

Yakima River Fall Chinook Supplementation 2006-07

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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.



Smolt Monitoring

- The experimental focus has been Rearing Strategy
- Monitor via PIT tags

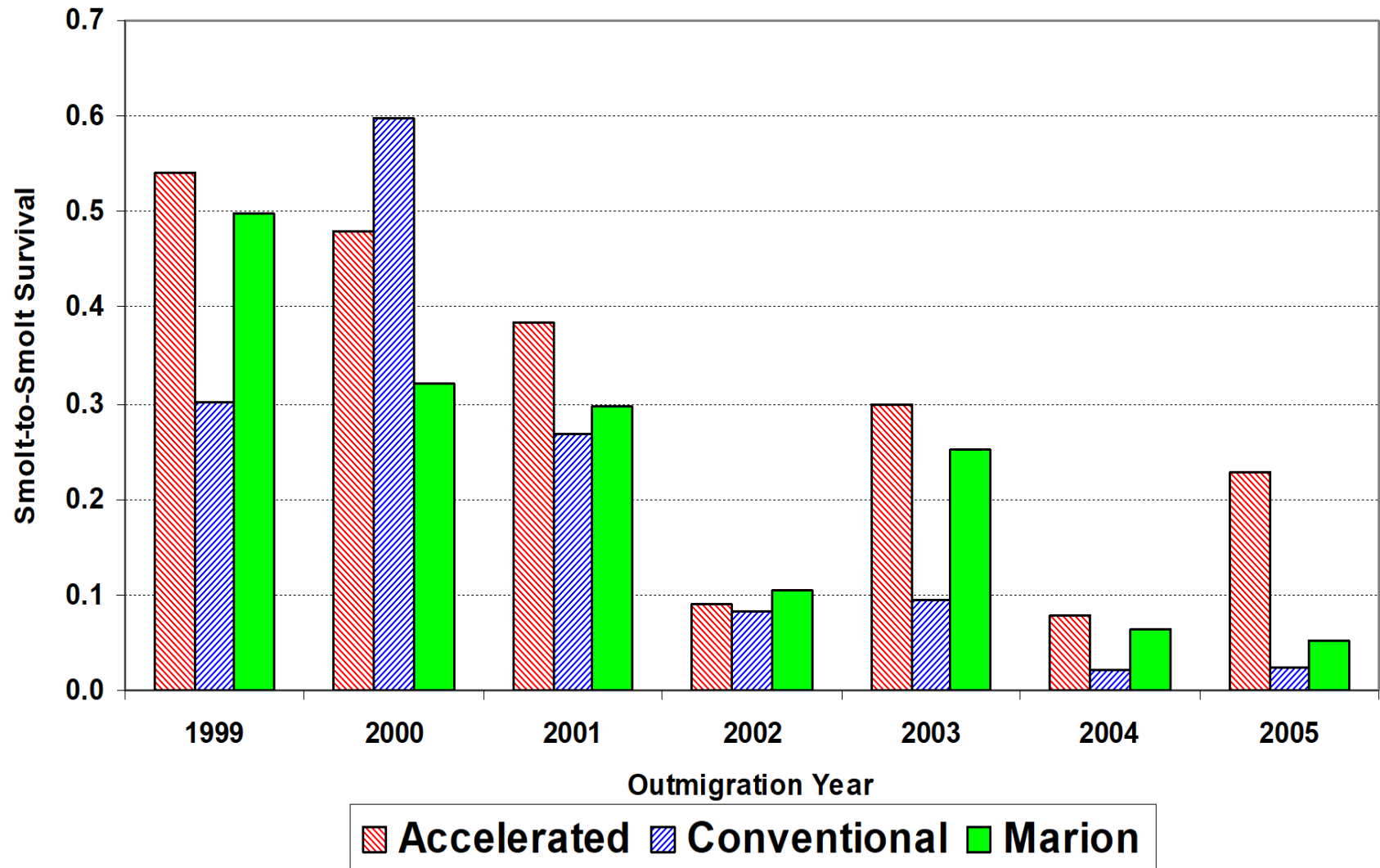


Rearing Strategy

- Yakima River stock
 - Prosser Hatchery BY 1998-2005
 - Accelerated vs Conventional

- Marion Drain stock
 - Marion Drain Hatchery BY 1998-2005
 - Conventionally reared, however
 - warmer water vs mainstem

Fall Chinook Survival to McNary Dam

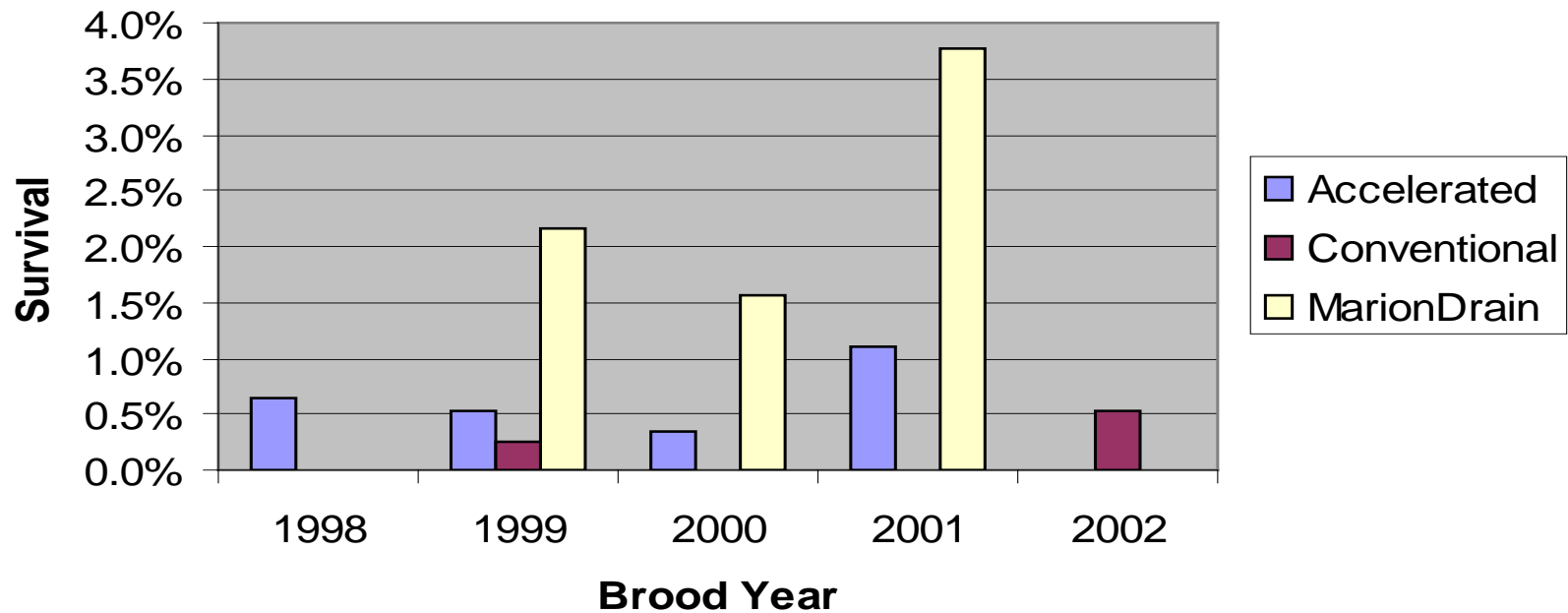


* Brood-years 1998-2004, respectively.

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

Smolt-Adult

Yakima River Fall Chinook SAR to McNary



****BY98 incomplete for 2000-2001 returns (age 2,3) and BY 99 2001 (age2)**

Move to Accelerated

- BY2005 moved majority to
- Smolt survival higher under ***Accelerated*** rearing conditions and earlier releases suggest better survival for smolts leaving the system vs ***Conventional*** methods.
- AND as Adults returning to spawn for the BY99, BY2000 and BY2001 cycles.

Prosser accelerated

2006 survival to McN 31.2%

BY2006

2007 PRO vs LWH

Yearling feasibility

Stiles Pond

2007

~95,000 (9,970)

released 5/10/07

McN: *6%

2006

118,835 (19,902)

released 5/10/06

McN: 15.2%

2005

38,890 (4,198)

released 4/19/05

McN: 2.8%

*2007 preliminary

Billys Pond

new in 2007, located on the Yakima River
in Union Gap, ~RM 110

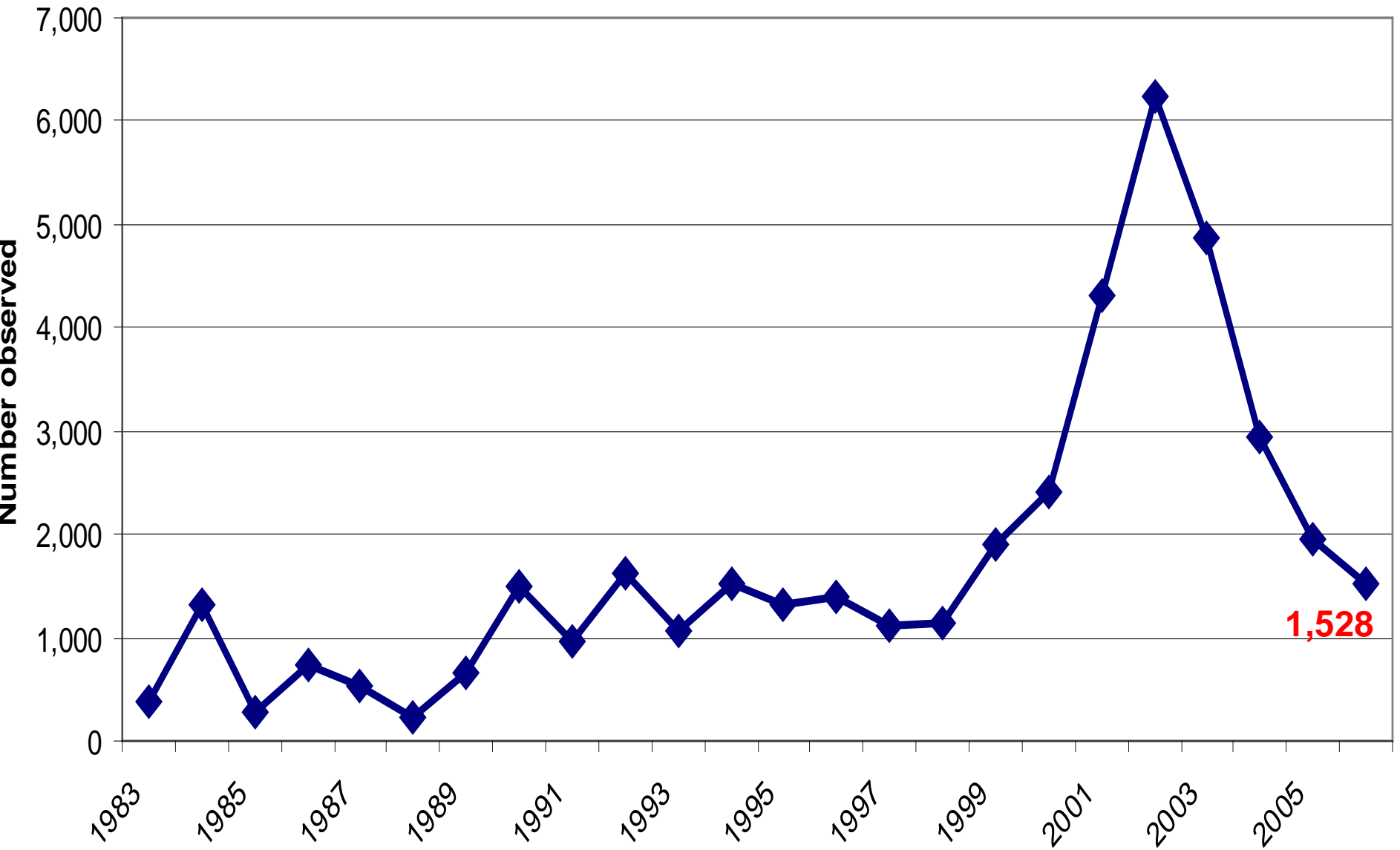
Released 5,000 PIT on 5/10/07

3% detections at McN since 6/12

2005 Adult Fall Chinook



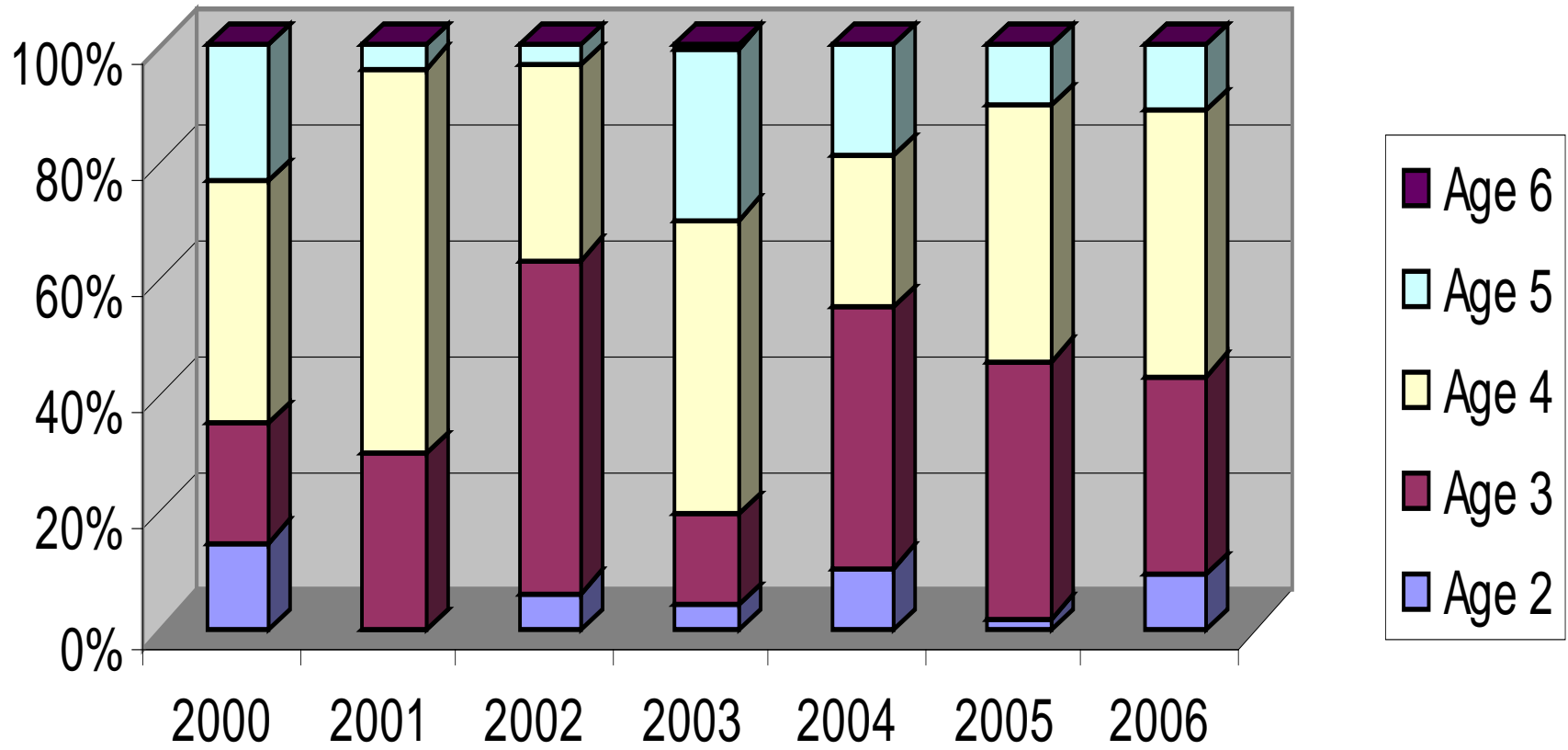
Fall Chinook above Prosser Dam



Yakima River Fall Chinook Escapement 1999-2006



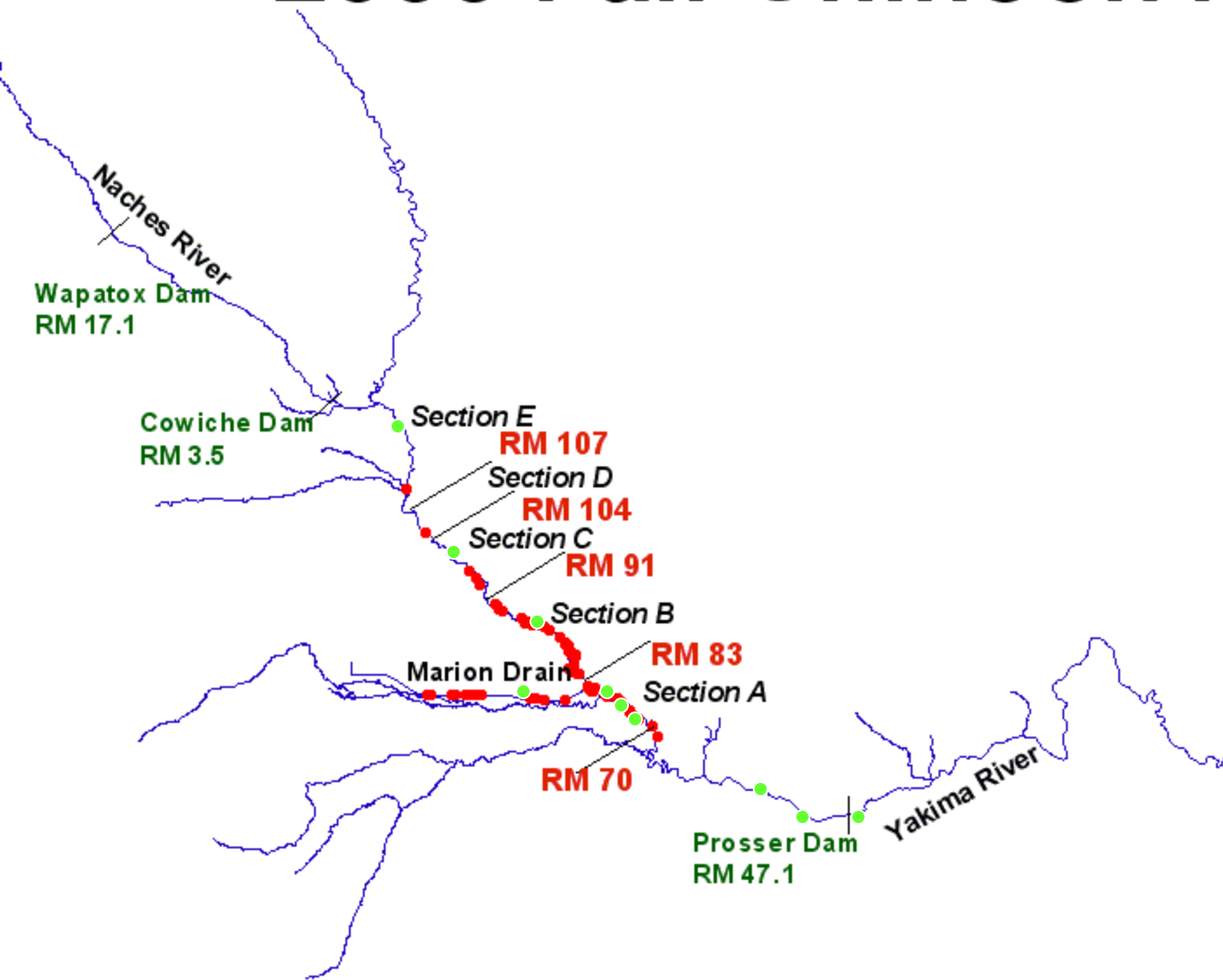
Yakima River Fall Chinook (Age Composition 2000-06)



Radio Telemetry

- 25 Fall Chinook at the Denil (RM 47.1)
tracked 17 of 25
 - 5 between PRO and Mabton
(1 of these in Sulfur drain)
 - 8 between GRA and Zillah
 - 1 in Marion Drain
 - 3 between WAP and U.Gap

2006 Fall Chinook Redds



2006 Redd Counts below Prosser

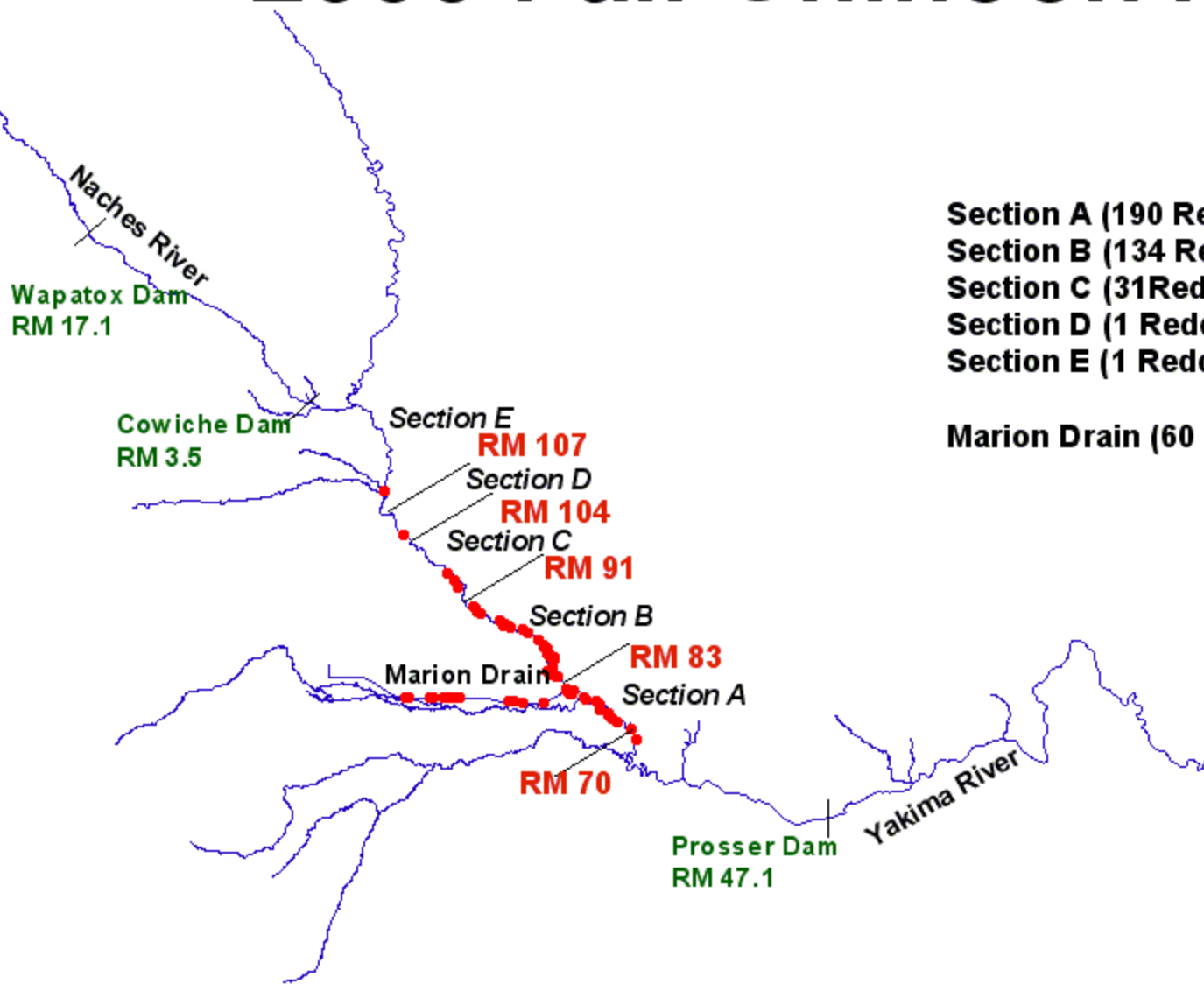
- 1,901 Escapement to Yakima R
- Yakima R. below Prosser- 43 Redds
 - 77% (33) Prosser to Chandler
 - 23% (10) Chandler to Benton
 - (0) Benton to Horn Rapids
 - (0) Horn Rapids to Mouth

*high turbid flows prevented redd surveys after the first couple of weeks. (WDFW, Hoffarth 2007)

2006 Redd Surveys above Prosser

- 1,528 over Prosser Dam
- Yakima River- 357 Redds
 - 53.2% Emerald Rd to Granger (RM70-83)
 - 37.5% Granger to Zillah (RM83-91)
 - 9% Zillah to SSD (RM91-104)
 - 0.3% Union Gap (RM107-117)
- Naches River- 0 redds
 - Wapatox Dam to Cowiche Dam

2006 Fall Chinook Redds



Section A (190 Redds)
Section B (134 Redds)
Section C (31 Redds)
Section D (1 Redd)
Section E (1 Redd)

Marion Drain (60 Redds)



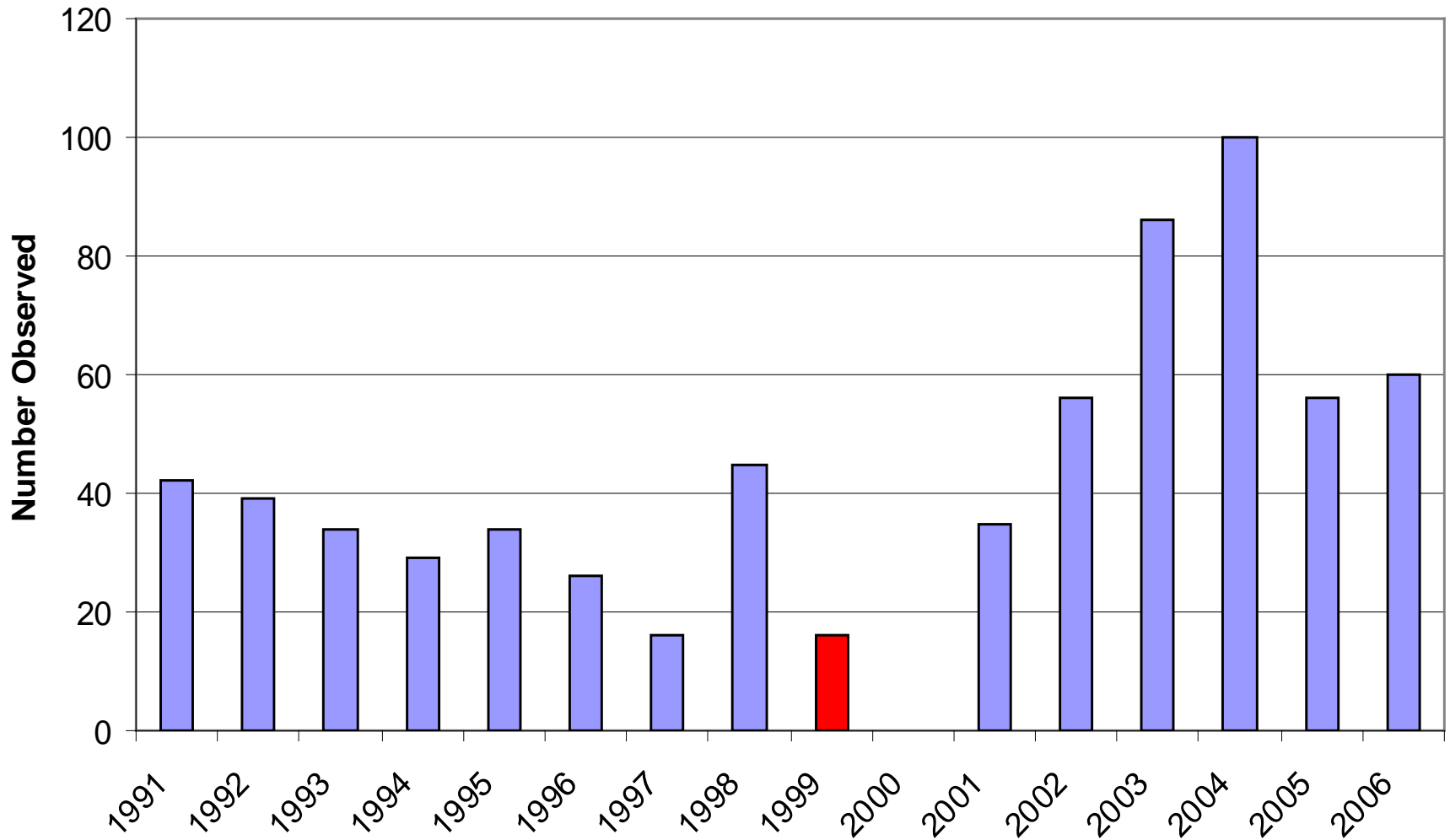


▪ Marion Drain- 60 redds

73% above Hwy 97

27% below Hwy 97

Marion Drain Fall Chinook Redds



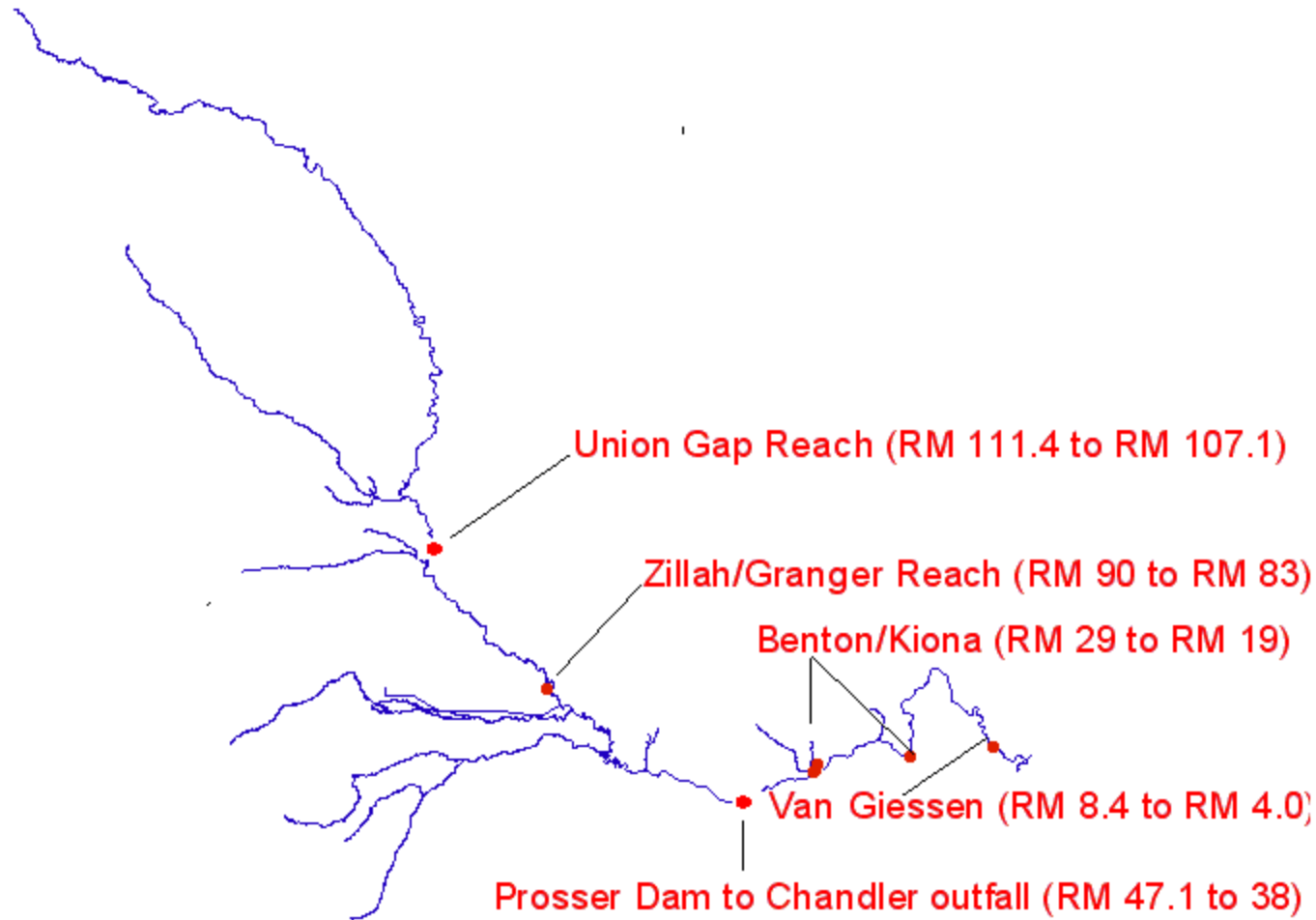
***No Surveys conducted in 2000**

BeachSeine

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



Yakima River Beach Seine Sites

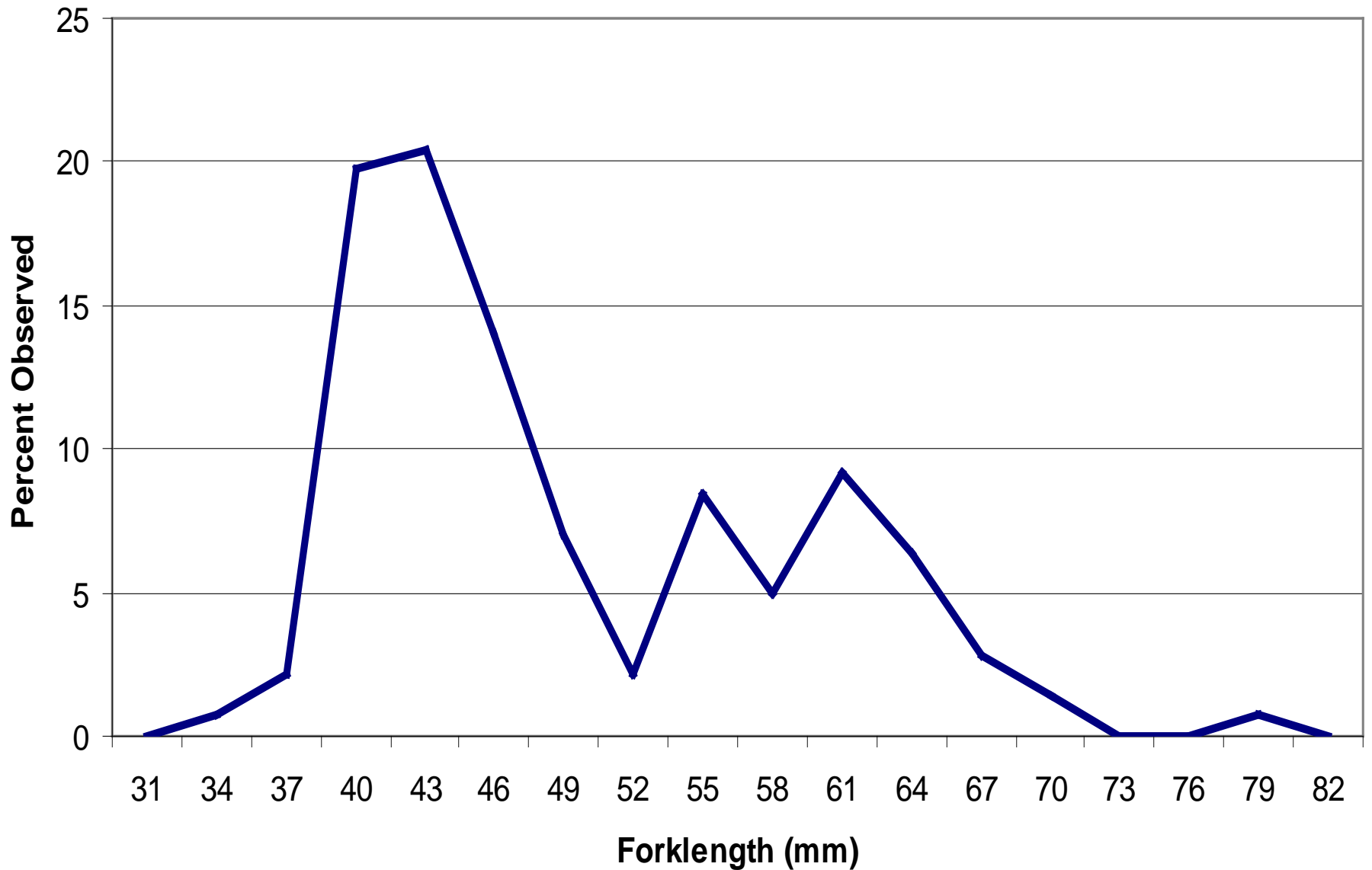


Wild Fall Chinook

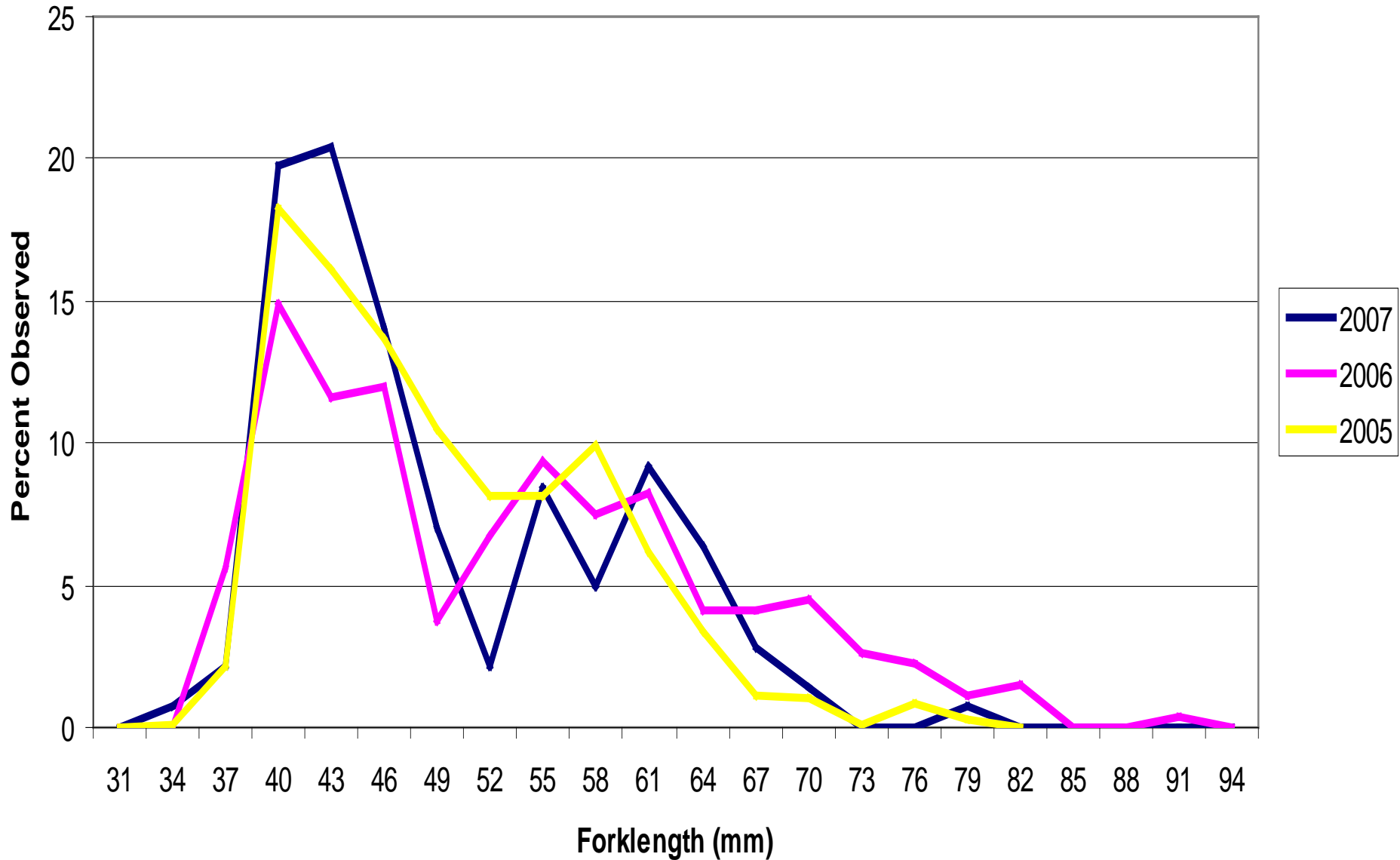


	2007		2006		2005		2004	
	N	#PIT	N	#PIT	N	#PIT	N	#PIT
<PRO	12	---	211	80	3,182	108	1,517	181
GRA	126	35	401	19	2,389	293	3,567	125
GAP	---	---	----	----	262	33	160	0

2007 Wild Fall Chinook-Yakima River



Wild Fall Chinook 2005-2007, Yakima River



2007-08 Plans

- Acclimate Fall Chinook at the Prosser and Marion Drain Hatcheries
- Acclimate at Stiles and Billys Pond
- In-basin Yearling release
- Beach Seine
- Redd Surveys
- Radio Tag Returning Adults at the Prosser Denil

Plans in progress

- Fall Chinook Master Plan
- Establish an “early-run” Fall Chinook Program

ESA

- In 2005, fishery co-managers in U.S. v Oregon (Columbia River Treaty Tribes, WDFW, ODFW, IDFG, NMFS, and USFWS) received new PIT tag data that revealed CLEAR SEPARATION in migration timing between the ESA-listed Snake River summer chinook and the unlisted mid-Columbia summer chinook
- It was concluded in the biological “Status Review of mid-Columbia River summer Chinook” that **summer chinook are not a species or Evolutionary Significant Unit (ESU) as defined by the U.S. Endangered Species Act (ESA)**. Rather, they are part of a larger ESU that includes all late-run (summer and fall), ocean-type Chinook from the mainstem Columbia River and its tributaries (excluding the Snake River) between Chief Joseph and McNary Dams. Also, that this larger ESU is not likely to become endangered in the foreseeable future and does not warrant listing as a threatened or endangered species (Waknitz et al. 1995)

Early-Run Fall Chinook?

Objective: To determine if it's feasible to establish an early-run Fall Chinook to the Yakima River with the goals being:

- 1) Develop a naturally spawning adult population between Sunnyside Dam to Roza Dam in the Yakima River, and the lower Naches from the mouth to the Tieton River and,
- 2) To increase the number of adults contributing for Harvest Augmentation through the lower Columbia, zone 6 and the lower Yakima River for both the Tribal and Sports Fishery.

Acknowledgements

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That's All Folks!

