

DeltaKeeper

a project of WaterKeepers Northern California

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DeltaKeeper's Perspective

- Is ECOSYSTEM based (holistic), and includes the full range of beneficial water uses.
- Recognizes the values of listed species, native species and economically important species.
- Recognizes the need to follow Federal Congressional and State Legislative mandates (specifically all of the CVPIA).
- Believes that we must fix the system, before we decrease outflow or increase exports. That is, we are supposed to “get well together.”

DeltaKeeper's Perspective, con't

- Delta Outflow and CVP-SWP Exports are two significant factors that define a healthy Estuarine ecosystem.

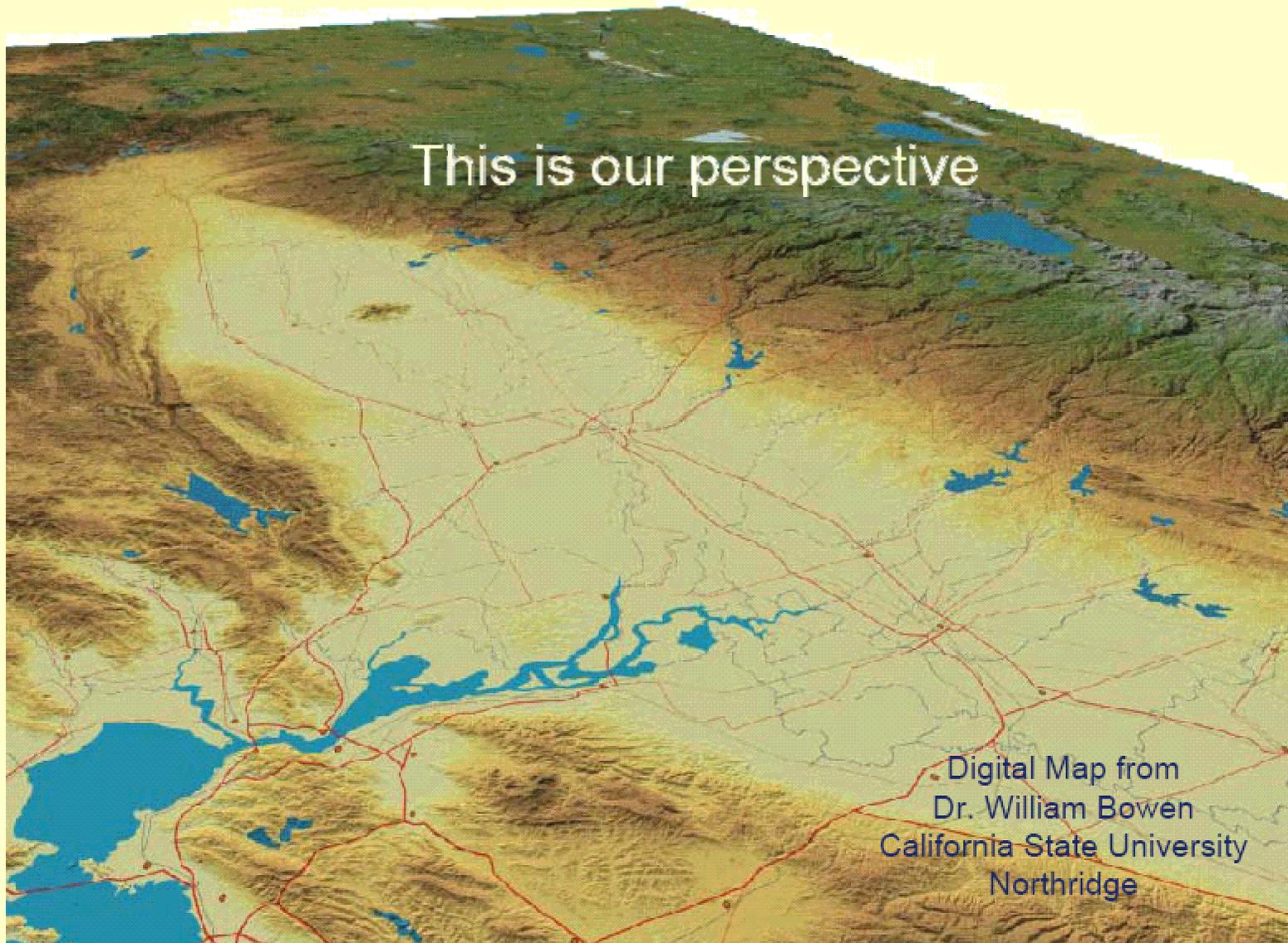


Figure from Kimmerer (WK-EX-1, Slide3)

Central Valley Improvement Act

- Title 34 of Public Law 102-575
- Section 3403 - Definitions
 - (a) the term "anadromous fish" means those stocks of salmon (including steelhead), striped bass, sturgeon, and American shad that ascend the Sacramento and San Joaquin rivers and their tributaries and the Sacramento-San Joaquin Delta to reproduce after maturing in San Francisco Bay or the Pacific Ocean;

- Section 3406 - Fish, Wildlife and Habitat Restoration
- (b) Fish and Wildlife Restoration Activities
 - (1) develop within three years of enactment and implement a program which makes all reasonable efforts to ensure that, by the year 2002, natural production of anadromous fish in Central Valley rivers and streams will be sustainable, on a long-term basis, at levels not less than twice the average levels attained during the period of 1967-1991;
 - (A) This program shall give first priority to measures which protect and restore natural channel and riparian habitat values through habitat restoration actions, modifications to Central Valley Project operations, and implementation of the supporting measures mandated by this subsection;

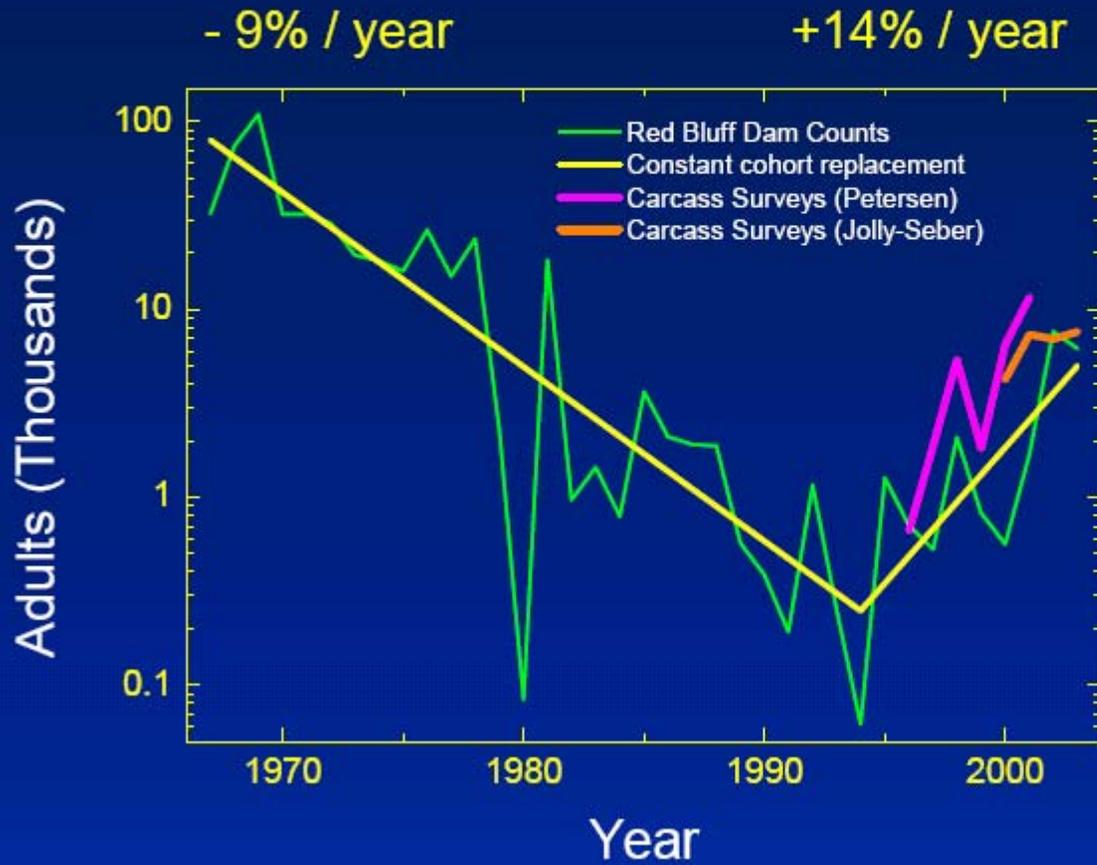
WRCS Recovery Tale

- Original recovery goal was a population of more than 10,000 females for 14 consecutive years.
- Multiple actions, both protective and restoration, were embarked on simultaneously.
- No adult population model available to evaluate the actions individually or collectively.
- Baseline been changed twice in mid-course.

The WRCS Semi-Log Scale Picture

- Note the total WRCS population has not reached 10,000, even with two changes in the baseline. Was the recovery goal adjusted with the new baseline?
- Note compression of vertical scale due to use of logged y-axis values. Decline limb is in the fourth and third log scale, while the recovery limb is in the second and third log scale.
- Note change in direction beginning in 1995, or is it 1992?

Time series of winter run escapement



Why did the cohort replacement rate change from 75% to 148%?

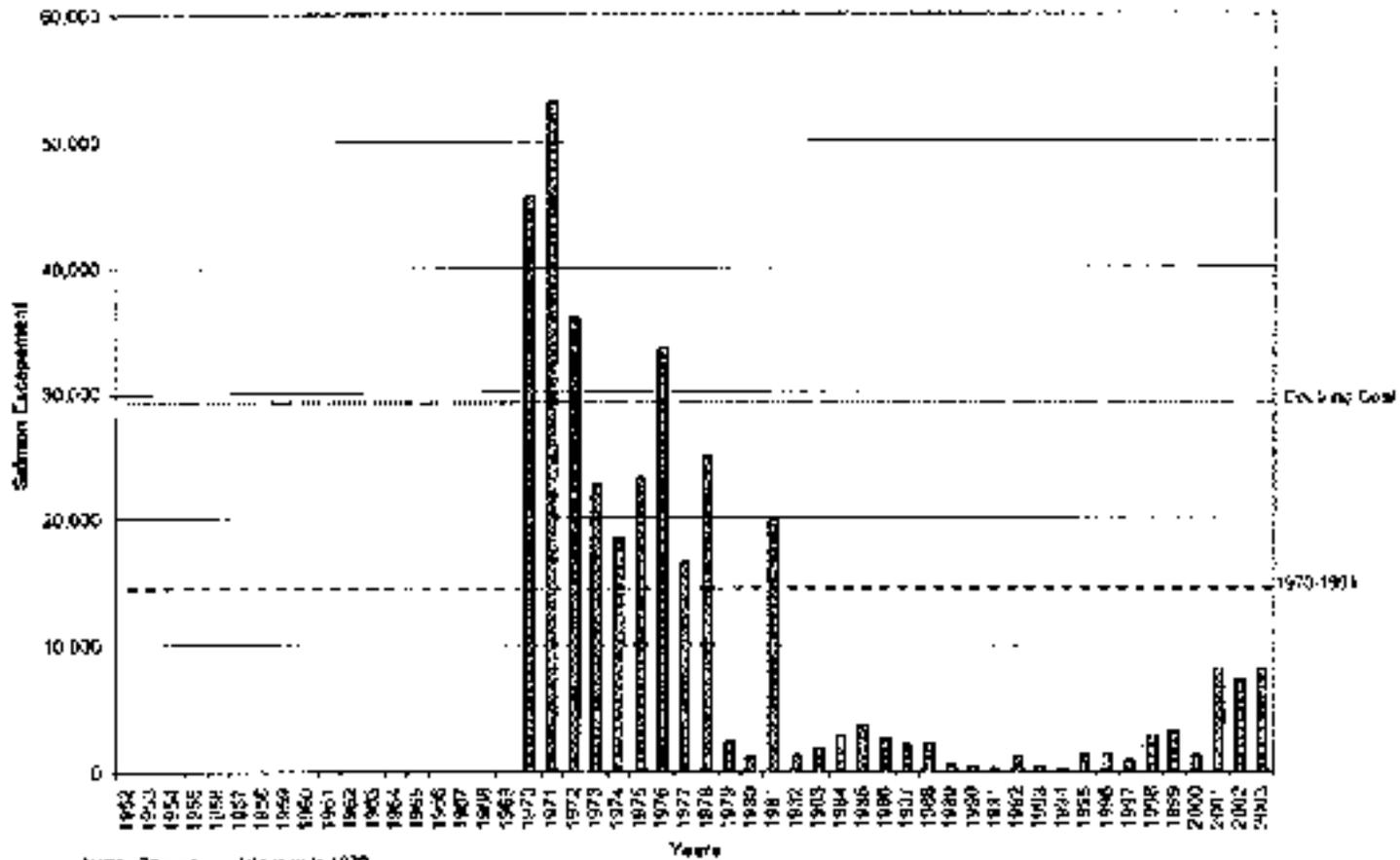
Source:
Snider et al. 1998-2002,
CDFG reports

Figure from Kimmerer (WK-EX-1, Slide 5), a **SemiLog** graph of WRCS Recovery.

The WRCS Linear Plot Picture

- All figures from here on will be linear plots.
- The y-axis is now a linear scale, and there is no compression of the graph.
- Even without the data for 1968, 1969, and 1970, it is clear that recovery of the WRCS is taking place rather slowly.

IN RIVER WINTER-RUN CHINOOK SALMON



Note: There is no data prior to 1970
 Source: CDFG 2004 Unpublished data

WRCS Linear Plot from Hanson (SWC-EX-2, Slide 5)

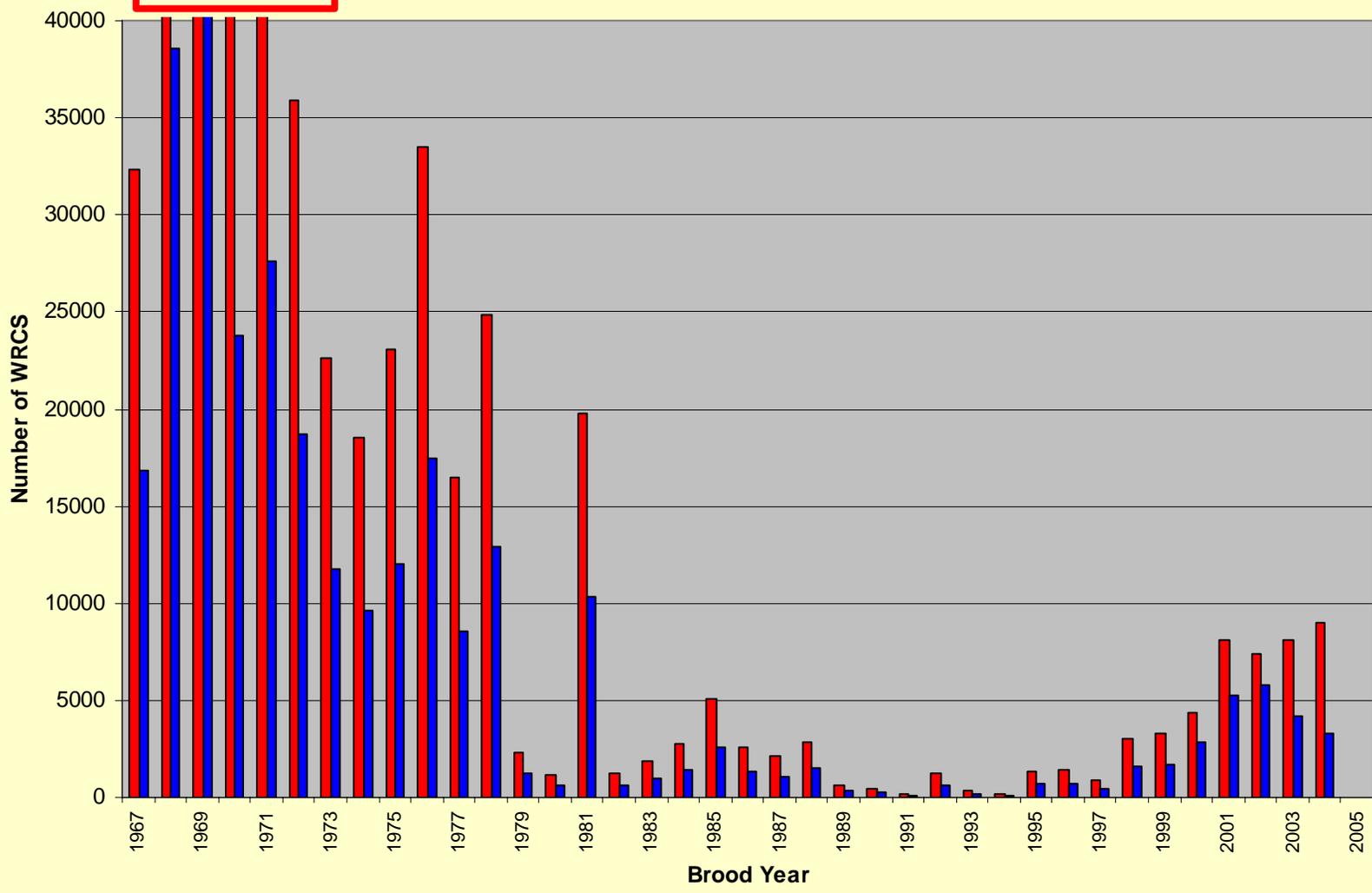
Another Look at the WRCS Picture

- Total population vs. females in the population shows a very disturbing trend the last three years.
- The increase in recent years appears to be due to “Jacks and Grilse,” which are early returning (two year old), non-reproductive fish.
- Do these figures lead you to increased CVP-SWP Exports and or reduced Delta outflows?

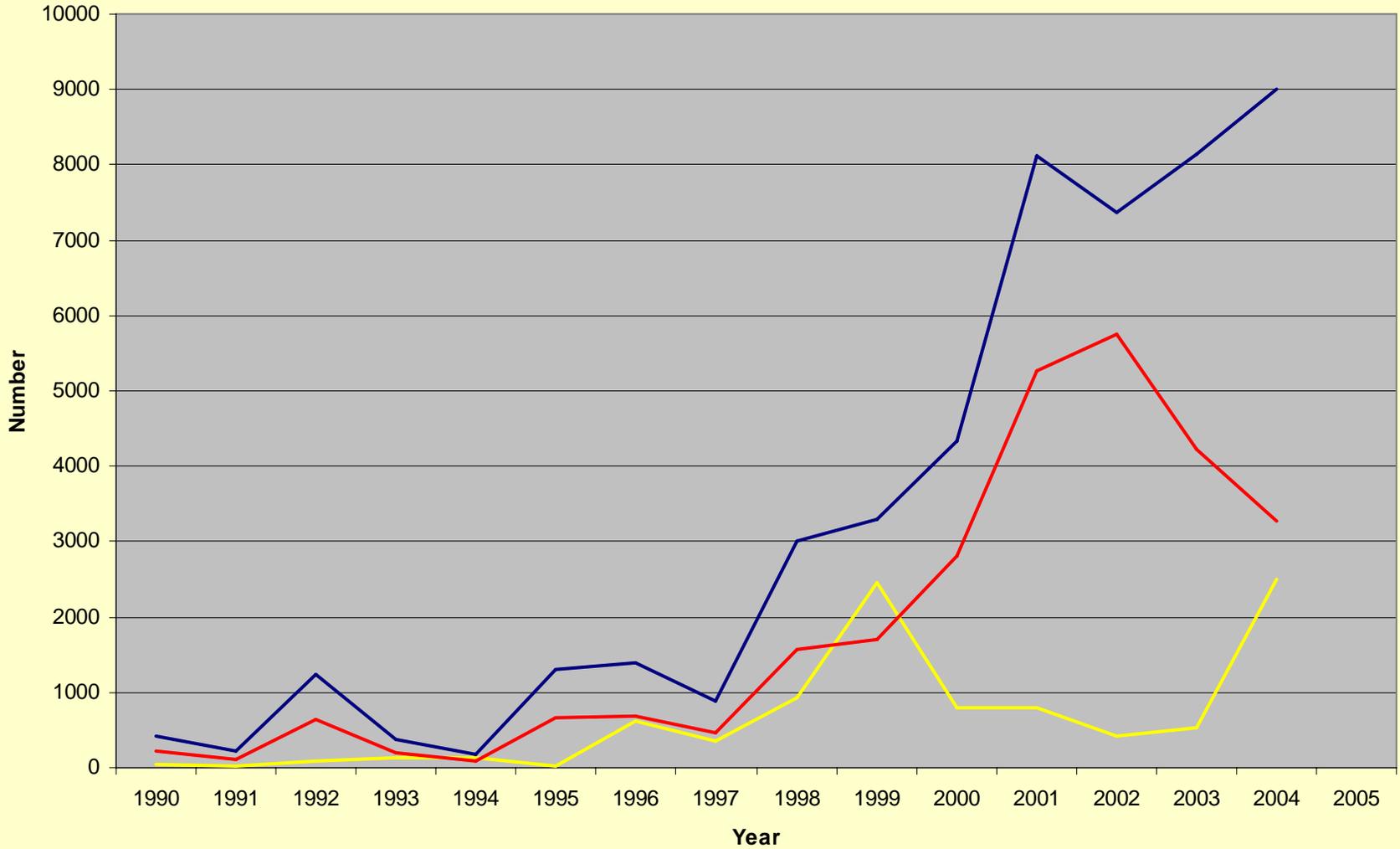
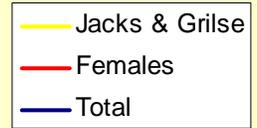
WRCS Population Trends (2000-2004 J-S Data; 1967-1999 RBL Data)

1968 = 74115
1969 = 108855
1969 = 56605
1970 = 45673
1971 = 53089

■	Population
■	Females



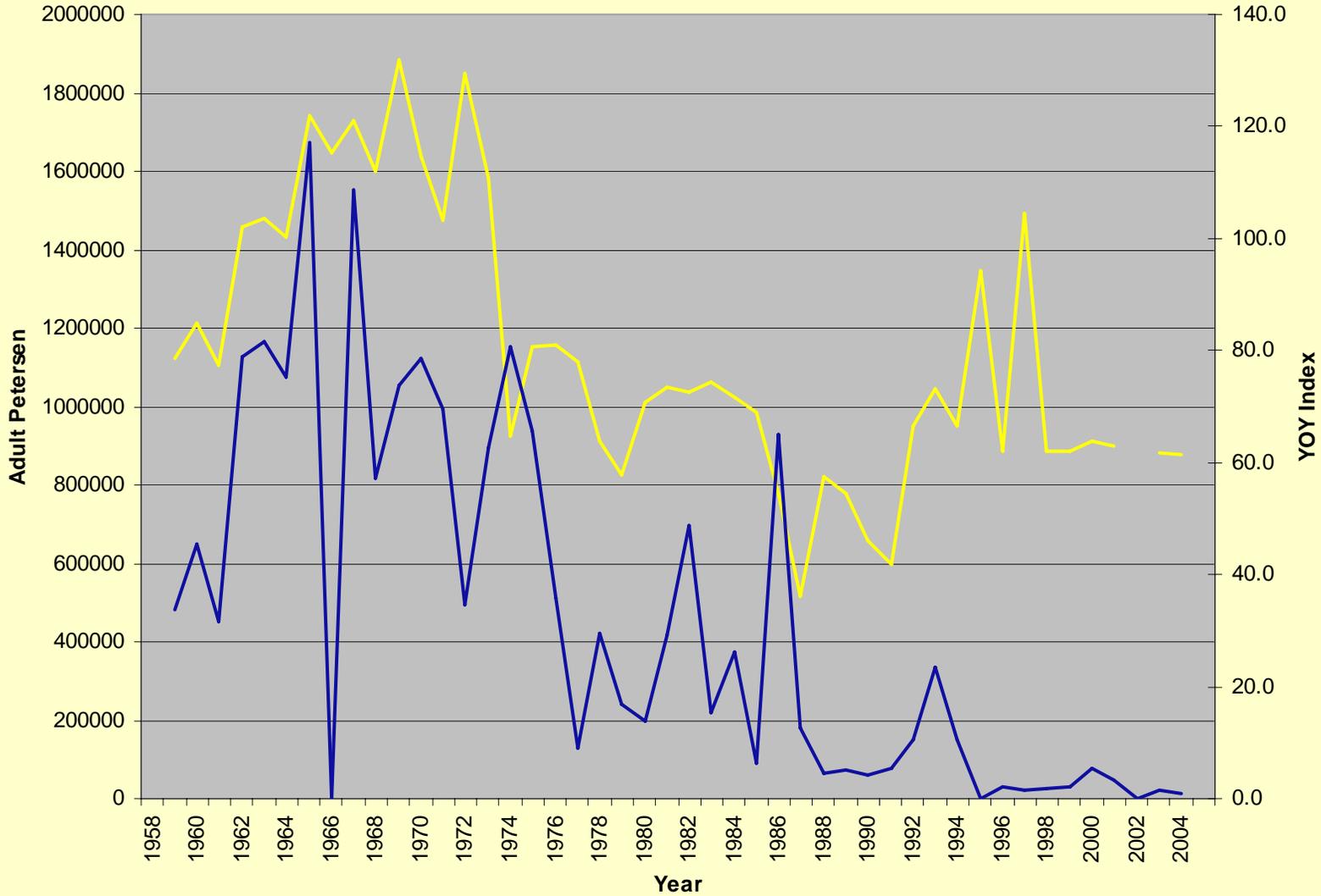
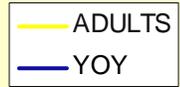
**WRCS Total, Females, and Jacks & Grilse
(2000-2004 J-S Data; 1967-2000 RBL Data)**



The Striped Bass, Today's Forgotten Fish

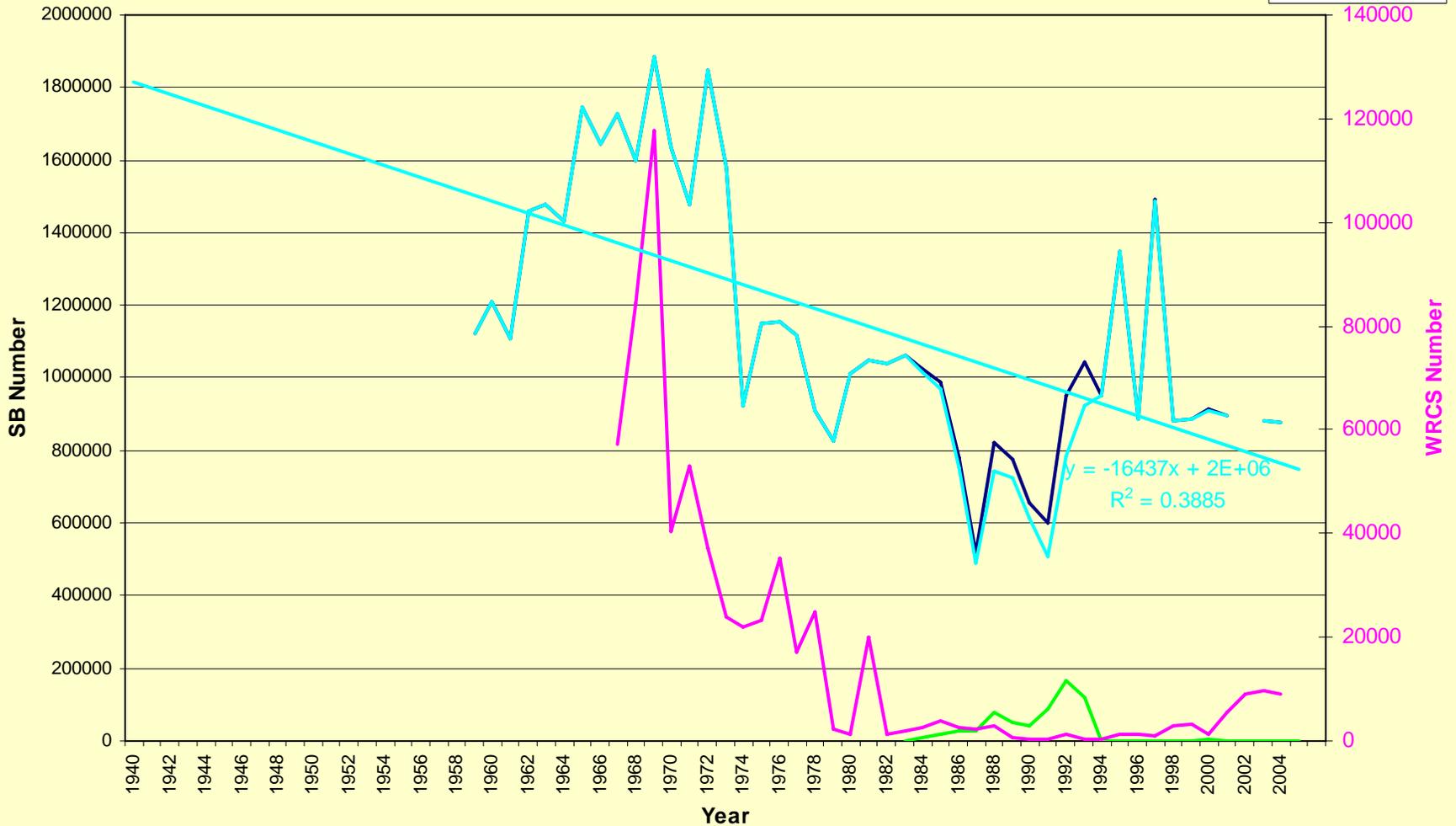
- Queen of the prom for SWRCB D-1379, D-1485. But neglected in D-1641? Survival related to Delta Outflow and CVP-SWP Exports.
- Listed specifically for doubling in CVPIA, but not included in actions to date.
- Nicknamed the “chainsaw with fins,” by Phil Pister. Tagged as an “non-native predator,” responsible for disrupting the entire Bay-Delta ecosystem.

Striped Bass Data (YOY Index vs. Adult Recruits)



Population Trends, SB and WRCS

- SB
- SB Plant
- Wild
- WRCS
- Linear (SB)



CVP-SWP Delta Fish Facilities

- Both facilities need expansion and/or upgrading to accommodate current export levels and debris loads.
- Work spelled out in both the Delta Accord and the CalFed Record of Decision. Part of our “assurances” package.
- Cannot begin to discuss permitting increased levels of export until current problems are resolved.



“Salvaged” fish at a south Delta fish facility!



the end.