Volunteer Appreciation Event & Data Workshop

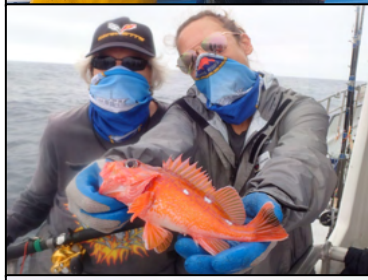
Moss Landing Marine Labs
March 12th, 2022






Outline

1. Zoom “Introductions” & Etiquette
2. MPA Management Review Updates from OPC & CDFW
3. Program Background & Updates
4. 2022 Decadal Review Highlights
5. Tag-Recapture Highlights from 2021
6. Angler Metrics
7. 2022 CDFW Fishing Regulations








Introductions - Change Your Zoom Name!

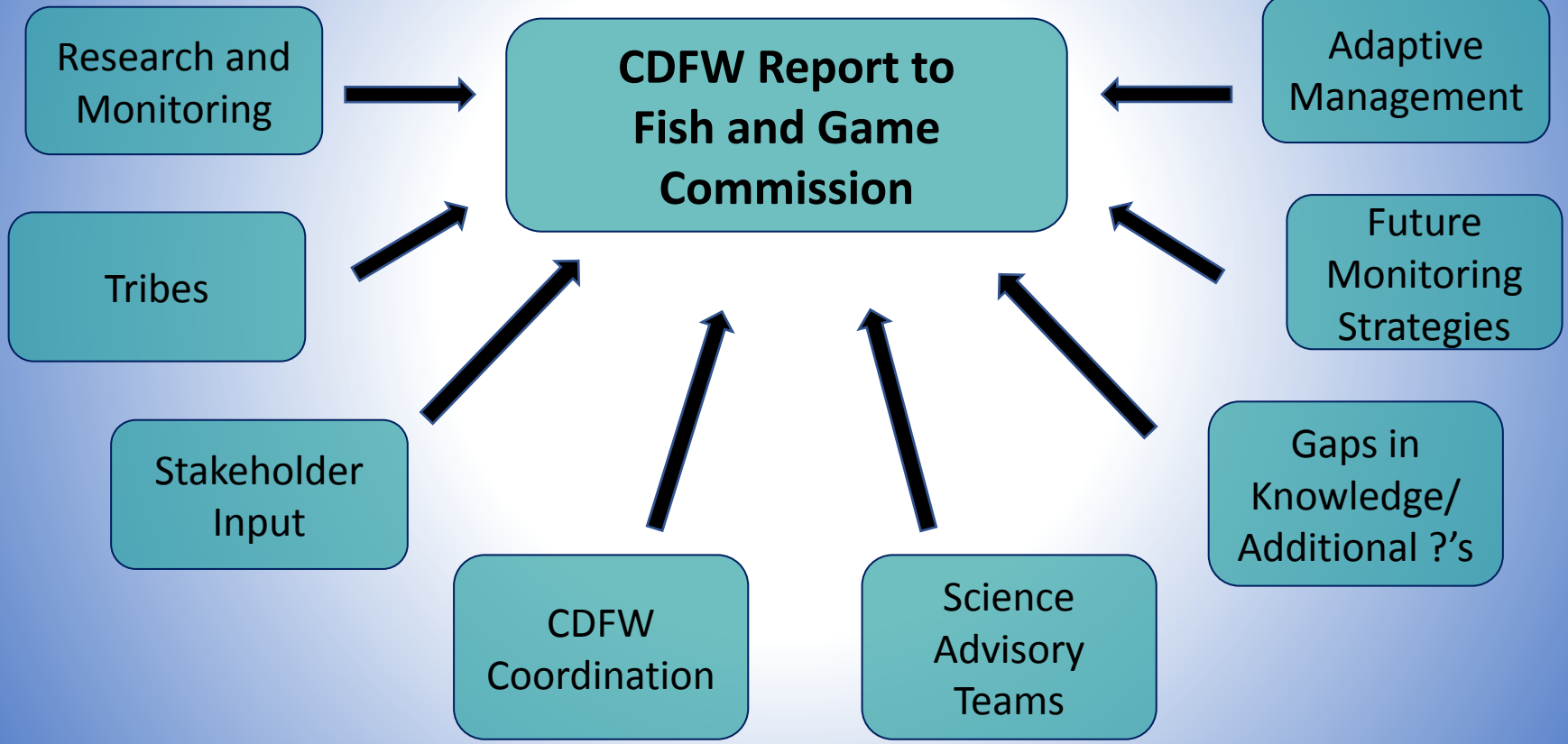
1. Hover your mouse over your picture
2. Click the three dots in the upper right-hand corner
3. Select “Change Name”
4. Write in your: Name, Affiliation (Captain, Deckhand, Volunteer, etc.)



Updates on the Decadal Management Review

CDFW

Decadal Management Review: 2023



Monitoring Program and Science Guidance

- Baseline Monitoring data (2007-2018)
- Long-term Monitoring data (2016-present)
- Network connectivity model
- Science guidance
  - MPA Decadal Evaluation Working Group
  - MPA and Climate Resilience
  - National Center for Ecological Analysis and Synthesis

Long-term monitoring technical reports now available on CA Sea Grant website!

Anticipated Timeline

2022

- **January:** Reports received from monitoring groups and core partners
- **January to August:** NCEAS report developed
- **January to November:** CDFW report development

2023

- **January:** CDFW and NCEAS reports publicly available
- **February:** Reports discussed at Fish and Game Commission meeting
- **March:** MRC meeting, Public symposium/open house
- **April:** DMR discussion at Tribal Committee meeting and FGC meeting with direction on next steps

Stay Informed

- Decadal management review landing page https://wildlife.ca.gov/Conservation/Marine/MPAs/Management/Decadal-Review
- MPAMangementReview@wildlife.ca.gov
- Community meeting report and videos now available!
- Upcoming public webinars with monitoring researchers
- Fish and Game Commission, OPC, Marine Resources Committee, Tribal Committee meetings
- Sign up for CDFW and OPC newsletters

Thank you!

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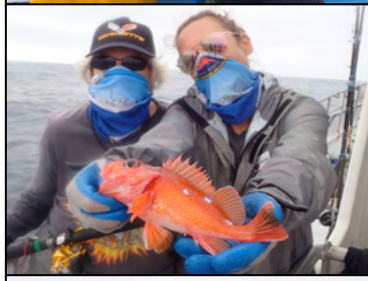






Questions?

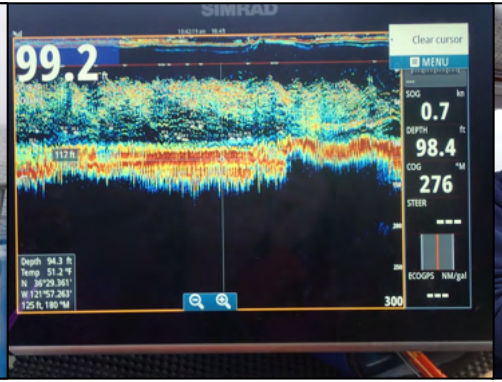
California Collaborative Fisheries Research Program (CCFRP)

- Fishery-independent (catch- and-release) study that combines the expertise and ideas of:
  - Fishing community
  - Academia
  - Resources managers
- Conduct scientifically rigorous data collection and analyses for MPA monitoring and fisheries management

UCSB
SCRIPPS INSTITUTION OF OCEANOGRAPHY
UC San Diego
Moss Landing Marine Laboratories
CALIFORNIA DEPARTMENT OF FISH & WILDLIFE
BODEGA MARINE LABORATORY
CAL POLY
Center for Coastal Marine Sciences
Sea Grant California
FISH WISE
NOAA
SANTA MONICA SEAFOOD
Family Owned Since 1939
CAL POLY HUMBOLDT
ESTABLISHED 1913
CALIFORNIA STATE PARKS
SINCE 1864
CALIFORNIA OCEAN PROTECTION COUNCIL

Benefits of Collaboration

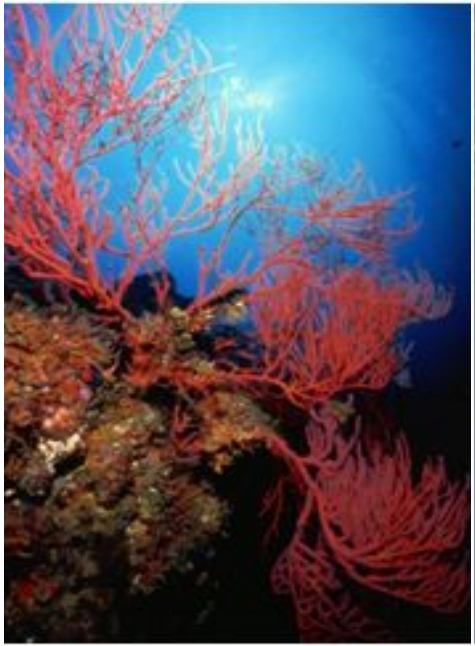
- Engage stakeholders in both science and management
- Utilize different areas of expertise to develop protocols and collect data
- Create a shared understanding of resources and facilitate communication among user groups

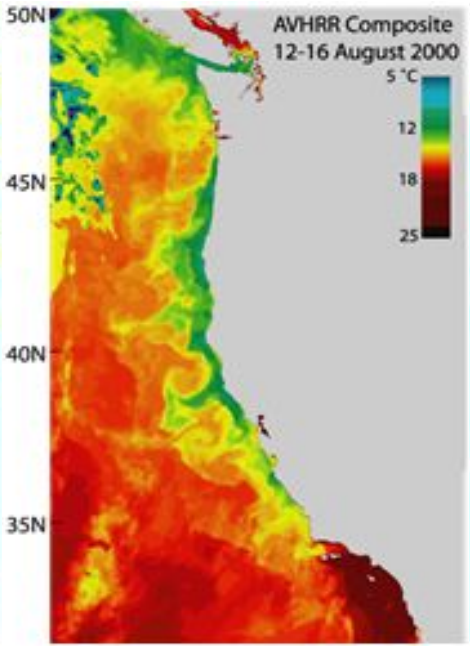


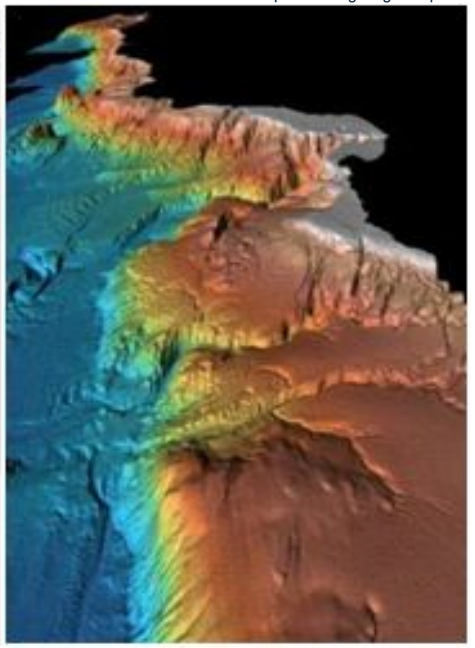
Marine Life Protection Act (MLPA)

- Passed in 1999
- Mandated the creation of a network of marine protected areas (MPAs) to protect diversity and ecosystem function

http://www.dfg.ca.gov/mlpa/







Marine Protected Area (MPA) vs. Reference Site (REF)

- **State Marine Reserve** (SMR) – fully protected; all commercial and recreational harvest prohibited
- **State Marine Conservation Area** (SMCA) – limited recreational and/or commercial extraction permitted
- **State Marine Park** (SMP) – recreational harvest permitted
- **Reference Site** (REF) – areas open to both recreational and commercial fishing; subject to California Dept. of Fish and Wildlife (CDFW) rules and regulations (e.g., minimum/maximum sizes, seasonal closures, daily bag limits)

Why Monitor MPAs?

- It is a priority adopted by regional stakeholders
- It is required by MLPA (ensure MLPA goals are met)
- Critical to enabling adaptive management

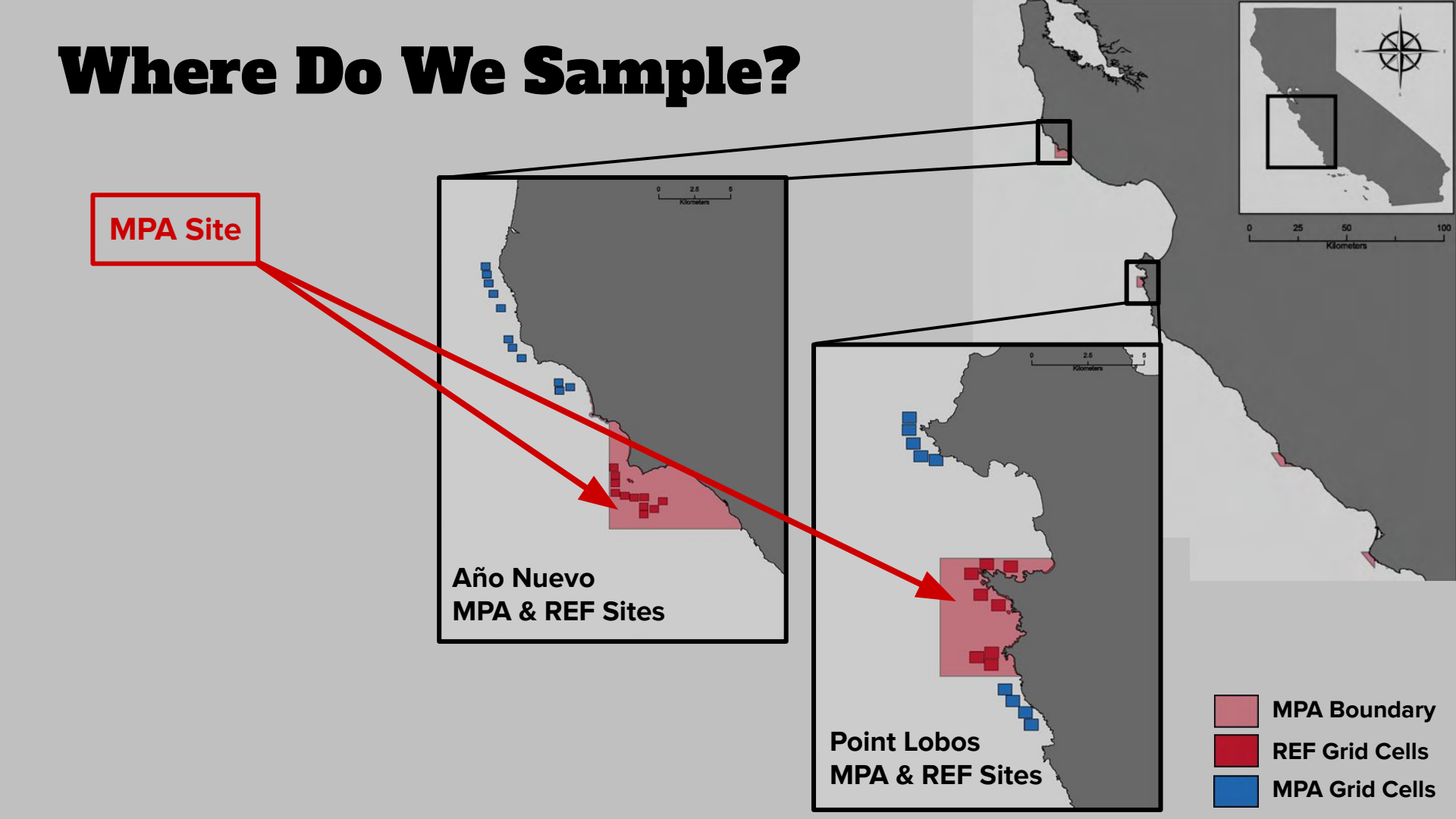
California MPA Network

Northern California
45 MPAs
Est. 2010-2012

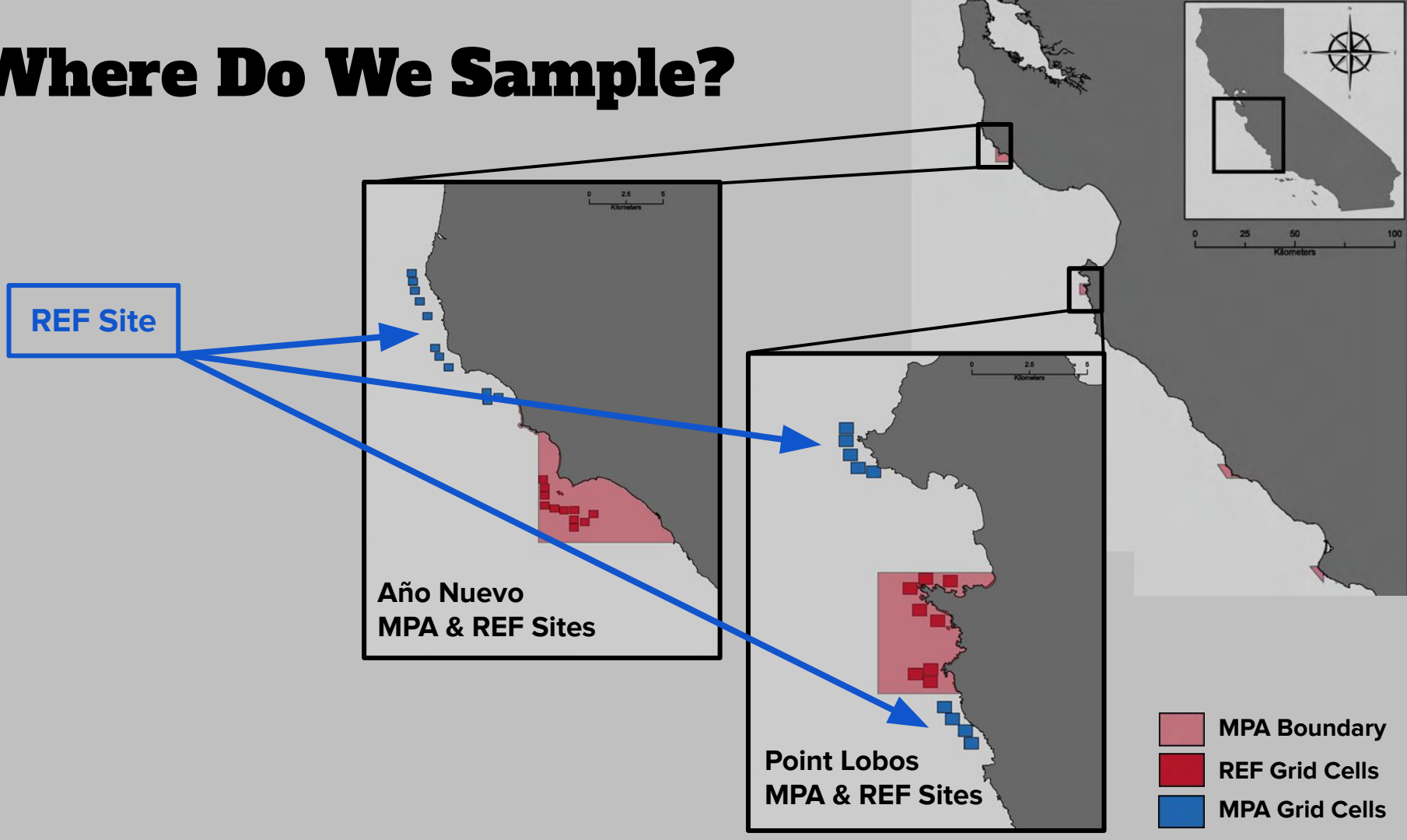
Central California
29 MPAs
Est. 2007

Southern California
50 MPAs
Est. 2012

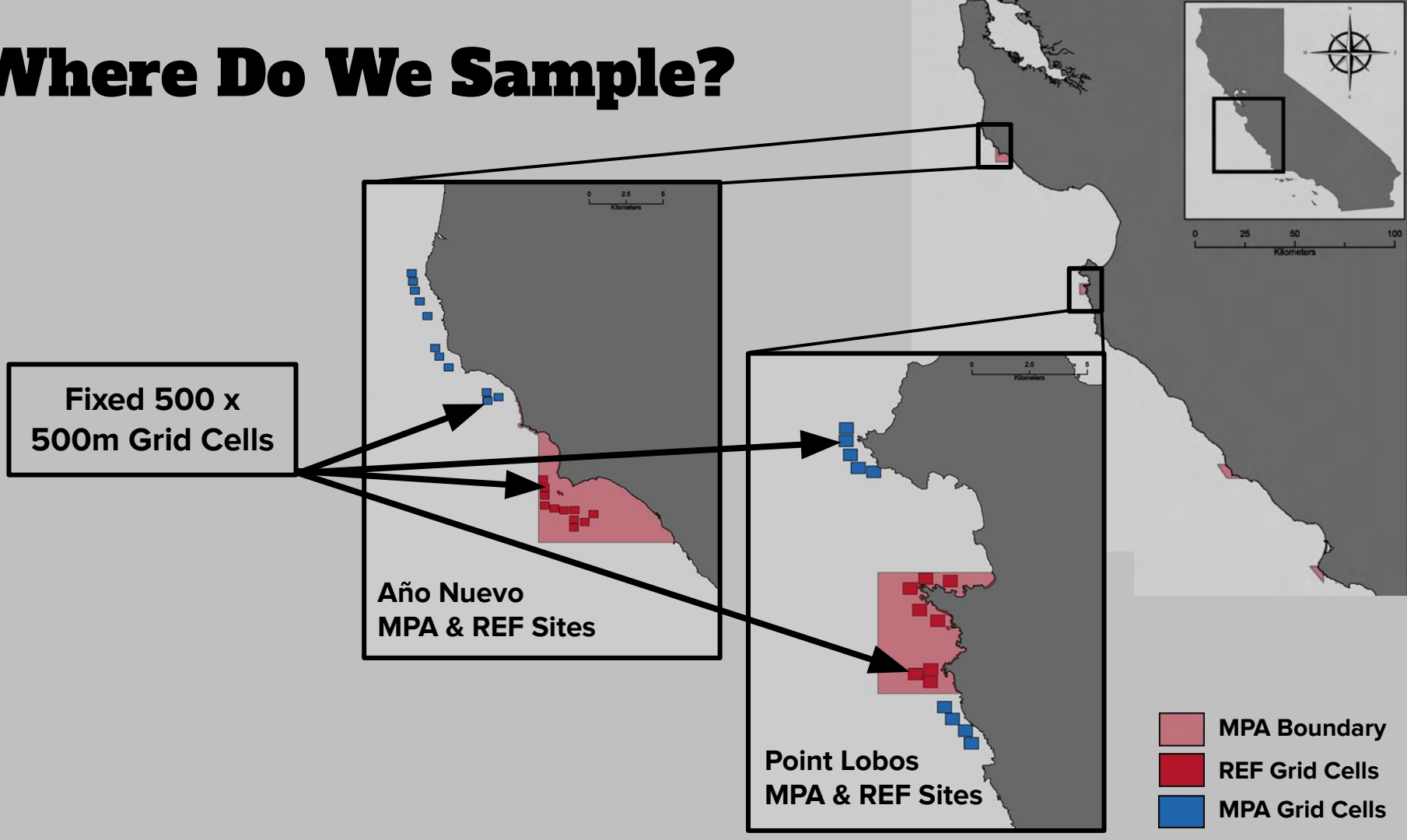
Where Do We Sample?



Where Do We Sample?

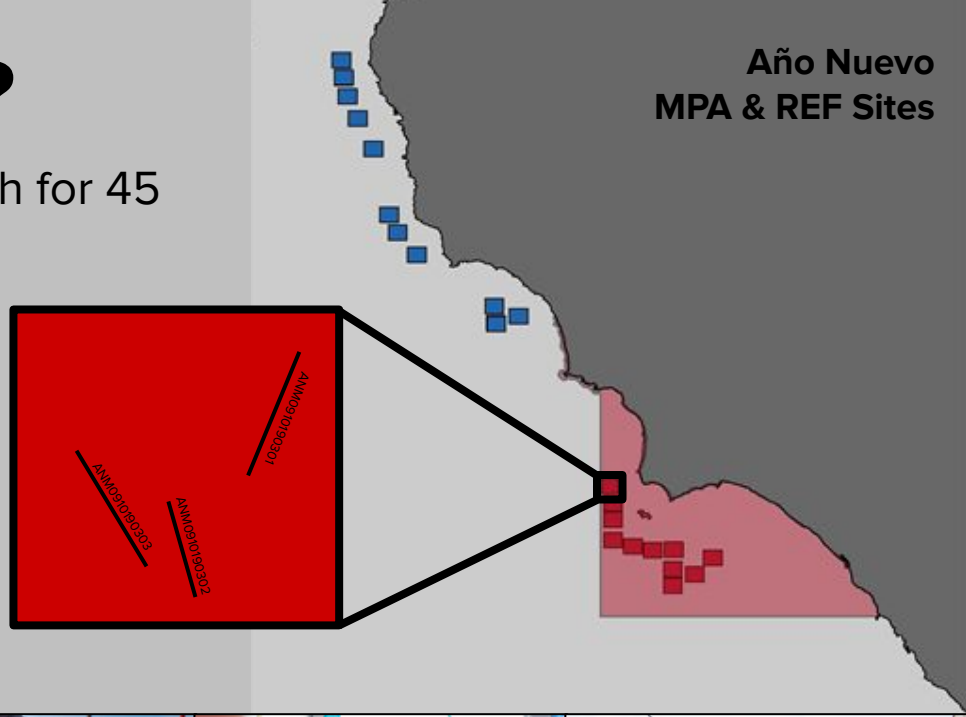


Where Do We Sample?



How Do We Sample?

- Each time we visit a cell we aim to fish for 45 minutes, broken into 15 minute drifts
- Data collected during drift:
  - Angler number
  - Start/stop times
  - GPS coordinates
  - Species
  - Total length (cm)
  - Fish condition
  - Tag number





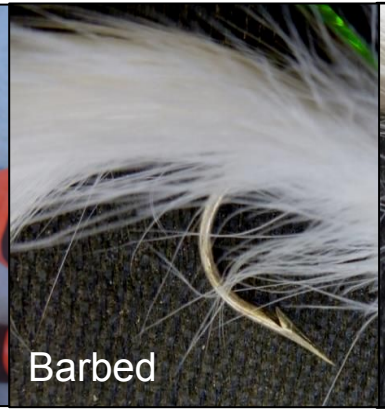


Rockfish are Diverse & Long-Lived!

- Approx. 70 species along the northeast Pacific
  - 100+ worldwide
- Nearshore - 2,830 m (9,285 ft)
- EX: Vermilion Rockfish - 60 years old (Love et al. 2002)

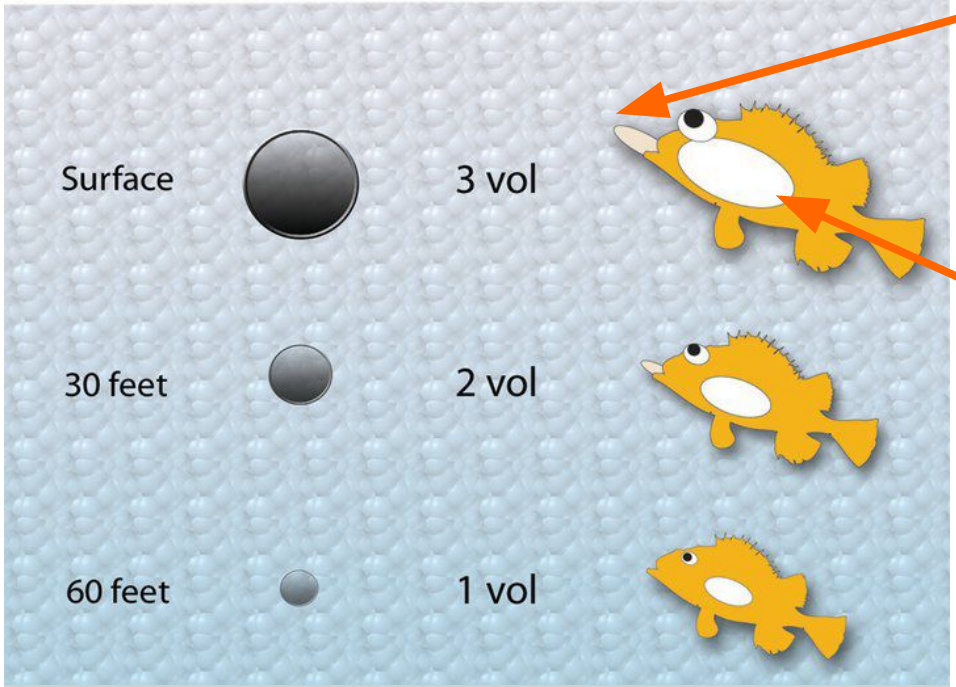
Maximizing Survivorship

- Sample < 120 feet
- Fish without barbed hooks
- Use careful handling techniques
- Keep surface time < 5 min
- Regularly replace seawater
- Only tag fishes in good condition
- Descend fishes, when necessary

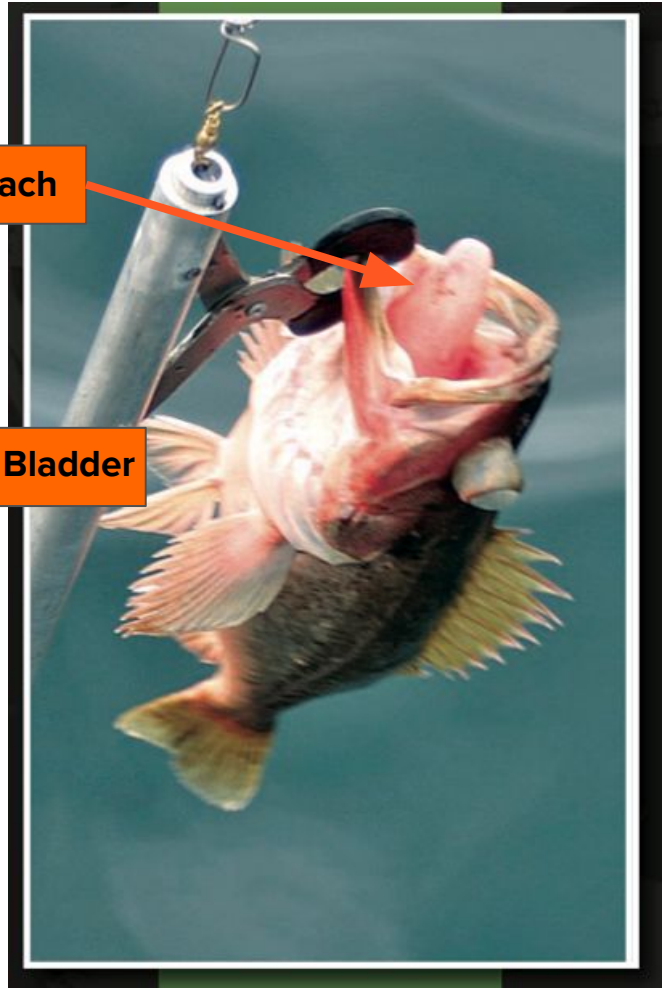


The Plight of the Rockfish

Symptoms of Barotrauma



The volume of a fish's swim bladder can triple when reeled in from depths as shallow as 60 feet



The Plight of the Rockfish

Descending Devices

Ace Calloway (Blacktip)	SeaQualizer	Weighted Milk Crate
		

MLML Summary (2007-2021)

- **9** CPFV's, **16** skippers, **4** harbors
- **240** sampling days at sea
- **873** volunteer anglers
- **7,000** hours of fishing
- **81,750** fishes (**53** spp.)
- **24,793** fishes tagged and released

CCFRP Updates

When we're not fishing with all of you, we are publishing data and giving presentations to other researchers on the data you helped collect!

- **Paper in Review:** Ziegler SL, RO Brooks, SL Hamilton, BI Ruttenberg, JA Chiu, RT Fields, GT Waltz, C Shen, DE Wendt, RM Starr. External fishing effort regulates the positive effects of no-take marine protected areas. *Biological Conservation.*

Shelby Ziegler
WSN 2021 Presentation:
"External fishing effort regulates positive effects of no-take marine protected areas"

Rachel Brooks
WSN 2021 Presentation:
"Assessing fish spillover using 14-years of tag-recapture data across four central California marine protected areas"

Jake Todd
WSN 2021 Presentation:
"Does MPA age matter? Fish community composition and size structure within the new and old Point Lobos State Marine Reserve"

Molly Alvino
& Konnor Payne
WSN 2021 Poster:
"Latitudinal variation in nearshore rockfish species' length-frequencies along the California coast"

Jasmin Johnson
WSN 2021 Poster:
"Examining the effects of the 2014-2015 marine heatwave on fish community composition along the central California coast"

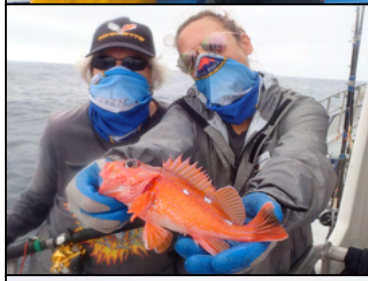
CCFRP Updates

- 2021 Statewide Totals:
  - **72** sampling trips
  - **245** volunteer anglers
  - **18,319** fishes (**57** spp.)
  - **5,388** fishes tagged and released
- CCFRP data included in CDFW's Decadal Management Review in 2022
  - **Long-term Monitoring Reports:** https://caseagrant.ucsd.edu/news/california-marine-protected-area-long-term-monitoring-program-final-reports-2019-2021
- Received funding to continue statewide monitoring in 2022 - stay tuned for sign-ups!











Questions?

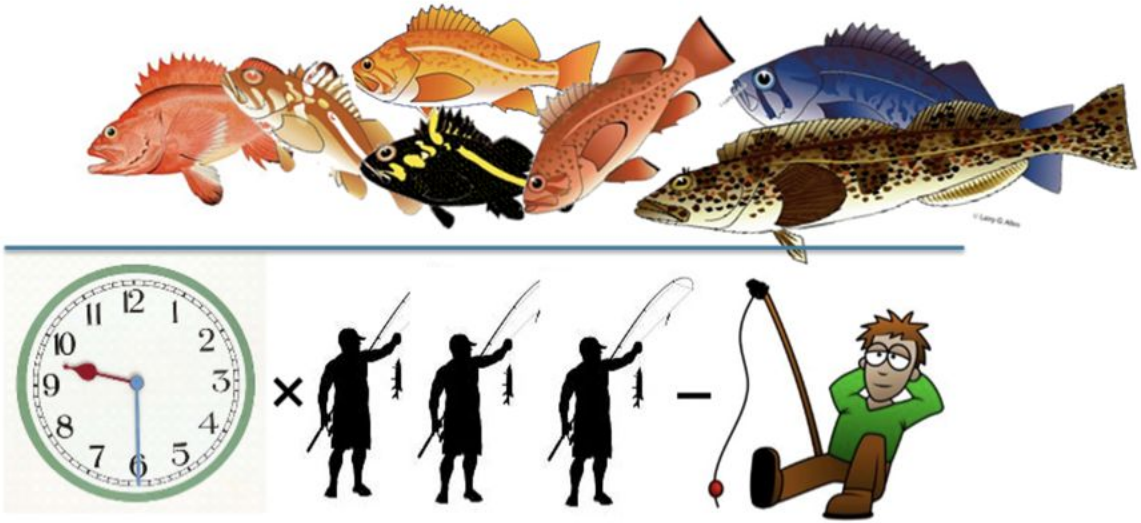


CCFRP Long-Term Monitoring Highlights



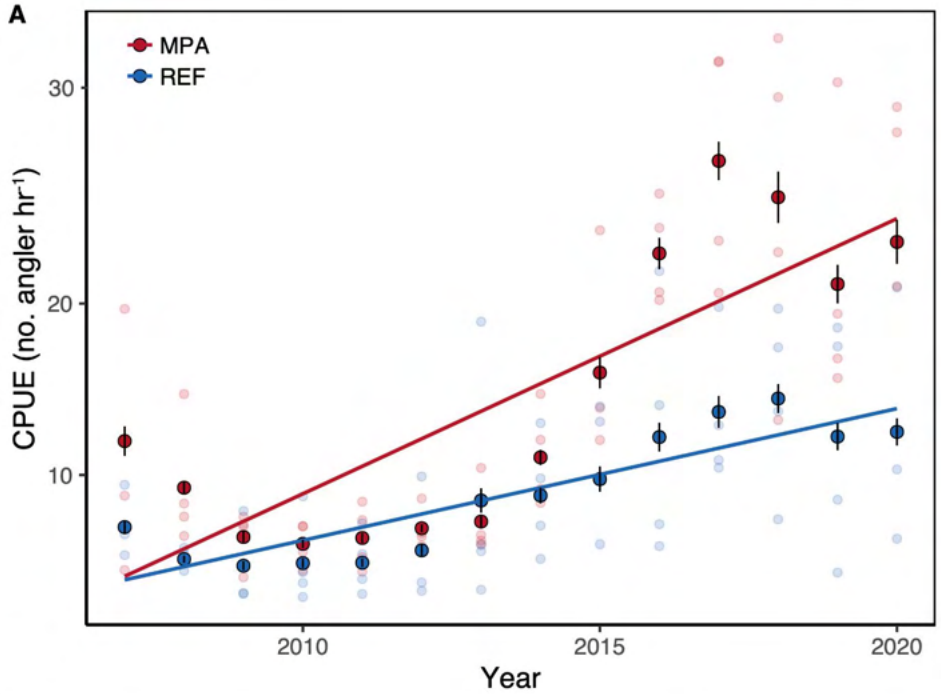
How we measure relative abundance: Catch-Per-Unit-Effort (CPUE)

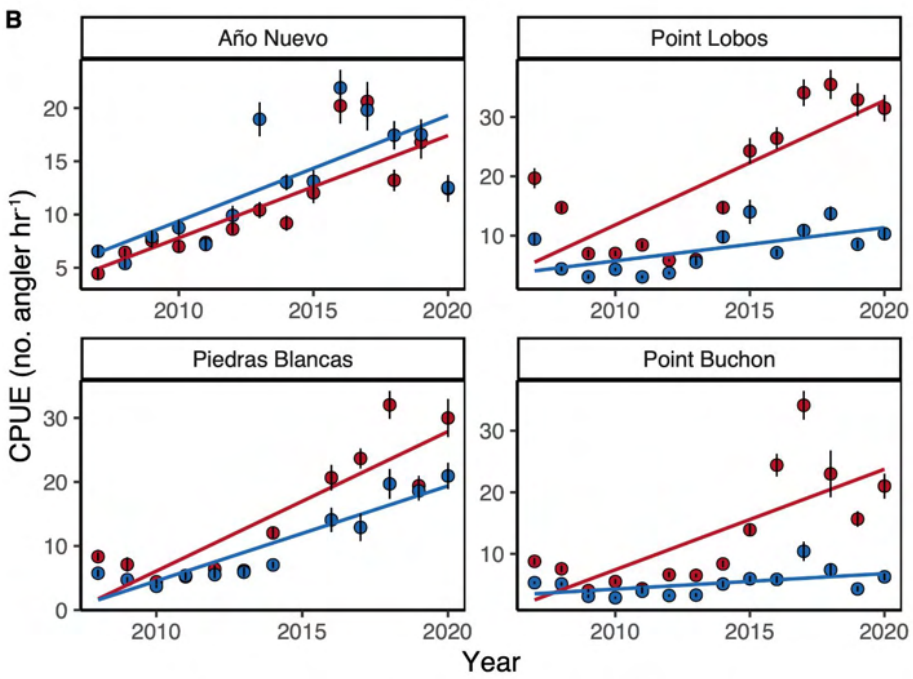
Here, CPUE is catch per *angler-hour*



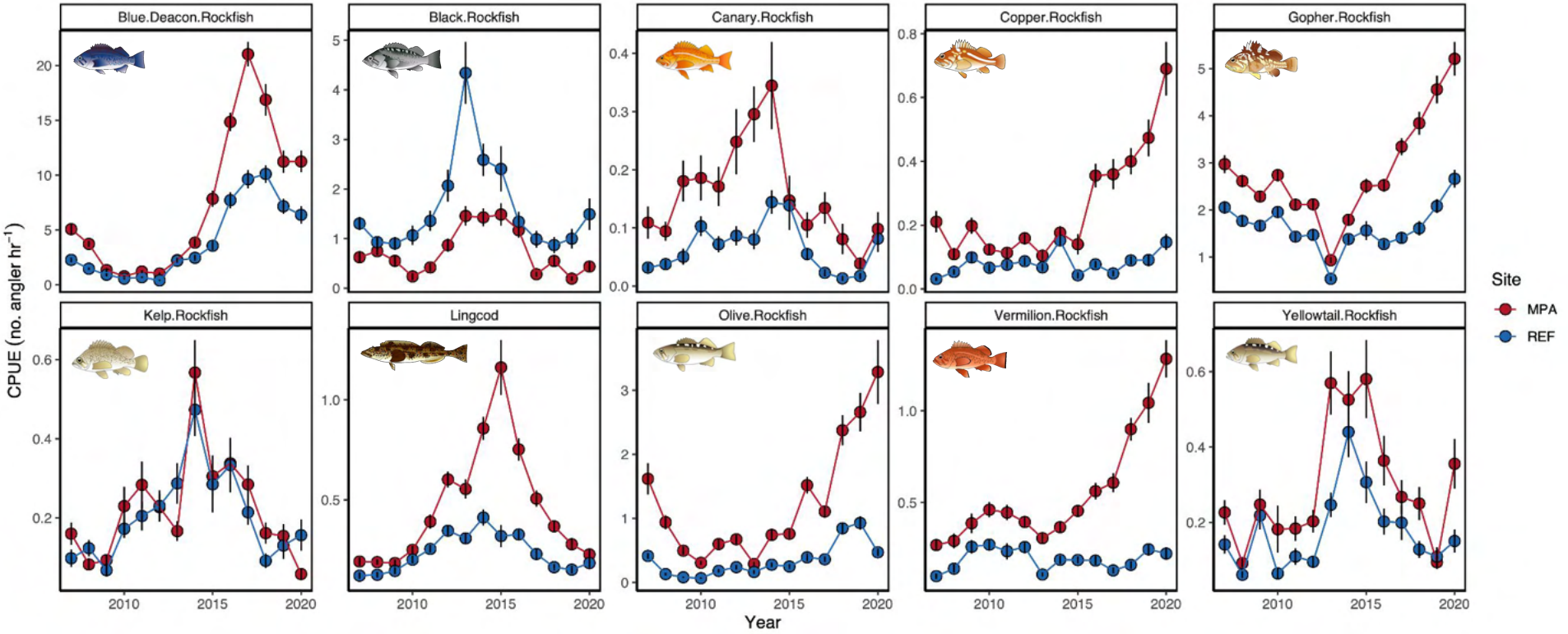
$$\text{CPUE} = \frac{\text{Number of fishes caught}}{[\text{total drift time}] \times [\#\ \text{anglers fishing}] - [\text{angler off time}]}$$

On average, more fish in MPAs over time!

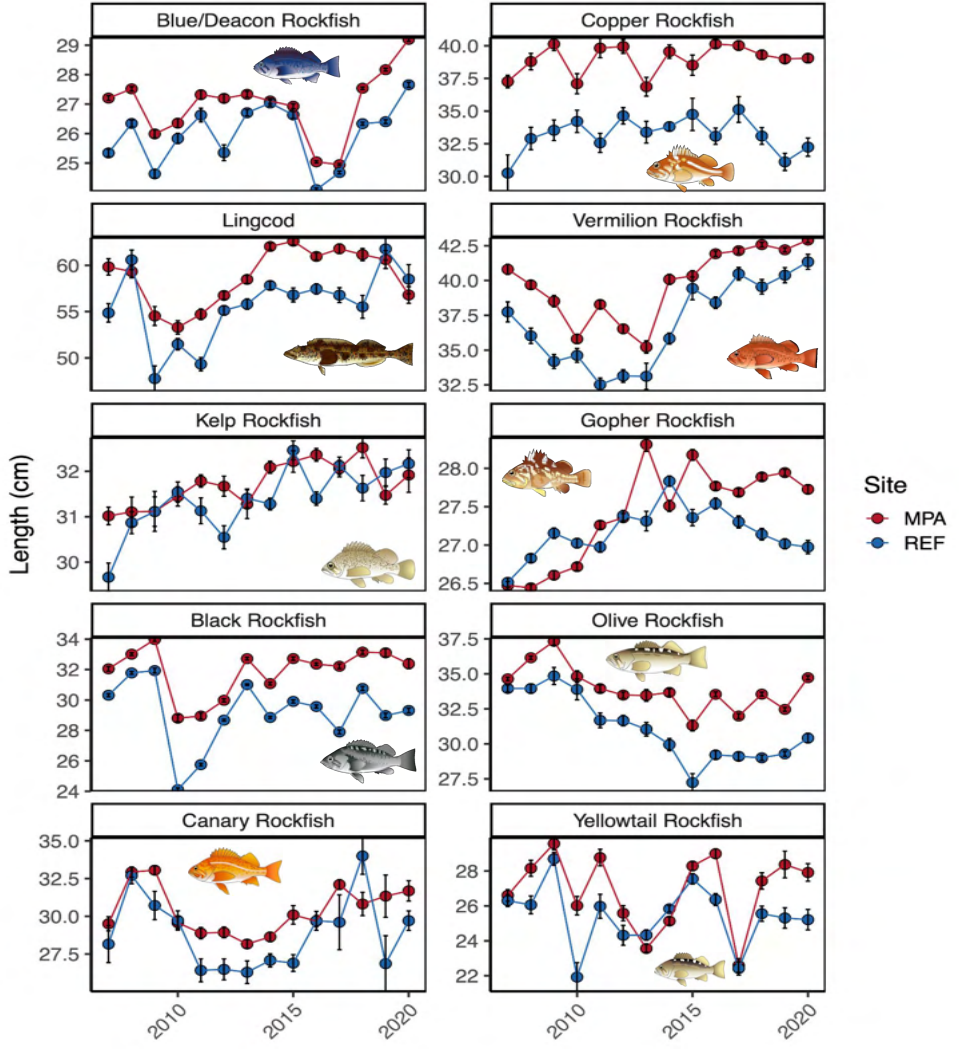




71% of species were more abundant inside MPAs

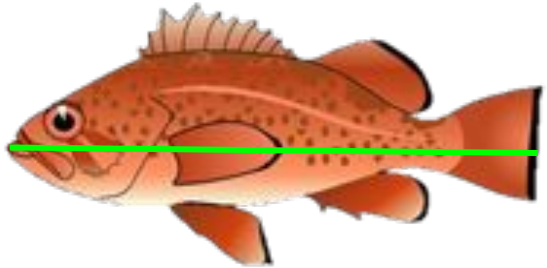


Fishes are typically larger in MPAs



Calculating Biomass-Per-Unit-Effort with CPUE and Length Data

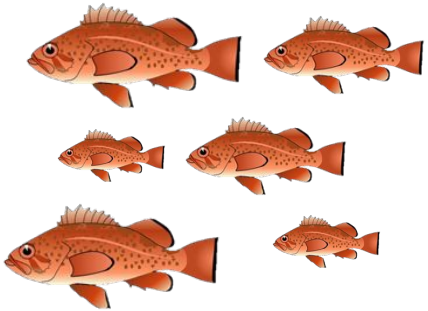
Length (cm)



Published
Length - Weight
Relationships
(cm to kg)

X

CPUE

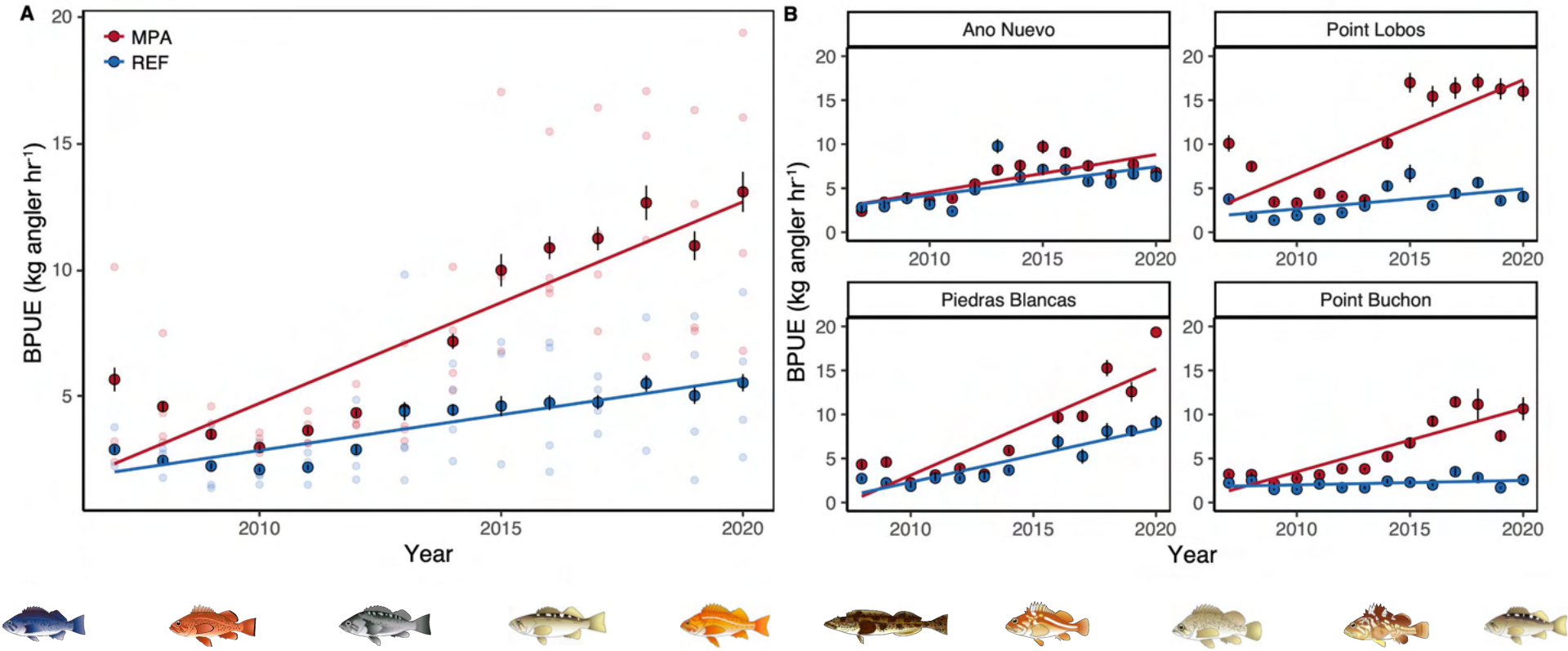


=

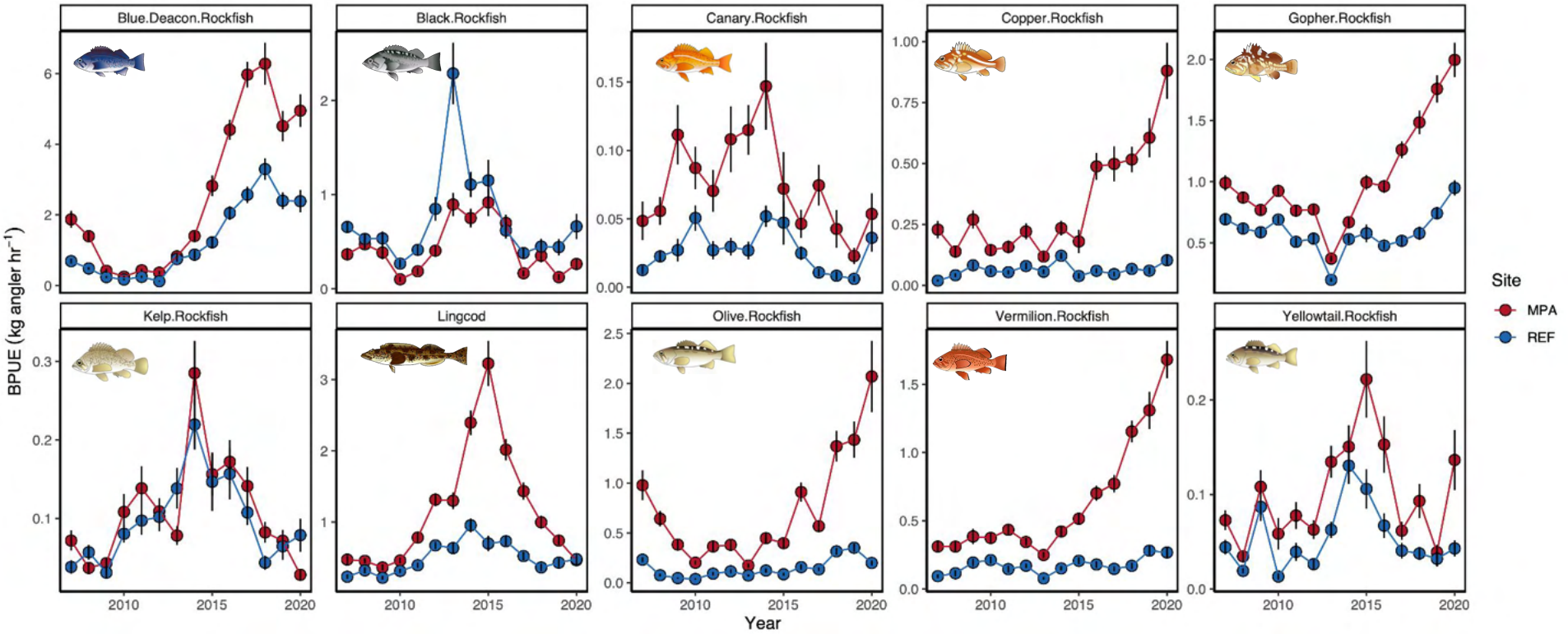
BPUE

(kg angler hr^{-1})

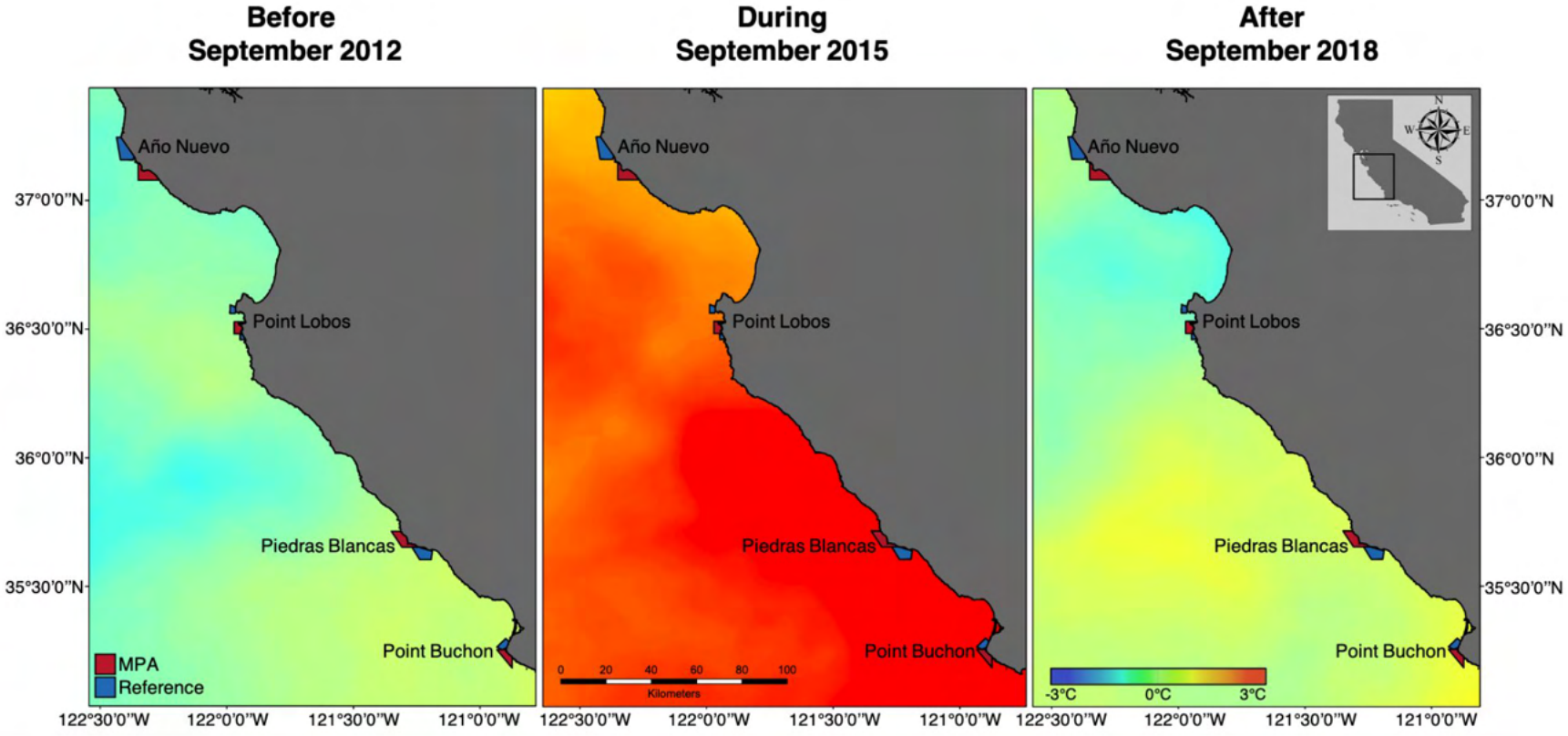
More fish biomass in MPAs over time!



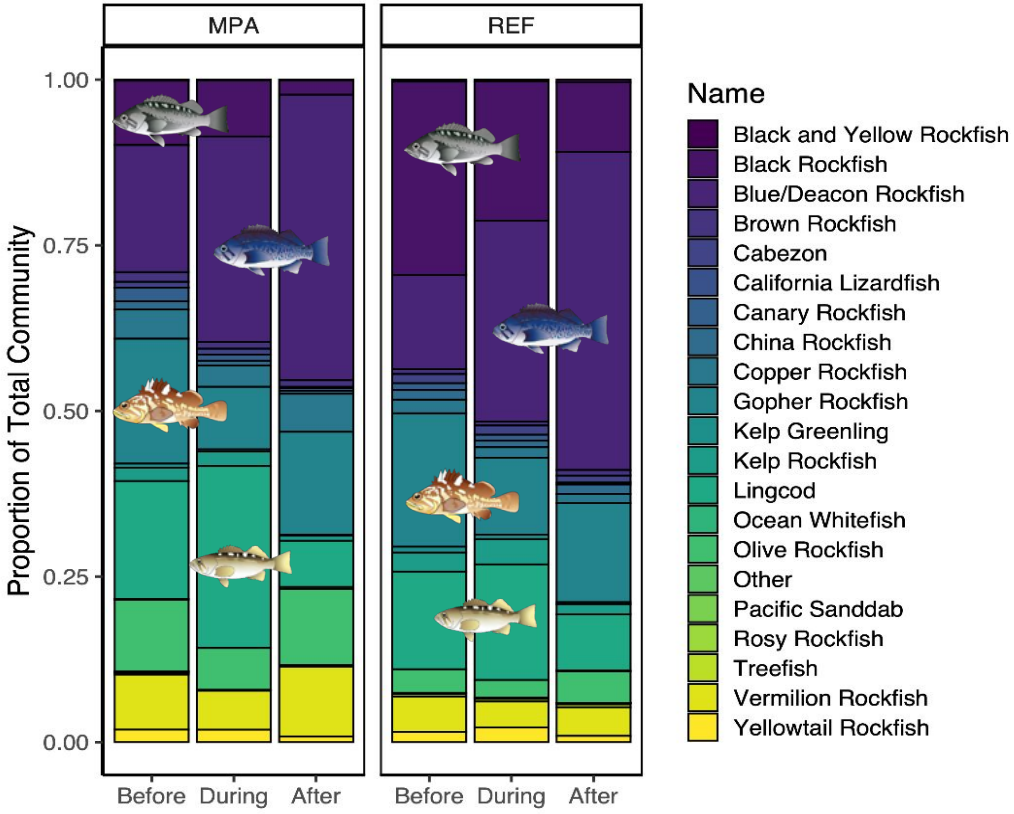
73% of species had greater biomass inside MPAs

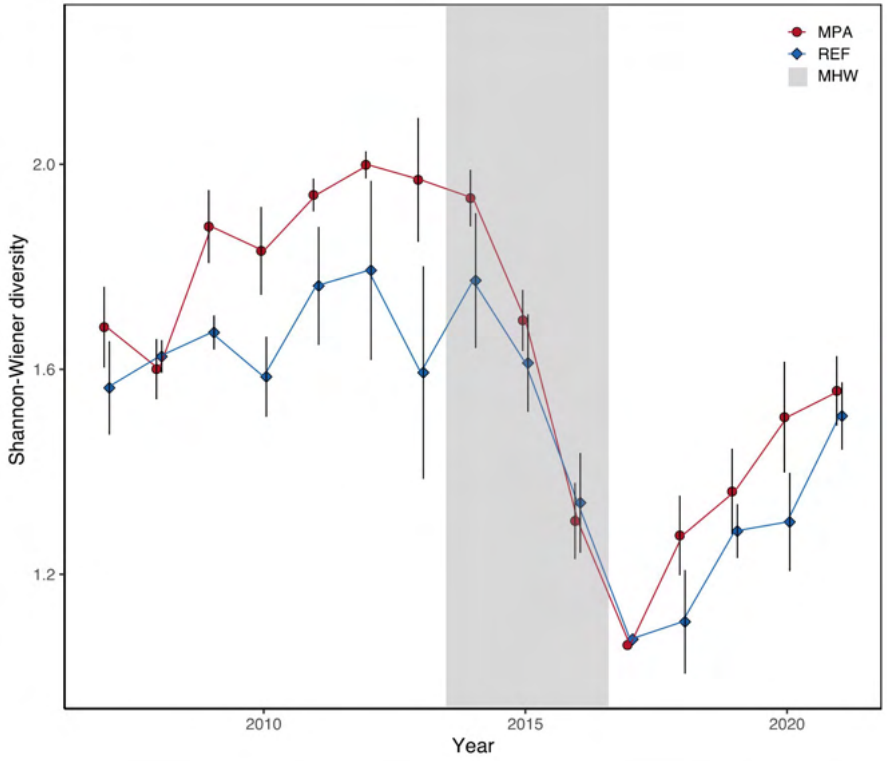


Between 2014-2016 CA experienced a severe marine heatwave



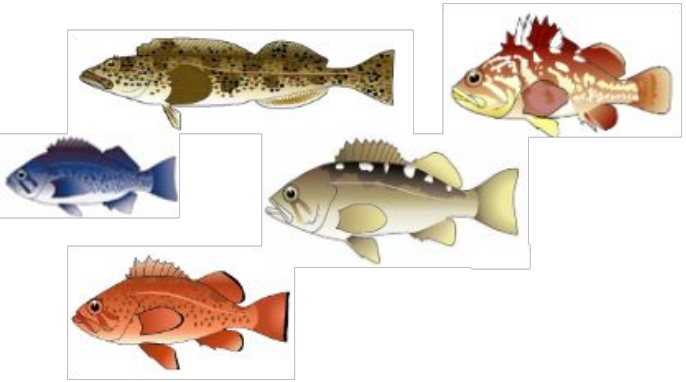
Effects of the 2014-2016 Marine Heatwave





Calculating response ratios to examine the effectiveness of MPAs

$$Log\left(\frac{Biomass\ MPA}{Biomass\ REF}\right)$$

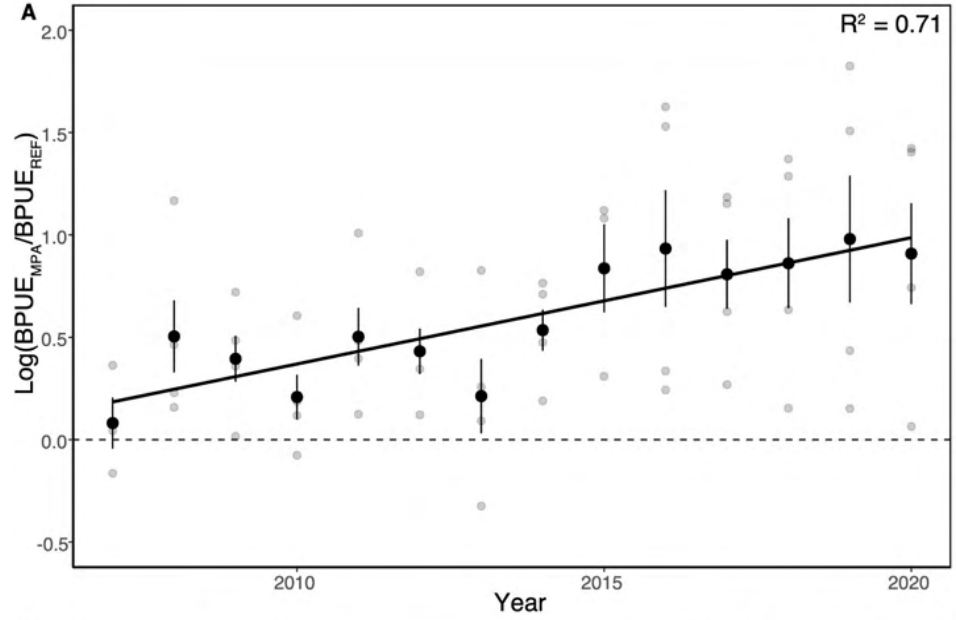


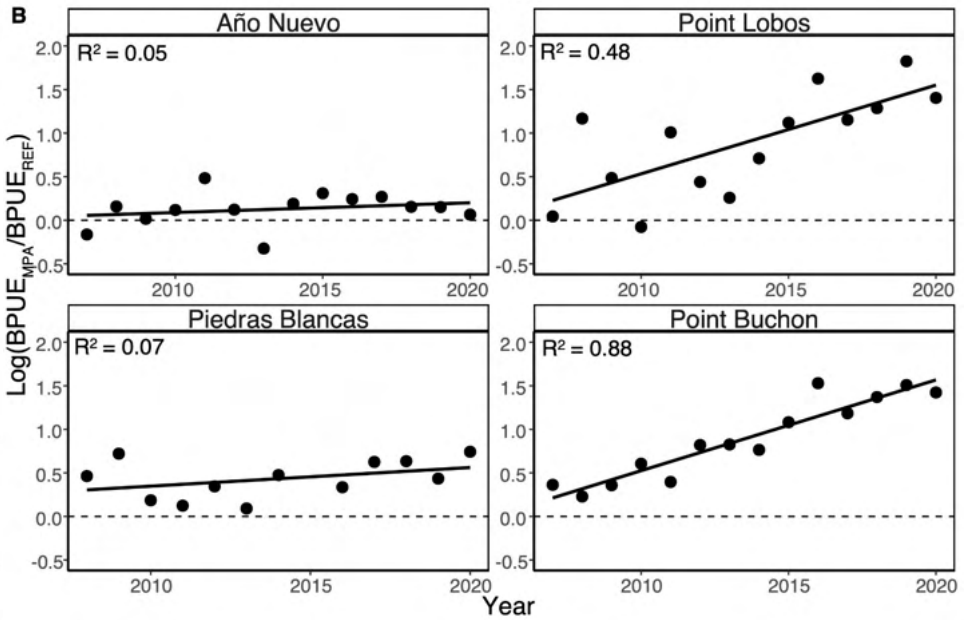
Higher Biomass inside MPA relative to Reference Site

0

Lower Biomass inside MPA relative to Reference Site

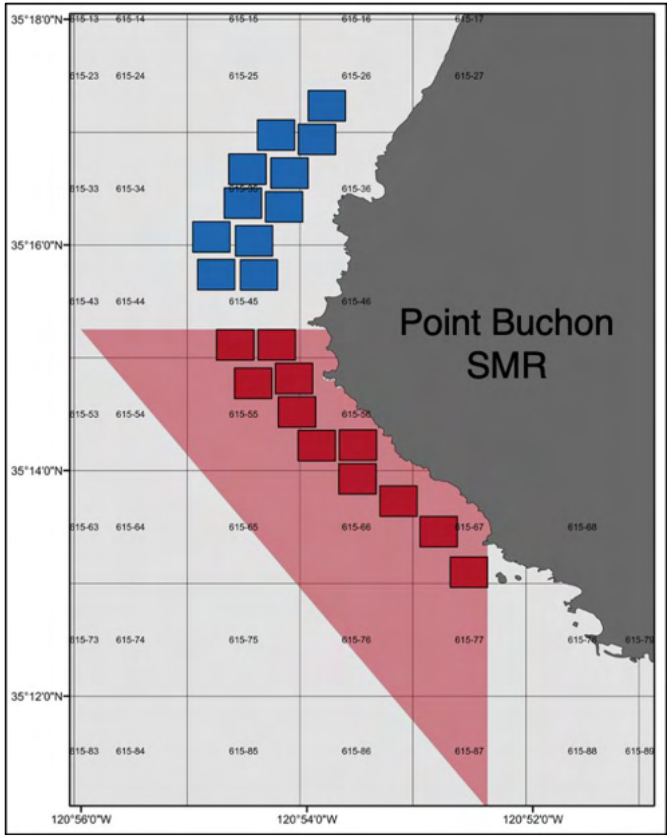
On average, response ratios increase through time on the central coast



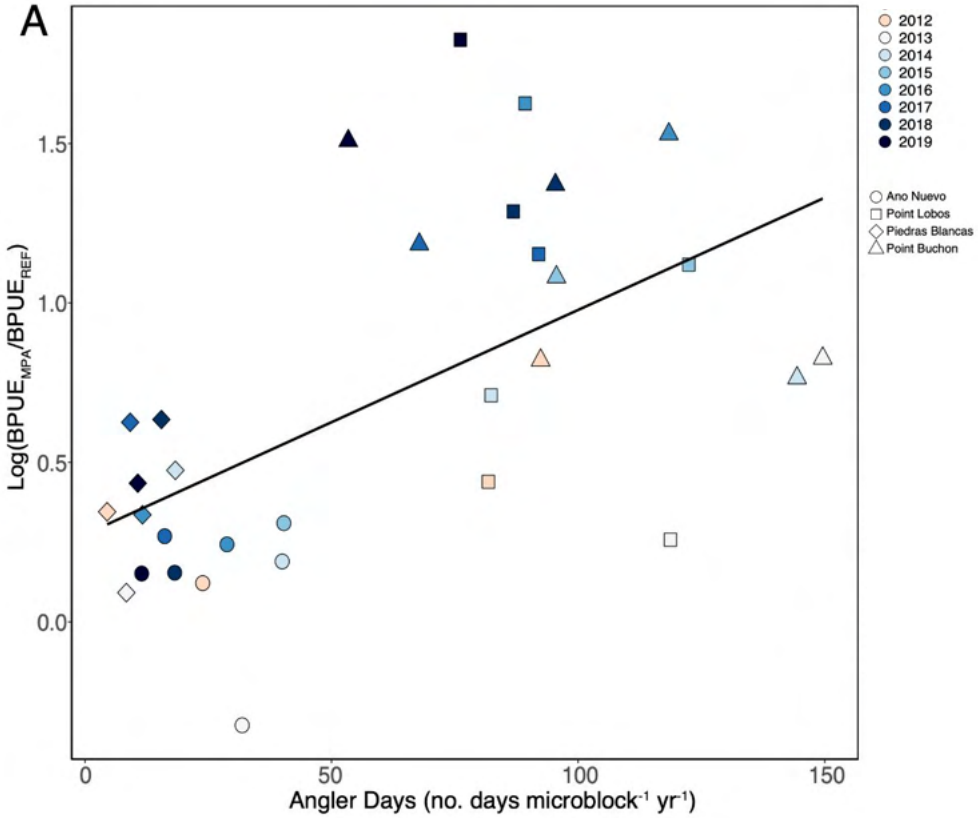


We can use response ratios to examine what factors influence MPAs

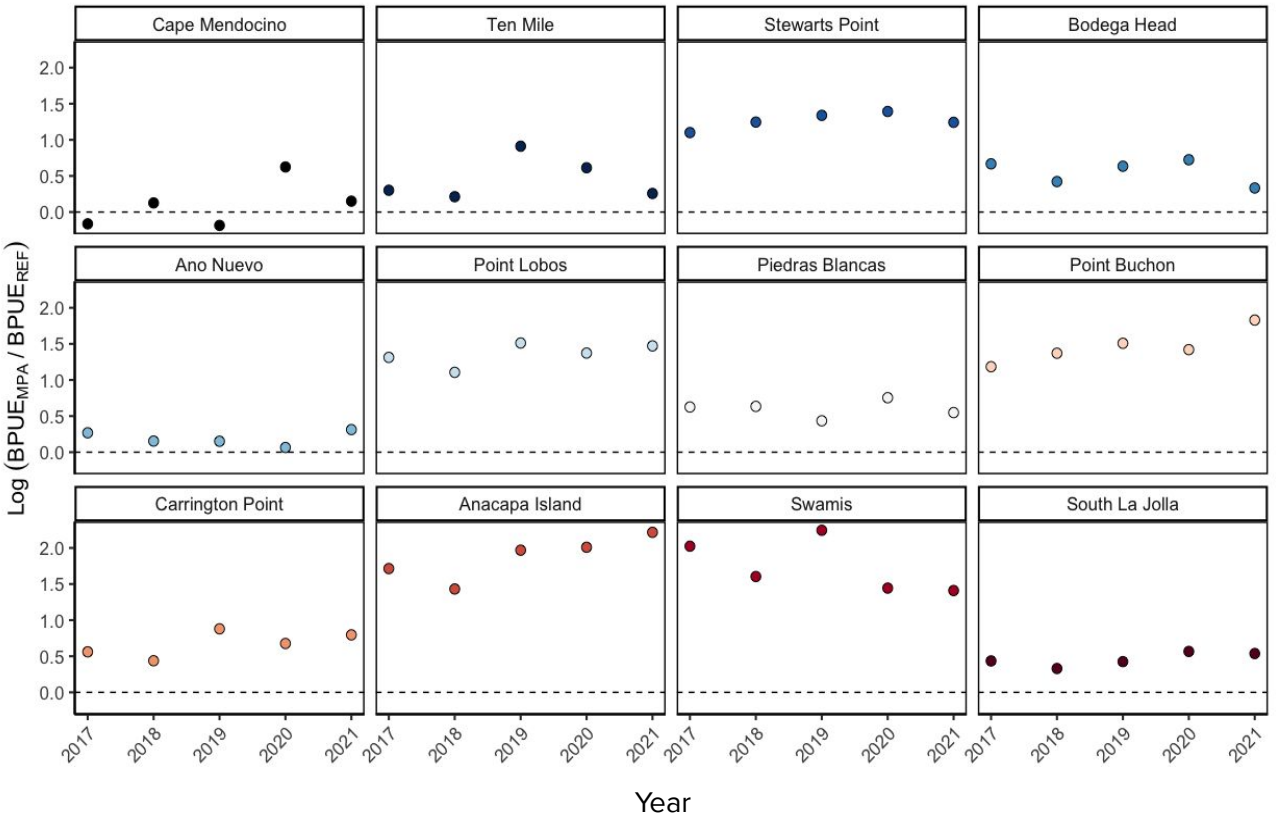
For example: Fishing effort

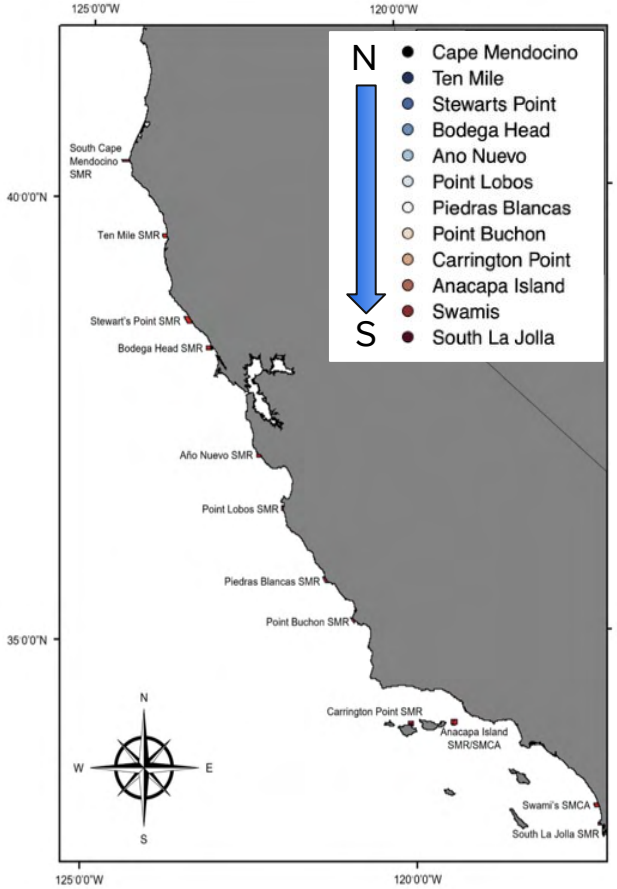


Fishing effort outside MPAs influences the positive effects of closure

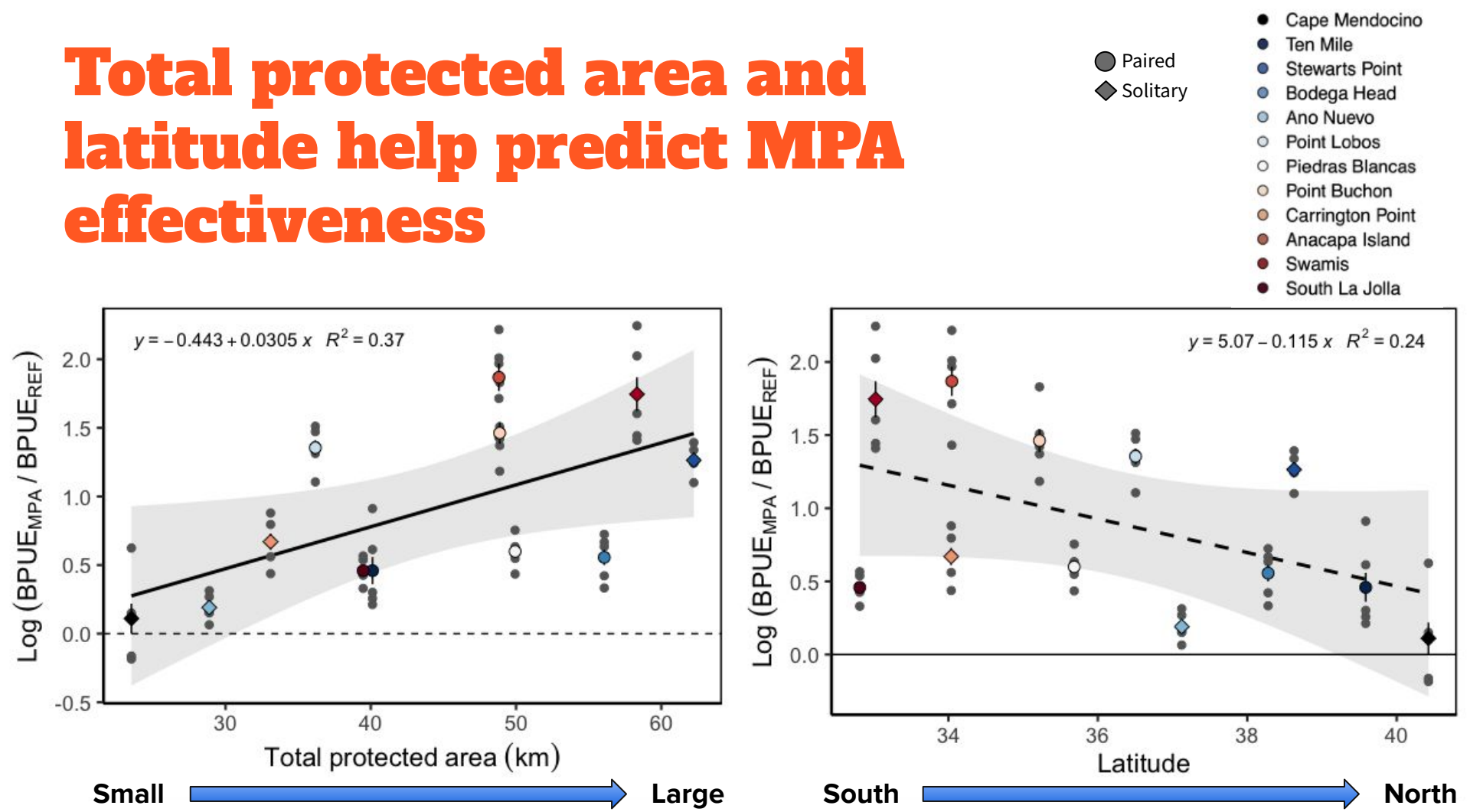


Positive responses of MPAs across the state



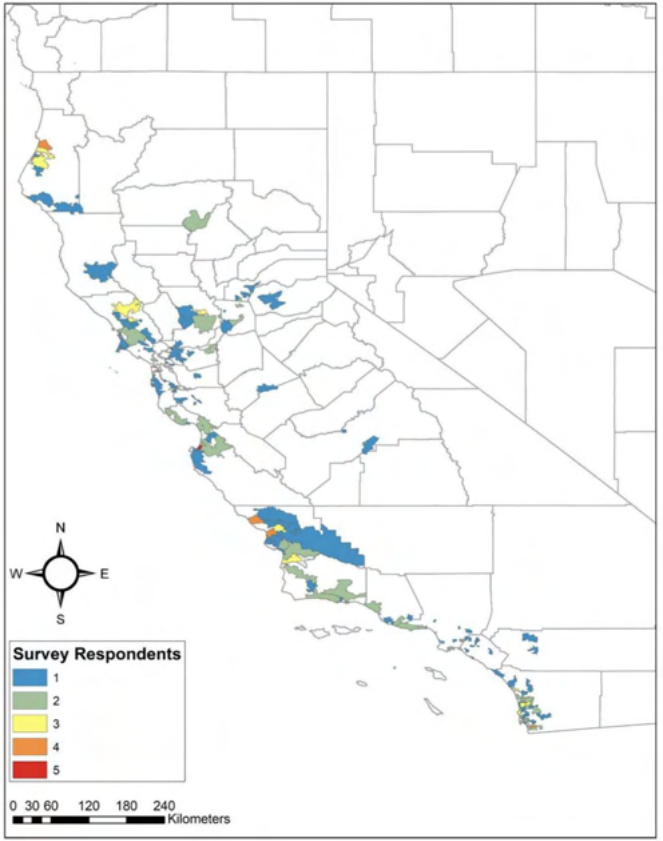


Total protected area and latitude help predict MPA effectiveness

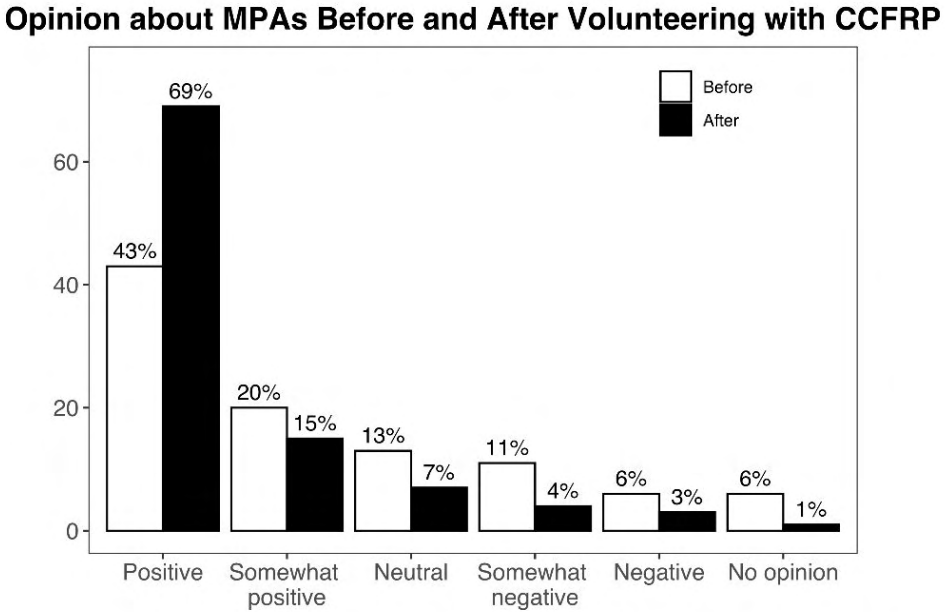


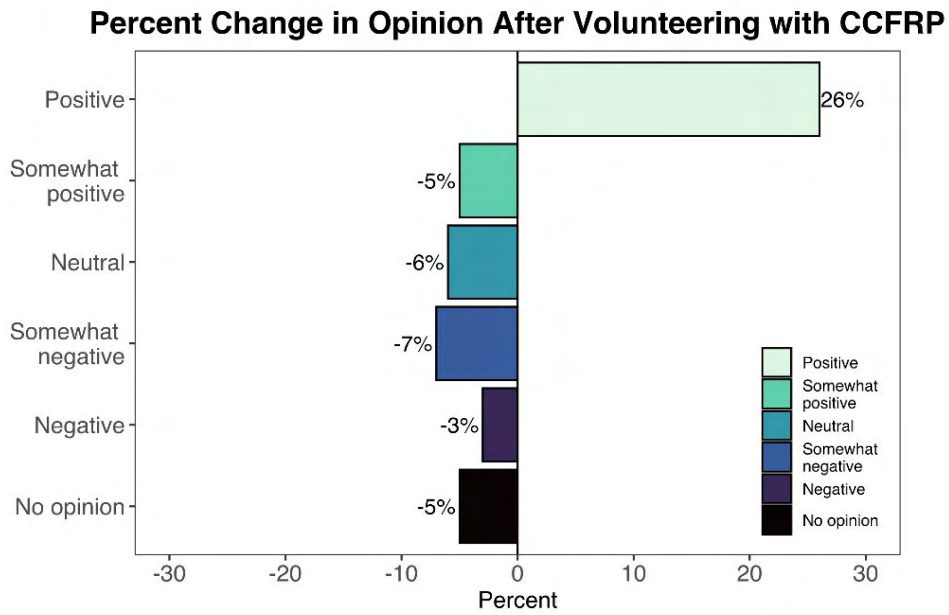
In 2021, we conducted a statewide CCFRP angler survey

CCFRP Institution	Number of Angler Recipients	Number of Respondents	Percentage of Recipients that Responded
Humboldt State University	86	21	24.4%
Bodega Marine Laboratories at UC Davis	160	50	31.3%
Moss Landing Marine Laboratories	626	63	10.1%
Cal Poly, San Luis Obispo	234	36	15.3%
Marine Sciences Institute at UCSB	123	22	17.9%
Scripps Institution of Oceanography at UCSD	157	67	42.7%
Total	**1386**	**262**	**18.9%**

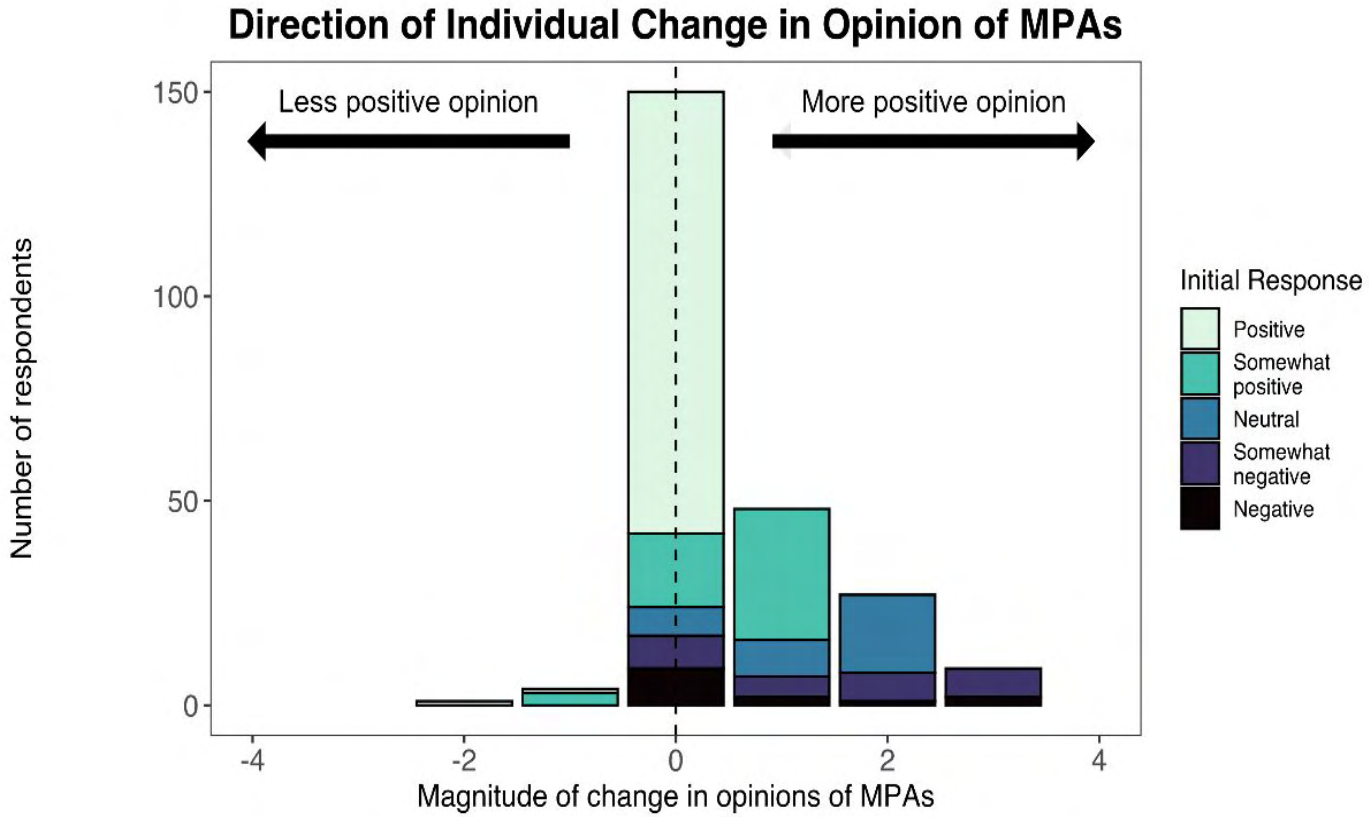


Opinion of MPAs before and after volunteering with CCFRP



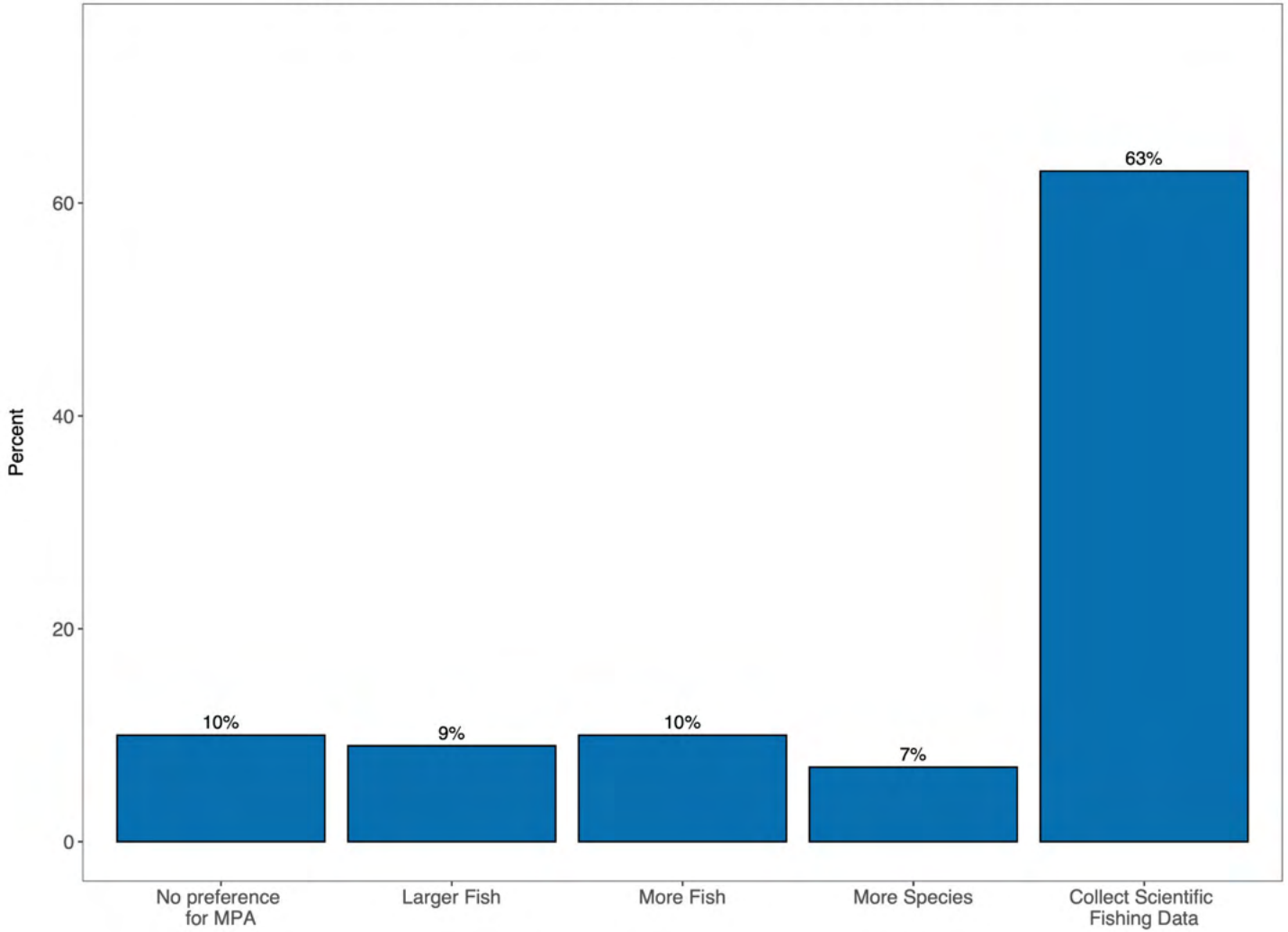


Individual change in opinion of MPAs after volunteering with CCFRP

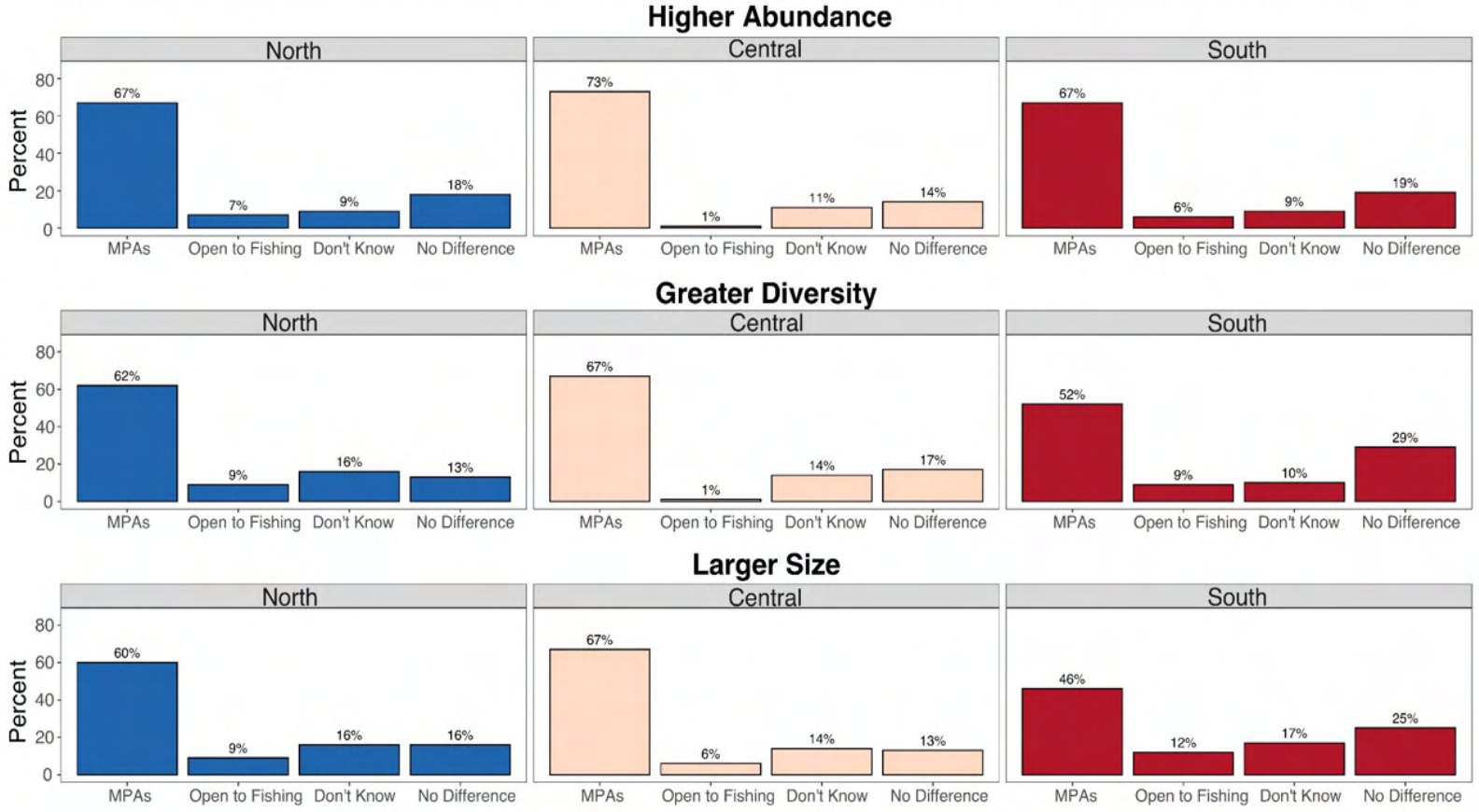


Change in opinions of MPAs by Management Region

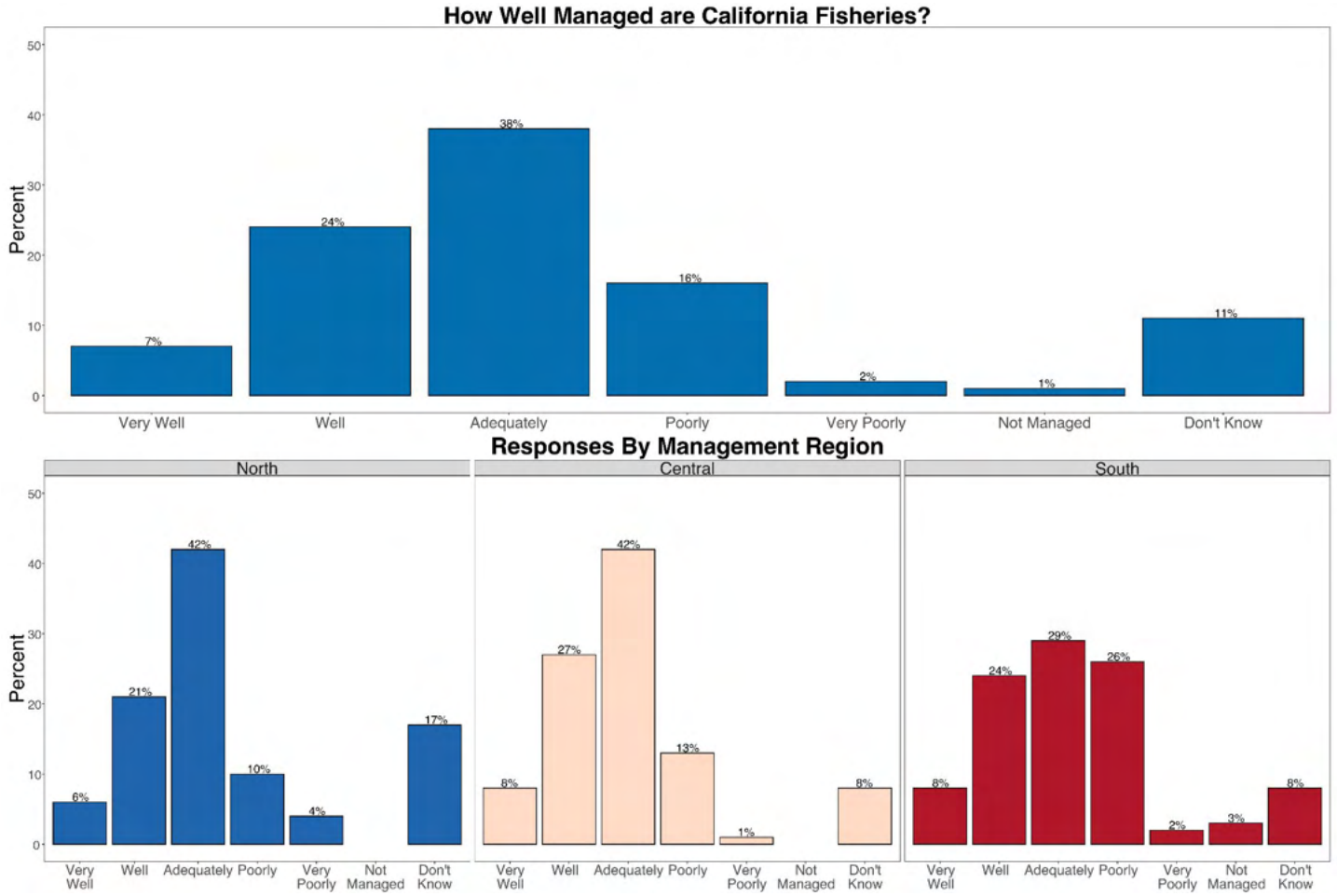
What is the primary reason you enjoy MPA fishing with CCFRP?



Have you experienced differences in fishing inside and outside MPA?



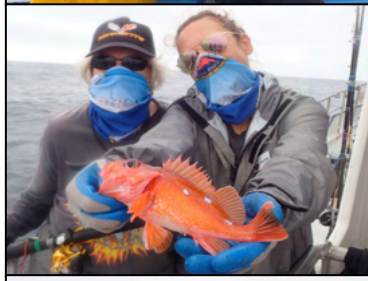
Perceptions of CA fisheries management









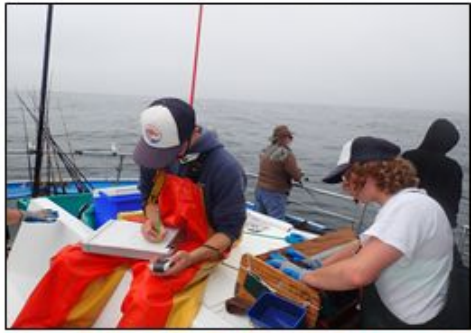



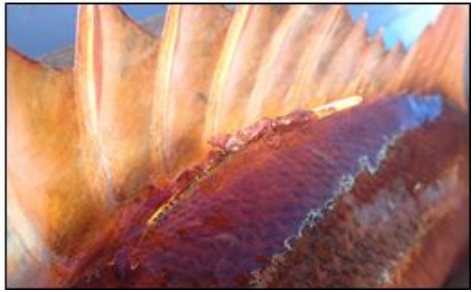




Questions?

Tag Returns!





REWARD

FOR TAG RETURN INFORMATION

Moss Landing Marine Labs, along with several other institutions along the California coast, have been working with commercial fishermen, charter boat captains, and recreational anglers to tag and release nearshore fishes. The objective of this study is to obtain growth, movement, and mortality rates of fishes found along the coast in order to gain a better understanding of these economically important species. Tags may have algae growing on them, so please keep an eye out.



If you catch a tagged fish (whether you keep it or throw it back), **please record and report:**

- Tag number
- Health of tagging site (algae growth?)
- Date caught
- Species
- Overall health of the fish
- Total length (end of snout to end of tail)
- GPS coordinates
- Depth caught

Moss Landing Marine Laboratories
8272 Moss Landing Road
Moss Landing, CA 95039

Email: mlml-ccfrp@sjsu.edu
Phone: (831) 771-4479

To learn more about the California Collaborative Fisheries Research Program, visit:
https://mlml.sjsu.edu/ccfrp/

CA Collaborative Fisheries Research Program

Thank you for reporting your tagged fish!

On February 13, 2022, you caught fish #43853, which was a Gopher Rockfish. This fish was tagged as part of the CA Collaborative Fisheries Research Program started in 2007 by Dr. Rick Starr from Moss Landing Marine Labs and Dr. Dean Wendt from Cal Poly San Luis Obispo in Central California. The purpose of this project is to monitor marine protected areas (MPAs) and collect information for fisheries management. We expanded our program statewide in 2017 and now survey MPAs all along the California coastline with our partnering institutions: Humboldt State University, Bodega Marine Labs, UC Santa Barbara and Scripps Institution of Oceanography.

Information about your fish:

Tag #80517	Tagged	Caught
Date	8/9/2021	2/13/2022
Latitude	36° 28.434'N	36° 28.472' N
Longitude	121° 56.838' W	121° 56.794 W
Depth (m/ft)	48.77 m / 160 ft	38.4 m / 126 ft
Length (cm/in)	30 cm / 11.8 in	Approx. 11 in

To learn more about this program, please visit our website: https://www.mlml.sjsu.edu/ccfrp/
Like us on **Facebook**
Follow us on Instagram, YouTube, and Twitter (@CCFRP)

Information about Gopher Rockfish (*Sebastes carnatus*)

Maximum Size: 42.5 cm (17 in)[1]

Range: From Cape Blanco, Region to southern Baja California, Mexico but they are most common from Sonoma County to Santa Monica Bay, California[1]

Life History Information: Gopher Rockfish settle near kelp fronds as young of the year around June and July. With growth, individuals move down the kelp stipes to the bottom, where they take up residence in the characteristic rocky habitat of older juveniles and adults. This species of Rockfish have been found from intertidal water to 80 m (264 ft). Gopher Rockfish are largely territorial and have home ranges up to 10-12 m², although longer distance movements sometimes occur. They feed primarily at night on benthic crabs and shrimps, cephalopods, and fishes such as sculpins and juvenile rockfishes. Generally, females begin maturing around 16-17.5 cm (6-7 in) at 3-4 years old. Males begin maturing about one year earlier and at smaller sizes.

Your fish was tagged and released near the Point Lobos reference site, was at liberty for 188 days, and moved approximately 0.062 miles (net distance traveled).

[1] Love, M.S., 2002. The Rockfishes of the Northeast Pacific. Really Big Press, Santa Barbara, CA. pp. 234-236.

2021 MLML Tag-Return Data

- In 2021, we had **11** recaptured fishes: **6 Copper Rockfish, 2 Vermilion Rockfish, 1 Gopher Rockfish, 1 Yellowtail Rockfish, and 1 Lingcod.**
- **10** fishes were recaptured on our CCFRP trips and **1** was recaptured by a commercial fisherman

Tag Return Highlights from 2021!

Eddie G. recaptured 2 Copper RF on the same day! One was first caught by Ron S. while the other was caught by John C. Both fish were recaptured within the same Point Lobos MPA cell exactly 30 days after first being tagged.

Ron S.

John C.

Eddie G.

Tag Return Highlights from 2021!

Just the day before, we also had 2 Copper Rockfish recaptures. The first was originally caught by Whitney U. and recaptured 391 days later by EC O. The second was originally caught by Mike I. and recaptured by Joan B. after 1,449 days at liberty!

EC O.

Joan B.

Tag Return Highlights from 2021!

A Vermilion Rockfish first caught by Beverly S. was recaptured 1,106 days later by Shawn T. within the same Año Nuevo MPA cell, growing around 1 cm during this time.

Tag Return Highlights from 2021!

In 2018, Ken Y. caught a Gopher Rockfish within the Ano Nuevo reference area which was then recaptured by Ed M. in the same cell 1,103 day later, growing 1 cm.

Tag Return Highlights from 2021!

Our lone Lingcod recapture was originally caught by EC O. in July of 2017 and recaptured by Alex N. 1,469 days later within the same cell in the Ano Nuevo MPA, making this our longest at-liberty recapture for 2021.

Tag Return Highlights from 2021!

Our second Vermilion Rockfish tag recapture was recaptured by JD H. 1,078 days after it was originally caught by Sarah C. within the Ano Nuevo MPA.

Tag Return Highlights from 2021!

We also had two other Copper Rockfish tag recaptures!

The first was originally caught by Frank P. in 2019 and recaptured by John C. 726 days later.

The second was first caught by Dave K. last year and recaptured by Linzi W. 364 days later. Both fish were recaptured in the same Point Lobos MPA cells they were tagged in

2019
Frank P.

2020
Dave K.

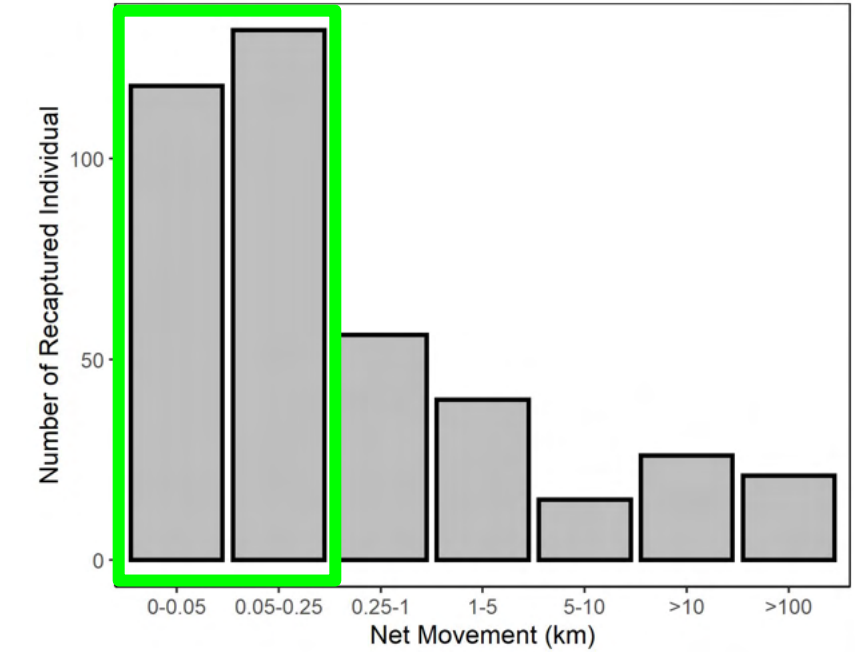
2021
John C.

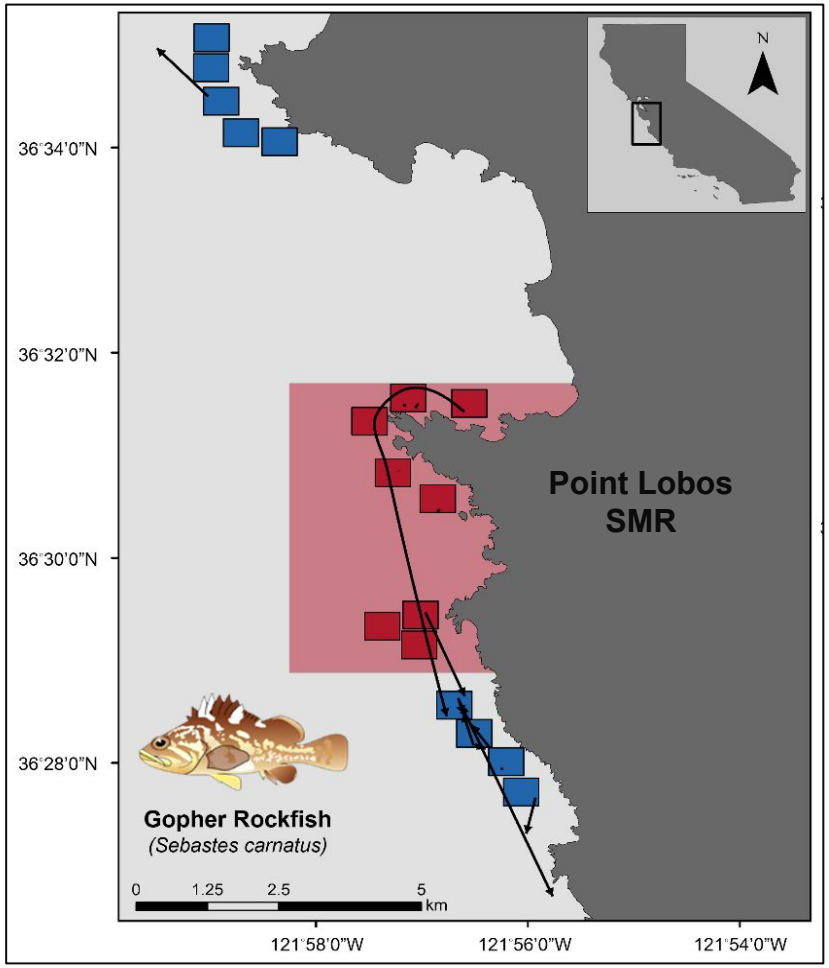
Tag Return Highlights from 2021!

Lastly, we had one tag recapture that was recaptured by a commercial fisherman in Oregon! This Yellowtail Rockfish was initially tagged on October 17, 2012 during our Rockfish Conservation Area study. This fish was tagged near Half Moon Bay and was recaptured 3,092 days later a whopping 615 miles away!

Uses of CCFRP Tag-Return Data

Tag-recaptures provide information on species movements and spillover from MPAs





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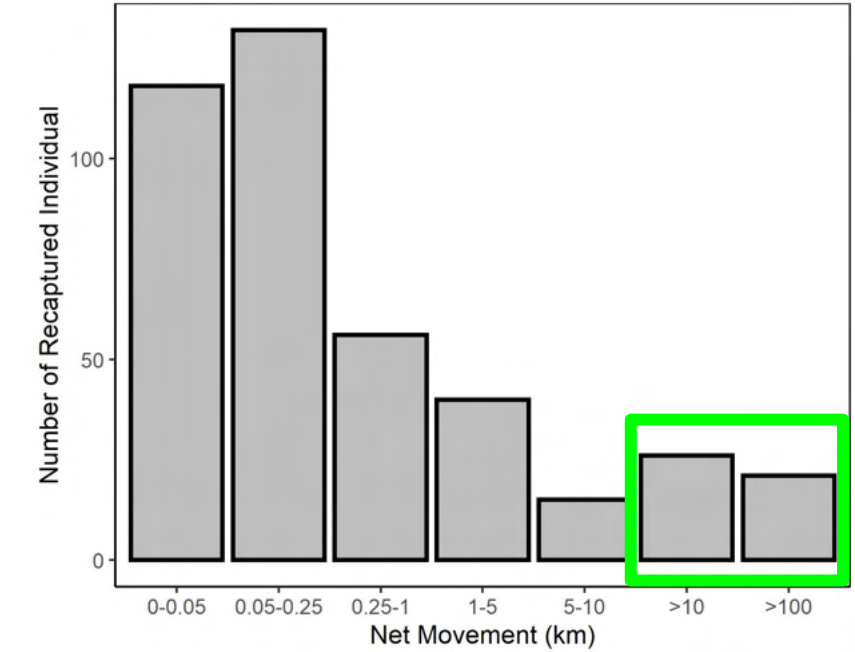
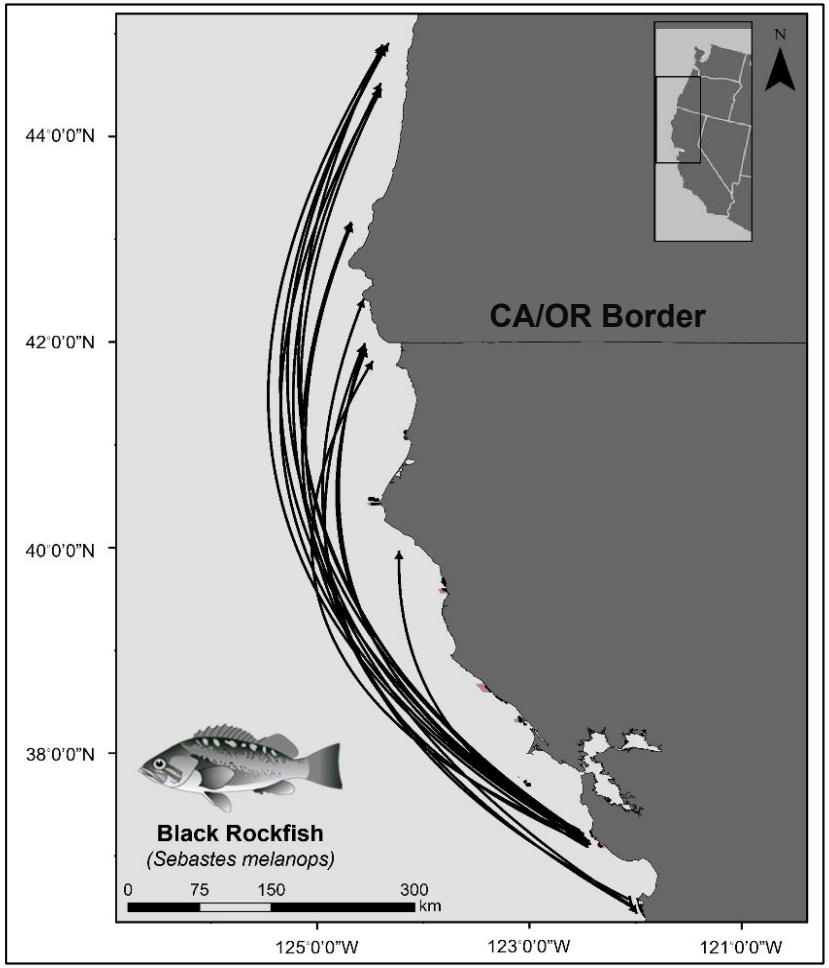
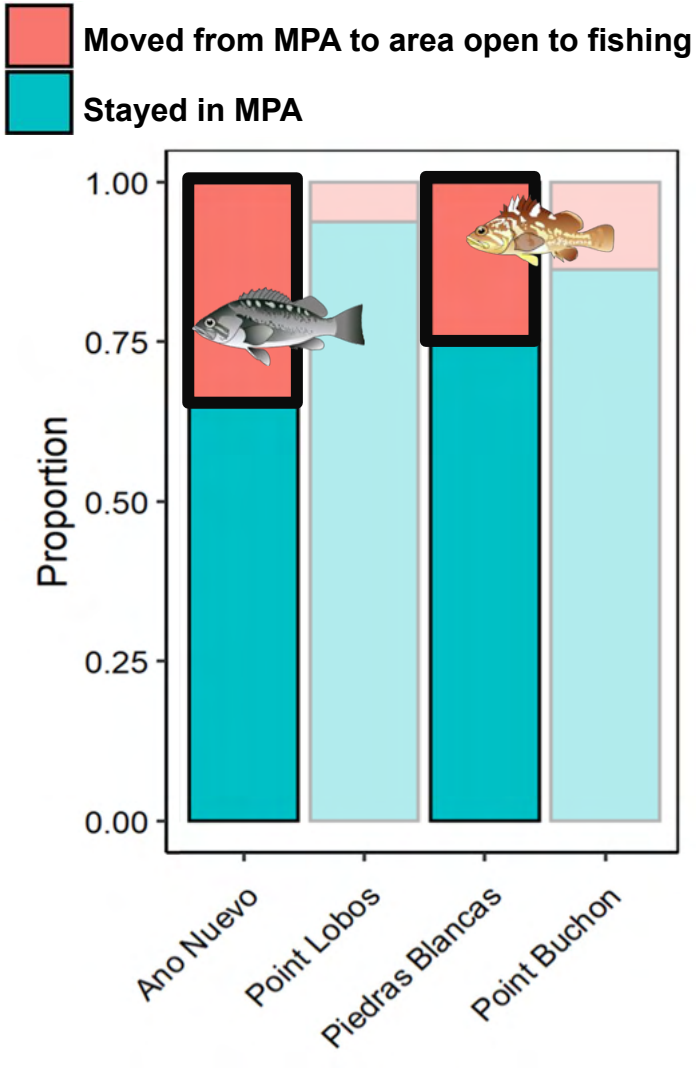


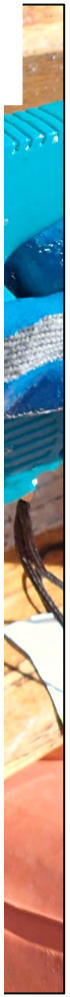


Uses of CCFRP Tag-Return Data

Assessing Spillover with Central California Tag-Recapture Data:

- 25,500 fishes tagged in MPAs
- 136 tag-recaptures originally tagged in MPAs (0.5% recapture rate)
- 17% recaptured fishes originally tagged in MPAs spilled over to areas open to fishing





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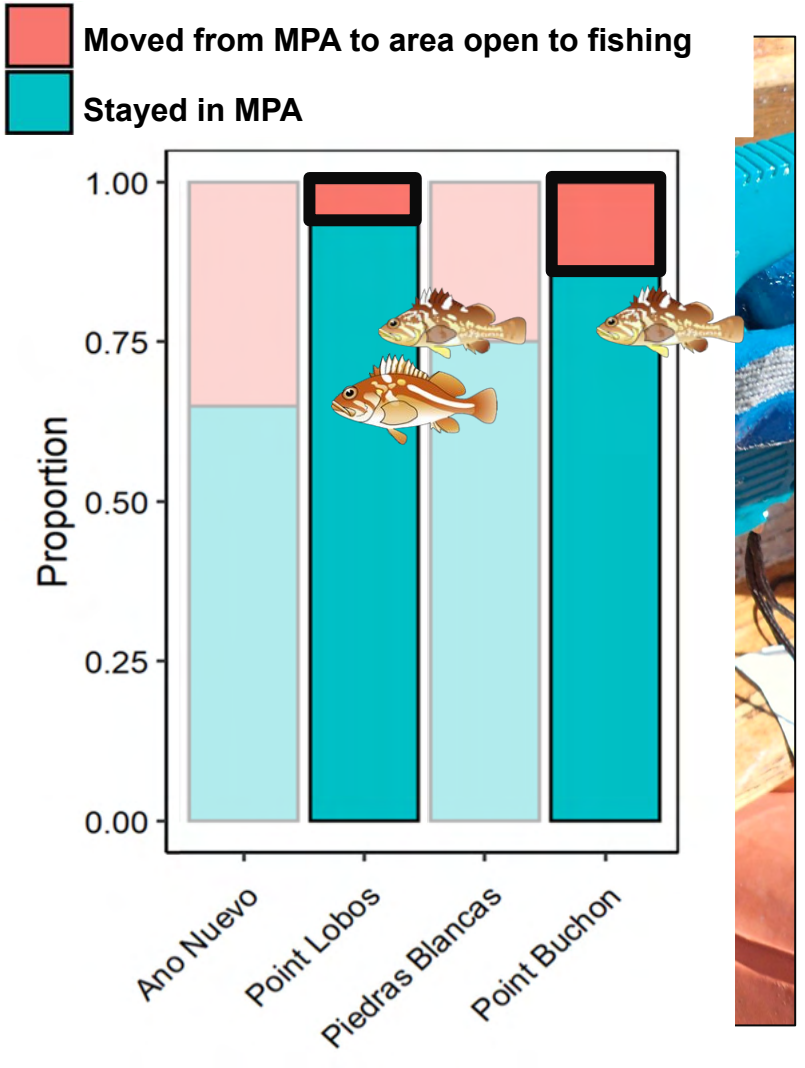
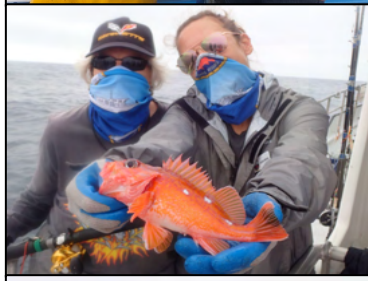












Questions?



Angler Metrics



Total Number of Caught Fishes (1,000+)

(MLML Trips Only)

Rank	Name	Total # of Fishes Caught
1	Darrell B.	3,357
2	David K.	3,098
3	Nick I.	2,507
4	Ken Y.	2,295
5	Lester Y.	2,254
6	Mike I.	1,867
7	Ben R.	1,718
8	Matt M.	1,642
9	Frank P.	1,346
10	Ed M.	1,345
11	Bob S.	1,287
12	Joan B.	1,175
13	Bill S.	1,172
14	Paul R.	1,126
15	Scott Y.	1,125
16	Jim R.	1,068

Top 10: Most Fishes Caught in a Trip - 2021

(Año Nuevo Only)

Rank	Name	# of Fishes Caught
1	John H.	76
2	Bill S.	75
3	Alex N.	66
4	Shawn T.	65
5	Mike H.	61
6	Manuel P.	60
7	EC O.	59
8	Randy W.	59
9	Shep H.	58
10	Jack H.	56

Top 10: Most Fishes Caught in a Trip - 2021

(Point Lobos Only)

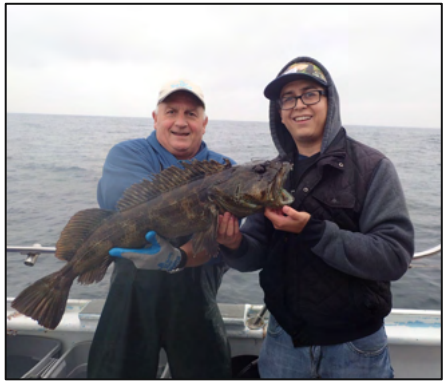
Rank	Name	# of Fishes Caught
1	EC O.	113
2	Stanley S.	92
3	Mark A.	90
4	Josh Ab.	86
5	Eddie G.	82
6	Robert W.	81
7	Joan B.	80
8	John C.	79
9	Katie S.	76
10	Jen C.	67

Total Number of Fish Caught per Trip in 2021

Rank	Trip Location	MPA/REF	Date	# of Fish
1	Point Lobos	MPA	7-Sep	661
2	Point Lobos	MPA/REF	10-Aug	538
3	Point Lobos	MPA	9-Aug	524
4	Ano Nuevo	MPA/REF	21-Jul	464
5	Ano Nuevo	MPA/REF	28-Jul	458
6	Ano Nuevo	MPA/REF	24-Aug	451
7	Ano Nuevo	MPA/REF	29-Jul	444
8	Point Lobos	MPA/REF	8-Sep	438
9	Ano Nuevo	REF	23-Aug	349
10	Point Lobos	MPA/REF	9-Sep	342
11	Ano Nuevo	MPA	18-Aug	172
12	Point Lobos	REF	11-Aug	151

Top 10: Average No. Fishes Caught per Trip

(All MLML Locations - 5 trips min.)



Rank	Name	Avg. Fish Caught per Trip
1	Bill S.	78.13
2	Robert W.	69.17
3	Joshua Am.	59.86
4	Ron S.	58.83
5	Chris A.	57.63
6	Richard K.	56.71
7	Manuel P.	56.17
8	Victor A.	56
9	Stanley S.	55.55
10	Kris H.	55.22

Top 10: Average No. Fishes Caught per Trip

(Año Nuevo Only - 5 trips min.)

Rank	Name	Avg. Fish Caught per Trip
1	Bill S.	79.92
2	Richard K.	64.83
3	Andrew H.	61.6
4	Manuel P.	59.27
5	Chris A.	55.83
6	Ben R.	54.35
7	Kris H.	53.5
8	Manny L.	51.82
9	Nick I.	50.54
10	Keri C.	50.22

Top 10: Average No. Fishes Caught per Trip

(Point Lobos Only - 5 trips min.)

Rank	Name	Avg. Fish Caught per Trip
1	Joshua Am.	59.86
2	Lester Y.	59.57
3	Ron S.	58.83
4	John C.	56.75
5	EC O.	55.75
6	Eddie G.	55.07
7	Gary K.	48.5
8	Nick I.	46.77
9	Ben E.	46.6
10	Joan B.	43.52

Who caught the LARGEST fish of 2021?

Top 10: LARGEST Lingcod of 2021

Rank	Name	Length (cm)	Length (in)	Location	MPA/REF
1	Ben R.	89	35.0	Ano Nuevo	REF
2	John H.	84	33.0	Ano Nuevo	REF
3	Ken Y.	82	32.2	Ano Nuevo	REF
4	Scott Y.	81	31.8	Ano Nuevo	REF
5	Tim W.	79	31.0	Ano Nuevo	MPA
5	Mark A.	79	31.0	Point Lobos	REF
6	Manny L.	78	30.6	Ano Nuevo	MPA
7	Nick I.	75	29.5	Ano Nuevo	MPA
7	EC O.	75	29.5	Ano Nuevo	REF
8	Ken Y.	74	29.1	Ano Nuevo	MPA

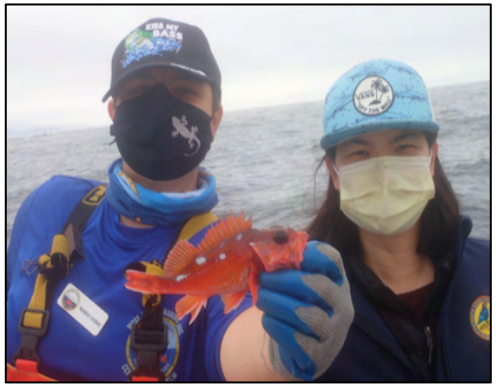
Top 10: LARGEST Vermilion Rockfish of 2021

Rank	Name	Length (cm)	Length (in)	Location	MPA/REF
1	Keri C.	54	21.3	Ano Nuevo	MPA
2	Keri C.	53	20.9	Ano Nuevo	MPA
2	Michael H.	53	20.9	Ano Nuevo	REF
3	Clara R.	52	20.5	Ano Nuevo	MPA
3	Ben R.	52	20.5	Ano Nuevo	MPA
3	EC O.	52	20.5	Point Lobos	MPA
4	EC O.	51	20.1	Ano Nuevo	MPA
4	Mark A.	51	20.1	Ano Nuevo	MPA
4	Ken Y.	51	20.1	Ano Nuevo	MPA
5	Ed M.	50	19.7	Ano Nuevo	REF

Top 10: LARGEST Cabezon of 2021

Rank	Name	Length (cm)	Length (in)	Location	MPA/REF
1	Scott Y.	56	22.0	Ano Nuevo	REF
1	Matthew C.	56	22.0	Ano Nuevo	REF
2	EC O.	55	21.7	Ano Nuevo	REF
2	Mark A.	55	21.7	Ano Nuevo	REF
3	Manuel P.	52	20.5	Ano Nuevo	REF
3	William S.	52	20.5	Ano Nuevo	REF
4	Stanley S.	50	19.7	Point Lobos	MPA
5	Paul B.	47	18.5	Ano Nuevo	REF
6	Alex N.	43	16.9	Ano Nuevo	REF
7	Scott Y.	42	16.5	Ano Nuevo	REF

Who caught the smallest fish?



Name	Species	Length	Site/Area
Phil E.	Gopher RF	5 cm (2.0 in)	Point Lobos - MPA
Dave K.	Gopher RF	6 cm (2.4 in)	Point Lobos - REF
Darrell B. Michael C.	Blue RF	6 cm (2.4 in)	Point Lobos - REF
Paul R.	Scalyhead Sculpin	6 cm (2.4 in)	Point Lobos - REF
Bonnie R.	Blue RF	7 cm (2.8 in)	Point Lobos - REF
Victor A.	Black RF	8 cm (3.1 in)	Año Nuevo - REF
Matthew D.	Scalyhead Sculpin	8 cm (3.1 in)	Año Nuevo - MPA
Joan B.	Yellowtail RF	8 cm (3.1 in)	Point Lobos - REF
Hernan P.	Blue RF	8 cm (3.1 in)	Año Nuevo - MPA
Jim R.	Blue RF	8 cm (3.1 in)	Point Lobos - REF
Andrew V.	Unknown RF	8 cm (3.1 in)	Año Nuevo - MPA

Unique Catches From 2021

Want to know your fish stats from the MLML 2021 sampling season?

Send us an email at
mlml-ccfrp@sjsu.edu

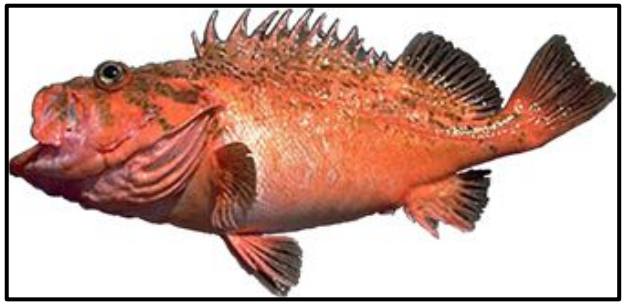
CDFW Regulations 2022

- **Central Management Area**
- Rockfish, cabezon, greenlings, lingcod
  - Closed between January 1 – March 31 for boat based anglers
  - Cannot fish seaward of the 50 fathom depth contour (300 feet)
  - See CDFW website for 2022 ocean sportfishing regulations pamphlet
    - https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=199167&inline

CDFW Regulations 2022

NO RETENTION:

Bronzespotted RF



Yelloweye RF

Cowcod

CDFW Regulations 2022

- Bag limits
  - 10 fish in combination/person (RCG complex)
    - **Vermilion Rockfish - 4/person**
    - **Quillback Rockfish - 1/person**
    - **Copper Rockfish - 1/person**
  - 2 Lingcod/person
- Minimum size limits
  - No size limits for rockfish
  - Cabezon - 15” total length
  - Greenlings - 12” total length
  - Lingcod - 22” total length
- Don’t forget to leave skin on your filets!


CDFW
Vermilion RF


ODFW
Quillback RF


Copper RF

CDFW Regulations 2022

- CDFW Office & Regulation Booklet
- CDFW Website
- Recreational Groundfish Fishing Regulations Hotline:

  831-649-2801

- Californians Turn in Poachers and Polluters (CalTIP):

  888-334-2258


Find us on Social Media! @CCFRP

Thank you for your support!

Thank You!

California Collaborative Fisheries Research Program
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The California Collaborative Fisheries Research Program is a collaborative effort among researchers from Moss Landing Marine Laboratories, Cal Poly San Luis Obispo, Cal Poly Humboldt, Bodega Marine Laboratory, UC Santa Barbara, and Scripps Institution of Oceanography. MLML would like to thank the **volunteer anglers**, science crews, and captains and crews of F/Vs ***Caroline***, ***Chubasco***, ***Huli Cat***, ***Kahuna***, ***New Captain Pete***, ***New Horizon***, ***Queen of Hearts***, ***Sur Randy***, and ***Tigerfish*** for their continued support. Fish Illustrations provided by Dr. Larry Allen.

For more information, like us on Facebook and Instagram, or visit us at https://mlml.sjsu.edu/ccfrp/