

# CCFRP Angler Appreciation Event

## BML 2018 Season



# Introductions

- Name
- How are you connected to CCFRP?
- Number of years involved in the project
- Favorite marine animal





# 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





# MPA Network

Northern California  
20 – est. 2012

North Central  
California  
25 – est. 2010

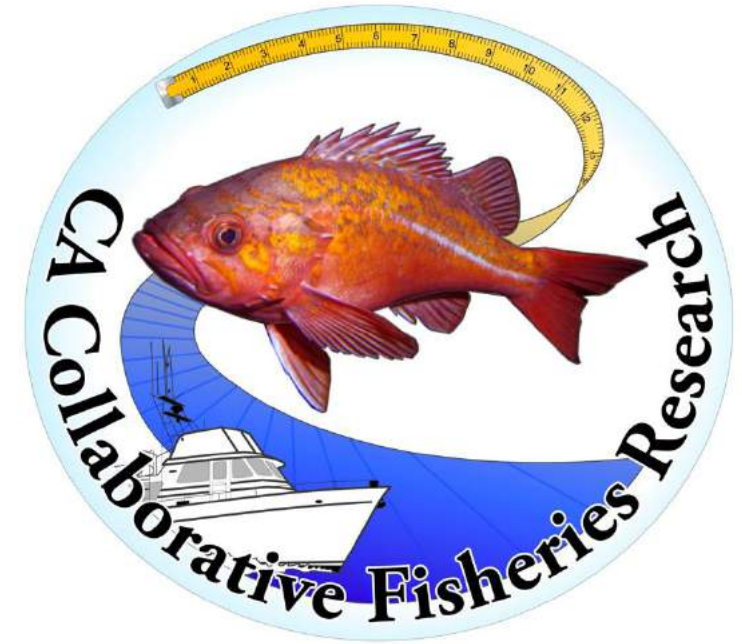
Central California  
29 – est. 2007

Southern California  
50 – est. 2012



# California Collaborative Fisheries Research Program (CCFRP)

- Fishery-independent study
- Combines expertise of:
  - Fishing community
  - Academic scientists
  - Resource managers
- Conducts data collection for MPA monitoring and fisheries management

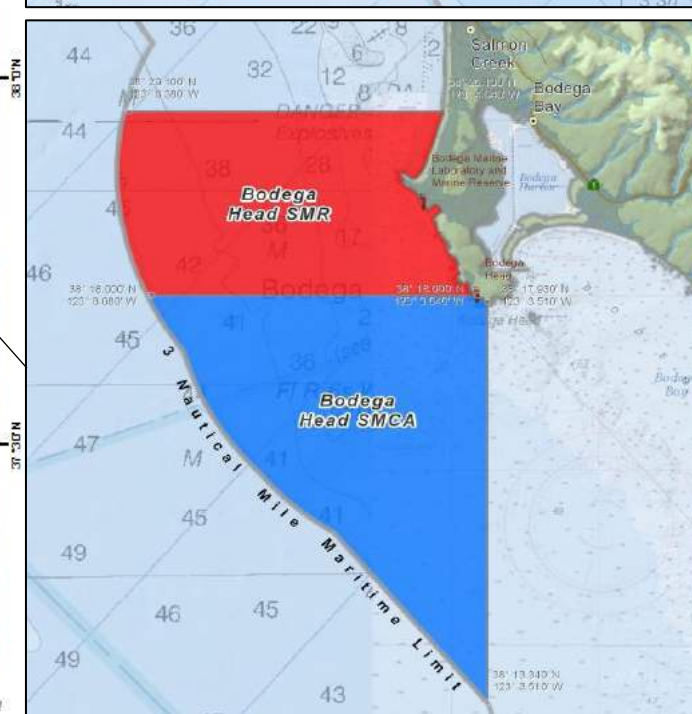
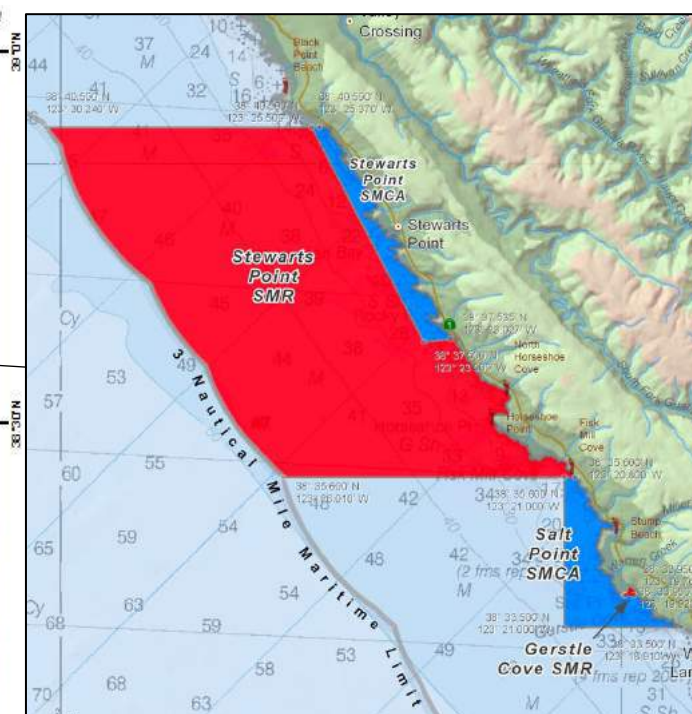
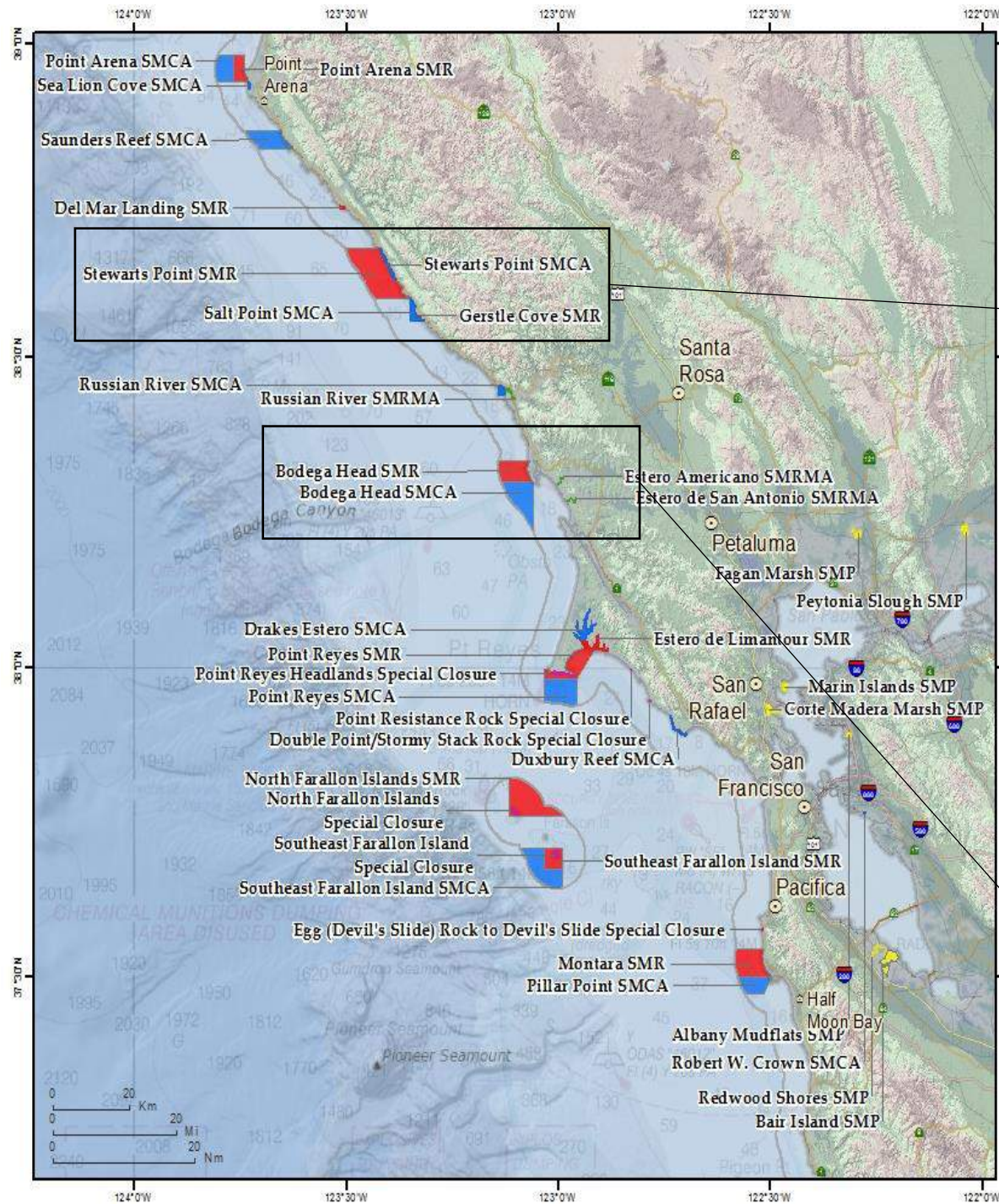


# Goals of CCFRP

- Conduct scientifically sound research to better inform resource managers
- Provide rigorous baseline/monitoring data for the evaluation of MPA performance
- Better understand nearshore fish stocks and the ecosystems upon which they rely
- Collaboratively work with local fishing communities to collect fisheries data

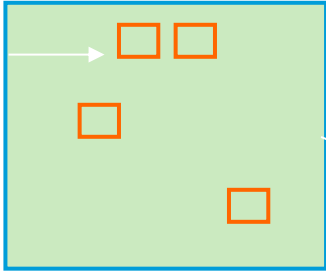
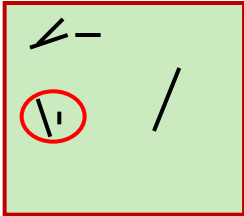








# Sampling Design

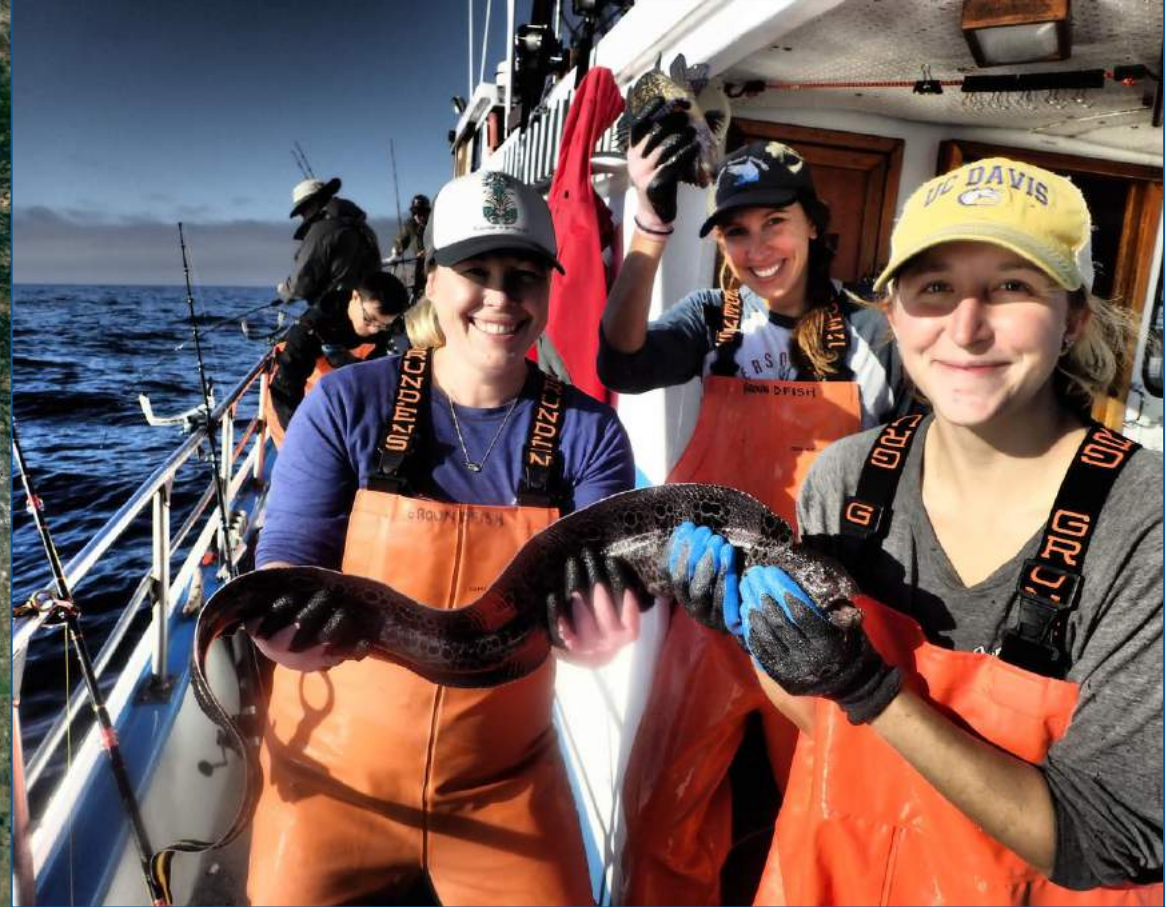
Region	Area	Site	Grid Cell (x4)	Location (x3)
North Central CA	Stewarts Point SMR	MPA		<b>Drift</b> (15 min / location)
	Bodega Head SMR	REF		





# Data Recorded

- Dates
- Location (Lat/Lon)
- Type (species) of fish caught
- Length of fish
- Condition of fish
- If it is tagged and tag #
- Angler who caught the fish







# 2018 by the numbers

5009 fish

25 fish species

380+ angler hours

123 volunteer anglers





# Most commonly caught fish caught in 2018



Blue Rockfish



Deacon Rockfish



Gopher Rockfish



Canary Rockfish



Black Rockfish



Olive Rockfish



Lingcod



Kelp Rockfish



Yellowtail Rockfish



Canary Rockfish



Brown Rockfish



# Species by MPA area



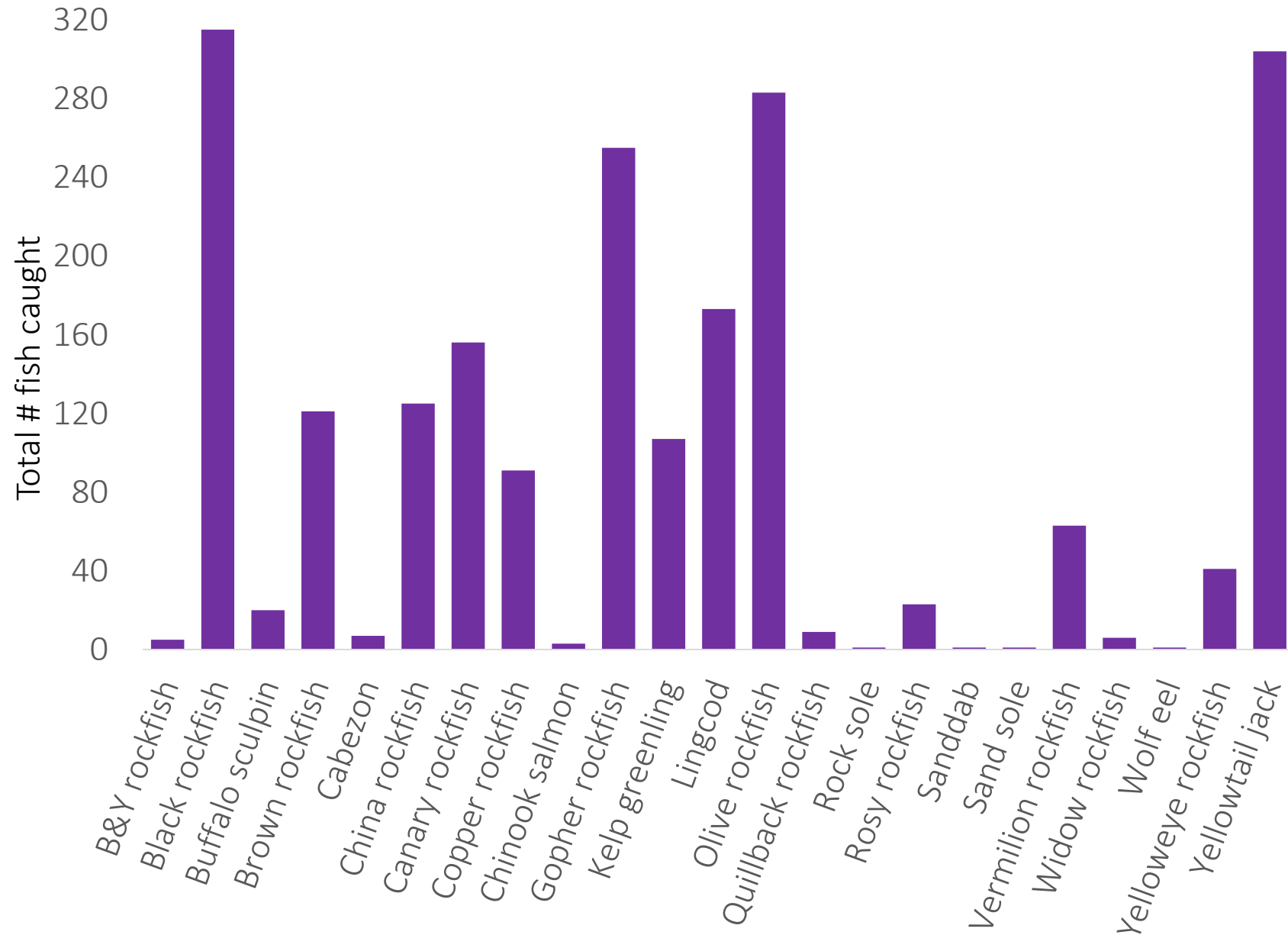
<i>Species</i>	<i>Bodega Head</i>	<i>Stewarts Point</i>
B&Y rockfish	X	
Black rockfish	X	X
Blue rockfish	X	X
Buffalo sculpin	X	
Brown rockfish	X	X
Cabazon	X	X
China rockfish	X	X
Canary rockfish	X	X
Copper rockfish	X	X
Chinook salmon	X	X
Deacon rockfish	X	X
Gopher rockfish	X	X
Kelp greenling	X	X
Lingcod	X	X
Olive rockfish	X	X
Quillback rockfish	X	X
Rock sole	X	
Rosy rockfish	X	X
Sanddab		X
Sand sole	X	
Vermilion rockfish	X	X
Widow rockfish		X
Wolf eel	X	
Yelloweye rockfish		X
Yellowtail jack	X	X



# Overall Catch

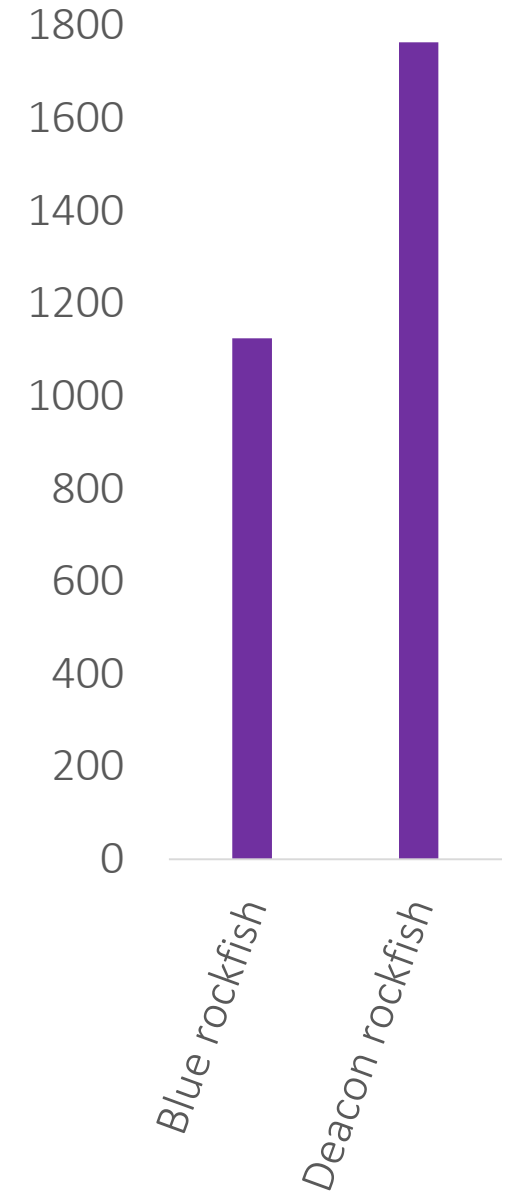
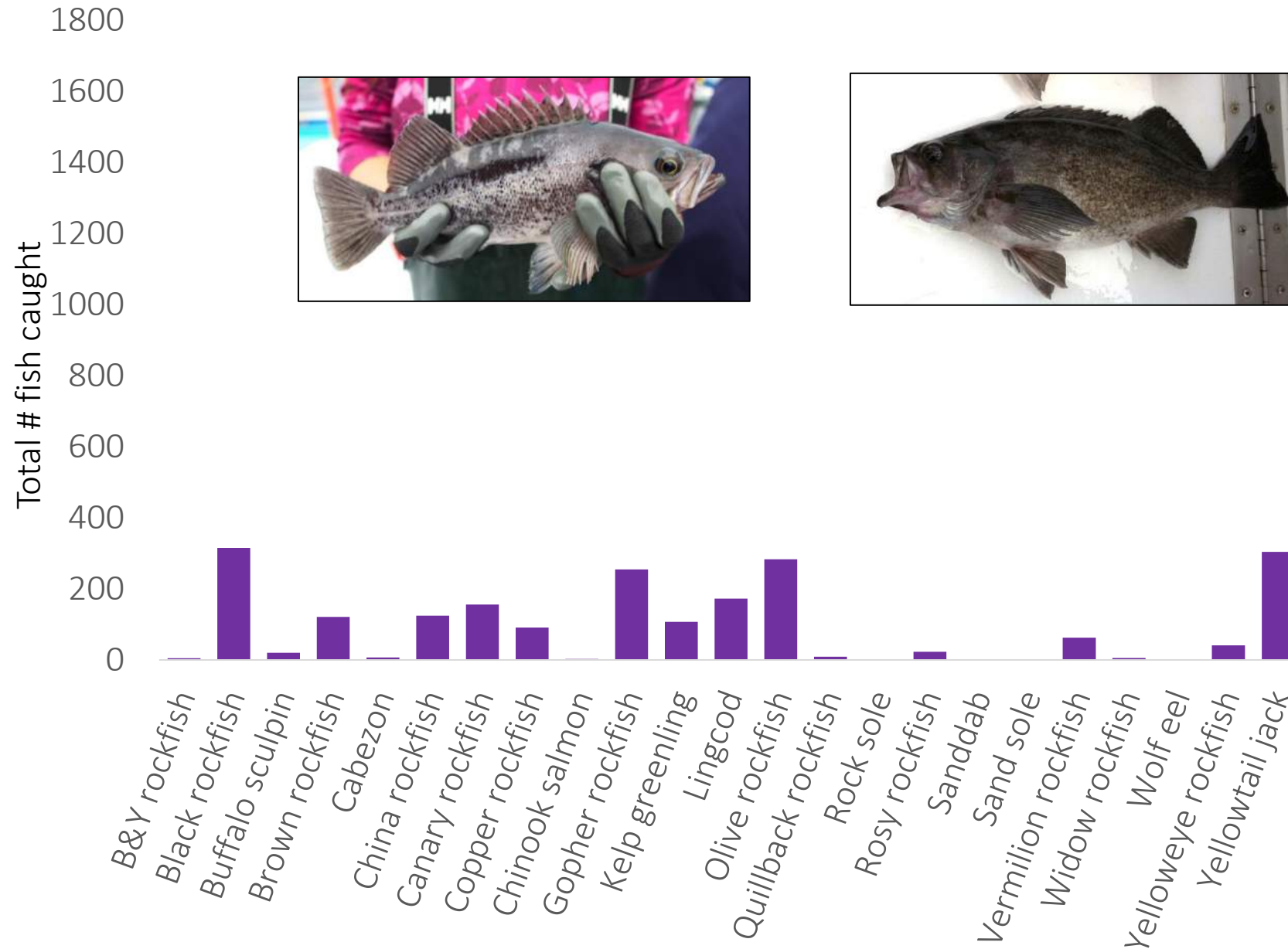


# Overall catch by species

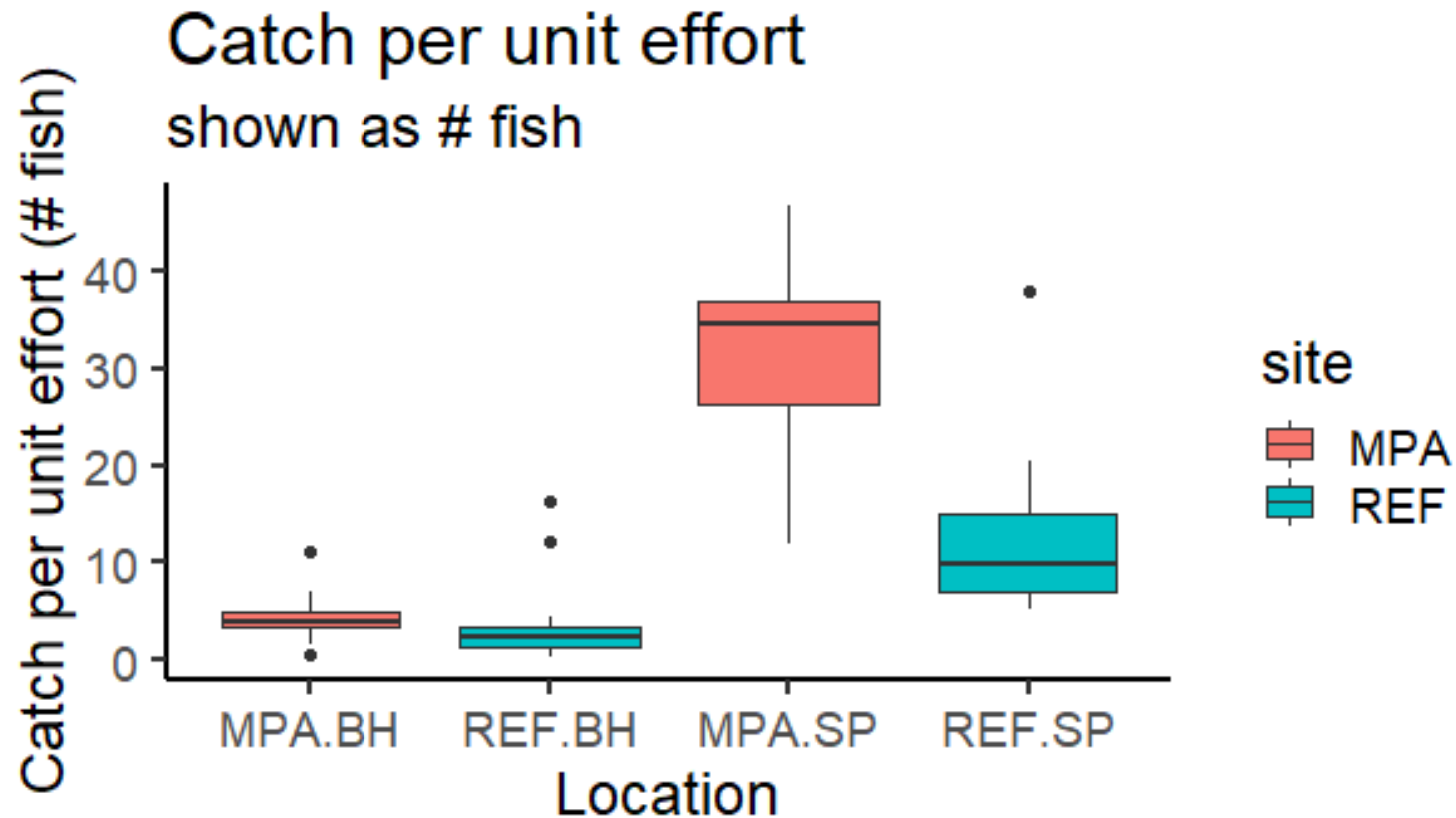




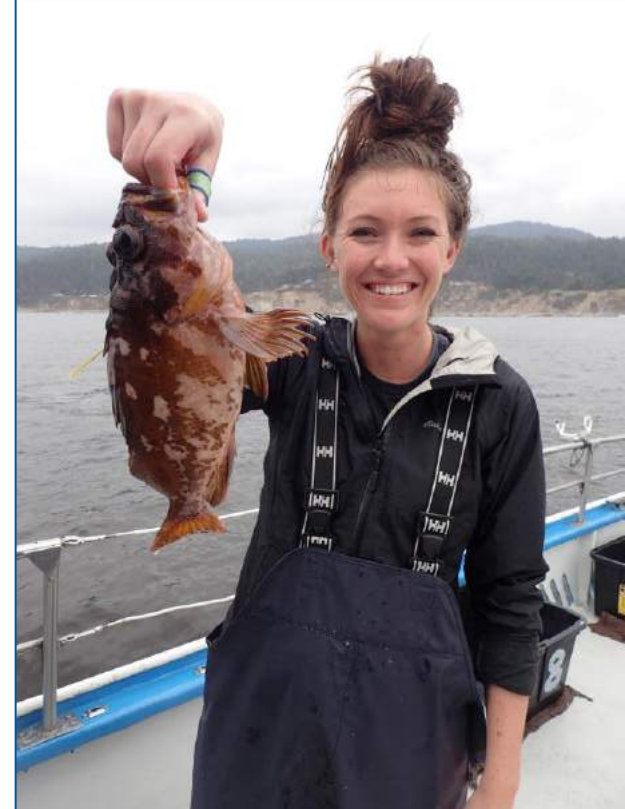
# Overall catch by species



- Higher catch per angler per hour at Stewarts Point than at Bodega Head, regardless of protection (MPA versus reference site)
- No effect of MPA at Bodega Head, but positive effect of MPA at Stewarts Point

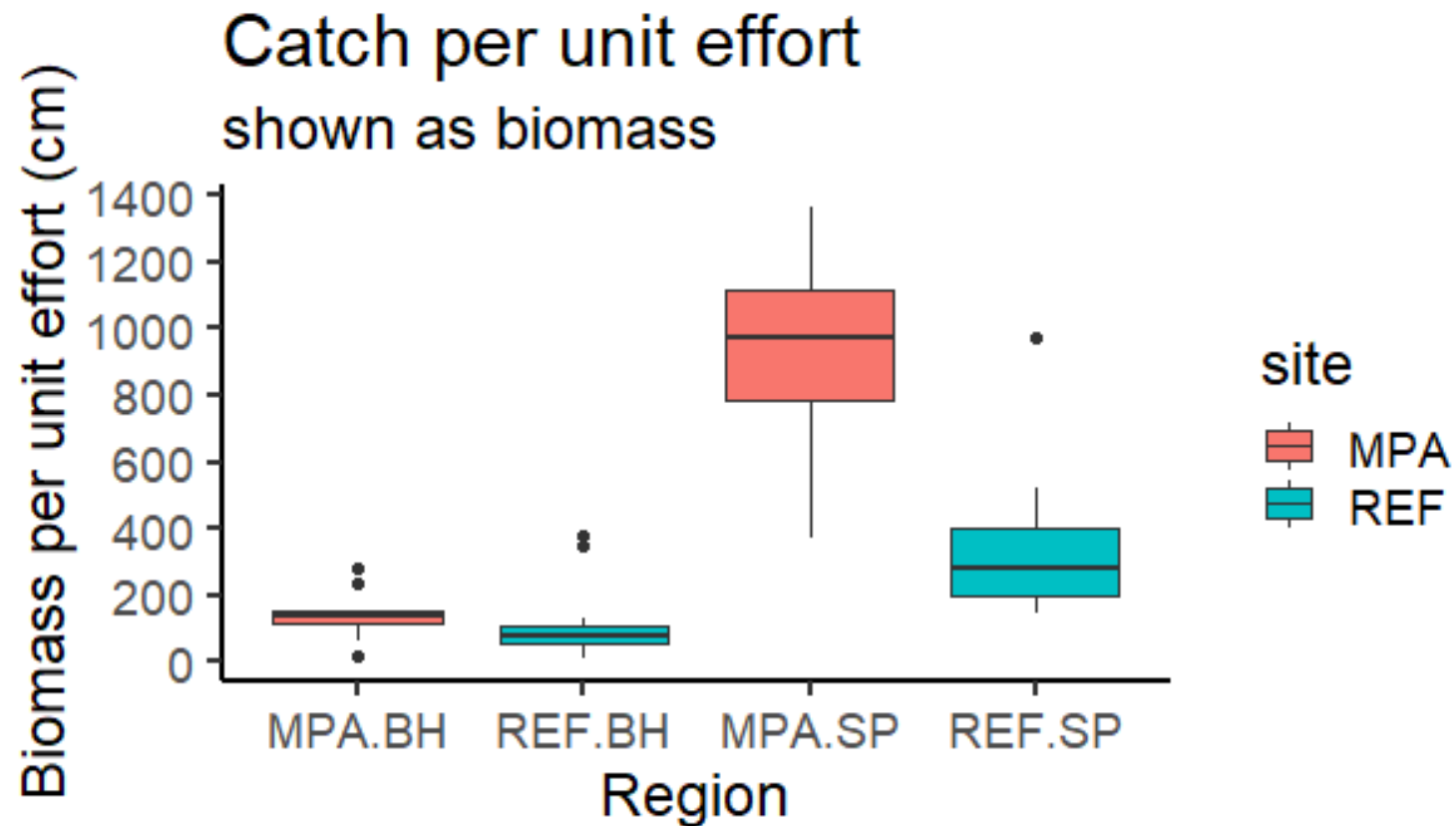


2018

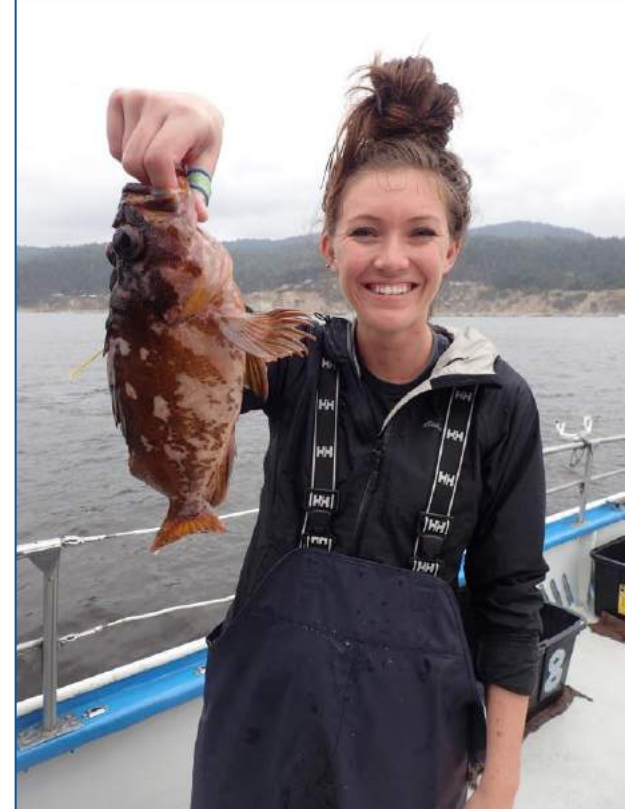




- Catch per unit effort trends are the same whether you look at # fish caught or total fish length
- No effect of site on fish size?



2018

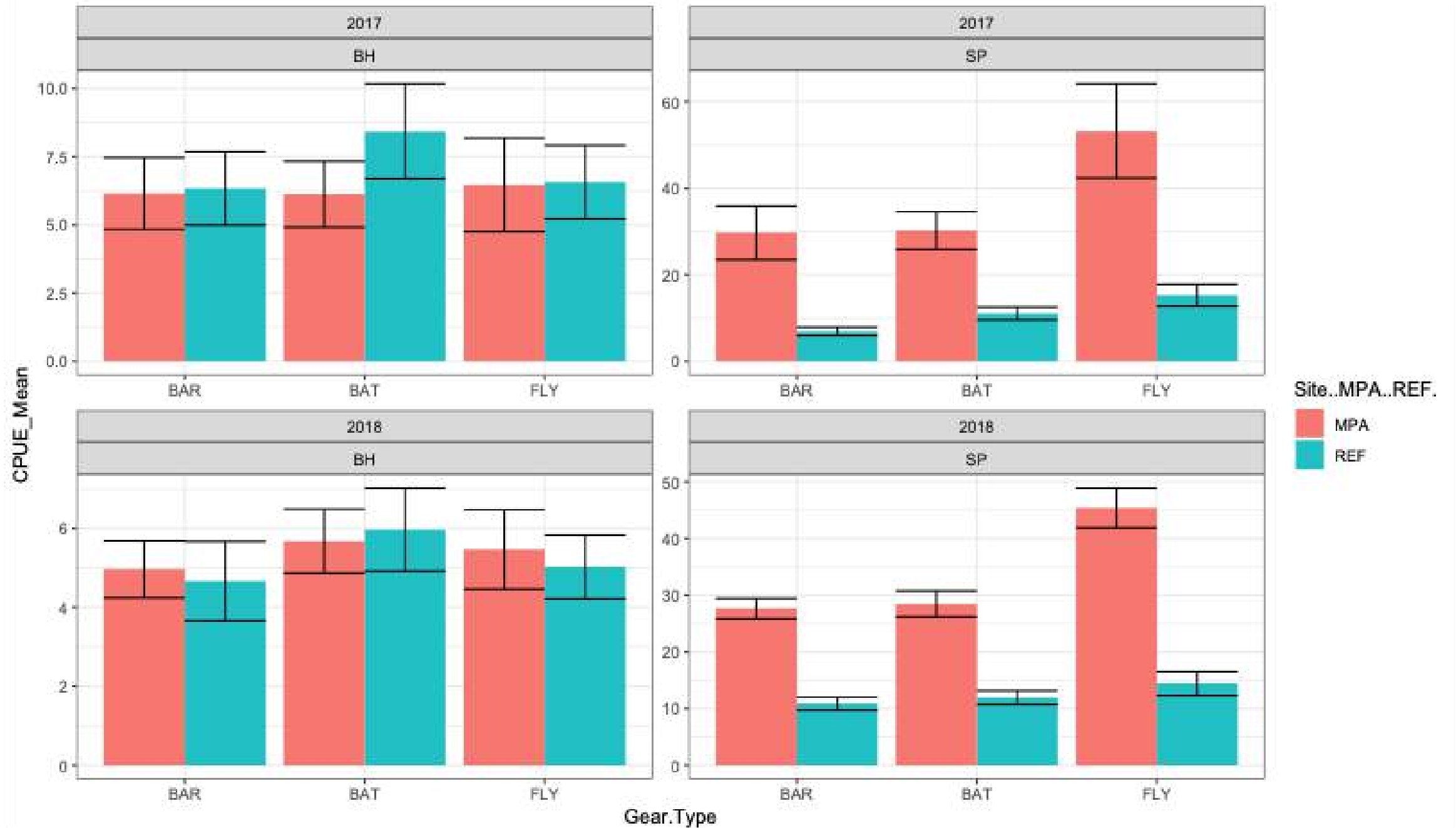




# Catch by Gear Type

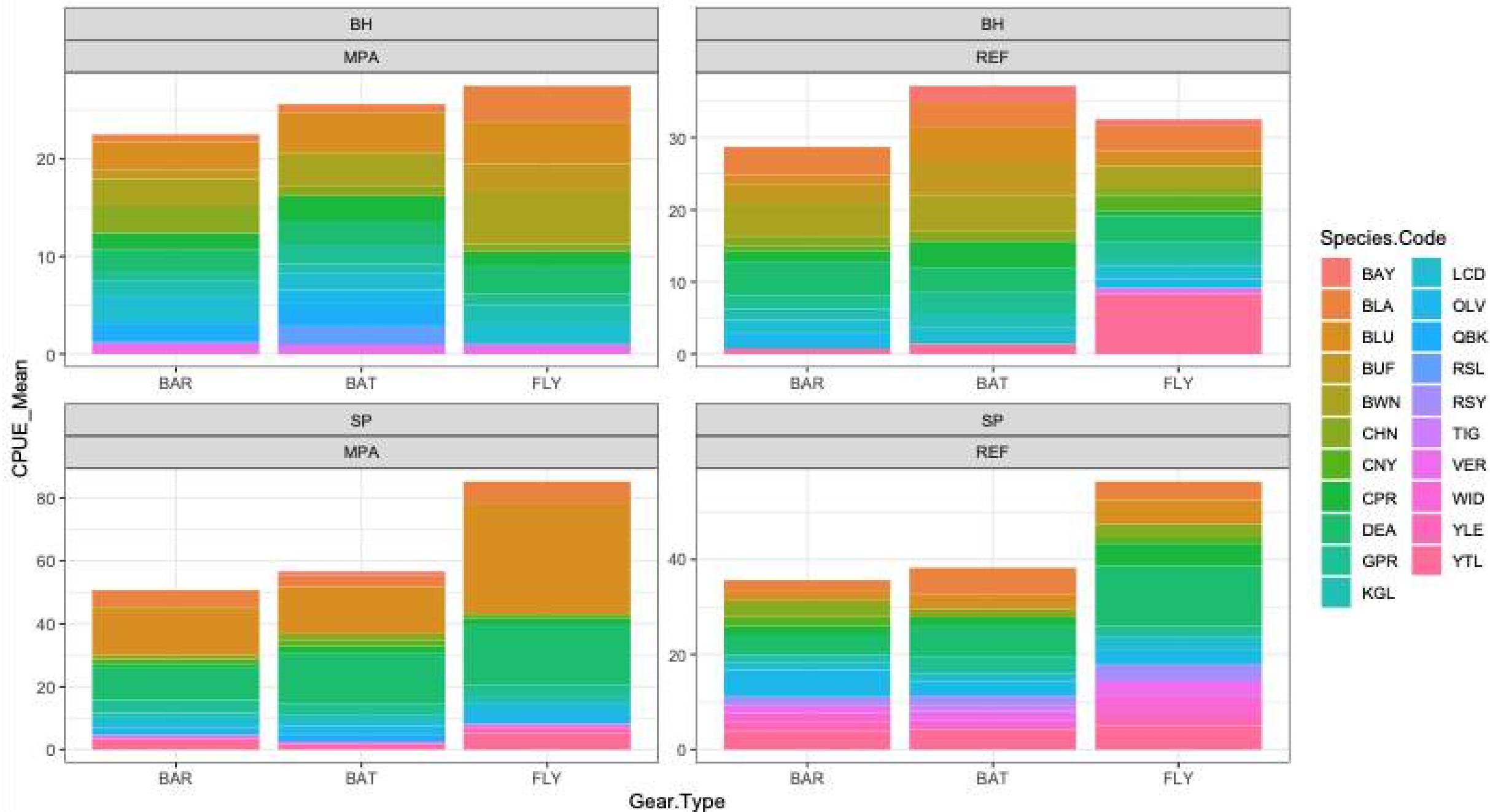


# Mean CPUE by gear type



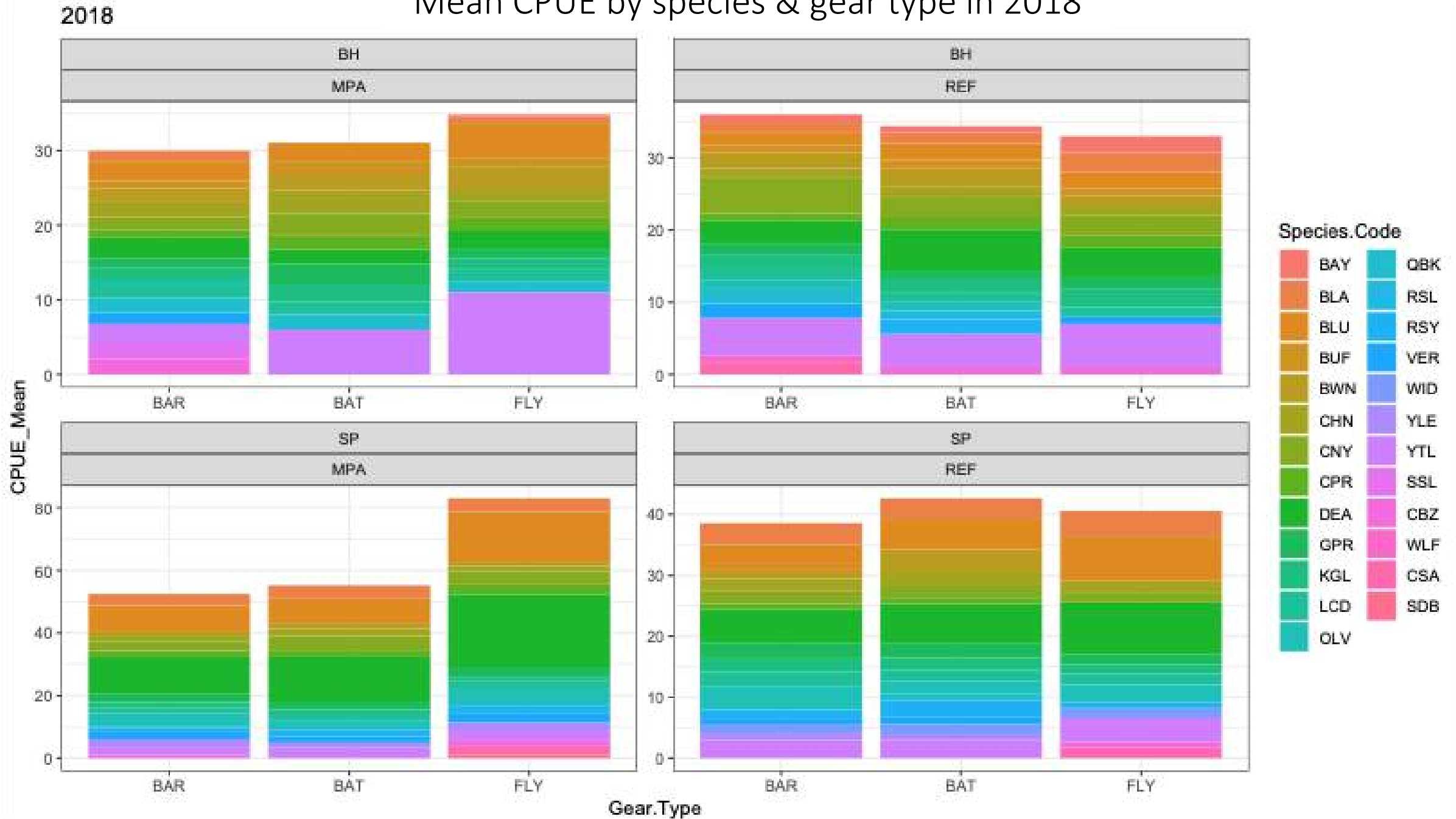
2017

## Mean CPUE by species &amp; gear type in 2017





# Mean CPUE by species & gear type in 2018

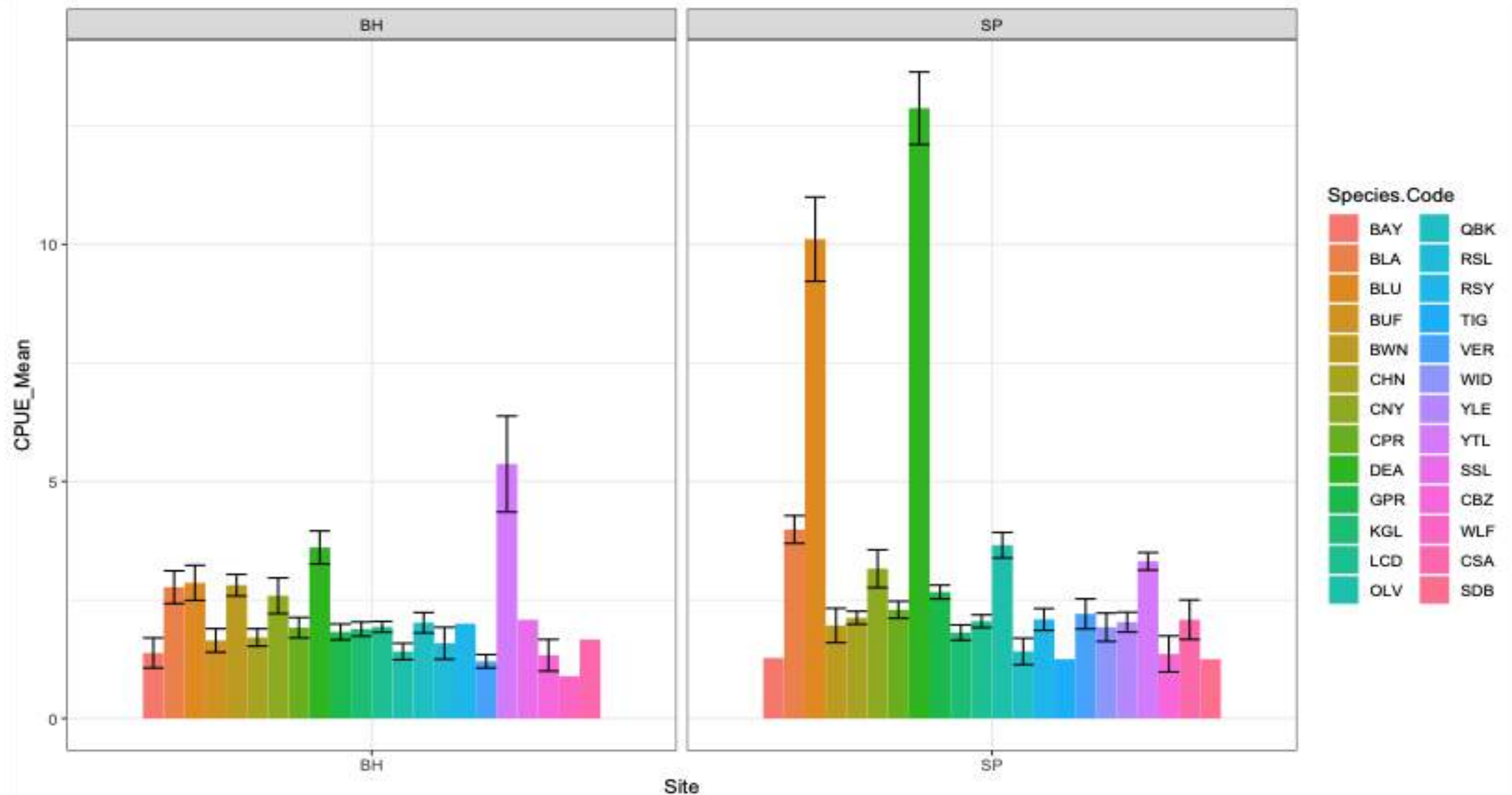




# Catch by Species

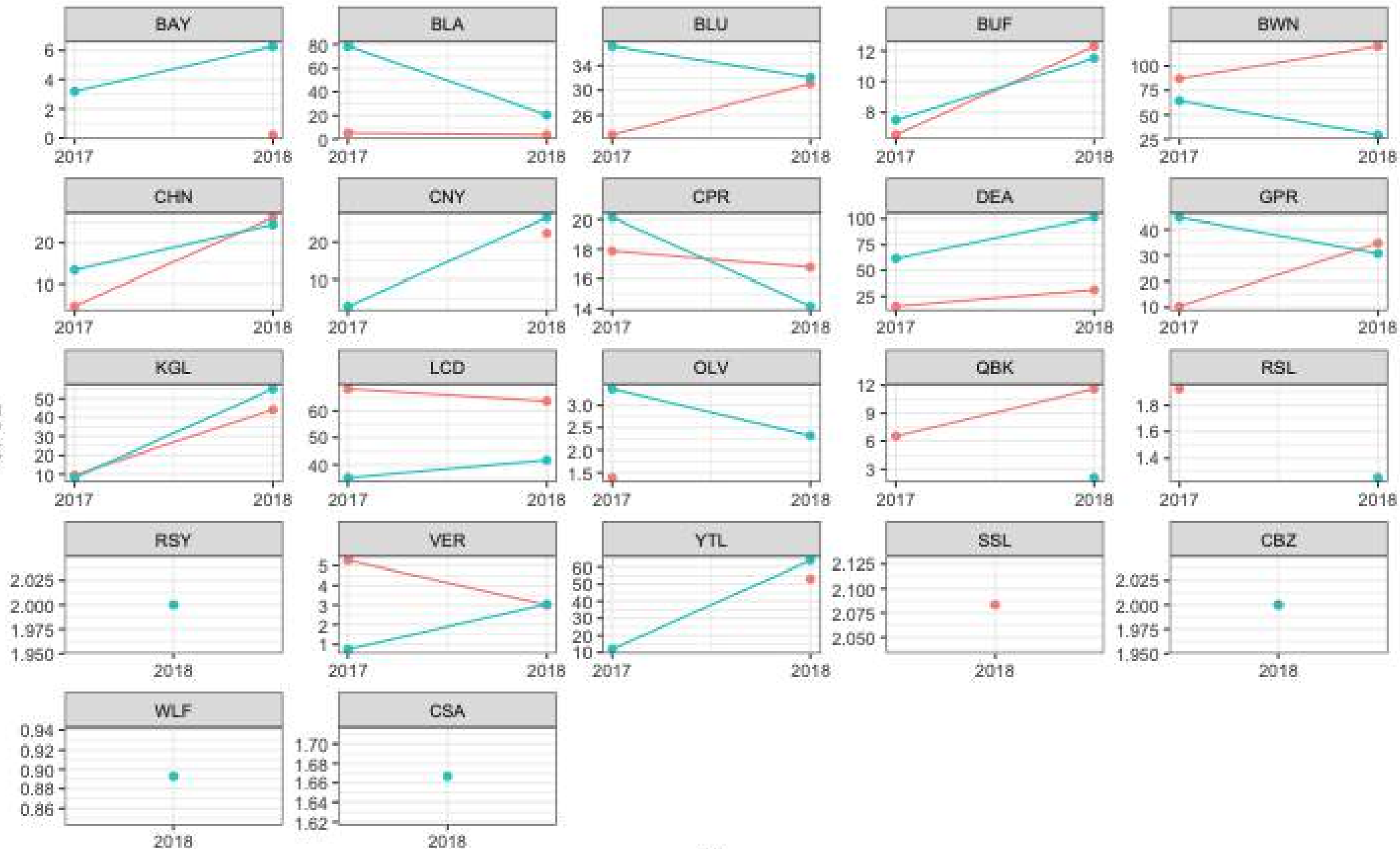


# CPUE across sites (MPA vs. reference)



BH

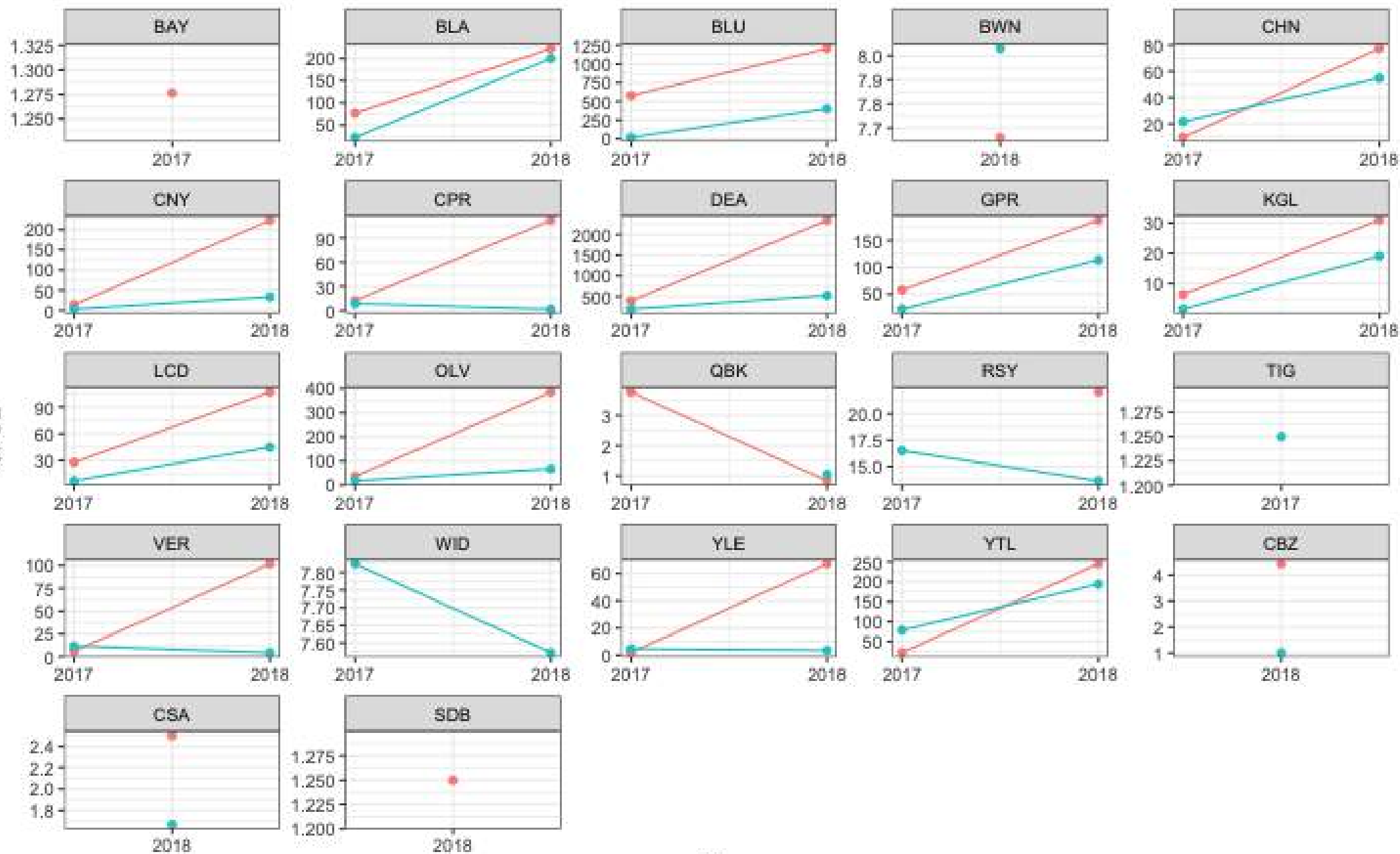
CPUE



Year



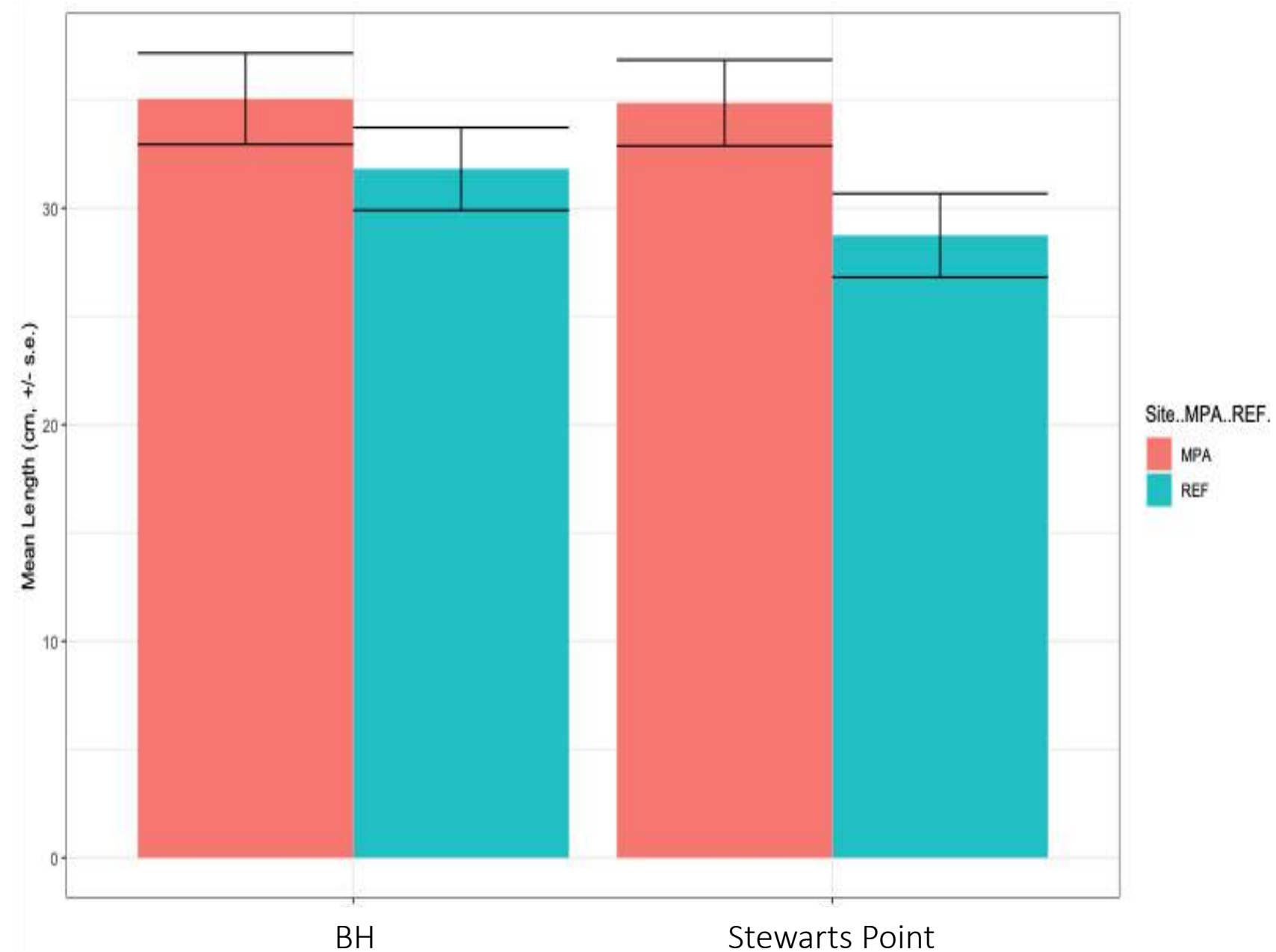
SP





# Length of Catch

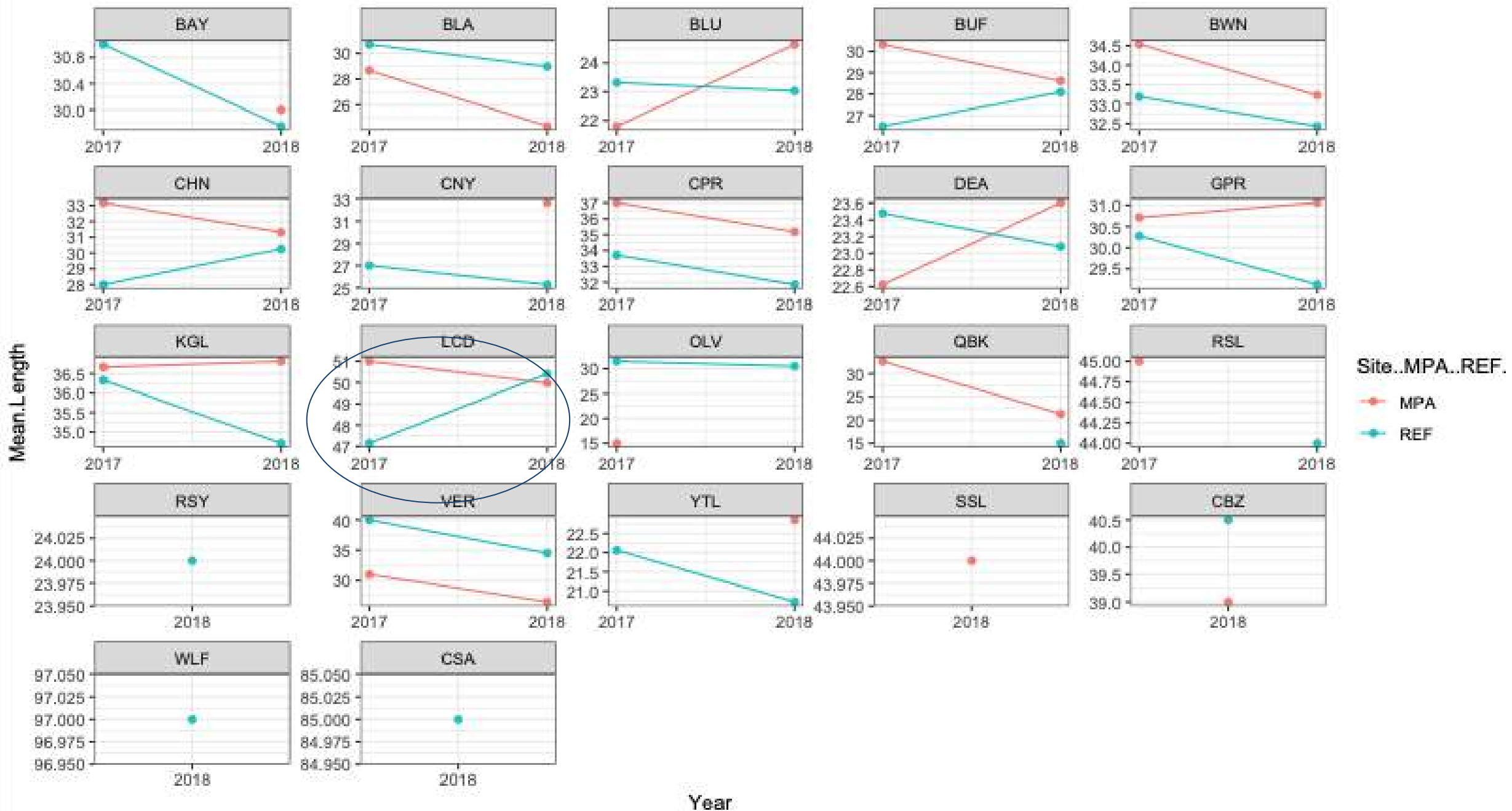




No difference in fish length  
between Bodega Head &  
Stewarts Point

Larger fish at Stewarts Point  
MPA vs. reference site

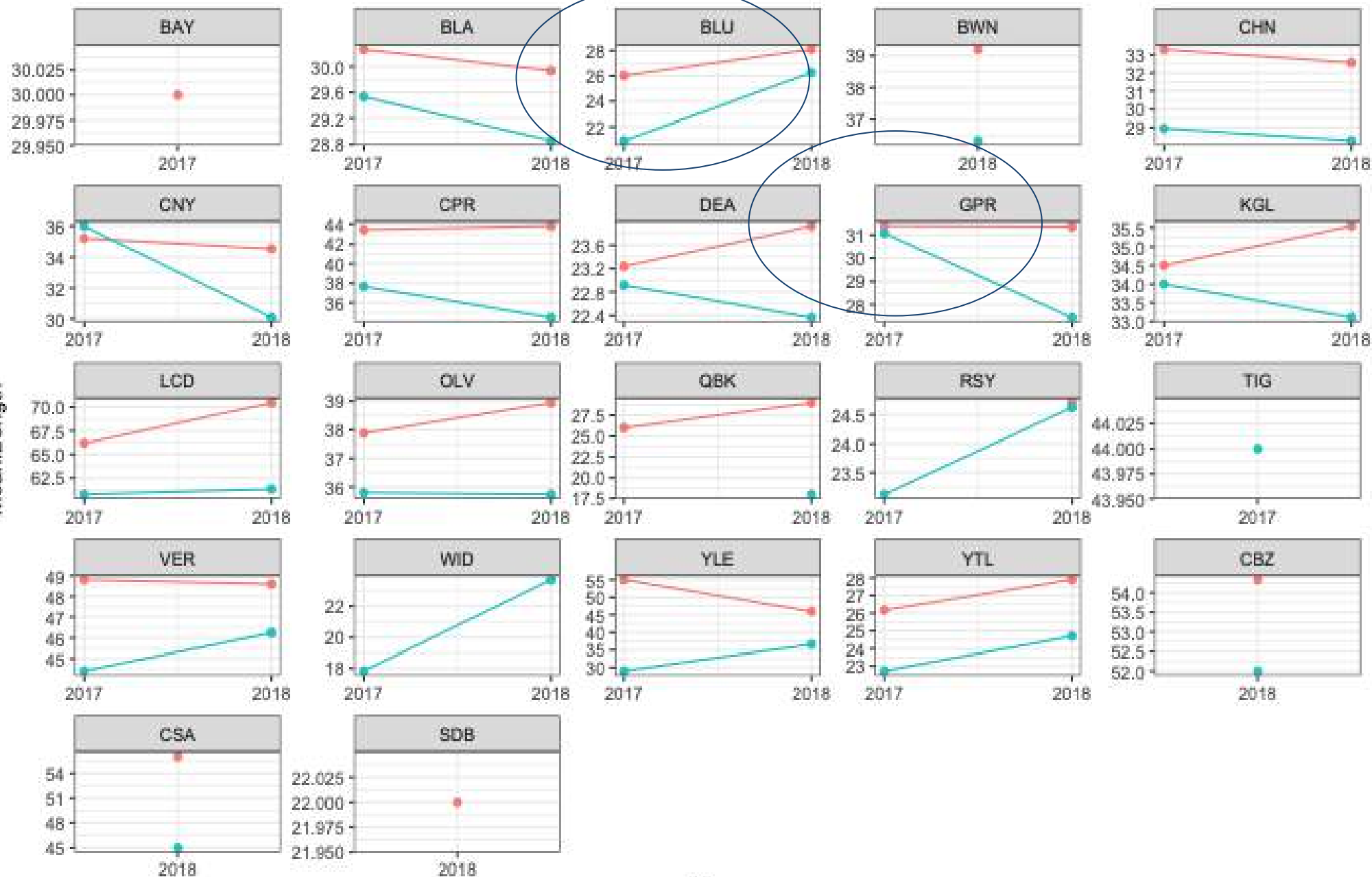
BH





SP

Mean.Length

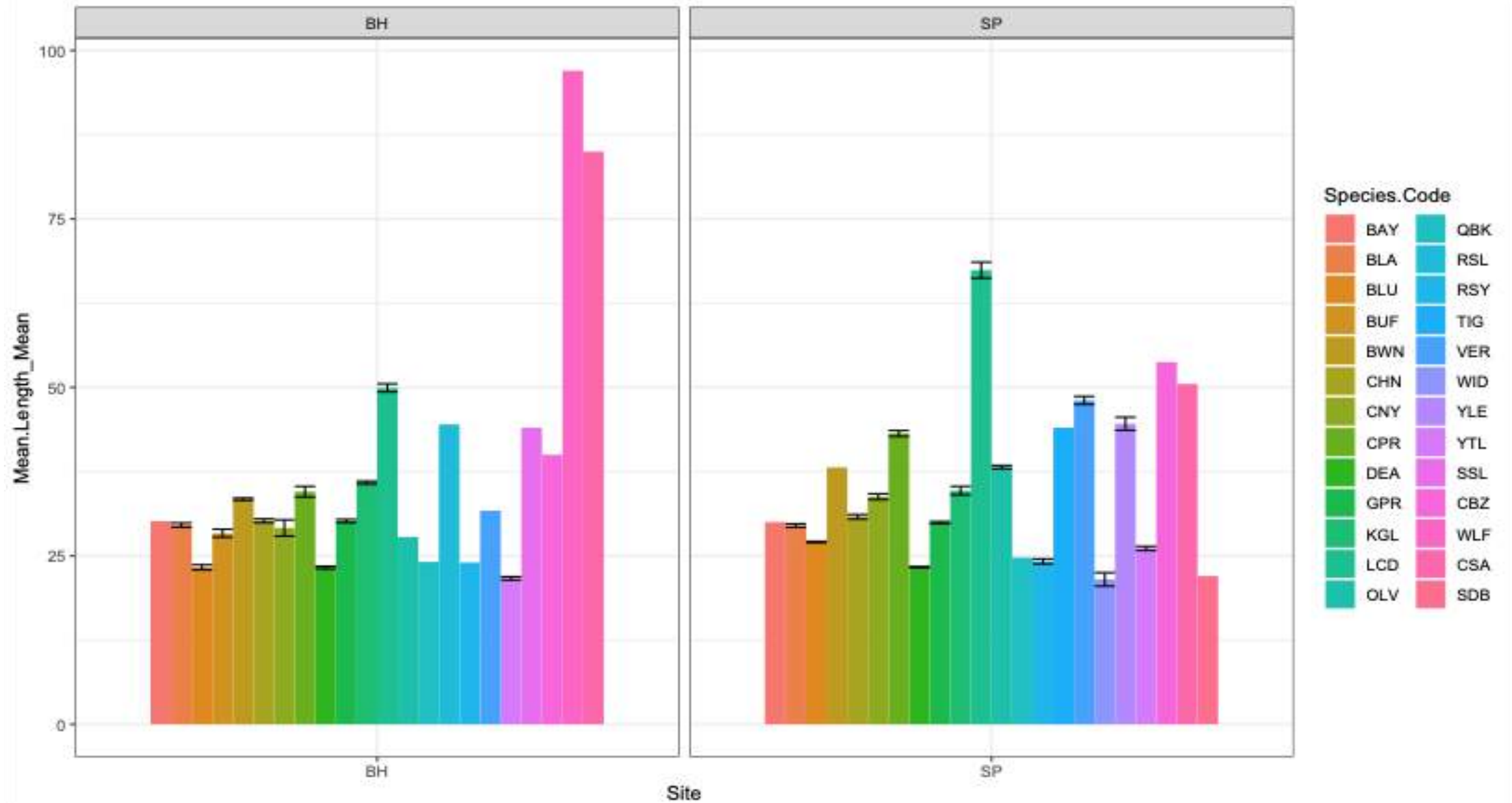


Site..MPA..REF.

MPA  
REF

Year

# Mean length across sites





# Angler Standings (2018 season)





# Largest fish caught (three way tie!)

Angler	Species	Size	Location
Tyler O.	Wolf eel	97 cm	Bodega Head Reference
Evan R.	Lingcod (F)	97 cm	Stewarts Point MPA
BML Sci Crew	Lingcod (F)	97 cm	Stewarts Point MPA



# Smallest fish caught

Angler	Species	Size	Location
Laura H.	Buffalo sculpin	5 cm	Bodega Head Reference
Andrew M.	Deacon rockfish	13 cm	Stewarts Point MPA
Andrew M.	Blue rockfish	13 cm	Stewarts Point MPA

# Unique fishes

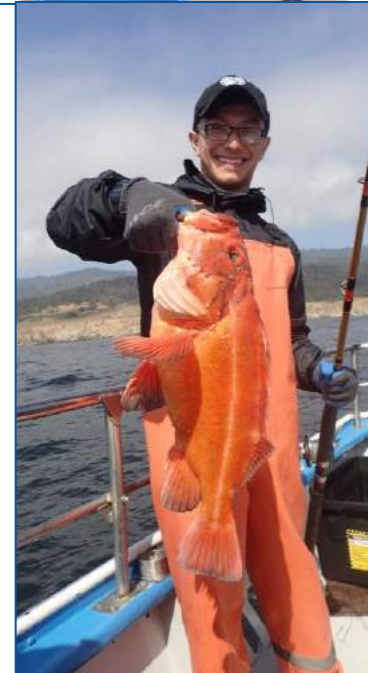
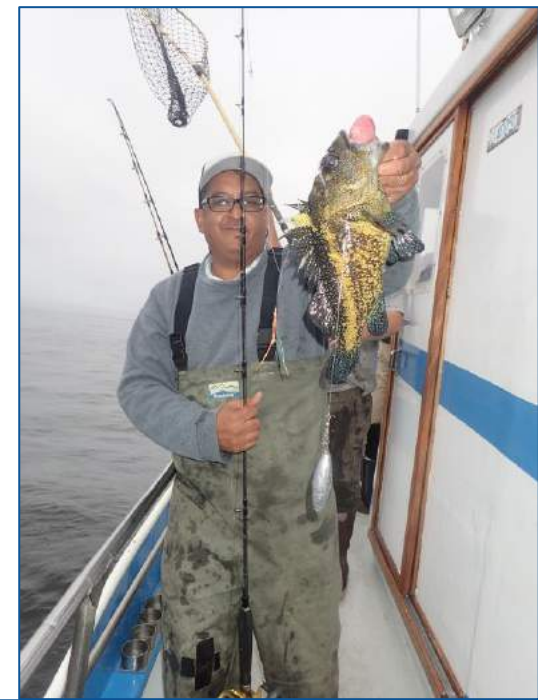
<b>Angler</b>	<b>Species</b>	<b>Size</b>	<b>Location</b>
Bill S.	Rock sole	44 cm	Bodega Head Reference
Darrin S.	Sanddab	22 cm	Stewarts Point MPA
Steven B.	Sand sole	44 cm	Bodega Head MPA
John K.	Chinook salmon	85cm	Bodega Head Reference

# Most fish caught

Angler	Fish caught 2018	Trips in 2018	Years fishing
Andrew M.	183	3	20
Steven B.	178	3	25
Evan A.	174	3	30



# 2019 sampling season: July 22-27 & August 19-24







# Thank you!



[marinescience.ucdavis.edu/research-programs/conservation/ccfrp](http://marinescience.ucdavis.edu/research-programs/conservation/ccfrp)

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