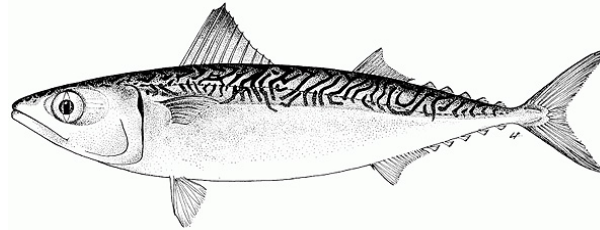




Pacific Mackerel Biomass Projection Estimate for USA Management in 2014-15



Paul R. Crone and Kevin T. Hill

NOAA Fisheries

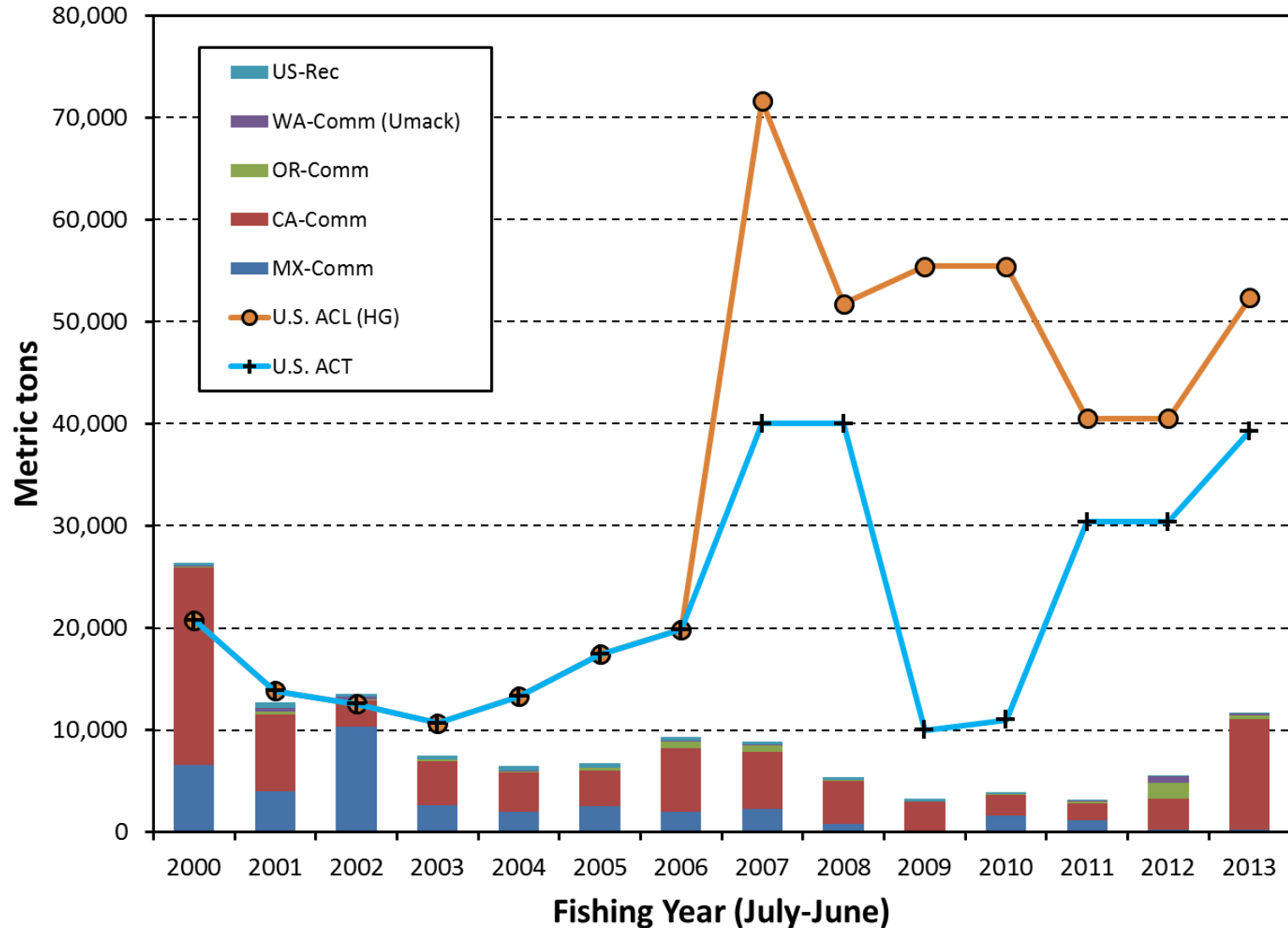
Southwest Fisheries Science Center

8901 La Jolla Shores Drive

La Jolla, California, 92037



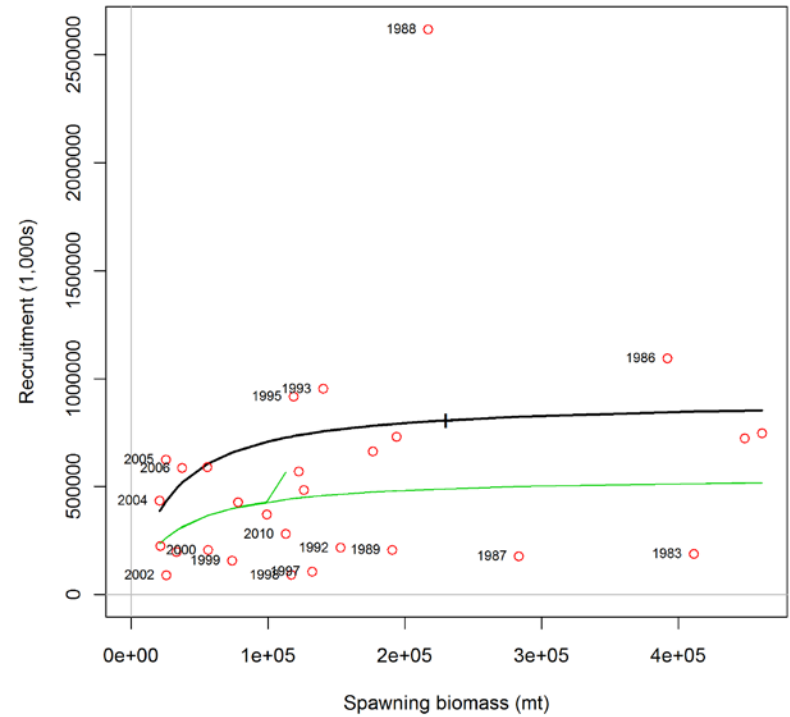
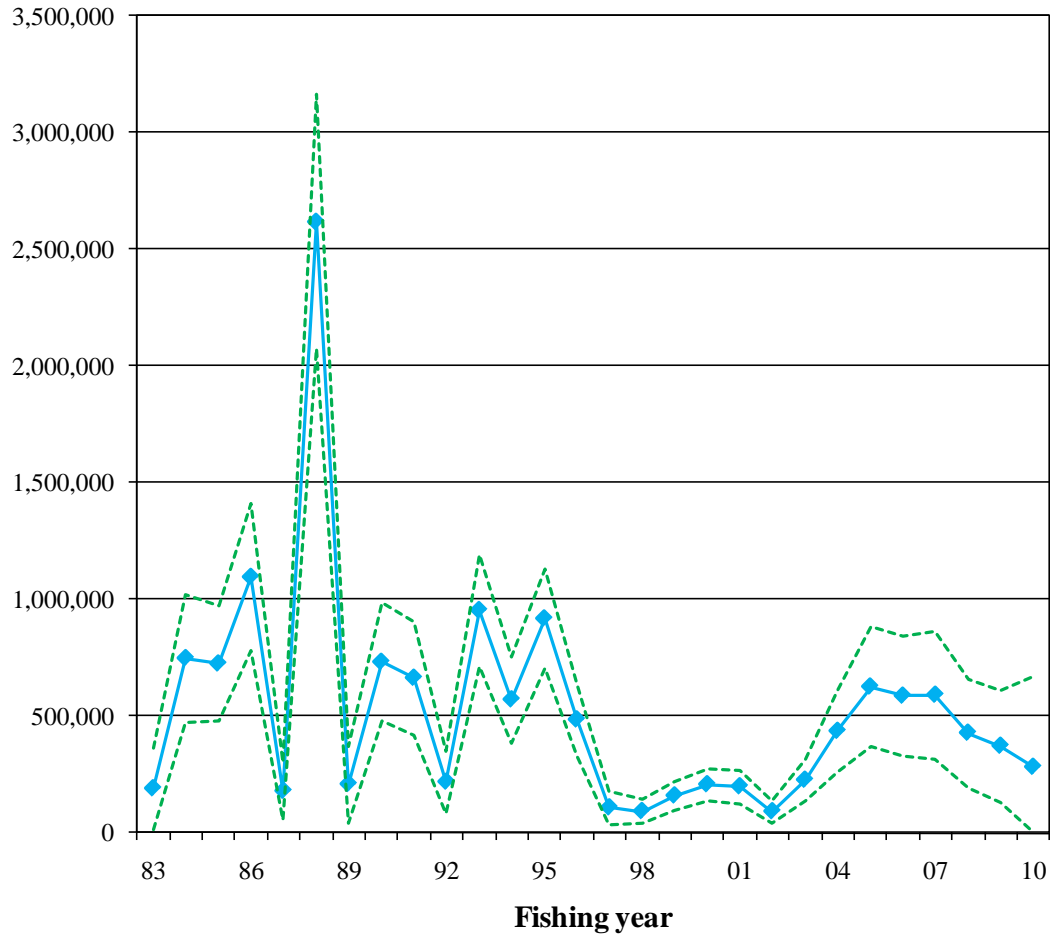
Pacific Mackerel Management & Landings





Estimated Recruitment Time Series (2011 Assessment Model XA)

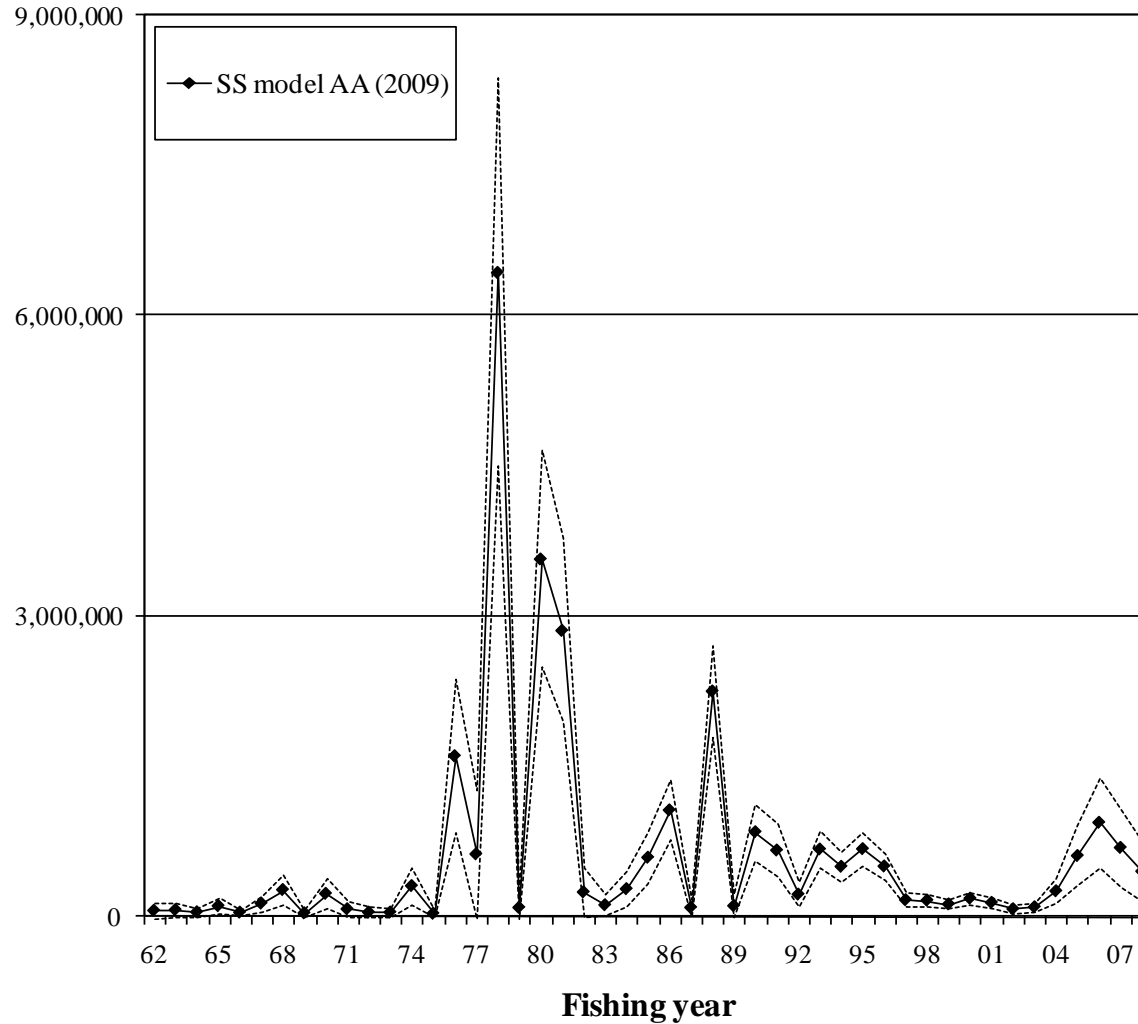
R (1,000s of fish)





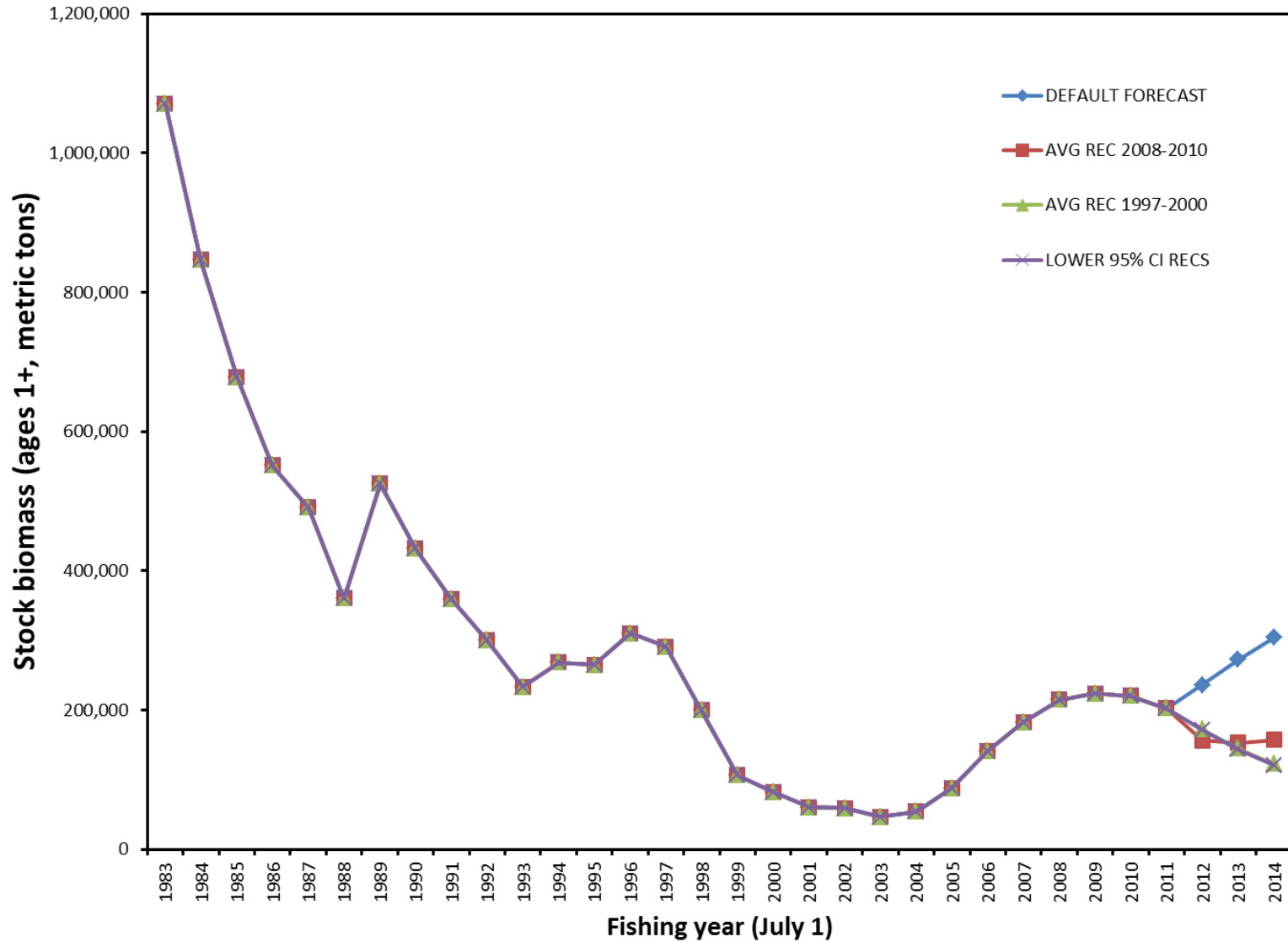
Estimated Recruitment Time Series (2009 Assessment Model AA)

R (1,000s of fish)





Estimated Biomass Time Series – 2011 & 2014





Harvest Control Rules - 2014 Projection Model

Harvest Control Rule Formulas	
OFL	$\text{BIOMASS} * E_{\text{MSY}} * \text{DISTRIBUTION}$
$\text{ABC}_{\text{P-star}}$	$\text{BIOMASS} * \text{BUFFER}_{\text{P-star}} * E_{\text{MSY}} * \text{DISTRIBUTION}$
HG	$(\text{BIOMASS} - \text{CUTOFF}) * \text{FRACTION} * \text{DISTRIBUTION}$

HCR Parameters	Default S-R Rec	Avg Rec 2008-10	Avg Rec 1997-00	Lower 95% CI Rec
P-star	0.45	0.45	0.45	0.45
ABC Buffer for Tier 2 Pstar _{0.45}	0.9135	0.9135	0.9135	0.9135
FRACTION	0.3	0.3	0.3	0.3
CUTOFF (mt)	18,200	18,200	18,200	18,200
DISTRIBUTION (U.S.)	0.7	0.7	0.7	0.7
BIOMASS (ages 1+, mt)	304,184	157,106	122,489	120,625

HCR Values (MT)	Default S-R Rec	Avg Rec 2008-2010	Avg Rec 1997-2000	Lower 95% CI Rec
OFL =	63,879	32,992	25,723	25,331
ABC =	58,353	30,138	23,498	23,140
HG =	60,057	29,170	21,901	21,509