

2004 Yakima River Fall Chinook juvenile Migration Survival and Redd Surveys

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Objectives

To supplement and enhance the two existing stocks of Yakima River fall chinook, while preserving the stock characteristics and fitness of targeted stocks and keeping ecological and genetic impacts to not-target species within specified limits.



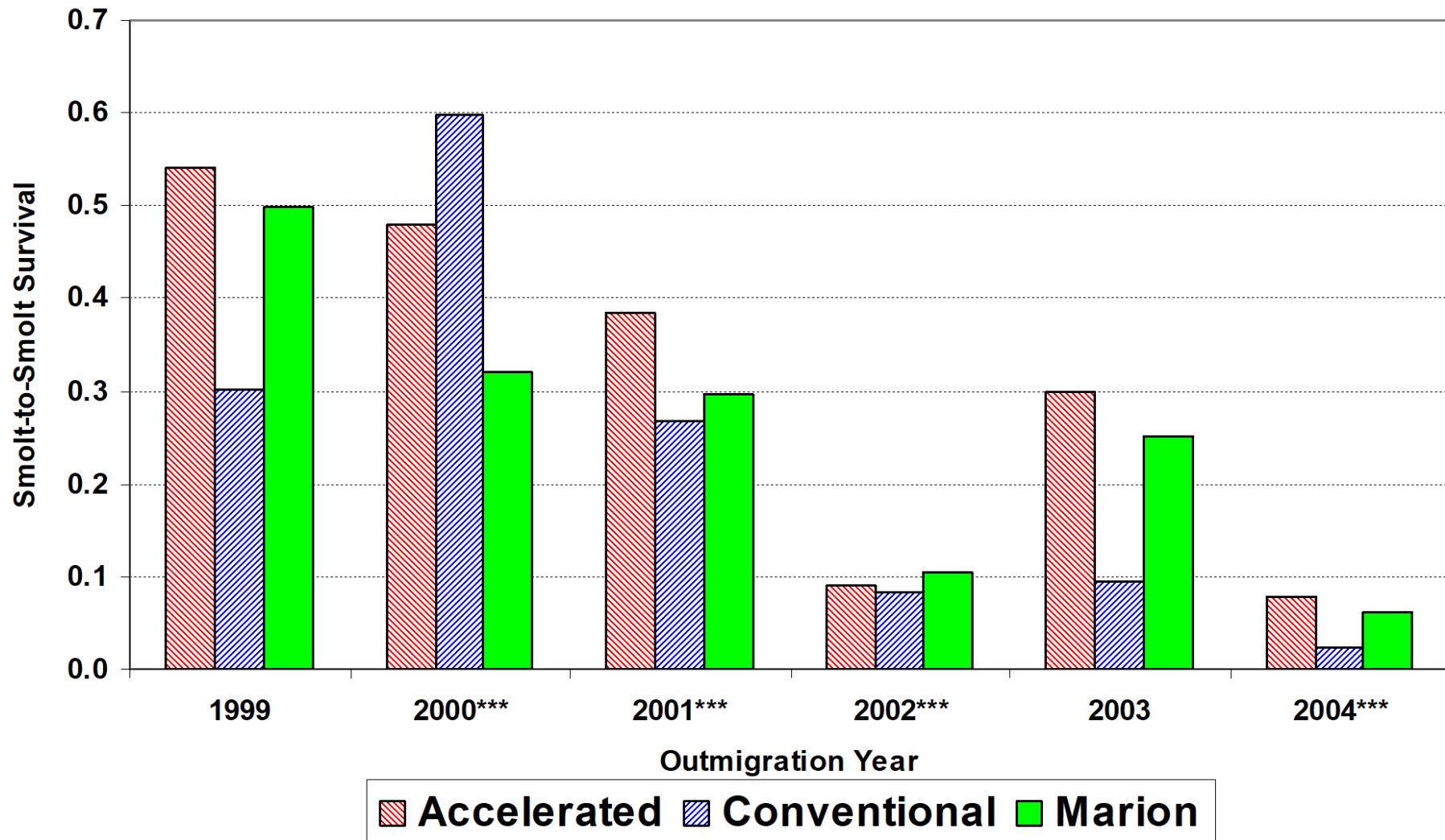
Our Efforts

- Acclimation below Prosser Dam at Prosser Hatchery and above Prosser Dam at Marion Drain Hatchery and Stiles Pond.
- A key uncertainty is the smolt-smolt survival in the upper river.
 - **where* should we raise, and
 - **when* should we release fish (short & long term)?

Monitoring Smolts

- Rearing Treatments Mainstem
Accelerated vs Conventional
 - PIT tags
 - monitored at McNary Dam
- Marion Drain

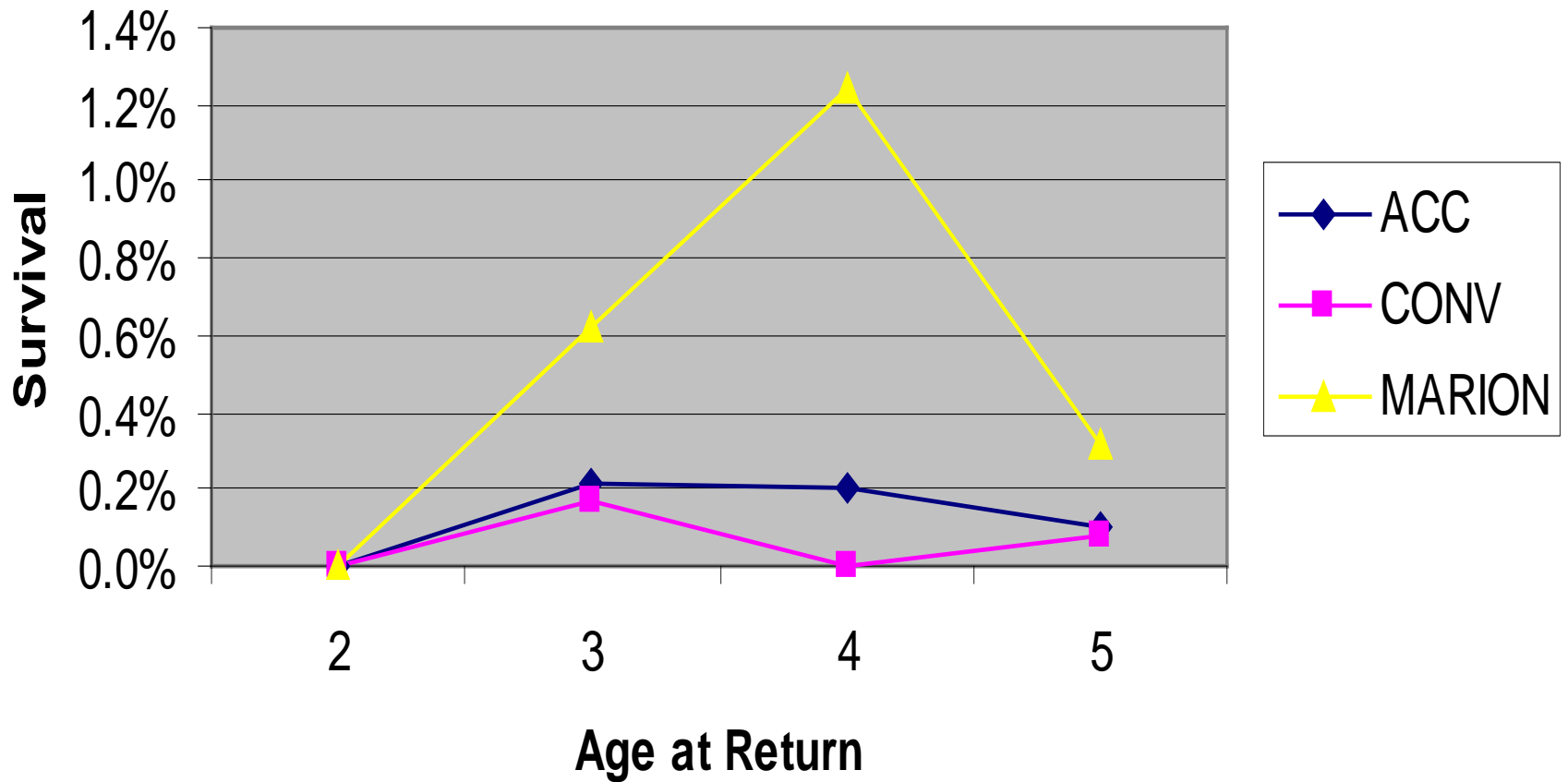
Fall Chinook Survival to McNary Dam



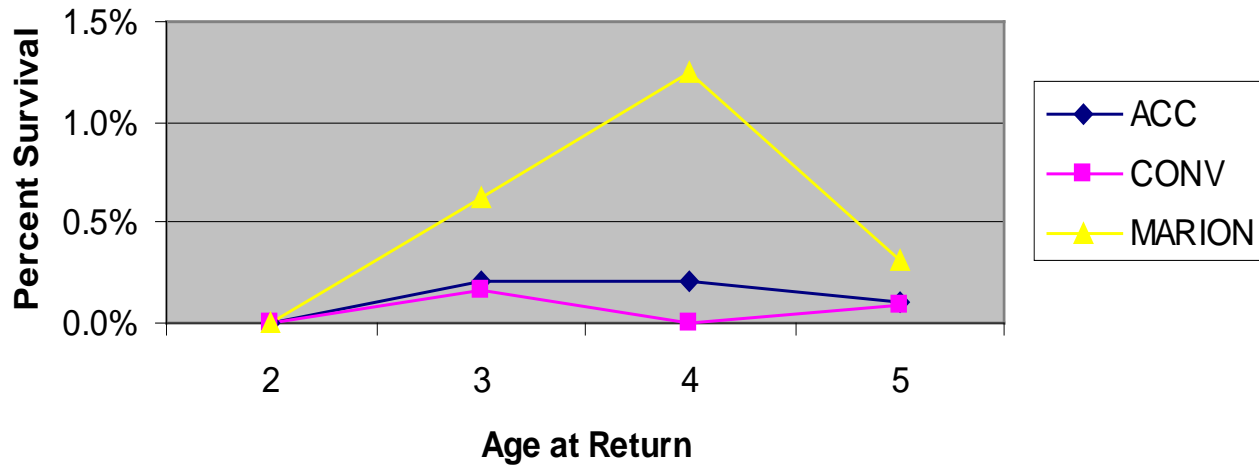
* Brood-years 1998-2003, respectively.

** Main-Stem-Yakima Stock under Accelerated Rearing, Main-Stem-Yakima Stock under Conventional Rearing, and Marion Drain Stock

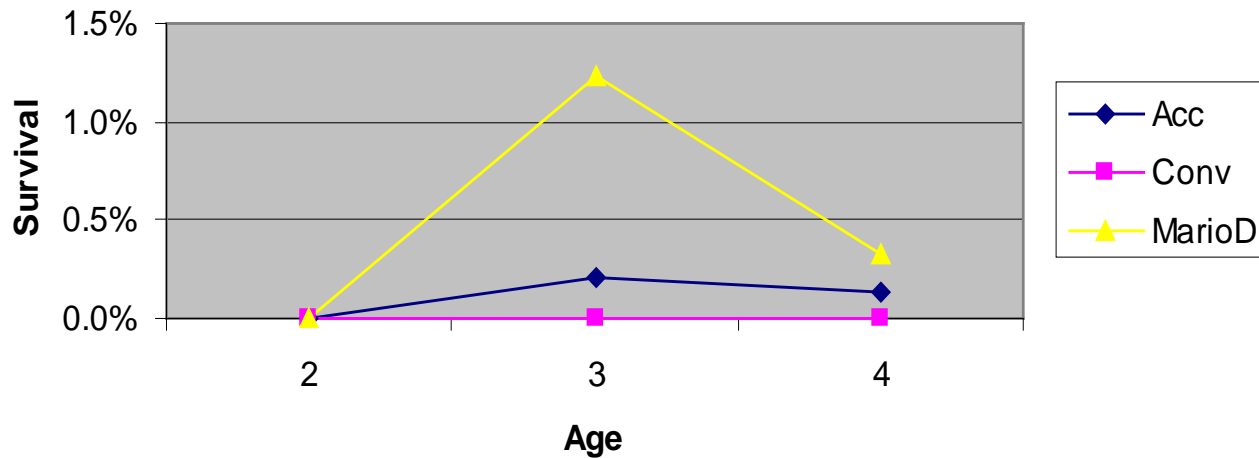
Fall Chinook Adult Returns BY 99 (PIT tags to McNary)



Fall Chinook Adult Returns BY 99 (PIT tags to McNary)



Fall Chinook Adult Returns BY 2000 (PIT tags to McNary)



Accelerated or Conventional

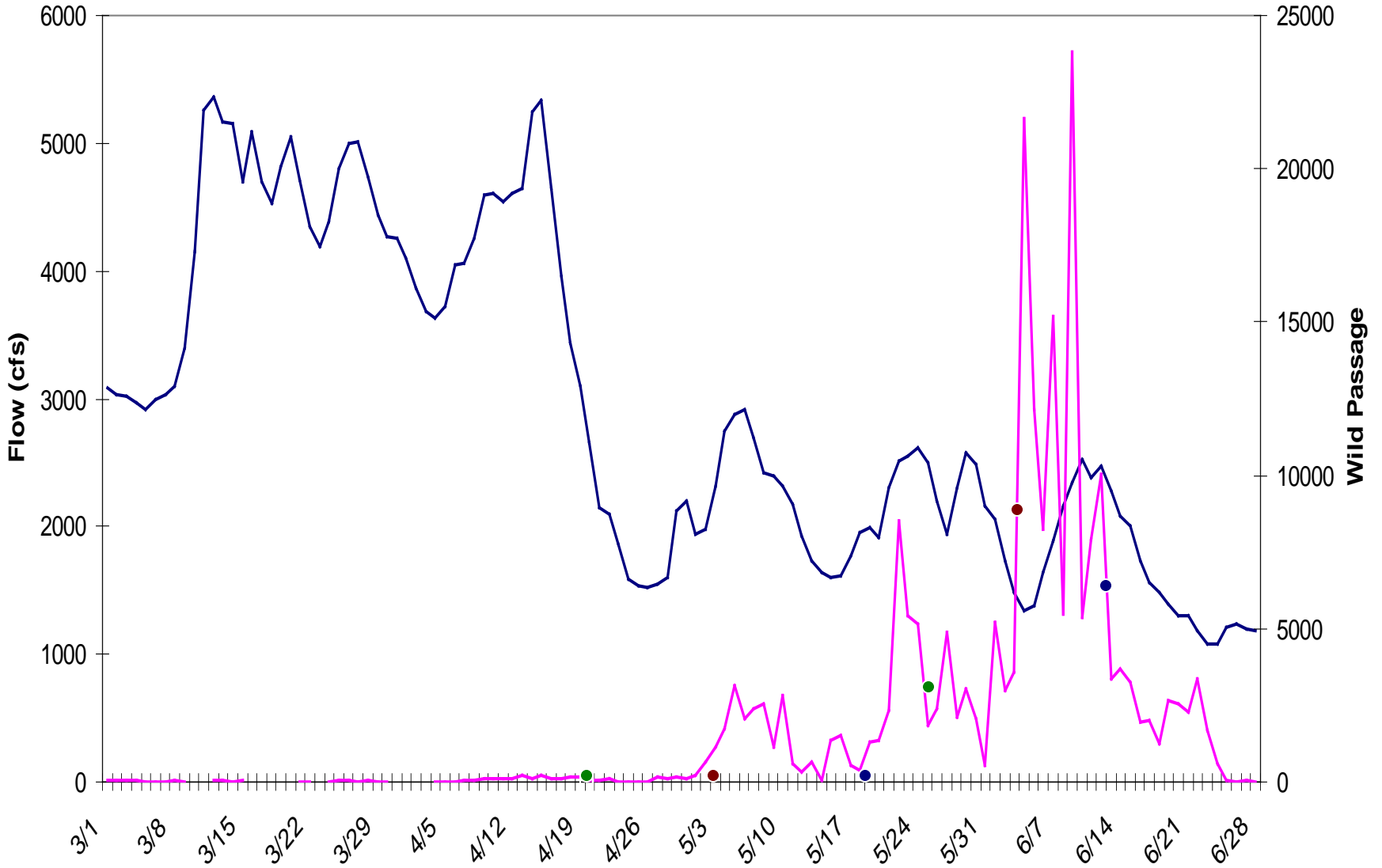
- Warmer rearing conditions and earlier releases appear to yield better survival overall.
 - For all releases, Accelerated and MarionD out-performed the Conventional releases as smolts leaving the system,
 - AND as Adults returning to spawn for BY99 and BY2000.

Timing

The Accelerated releases have been as early as the 2nd or 3rd week of April. AND, due to circumstances, as late as the 1st week of May....

Regardless of release, mean passage date at McNary has typically been the end of May or beginning of June.

2004 Age-0 Chinook Passage Detail at Chandler Juvenile Monitoring Facility



STILES POND

Located ~RM 3.4, Naches R.

Ponded ~38,890 Fall Chinook on 3/16/05

-PIT tagged 4,198

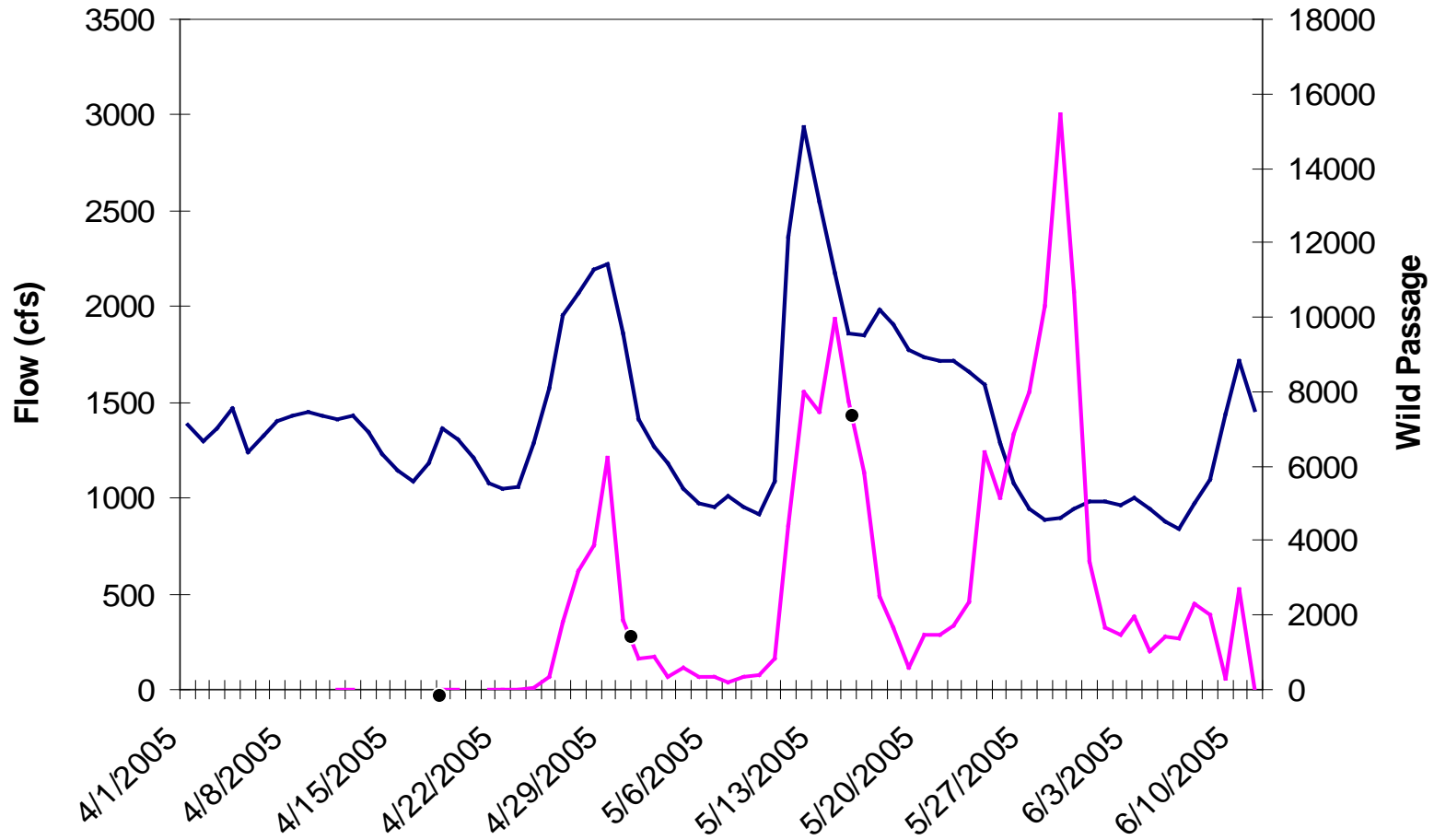
Released: 4/19/05

Survival to Prosser: 5.3%

McN: 1.0%

***Data is Preliminary**

2005 Age-0 Chinook Passage Detail at Chandler Juvenile Monitoring Facility

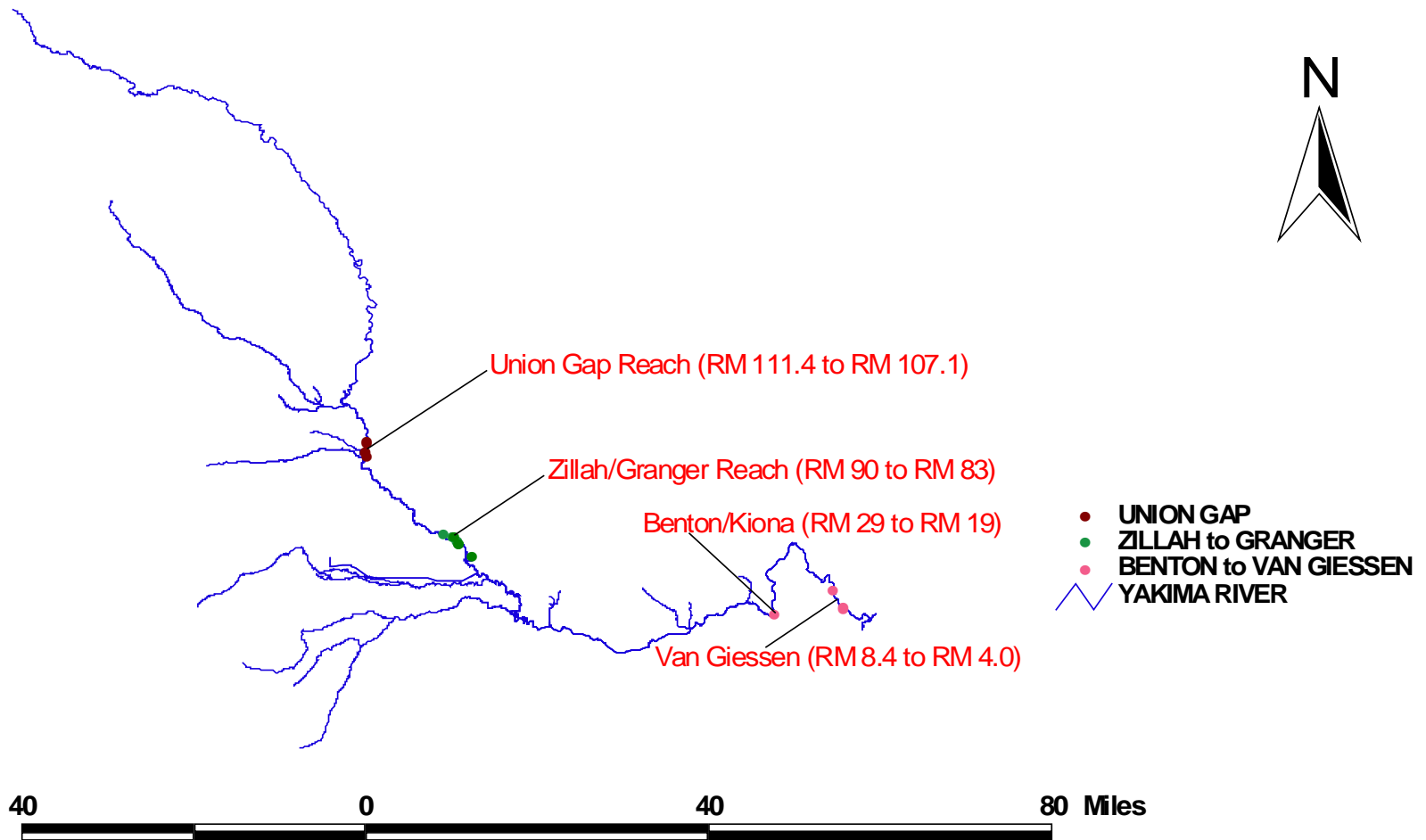


BeachSeine April/May 2005

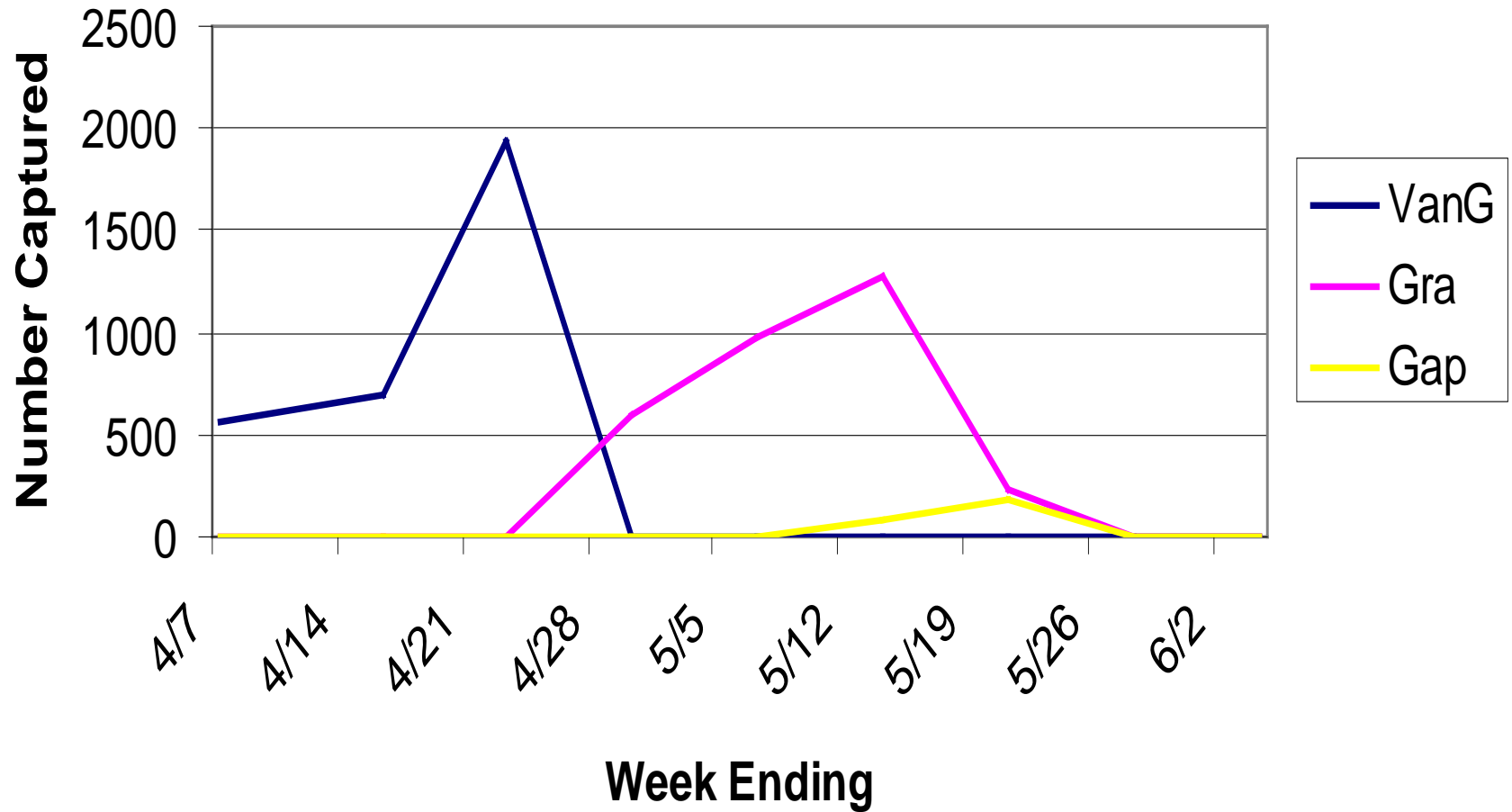
- 1) Observe timing and survival rates of wild fall chinook smolts emigrating *above* Prosser Dam (Union Gap and Granger) and below Prosser Dam (Benton/Kiona and VanG)
- 2) Observe how Hatchery releases compare to Wild releases.



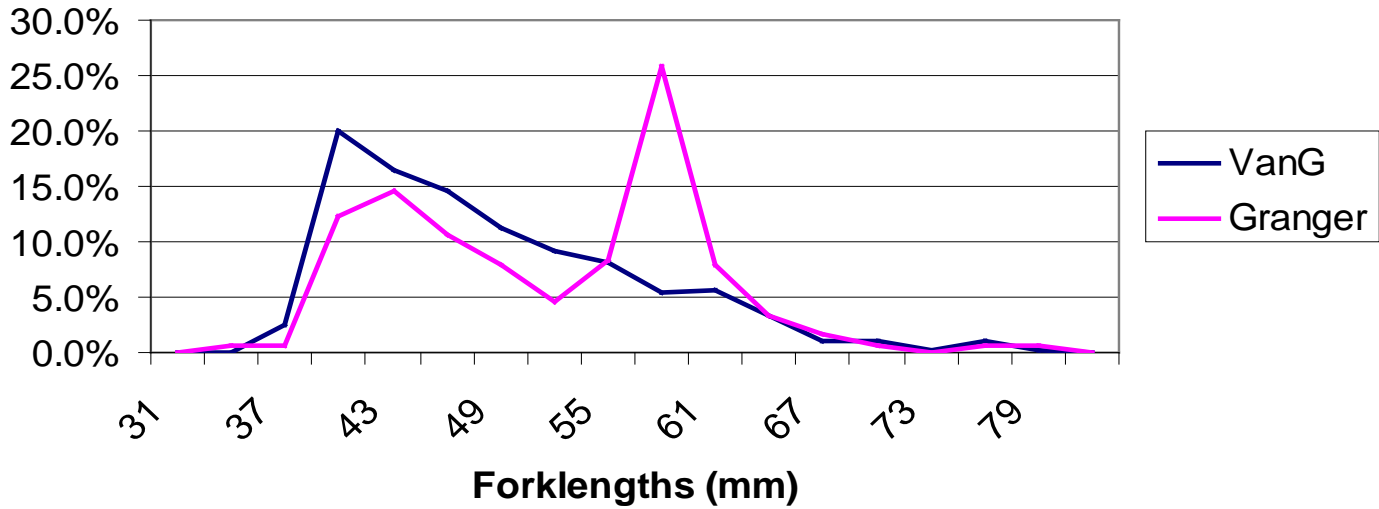
2005 Beach Seine Sites



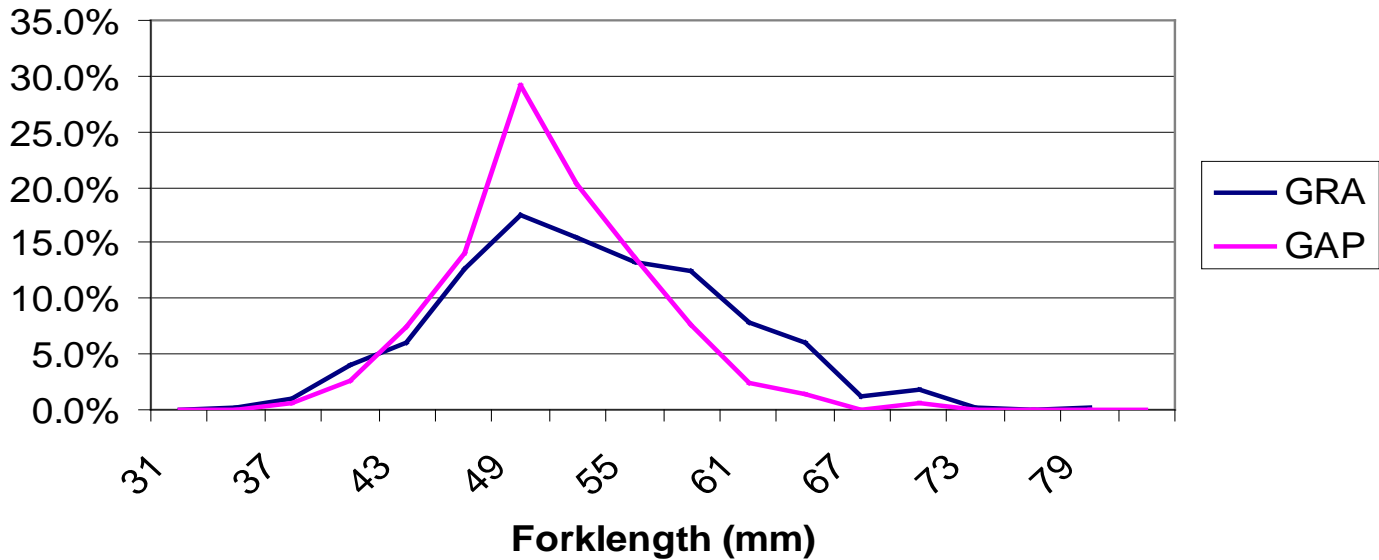
2005 Wild Fall Chinook



April 2005 Wild Fall Chinook



May 2005 Wild Fall Chinook



2005 Wild Fall Chinook



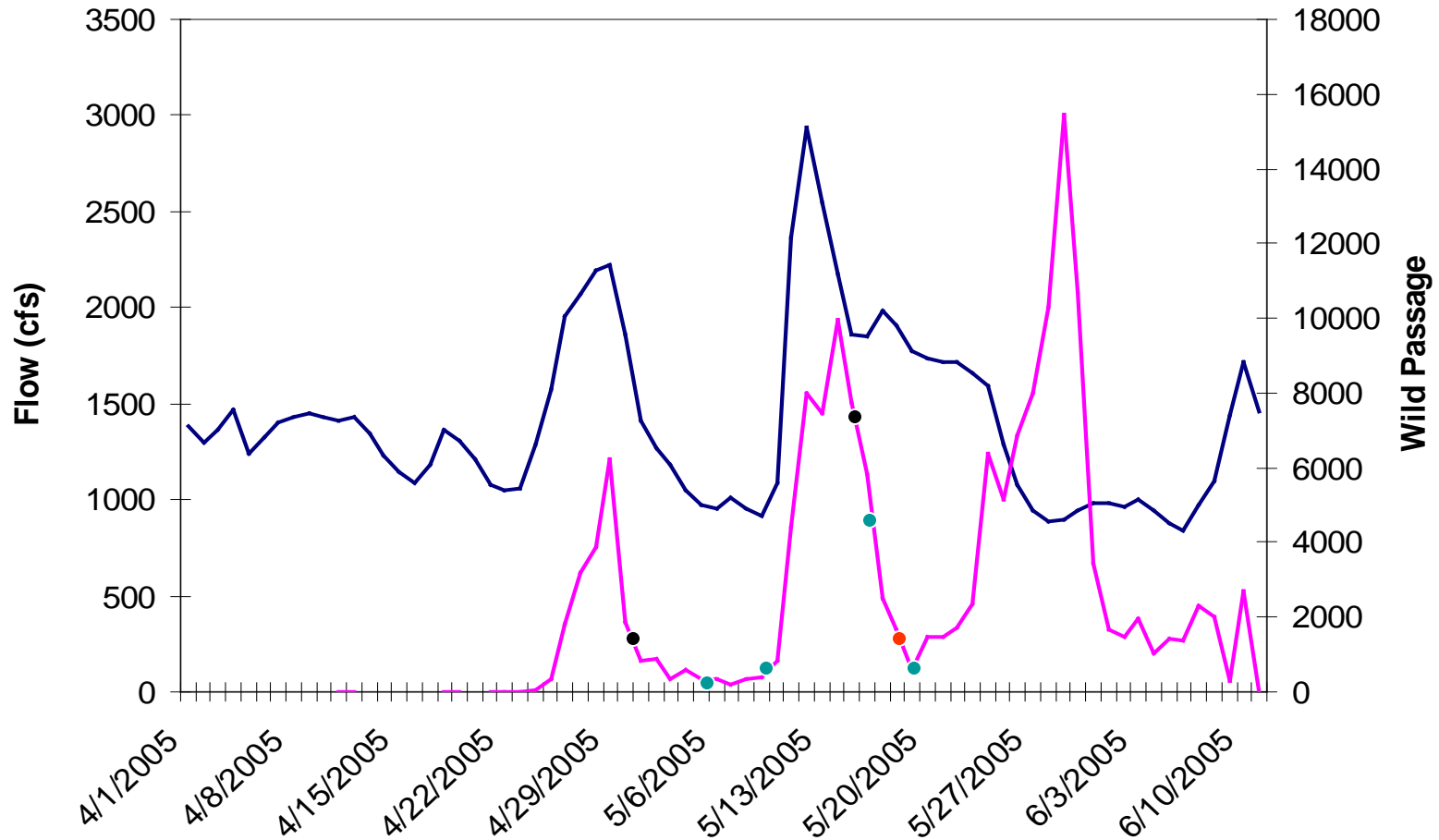
<u>SITE</u>	<u>N Captured</u>	<u>#PIT</u>
Benton/VanG	3,182	108
Zillah/Granger	2,389	293
Union Gap	262	33

Survival

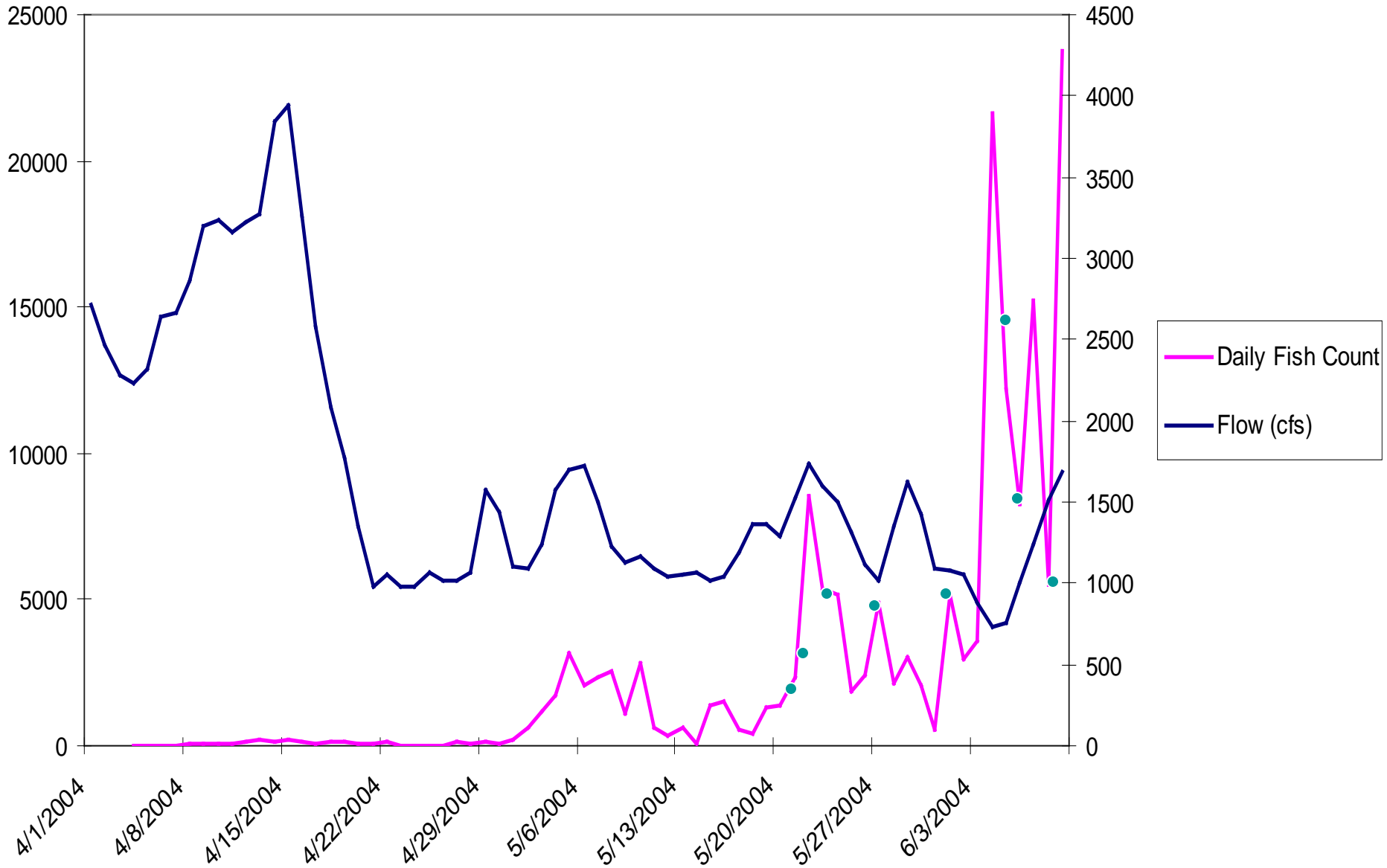
	2004	2005	2004	2005
<u>Reach</u>	<u>McN</u>	<u>McN</u>	<u>Bonn</u>	<u>Bonn</u>
VanG	6.1	4.6	1.1	0.9
GRA	2.4	1.0	ND	
GAP	ND		ND	

*2005 Data is Preliminary

2005 Age-0 Chinook Passage Detail at Chandler Juvenile Monitoring Facility



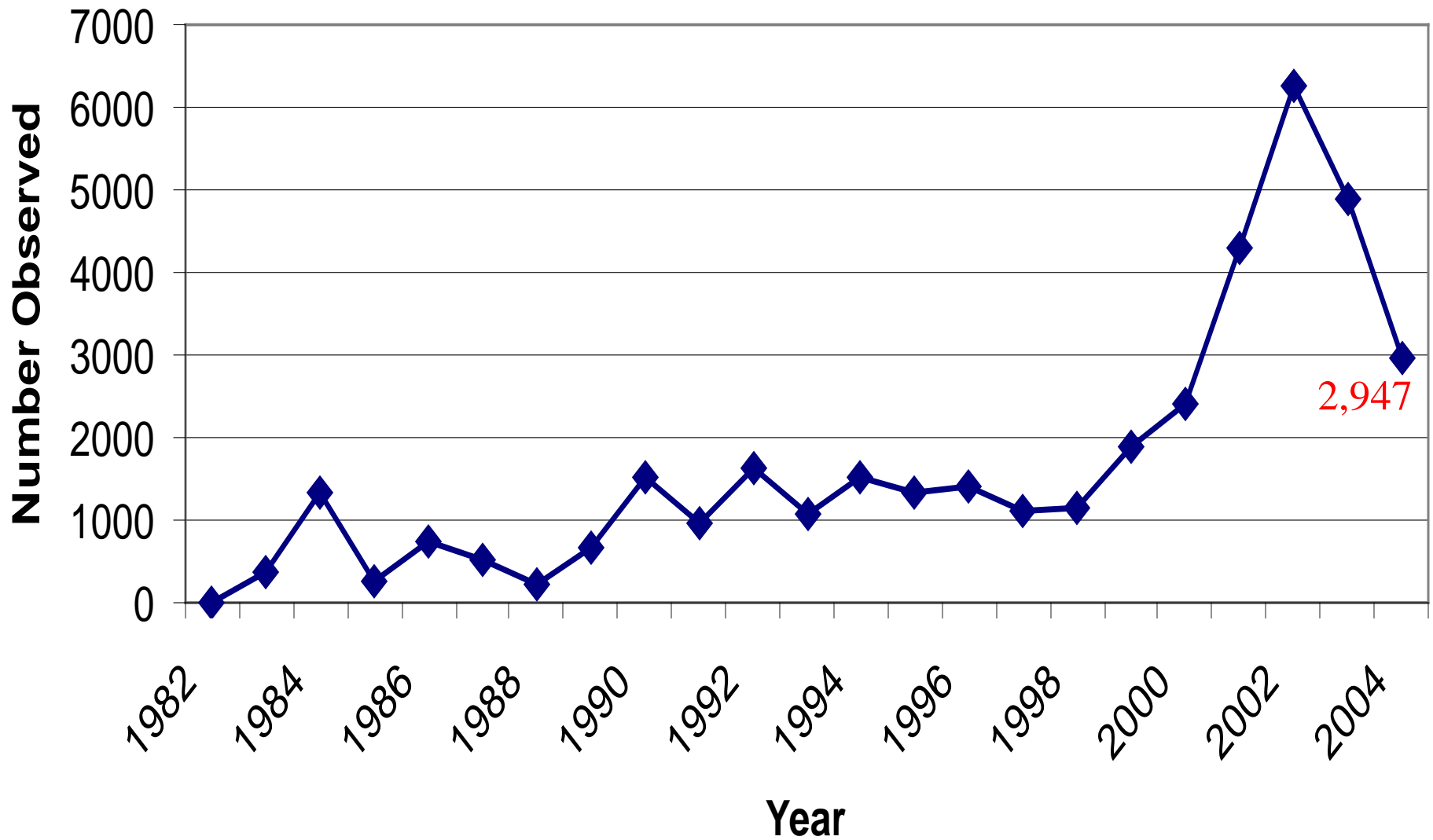
Wild Fall Chinook Passage at Chandler Juvenile Monitoring Facility



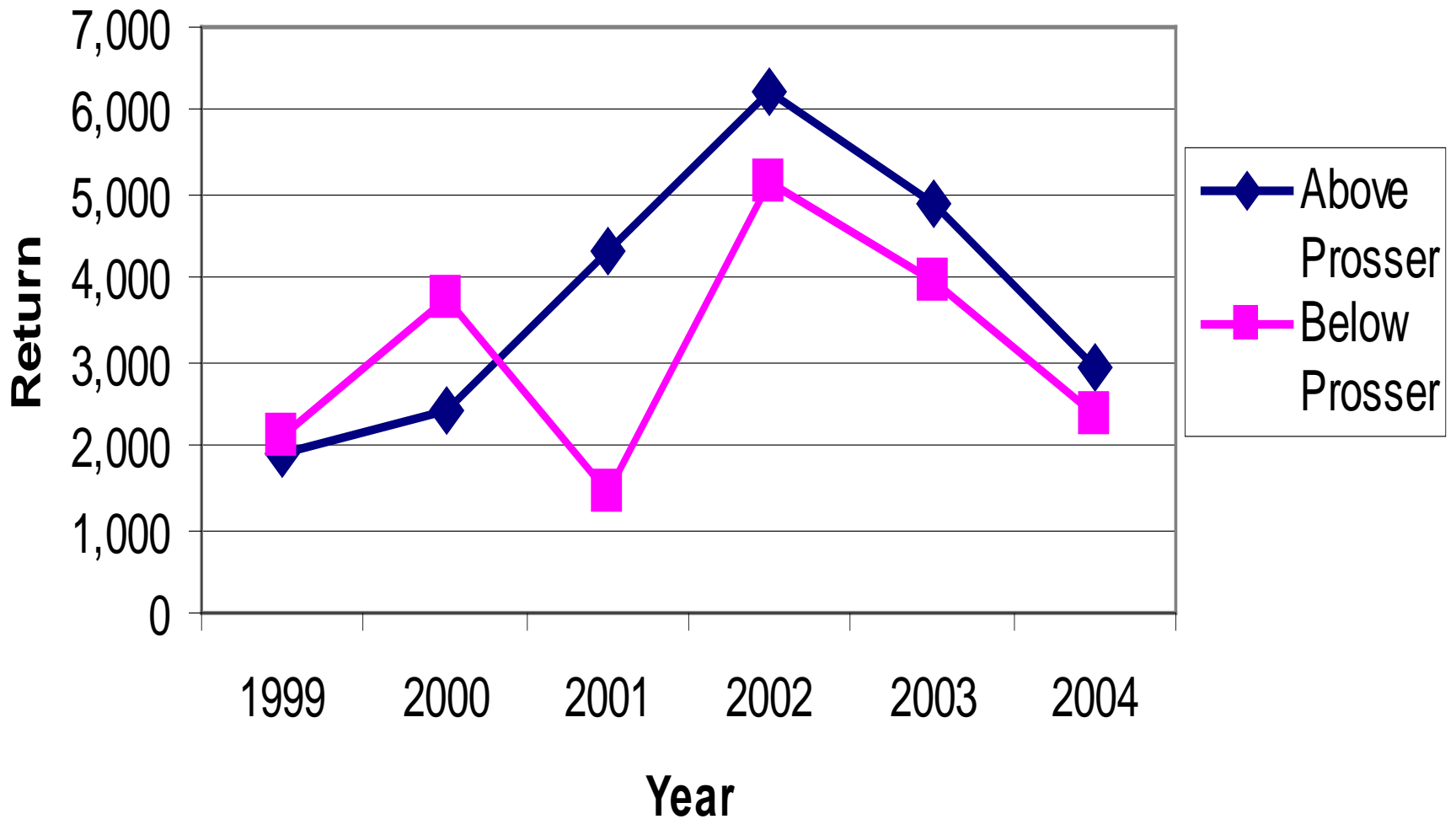
2004 Adult Fall Chinook



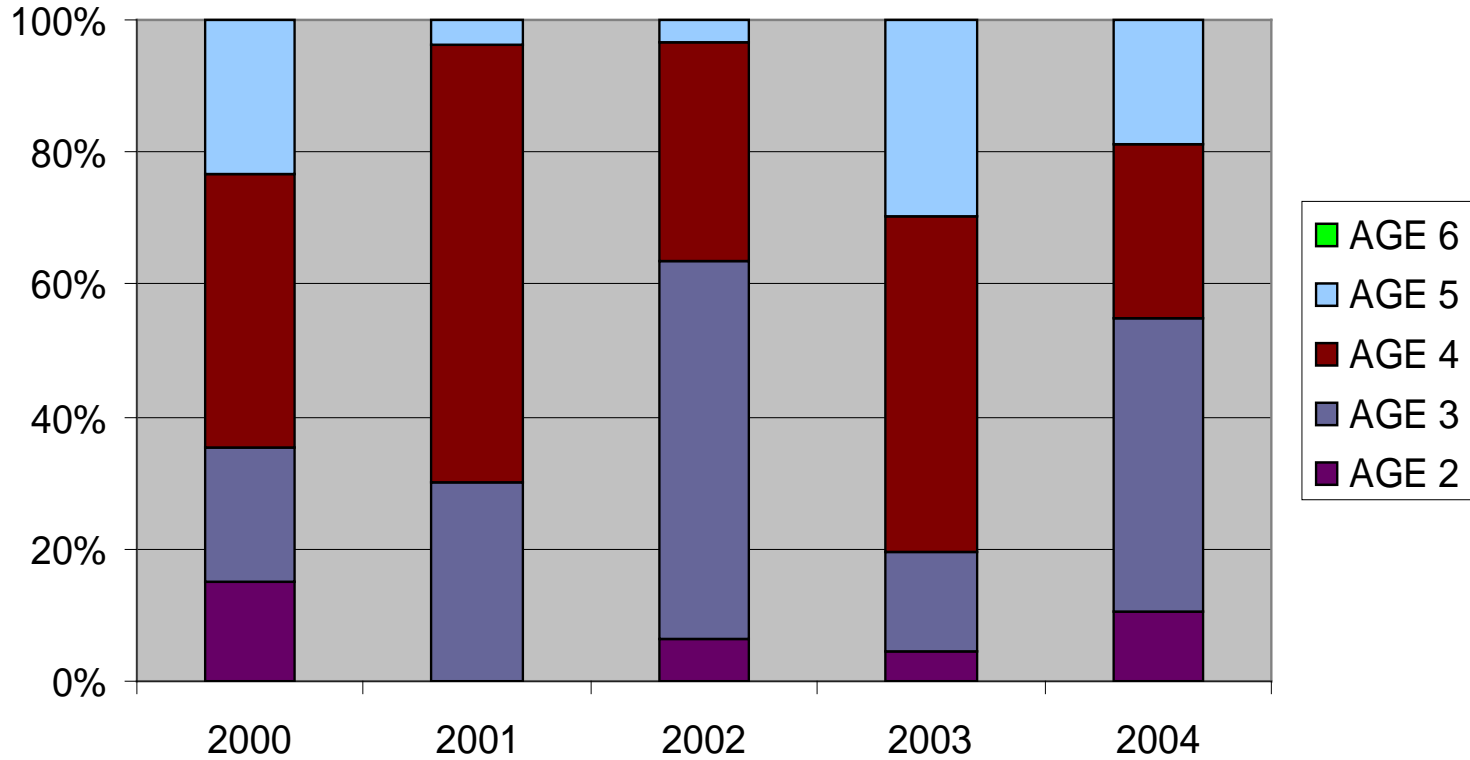
Yakima River Fall Chinook above Prosser Dam

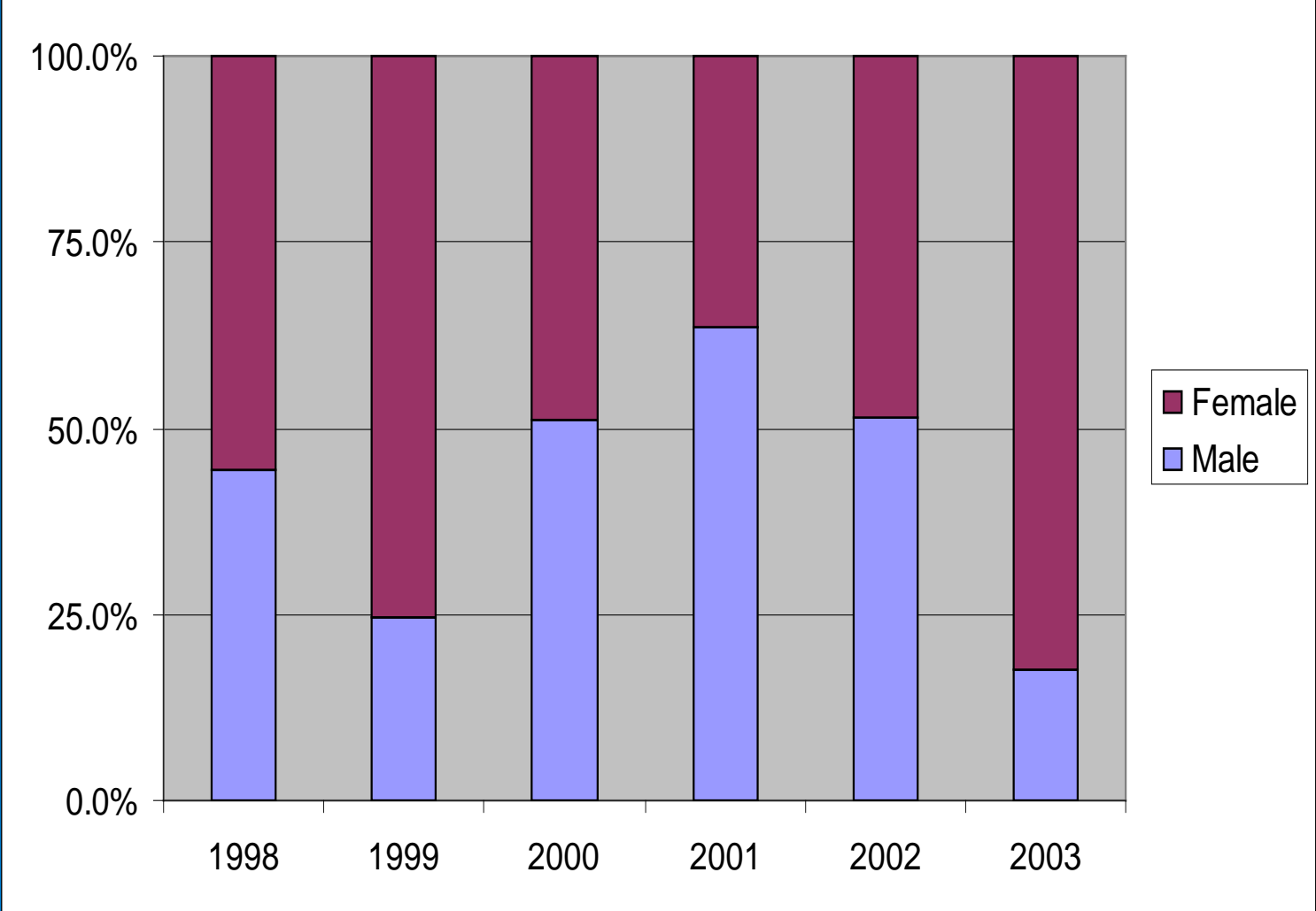


Yakima River 6-Year Escapement of Fall Chinook



2000-04 Age Composition at Denil



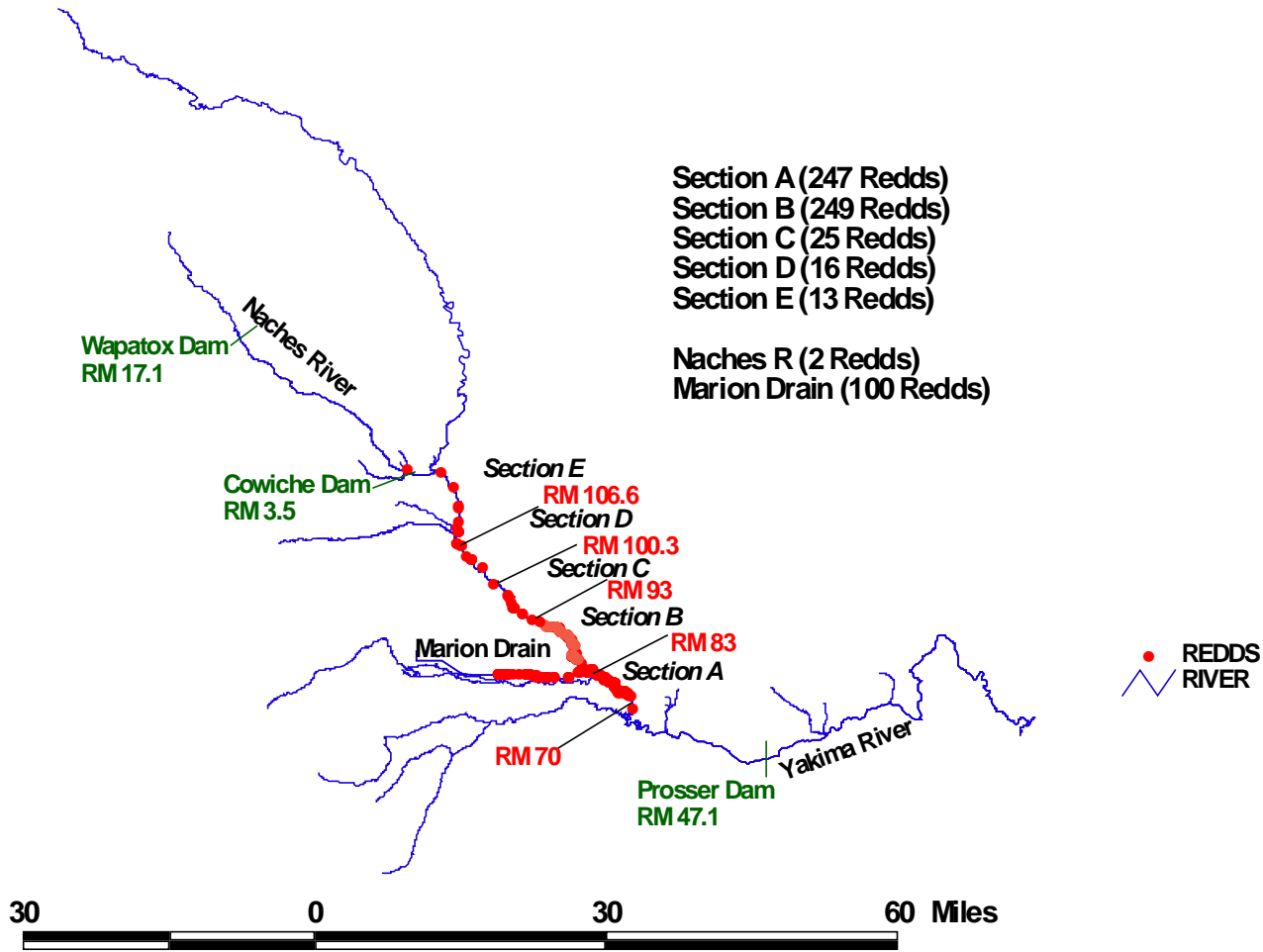


2004 Redd Counts below Prosser

- 5,318 Escapement
55% Spawned above Prosser Dam
- Yakima R. below Prosser- 449 Redds
 - 84% (377) Prosser to Chandler
 - 11% (48) Chandler to Benton
 - (0) Benton to Horn Rapids
 - 5.3% (24) Horn Rapids to Duportail

(WDFW, Hoffarth 2005)

Fall Chinook Redds 2004



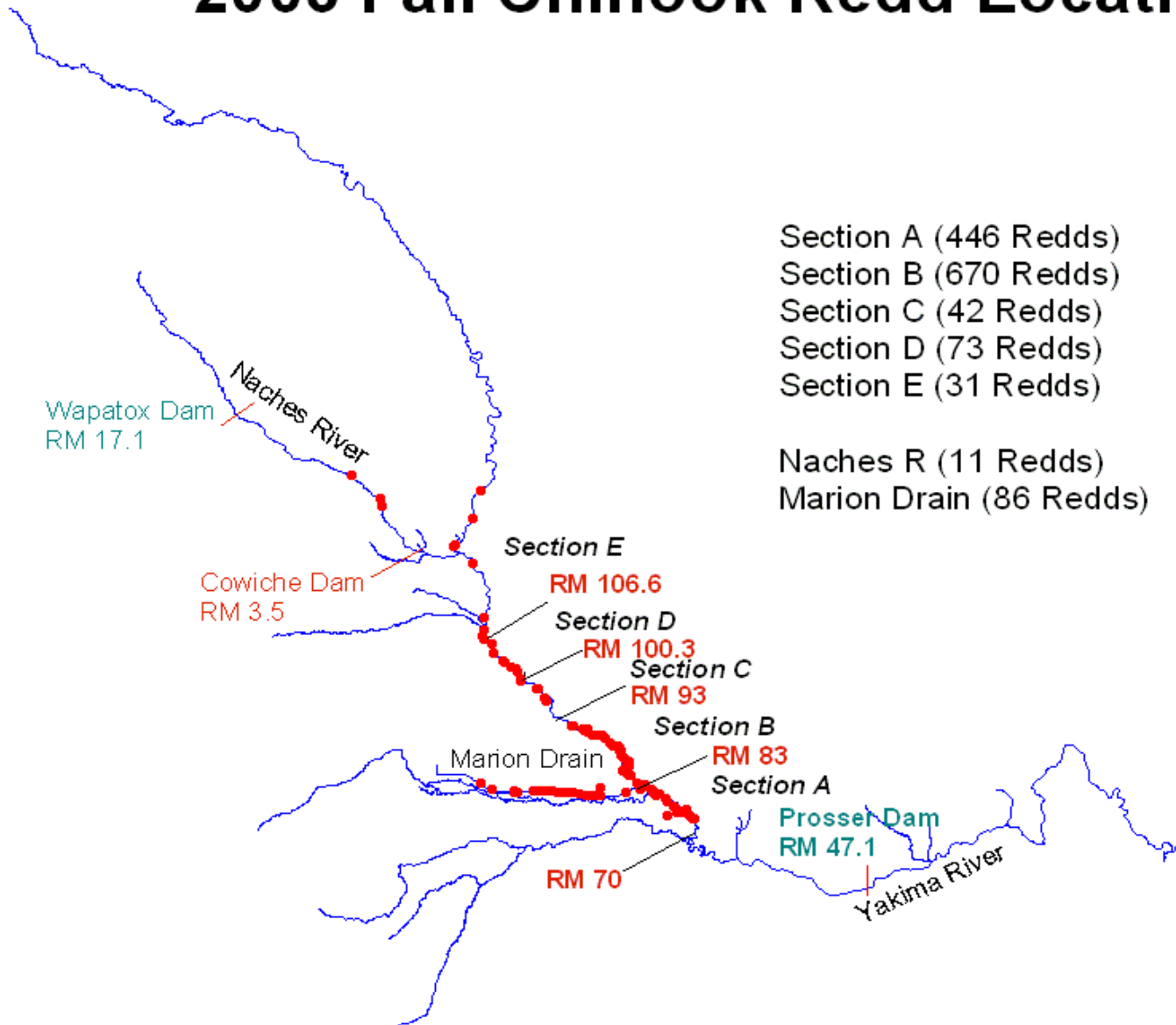
2003 Fall Chinook Redd Locations

Section A (446 Redds)
Section B (670 Redds)
Section C (42 Redds)
Section D (73 Redds)
Section E (31 Redds)

Naches R (11 Redds)
Marion Drain (86 Redds)

• Redds
~ Yakima River

80 0 80 160 Miles



2003 Redd Surveys above Prosser

- 2,947 over Prosser Dam
- Yakima River- 550 redds
 - 90% Granger to Donald brg (RM70-93)
 - 7.5% Donald brg to Wapato Dam
 - 2.4% Union Gap to Roza Dam
- Naches River- 2 redds
 - Wapatox Dam to Cowiche Dam

A wide river flows through a landscape. The left bank features a wooden fence and bare trees. The right bank is covered in dense, green vegetation. The water is dark and rippled.

➤ Marion Drain- 100 redds
74% below Hwy 97

Future Plans

- Continue to Acclimate Fall Chinook at the Prosser and Marion Drain Hatcheries.
- Attempt to Acclimate at Edler Pond in Union Gap for comparison to Hatchery experimental releases in 2006.
- Acclimate at Stiles Pond in 2006.
- Continue to Beach Seine Wild Fall Chinook.
- Redd Surveys.
- Radio Tag Returning Adults (2005) at the Prosser Denil.

Acknowledgements

YN: Andrew Lewis, Ernie Reynolds, Denny Nagle, Jason Allan, Conan Northwind, Quincy Wallahee, Joe Jay Pinkham III and Linda Lamabull who carried out the daily field activities to make it happen.

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