 Ecological Insights and Fish Population Trends from the California Collaborative Fisheries Research Program

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Methods

From 2007 to 2013, CCFRP scientists worked with volunteer anglers to collect fisheries-independent data onboard charter boats off of central California (Photos 1 through 4). To gather information on species compositions, lengths, and catch rates of nearshore fishes in and around local MPAs, we have:
- Conducted 244 days of standardized hook-and-line surveys
- Utilized over 6,813 volunteer hours from 717 different anglers
- Worked aboard 12 fishing vessels with 20 different skippers
- Caught and released 46,855 fishes, of which 33,418 were tagged
- Collected data from 48 species

Results & Conclusions

Species compositions differed among central California MPAs.
- Greater than 50% of the catch at Año Nuevo was comprised of Black and Blue Rockfish.
- Greater than 50% of the catch at Point Lobos, Piedras Blancas, and Point Buchon was comprised of Blue and Gopher Rockfish.

Catch was higher for many species inside MPAs as compared to reference sites.
- p < 0.05 (REF greater catch)
- p < 0.001 (REF greater catch)
- p < 0.001 (MPA greater catch)

Relationships of catch rates inside & outside MPAs as well as changes in ocean environmental conditions influenced Blue Rockfish, Olive, & Vermilion Rockfish as well as Lingcod were caught inside MPAs.

Proportion of Individuals  Length at 50% Maturity
1.00.80.60.40.20.00
Black Rockfish
Blue Rockfish
Canary Rockfish
China Rockfish
Copper Rockfish
Gopher Rockfish
Keel Rockfish
Lingcod
Olive Rockfish
Vermilion Rockfish
Yellowtail Rockfish
All Species

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Vermilion Rockfish
Yellowtail Rockfish
All Species

A wooden v-board is used to measure all fishes to the nearest centimeter.

Acknowledgements

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For more information and project updates, like us on facebook or visit us at http://seagrant.mlml.calstate.edu/research/ccfrp/