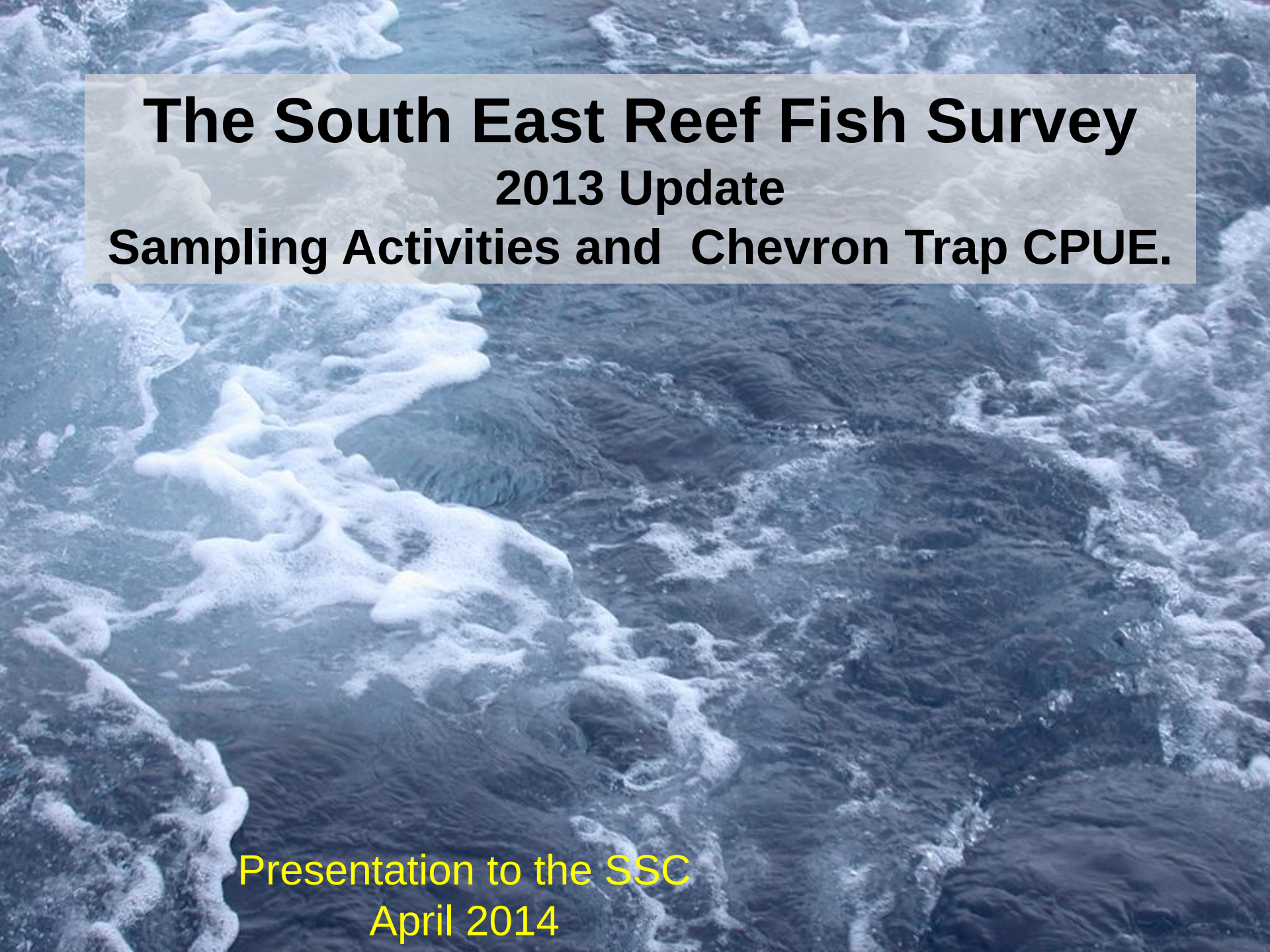




The South East Reef Fish Survey

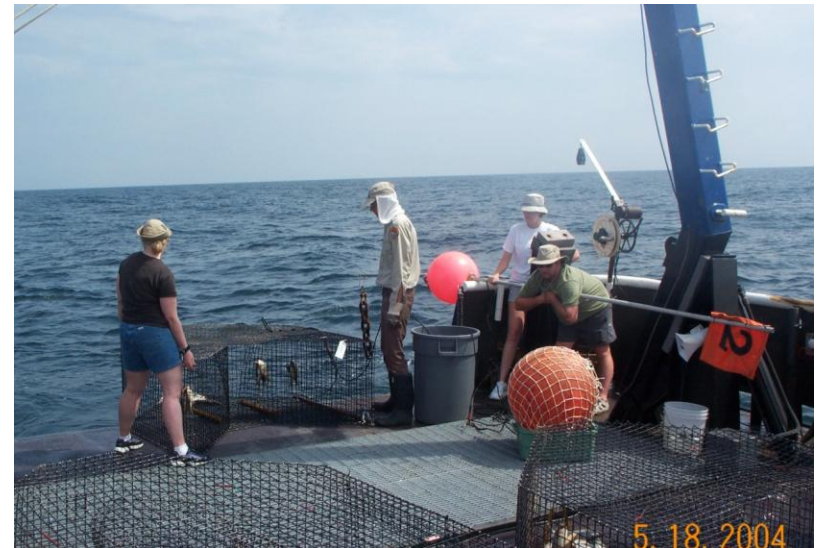
2013 Update

Sampling Activities and Chevron Trap CPUE.

Presentation to the SSC
April 2014

South East Reef Fish Survey (**SERFS**)

- MARMAP since 1972 - reef fish sampling since late 70's
- SEAMAP-SA since 1986, - reef fish sampling since 2009
- SEFIS since 2010

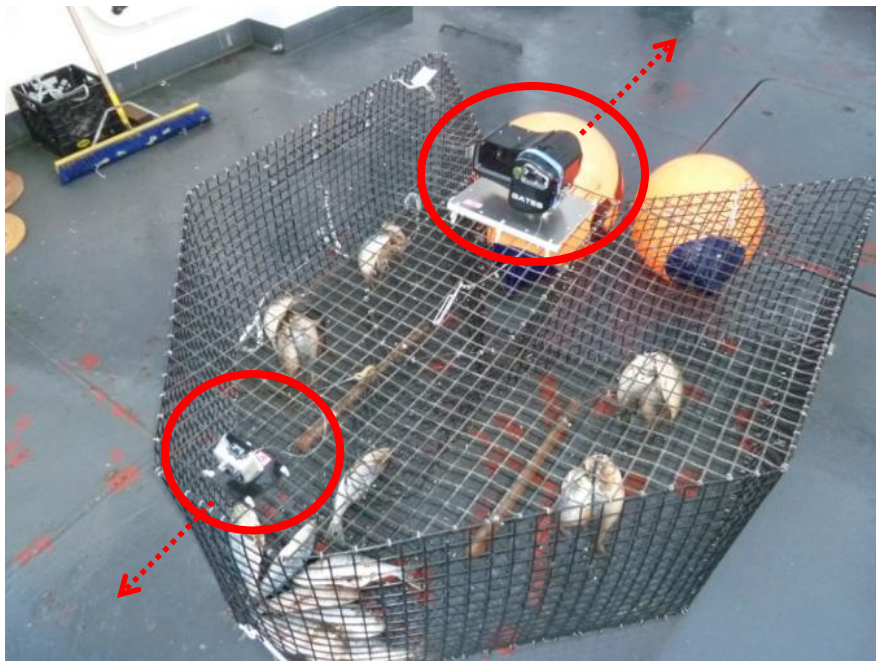


MARine Resources Monitoring, Assessment and Prediction
South East Area Monitoring and Assessment Program (South Atlantic)
South East Fishery Independent Survey



Current primary gear: Chevron trap

- Consistent and standardized use since 1990
- Deployed in depths to ≈ 120 m
- Soak time ≈ 90 minutes - baited with clupeids
- 2013: 1-3 UW video cameras on each trap



Contemporary Sampling design

>3,000 sampling stations with
known live-bottom habitat
Random selection of these stations
distance at least 200m

Sampling

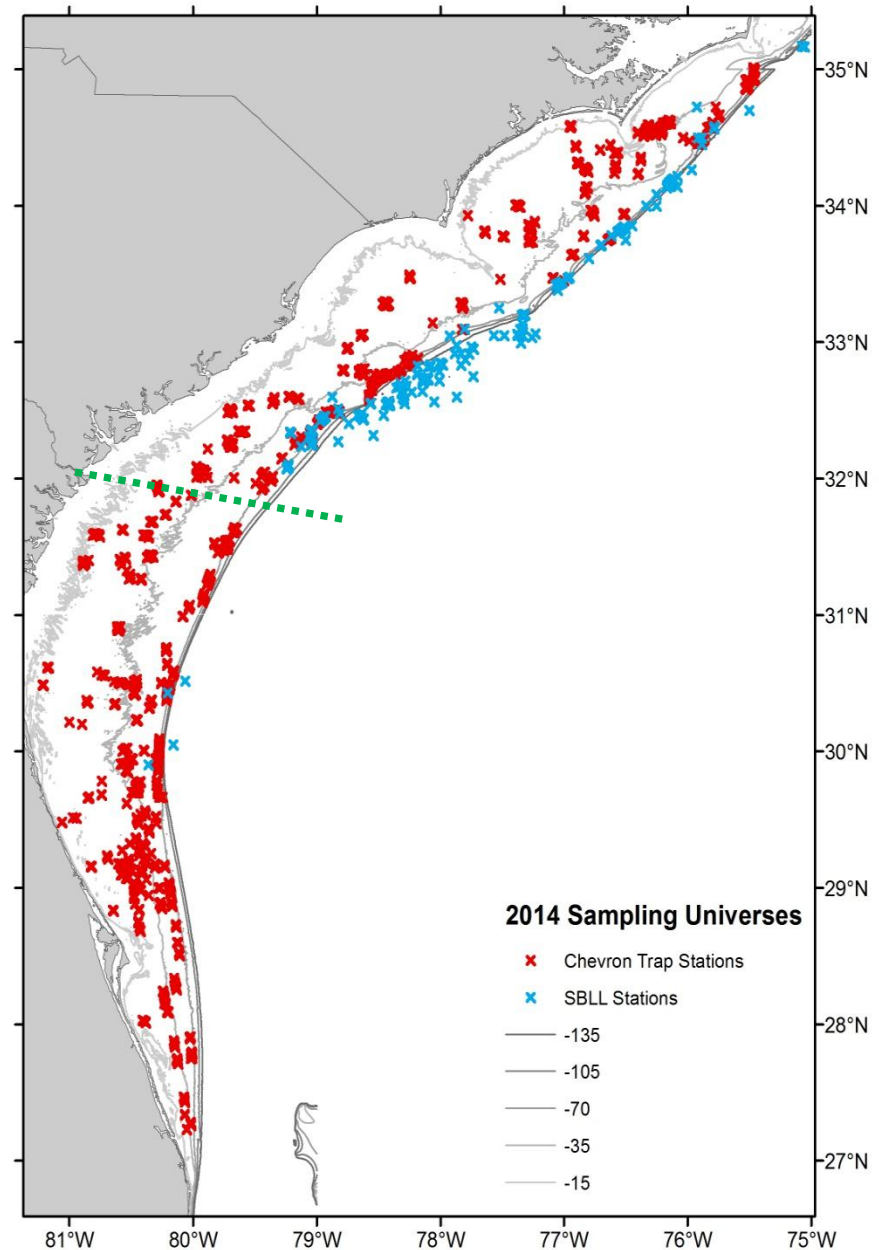
- MARMAP/SEAMAP-SA: NC and SC
- SEFIS: GA and FL

Data processing

- MARMAP/SEAMAP-SA:
Life history processing & analyses
- SEFIS
Video processing & analyses

Data

One combined comprehensive
database, managed in collaboration





R/V Palmetto
MARMAP/SEAMAP-SA
SC-DNR

R/V Savannah
SEFIS
SKIO



35 - 60 days at sea per vessel
5 -12 days per cruise

MARMAP/SEAMAP-SA

2006 – 2009:

≈ 690 traps annually

MARMAP/SEAMAP-SA/SEFIS

2010 – 2013:

≈ 1,100 - 1,500 traps annually (incl. recon.)

- FY12

- 40% MARMAP budget reduction:
halting long line surveys (+20% in FY13)

- FY14

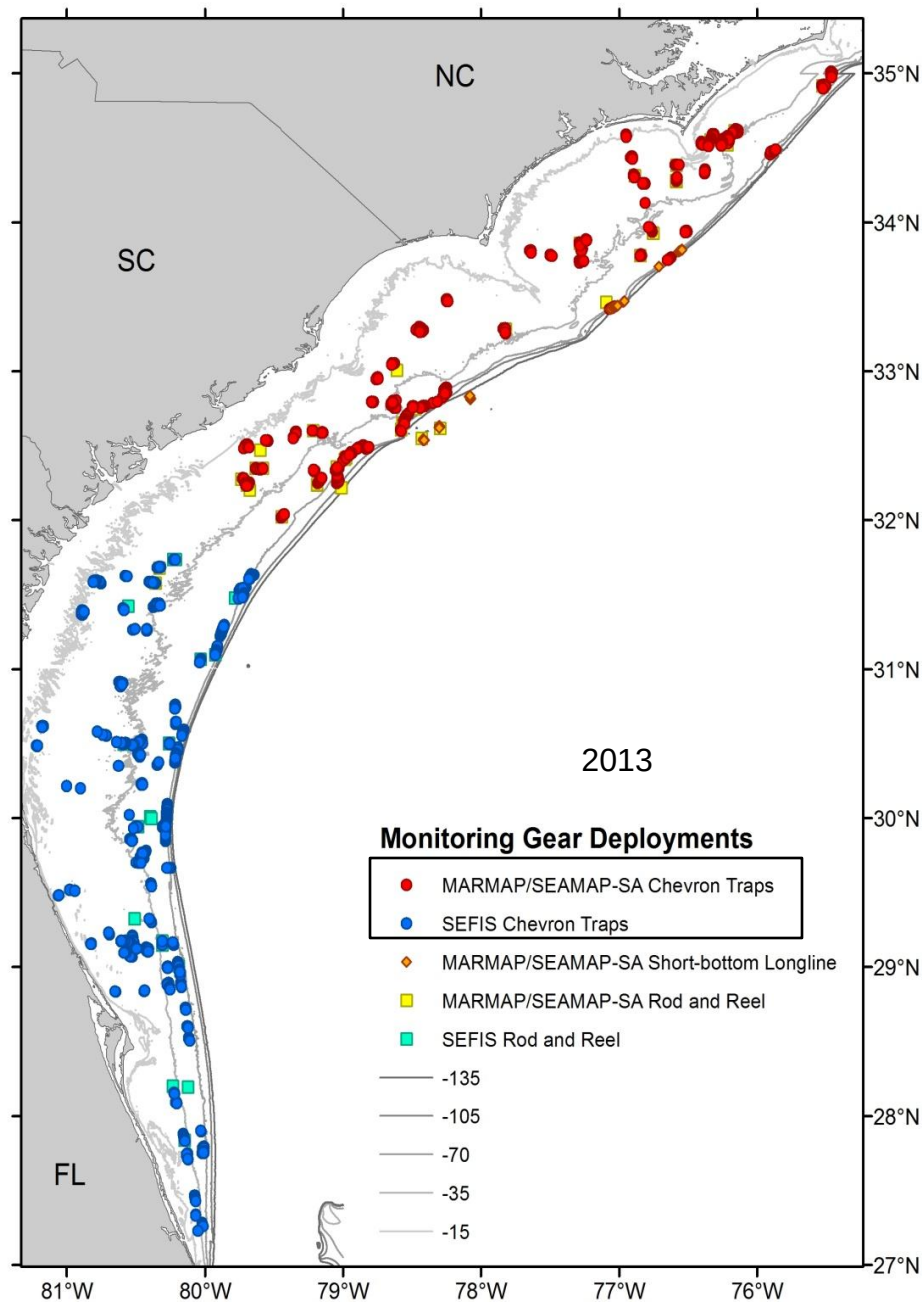
- MARMAP funding +13%

- SEAMAP reef fish funding increase allows resuming
short bottom long line survey in 2014

- SEFIS funding 10% reduction will result in 10% reduction in sea days
and funding to MARMAP

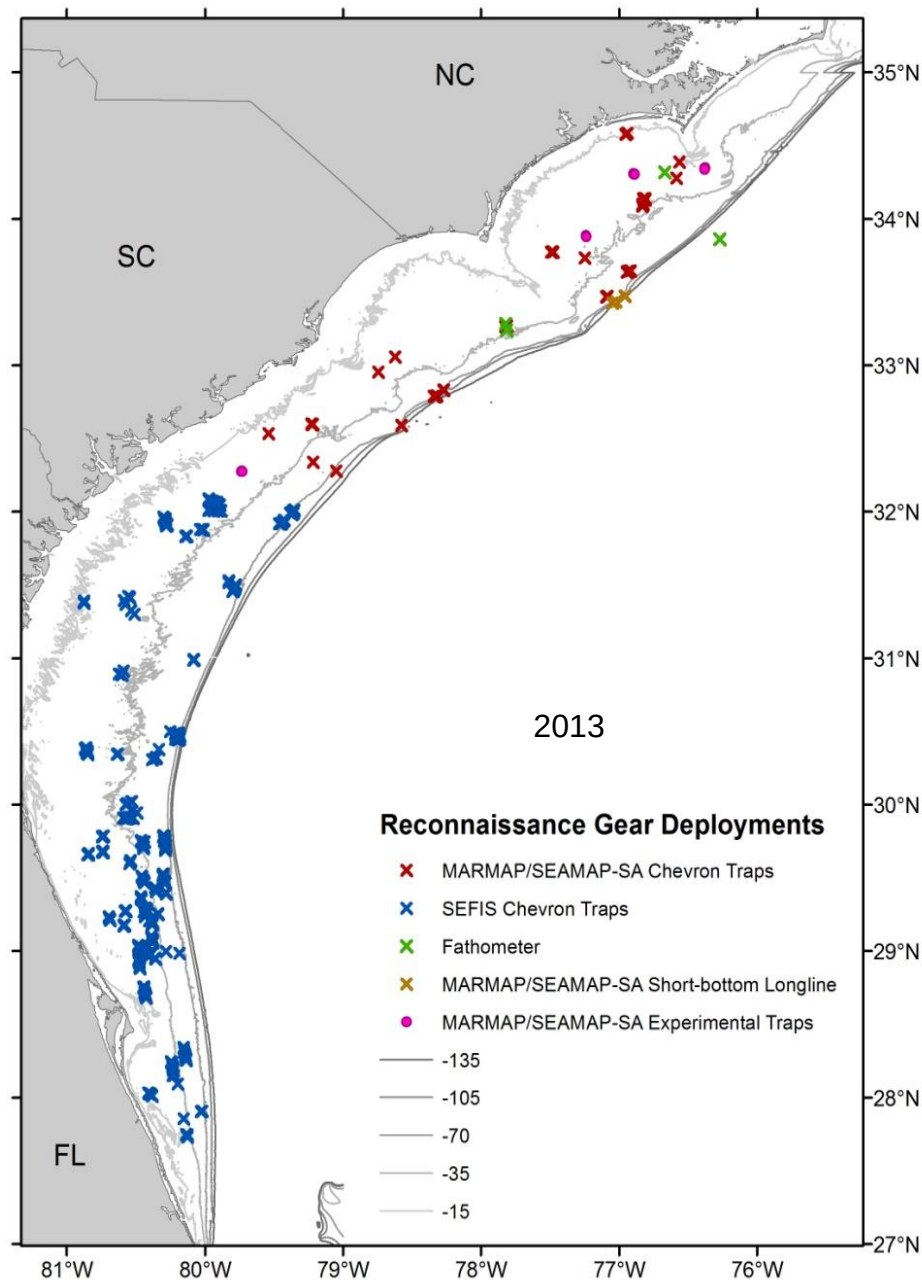
2013 Summary

- Traps deployed: 1,013 monitoring
548 recon.
All with (2) video camera(s)
- 596 other gear deployments
(CTD, H&L, etc.)
- 68 species - 41,052 fish
identified, weighed & measured
- Life history (trap catches):
40 species and 7,620 fish kept
(age & reproduction)
- Diet studies:
Completed sampling: red porgy,
vermilion snapper, gray triggerfish,
red snapper
Ongoing: groupers, squirrelfish,
blueline tilefish, black sea bass,
white grunt



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2013 Reef Fish Survey catches - Most common species

Common_Name	Scientific_Name	Other gear	Chevron trap	total
Black Sea Bass	<i>Centropristis striata</i>	368	22,998	23,366
Tomtate	<i>Haemulon aurolineatum</i>		8,388	8,388
Scup and Longspine Porgy	<i>Stenotomus sp.</i>		1,861	1,861
Red Porgy	<i>Pagrus pagrus</i>	14	1,942	1,956
Gray Triggerfish	<i>Balistes capriscus</i>		1,273	1,273
Vermilion Snapper	<i>Rhomboplites aurorubens</i>	1	1,129	1,130
Bank Sea Bass	<i>Centropristis ocyurus</i>	2	647	649
White Grunt	<i>Haemulon plumierii</i>	10	530	540
Red Snapper	<i>Lutjanus campechanus</i>	90	376	466
Sand Perch	<i>Diplectrum formosum</i>		352	352
Spottail Pinfish	<i>Diplodus holbrookii</i>		155	155
Scamp	<i>Mycteroperca phenax</i>	32	63	95
Cubbyu	<i>Pareques umbrosus</i>	1	78	79
Snowy Grouper	<i>Epinephelus niveatus</i>	51	21	72
Planehead Filefish	<i>Stephanolepis hispidus</i>		60	60
Pinfish	<i>Lagodon rhomboides</i>		58	58
Gag	<i>Mycteroperca microlepis</i>	32	23	55
Jackknife Fish	<i>Equetus lanceolatus</i>		51	51
Red Grouper	<i>Epinephelus morio</i>	4	43	47
Almaco Jack	<i>Seriola rivoliana</i>	10	33	43
Knobbed Porgy	<i>Calamus nodosus</i>	1	41	42

2013 total 7,620 of life history samples collected (incl. FD)

common name	Scientific name	# fish	%
Black Sea Bass	<i>Centropristis striata</i>	3,439	45.1%
Red Porgy	<i>Pagrus pagrus</i>	1,333	17.5%
Gray Triggerfish	<i>Balistes capriscus</i>	1,036	13.6%
Vermilion Snapper	<i>Rhomboplites aurorubens</i>	476	6.3%
Red Snapper	<i>Lutjanus campechanus</i>	464	6.1%
White Grunt	<i>Haemulon plumierii</i>	379	5.0%
Scamp	<i>Mycteroperca phenax</i>	95	1.3%
Snowy Grouper	<i>Epinephelus niveatus</i>	65	0.9%
Gag	<i>Mycteroperca microlepis</i>	56	0.7%
Jackknife Fish	<i>Equetus lanceolatus</i>	51	0.7%
Red Grouper	<i>Epinephelus morio</i>	48	0.6%
Cubby	<i>Pareques umbrosus</i>	33	0.4%
Blueline tilefish	<i>Caulolatilus microps</i>	26	0.3%
Squirrelfish	<i>Holocentrus adscensionis</i>	18	0.2%
Greater Amberjack	<i>Seriola dumerili</i>	16	0.2%
Graysbe	<i>Cephalopholis cruentata</i>	9	0.1%
Speckled Hind	<i>Epinephelus drummondhayi</i>	9	0.1%
Whitespotted Soapfish	<i>Rypticus maculatus</i>	8	0.1%
Lane Snapper	<i>Lutjanus synagris</i>	8	0.1%
Tilefish	<i>Lopholatilus chamaeleonticeps</i>	7	0.1%
Rock Hind	<i>Epinephelus adscensionis</i>	6	0.1%

Overview CPUE:

- Chevron traps data only
- Monitoring stations only
- Selected species depth ranges
- Soak times: 45-150 minutes
- Time series: 1990 – 2013
- CPUE in fish / trap * hour
- Delta GLM standardized and
Nominal CPUE
- Normalized to long term average
- Error bars are ± 1 SE
- 1990*

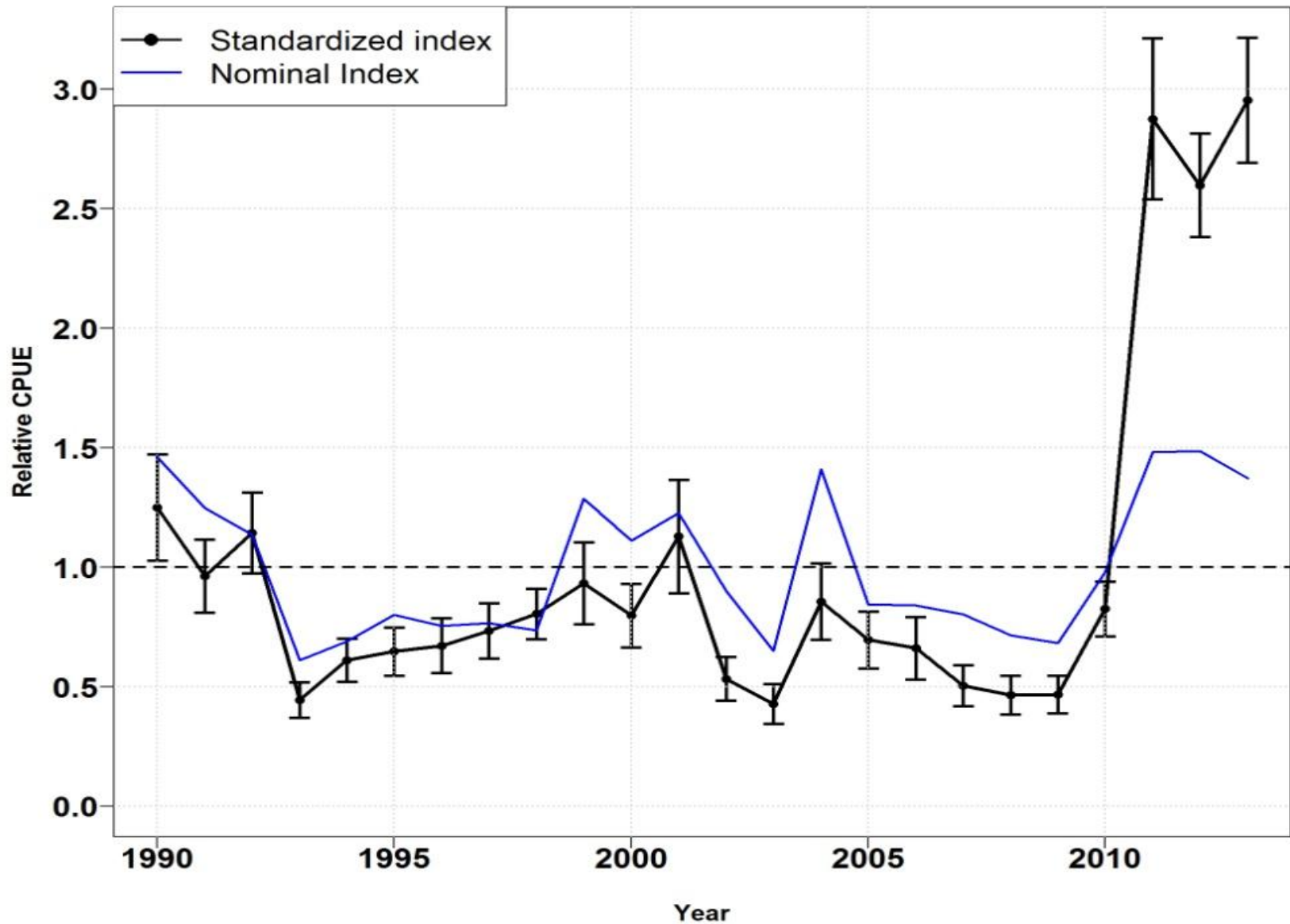
Caveats

- Summary overview, not an update of stock status,
- Constraints, stratification, units, and models for CPUE may be different from those used in (SEDAR) stock assessments
- Many species have not been assessed or updated through SEDAR process and not all trends and analyses have been discussed in SEDAR framework.

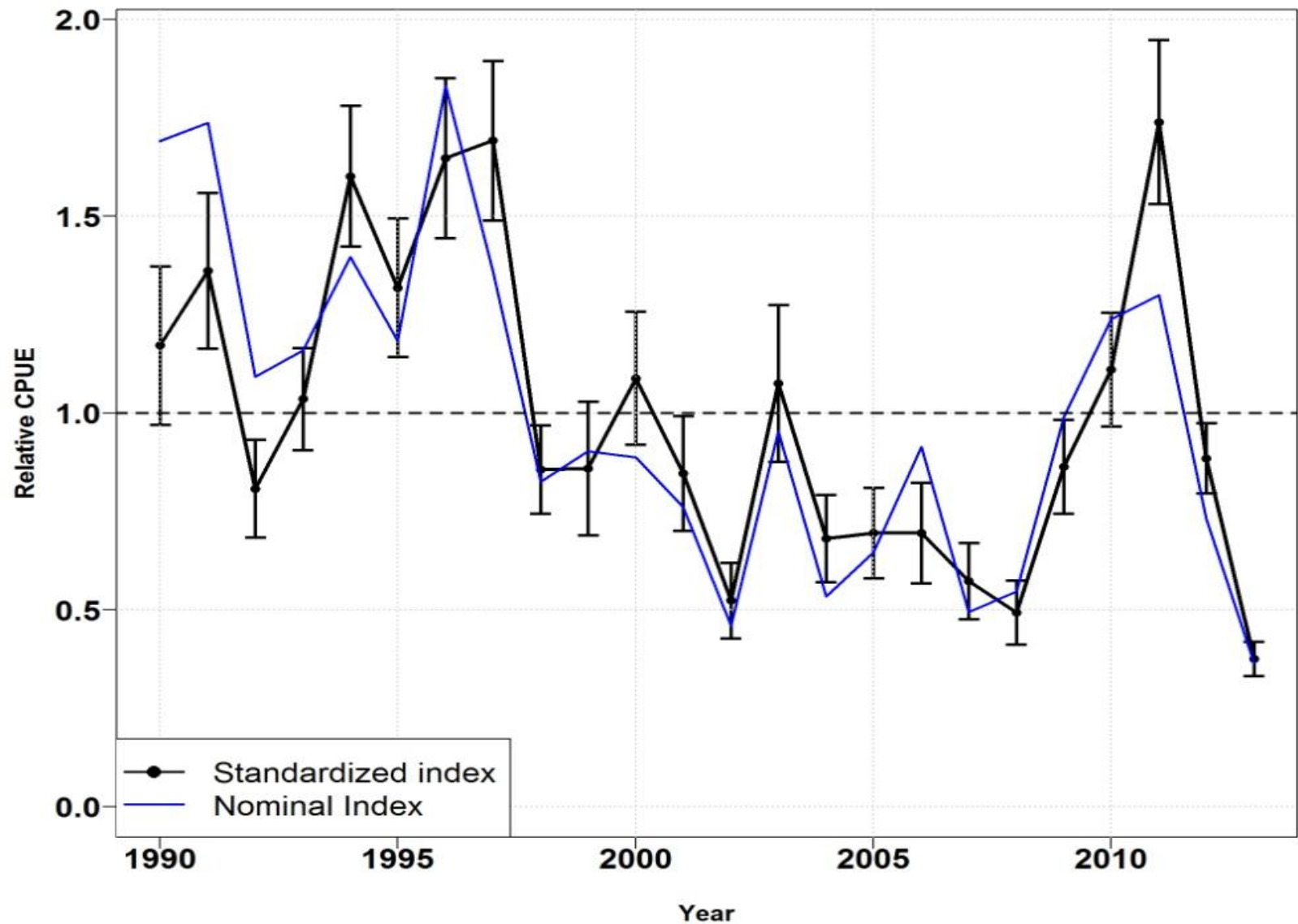
OVERVIEW SELECTED SPECIES

Species in **green**: Currently no routine LH sampling

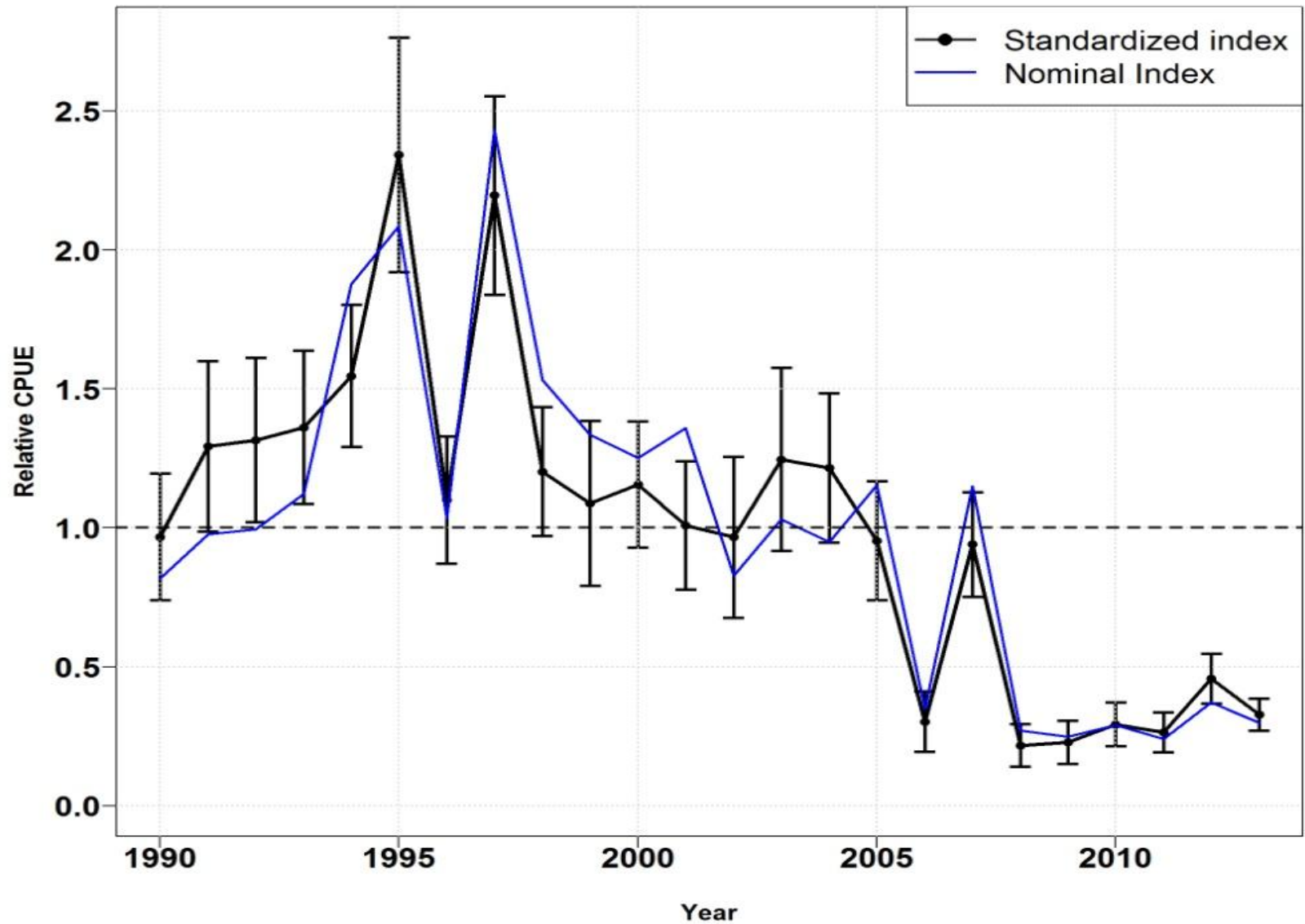
Chevron trap CPUE - Black Sea Bass



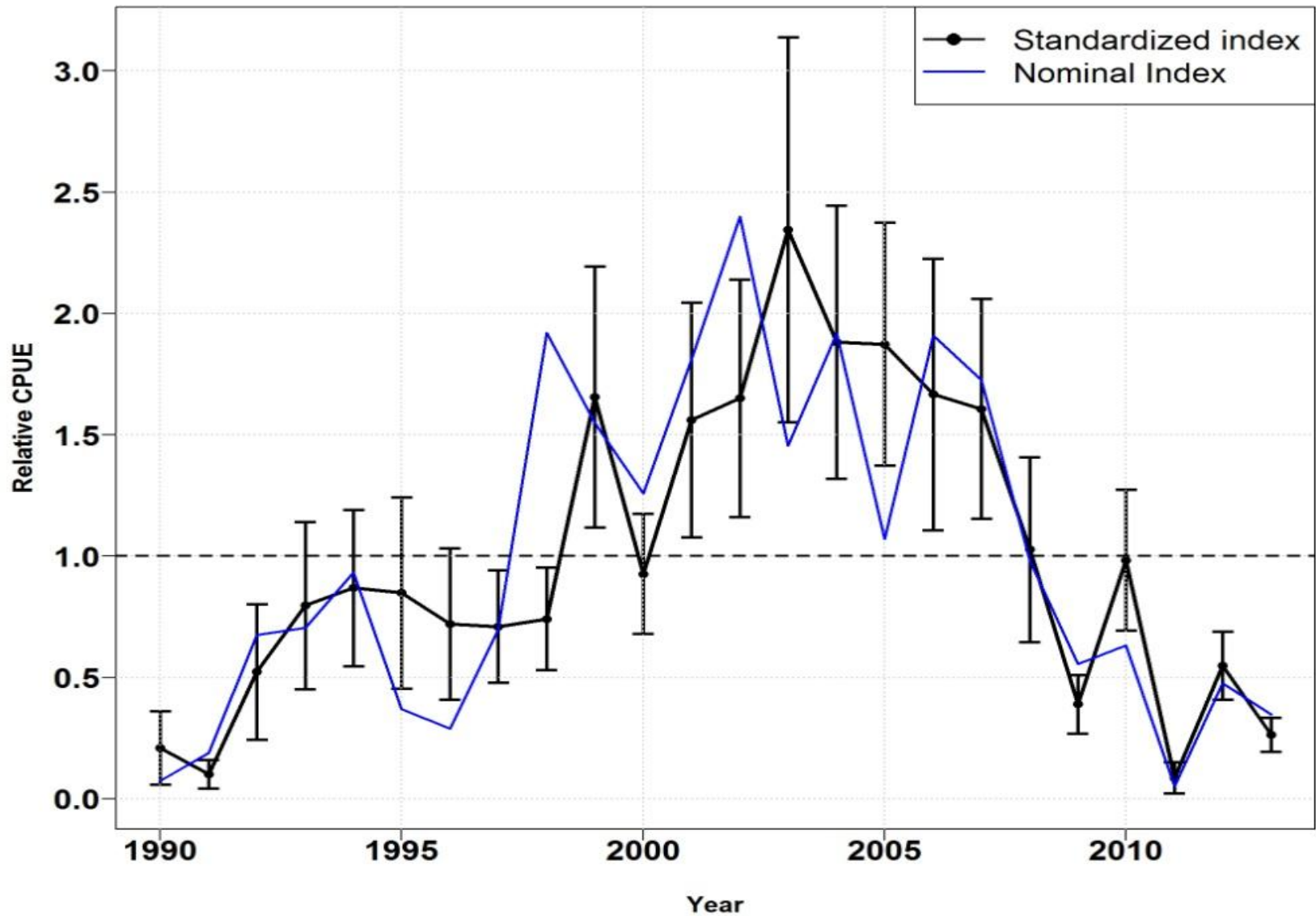
Chevron trap CPUE - Bank Sea Bass



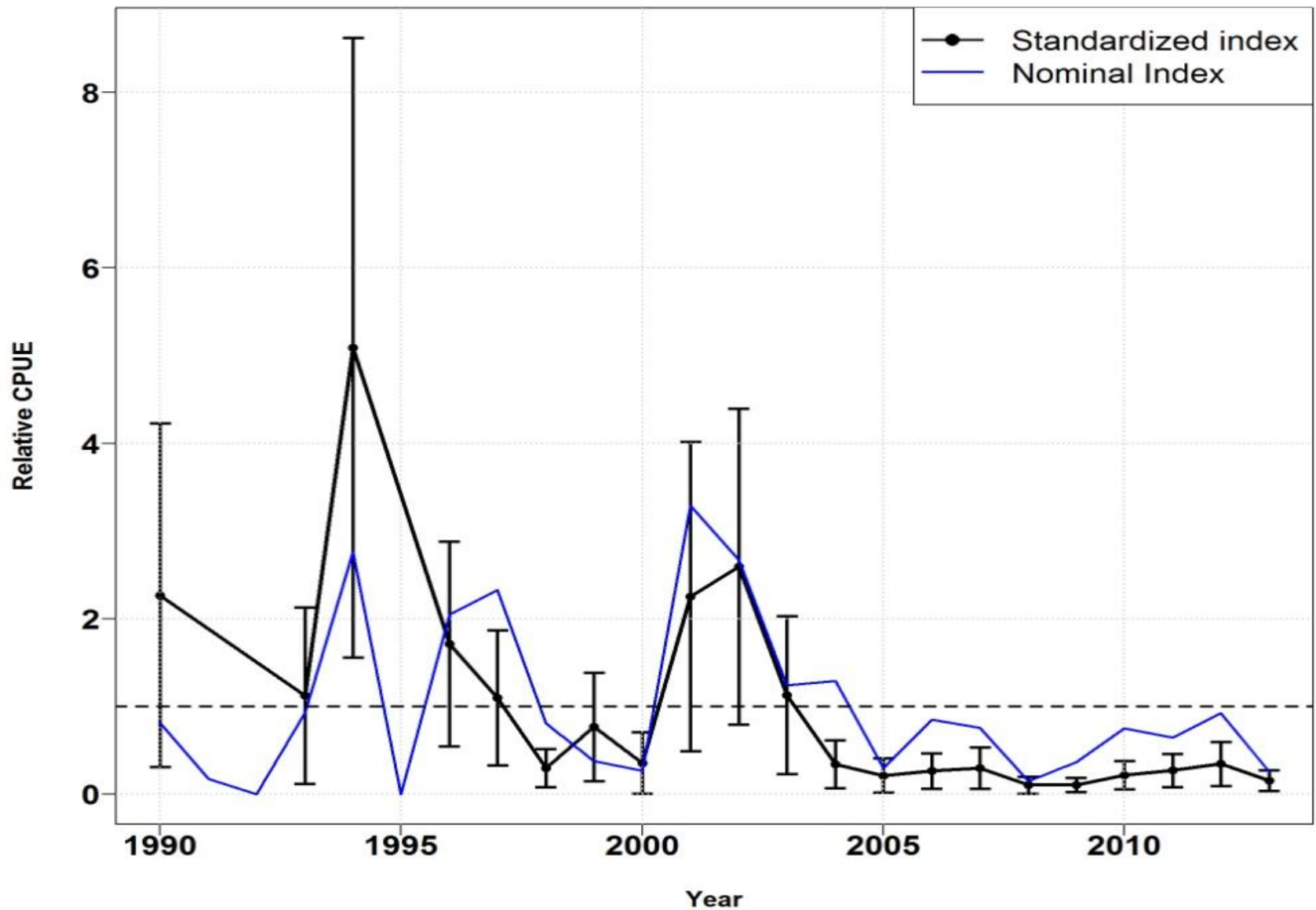
Chevron trap CPUE - Scamp



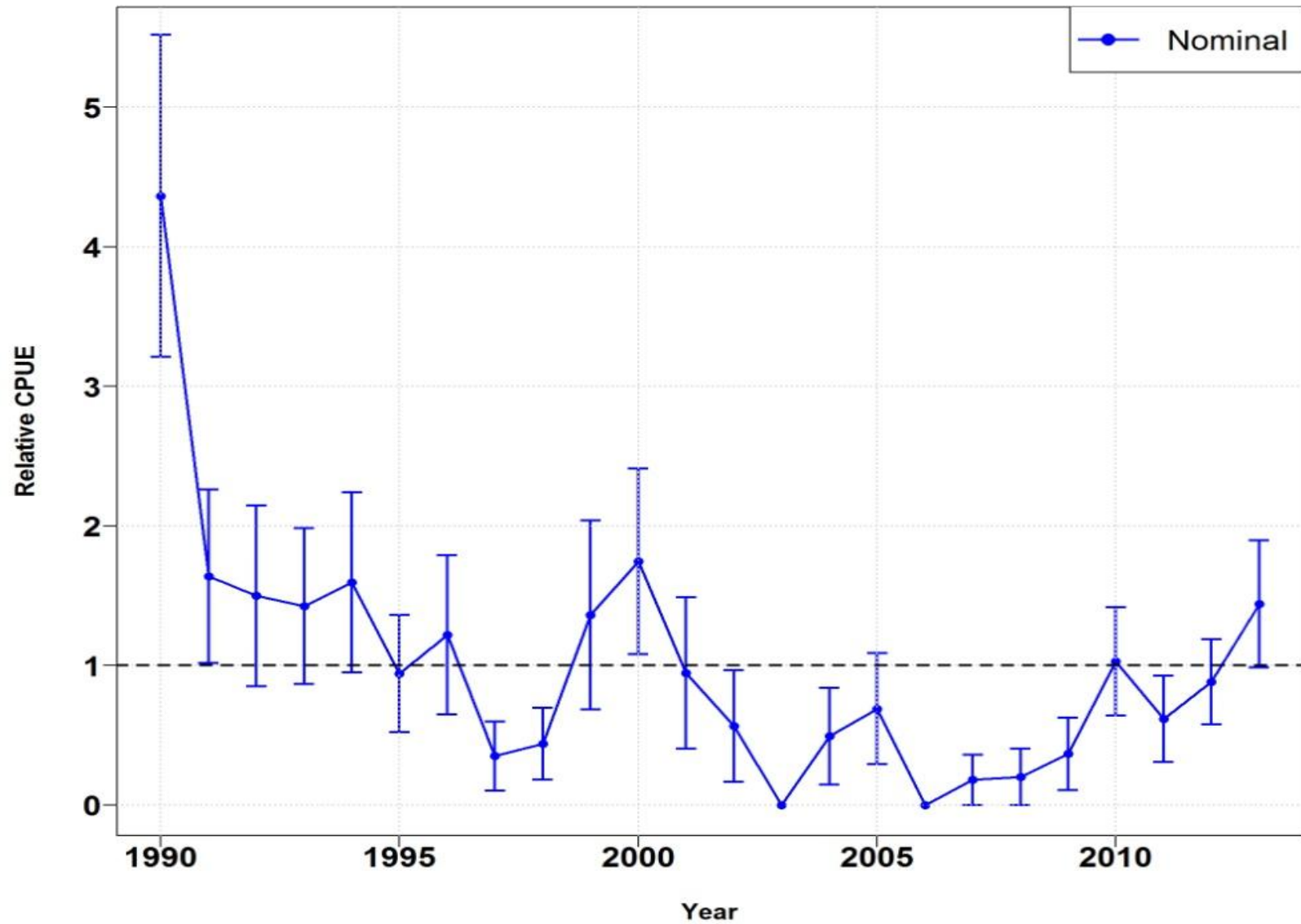
Chevron trap CPUE – Red Grouper



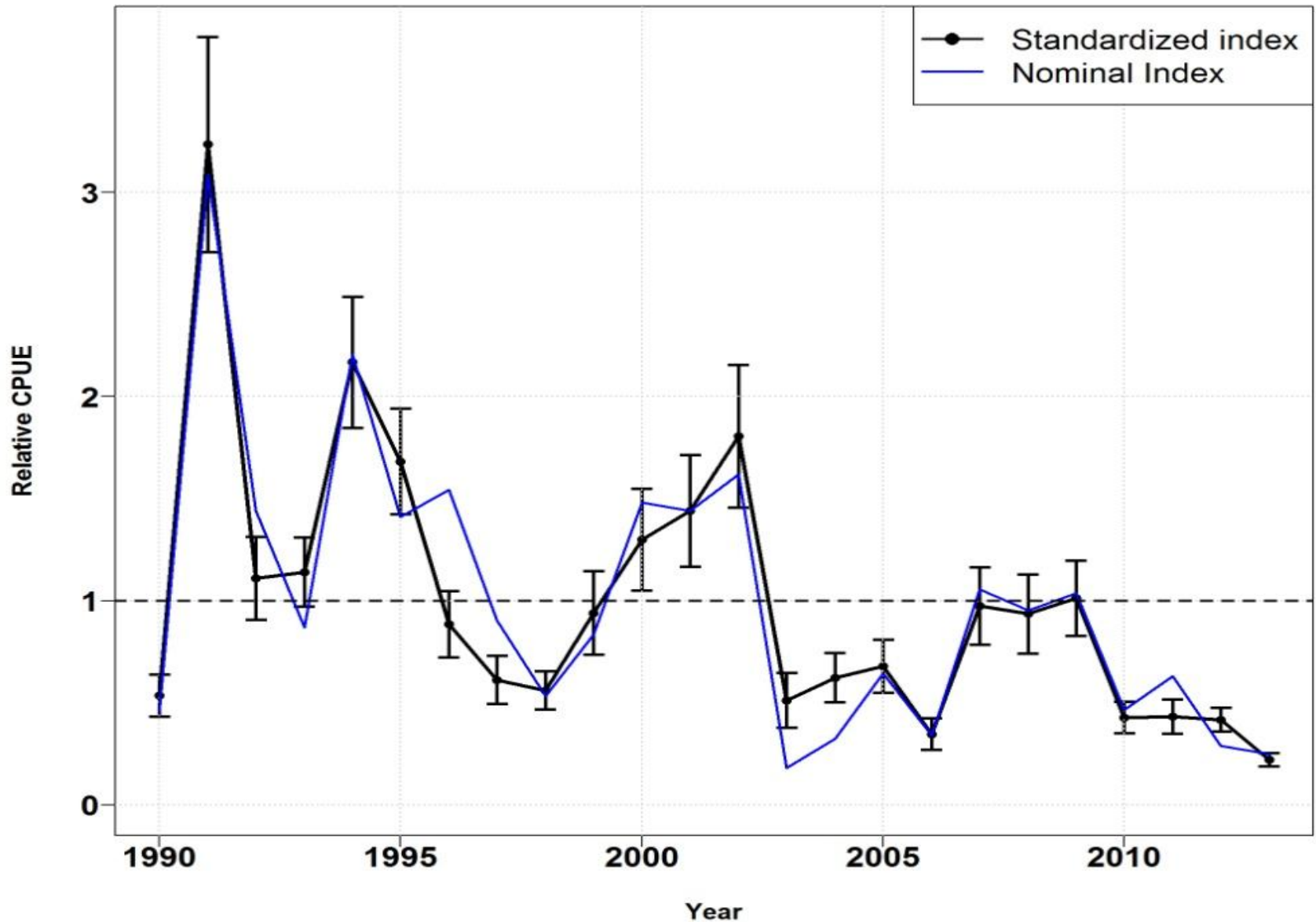
Chevron trap CPUE – Snowy Grouper



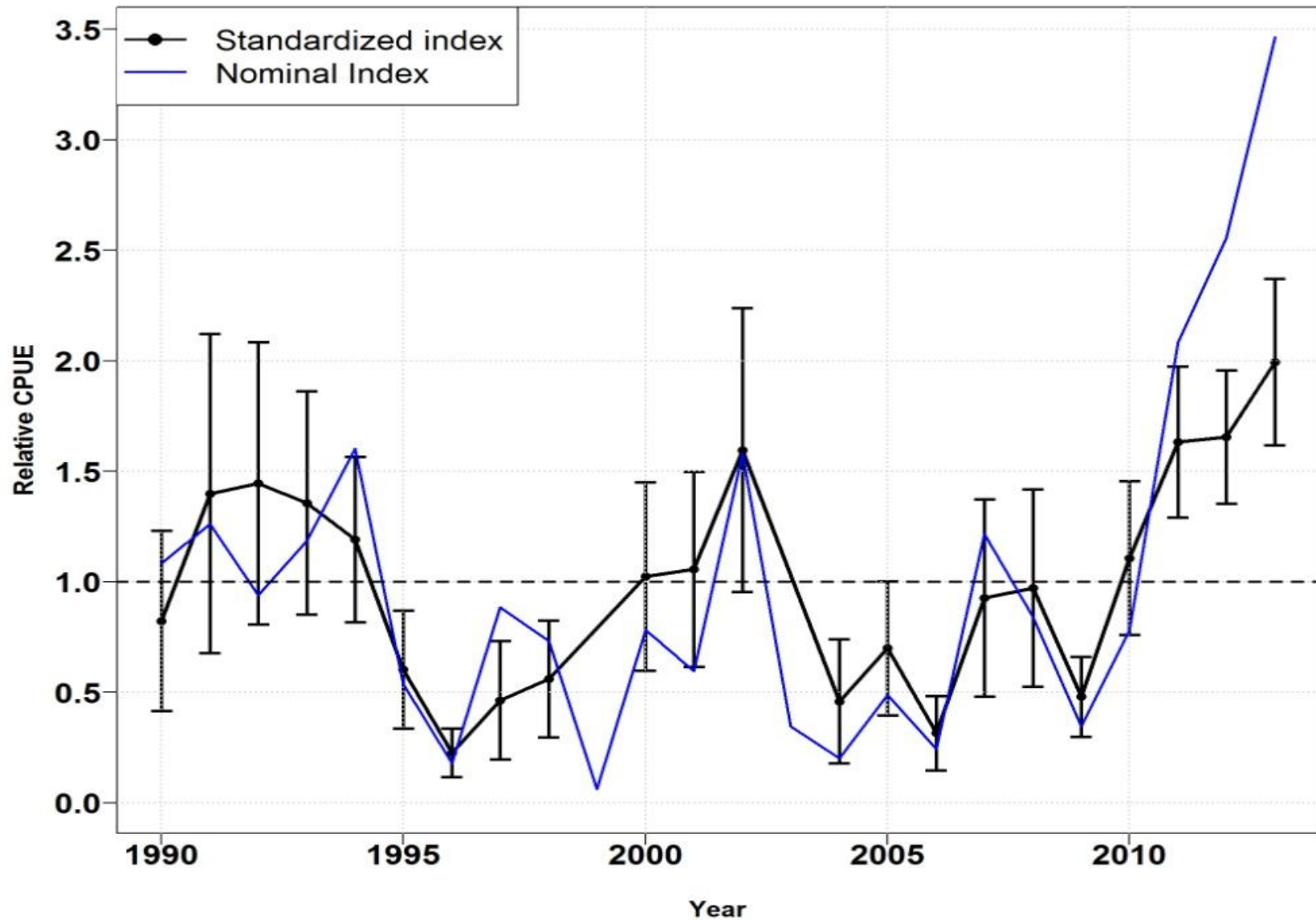
Chevron trap CPUE - Gag



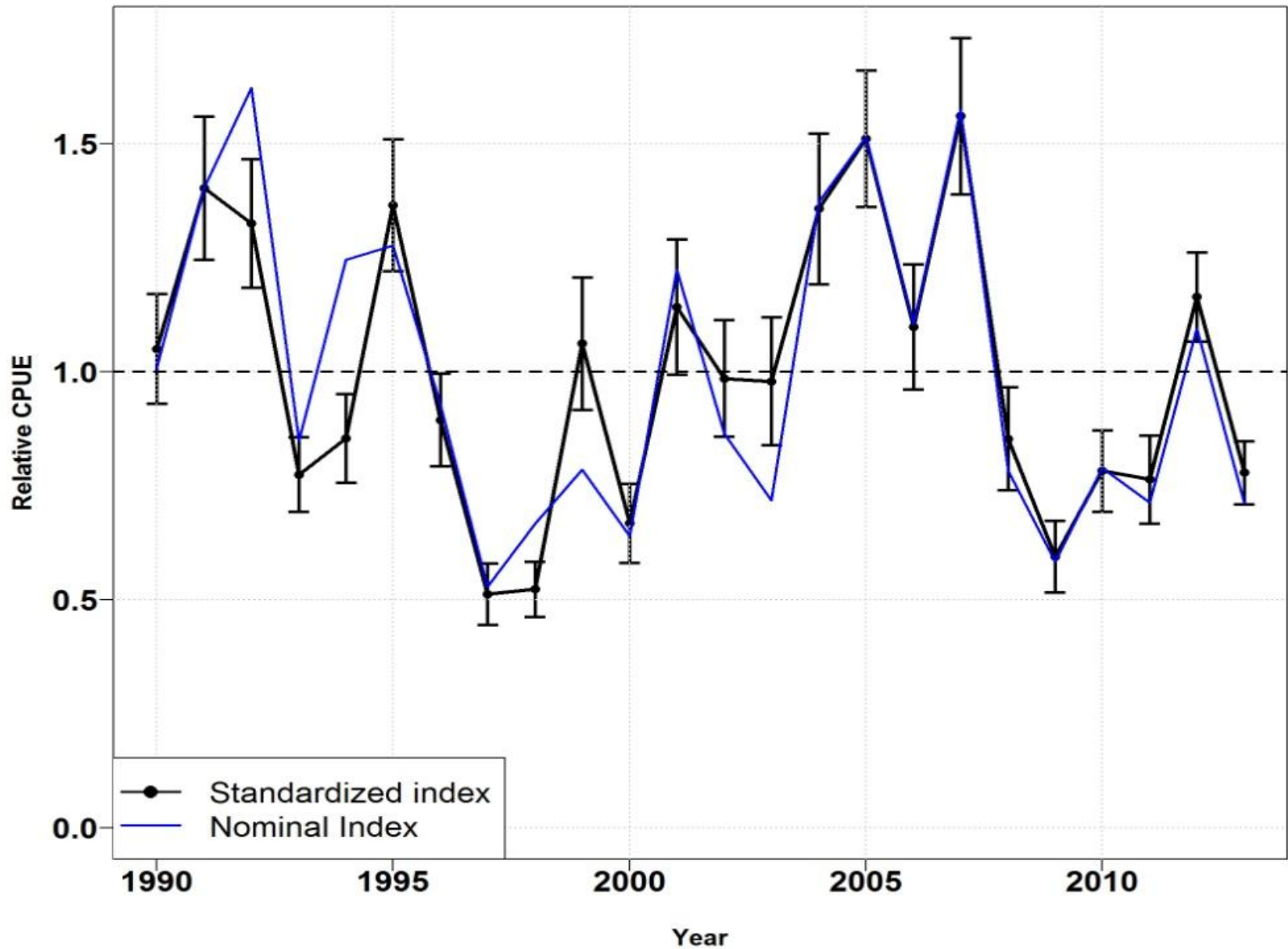
Chevron trap CPUE – Vermilion Snapper



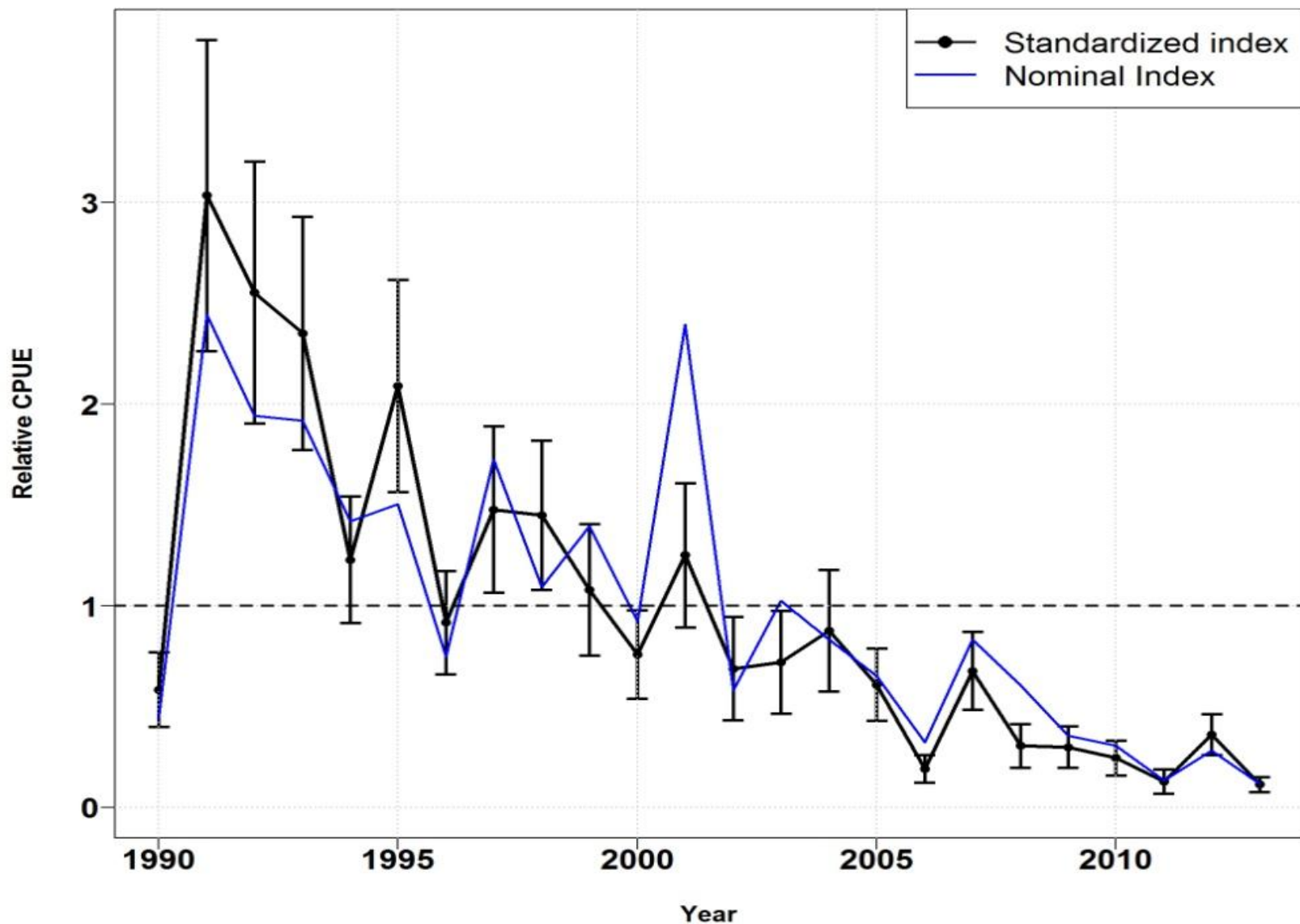
Chevron trap CPUE – Red Snapper



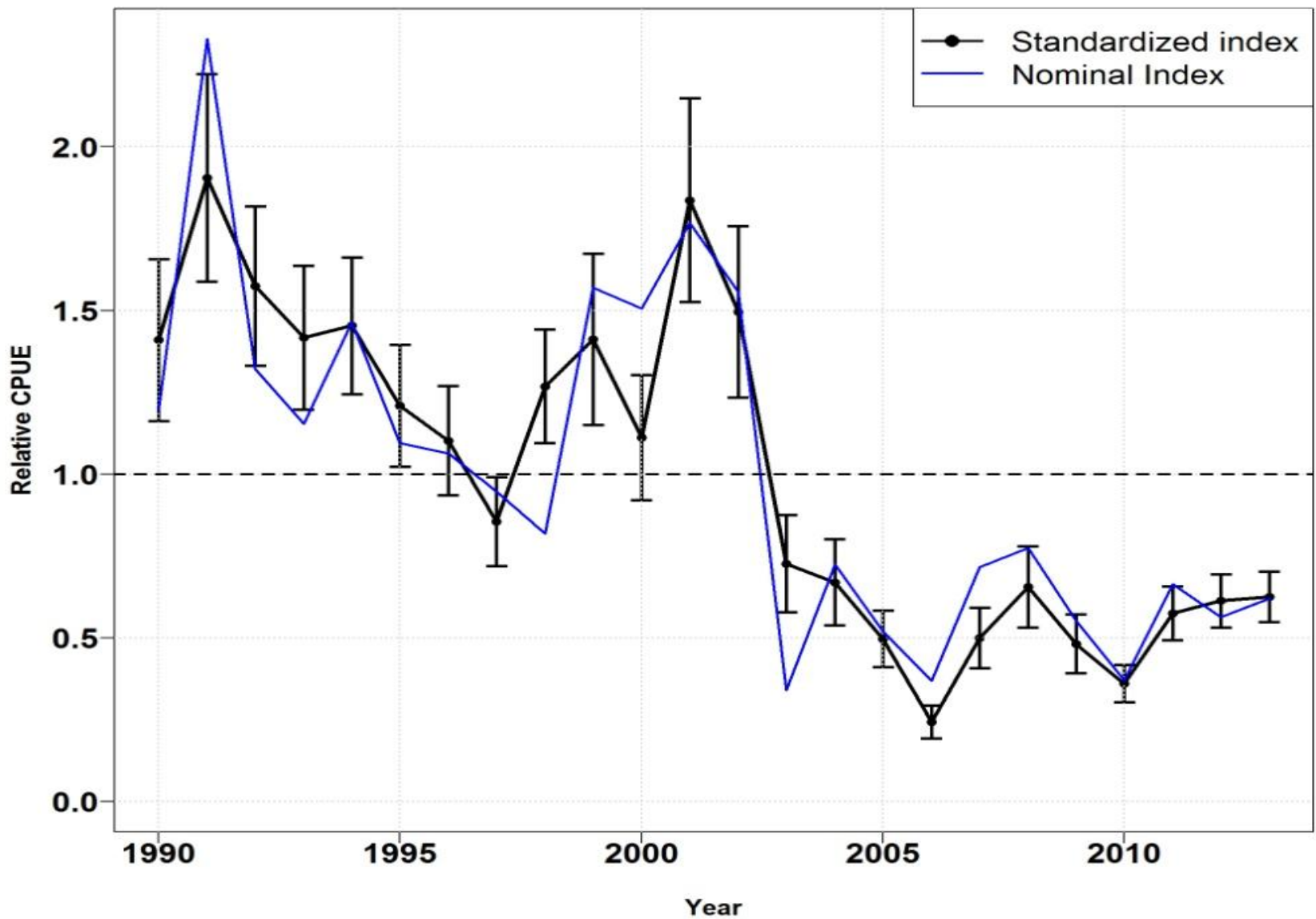
Chevron trap CPUE – Red Porgy



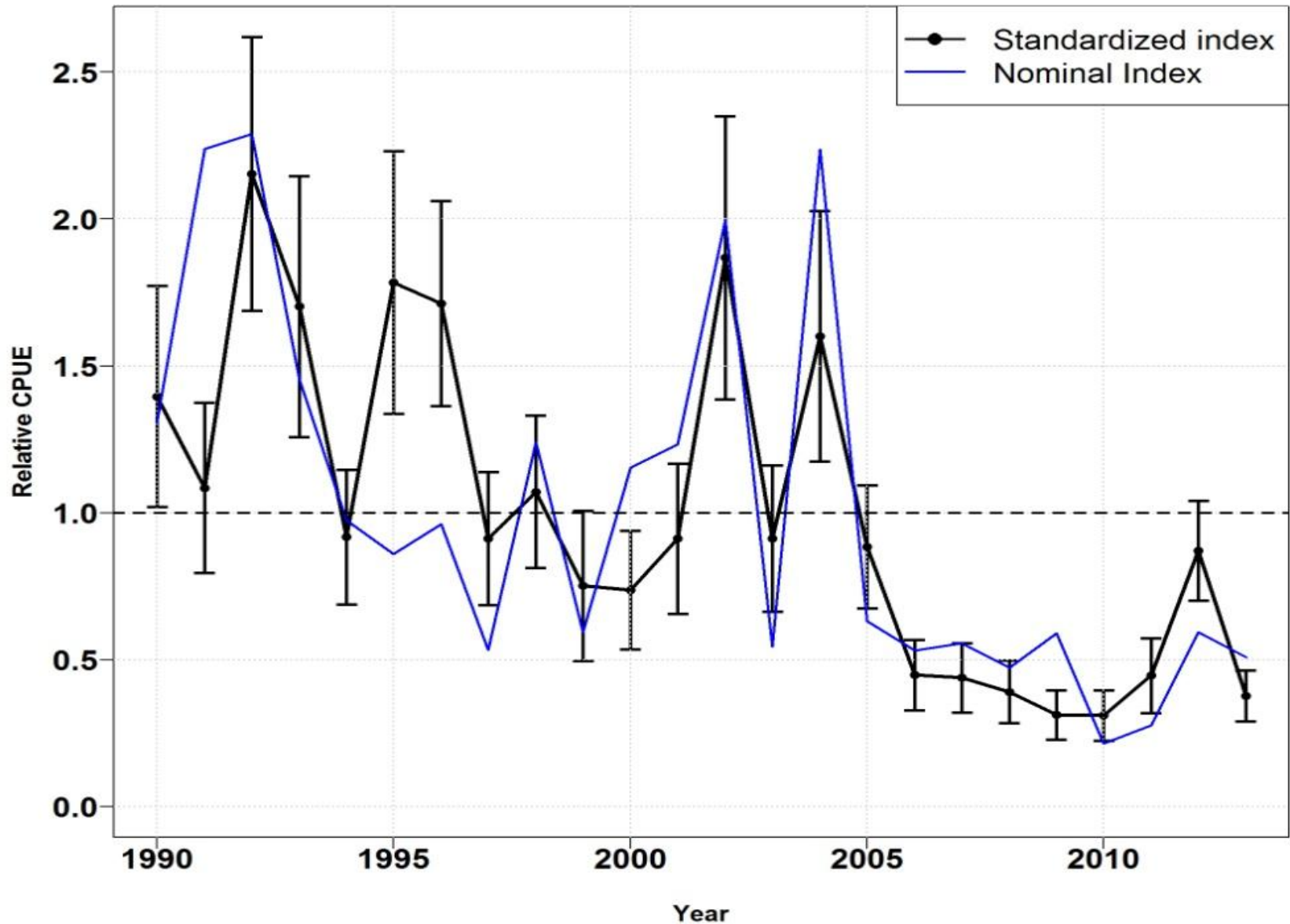
Chevron trap CPUE — Knobbed Porgy



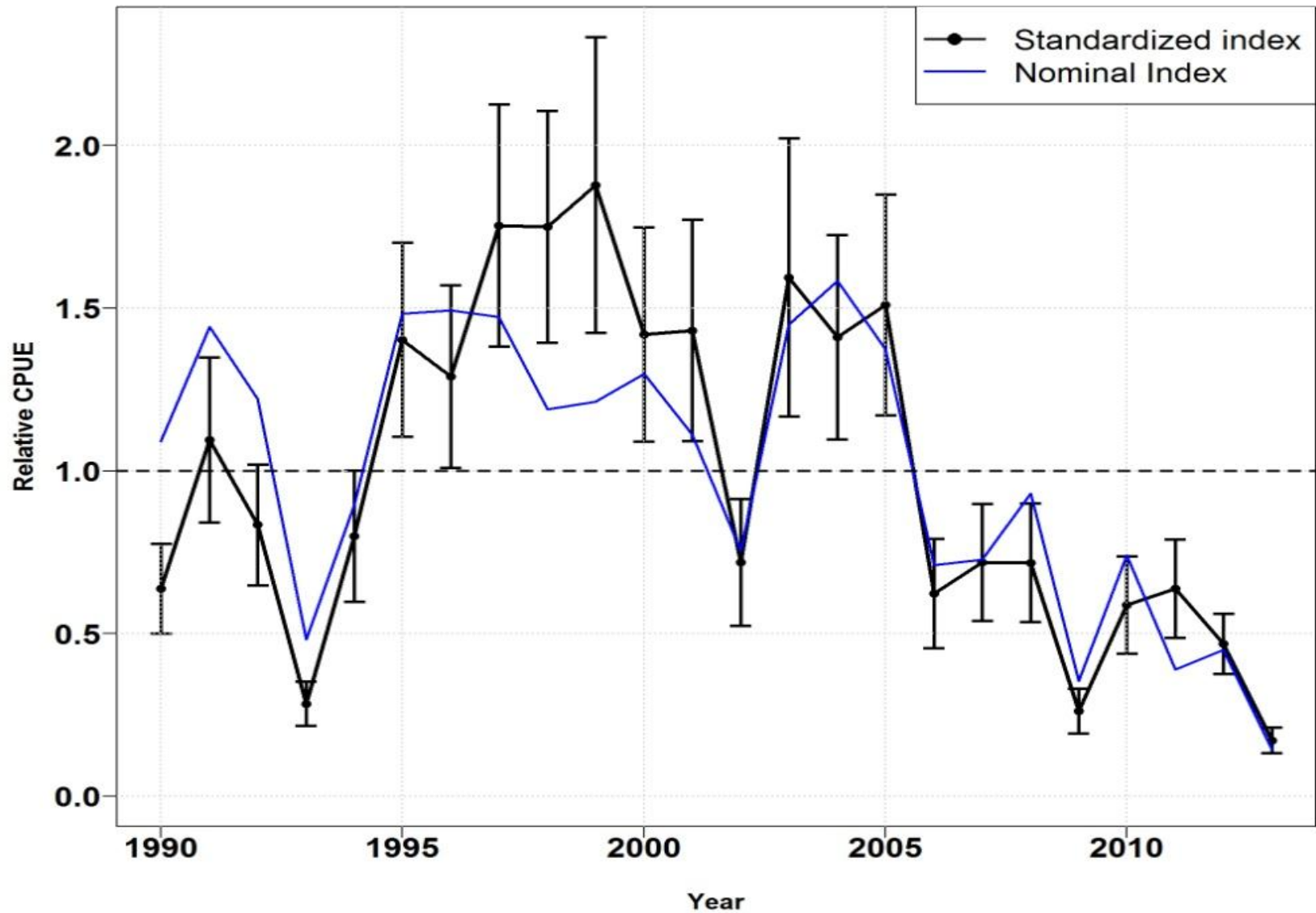
Chevron trap CPUE - Tomtate



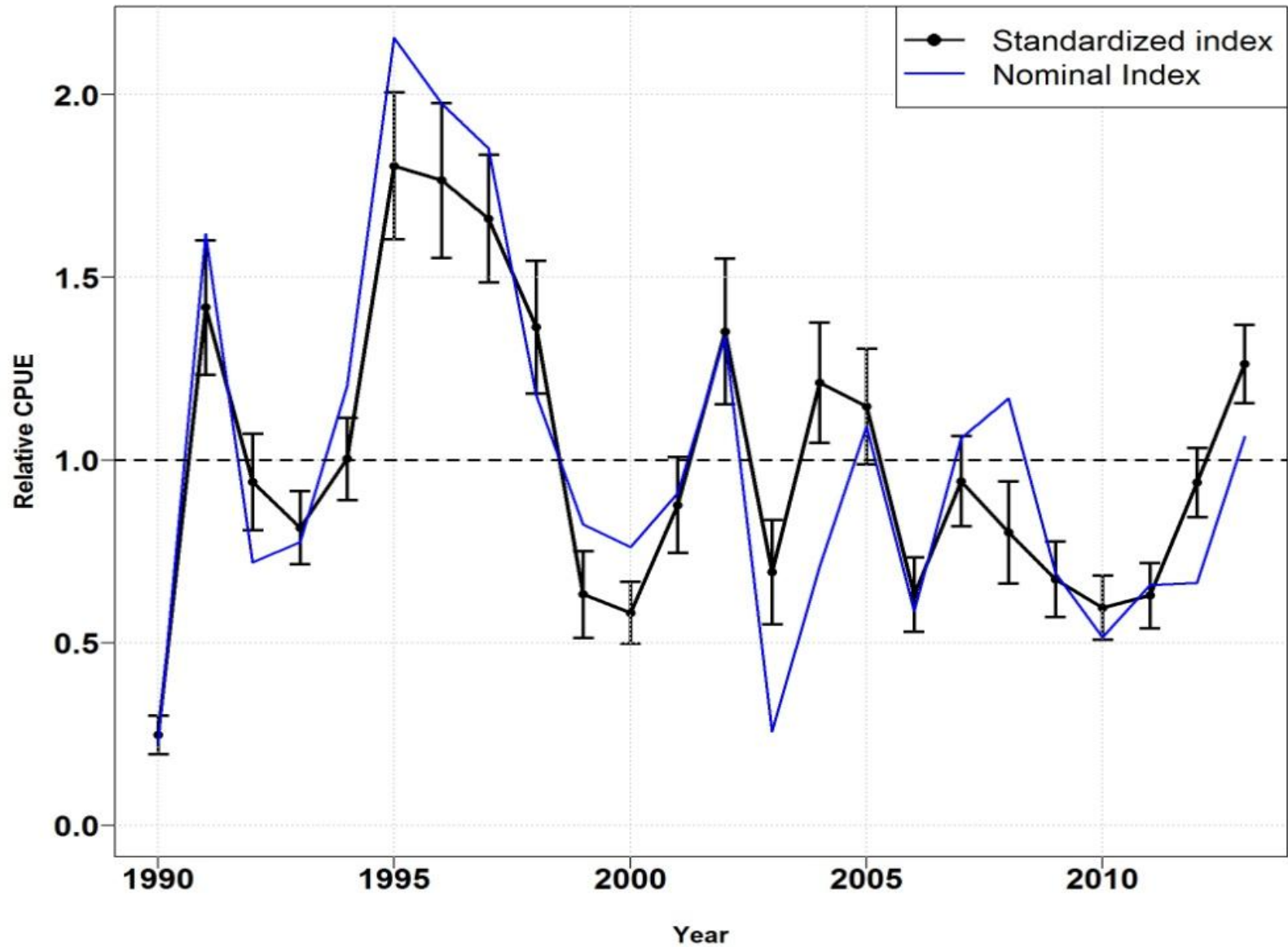
Chevron trap CPUE – White Grunt



Chevron trap CPUE — *Stenotomus* spp.



Chevron trap CPUE – Gray Triggerfish



2014 Reef Fish Monitoring

- **Sampling season :**

May – September (April 22 – October 18)

- **Activities:**

SERFS:

Chevron traps with 2 video cameras and CTD
Hook & line (SEAMAP-SA diet studies)

SEFIS – Pisces

Investigate bottom off Northern SC and NC
(Cape Fear – Onslow Bay)

MARMAP/SEAMAP-SA:

Resuming Short bottom long-line (e.g. snowy grouper)
No long bottom long-line (e.g. tilefish)

Acknowledgements:

MARMAP/SEAMAP-SA/SEFIS

Staff and students

Research Vessel Crews

Questions