

The South East Reef Fish Survey

2013 Update

Sampling Activities and Chevron Trap CPUE.



Presentation to the SAFMC
June 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

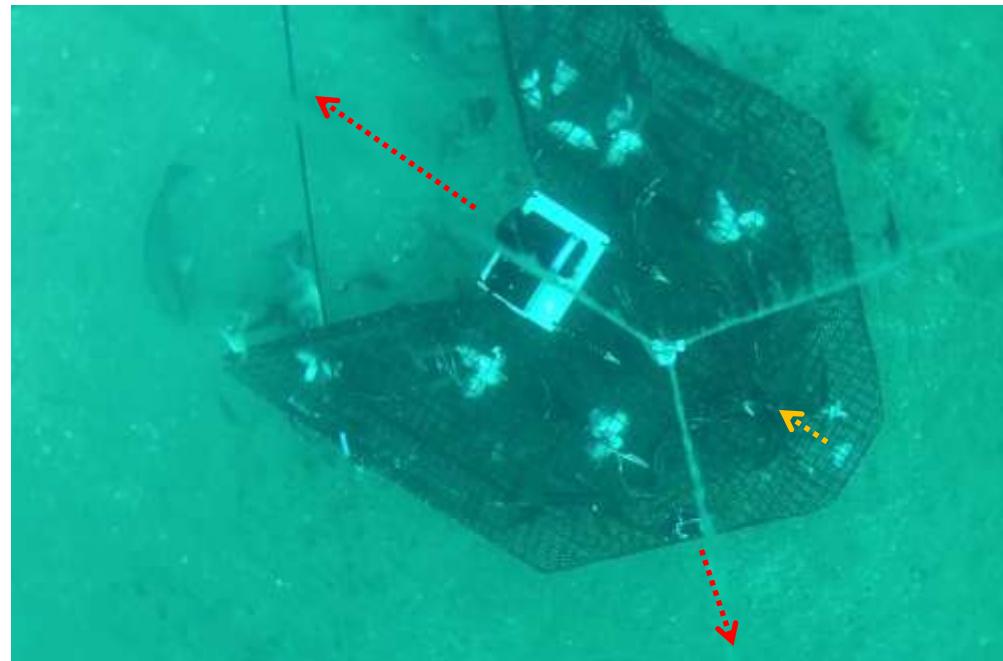
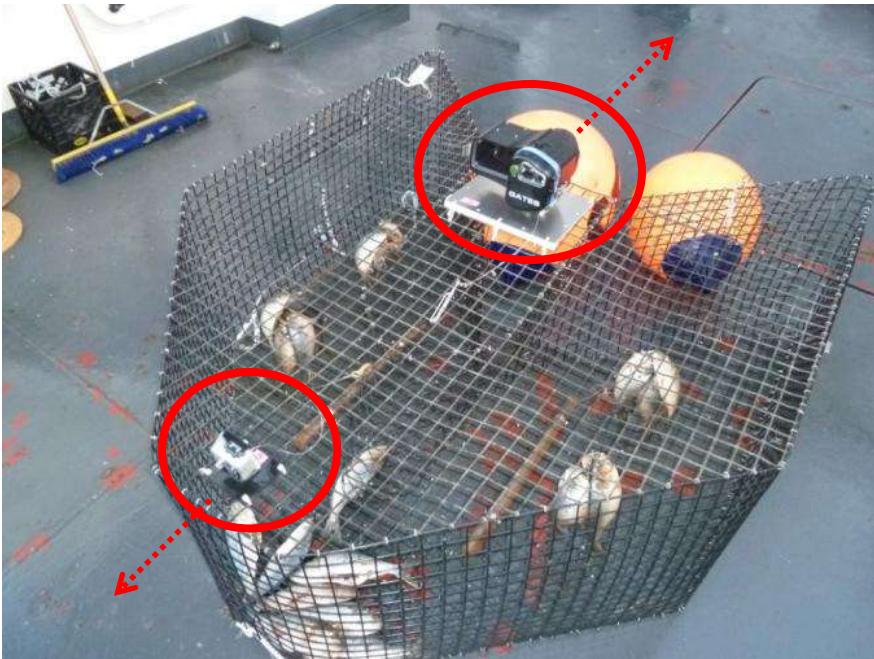


MArine Resources Monitoring, Assessment and Prediction
South East Area Monitoring and Assessment Program (South Atlantic)
South East Fishery Independent Survey



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

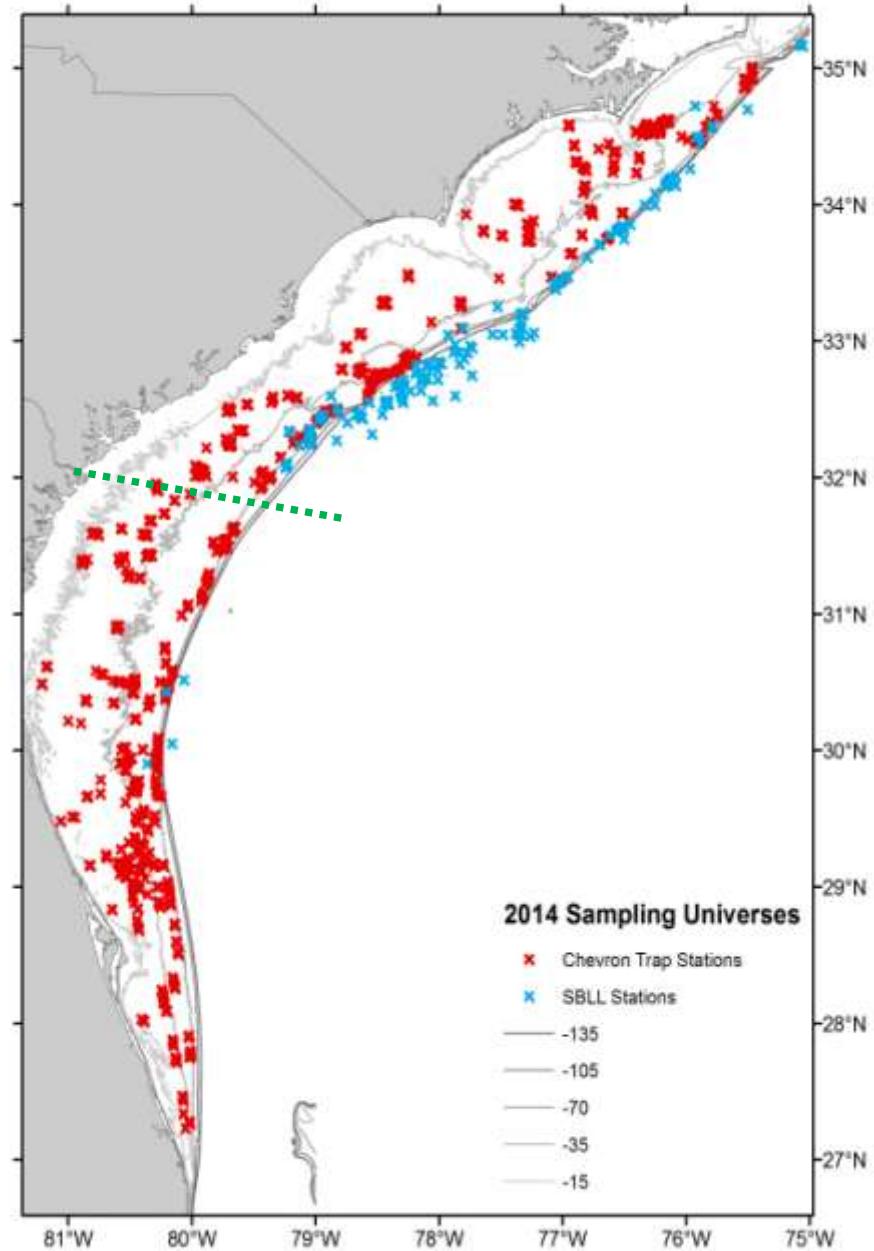
- MARMAP/SEAMAP-SA: NC and SC
- SEFIS: GA and FL

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



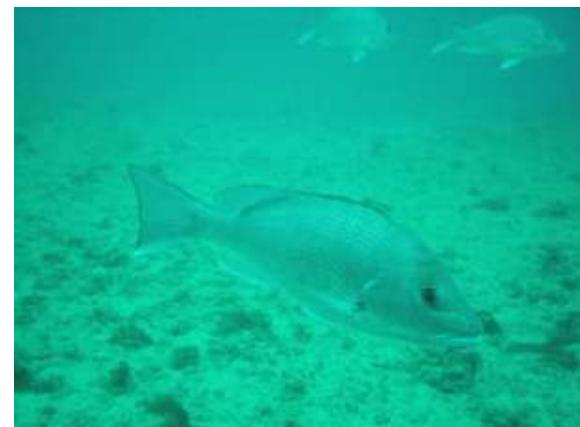
35 - 60 days at sea per vessel
5 -12 days per cruise

MARMAP/SEAMAP-SA
2006 – 2009:
≈ 690 traps annually



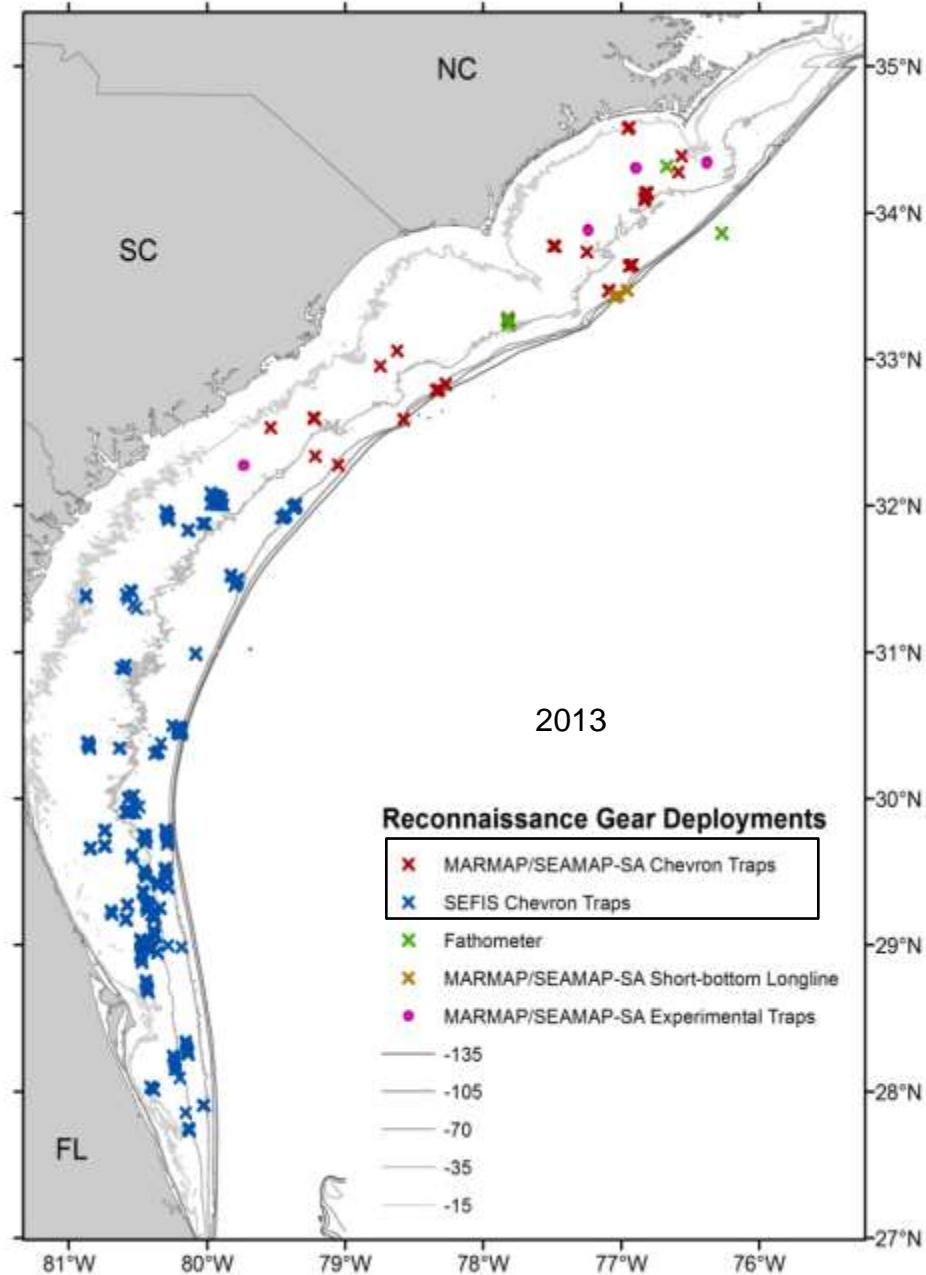
MARMAP/SEAMAP-SA/SEFIS
2010 – 2013:
≈ 1,100 - 1,500 traps annually (incl. recon.)

- 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



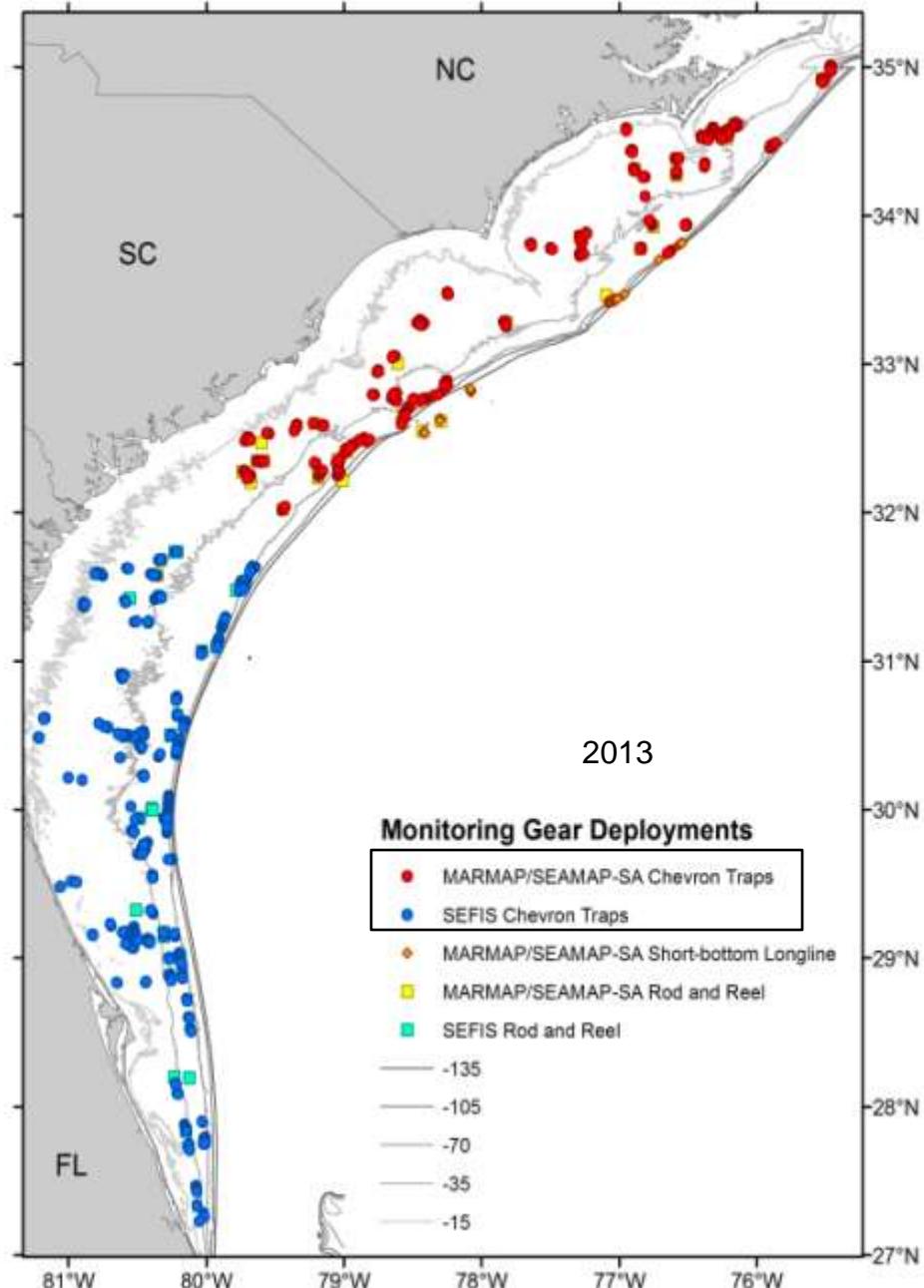
2013 Summary

- Traps deployed: 548 recon.
1,013 monitoring
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,
vermillion 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

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

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

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



Property of: NOAA/SEFIS and SCDNR/MARMAP



© SCDNR/MARMAP

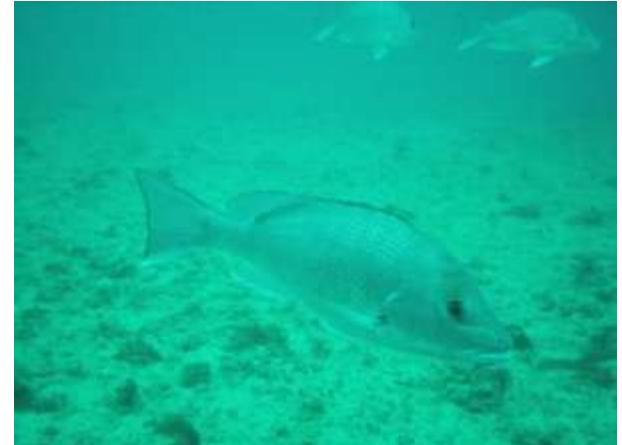
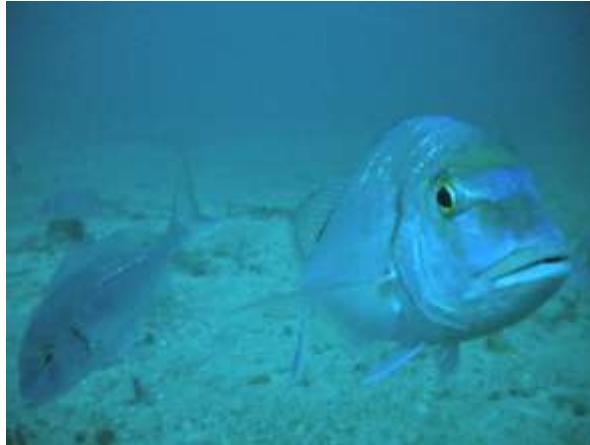
Caveats

- 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.

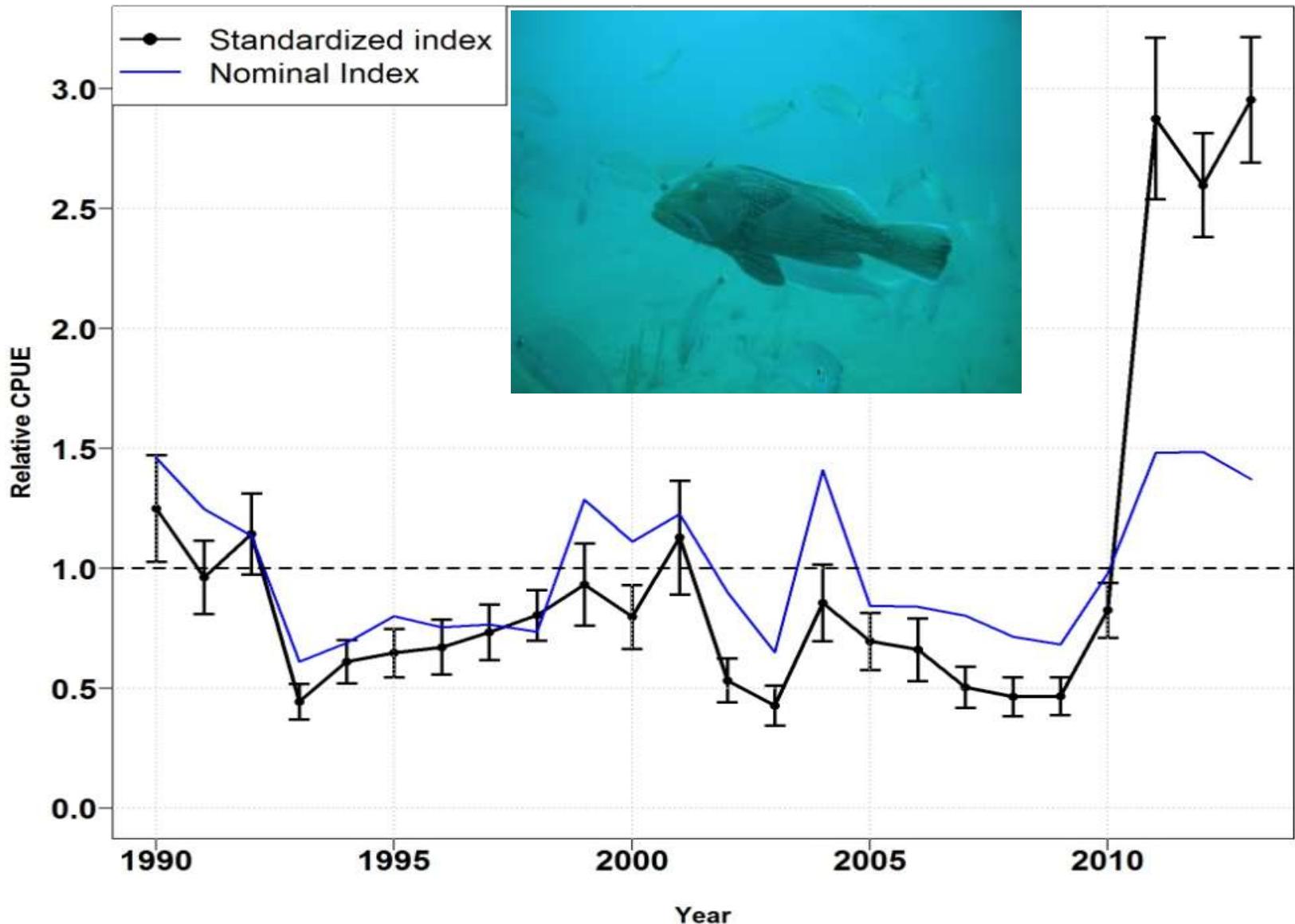


OVERVIEW SELECTED SPECIES

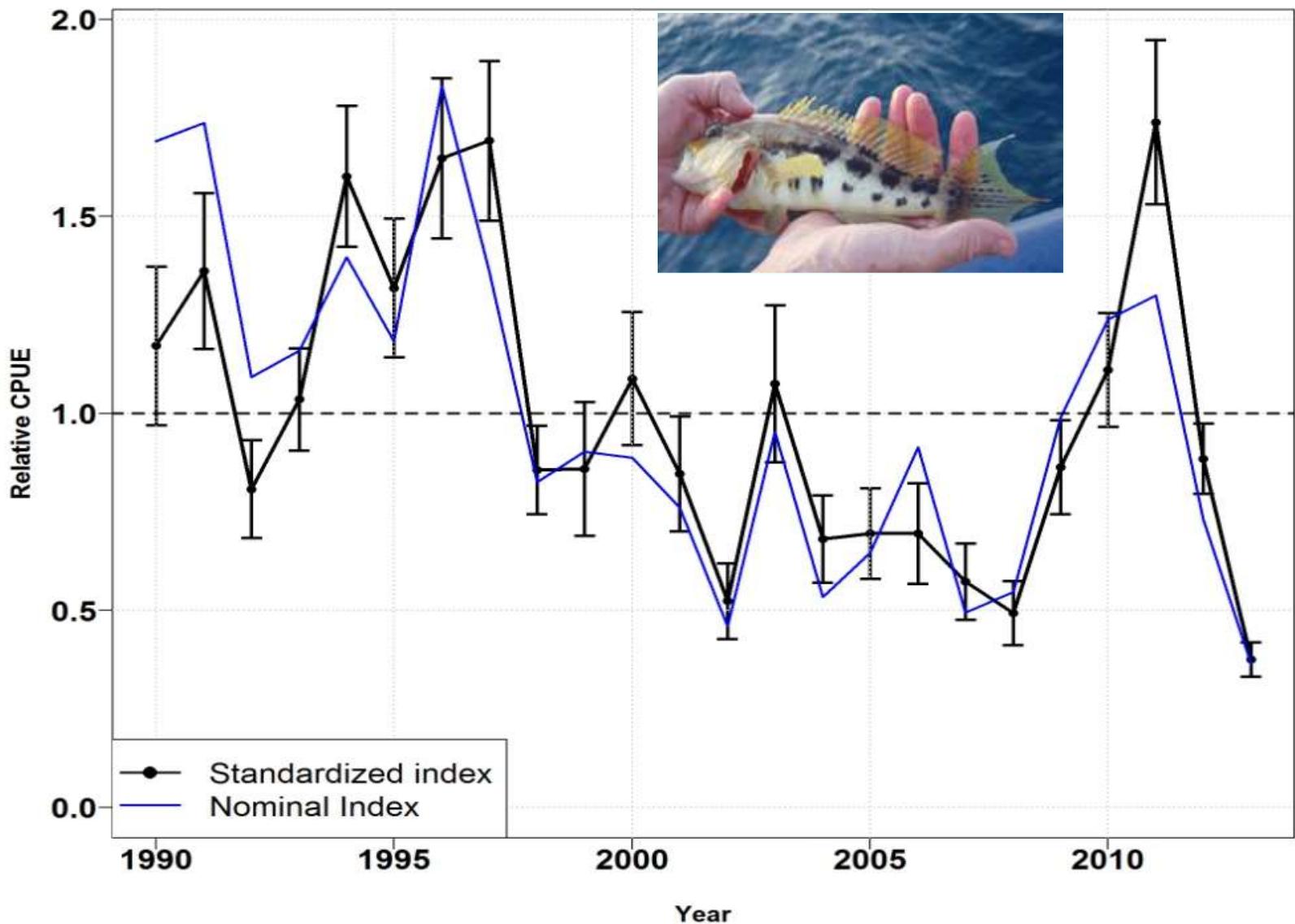
Species in green:
currently no routine life history sampling



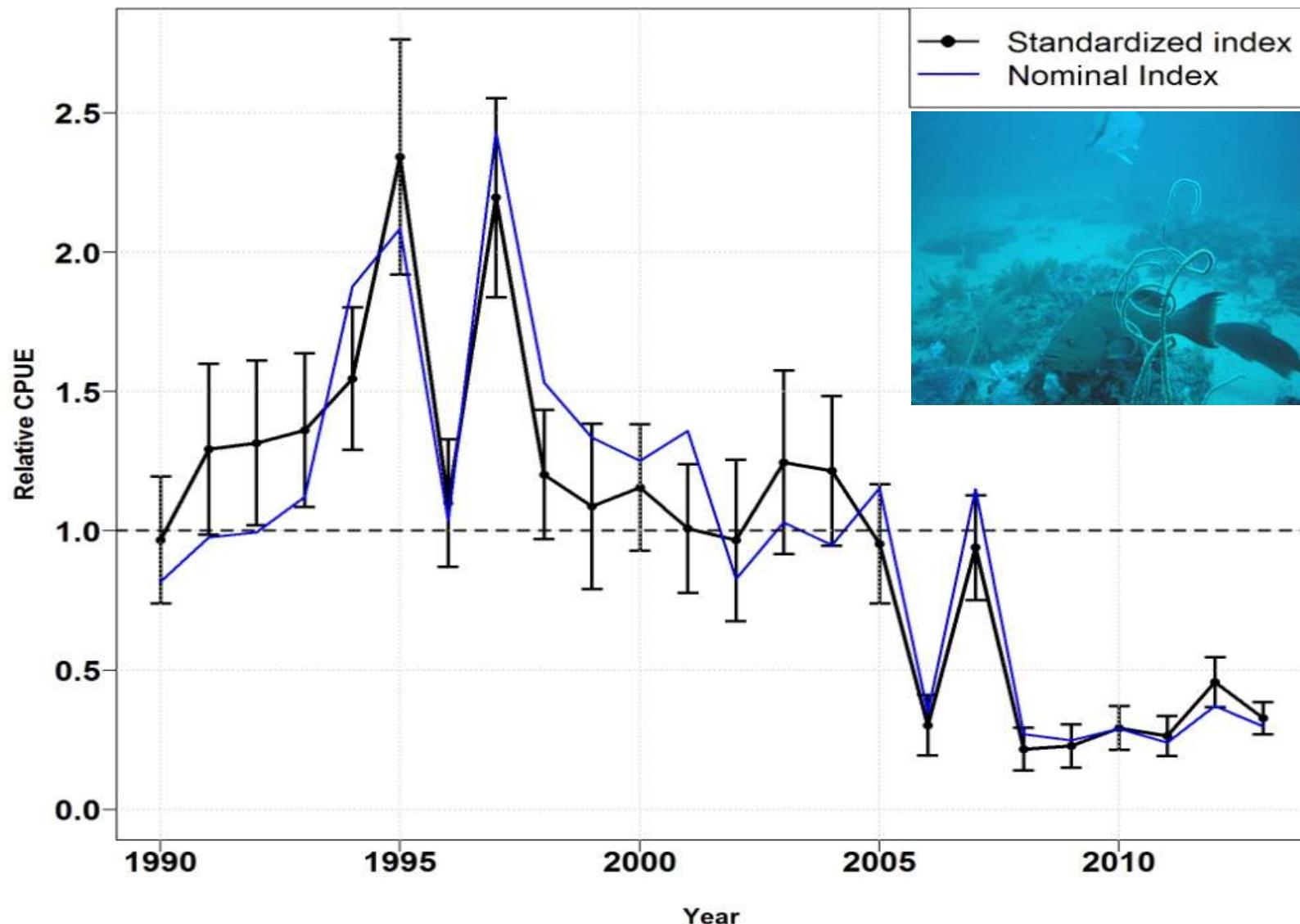
Chevron trap CPUE - Black Sea Bass



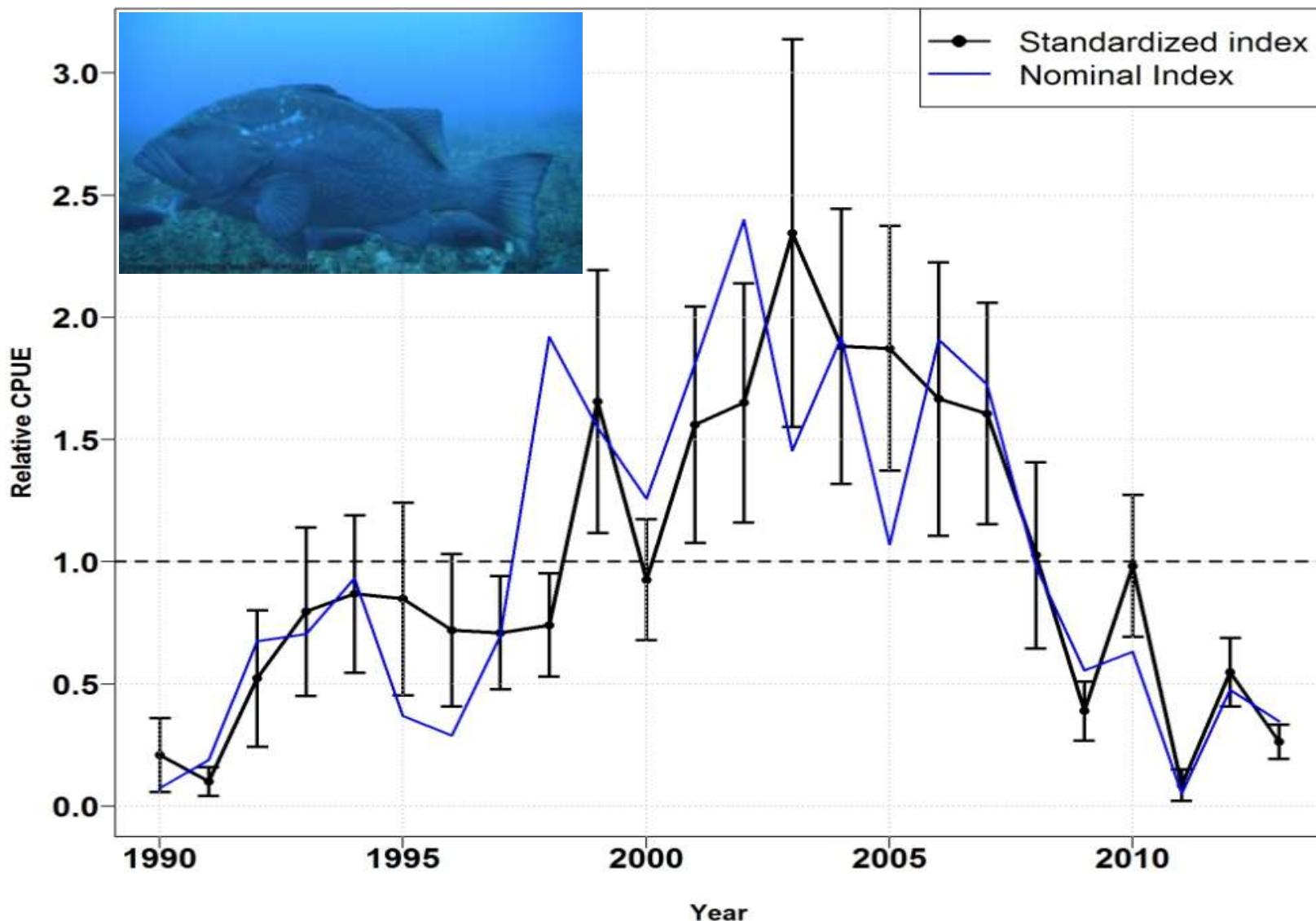
Chevron trap CPUE - Bank Sea Bass



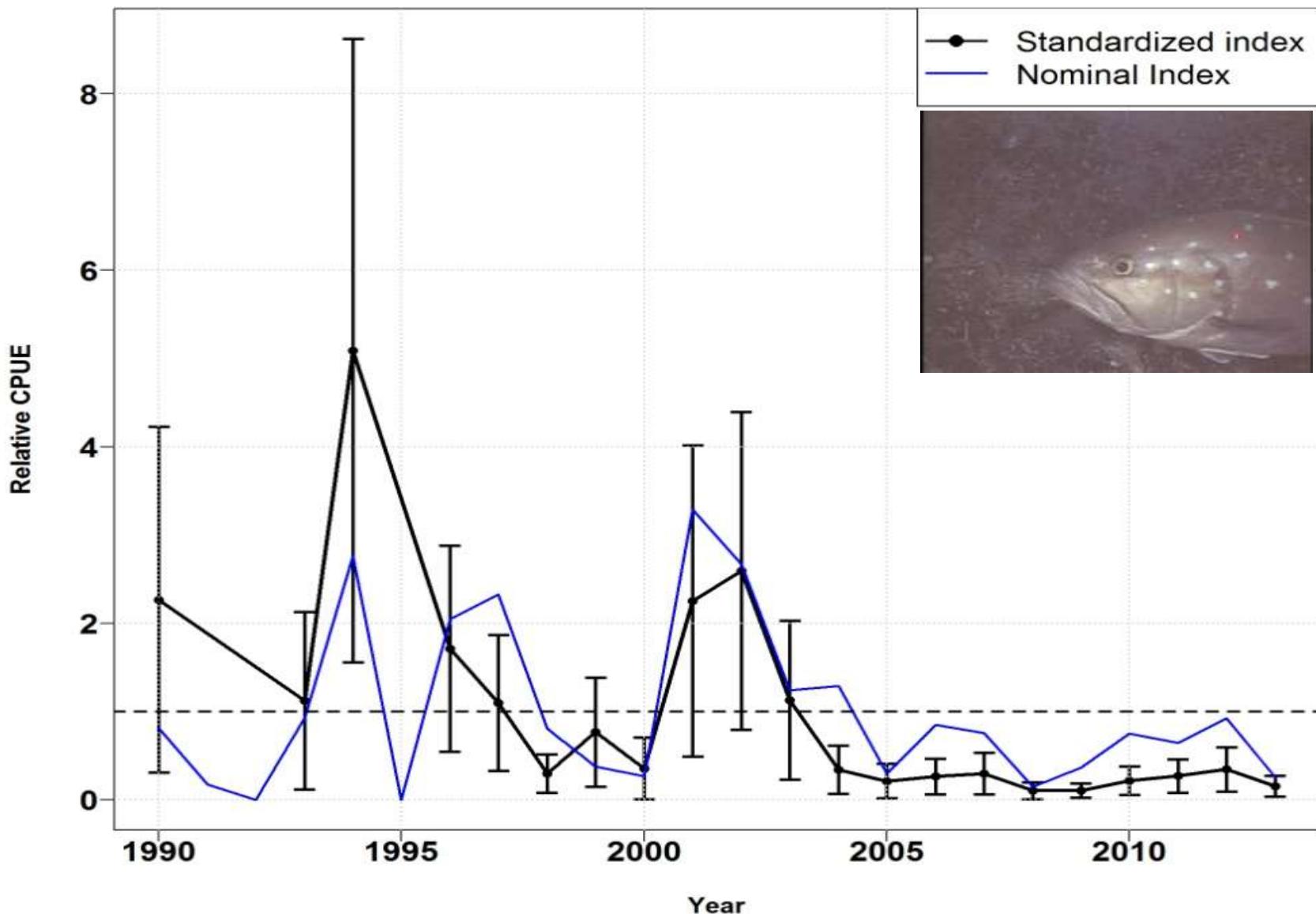
Chevron trap CPUE - Scamp



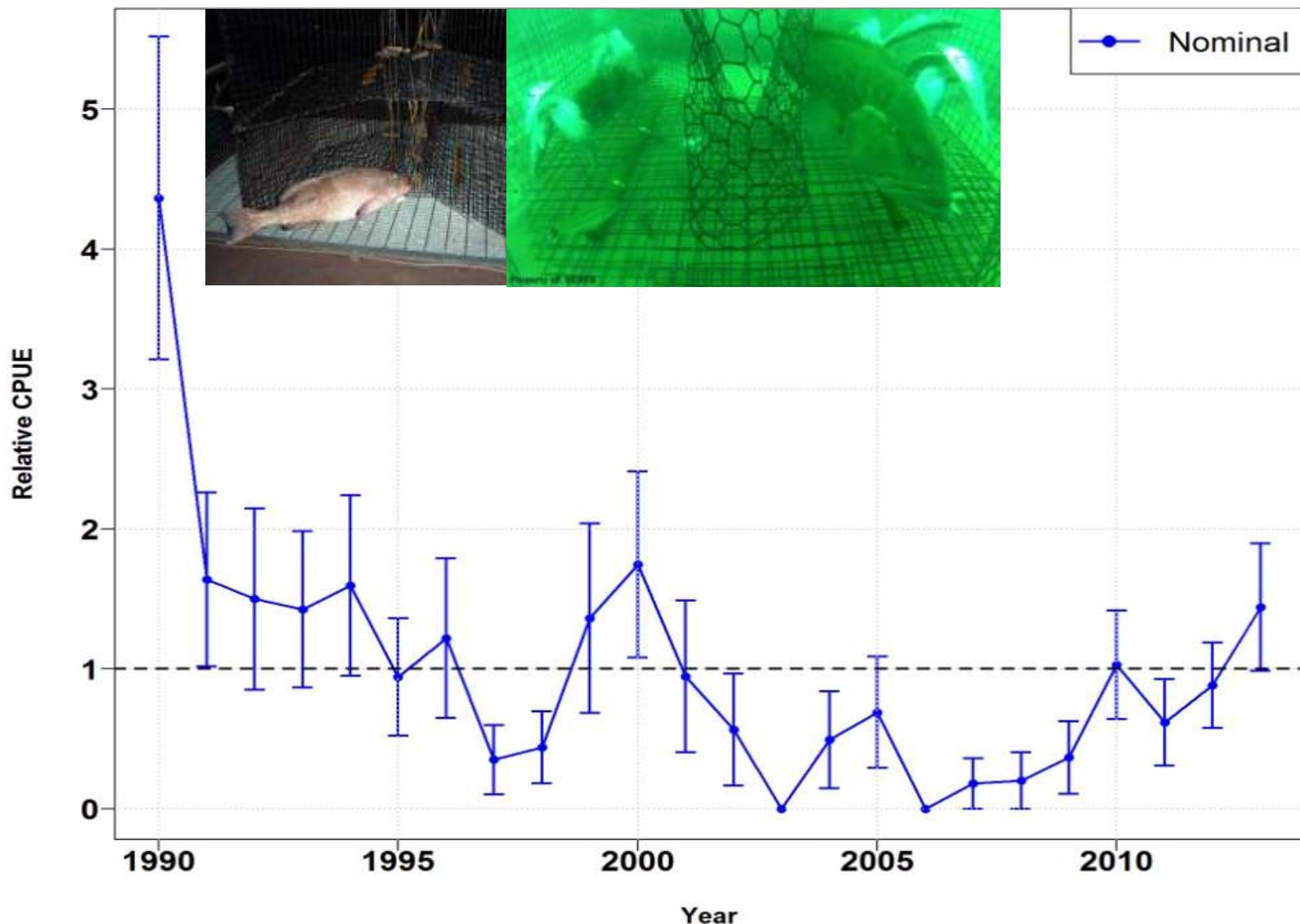
Chevron trap CPUE – Red Grouper



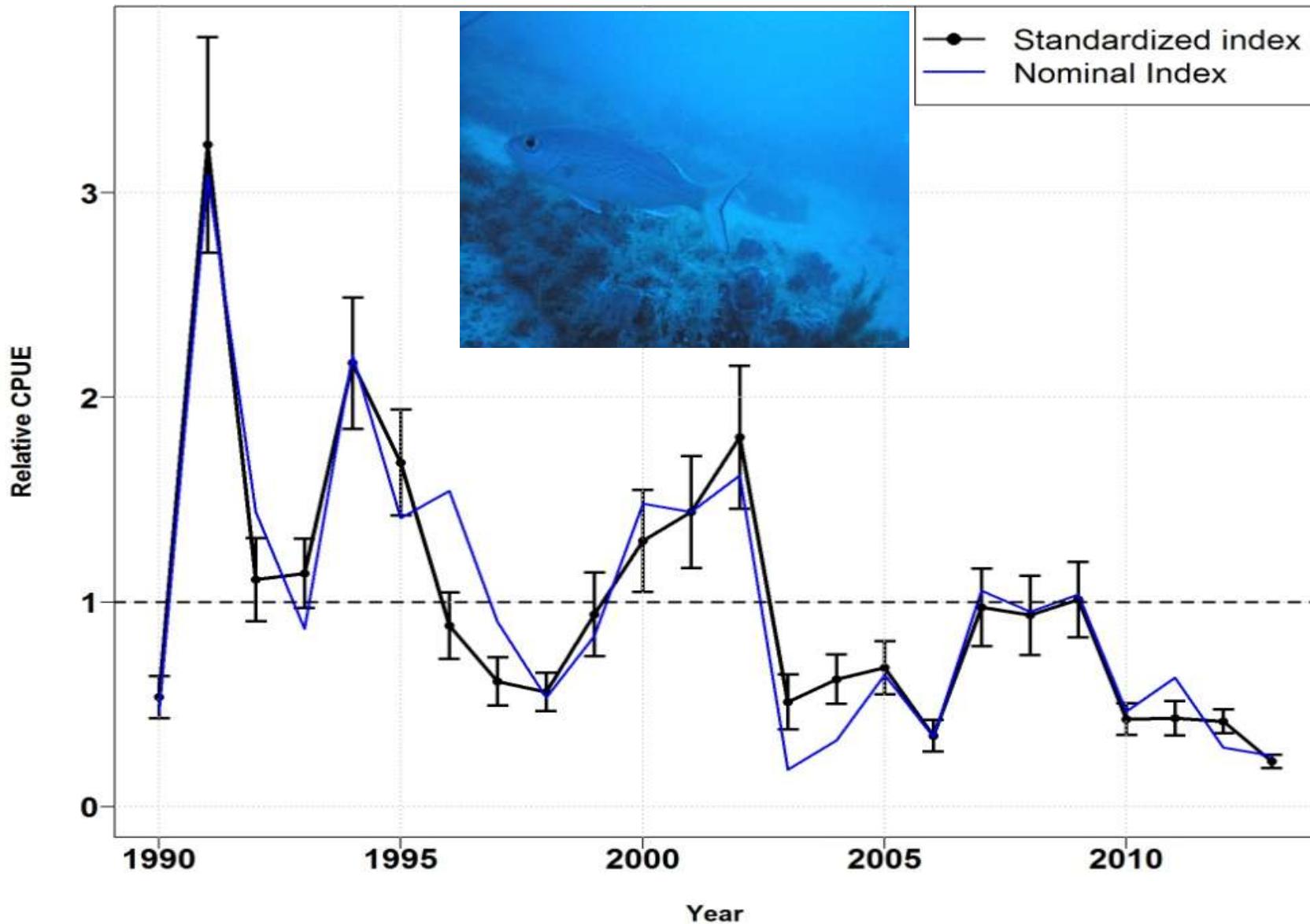
Chevron trap CPUE – Snowy Grouper



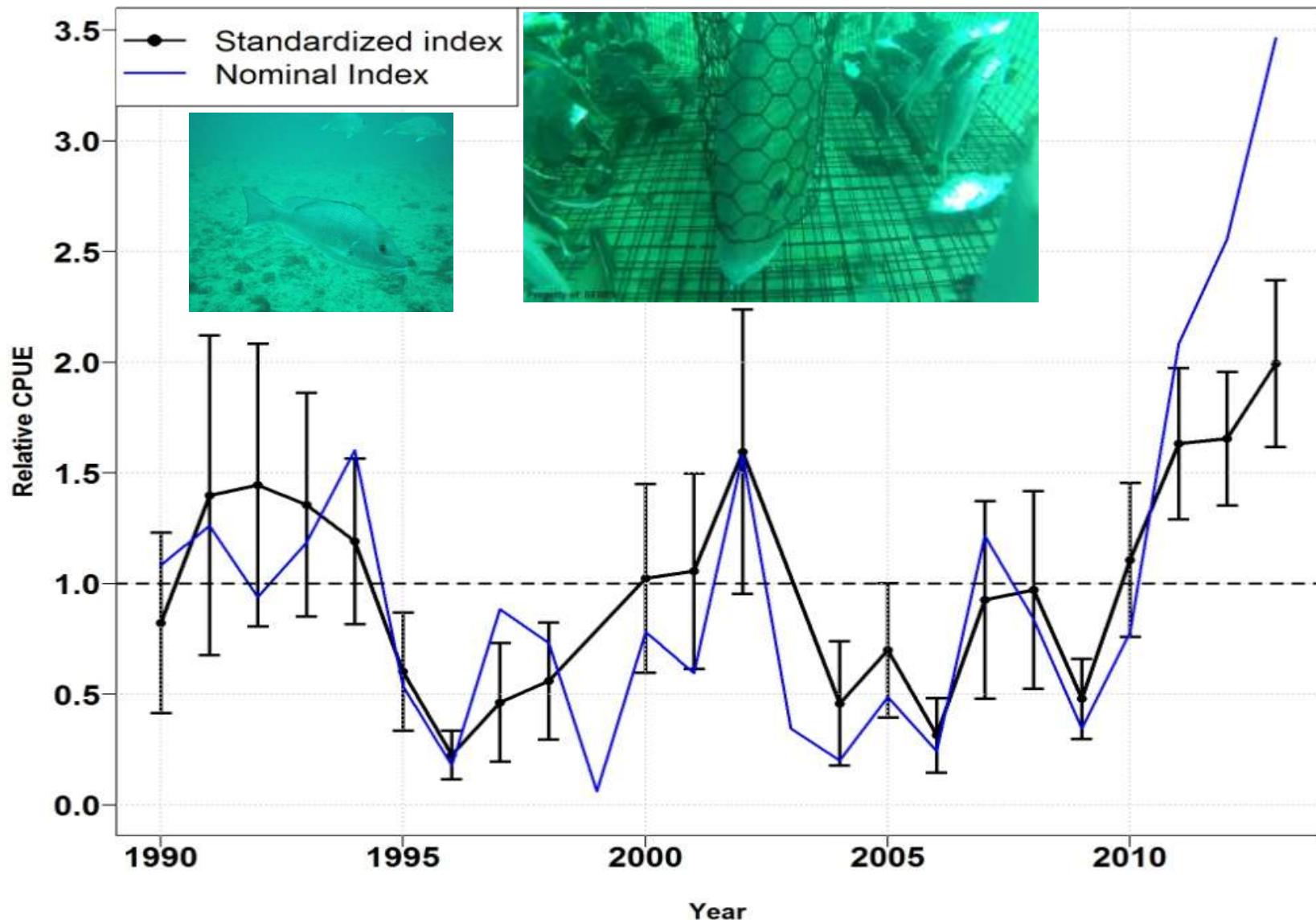
Chevron trap CPUE - Gag



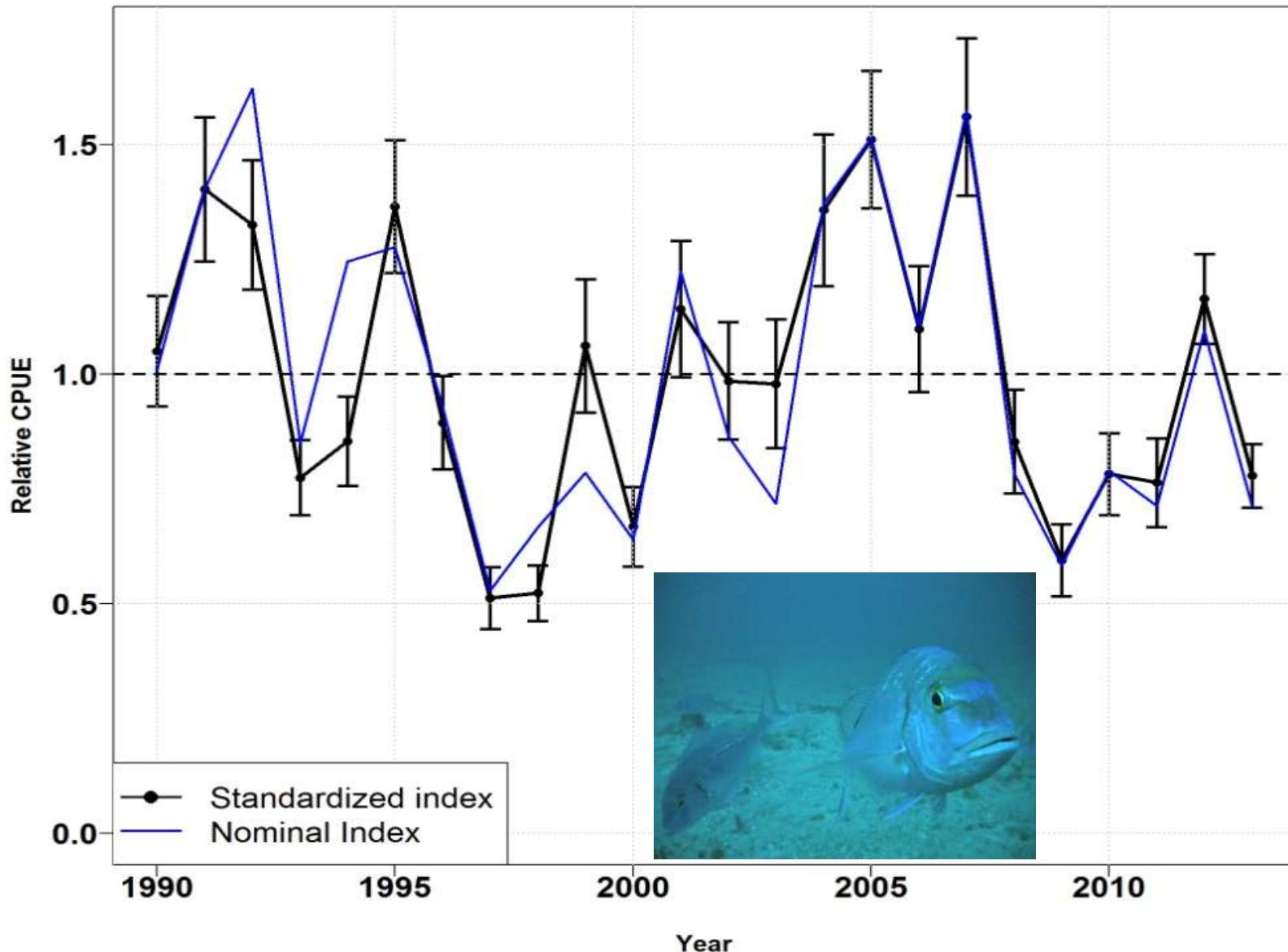
Chevron trap CPUE – Vermilion Snapper



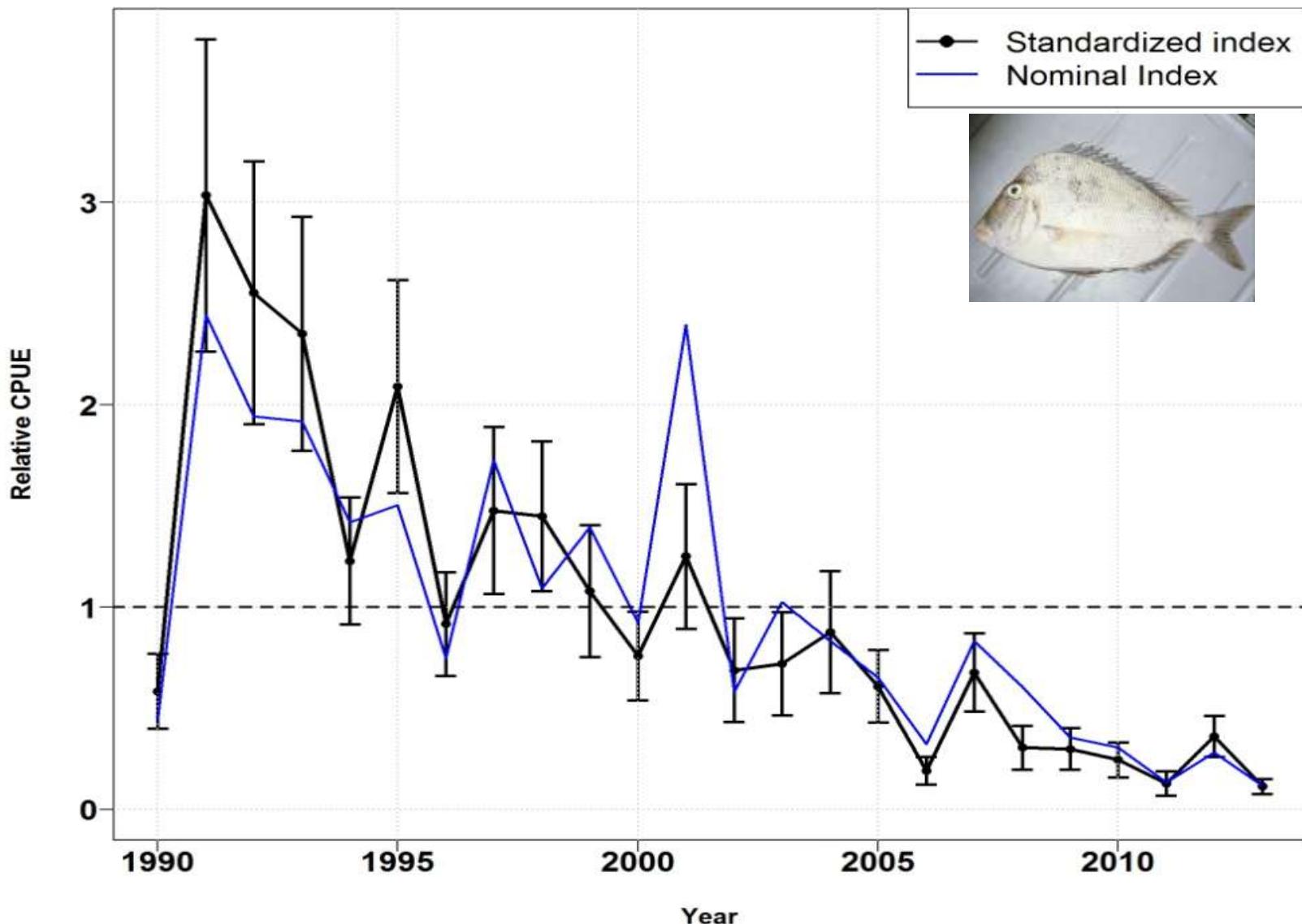
Chevron trap CPUE – Red Snapper



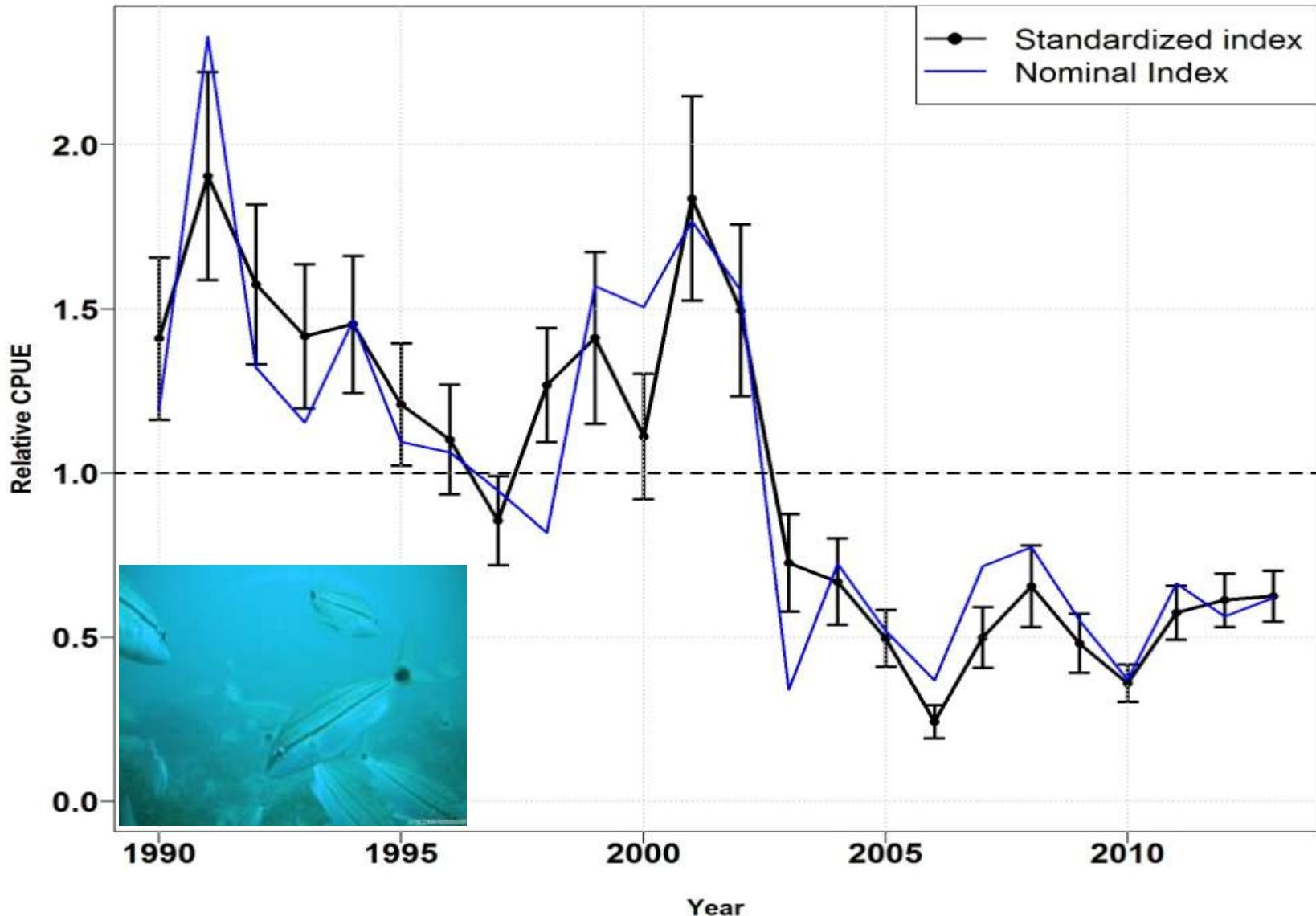
Chevron trap CPUE – Red Porgy



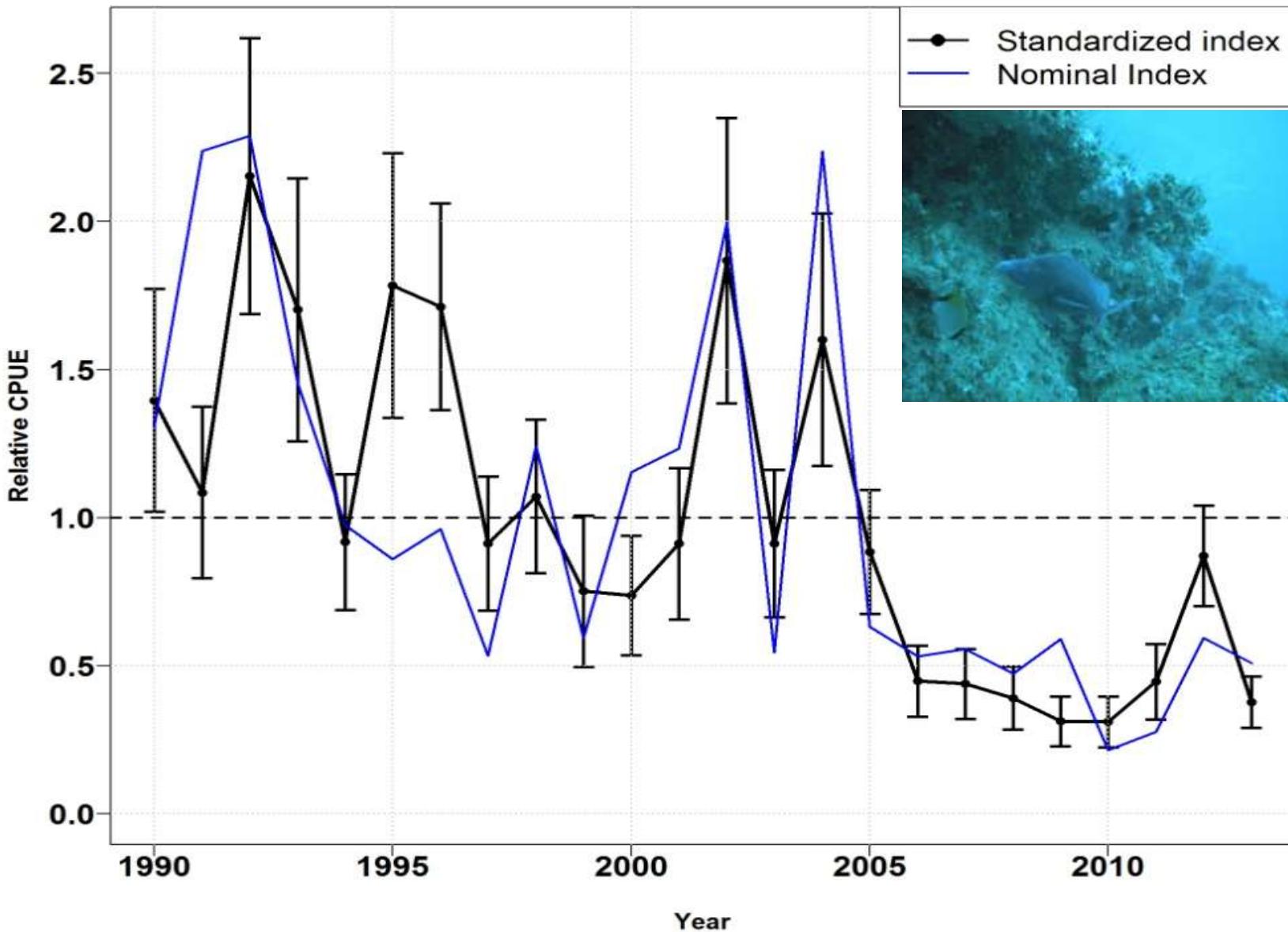
Chevron trap CPUE – Knobbed Porgy



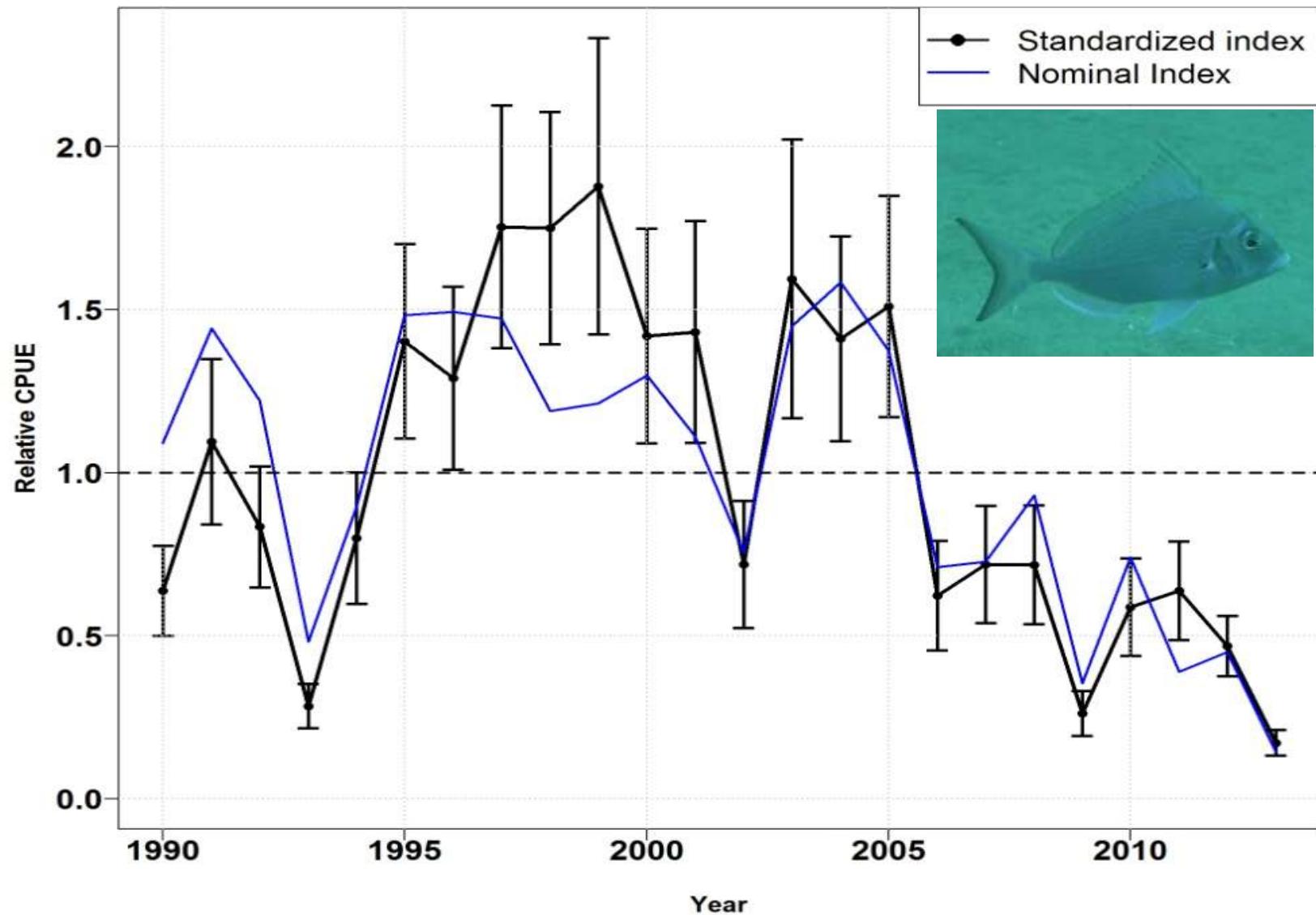
Chevron trap CPUE - Tomtate



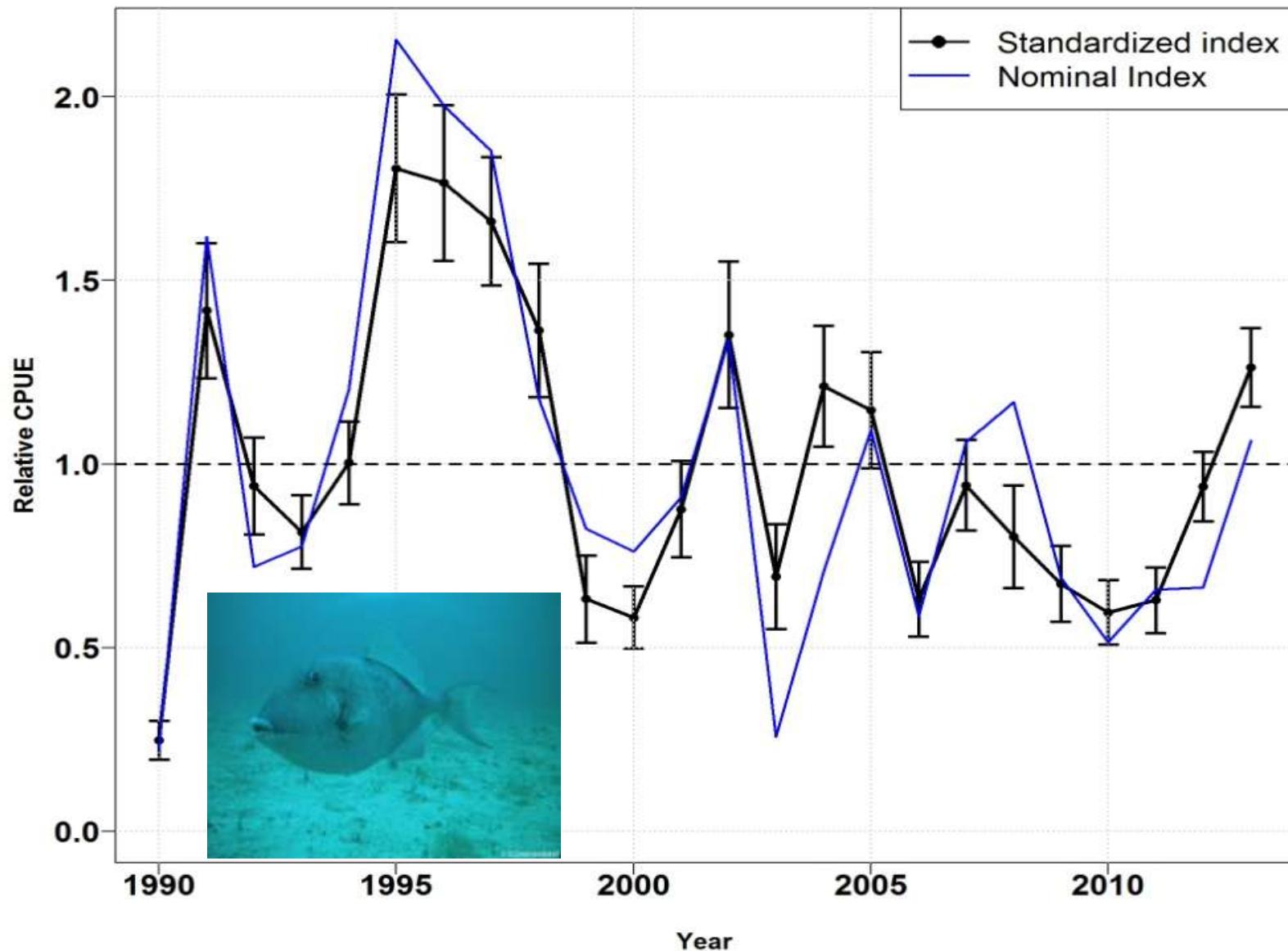
Chevron trap CPUE – White Grunt



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:

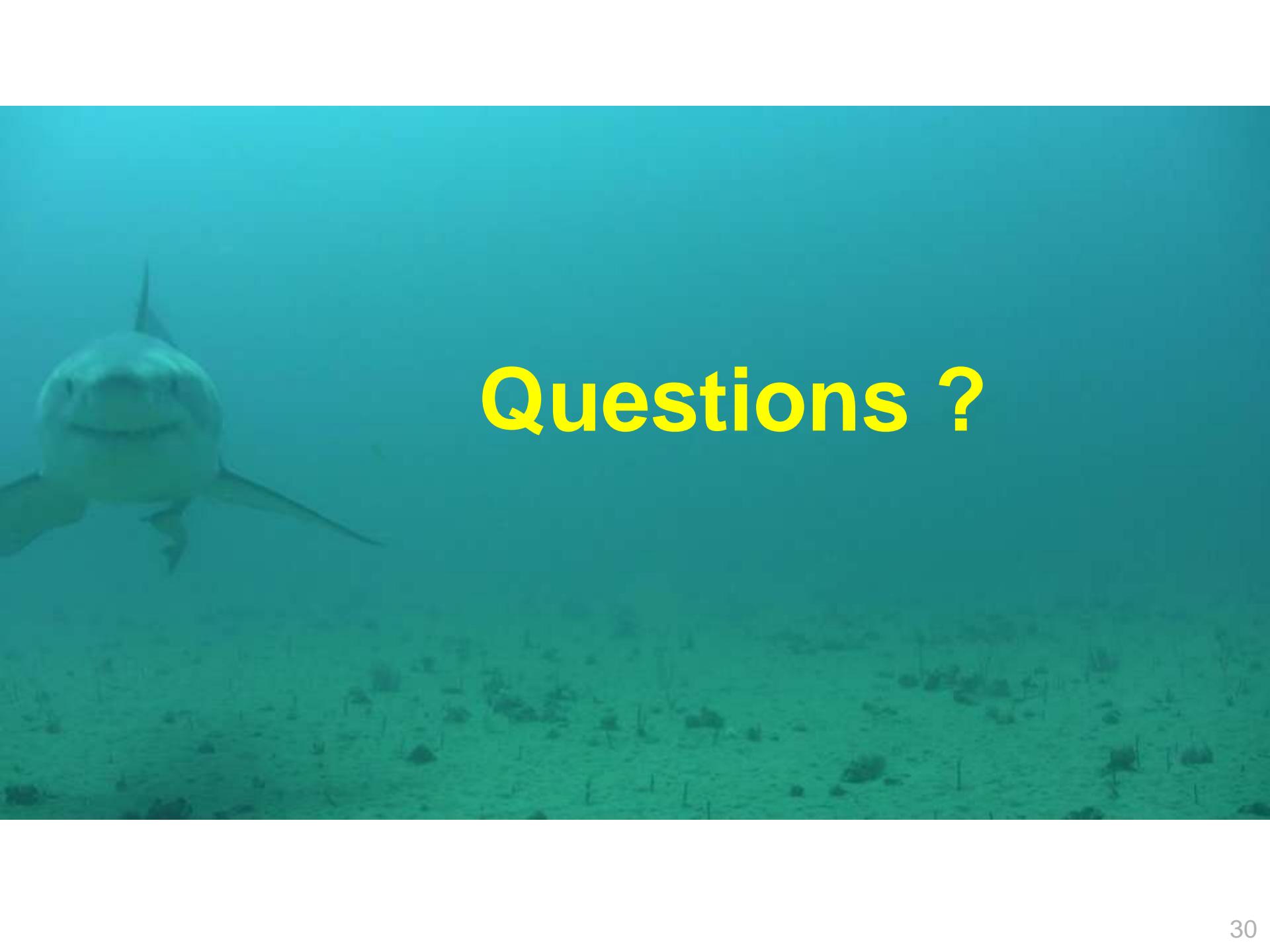
Resuming short bottom long-line (e.g. snowy grouper)
No long bottom long-line (e.g. tilefish)



Acknowledgements:

MARMAP/SEAMAP-SA/SEFIS
Staff and students

Research Vessel Crews

A large shark is swimming towards the left side of the frame in a clear blue ocean. The background shows a sandy ocean floor with some small plants or debris scattered across it.

Questions ?