

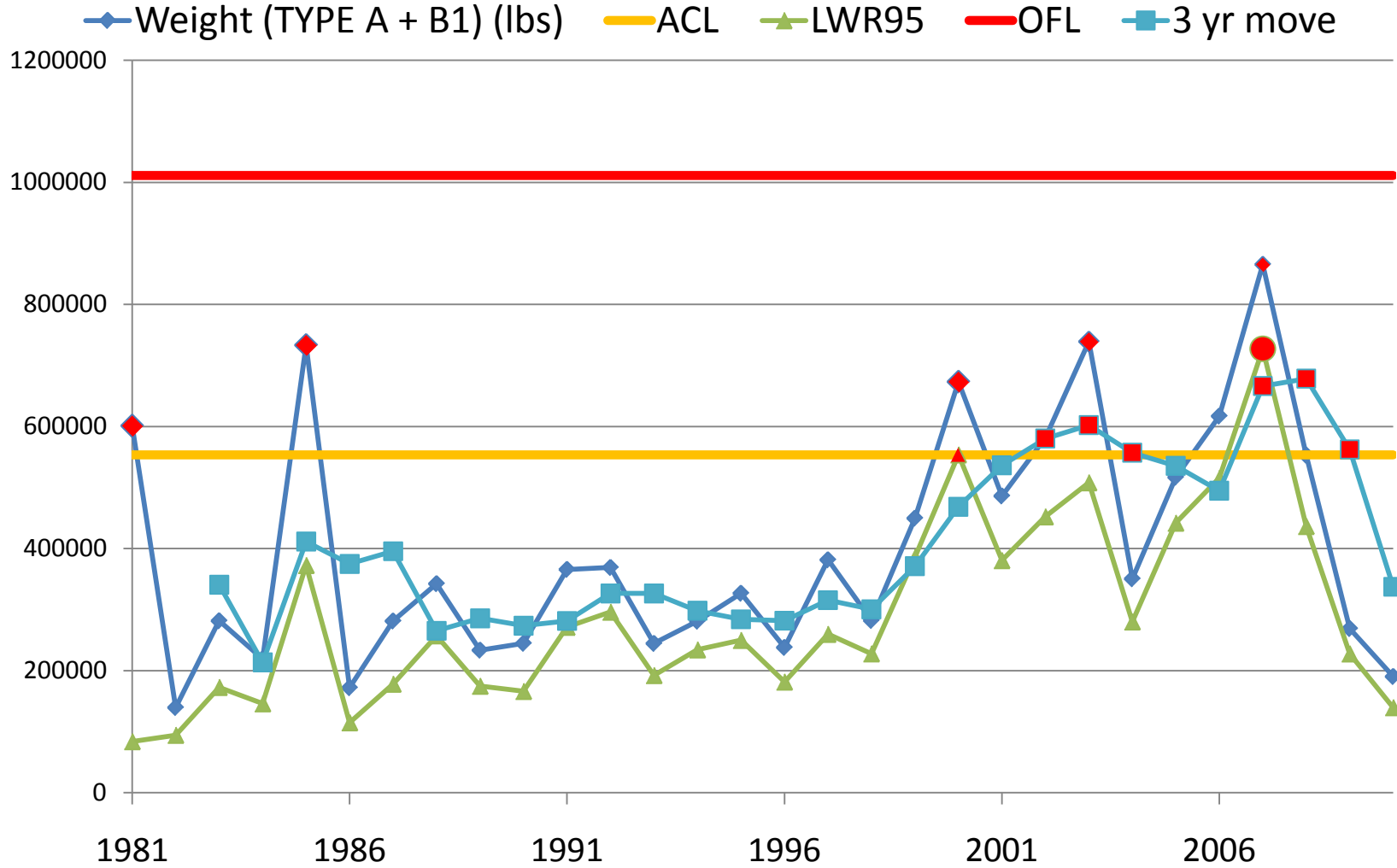
Example 1. Gray Snapper

ABC based on SSC recommendation

$$\text{OFL} = \text{ABC}/0.75$$

(Mac's approximation)

Gray Snapper Overview



Compare approaches

- Base shows numerous ACL overages
- 3 yr move: Declares ACL overages in 6 years.
- Confidence Bound: Declares ACL overage in 2 years
 - 1 year it is over by 121 pounds

2007 Outcomes (the high year)

- Base measure – Over ACL.
 - regulatory change needed.
- 3 year move: Over the ACL
 - Regulatory change needed
- Confidence bound: Over ACL.
 - Would trigger management consideration for 2008.
 - Triggers further evaluation in the proposed alternative.

Further Evaluation Options

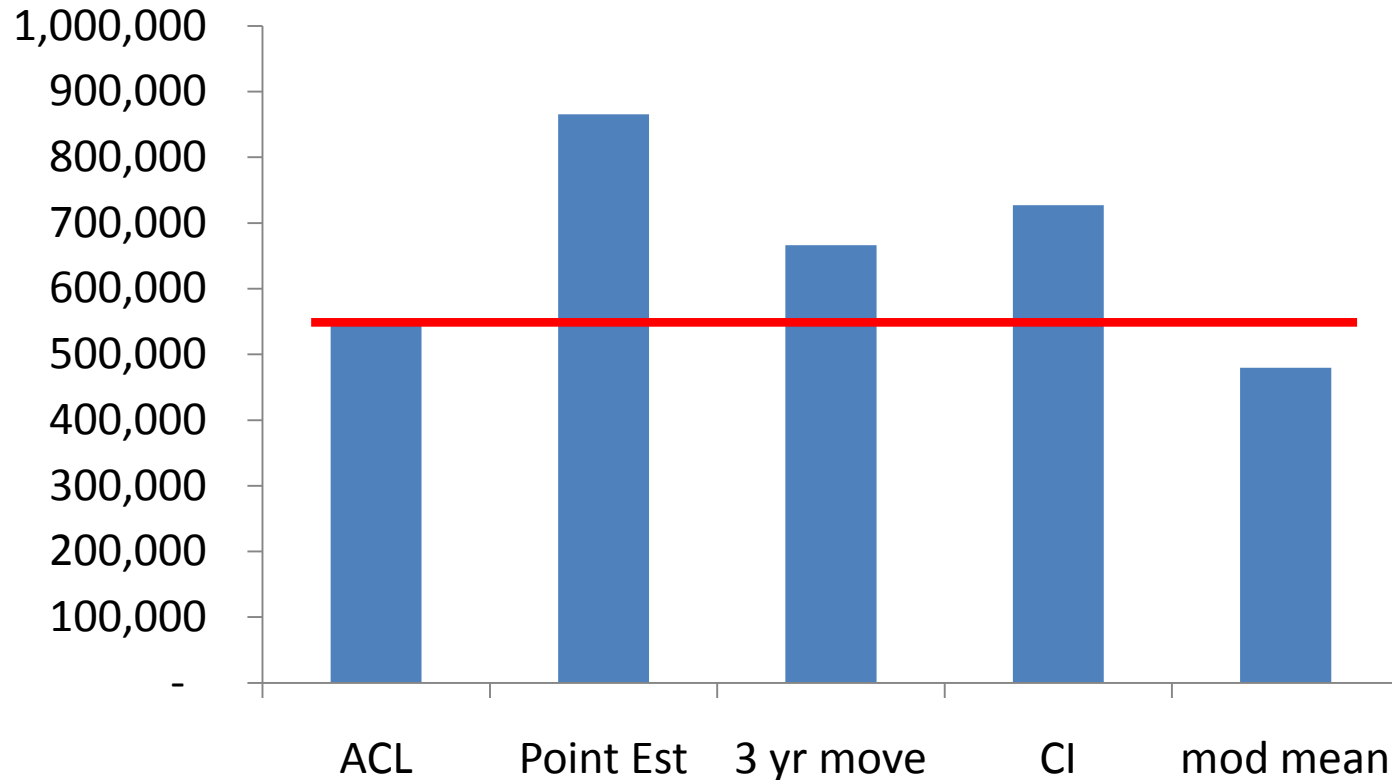
1. Establish rules *a priori*

- 5 year mean, less low and high
- a modification of the moving average
- If modified mean exceeds ACL, management triggered

2. Establish review team

- Reviews trends and uncertainty in data sources
- Reviews things that might influence (management, data collection changes)
- determines appropriate years for evaluating management need
- Provides recommendations to RA

Further Evaluation 2007



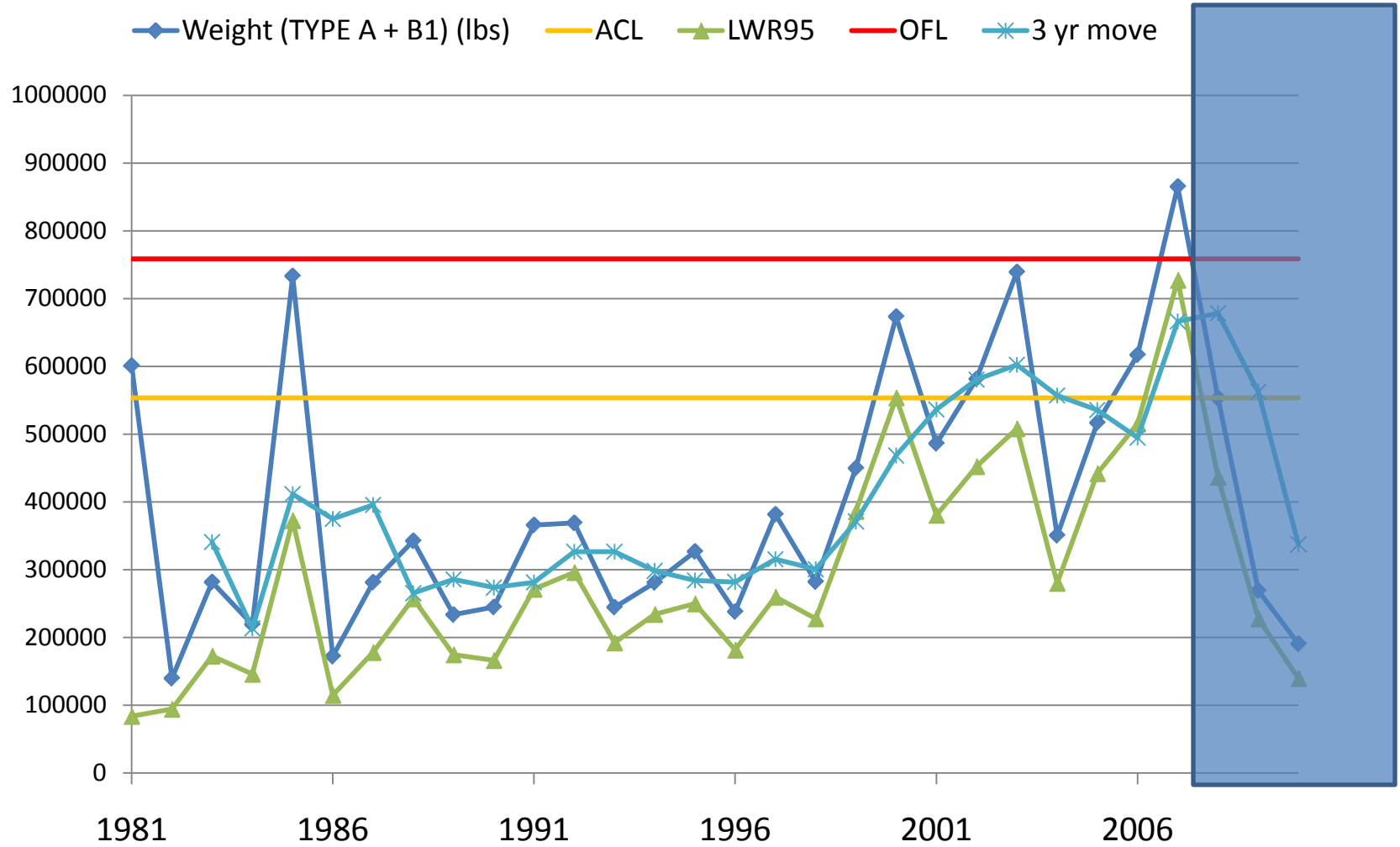
“Modified Mean” = uses last 5 years, drops high and low.

Conclusion: No management changes needed

Review Committee Charge

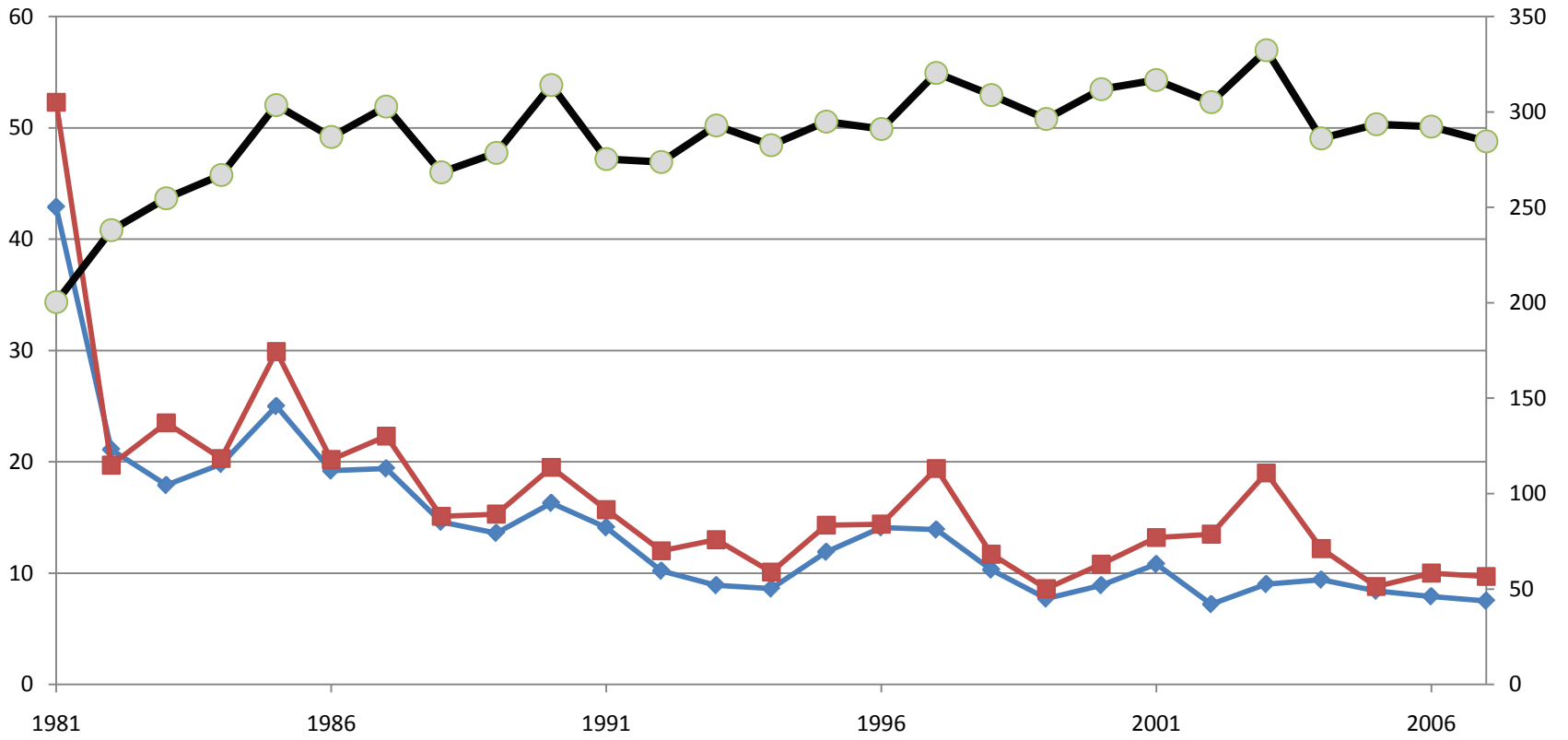
- Review data trends
- Review measures of uncertainty
- Consider current and possibly impending management actions
- Recommend a period of years to be used in comparing current conditions to ACL
- Comment on possibility for future overages given current conditions (?)

Gray Snapper Overview



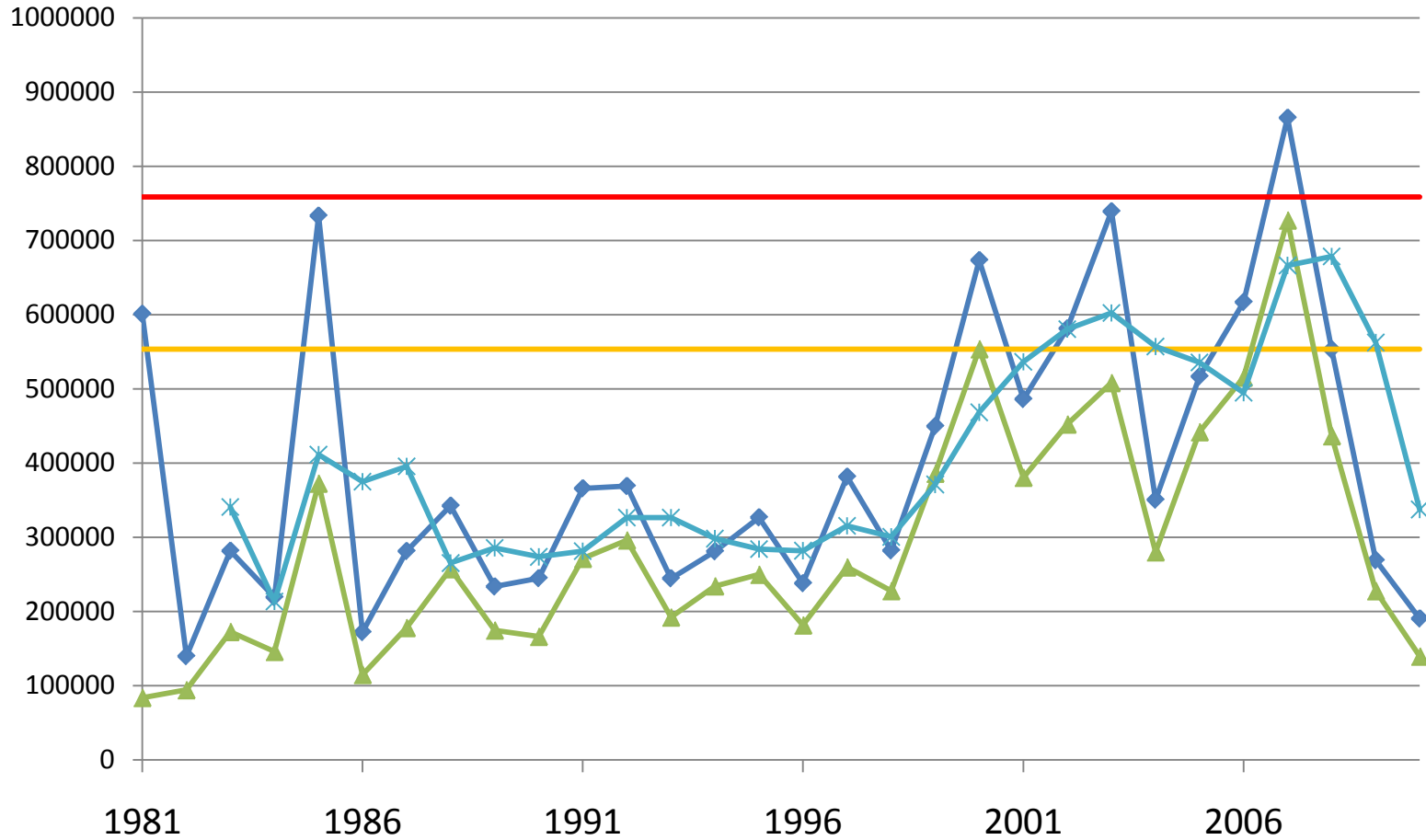
PSE and Mean Length

◆ NumPSE ■ WlbPSE ● Mean Length



Gray Snapper Overview

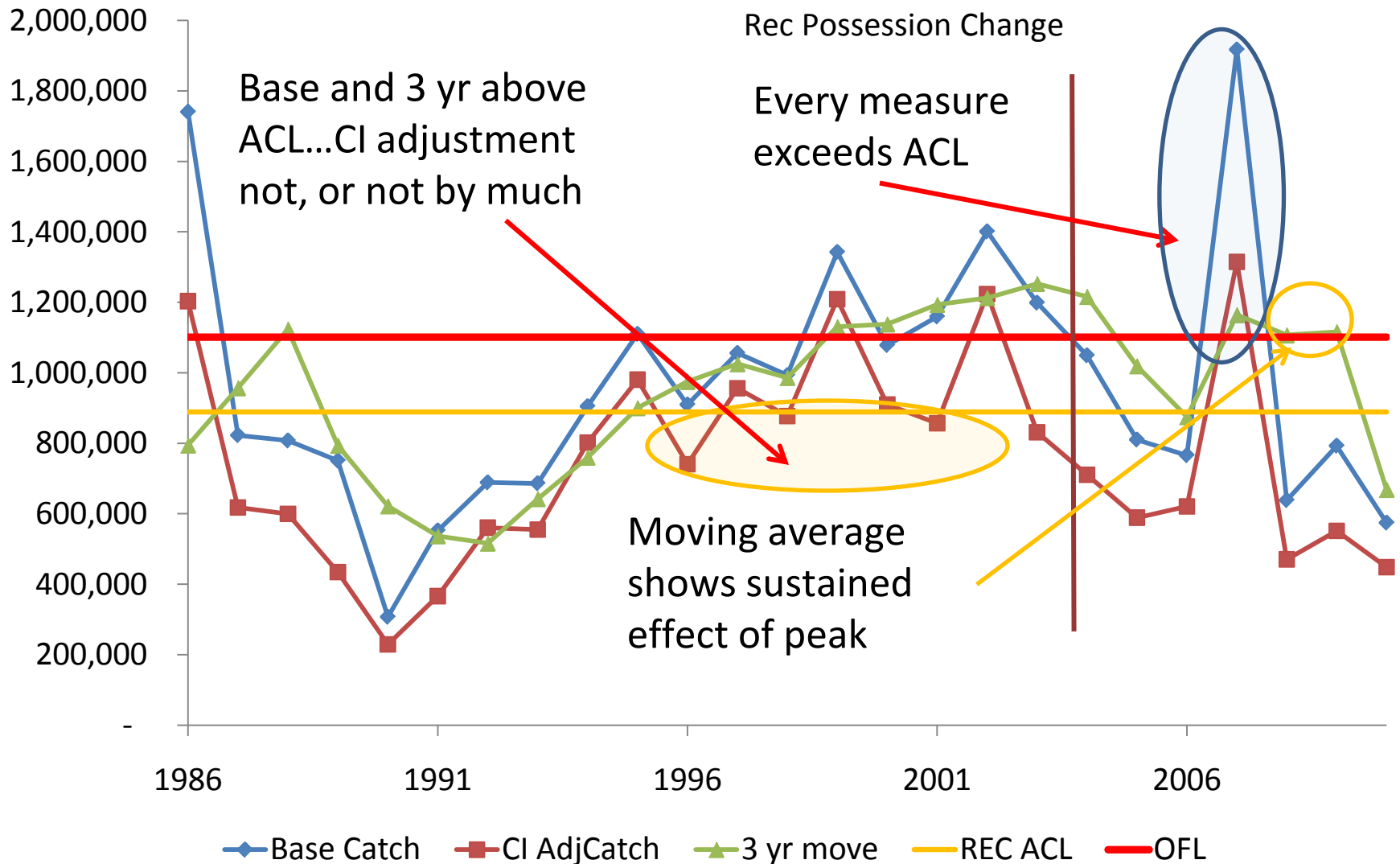
◆ Weight (TYPE A + B1) (lbs) — ACL ▲ LWR95 — OFL * 3 yr move



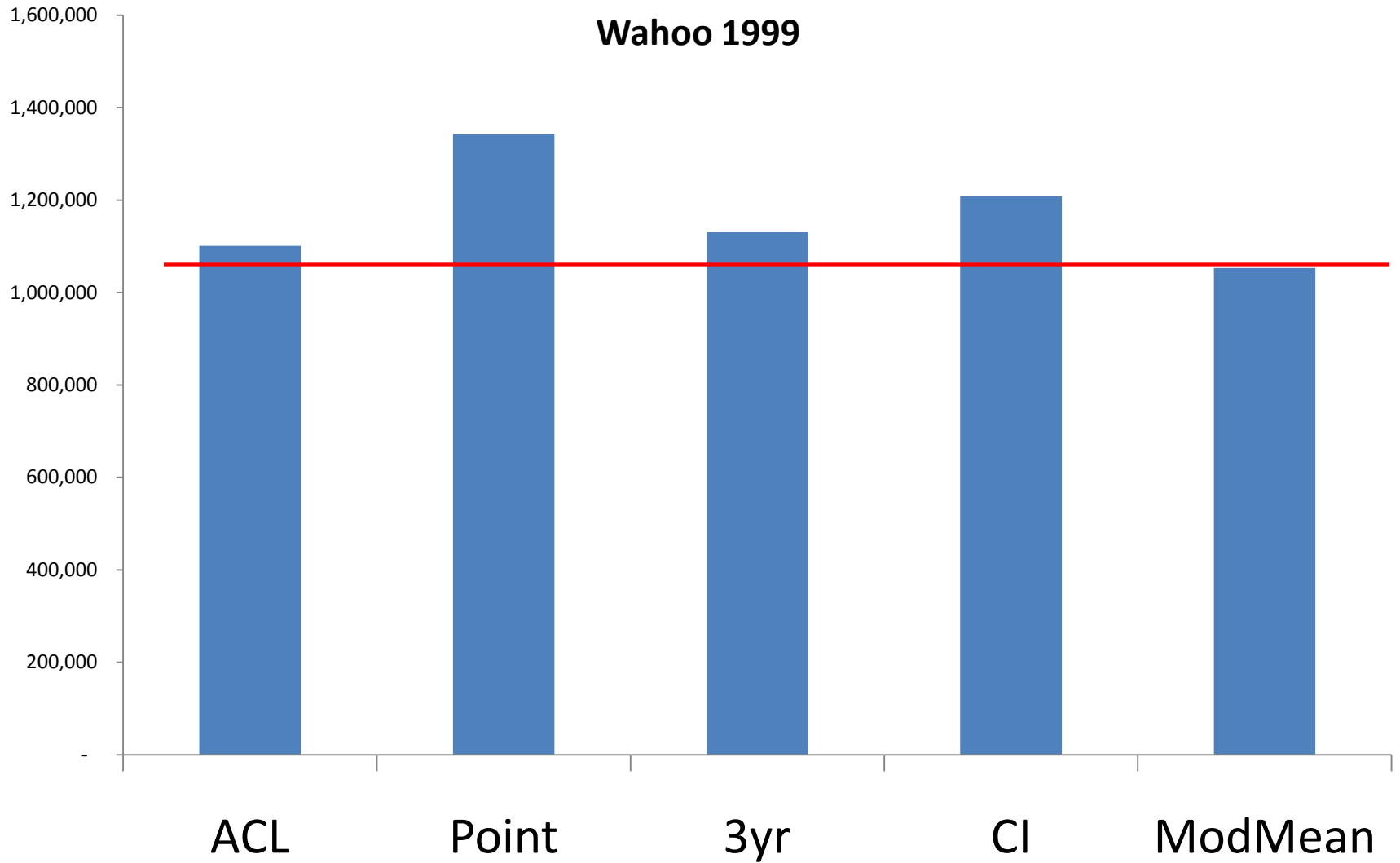
2008 – 1 year after peak

- Base measure – Below ACL
 - no triggers pulled
- 3 year move: Above ACL
 - lag effect of high 2007 value.
 - would trigger action, in this case erroneously.
 - This is the moving average danger.
 - Remains above ACL in 2009 also
- Confidence bound: Under ACL
 - No triggers pulled

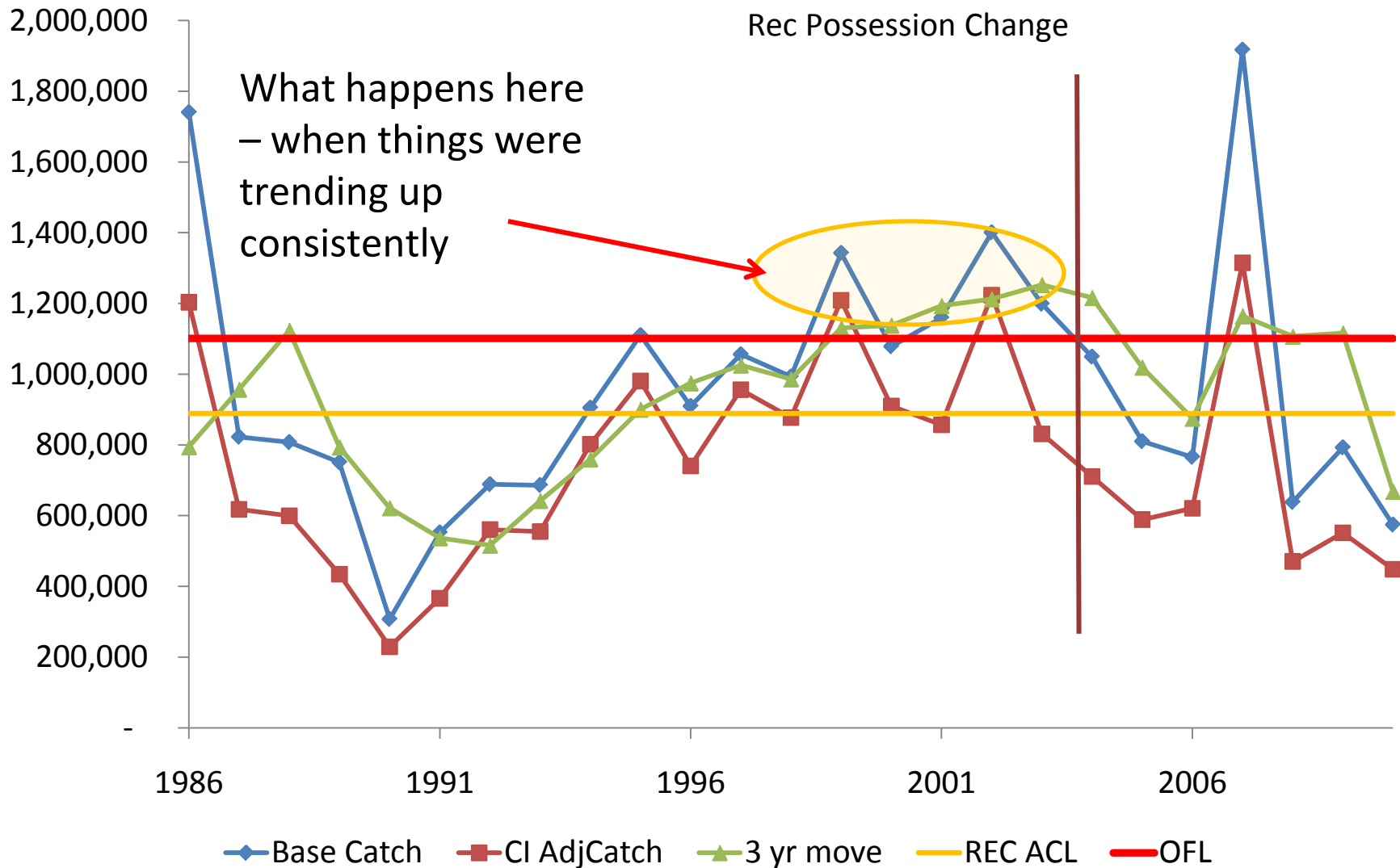
WAHOO – 1 big spike



Wahoo 1999

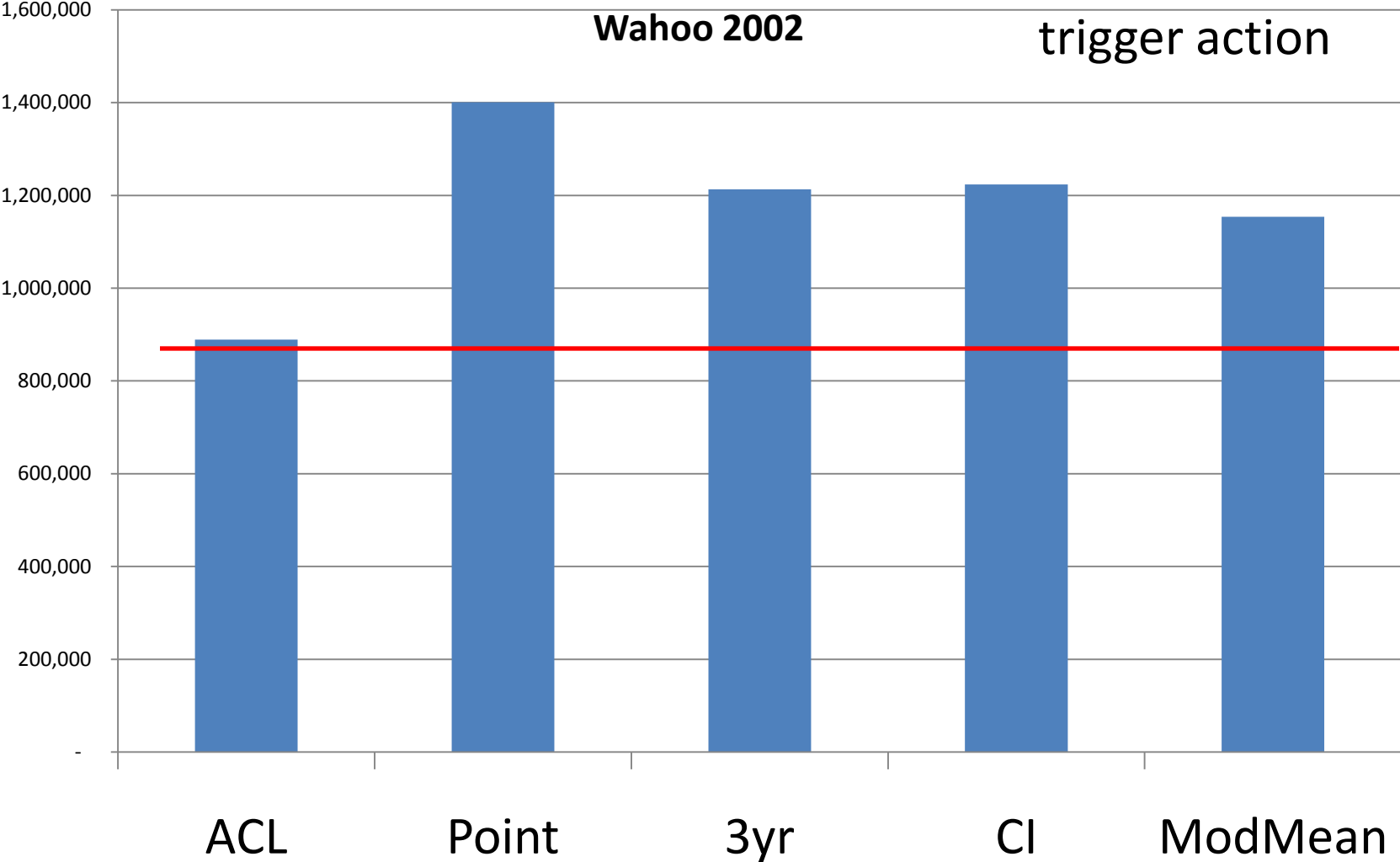


WAHOO – 1 big spike



Wahoo 2002

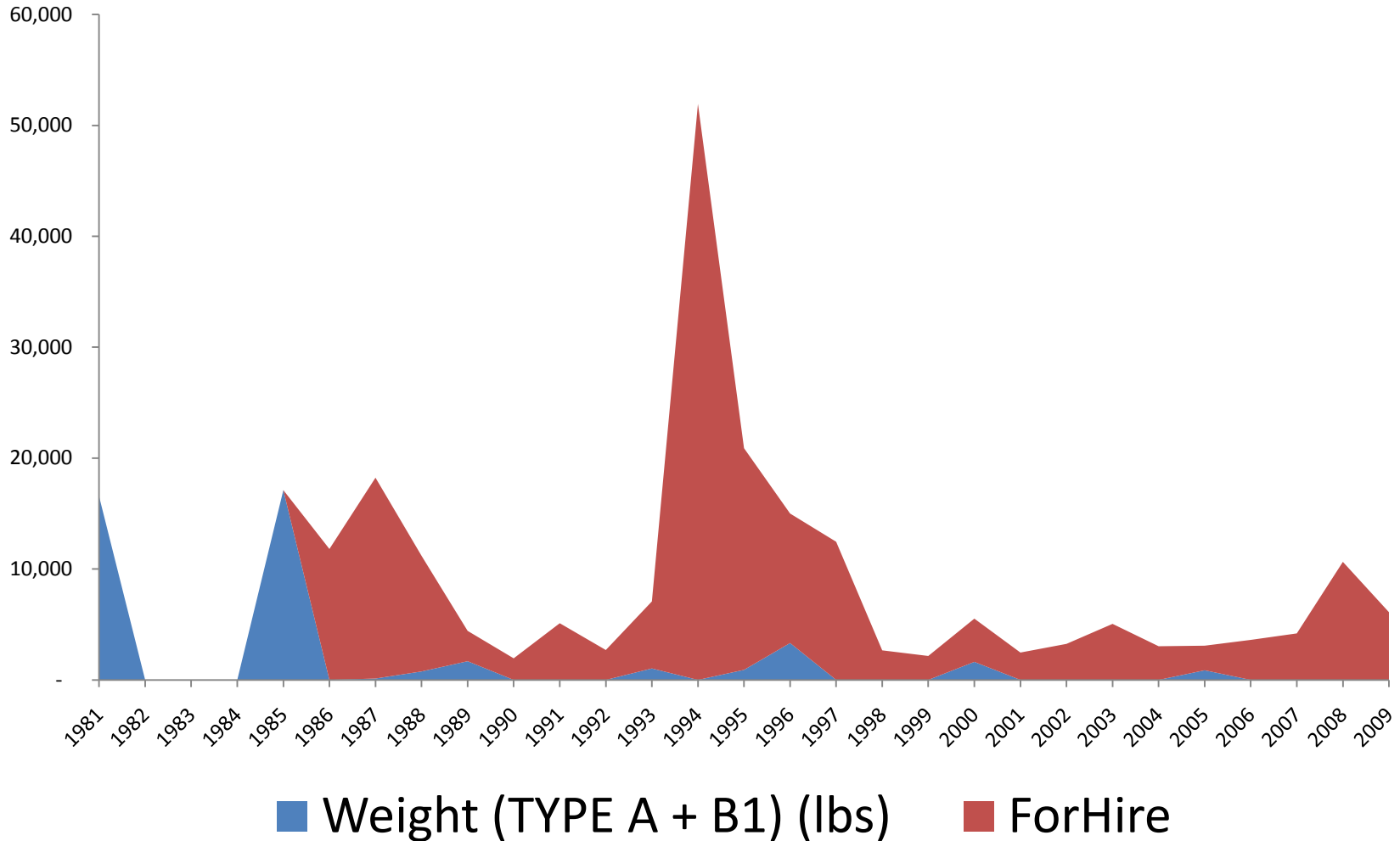
Mod Mean would trigger action



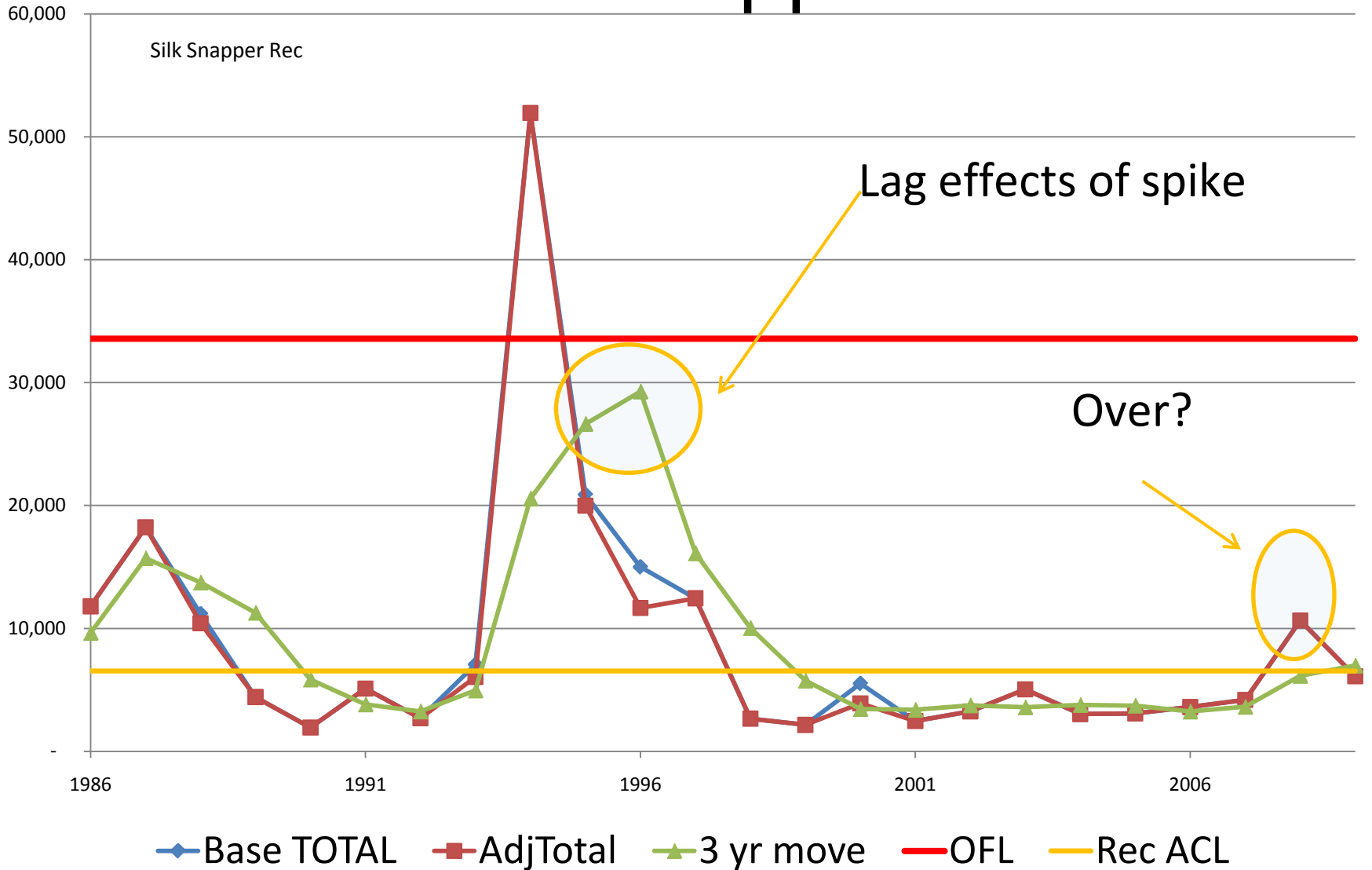
Interesting Example – Silk Snapper

- Lots of Private zero observations
- Very low landings

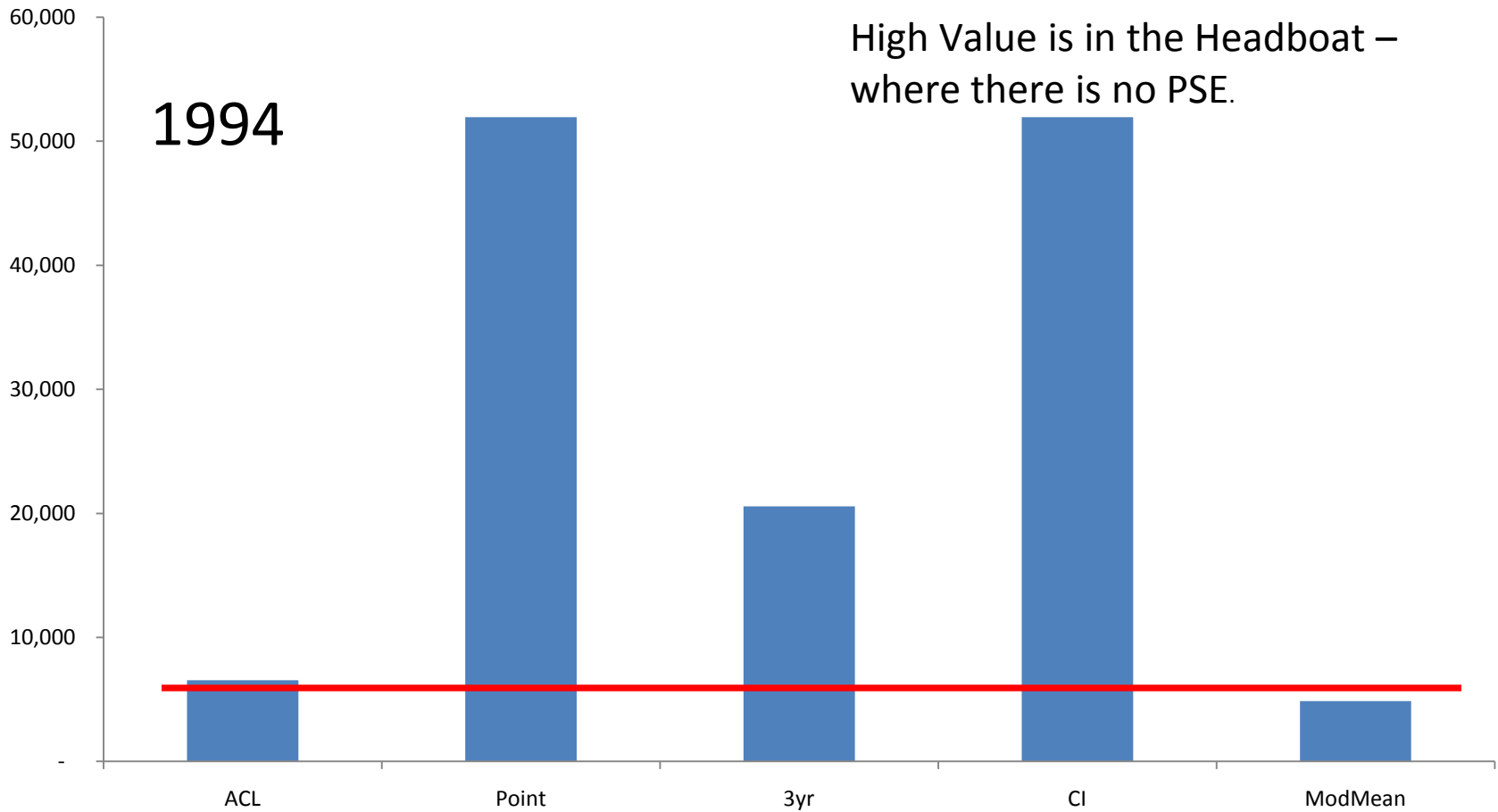
Silk Snapper Landings



Silk Snapper



Silk Snapper Opts Compared



Silk Snapper Outcome

- Since Private Rec values typically 0, using the CI on the Private rec estimates has little impact
- Moving average reflects largely the headboat
- Headboat is a census (essentially), so there are no error measures.
 - Could assume a CV...as done in assessments.

The Goal is to devise a robust approach that will avoid triggering actions due to normal and expected annual variation in catch estimates...while compelling action when there is evidence of an increasing trend

Conclusions...??

- Accounting for the uncertainty in private recreational estimates, by use of confidence intervals, may outperform the moving average
- Years and circumstances may occur that require expert judgment to avoid triggering management action in response to measurement error
 - or maybe it is not measurement error.
- The “Modified Mean” appears a good standard for most circumstances