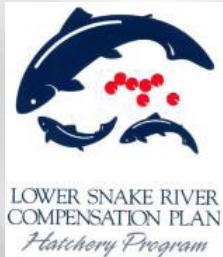


# LSRCP STEELHEAD PROGRAM REVIEW SYMPOSIUM

## Roll-Up Presentation

June 20-21, 2012  
Clarkston, WA

Brian Leth, IDFG



# Acknowledgements

- ▣ Hatchery Staffs
- ▣ M&E and Harvest Monitoring Staffs
- ▣ Fish Marking
- ▣ LSRCP
- ▣ Extensive coordination and collaboration between states, tribes, and feds



# Today's Presentation

- ▣ Purpose and Approach
- ▣ Metrics
- ▣ Summary
- ▣ Adaptive Management
- ▣ Moving Forward

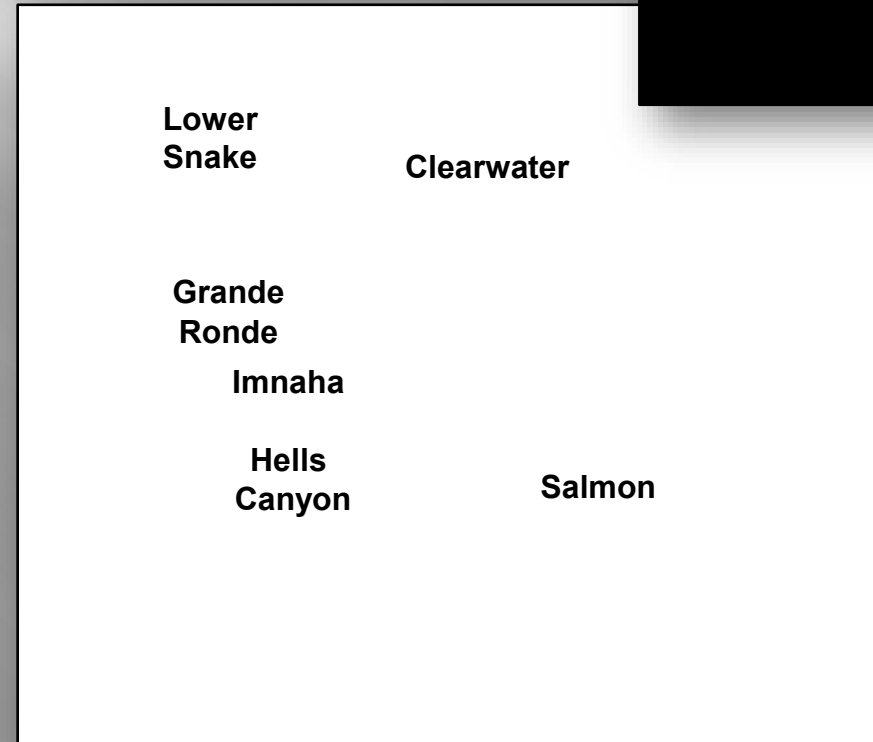
# Purpose and Approach

- ▣ **Summarize how well the combined program has achieved the mitigation objectives**
- ▣ **Highlight achievements and limitations observed over the program history**
  - **All metric definitions were agreed upon by data contributors from each program**
  - **Data displayed as:**
    - ▣ **Combined averages across all programs**
    - ▣ **Data series from individual programs to show patterns and variation for each metric across programs**
  - **I will not focus on or address nuances between programs**

# Mitigation Goals

	Project Area (Escapement)	Below Project Area (Catch)	Total Mitigation Goal
Washington	4,655	9,310	13,965
Oregon	11,185	22,370	33,555
Idaho	39,260	78,520	117,780
	55,100	110,200	165,300

- ▣ Program represents a large geographic area
- ▣ Majority of program resources are focused on harvest mitigation
- ▣ Original planning included:
  - ▣ 11,020,000 smolts at 8/pound
  - ▣ 0.5% SAR for 55,100 to project area
  - ▣ 1.5% SAS for 165,300 total mitigation



# Metrics

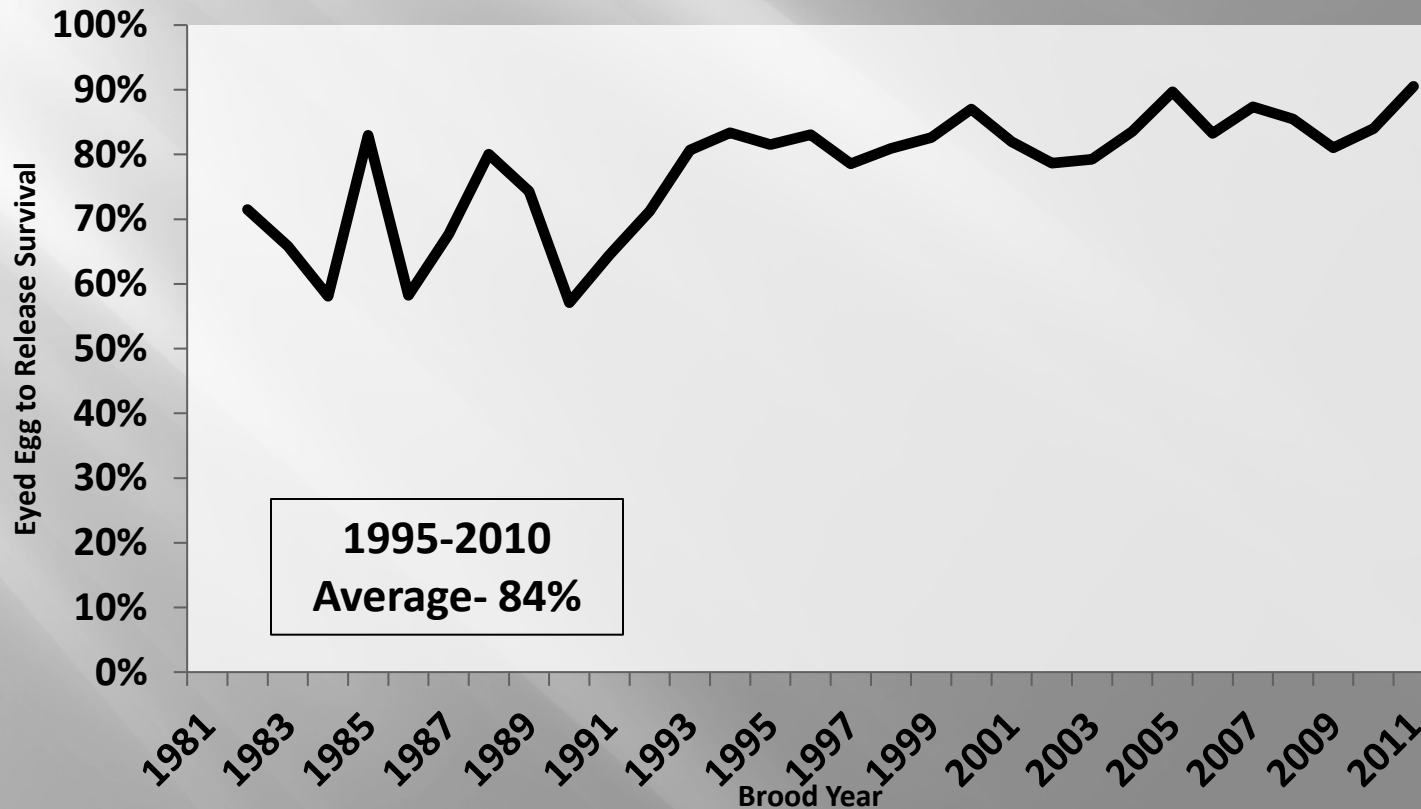
- ▣ **In hatchery performance**
  - Broodstock collections
  - Egg-smolt survival
  - Fish Health
- ▣ **Post release performance**
  - Juvenile releases and survival
  - Annual adult returns
  - SAS and SAR
  - Progeny:Parent
  - Straying
- ▣ **Harvest, Effort and Opportunity**
  - Restore and maintain fisheries



# In Hatchery Performance



- ▣ **Broodstock collection**
  - **With some exceptions, broodstock collection managers ability to meet smolt production targets**
- ▣ **Egg to Smolt Survival**



# In Hatchery Performance

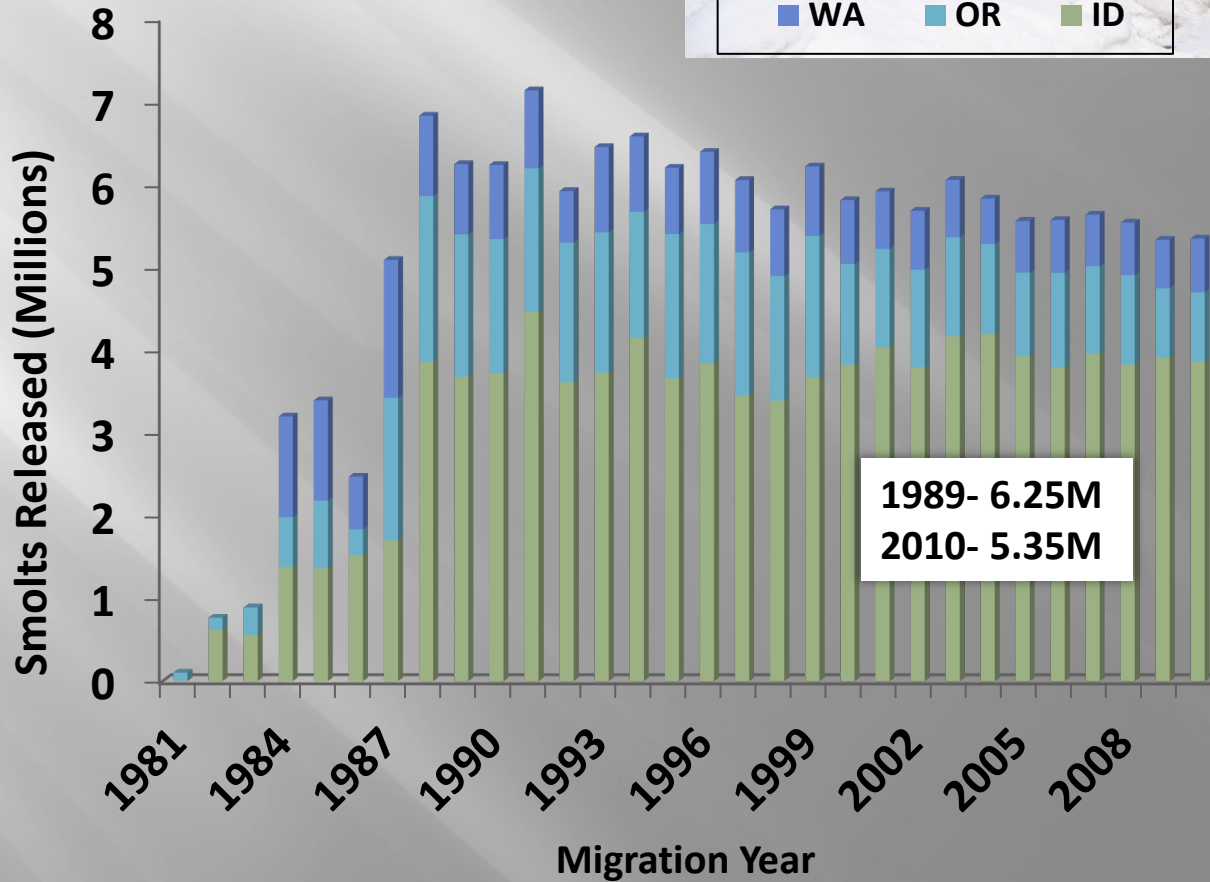
- ▣ **Smolt Releases**
  - **Original modeling**
    - 11,020,000 Smolts at 8/pound
  - **Current Smolt Releases**
    - 5,350,000
    - Smolt size- 4.5 to 5 fish/lb
  - **Some of the programs have reduced the number of smolt releases for specific management purposes.**
  - **Other programs are not able to achieve the targeted number of smolts due to water limitations**





# In Hatchery Performance

## ▣ Smolt Releases

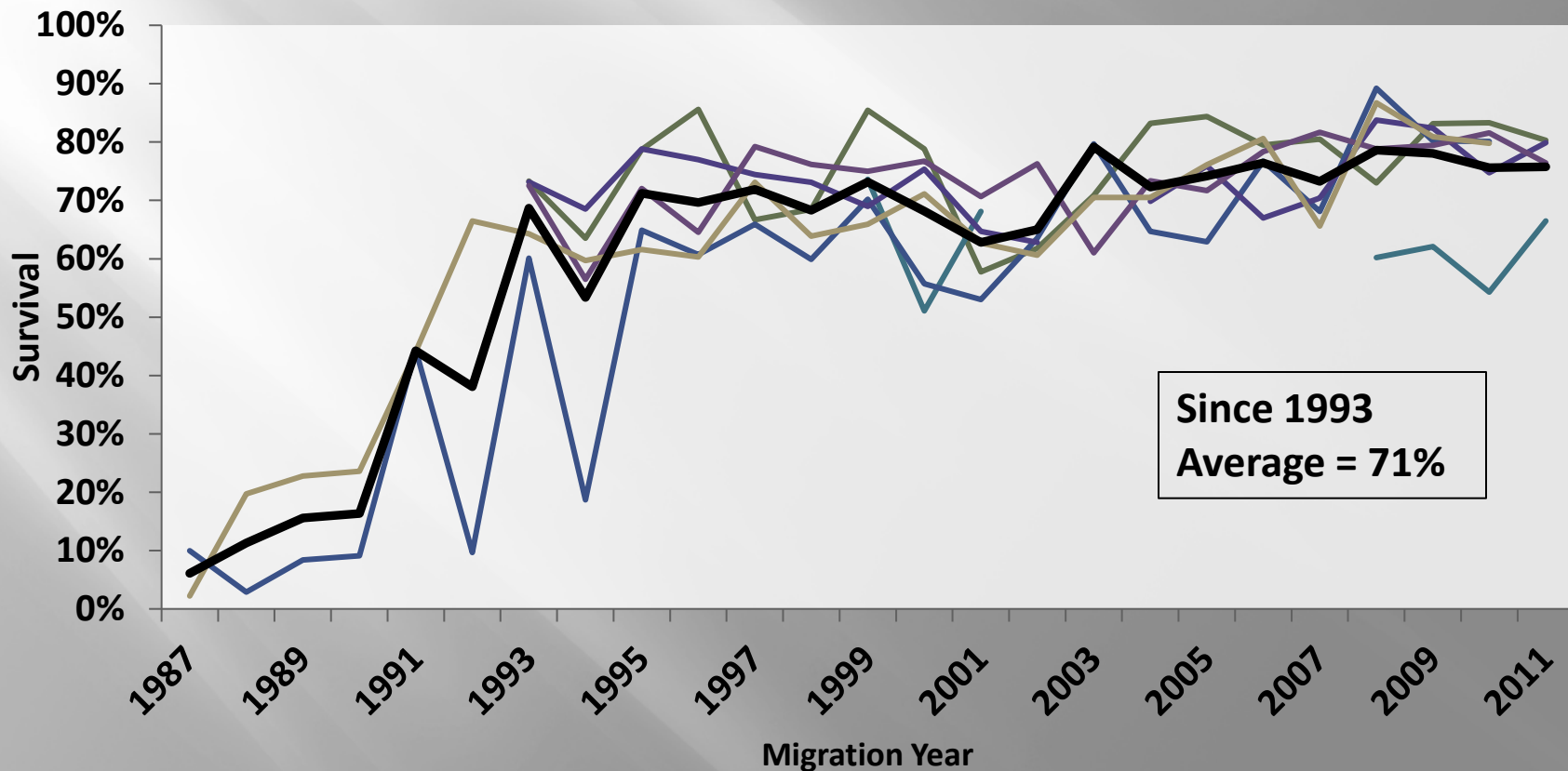


# In Hatchery Performance

- ▣ **Fish Health/Disease Issues**
  - **With a few exceptions, has not limited ability to meet production targets**
  - **Regularly scheduled disease screening across all programs**

# Post Release Performance

- ▣ **Juvenile Survival to Lower Granite Dam**
  - Does not include WA below LGD (Snake, Walla Walla, Touchet, and Tucannon)



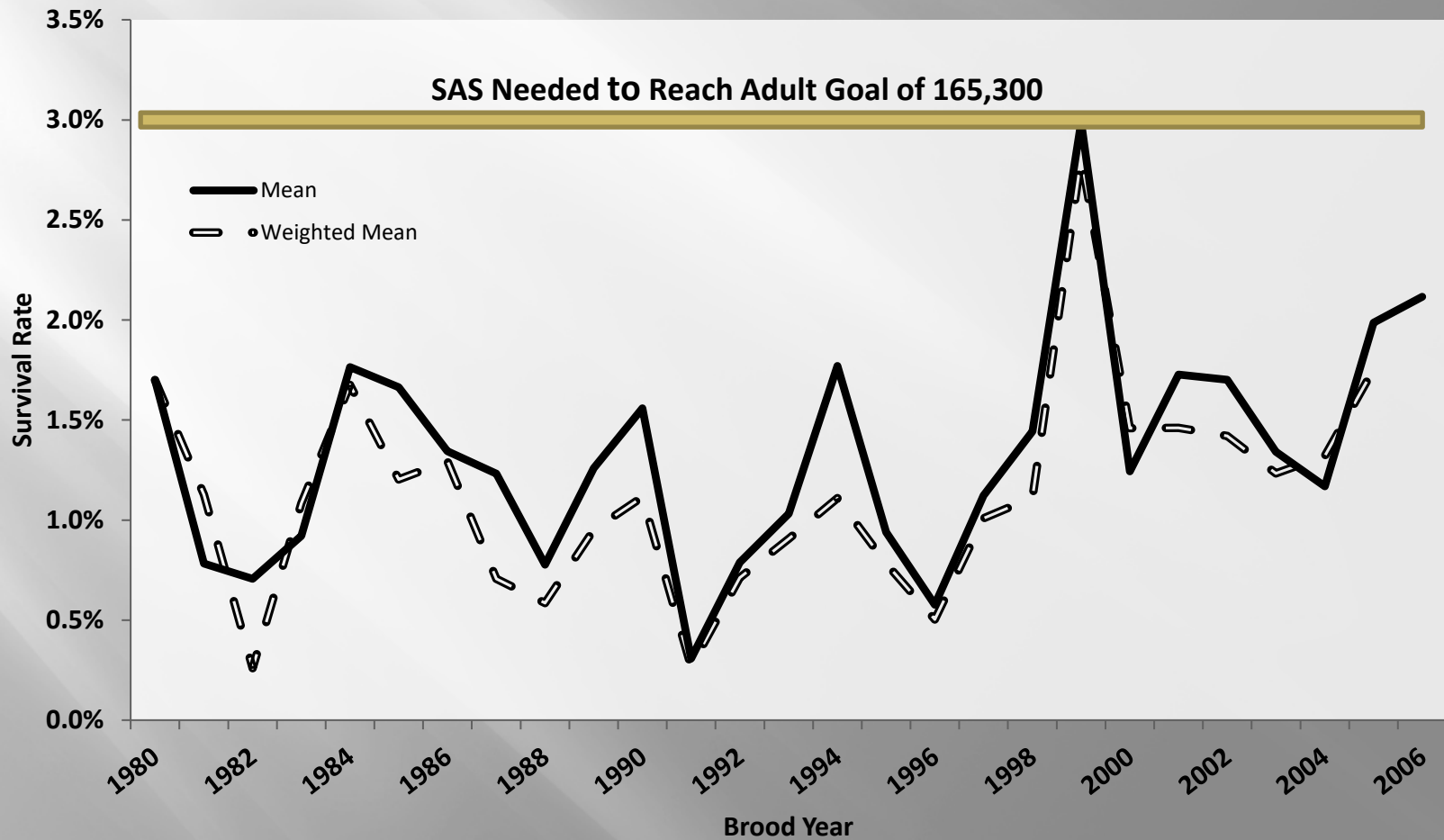
# Annual Adult Returns

## ▣ Escapement to project area



# Post Release Performance

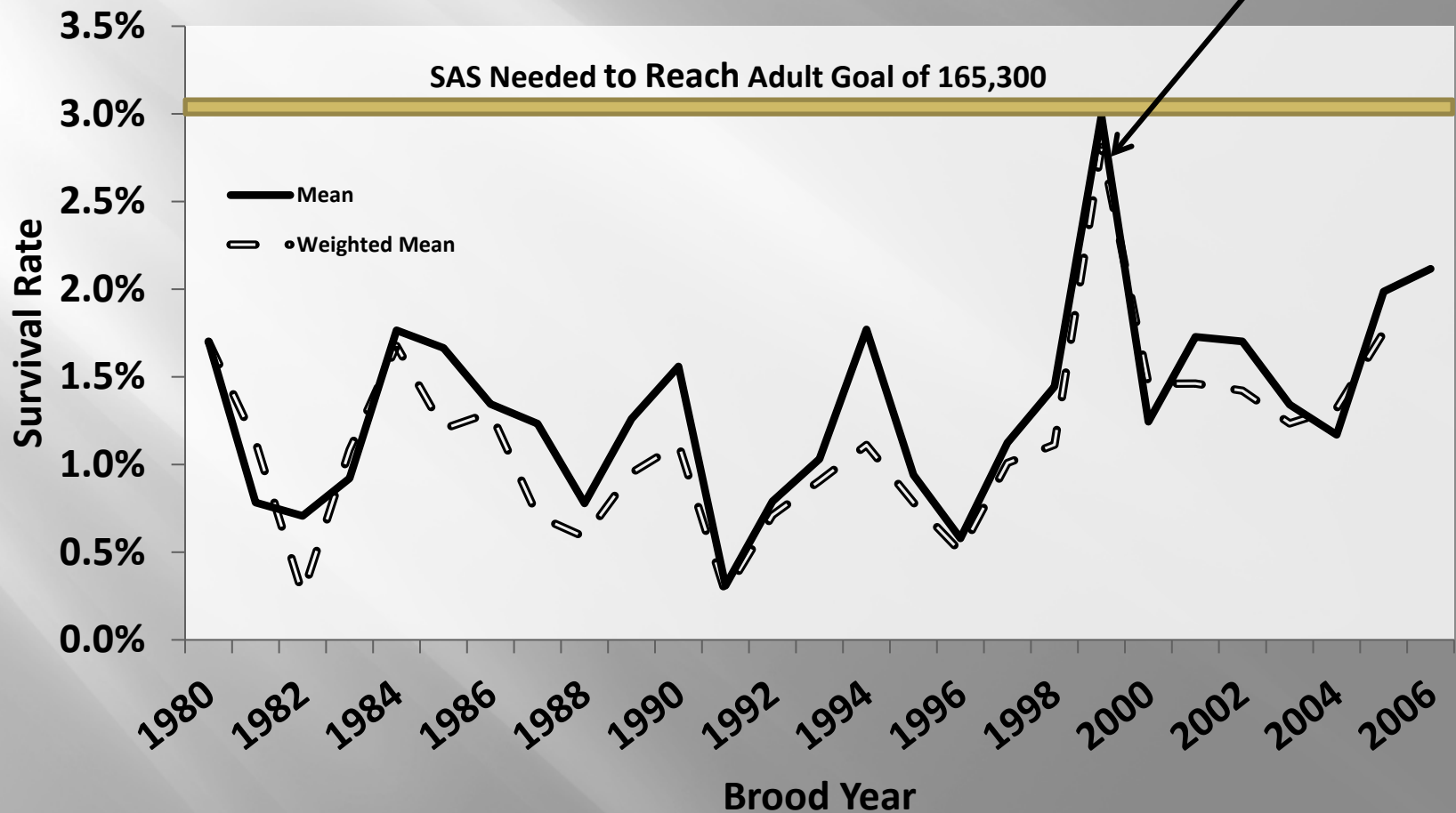
## Smolt to Adult Survival (SAS)



# Post Release Performance

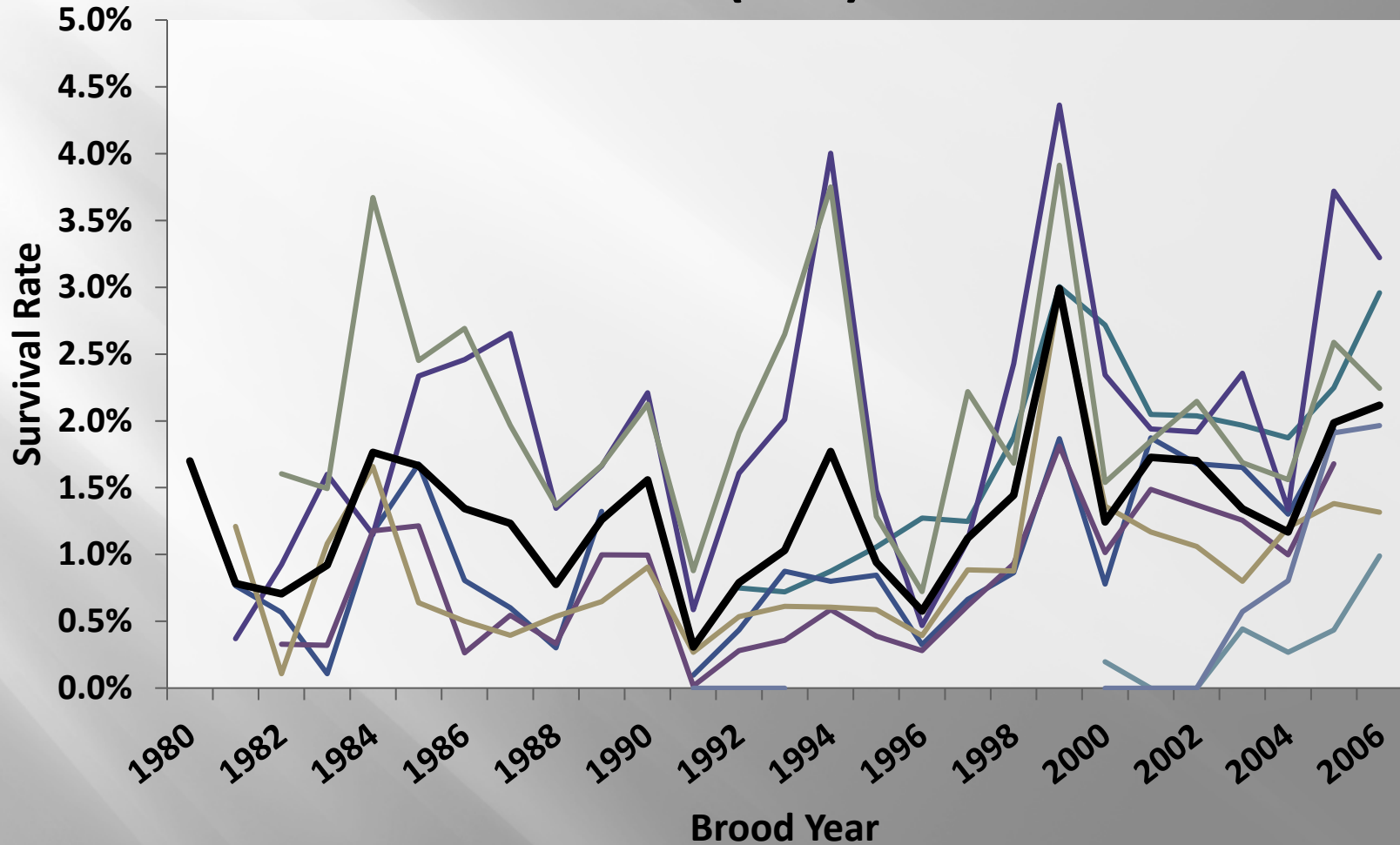
## Smolt to Adult Survival (SAS)

BY99 Produced  
154,000 adults



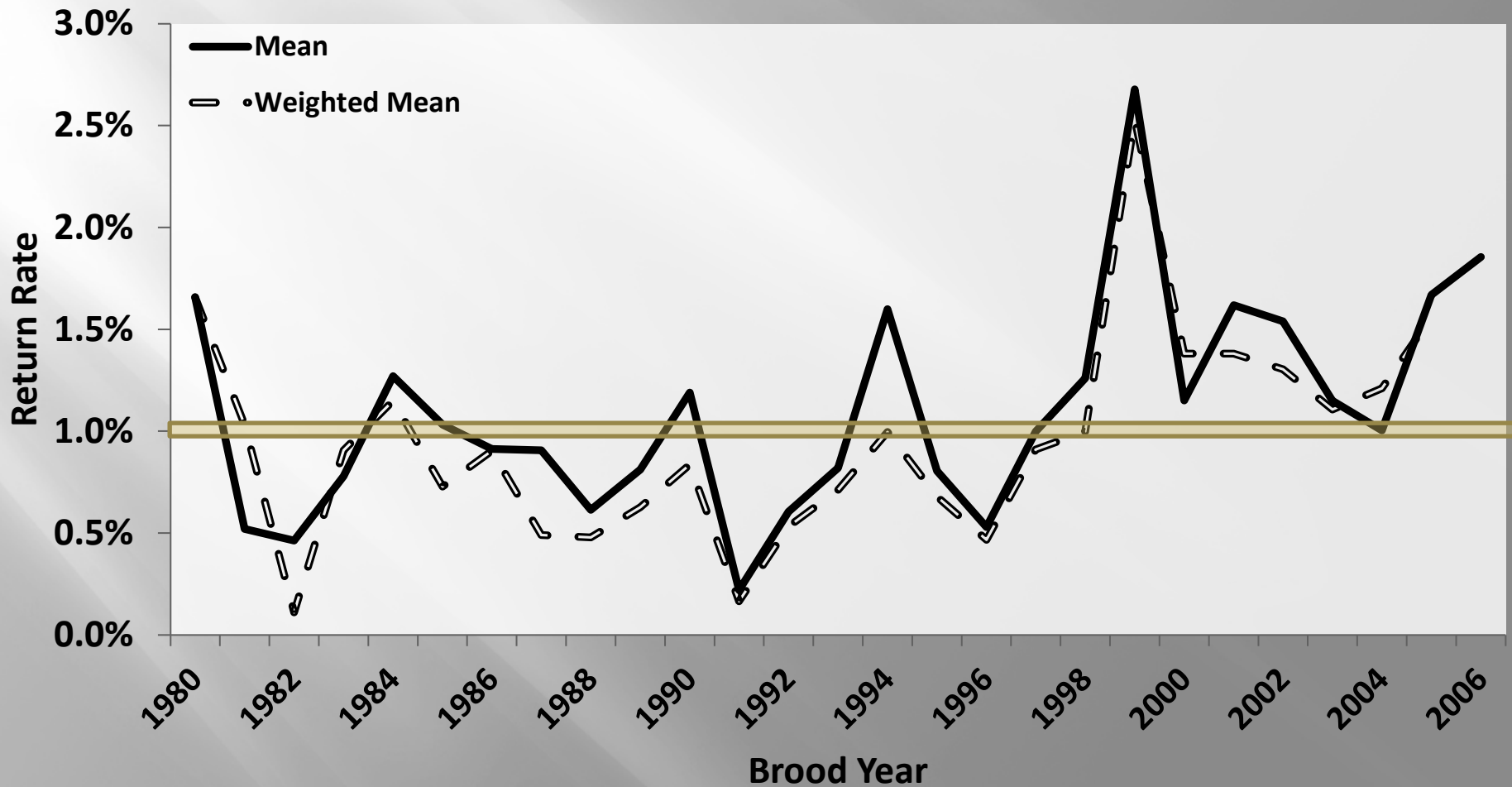
# Post Release Performance

## ▣ Smolt to Adult Survival (SAS)



# Post Release Performance

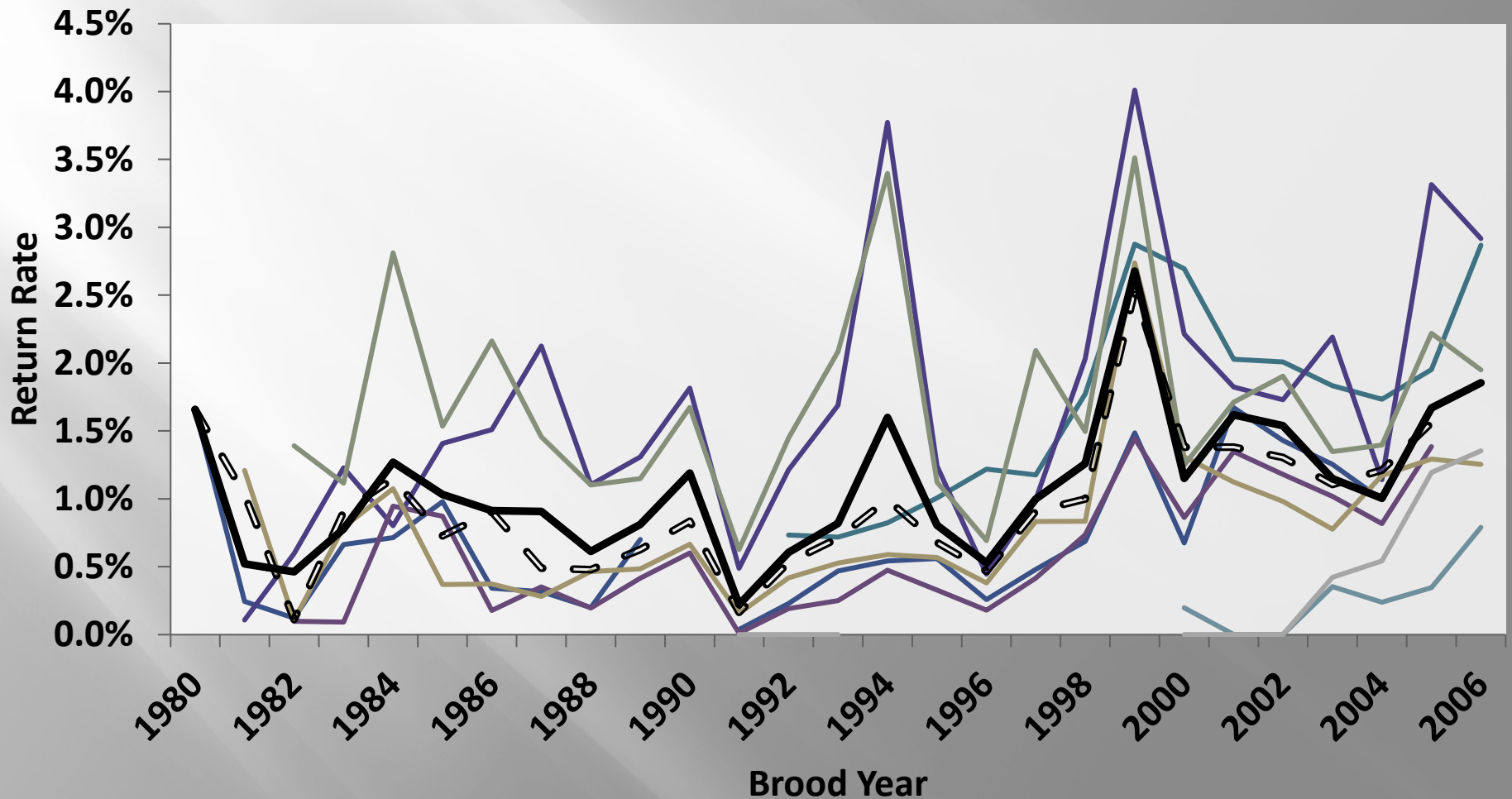
## ▣ Smolt to Adult Return Rate (SAR)- Project Area





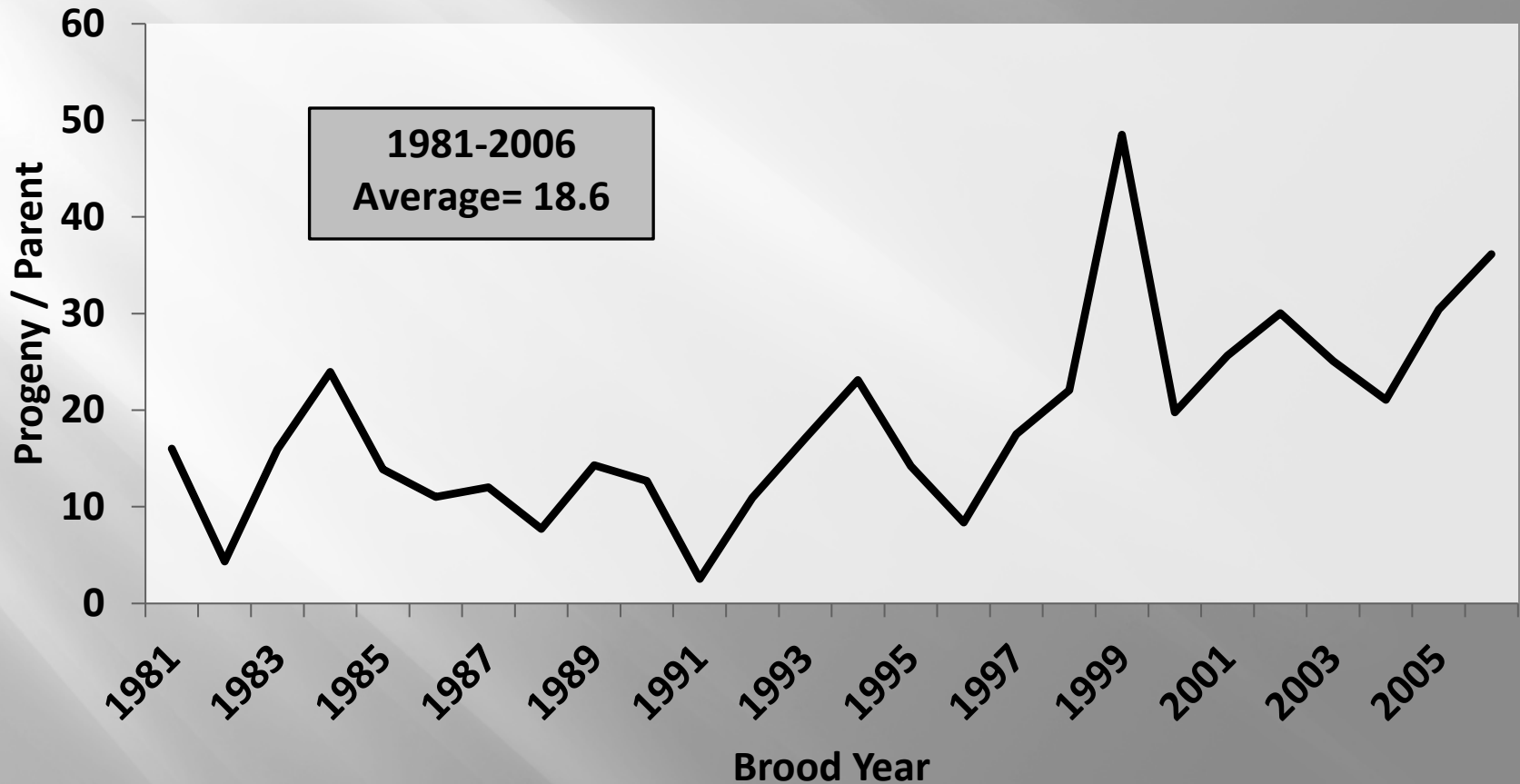
# Post Release Performance

## ▣ Smolt to Adult Return Rate (SAR)- Project Area



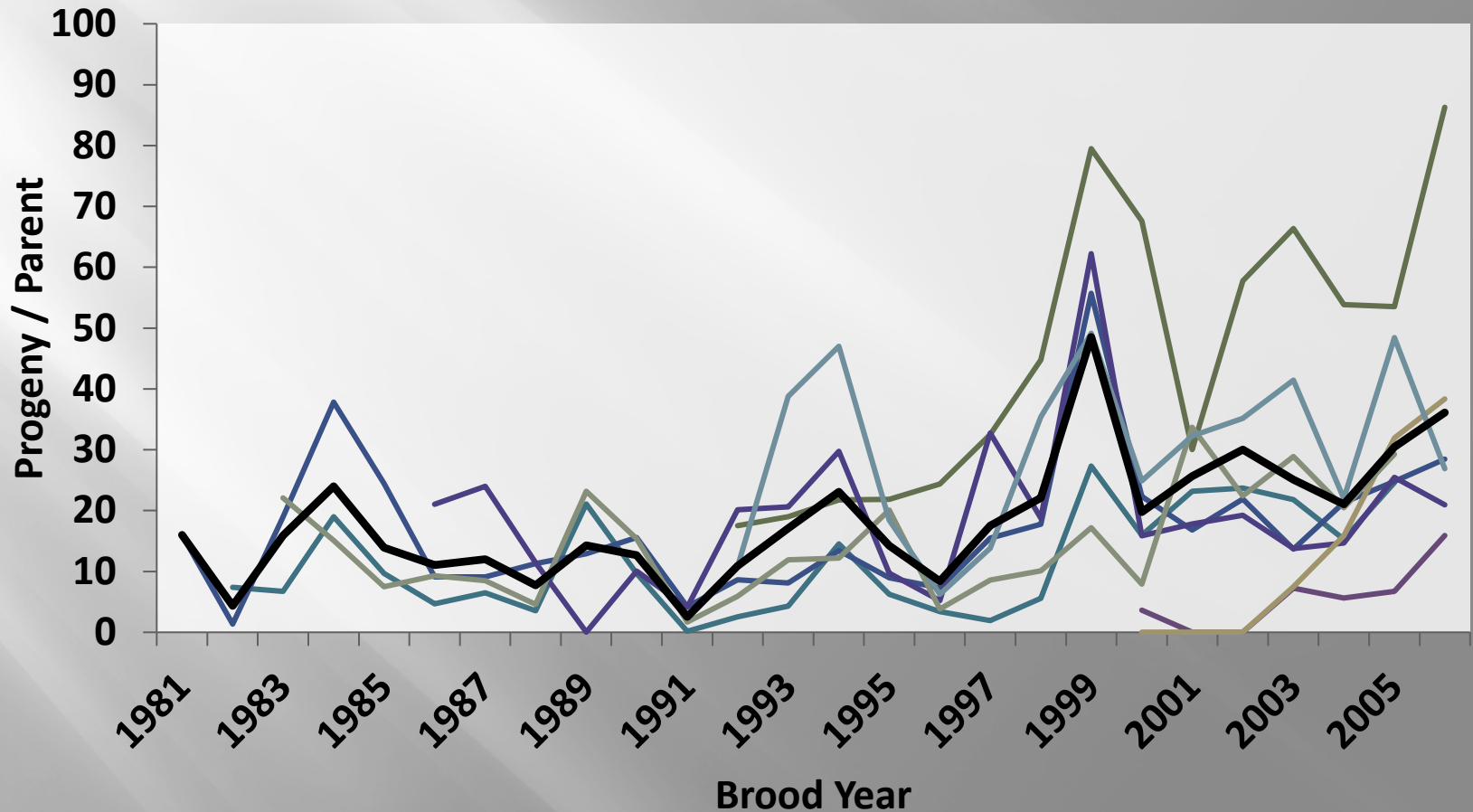
# Post Release Performance

## ▣ Progeny:Parent Ratios



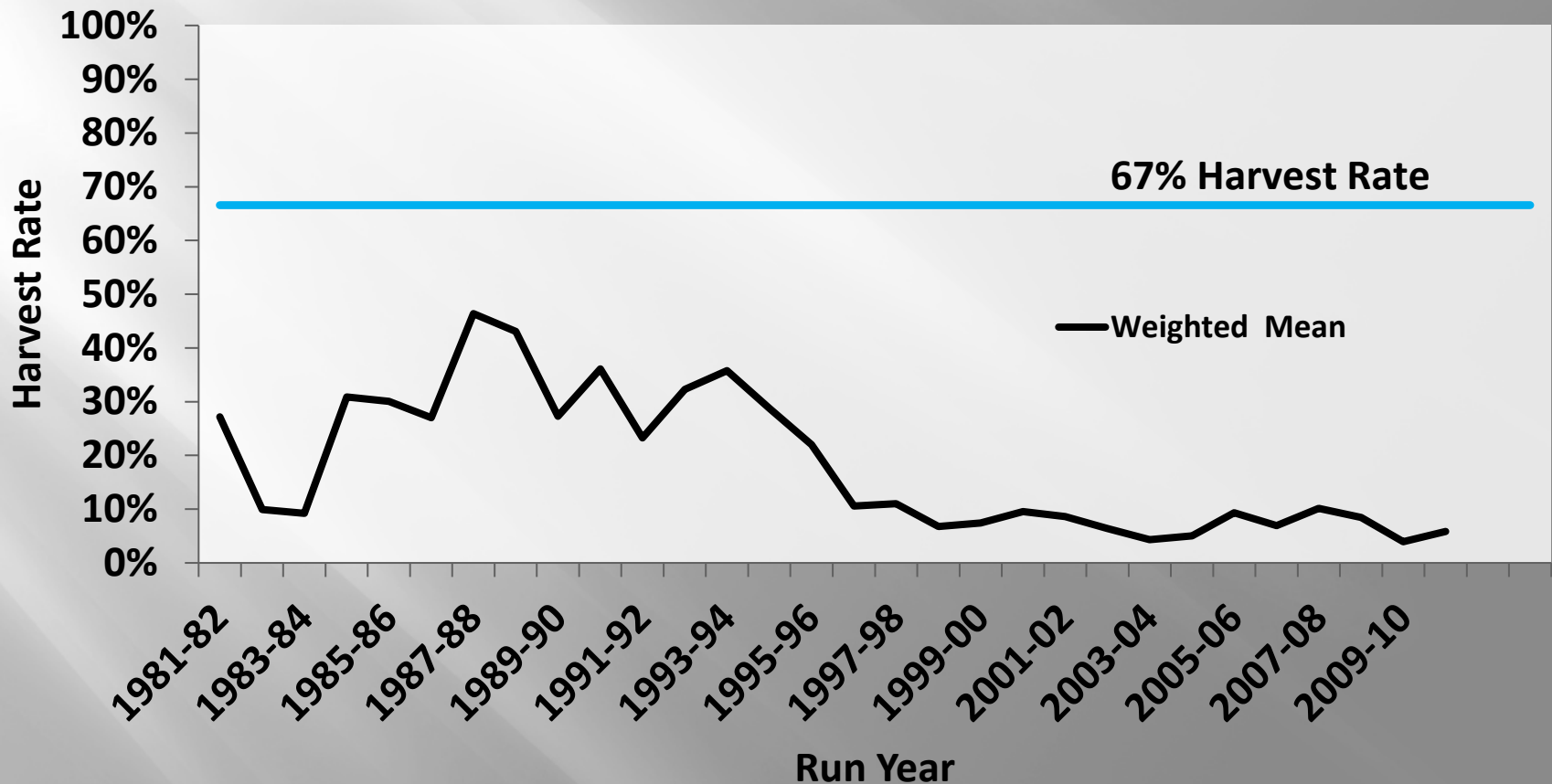
# Post Release Performance

## ▣ Progeny Parent Ratios



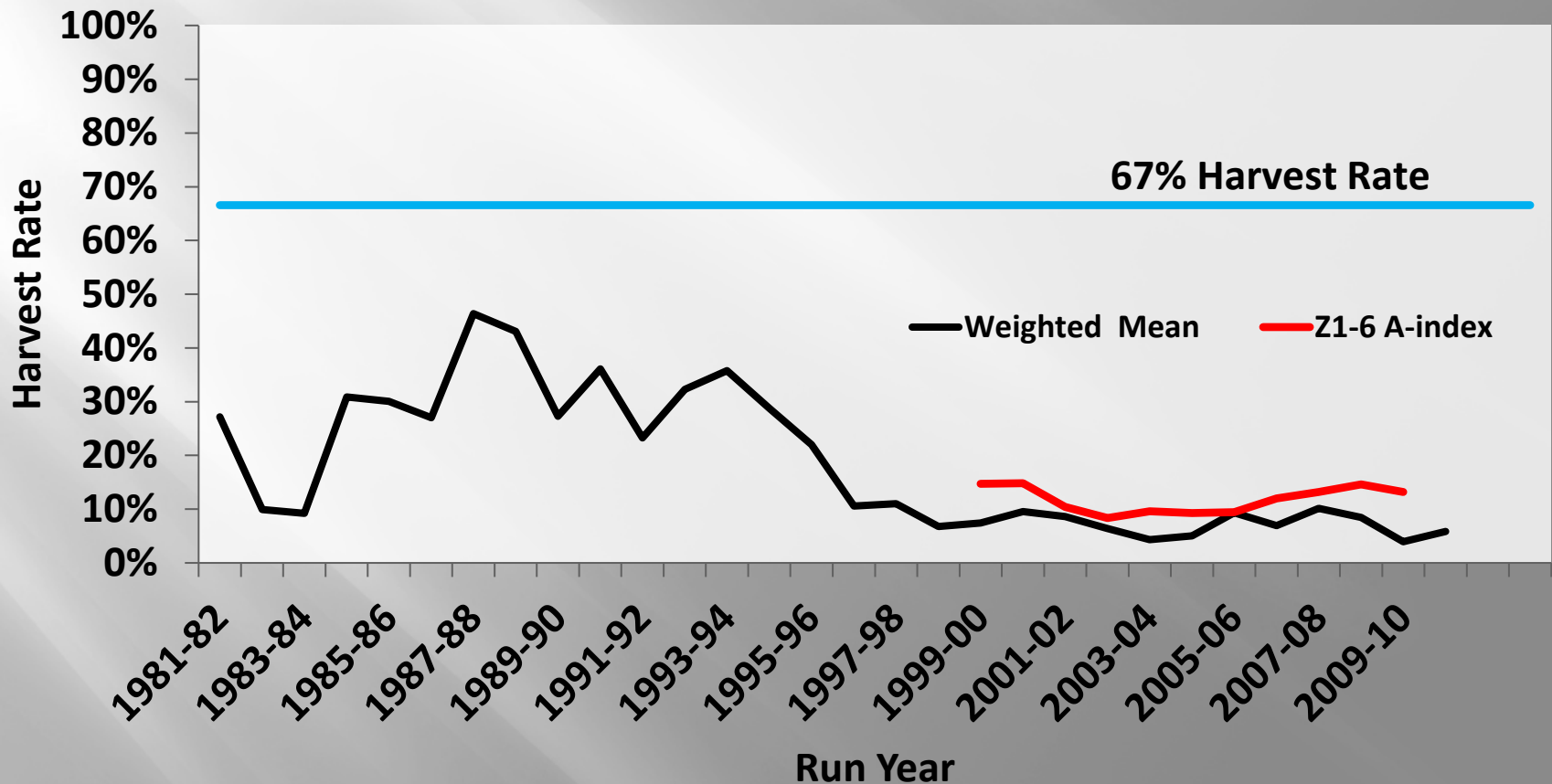
# Post Release Performance

## ▣ Harvest Below Project Area



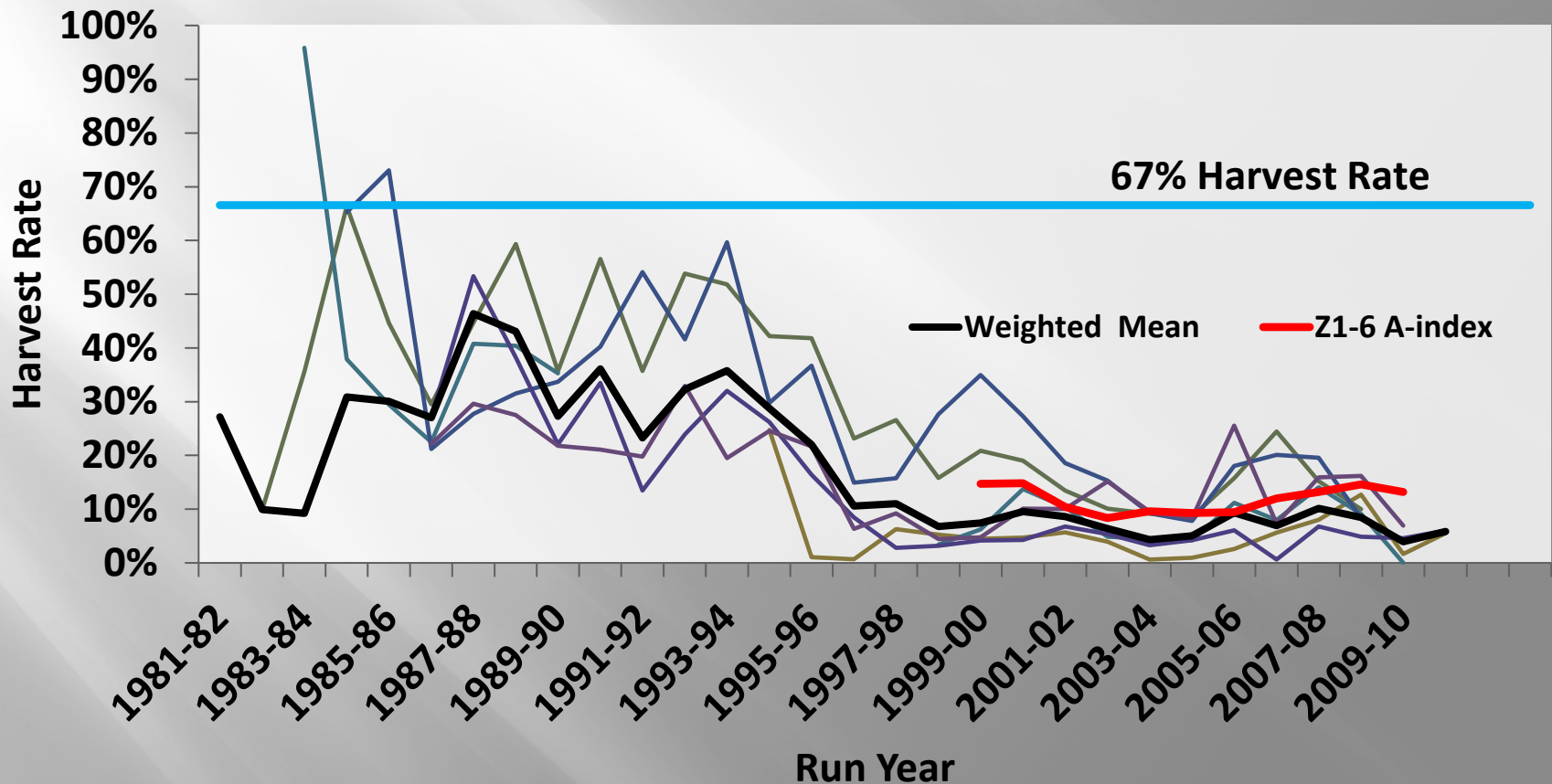
# Post Release Performance

## ▣ Harvest Below Project Area



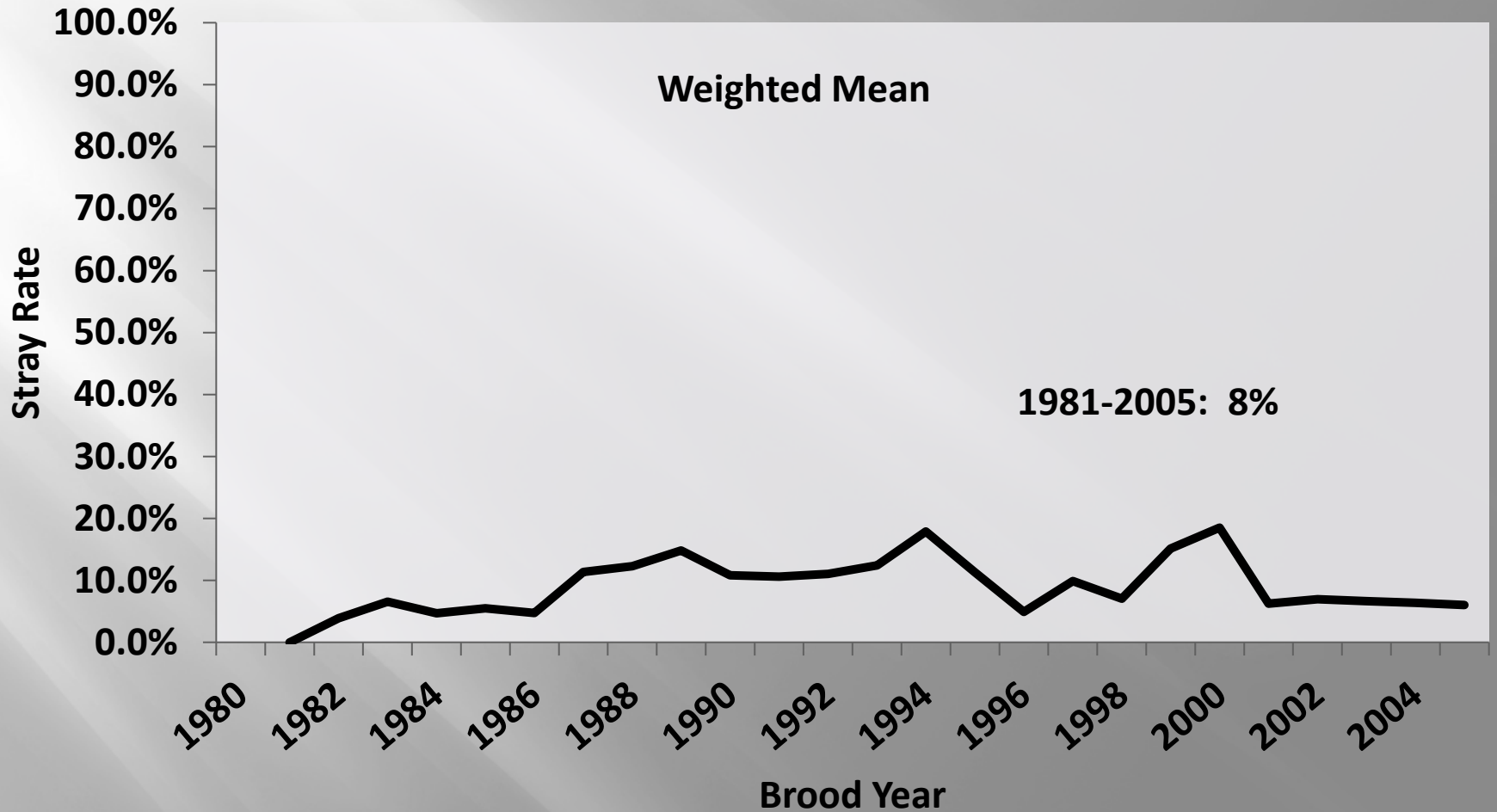
# Post Release Performance

## ▣ Harvest Below Project Area



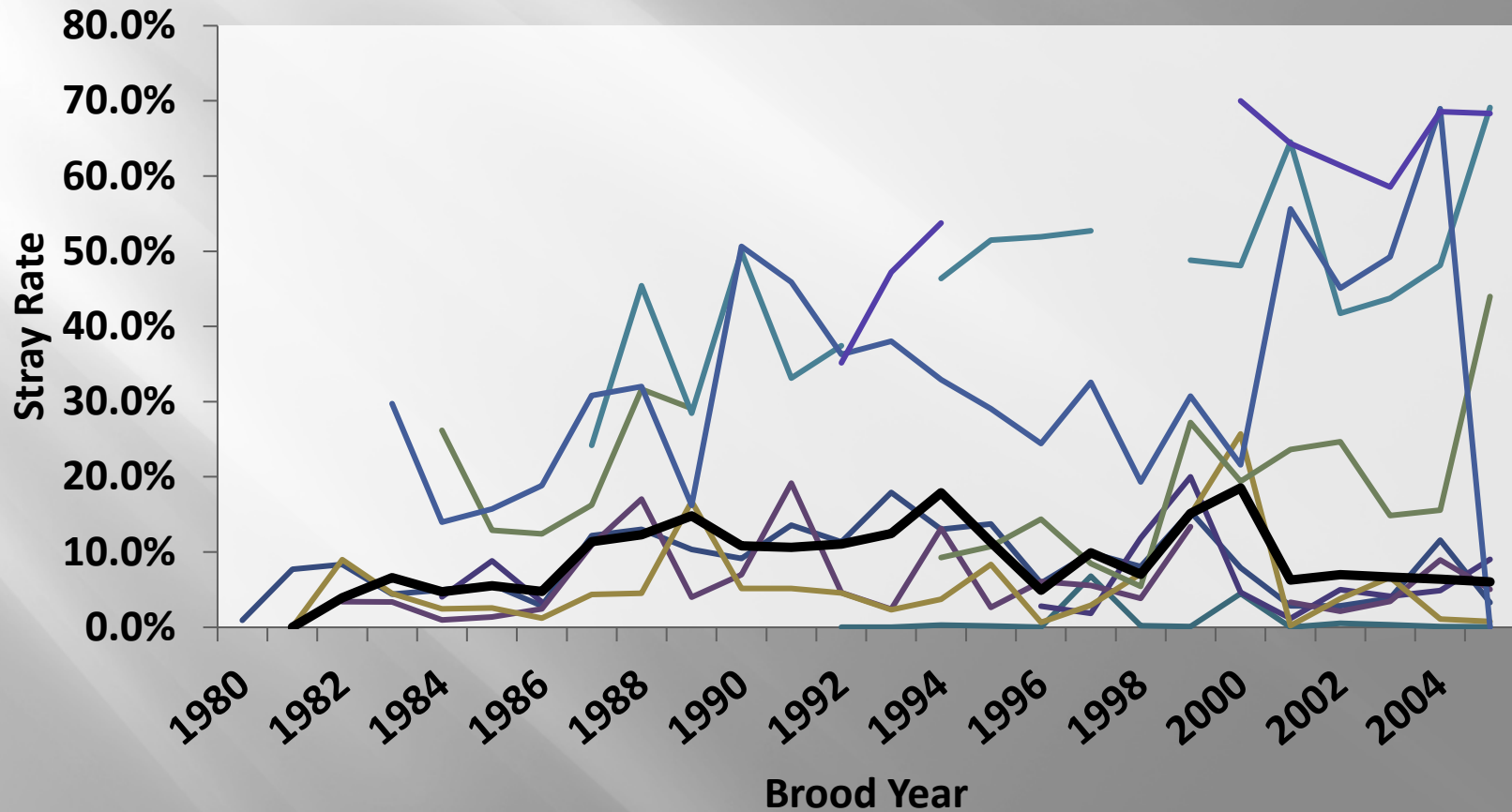
# Post Release Performance

## ▣ Straying



# Post Release Performance

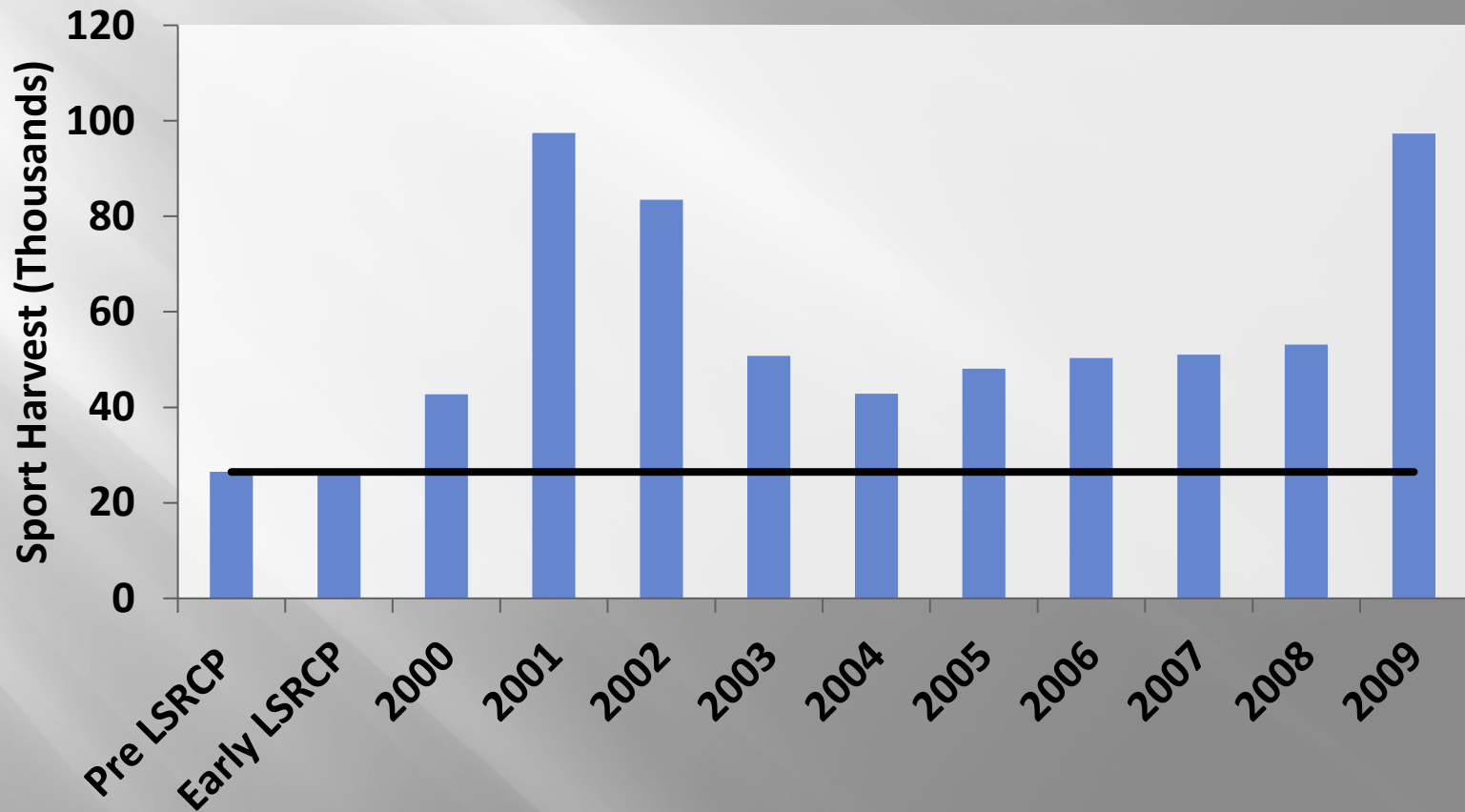
## ▣ Straying





# Maintaining Historic Fisheries

## ▣ Harvest- Above project area



# Maintaining Historic Fisheries

## ▣ Angler Effort

- The number of “Angler Days” fishing for steelhead has increased across all programs from the pre-mitigation period

## ▣ Angling Opportunity

- Number of days open to fishing for steelhead
  - ▣ Did not change significantly over time
  - ▣ Maintained abundant opportunity
    - 212-271 days open to fishing
- Number of miles open to steelhead fishing
  - ▣ Minor changes in some areas (+ or -)
  - ▣ Significant decreases in other areas

# Summary

- ▣ **Primary focus of LSRCP steelhead program is on harvest mitigation**
- ▣ **Ability of supplementation programs to provide conservation benefits is being evaluated**
- ▣ **Post release survival is highly variable but shows synchrony between programs**
- ▣ **Overall adult production goal has never been achieved**
- ▣ **Escapement goal to project area has been achieved in nine years through 2009**

# Summary

- ▣ **Contribution to downstream fisheries is less than was anticipated during program development**
- ▣ **Hatchery mitigation program has provided consistent robust recreational fisheries above the project area**
- ▣ **Angler effort and harvest in the project area has increased since the pre-mitigation period**
- ▣ **Hatchery programs provide abundant opportunity for anglers and significant economic benefits to local communities**

# Summary

- ▣ **Straying is variable across programs**
  - ▣ We have shown you the range of observed stray rates but difficult to interpret impacts on natural populations
  - ▣ PITs and PBT can provide additional information
- ▣ **Significant increase in the effort to monitor the status and trends of natural populations**

# Adaptive Management

- ▣ **Acclimation**
- ▣ **Size at release**
- ▣ **Reduction in number of smolts released**
- ▣ **Consolidation of release sites**
- ▣ **Brood Stock Collection**
  - **Endemic**
  - **Locally adapted**
  - **Fall Collection**
  - **Trapping infrastructure**

# Moving Forward

- ▣ **Continue monitoring production and productivity of hatchery populations. Evaluate methods to increase SASs**
- ▣ **Continue efforts to evaluate hatchery tool to provide conservation benefits**
- ▣ **Continue efforts to reduce impacts of hatchery program on natural populations while maintaining the successful harvest mitigation program**
- ▣ **Run reconstruction workgroup at LGD**
  - **Snake R. basin co-managers**
  - **Accounting of LGD escapement**
- ▣ **Existing and new work to increase information base on status and trends of natural populations**
- ▣ **Coordination and collaboration**

