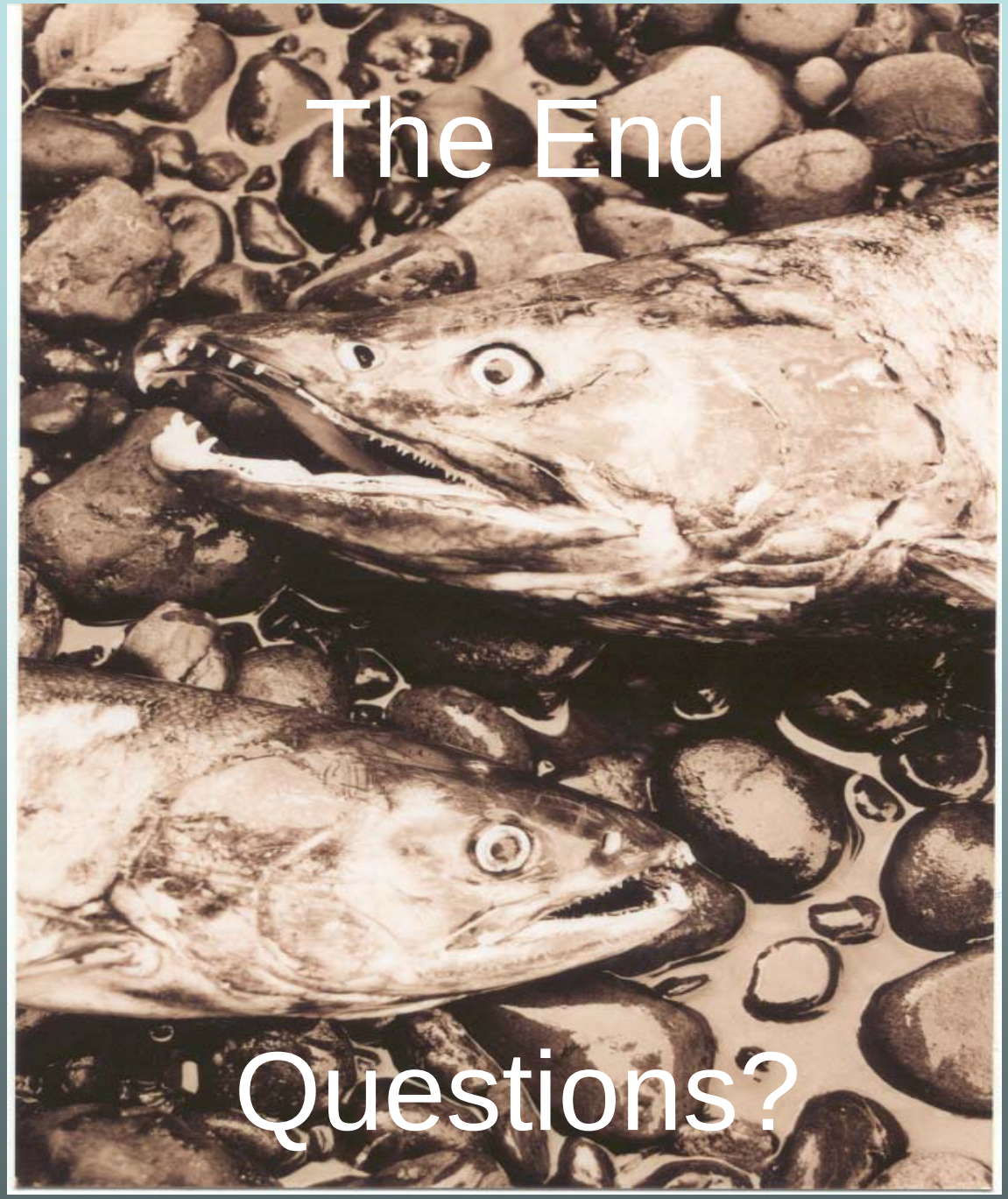
Union/Tahuya Summer Chum Supplementation/Reintroduction Project

Tahuya incubation, rearing, and release site

Tahuya River Releases and Adult Return Rates

Brood Year	No. Fry Released	Return Rate
2003	111,232	0.65%
2004	118,872	0.52%
2005	122,175	0.01%
2006	133,826	No Data
2007	53,632	No Data


Tahuya River Summer Chum escapement 2000-2007
800
700
600
500
400
300
200
100
0
Returning Adults
2000
2001
2002
2003
2004
2005
2006
2007
Brood Year
SOR's
NOR's


The End
Questions?