



# Acceptable Biological Catch Calculations for South Atlantic Snapper-Grouper Species

LAPP/DM Branch  
Southeast Regional Office  
St. Petersburg, Florida

South Atlantic SSC Meeting  
October 23-25, 2012

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# Overview of ABC Calculations

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ABCs calculated for 37 unassessed species

20 were assigned using **proxy method** due to late Council decision to retain many Snapper-Grouper stocks in FMU



# Data Sources

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## CompACL

**15 Sept 2010 Recreational ACL Data**

*“Shore” inadvertently assigned to For-Hire (no impact on ABC)*

**8 Oct 2010 Commercial ACL Data**

## NewMRFSS+NewComm

**30 Aug 2012 Recreational ACL Data**

*Updated weight backfill, charter calibration (SEDAR-25 2011)*

**3 July 2012 Commercial ACL Data**

## NewMRIP+NewComm

**1 Oct 2012 Recreational ACL Data**

*MRIP (2004-2011), adjusted MRFSS (1981-2003; SEDAR-31 2012), SEFSC standardized weight estimation (1981-2012)*

**3 July 2012 Commercial ACL Data**

# MRIP Data (2004-2011)

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**The Marine Recreational Information Program (MRIP) was implemented in 2004 to address issues identified by the National Research Council in the existing Marine Recreational Fisheries Statistics Survey (MRFSS) program.**

**GOAL - To provide more detailed, timely, and reliable estimates of marine recreational fishing catch and effort.**

**Currently, official MRIP estimates are available from 2004-2011. These represent the best available scientific data.**

# MRIP ('86-'03) = Recalibrated MRFSS

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March 2012: **SEDAR MRIP Recalibration Workshop**

**Ad-Hoc Working Group:** apply ratio estimators, based on the ratios of the means, to hind-cast catch and variances.

**Southeast Regional MRIP Recalibration WG:** developed specific recommendations to address regional needs.

*Salz et al. (2012)*

*MRFSS\_MRIP Calibration*

*Ad-hoc Working Group FINAL Report*

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# MRIP ('86-'03) = Recalibrated MRFSS

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Each ratio of means was calculated at the stock, sub-region, mode level\* as:

$$\hat{R} = \frac{\overline{C}_{MRIP}}{\overline{C}_{MRFSS}} = \frac{\sum_{y=1}^n C_{y,MRIP}}{\sum_{y=1}^n C_{y,MRFSS}}$$

Ratios were applied at each stratum (species, sub-region, year, wave, state, mode, and area) to the A, B1, and B2 estimates and variances:

$$\hat{C}_{y,\hat{R}} = \hat{R} \hat{C}_{y,MRFSS}$$

*\*when available, else hierarchy used → Stock&SubRegion, Stock*

# MRFSS → MRIP S. Atl. Ratio Estimators

Common Name	Charter	Private/Rental	Shore
almaco jack	1.015402	0.985457	
atlantic spadefish	1.628027	0.993378	0.617729
banded rudderfish	0.931823	0.928341	0.464524
bar jack	2.481521	1.196412	1.402559
black snapper			
blackfin snapper	0.937071	0.882982	
blue runner	0.994338	1.190118	0.802393
blueline tilefish	0.940958	0.792646	
coney	0.625635	1.162762	
cubera snapper	0.901402	0.948679	0.488547
dog snapper	1.020509	0.79838	1.522893
gray snapper	0.594493	0.963733	0.543697
gray triggerfish	1.056789	0.947016	0.548359
graysby	1.417926	0.910291	
hogfish	0.903173	0.873729	0.37575
jolthead porgy	0.849587	0.897303	0.482483
knobbed porgy	1.290265	1.204519	0.771392

<b>Common Name</b>	<b>Charter</b>	<b>Private/Rental</b>	<b>Shore</b>
lane snapper	0.804986	0.765977	0.513552
lesser amberjack	0.625834	1.013631	
mahogany snapper		1.326981	0.456246
margate	0.854906	0.946525	0.768271
misty grouper			
queen snapper	0.702257	0.969656	
red hind	0.985036	1.013069	
rock hind	1.356045	1.36774	
sailors choice	0.713252	0.98031	0.558199
sand tilefish	0.657189	0.907314	0.55074
saucereye porgy	0.461468	1.038721	
scamp	1.557292	1.20065	
scup	1.540459	1.155228	0.578074
silk snapper	1.05117	0.436414	
tomtate	1.364139	0.912316	0.898122
white grunt	1.235682	1.078366	0.7404
whitebone porgy	0.940949	0.783128	0.524168
yellowedge grouper	0.590406	2.407618	
yellowfin grouper		1.648847	
yellowmouth grouper	1.117054	1.021294	



# Overview of ABC Calculations

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## Method for computing ABC:

Median landings (1999-2008) – *yellowedge grouper, silk snapper, white grunt, and scamp*

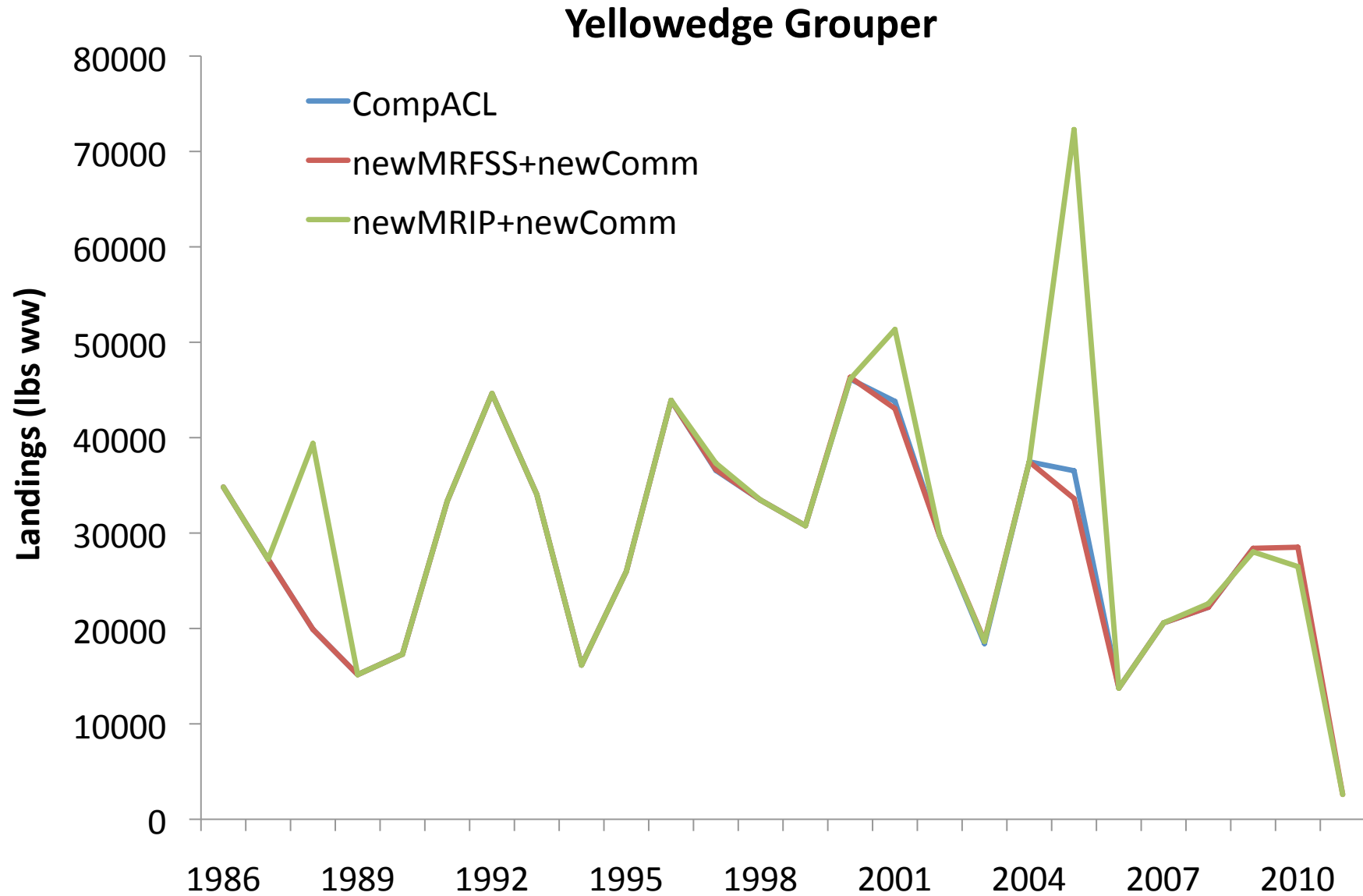
3<sup>rd</sup> highest landings (1999-2008) – *32 species*

2× max landings (1986-2005) – *blueline tilefish*

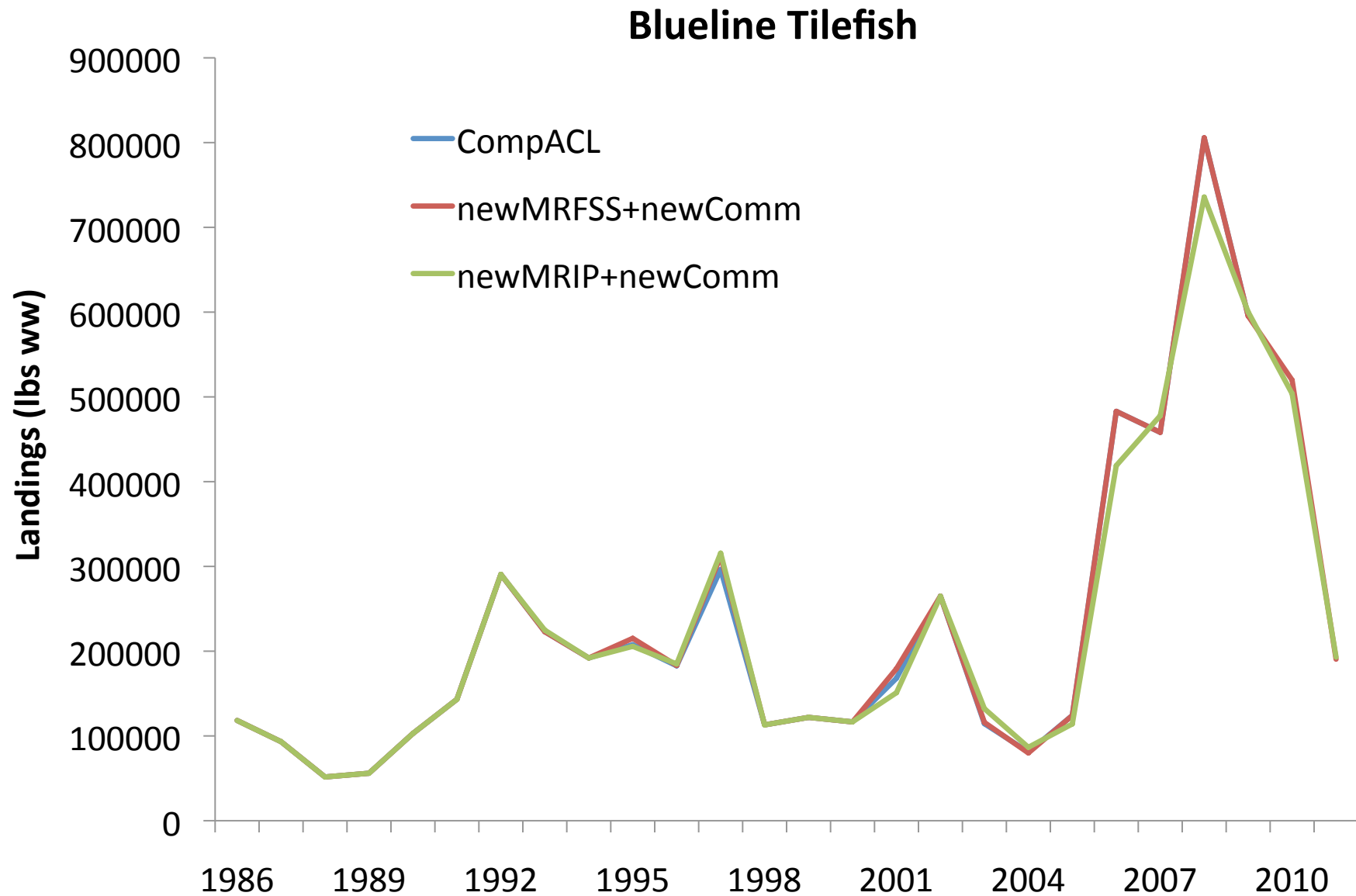
**ABCs calculated for each stock individually using combined commercial and recreational annual landings**



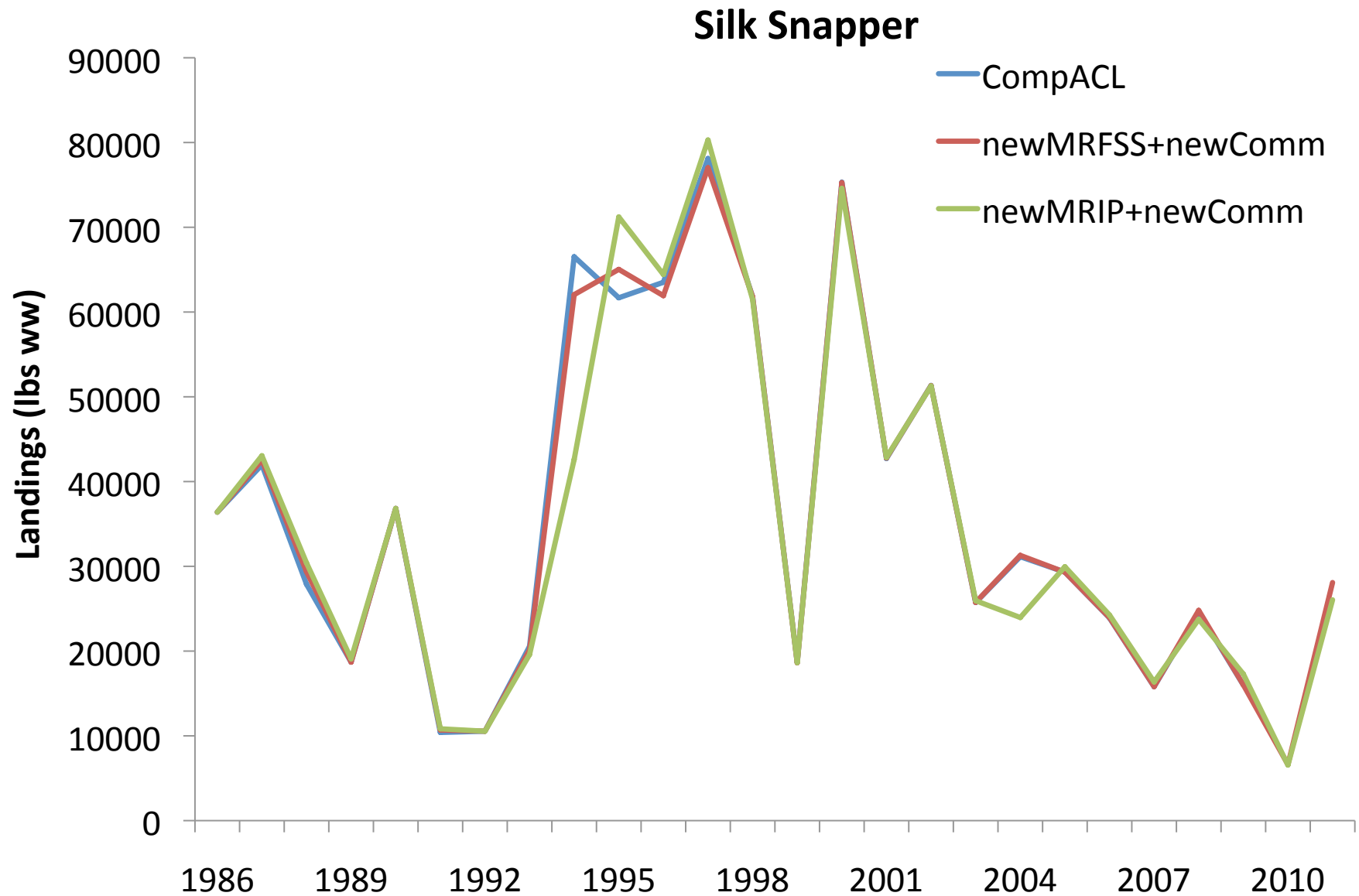
# Yellowedge Grouper



# Blueline Tilefish

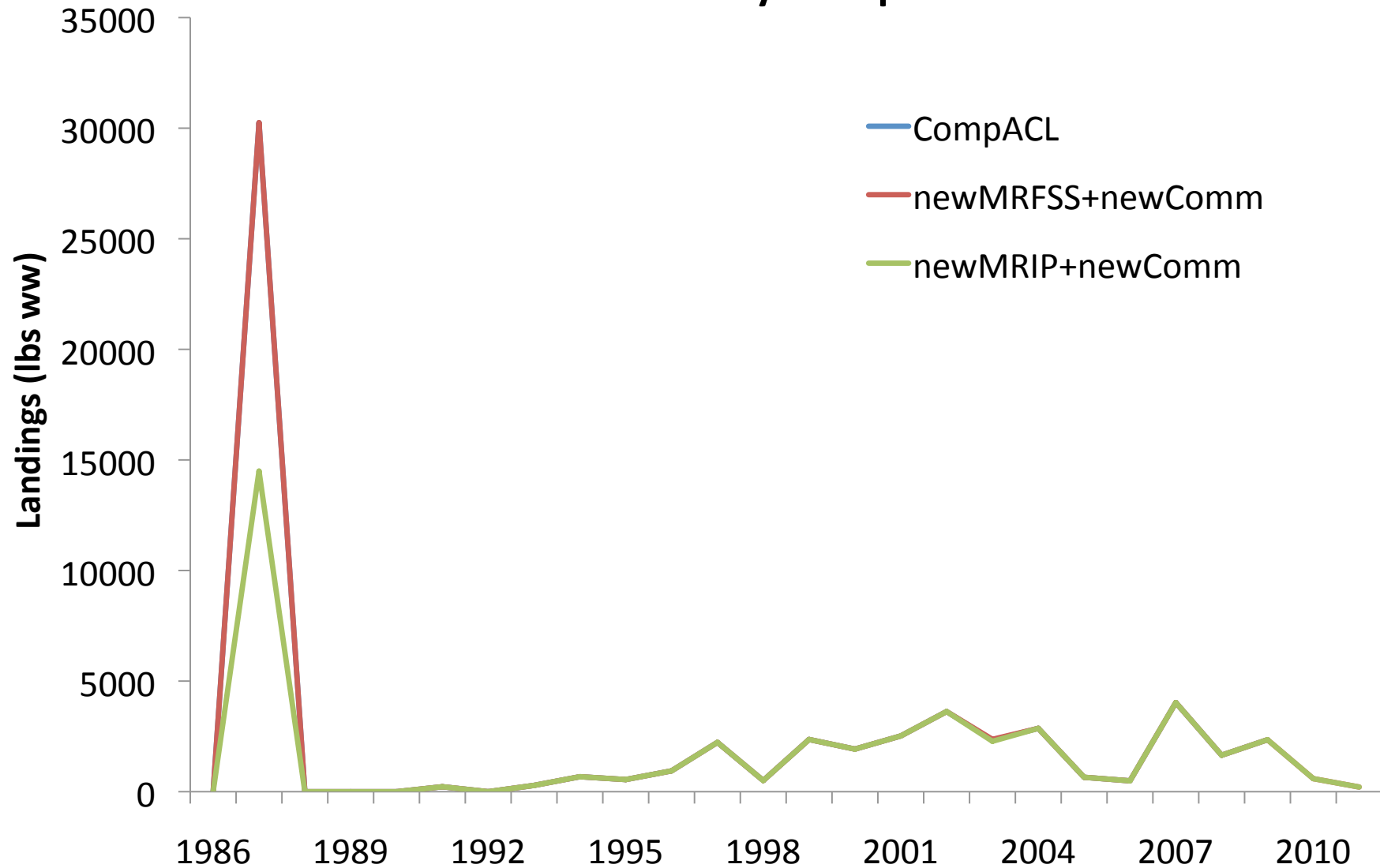


# Silk Snapper

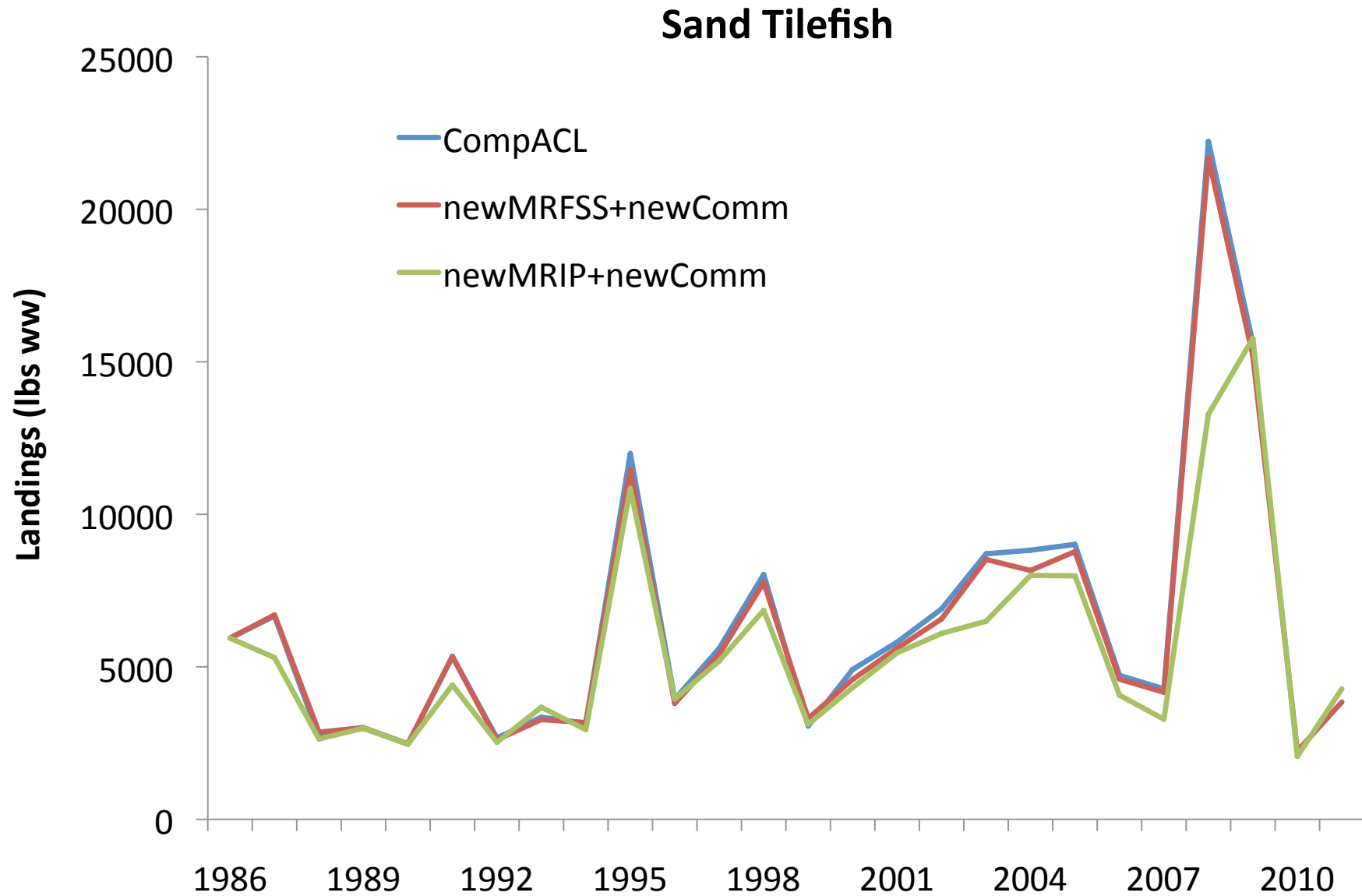


# Misty Grouper

Misty Grouper

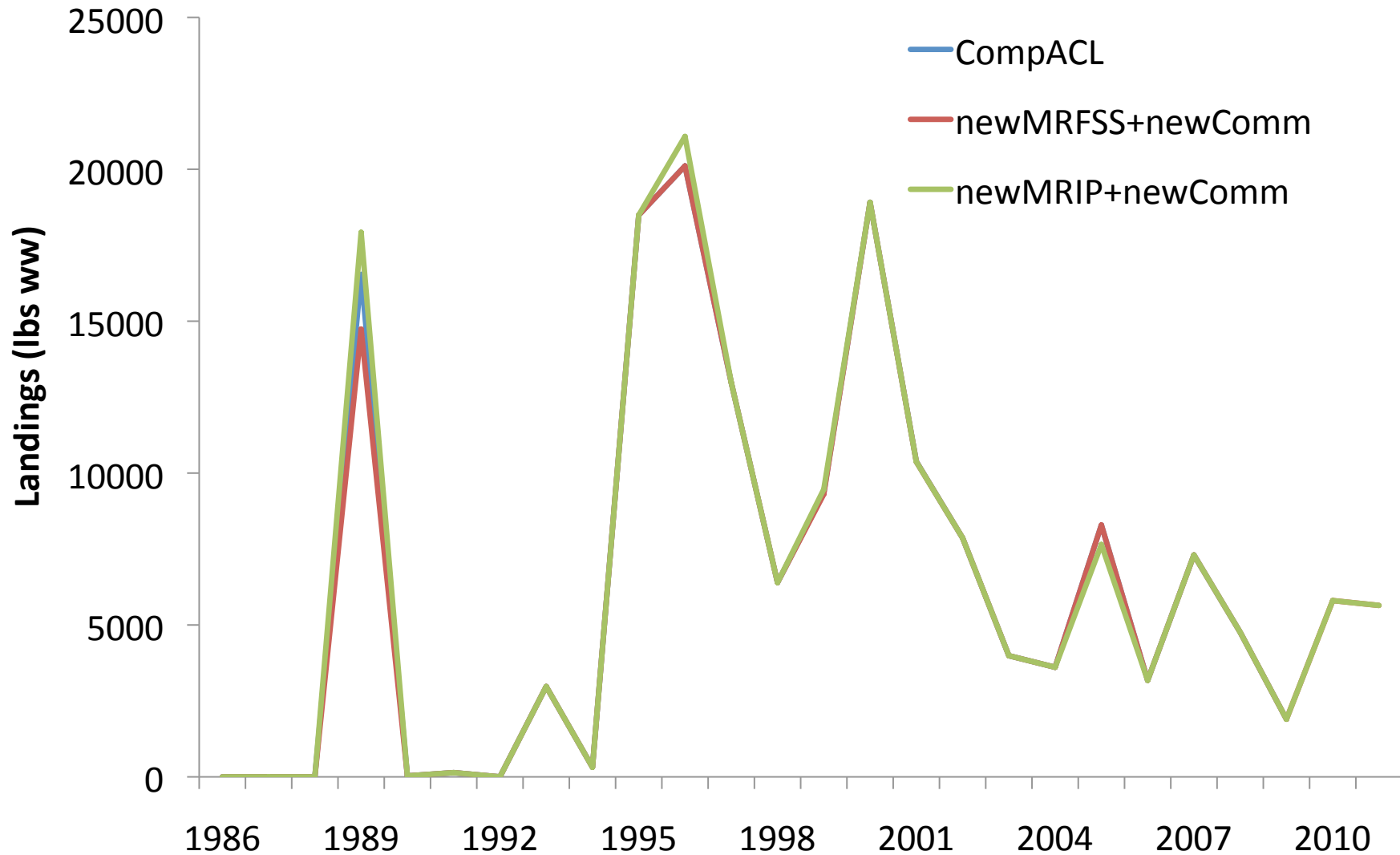


# Sand Tilefish

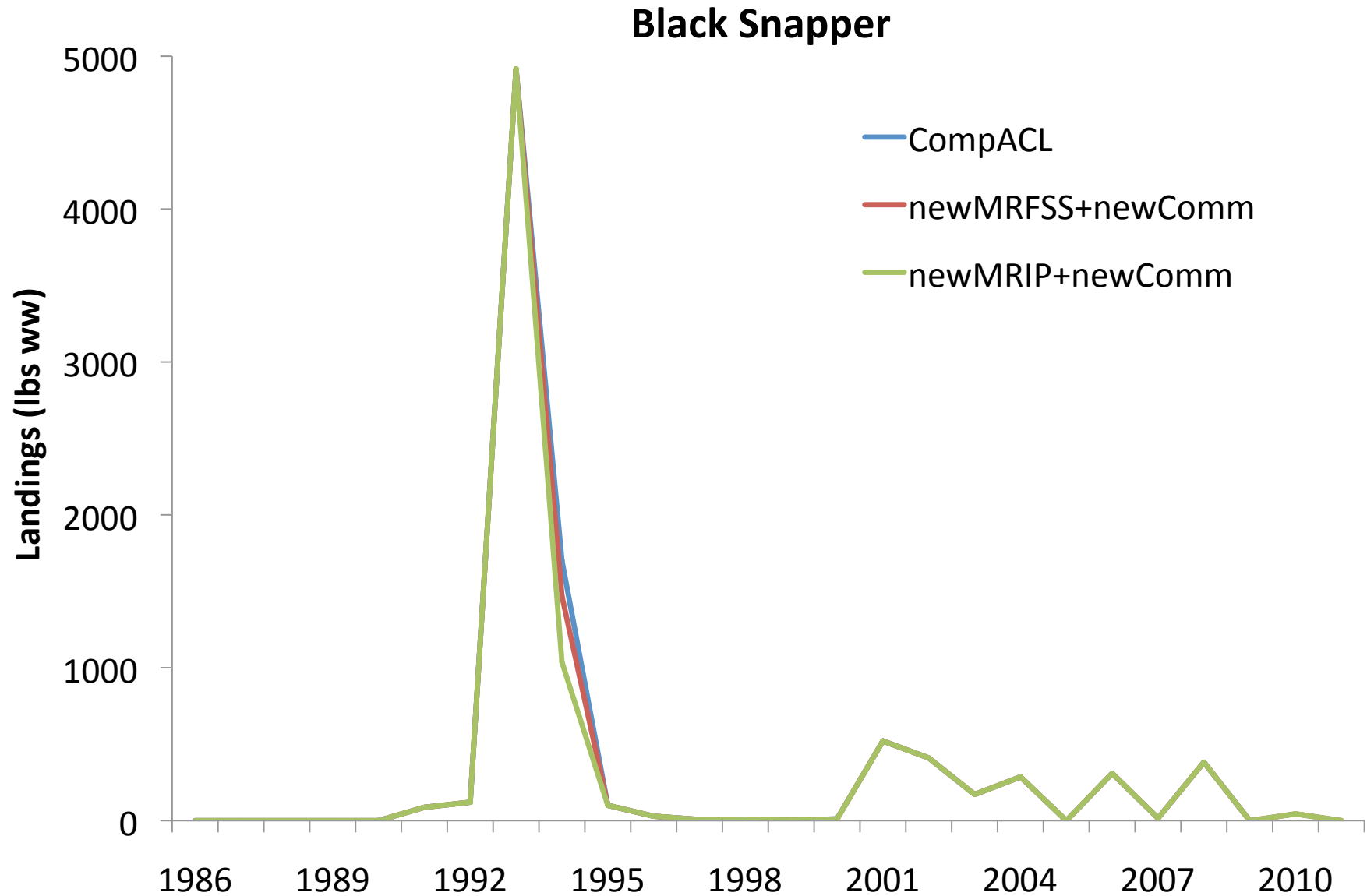


# Queen Snapper

## Queen Snapper



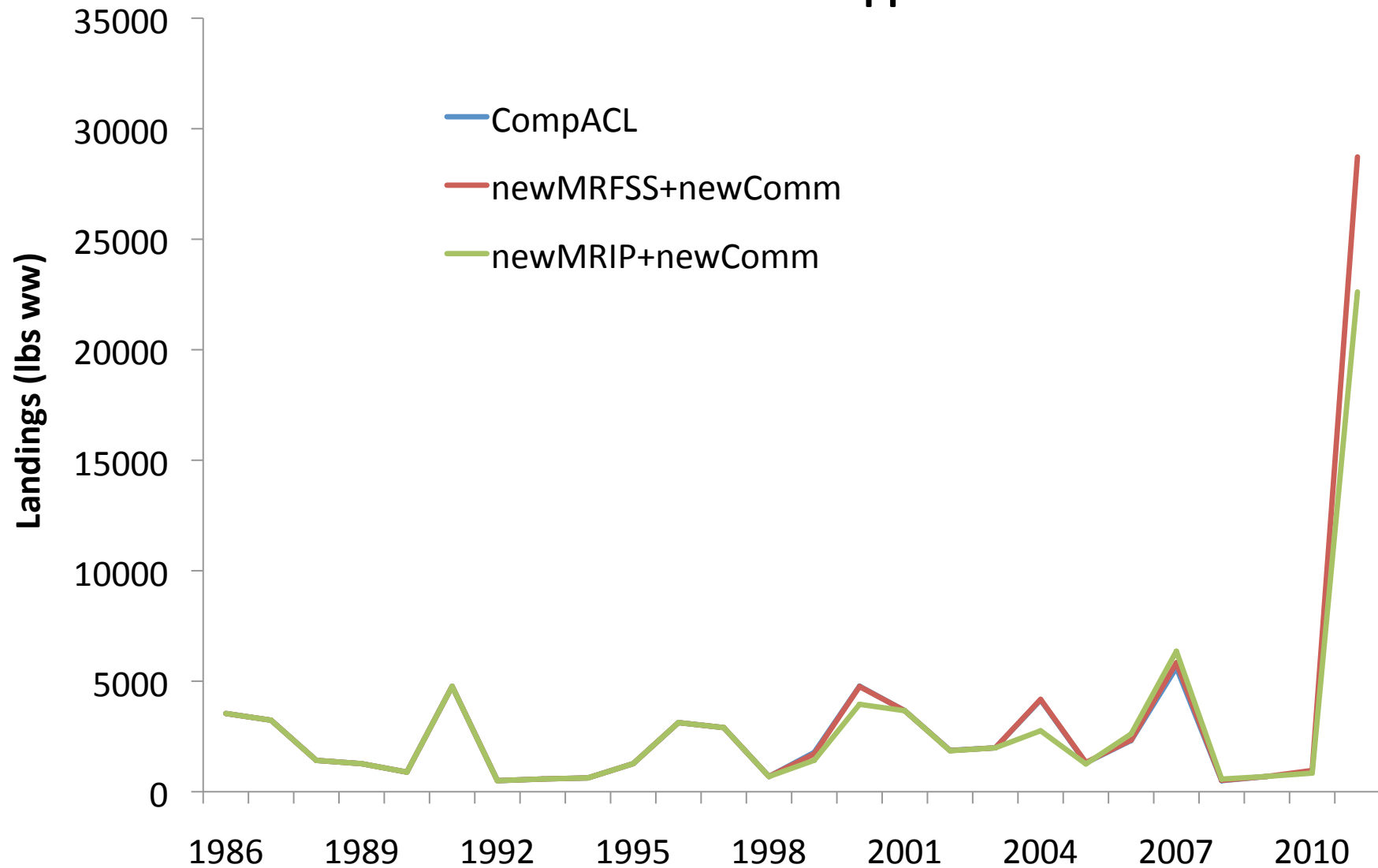
# Black Snapper





# Blackfin Snapper

## Blackfin Snapper



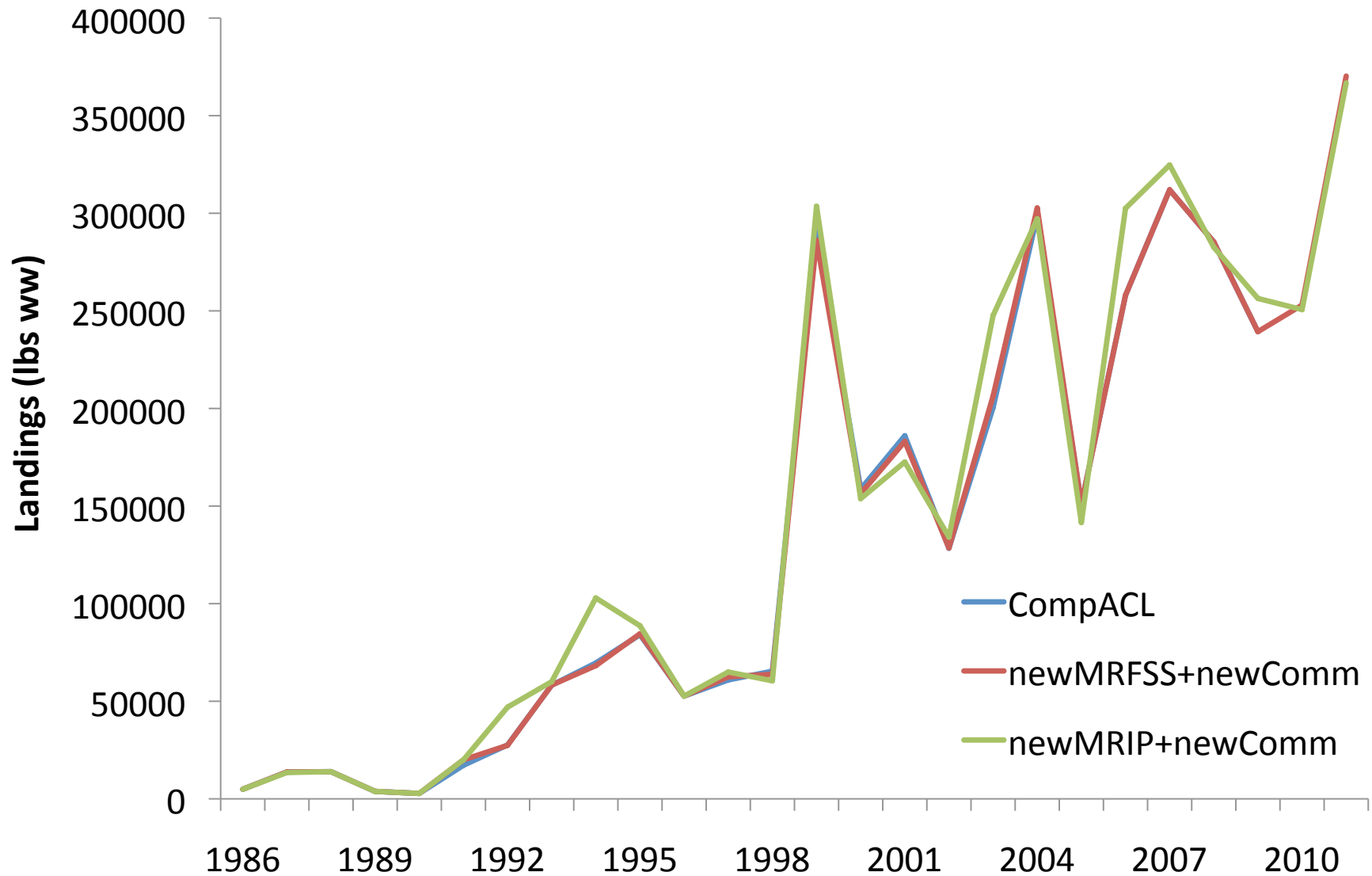
# Deepwater Complex

*ABC proxy*

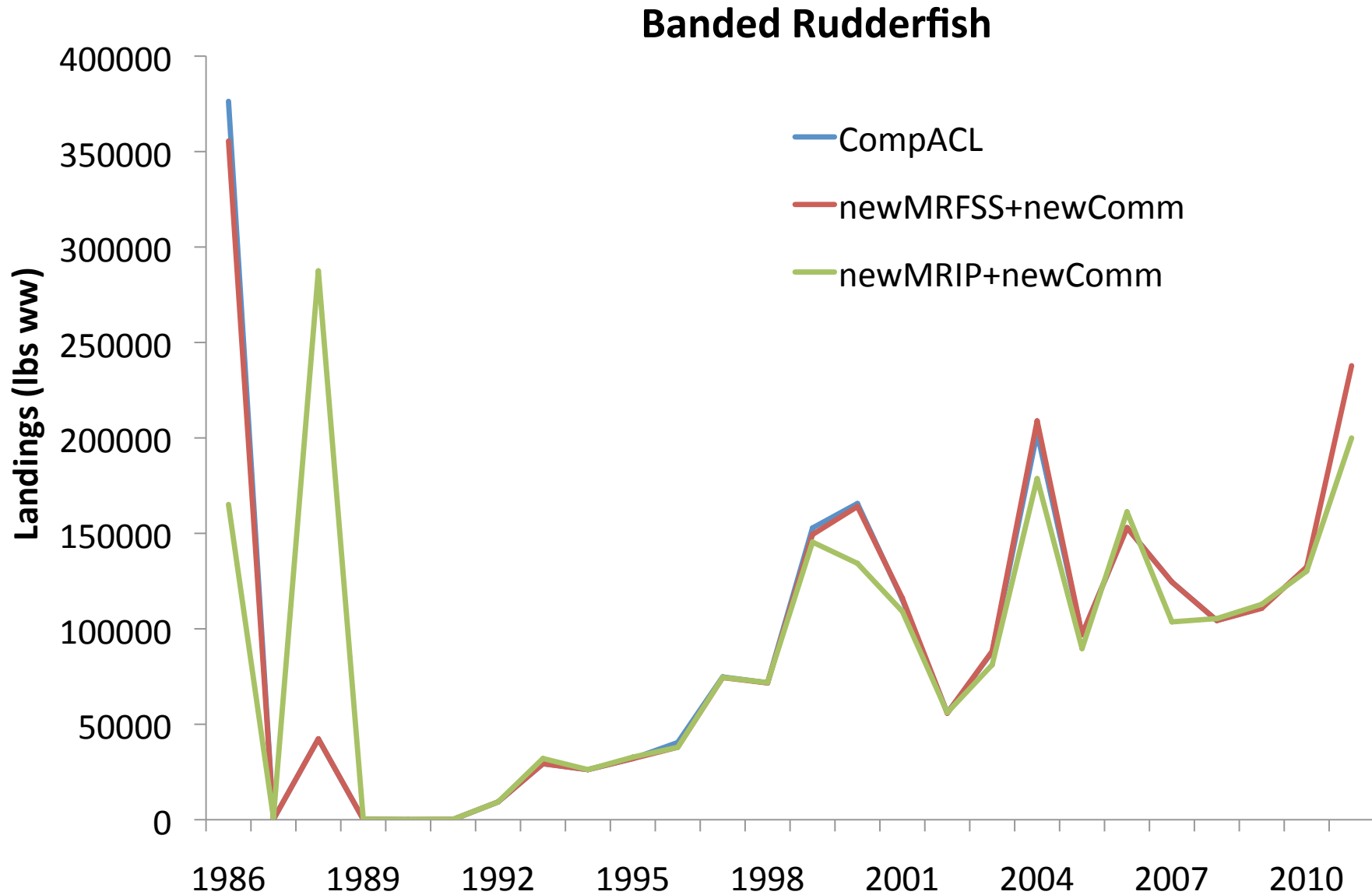
STOCK OR STOCK COMPLEX NAME	ABC			How ABC was calculated
	ACL Amendment	New MRFSS & Commercial	MRIP & New Commercial	
<b>DEEPWATER</b>	<b>675,908</b>	<b>707,030</b>	<b>711,025</b>	<b>sum of individual ABCs</b>
Yellowedge grouper	30,221	30,221	30,221	median (99-08)
Blueline tilefish	592,602	624,028	631,341	2× max landings (86-05)
Silk Snapper	27,519	27,529	25,104	median (99-08)
Misty grouper	2,863	2,863	2,863	3rd highest (99-08)
Sand tilefish	8,823	8,521	7,983	3rd highest (99-08)
Queen snapper	9,344	9,306	9,466	3rd highest (99-08)
Black snapper	382	382	382	3rd highest (99-08)
Blackfin snapper	4,154	4,181	3,665	3rd highest (99-08)

# Almaco Jack

Almaco Jack

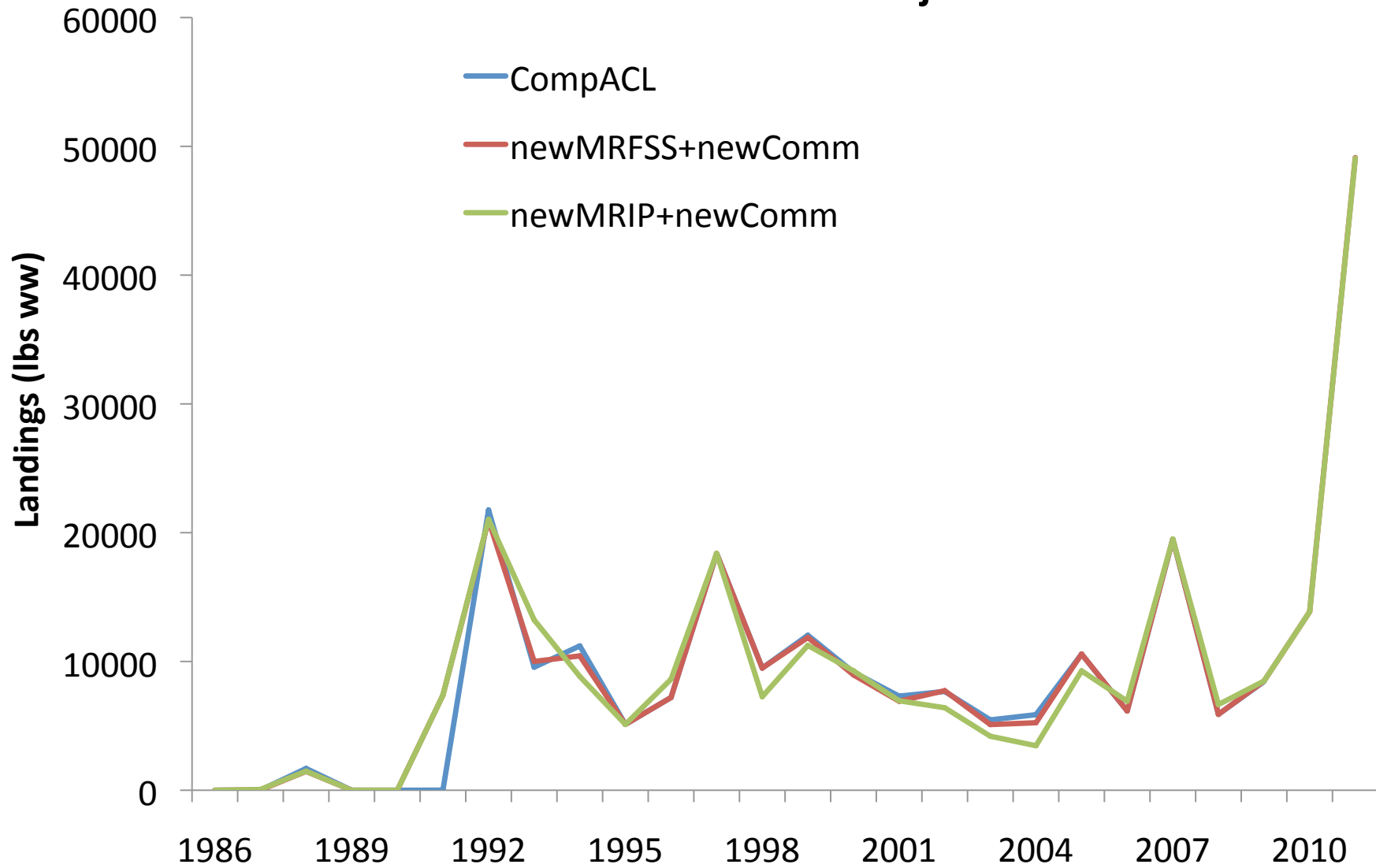


# Banded Rudderfish



# Lesser Amberjack

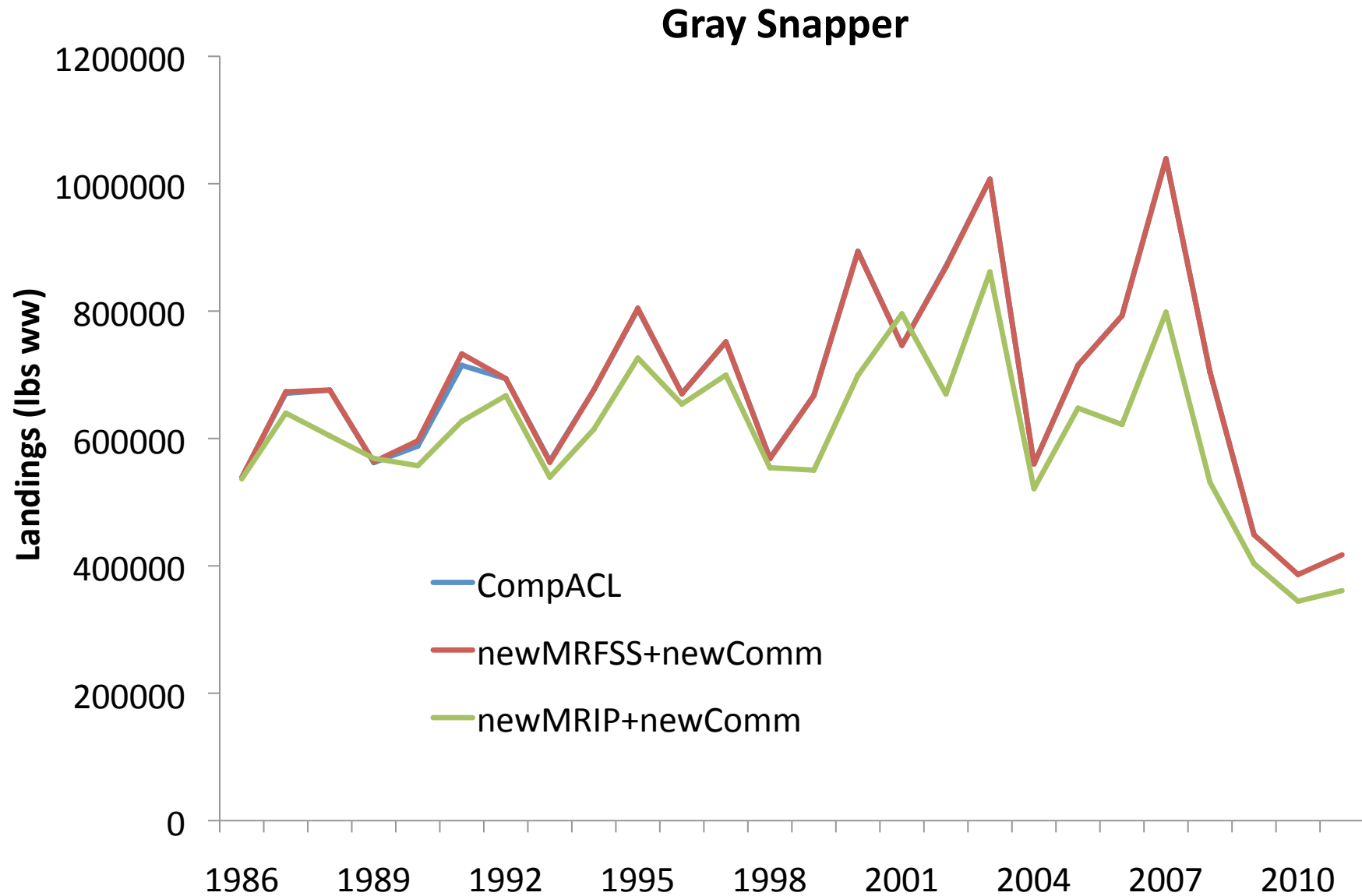
Lesser Amberjack



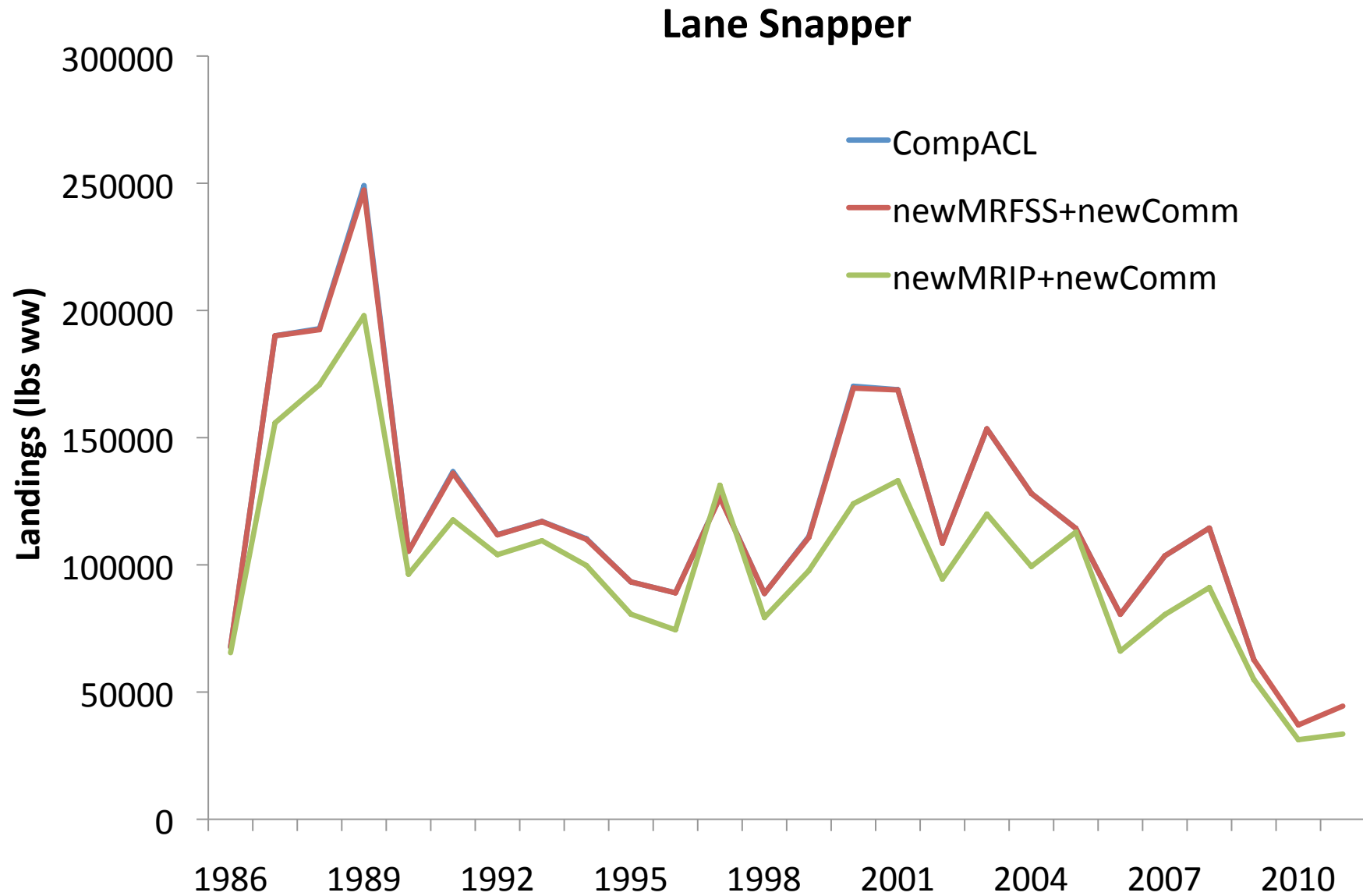
# Jacks Complex

STOCK OR STOCK COMPLEX NAME	ABC			How ABC was calculated
	ACL Amendment	New MRFSS & Commercial	MRIP & New Commercial	
<b>JACKS</b>	<b>455,489</b>	<b>449,739</b>	<b>457,221</b>	<b>sum of individual ABCs</b>
Almaco jack	291,922	286,196	302,517	3rd highest (99-08)
Banded rudderfish	152,999	152,966	145,434	3rd highest (99-08)
Lesser amberjack	10,568	10,577	9,270	3rd highest (99-08)

# Gray Snapper

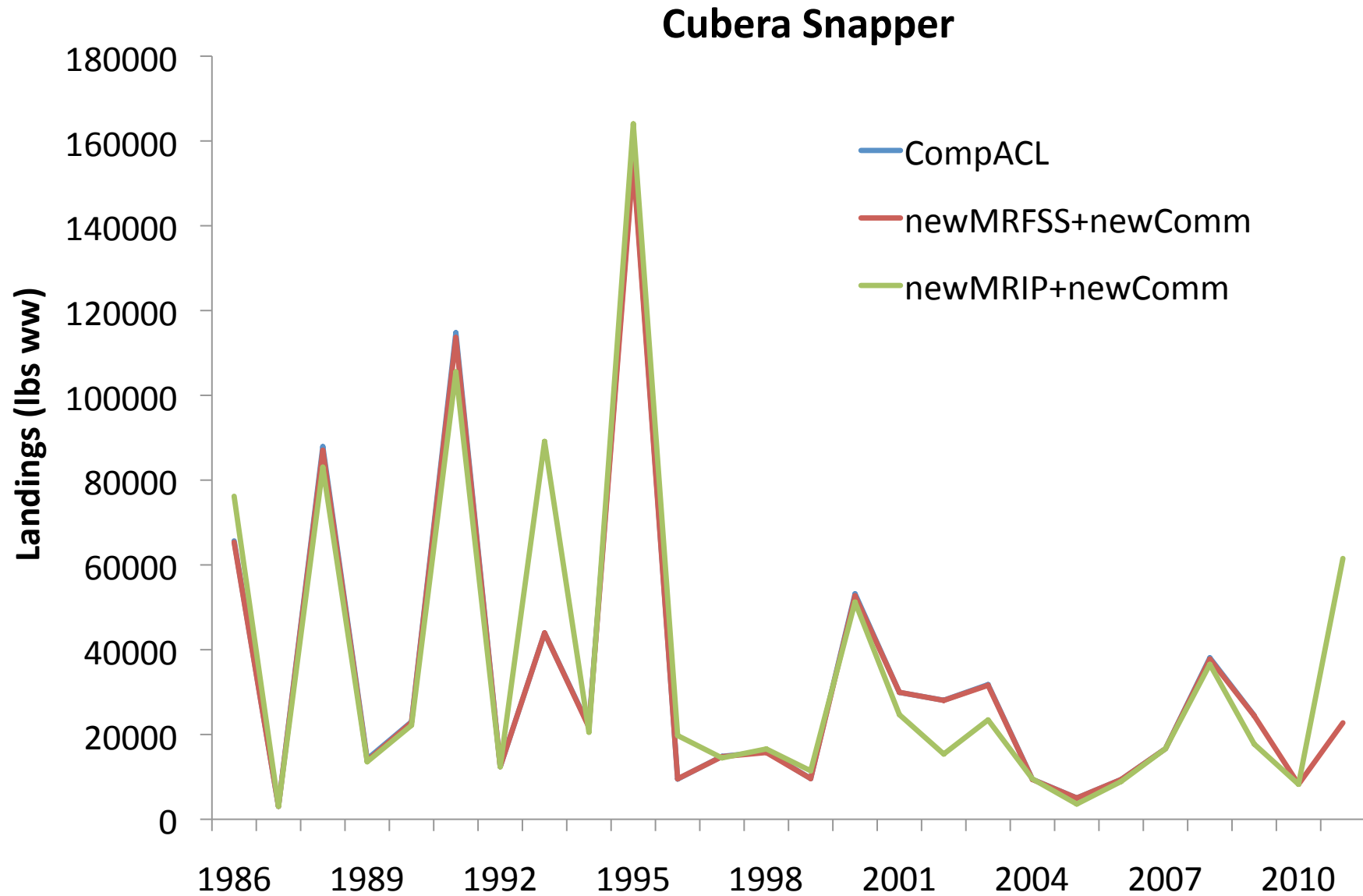


# Lane Snapper

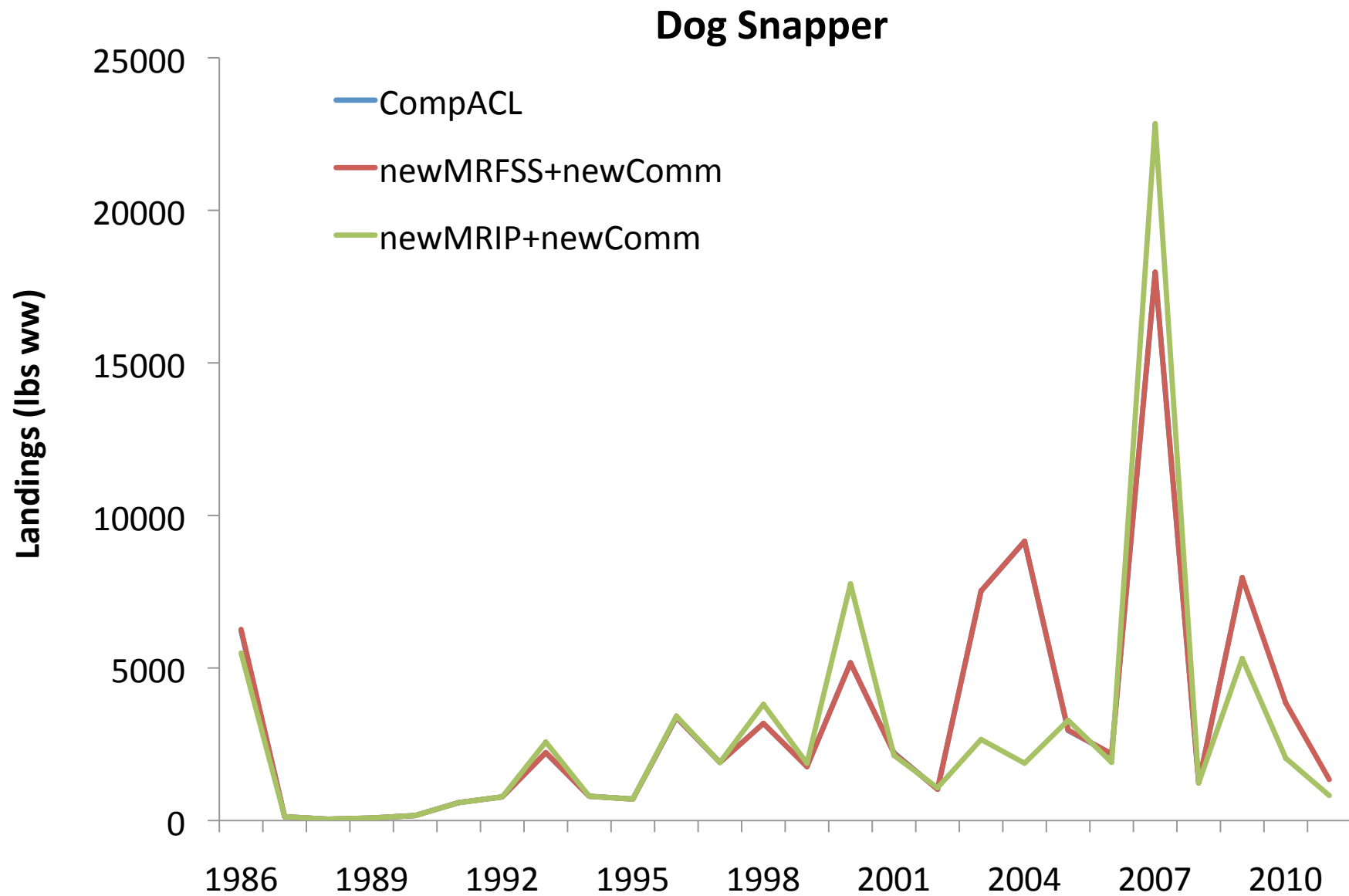




# Cubera Snapper

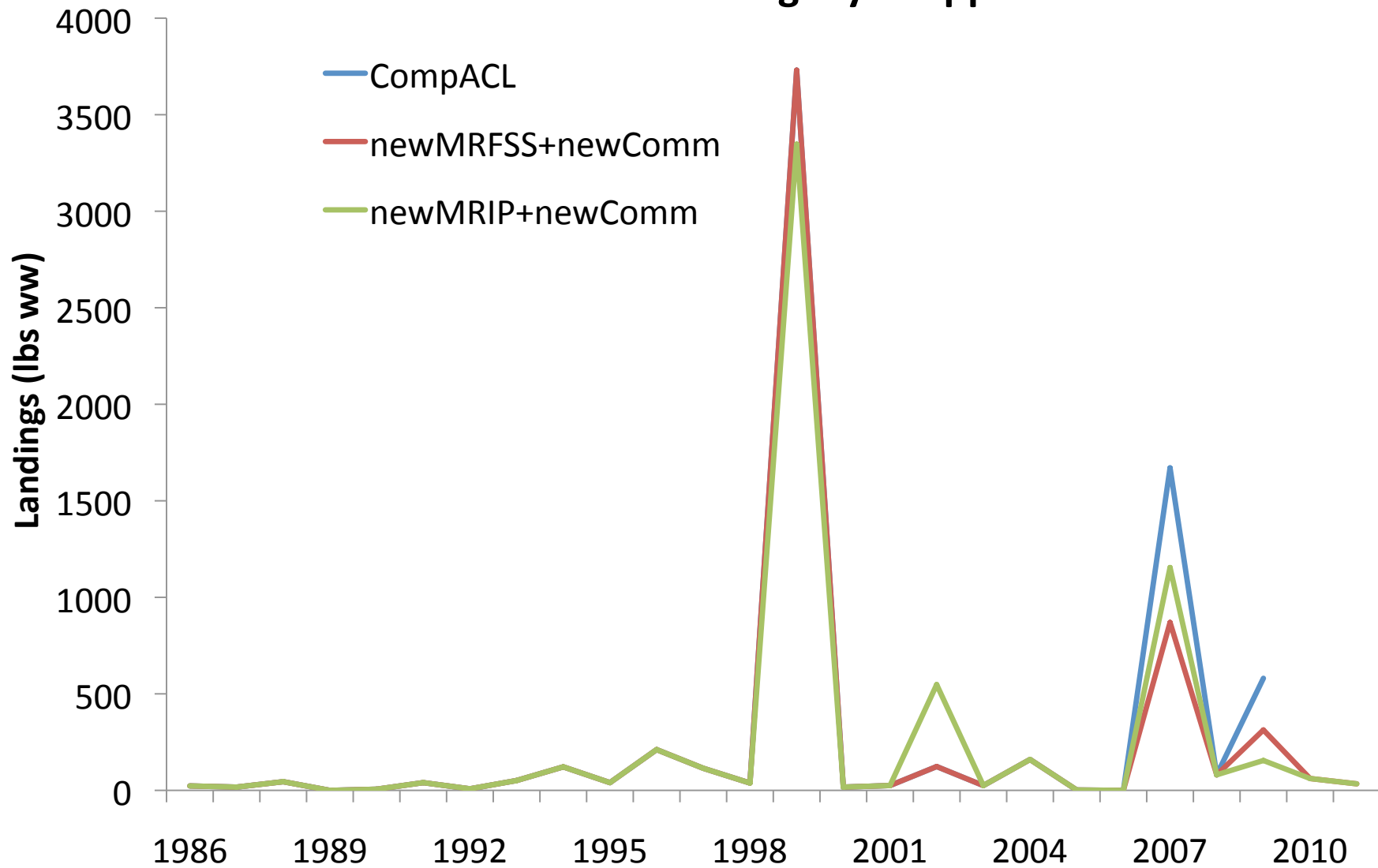


# Dog Snapper



# Mahogany Snapper

## Mahogany Snapper

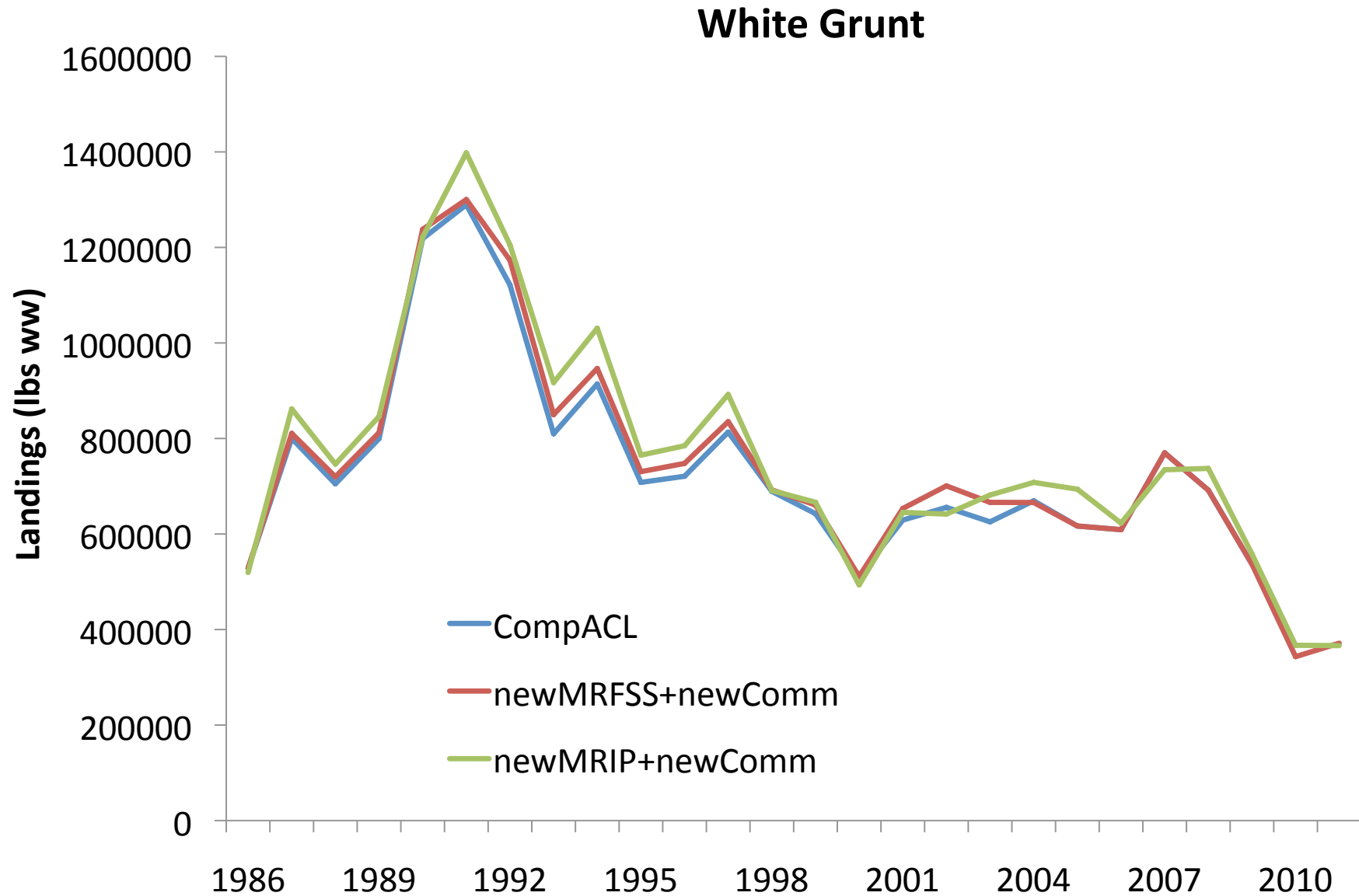


# Snappers Complex

*ABC proxy*

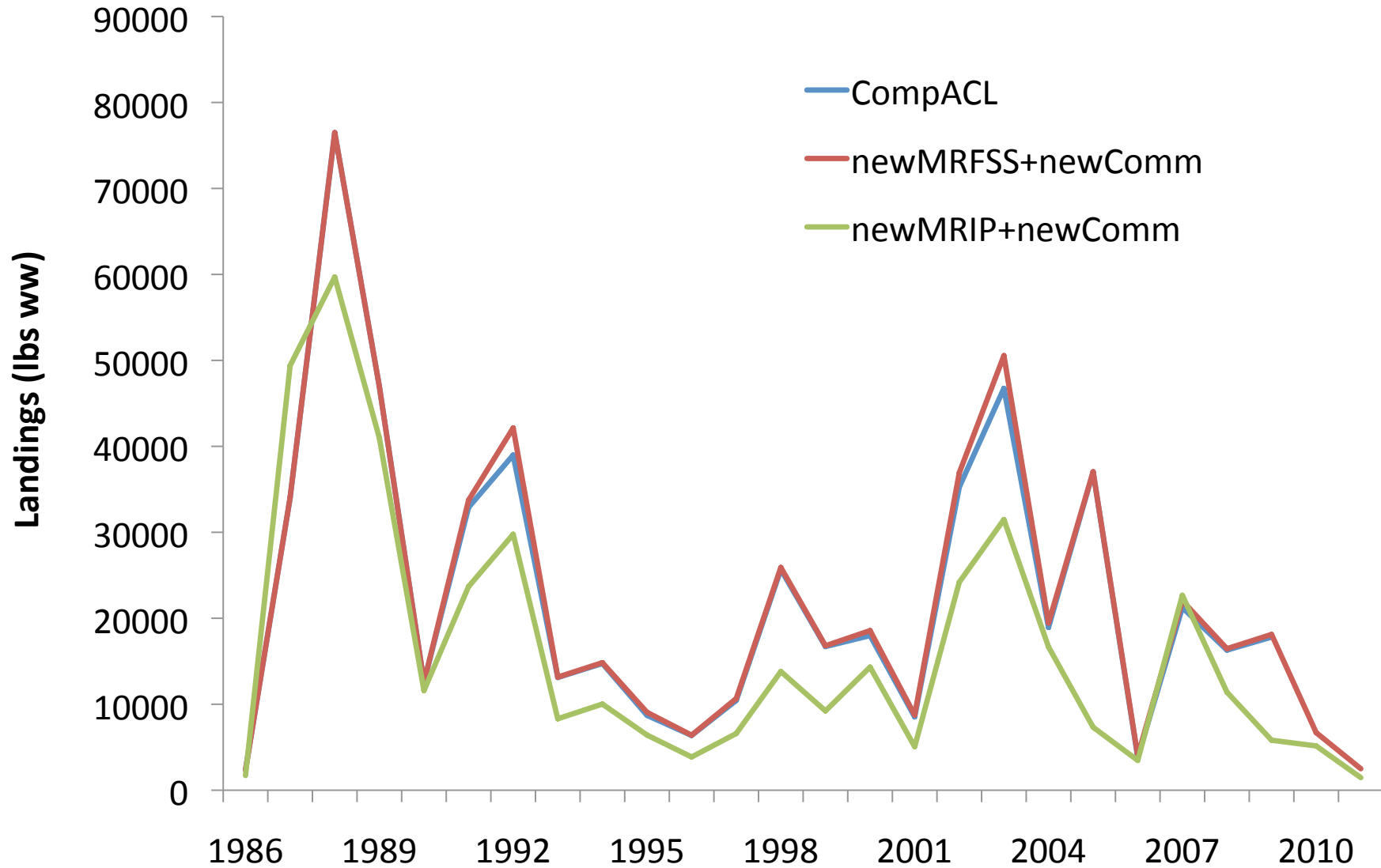
STOCK OR STOCK COMPLEX NAME	ABC			How ABC was calculated
	ACL Amendment	New MRFSS & Commercial	MRIP & New Commercial	
<b>SNAPPERS</b>	<b>1,086,940</b>	<b>1,085,914</b>	<b>944,239</b>	<b>sum of individual ABCs</b>
Gray snapper	894,019	893,161	795,743	3rd highest (99-08)
Lane snapper	153,466	153,466	119,984	3rd highest (99-08)
Cubera snapper	31,772	31,602	24,680	3rd highest (99-08)
<i>Dog snapper</i>	<i>7,523</i>	<i>7,525</i>	<i>3,285</i>	<i>3rd highest (99-08)</i>
<i>Mahogany snapper</i>	<i>160</i>	<i>160</i>	<i>548</i>	<i>3rd highest (99-08)</i>

# White Grunt

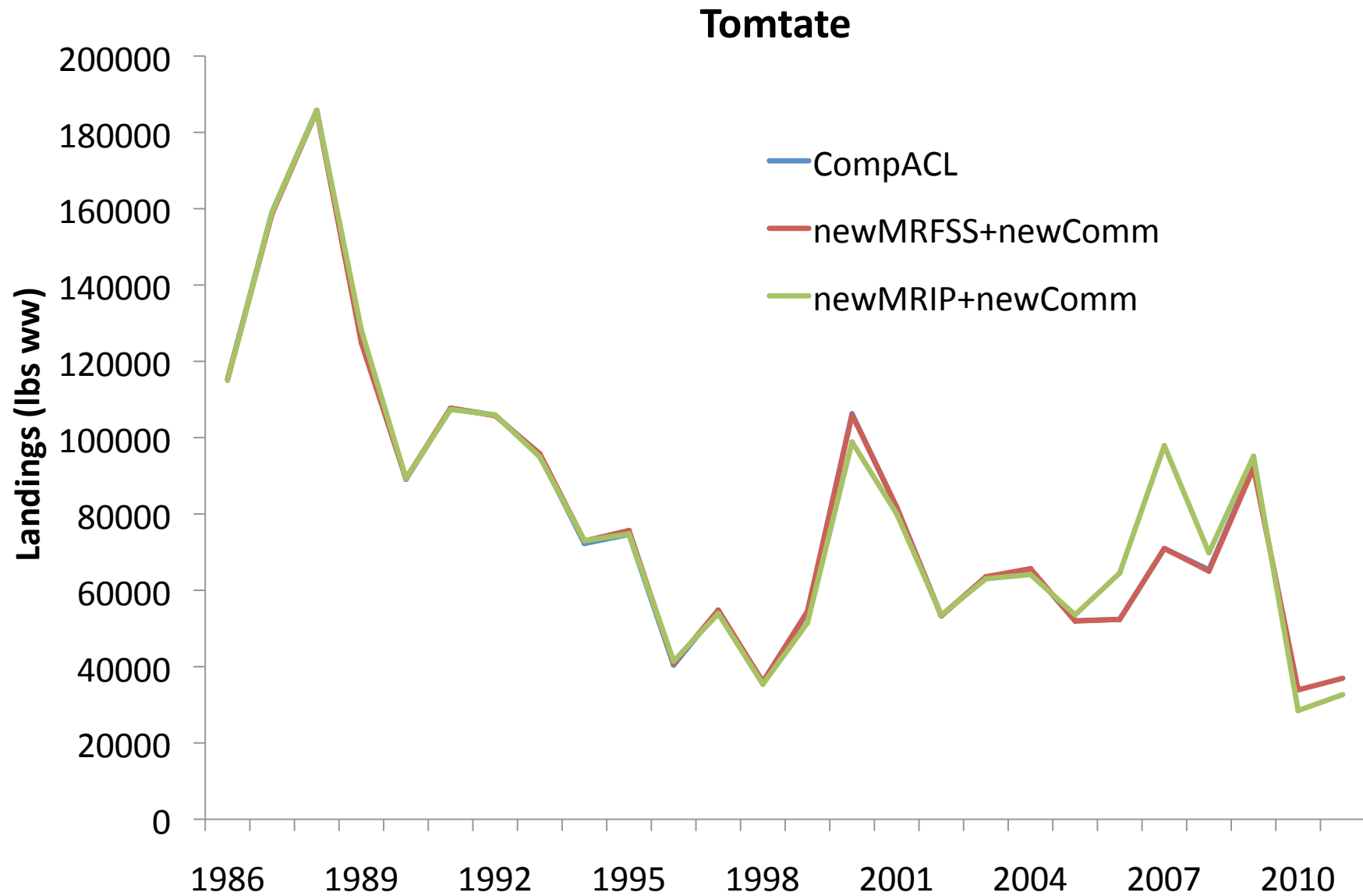


# Sailors Choice

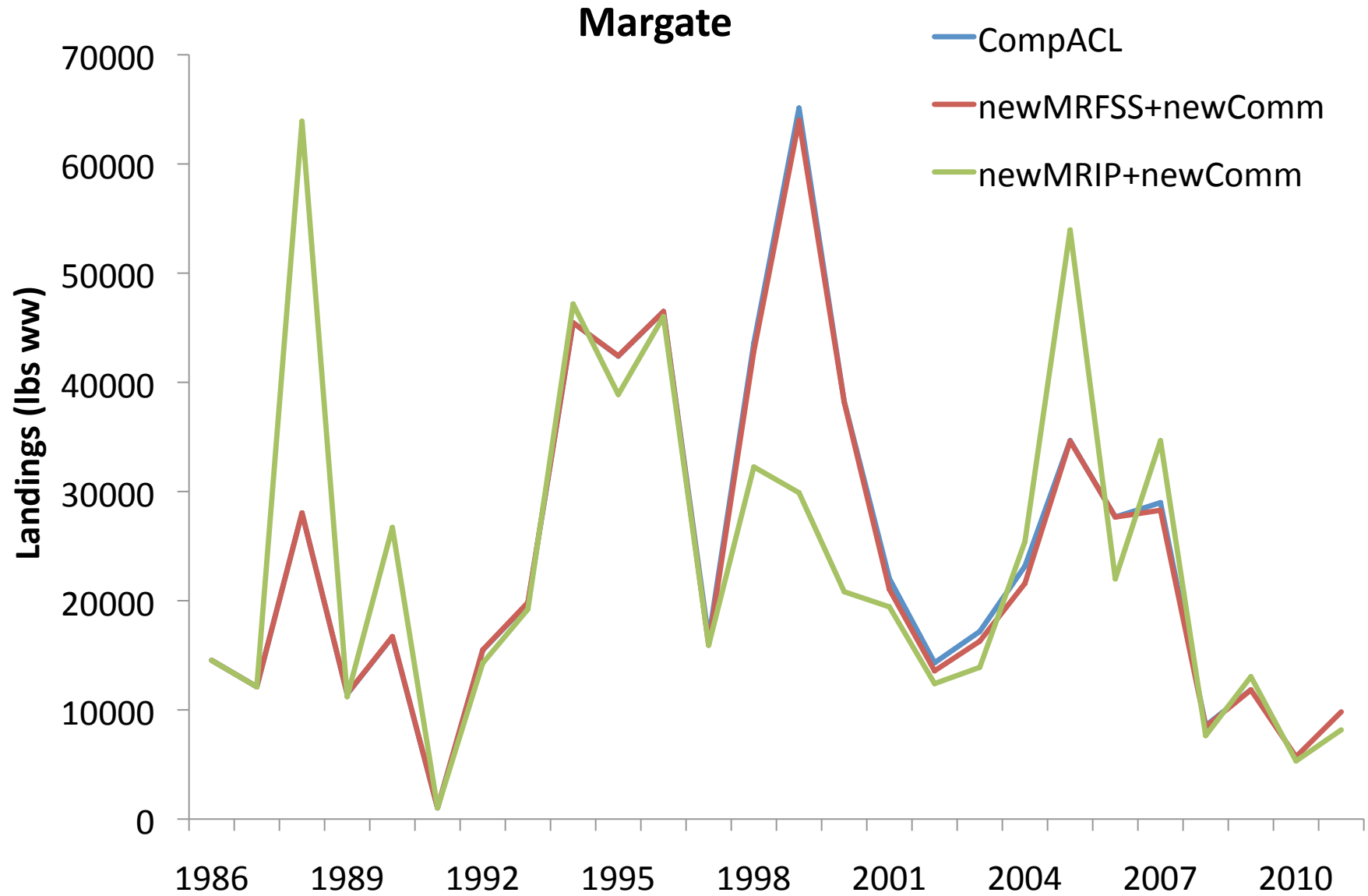
Sailors Choice



# Tomtate



# Margate



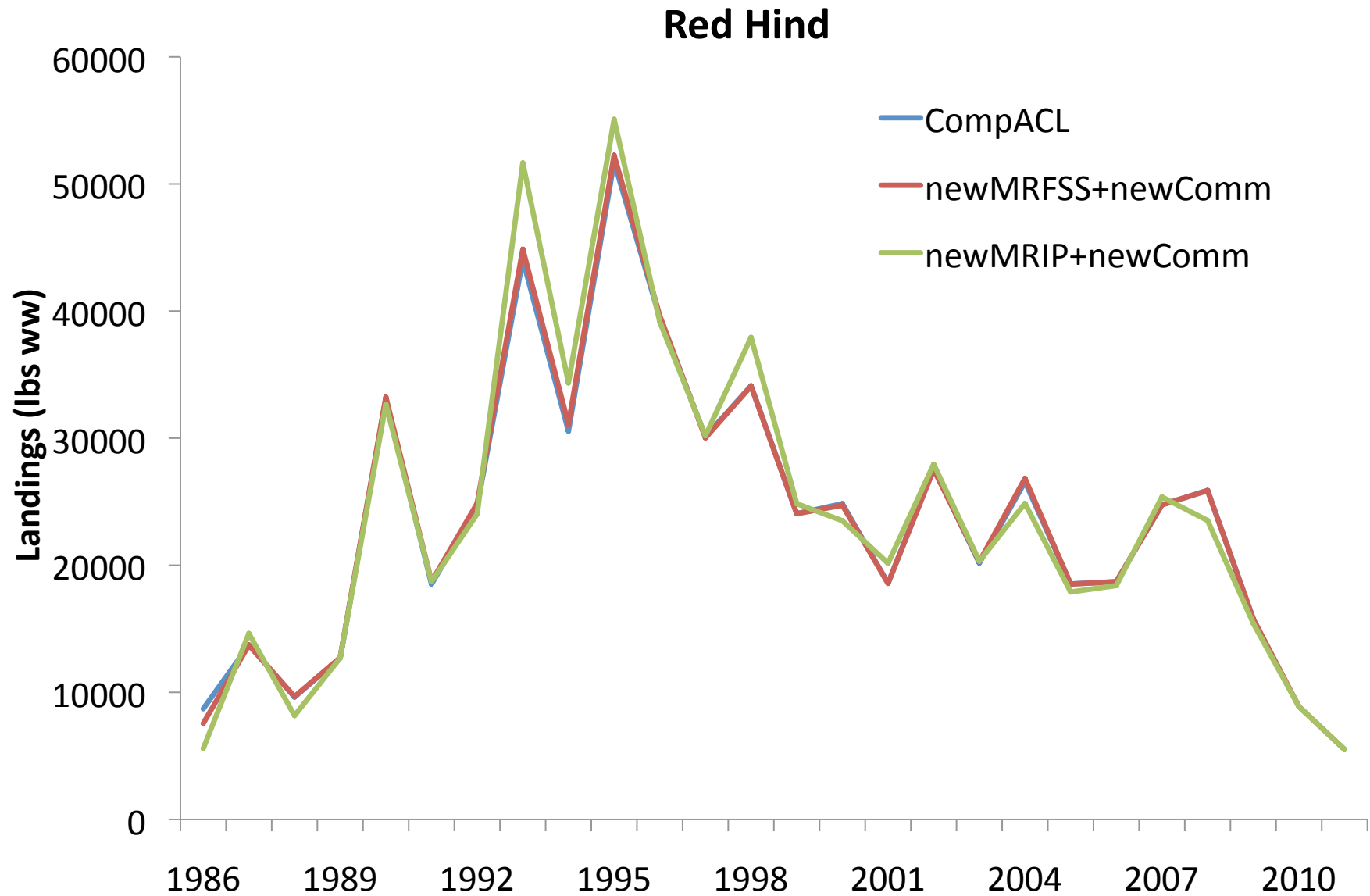


# Grunts Complex

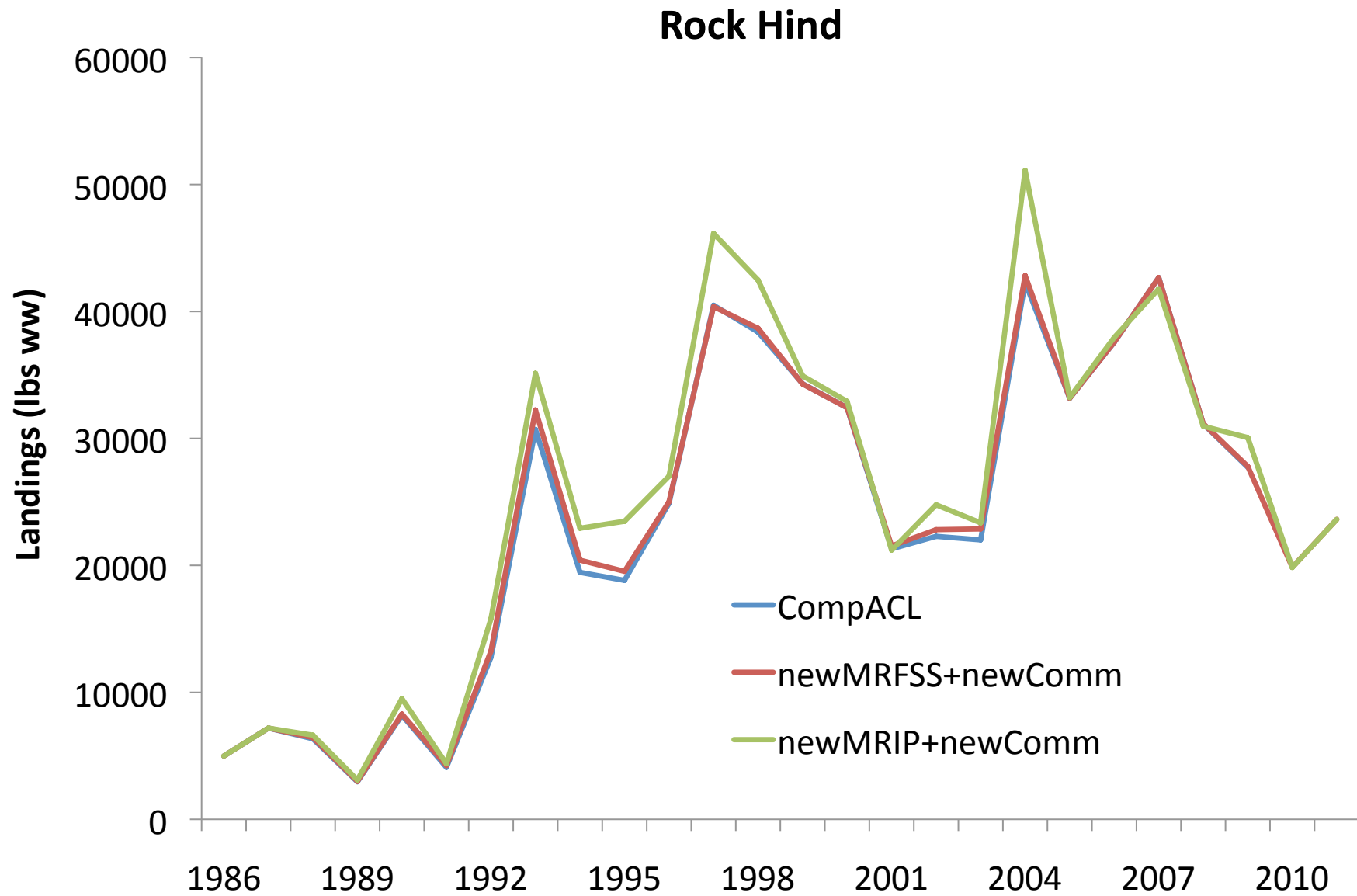
*ABC proxy*

STOCK OR STOCK COMPLEX NAME	ABC			How ABC was calculated
	ACL Amendment	New MRFSS & Commercial	MRIP & New Commercial	
<b>GRUNTS</b>	<b>776,774</b>	<b>805,874</b>	<b>806,652</b>	<b>sum of individual ABCs</b>
White grunt	635,899	663,390	674,033	median (99-08)
<i>Sailors choice</i>	<i>35,266</i>	<i>36,920</i>	<i>22,674</i>	<i>3rd highest (99-08)</i>
<i>Tomtate</i>	<i>70,948</i>	<i>70,948</i>	<i>80,056</i>	<i>3rd highest (99-08)</i>
<i>Margate</i>	<i>34,662</i>	<i>34,616</i>	<i>29,889</i>	<i>3rd highest (99-08)</i>

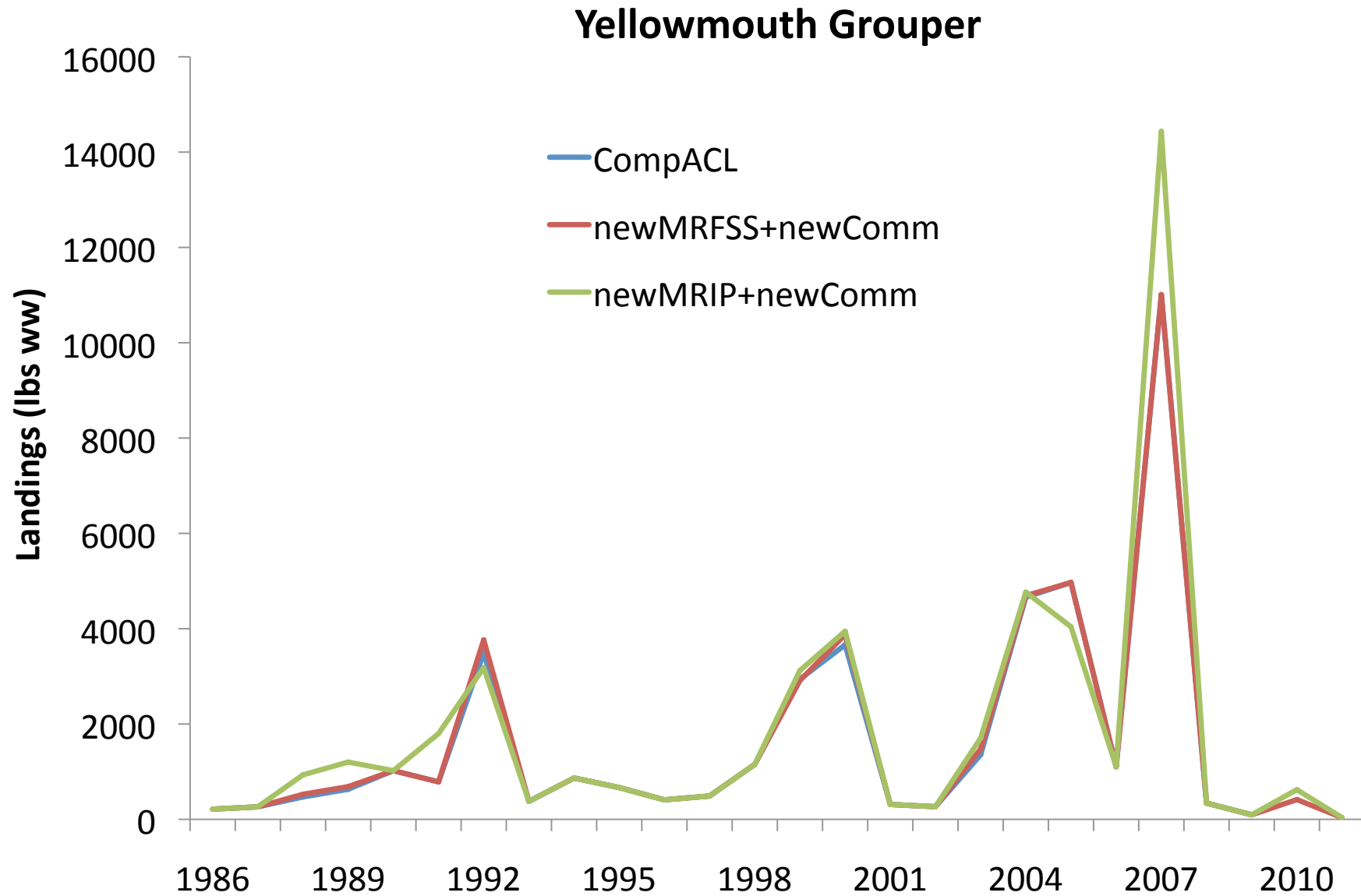
# Red Hind



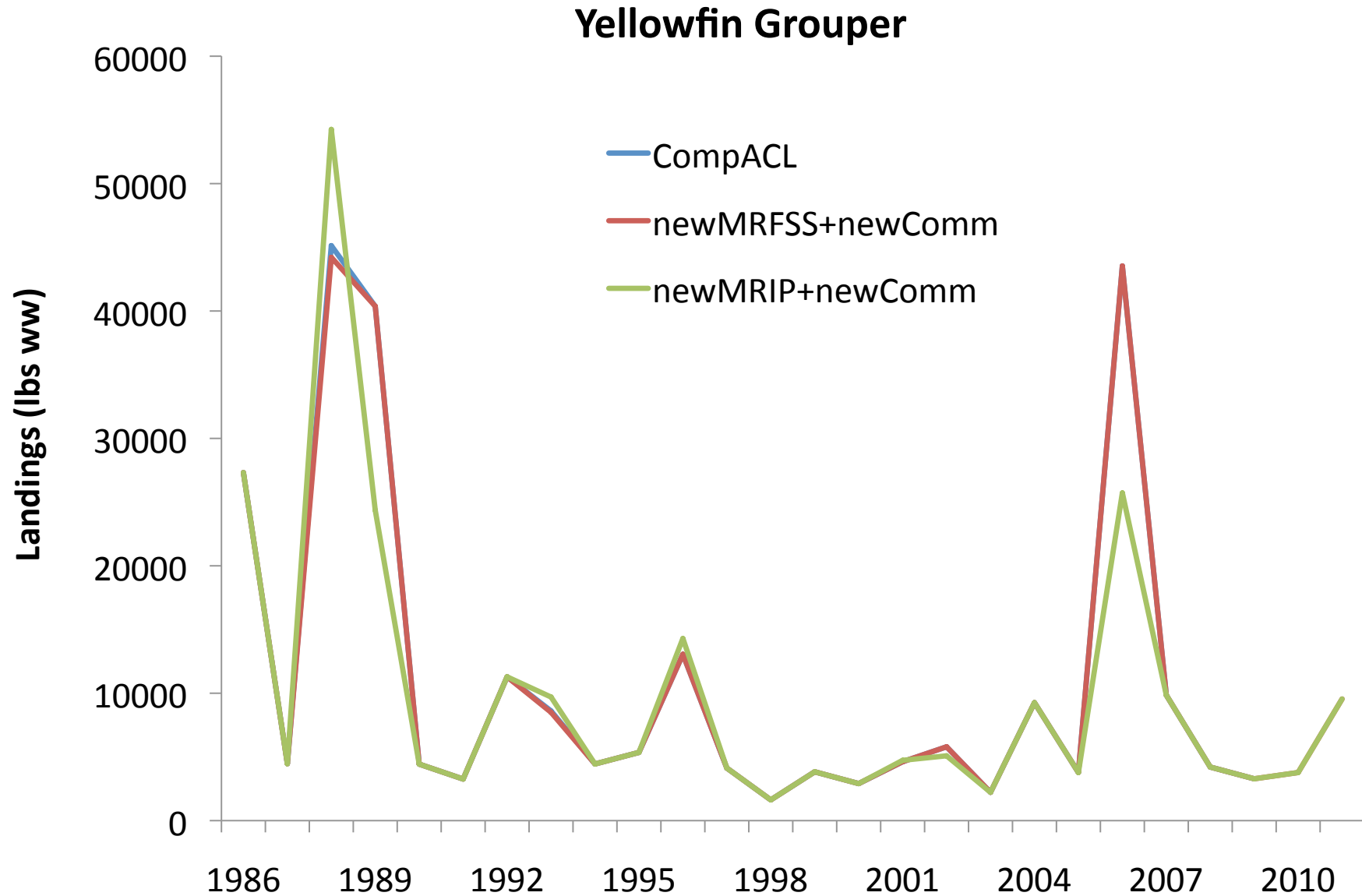
# Rock Hind



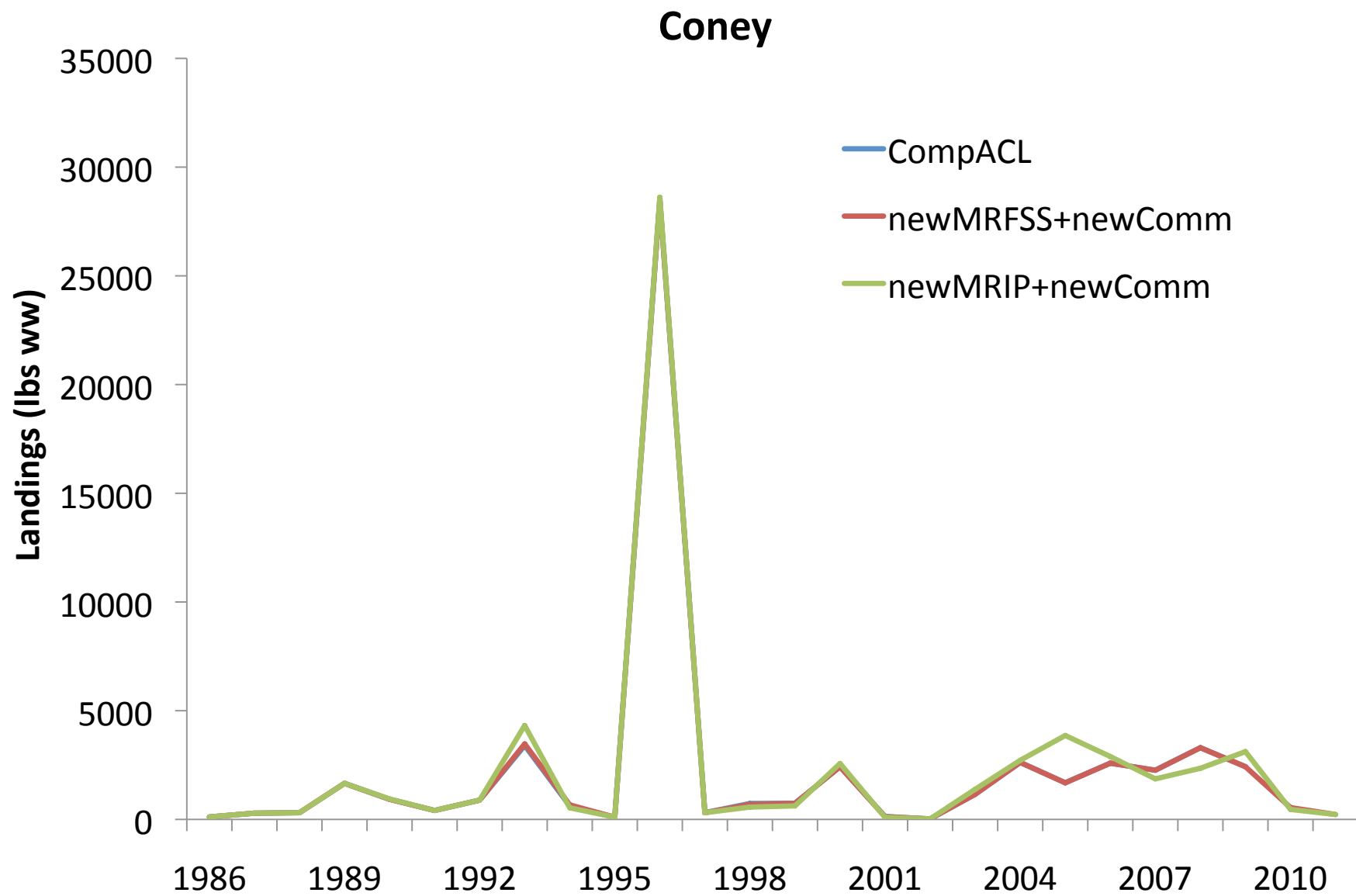
# Yellowmouth Grouper



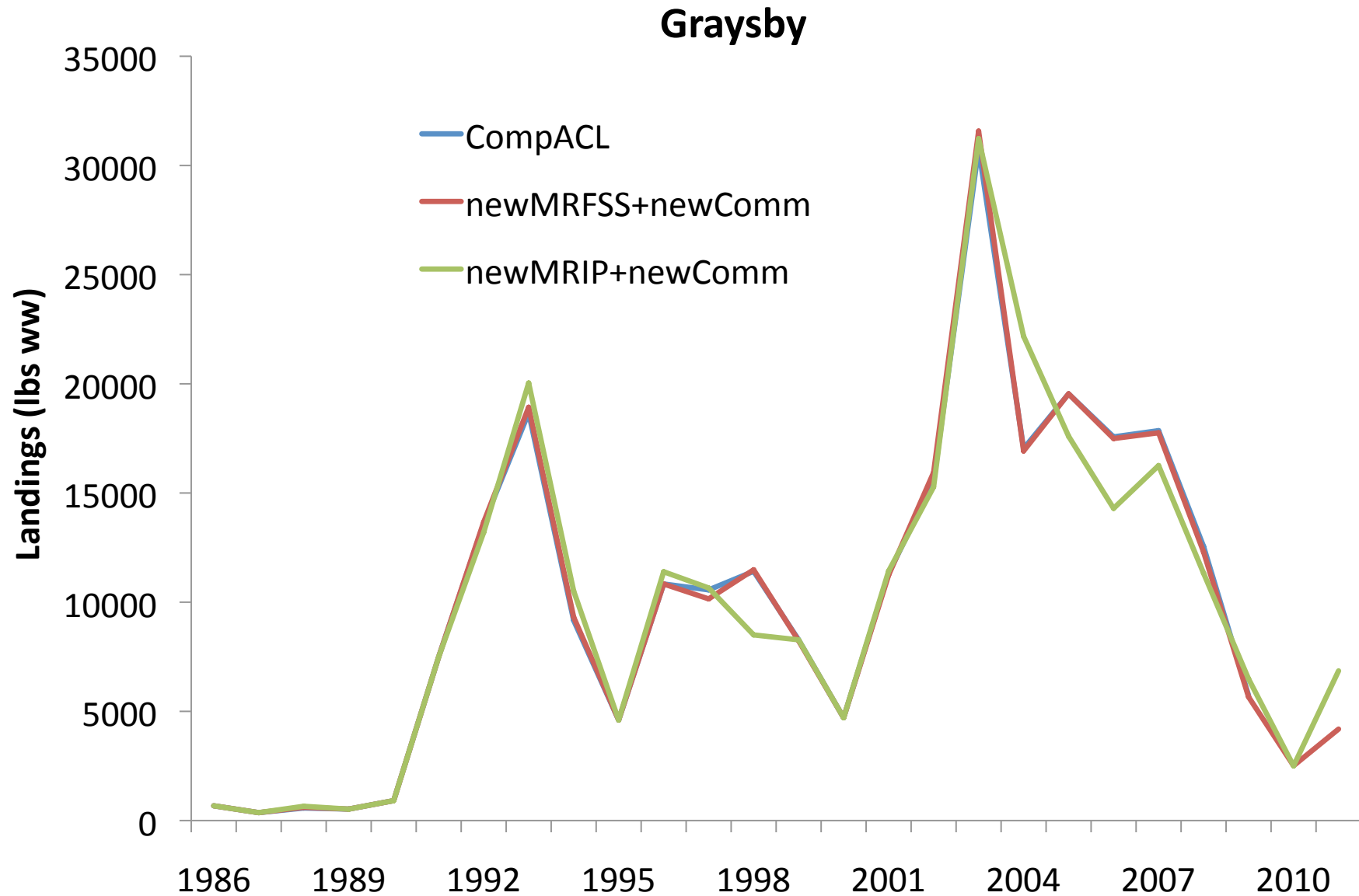
# Yellowfin Grouper



# Coney



# Graysby

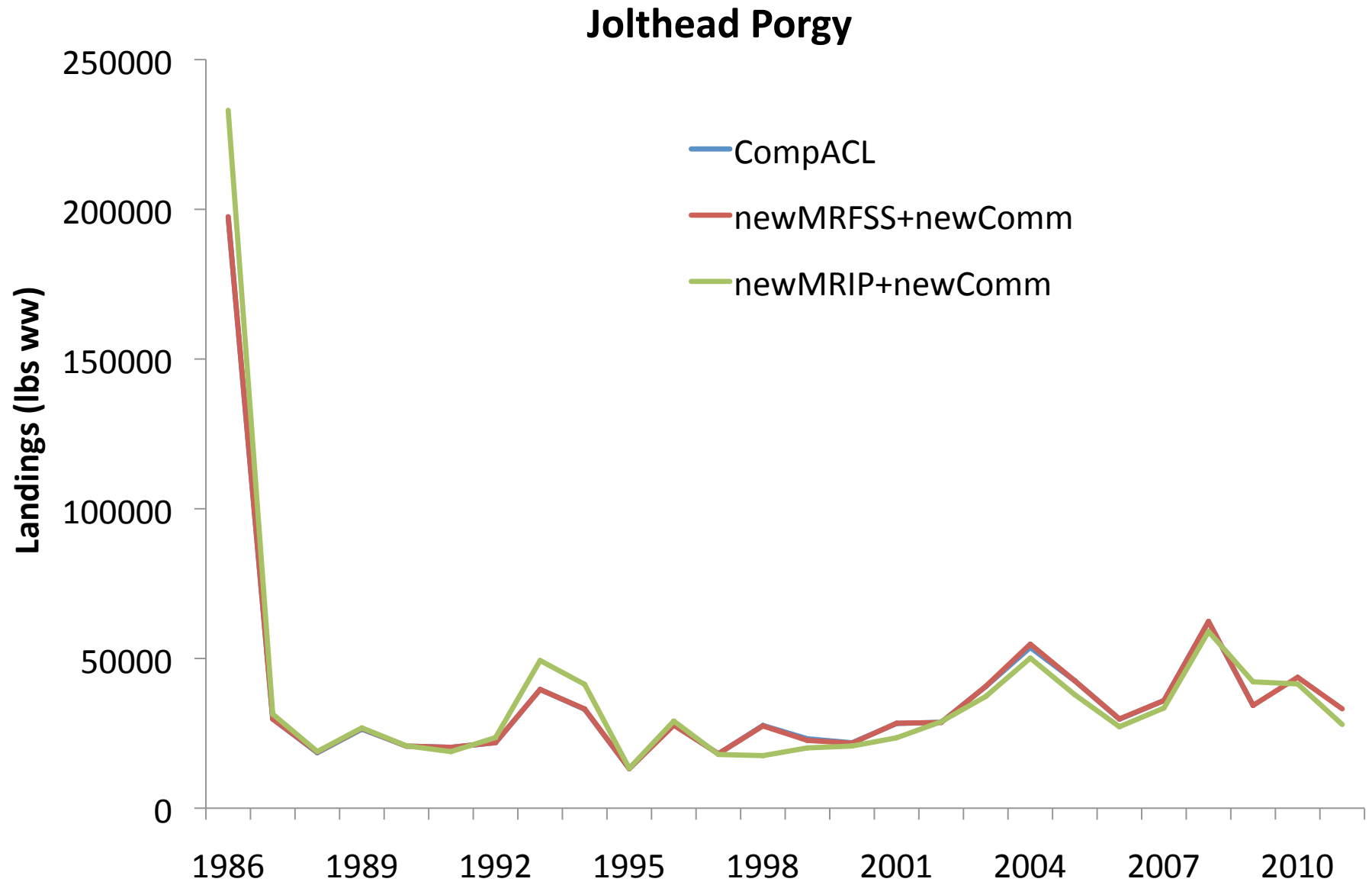


# Shallow-water Grouper Complex *ABC proxy*

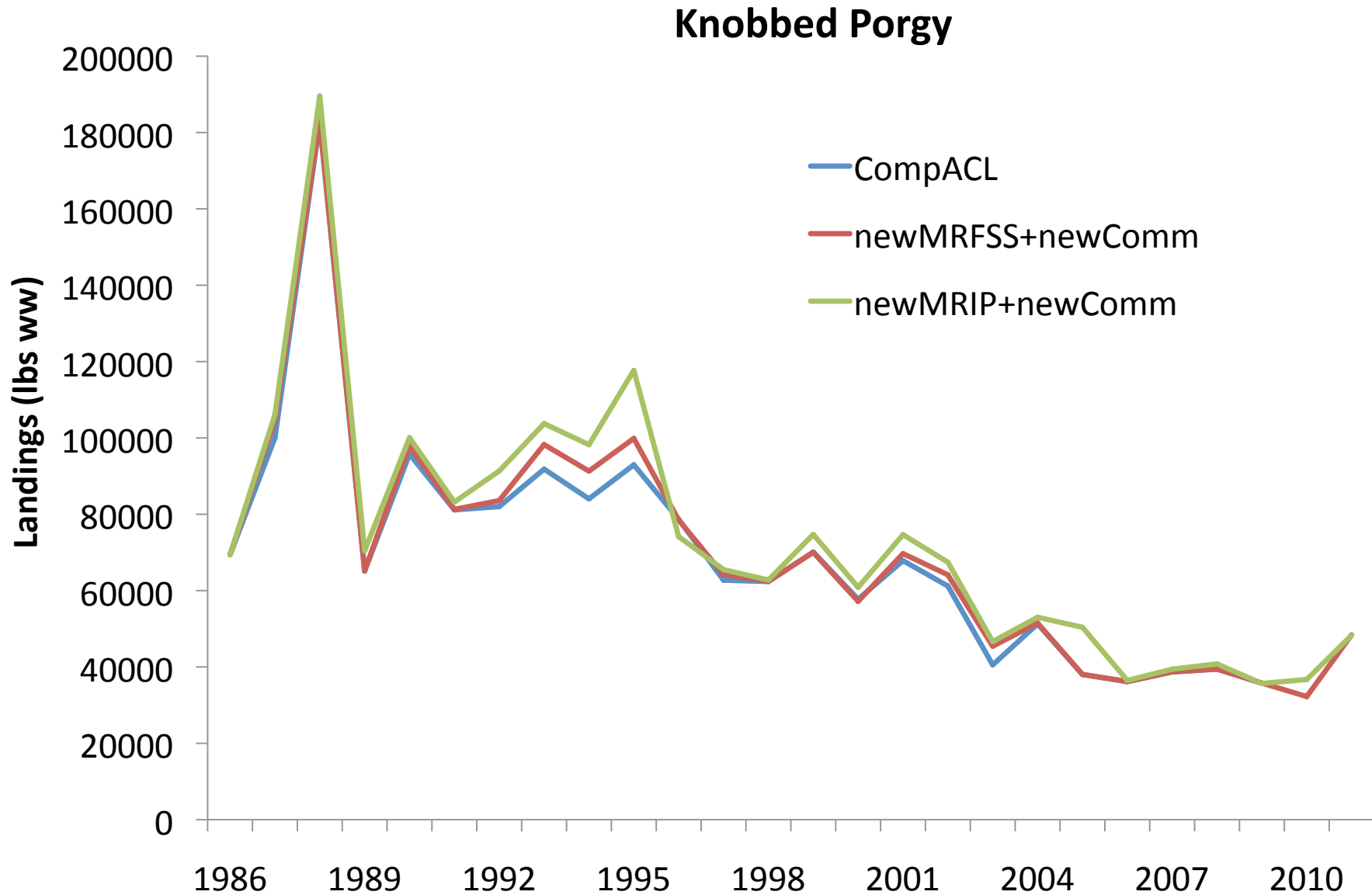
STOCK OR STOCK COMPLEX NAME	ABC			How ABC was calculated
	ACL Amendment	New MRFSS & Commercial	MRIP & New Commercial	
<b>SHALLOW-WATER GROUPERS</b>	<b>97,817</b>	<b>97,745</b>	<b>96,432</b>	<b>sum of individual ABCs</b>
Red hind	25,885	25,875	24,867	3rd highest (99-08)
Rock hind	37,569	37,577	37,953	3rd highest (99-08)
Yellowmouth grouper	4,661	4,692	4,040	3rd highest (99-08)
Yellowfin grouper	9,258	9,258	9,258	3rd highest (99-08)
Coney	2,589	2,584	2,718	3rd highest (99-08)
Graysby	17,856	17,757	17,597	3rd highest (99-08)



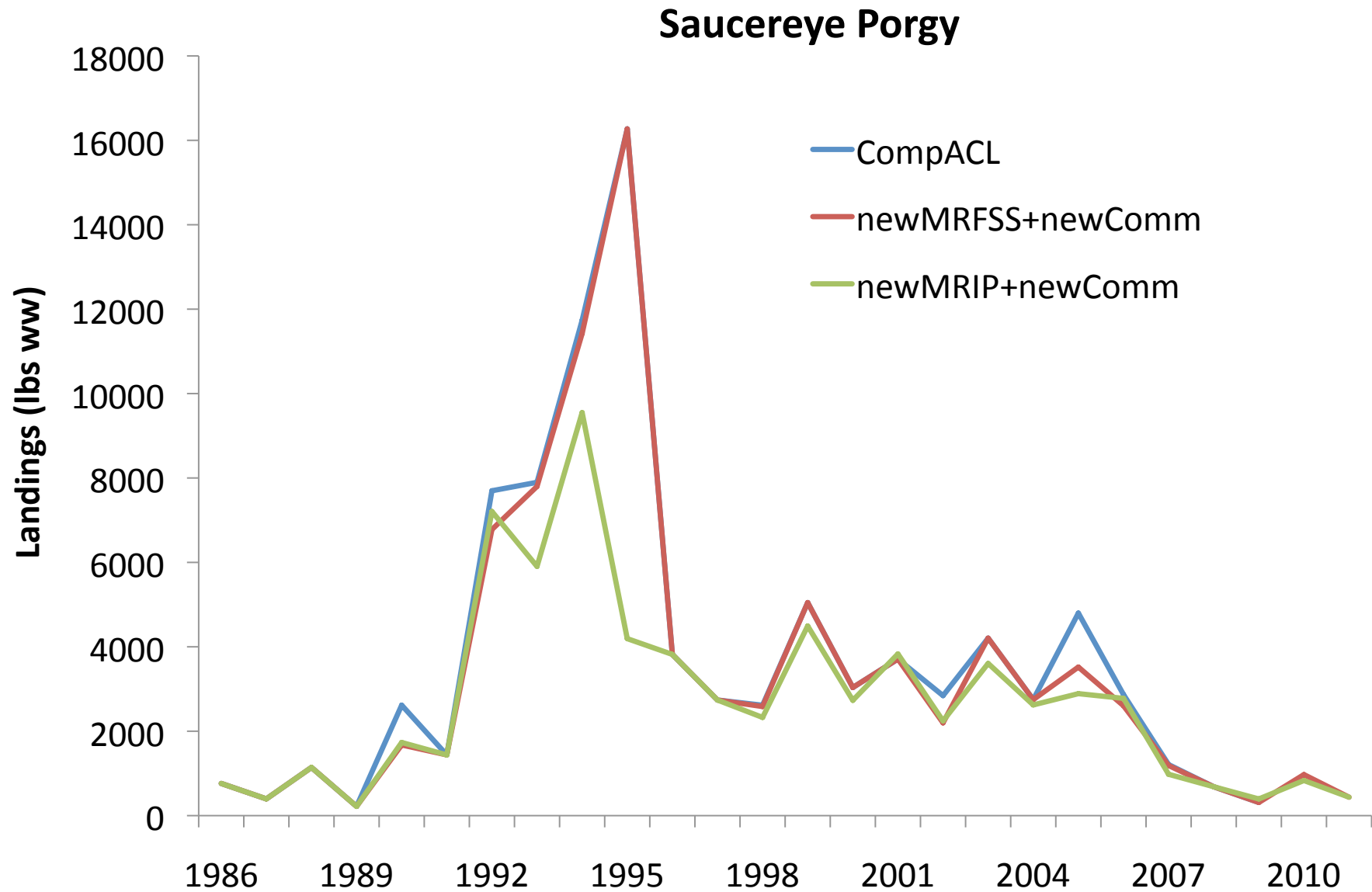
# Jolthead Porgy



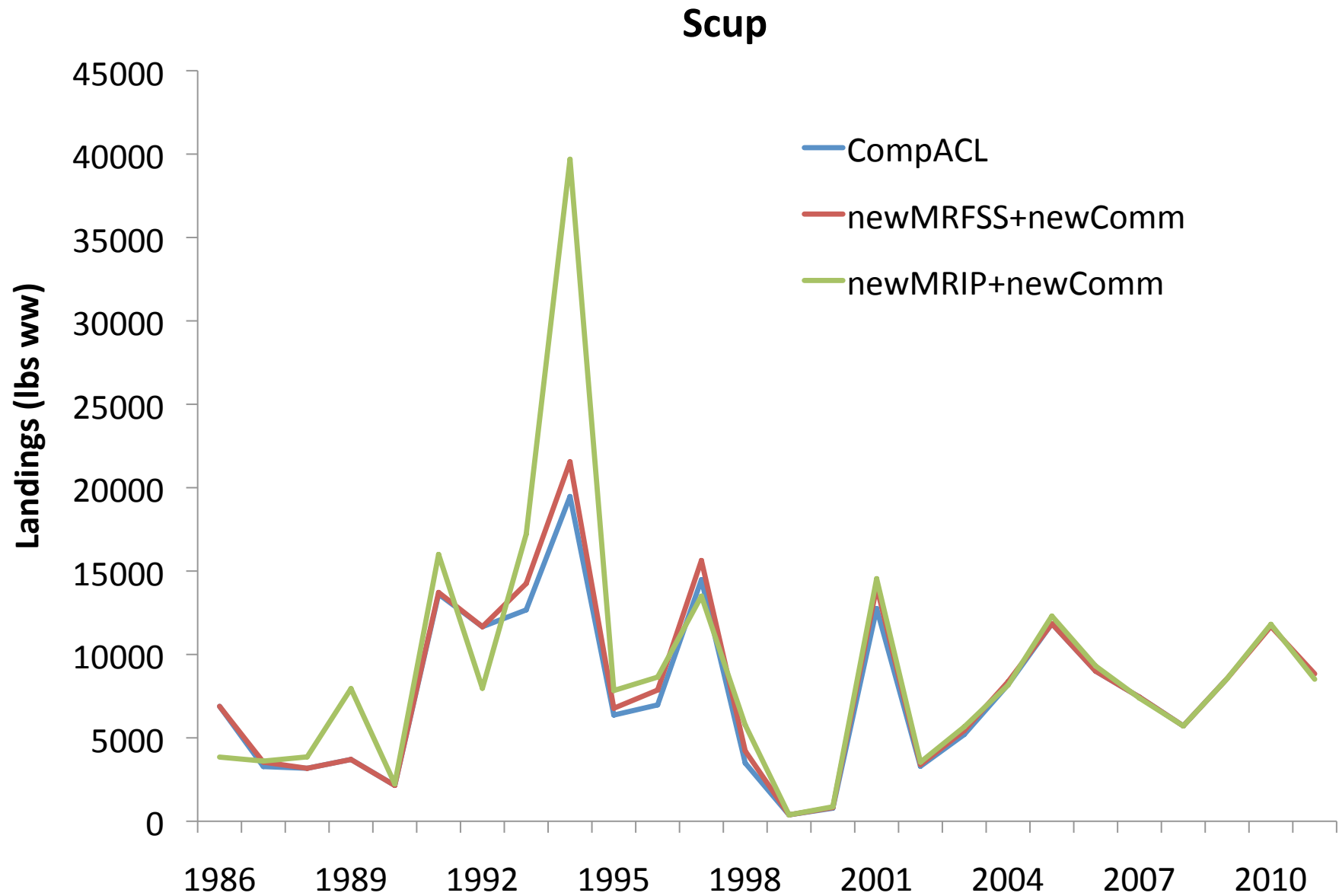
# Knobbed Porgy



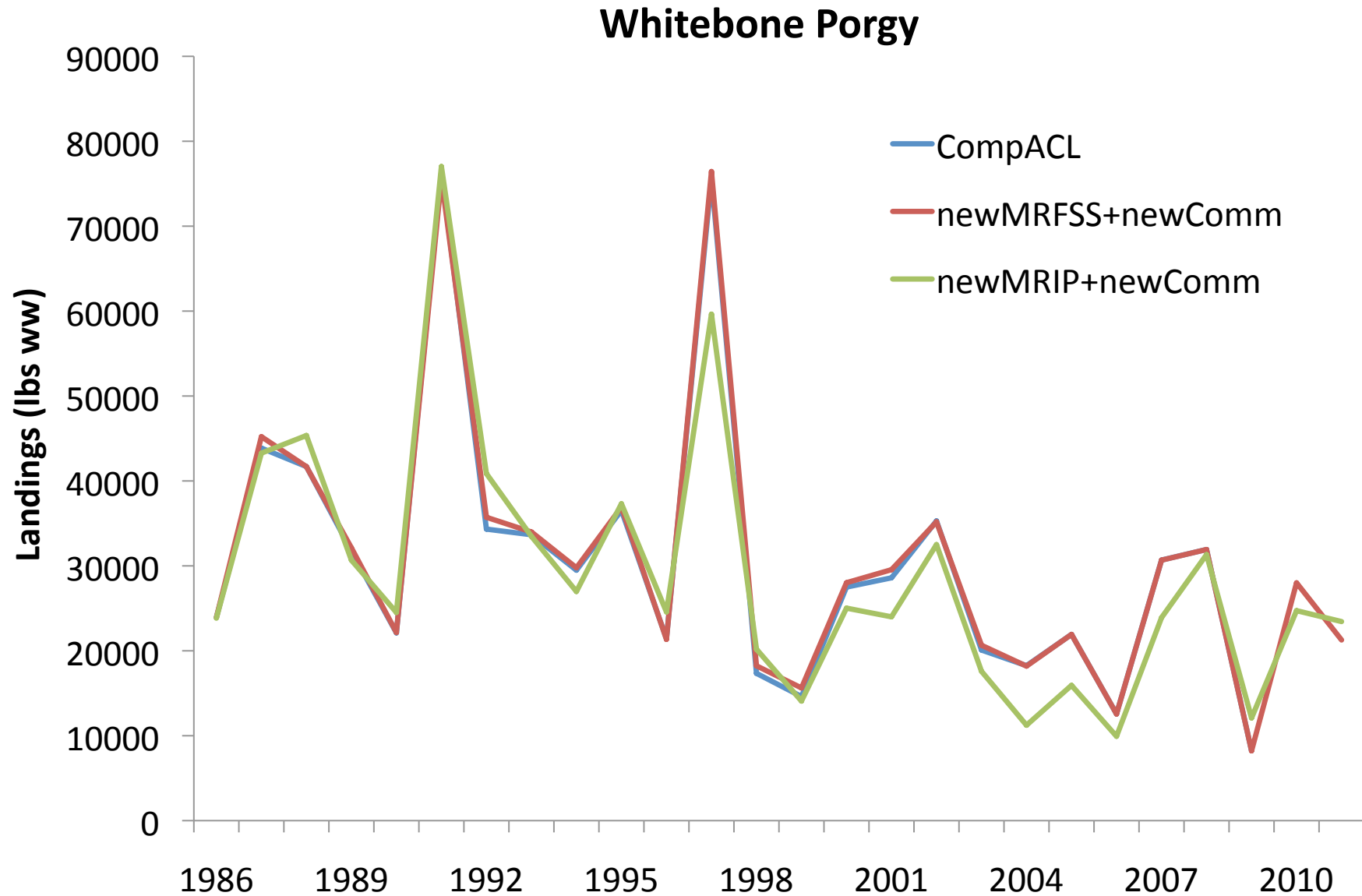
# Saucereye Porgy



# Scup



# Whitebone Porgy

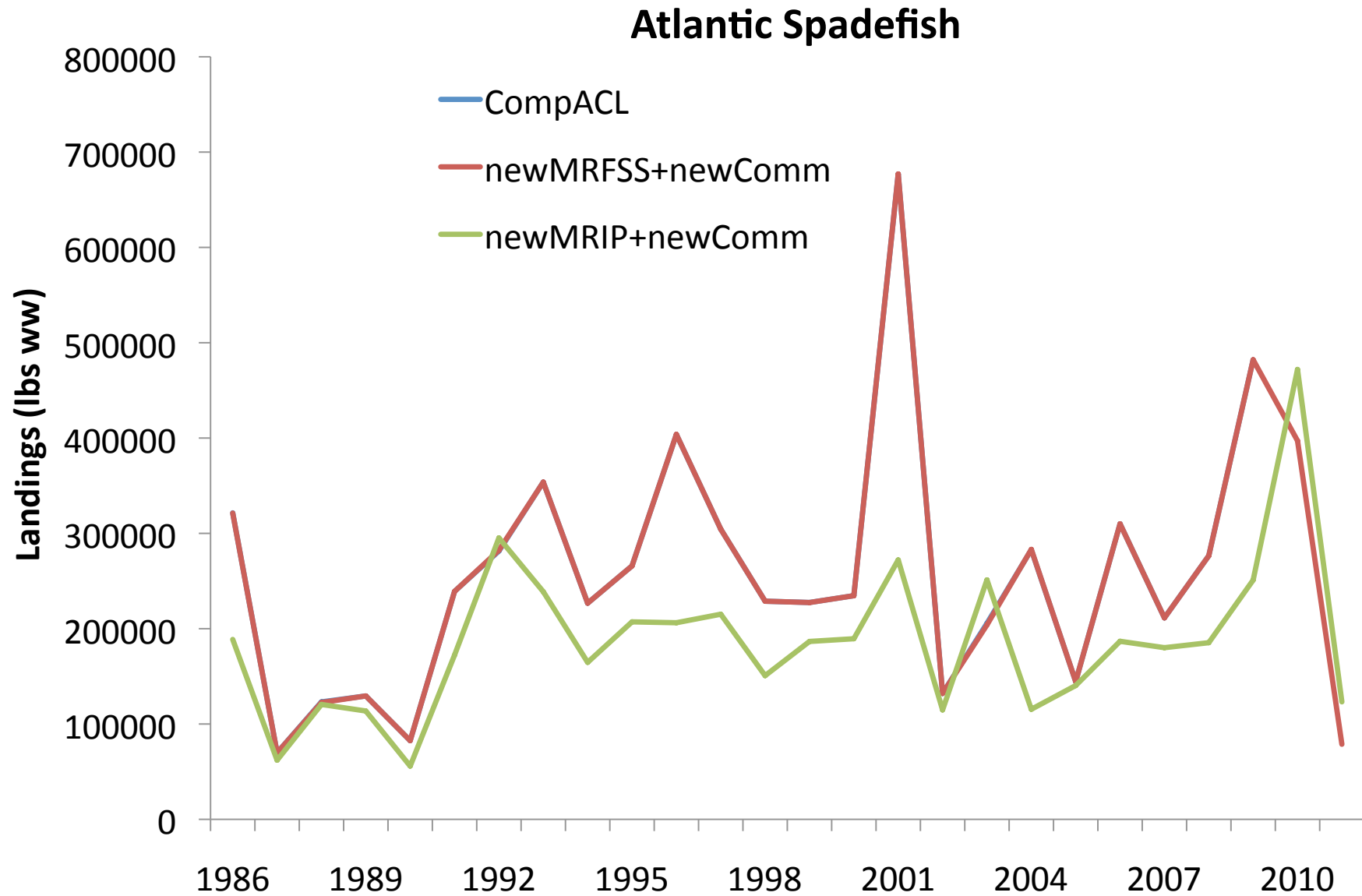


# Porgies Complex

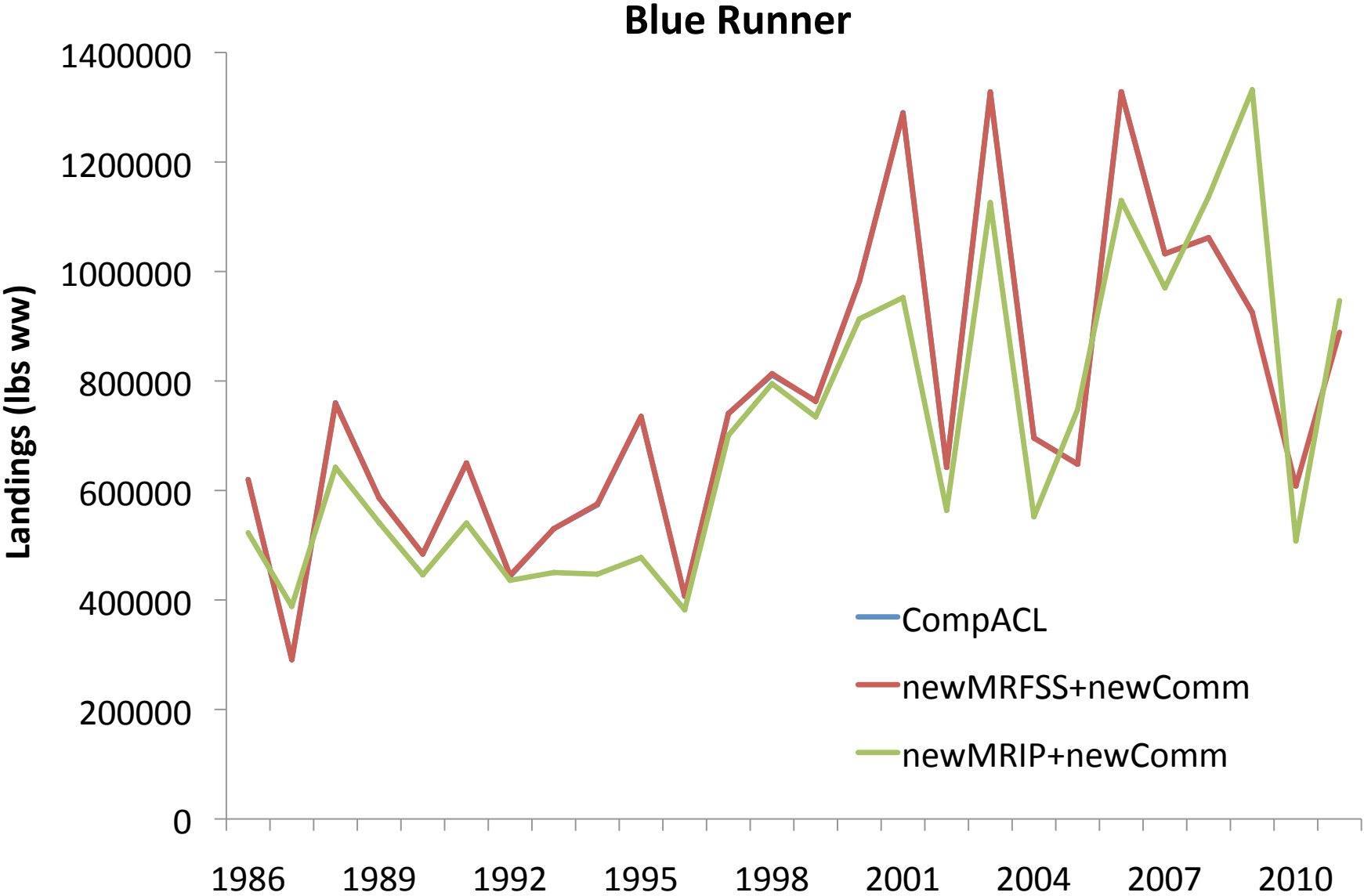
*ABC proxy*

STOCK OR STOCK COMPLEX NAME	ABC			How ABC was calculated
	ACL Amendment	New MRFSS & Commercial	MRIP & New Commercial	
<b>PORGIES</b>	<b>147,614</b>	<b>150,041</b>	<b>143,263</b>	<b>sum of individual ABCs</b>
Jolthead porgy	42,533	42,533	37,885	3rd highest (99-08)
Knobbed porgy	61,194	64,130	67,441	3rd highest (99-08)
Saucereye porgy	4,205	3,710	3,606	3rd highest (99-08)
Scup	8,999	8,999	9,306	3rd highest (99-08)
Whitebone porgy	30,684	30,671	25,024	3rd highest (99-08)

# Atlantic Spadefish

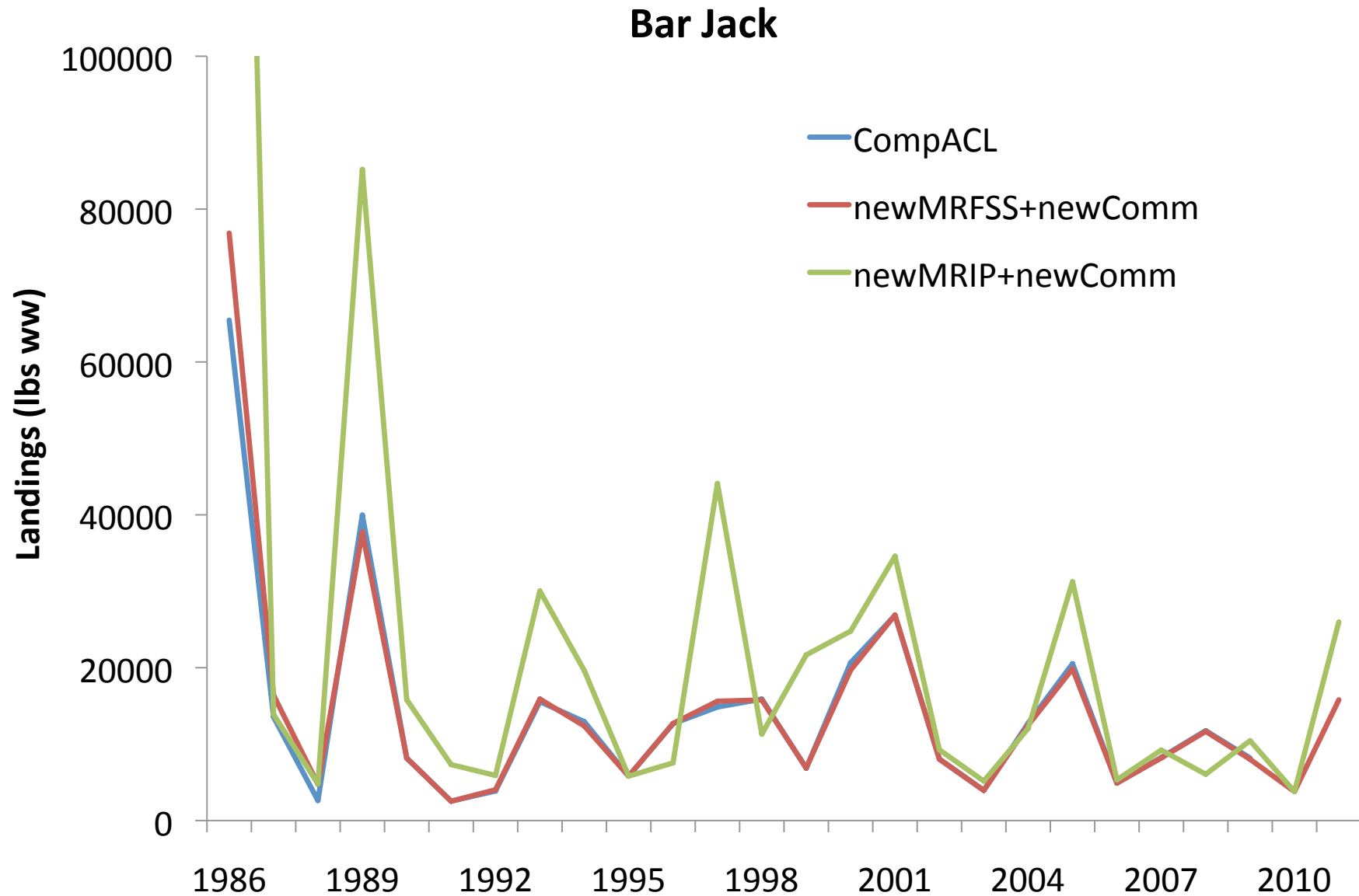


# Blue Runner

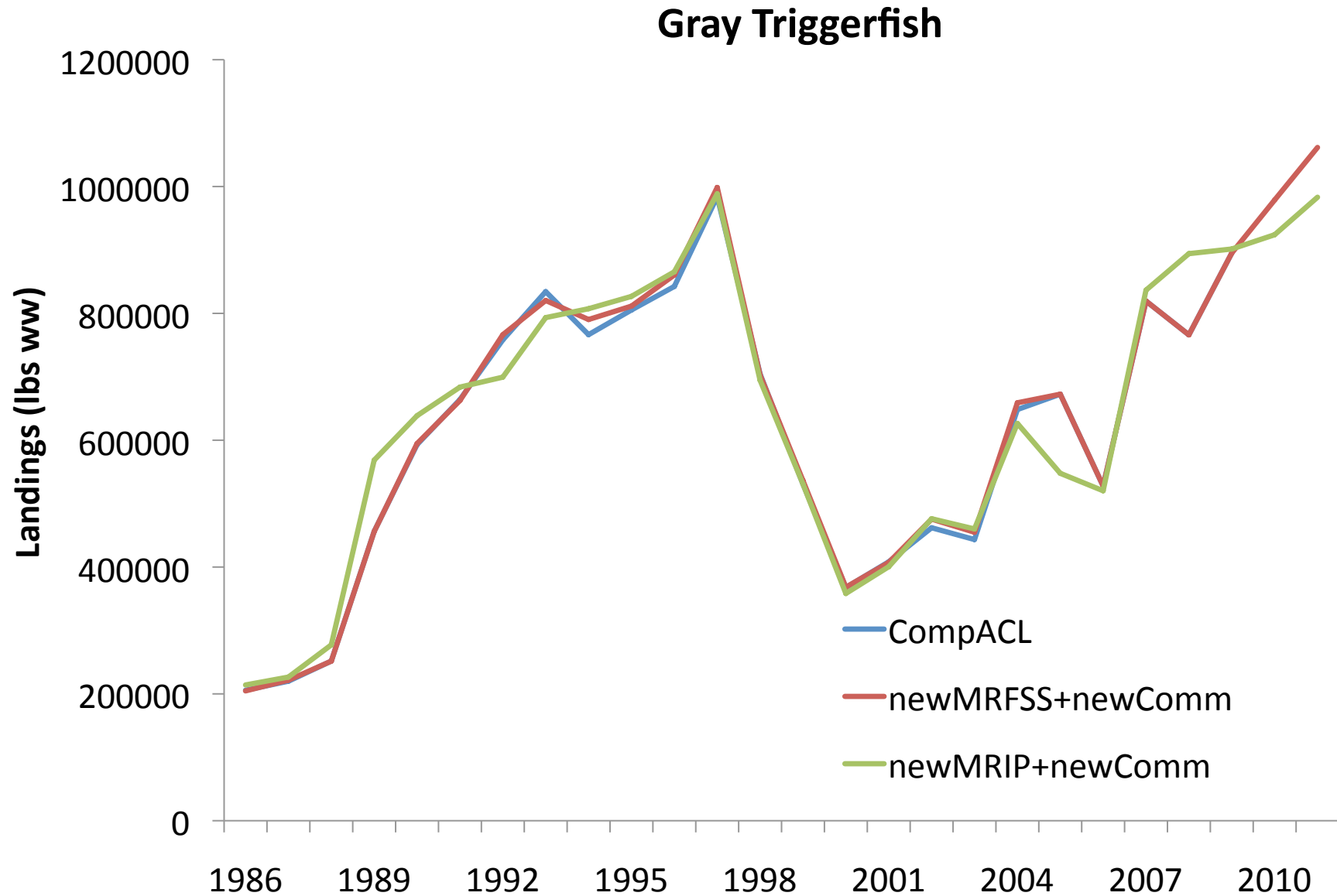




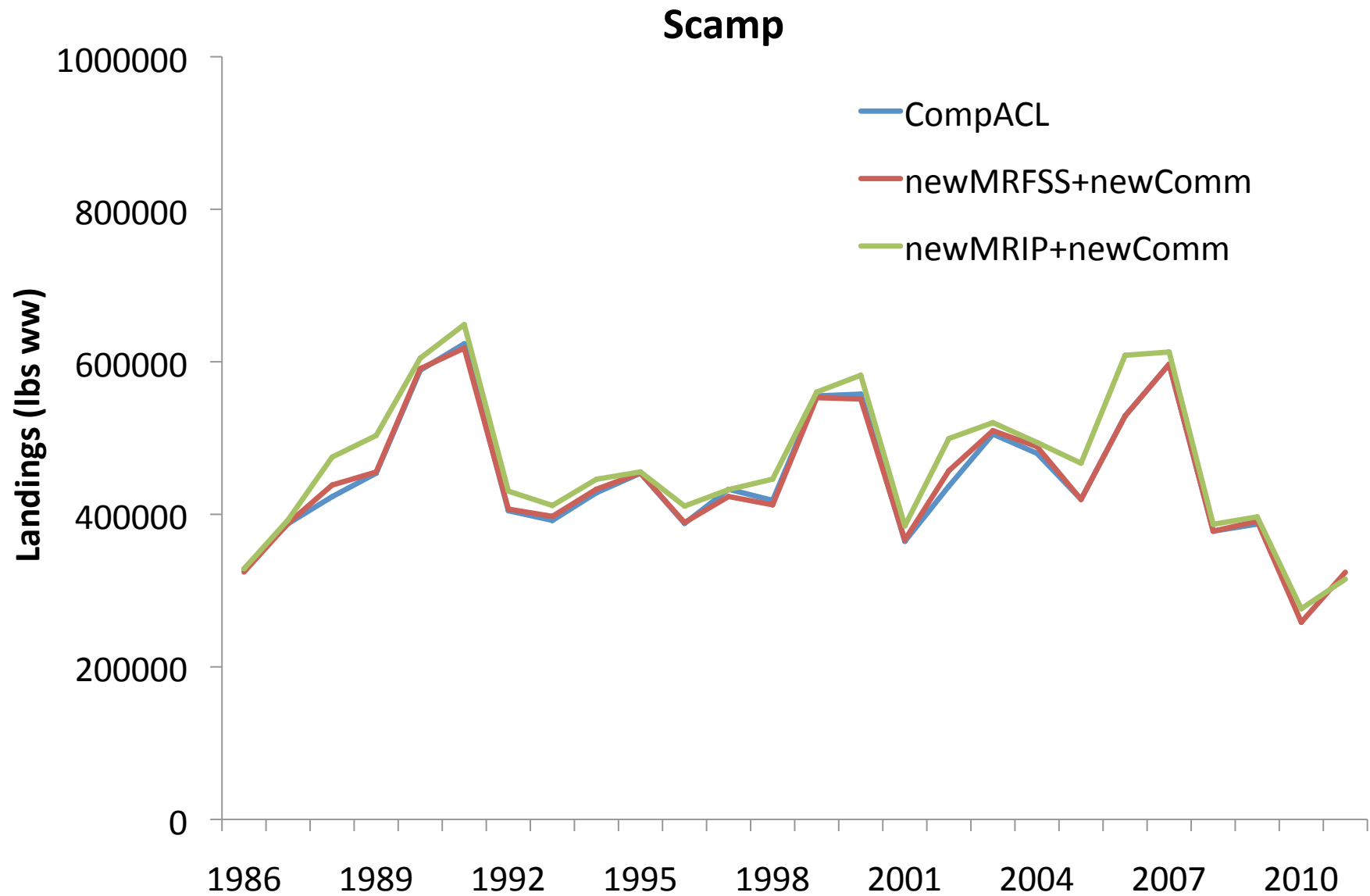
# Bar Jack



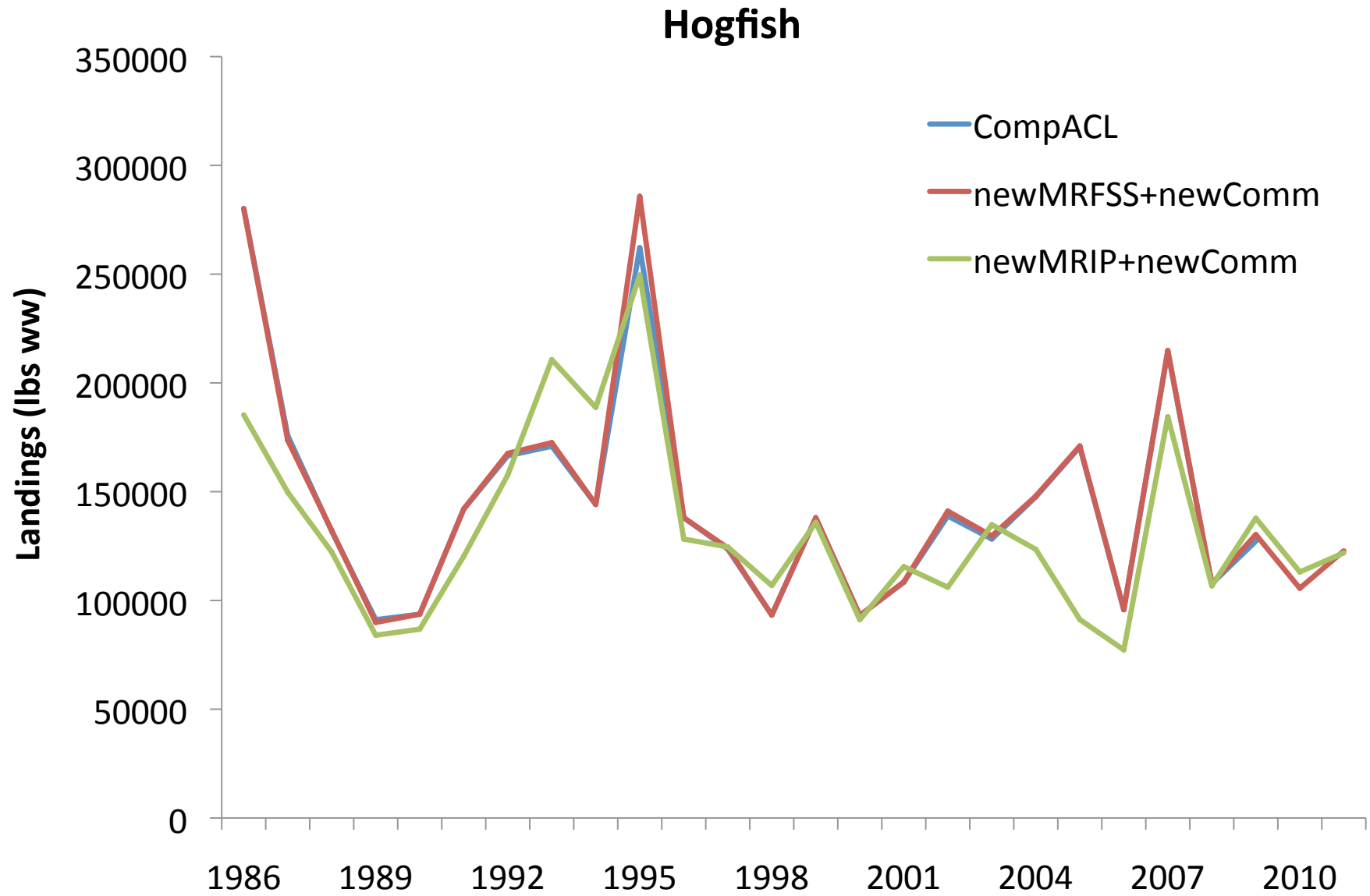
# Gray Triggerfish



# Scamp



# Hogfish



# Individual Stocks

*ABC proxy*

STOCK	ABC			How ABC was calculated
	ACL Amendment	New MRFSS & Commercial	MRIP & New Commercial	
Atlantic spadefish	282,841	283,177	189,460	3rd highest (99-08)
Blue runner	1,289,941	1,288,716	1,125,729	3rd highest (99-08)
<b>Bar jack</b>	<b>20,520</b>	<b>19,684</b>	<b>24,780</b>	<b>3rd highest (99-08)</b>
Gray triggerfish	672,565	672,565	626,518	3rd highest (99-08)
Scamp	492,572	499,255	509,788	median (99-08)
Hogfish	147,638	147,971	134,824	3rd highest (99-08)