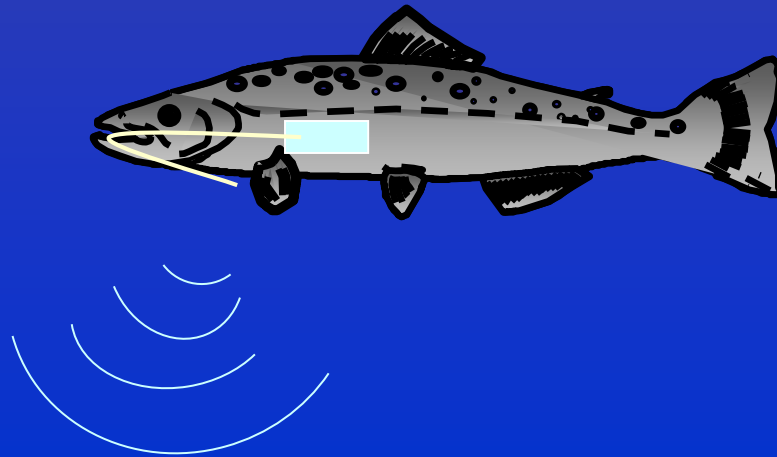


# *2010 Yakima Basin Coho Phase II*

**Presented By:**

**Todd Newsome**

**Fisheries Biologist for the Yakama Nation**



# Acknowledgements

**YN:** Joe Jay Pinkham III

Conan Northwind

Quincy Wallahee

Andrew Lewis

Denny Nagle

Germaine Hart

Nate Pinkham

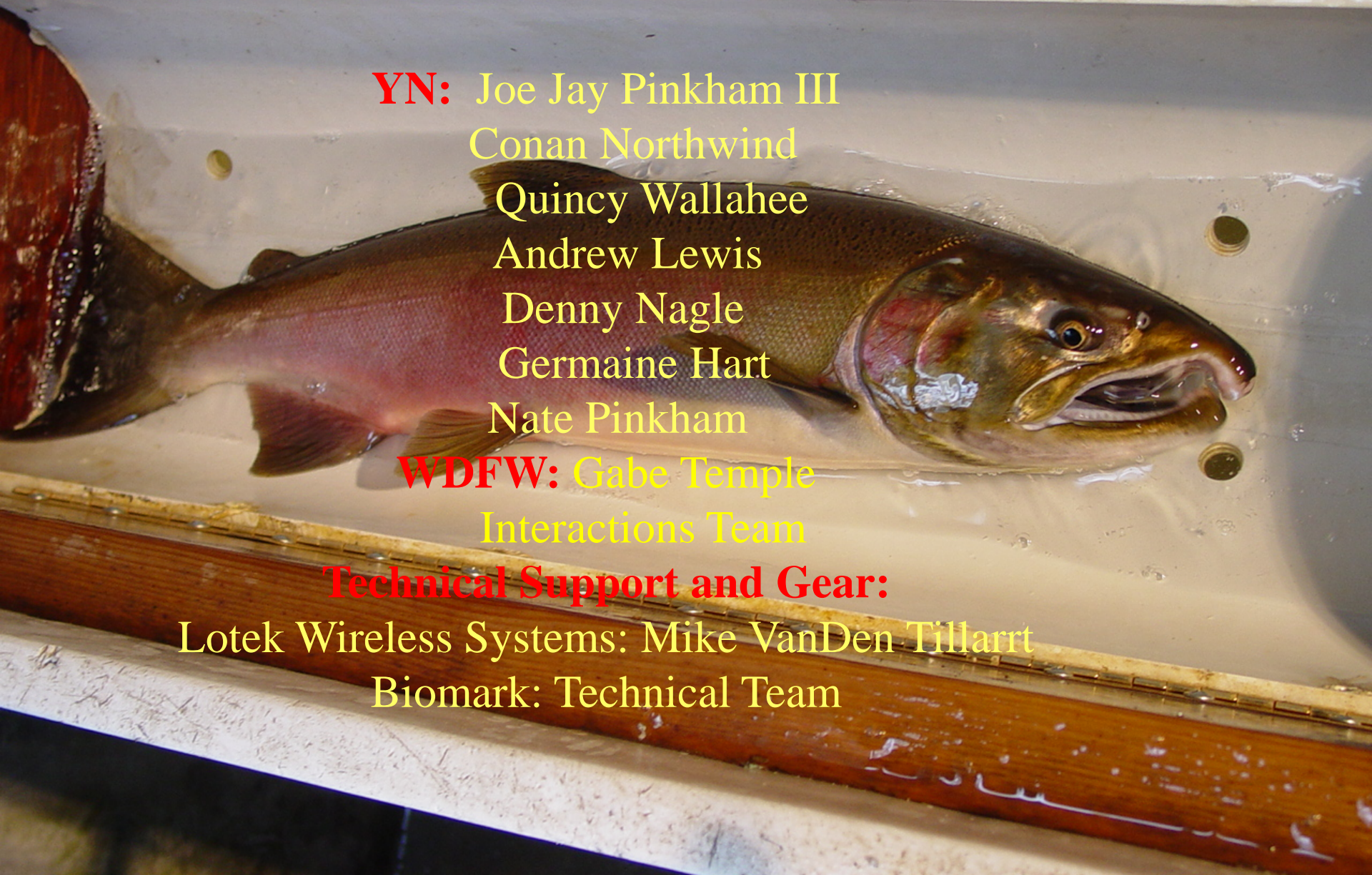
**WDFW:** Gabe Temple

Interactions Team

**Technical Support and Gear:**

Lotek Wireless Systems: Mike VanDen Tillart

Biomark: Technical Team



# Background



**Program Goal** - Re-establish self-sustaining naturally spawning population of coho salmon in Yakima River

*Phase I: 1999-2003*



**Feasibility**      **Interim Work: 2004-2006**

*Phase II: 2007-2011*



**Maximize Potential for Success -**

**Smolts**

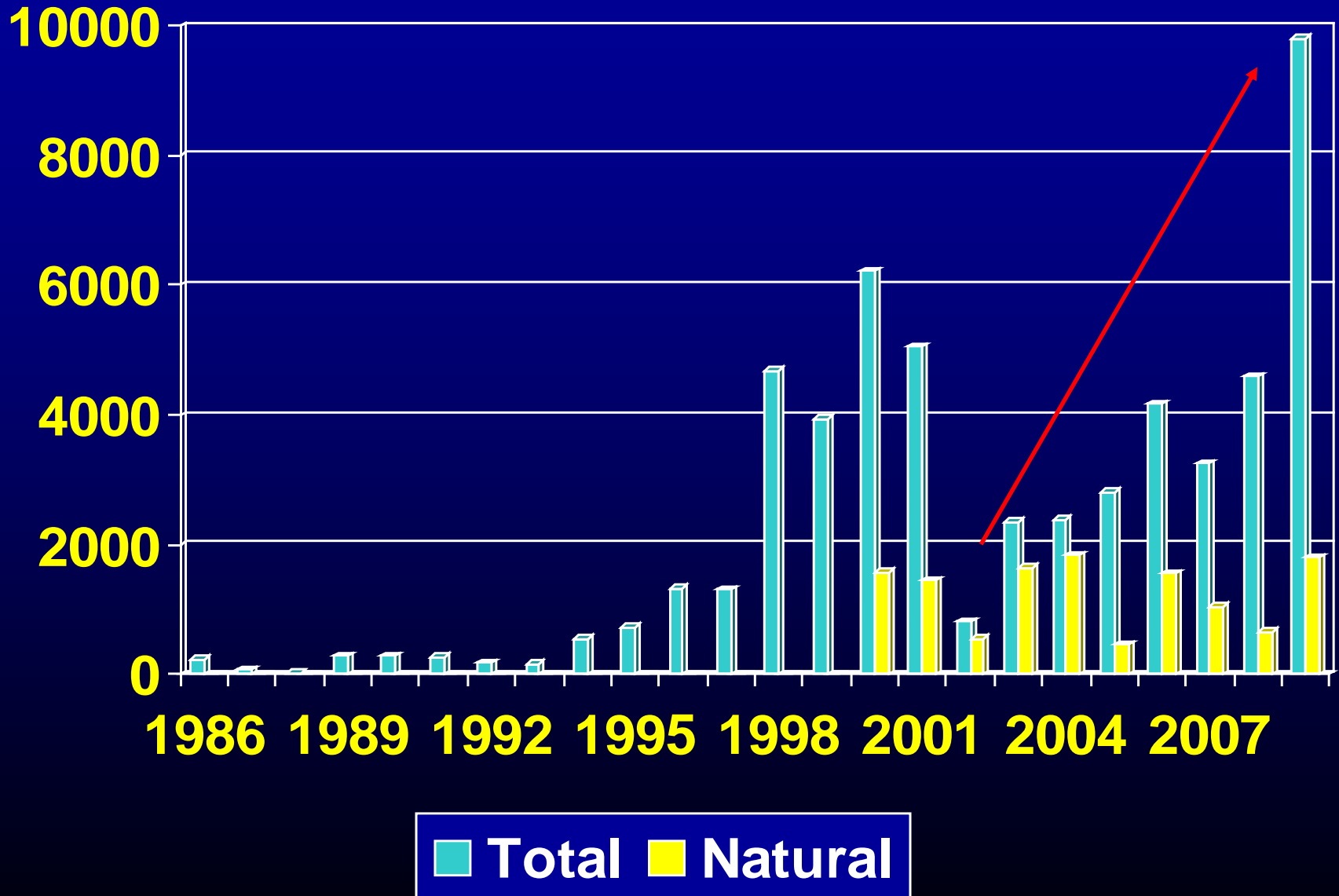


**Adults**



**Isolating and reducing mortality through life stages**

# Upper Yakima Coho Returns, 1986 – 2009



# 2009 Hatchery Coho Juvenile Acclimation Sites Yakima Basin

Volitional Release, April 10, 2009

Boone: 0

Holmes: 145,714

Lost Creek, 164,330

Stiles, 276,453

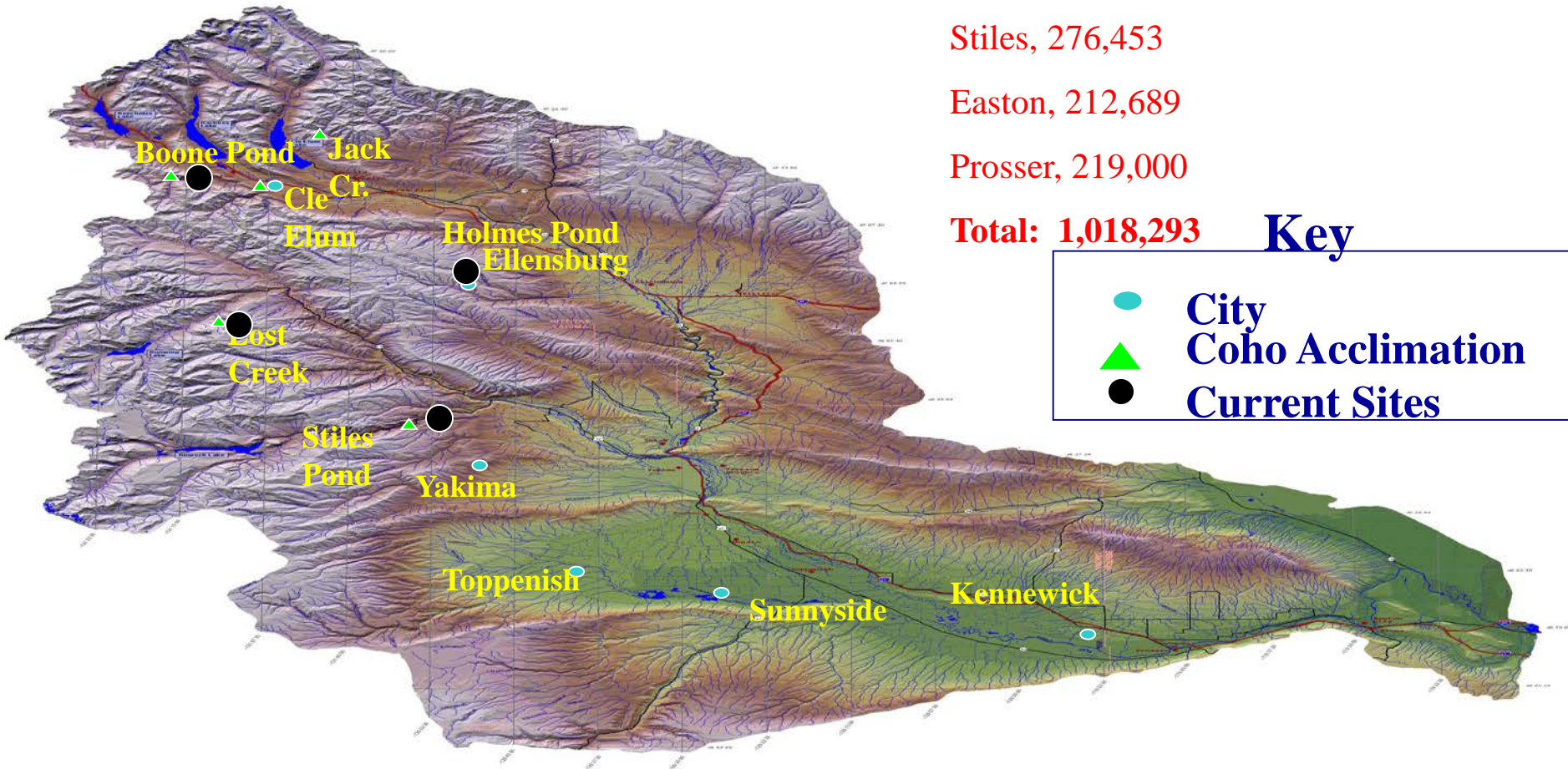
Easton, 212,689

Prosser, 219,000

**Total: 1,018,293**

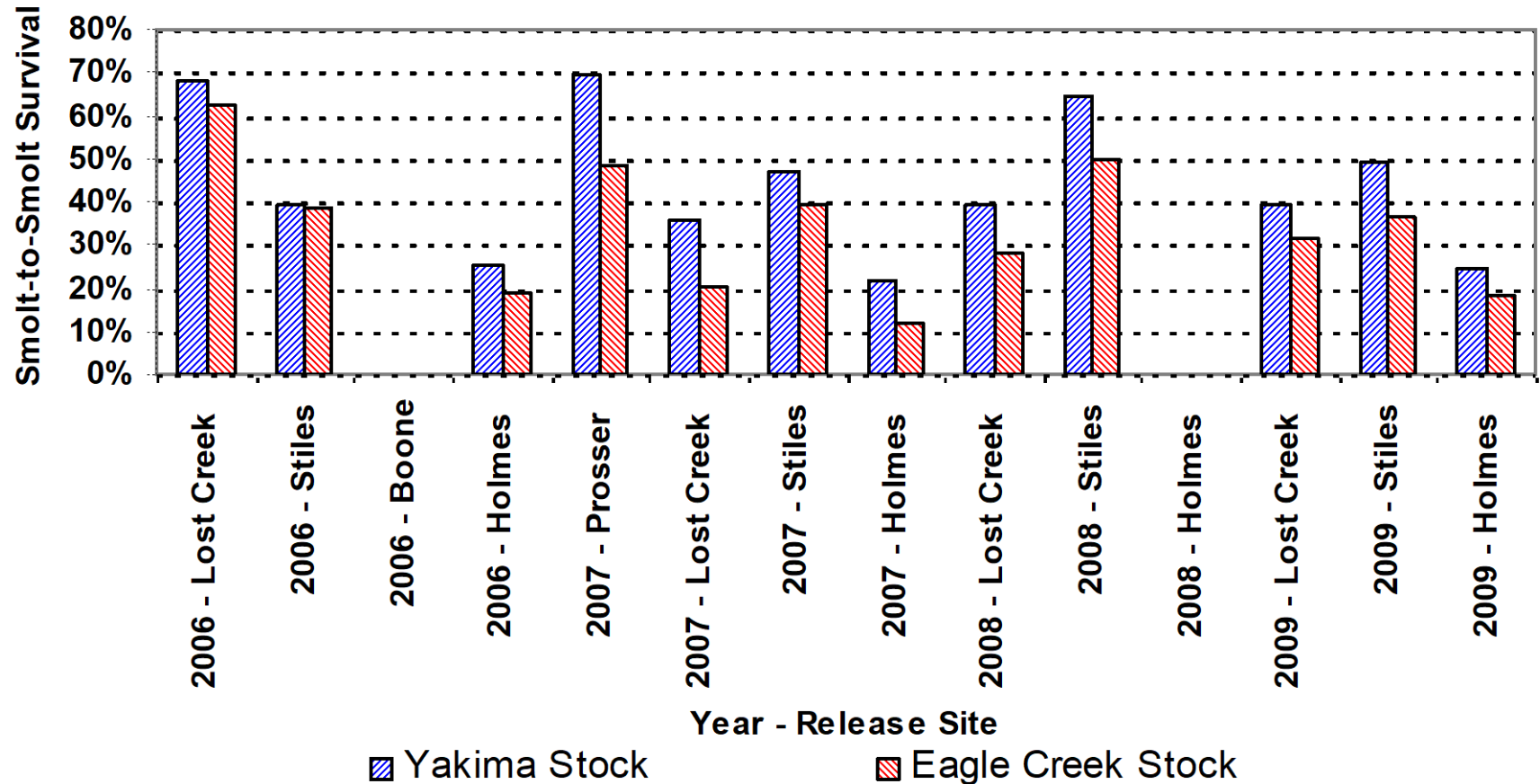
**Key**

-  City
-  Coho Acclimation
-  Current Sites



# Coho Volitional Release to McNary Survival

Figure 1. 2006-2009 Outmigration-Year Volitional-Release-to-McNary Survival for joint Yakima and Eagle Creek Stock Release Sites (Brood Years 2004-2007)



Yakima Stock has higher survival than Eagle Creek Stock in 100% of the 12 Year-Sites

# Phase II (2007-2011)

- Objectives
  - Identify Key Tributaries offering the highest potential for Coho Reestablishment
  - Evaluate interactions with resident and anadromous fish already residing in tributaries
  - Increase the resiliency, and robustness of the Coho population in the Yakima Basin

## **ACTION**

- Monitor Tributary Parr Releases
- Monitor Tributary Adults Releases
- Continue In Basin Brood Stock Development
- New Smolt Acclimation Areas (spread out the risk and increase survival)

# How To Restore a Tributary with Coho Salmon

$$P + A + S = R$$



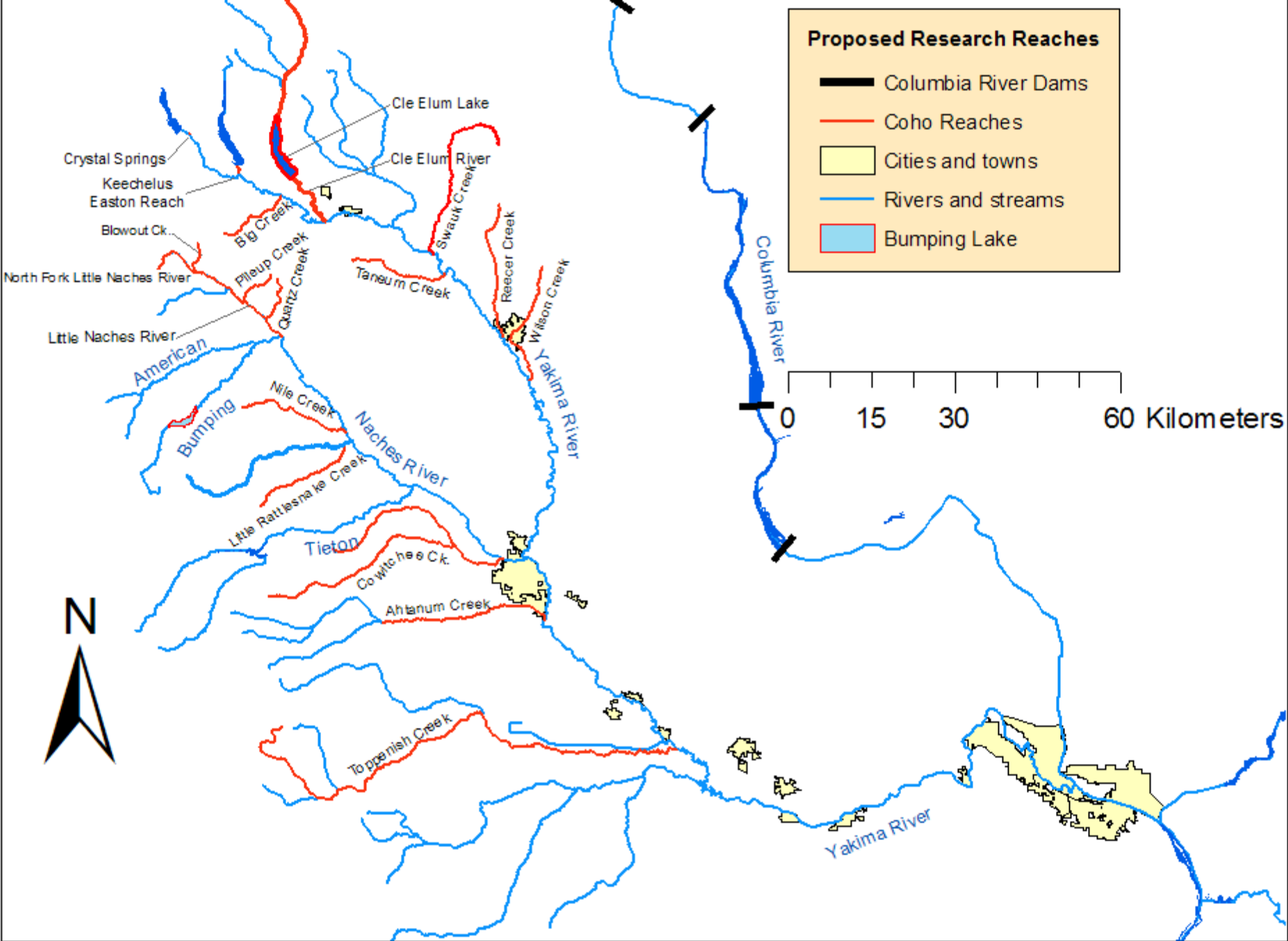
**Treatments  
4 Consecutive Years**

```
graph TD; A[Treatments 4 Consecutive Years] --- B[Summer Parr Releases into Tributaries]; A --- C[Adult Coho out plants]; A --- D[Stream Seeding];
```

**Summer Parr  
Releases into  
Tributaries**

**Adult Coho  
out plants**

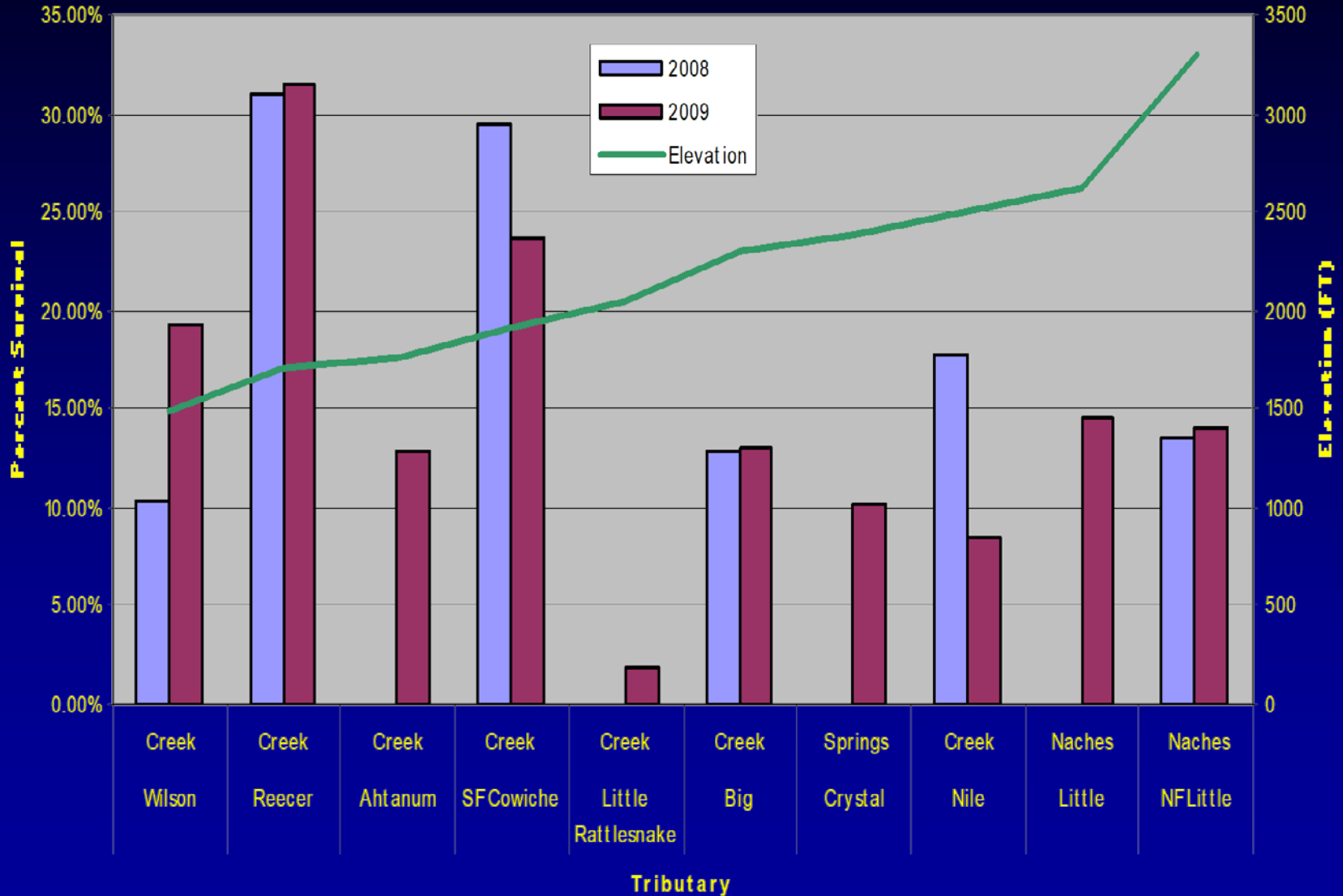
**Stream Seeding**



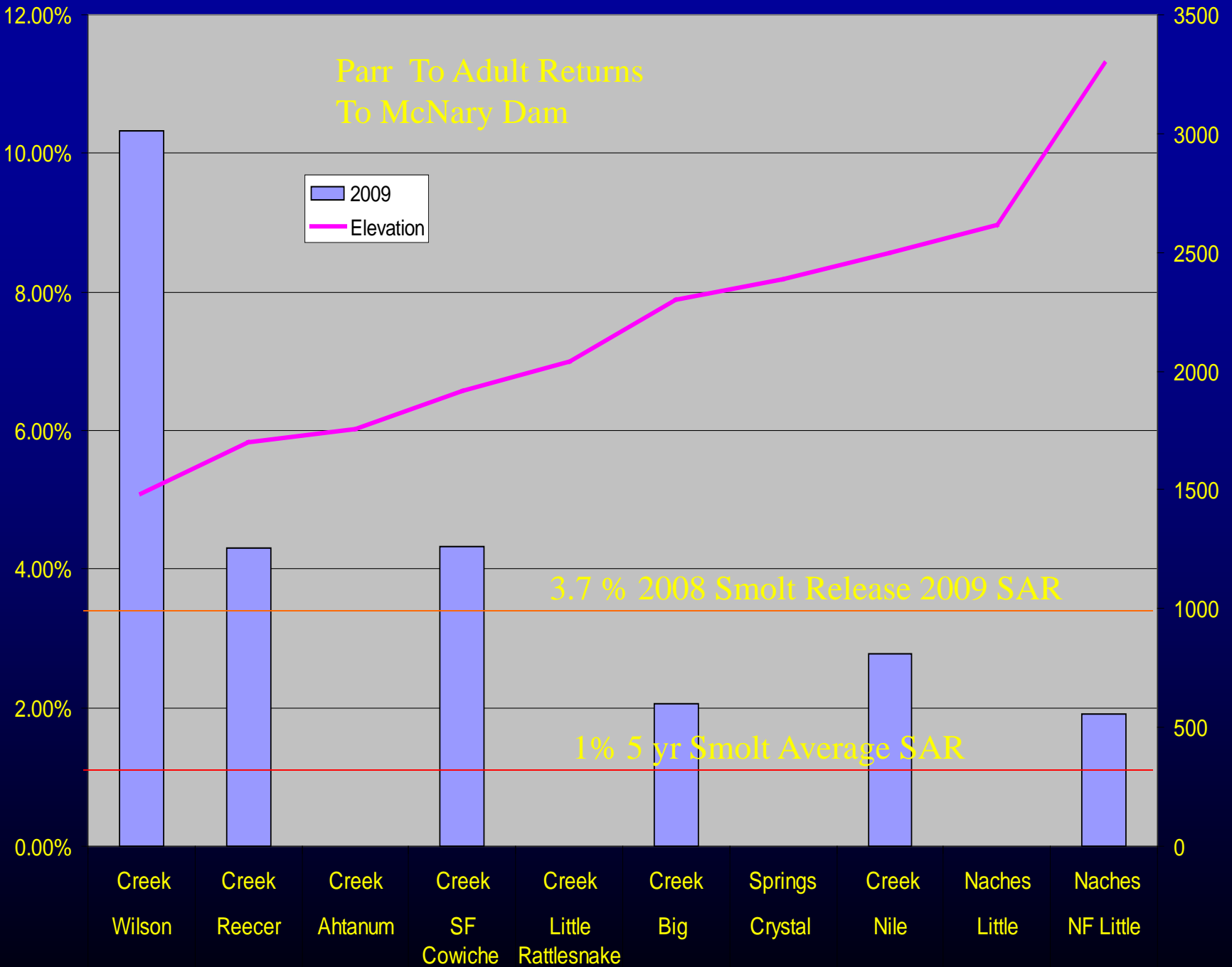
# Parr Releases 3,000 Pit tagged Coho per Tributary (70-85mm)



# Summer Parr Survival



# Parr To Adult Returns To McNary Dam



3.7 % 2008 Smolt Release 2009 SAR

1% 5 yr Smolt Average SAR

# Adult Out Planting



**FISHERIES**  
YAKAMA NATION

**Study  
In  
Progress**

**Please Do Not Disturb!**

This is a research site designed to evaluate the spawning success of coho salmon and the future interactions of their offspring with other resident fish species. This research is being conducted by the Yakama Nation Fisheries (YN) and the Washington Department of Fish and Wildlife (WDFW).

Please do not disturb racks, site, or fish.

**NOTE: FISH HAVE BEEN TREATED WITH CHEMICALS AND ARE NOT EDIBLE!**

Please direct questions to:  
YN: 509-865-6262 Todd Newsome  
WDFW: 509-925-4467 ext#4

30 10:11PM





189

Nile Q

nile b

Nile

Nile C

Nile E

Nile D

Nile F

Nile G

Nile I

Nile M

Nile L

Nile N

Nile O

Chuckanut Ln

Mar Ln

Nile Rd

Elk Valley Ln

Image U.S. Geological Survey

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elev 2055 ft

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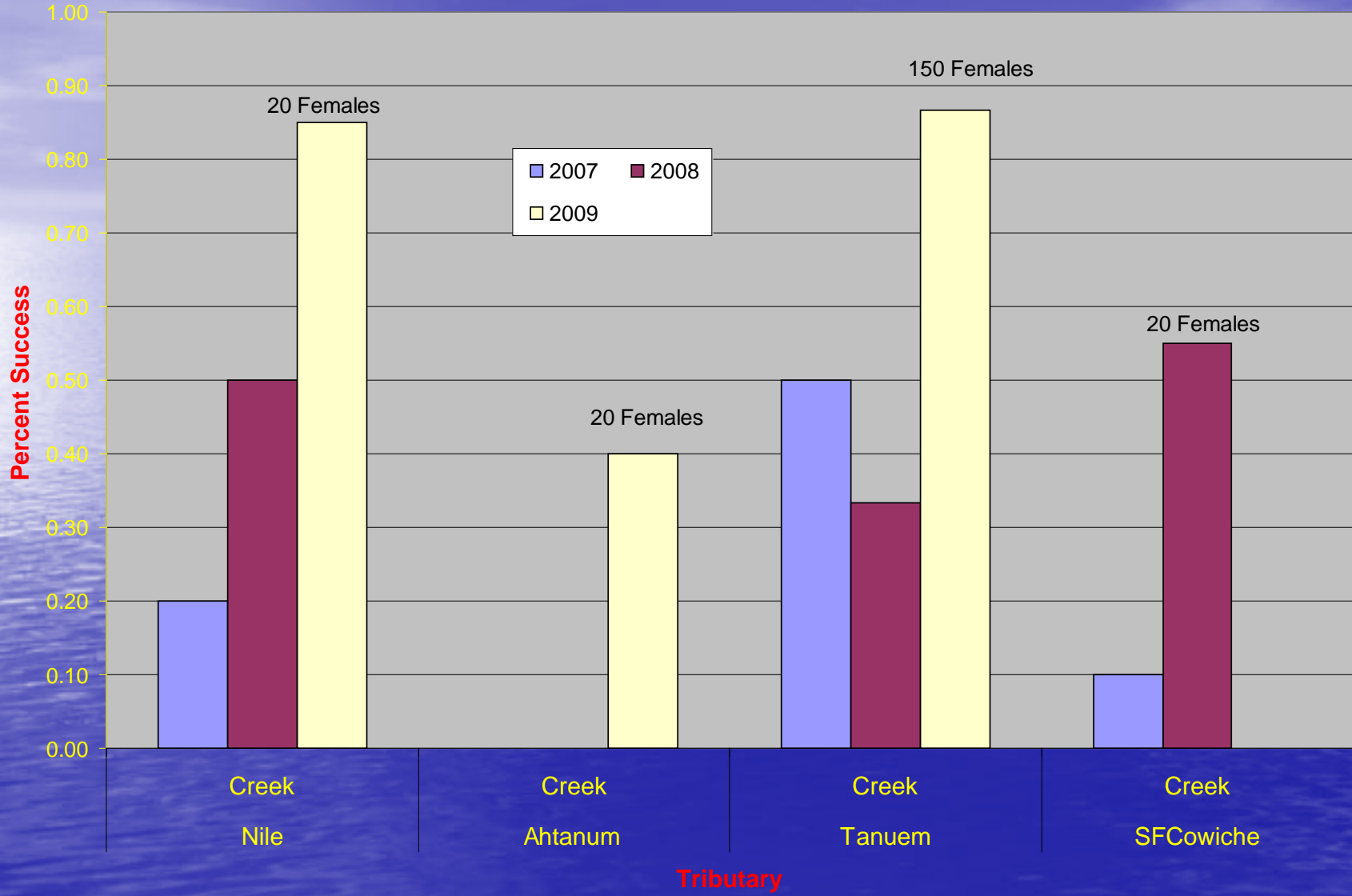
Jul 2006

Eye alt 9032 ft

2006 ft

46°50'12.39" N 120°57'33.74" W

# Adult Outplant Spawning Success





# Mobile Acclimation

Rattlesnake Creek



# Mobile Acclimation

SF Cowiche Creek



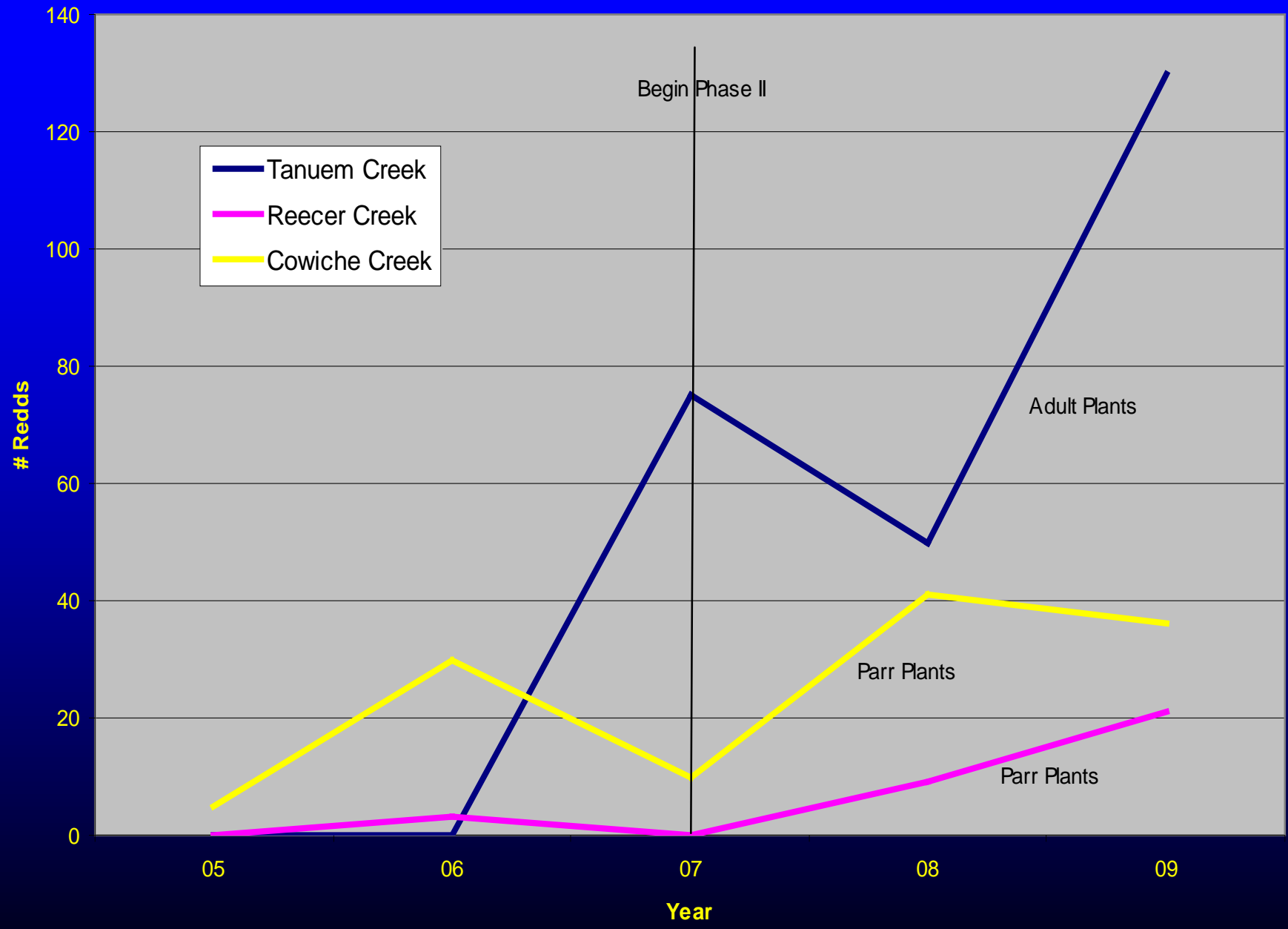
# Mobile Acclimation Results

- 2009 South Fork Cowiche Creek
  - 10,000 Smolts Acclimated March 16 – April 6
  - 47% Survival to McNary Dam
- 2010 Preliminary Survival to McNary Dam
  - 10,000 Smolts each, Acclimated  
Feb 8 – March 26
    - SF Cowiche Creek (55%)
    - Rattlesnake Creek (23%)
      - As of June 13,2010

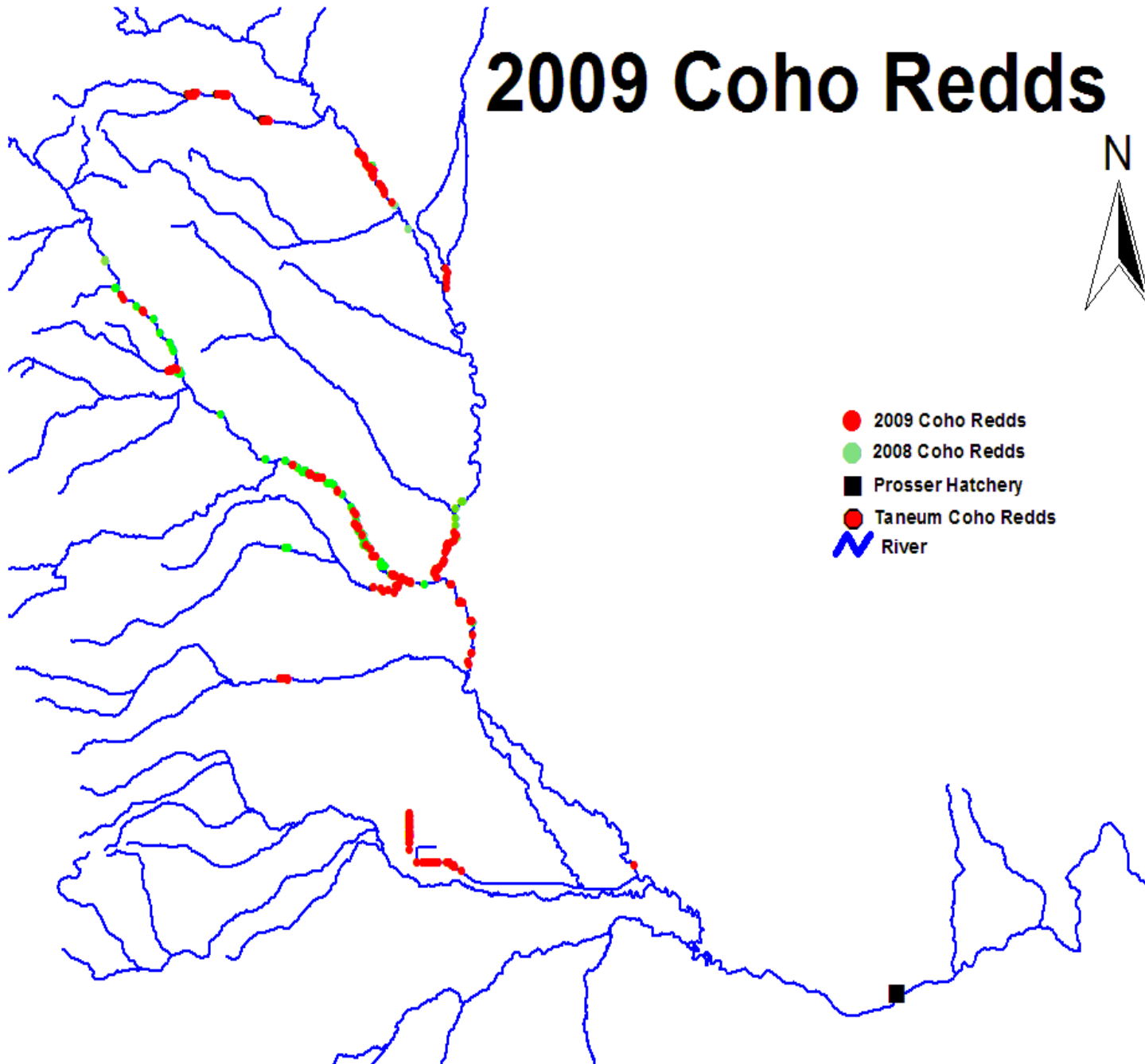
# Yakima Basin Coho Redd Counts

<b>Yearly Yakima Basin Adult Coho Redd Counts</b>												
<b>River</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Yakima River</b>	53	104	142	27	4	32	33	57	44	63	49	229
<b>Naches River</b>	6	NA	137	95	23	56	87	72	76	87	60	281
<b>Tributaries</b>	193	62	67	25	16	55	150	153	187	195	242	485
<b>Total</b>	252	151	346	147	43	143	270	282	307	345	351	<b>995</b>

# Tributary Redd Counts



# 2009 Coho Redds



# Local In Basin Brood Development

- 457 Females Spawned 100% Hatchery
- 350 Wild Males all NOR
- Estimated egg take of ~1,200,000
- 70 NOR Males crossed with Eagle Creek females Estimated ~300,000 YN X EC Coho.

# Tanuem Creek Coho Reintroduction

## YN and WDFW cooperative Project

300 Adult Coho Out planted into 3, 100 meter sections (50 females 50 Males)  
Coho are planted the last week of October and the first week of November in 3 consecutive days (100 per day)

- 2007
  - 75 Redds Located
- 2008
  - 50 Redds Located
  - 1300 Juvenile Coho Pit tagged
  - 16% survival to McNary Dam
- 2009
  - 130 Redds Located
  - 1800 Juvenile Coho Pit tagged
  - as of June 7, 550 have been detected leaving Tanuem Creek
  - 39 have been detected passing main stem dams
  - Highlights:
    - Coho redds and emergent fry have successfully survived 600 cfs freshets
    - Eleven 2yr old smolts have been detected



