Does the world's largest fully protected MPA provide spillover benefits?

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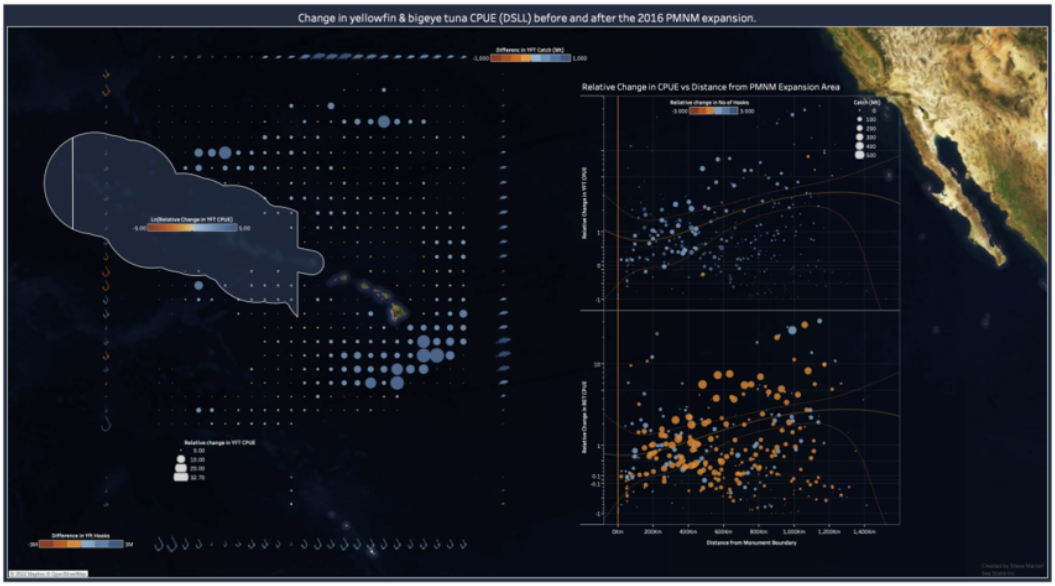

The Papahanaumokuakea expansion was established out to 200 NM in 2016. The data show the relative change in tuna CPUE.

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recent publication in Science claimed that the expansion resulted in higher catch rates of tuna nearer the boundary due to the spillover effects created by the monument expansion.

For the above figure, data for the US deep-set longline fishery were aggregated into pre- and post-expansion time periods (2010-2015, 2016-2021), and the relative change in CPUE was computed for a spatial 1-degree grid. The relative change in the CPUE for yellowfin and bigeye versus the closest distance to the monument boundary shows no significant increase; fishing locations closest to the monument boundary showed both an increase and decrease in measured CPUE. Much of the increases is associated with an increase in bigeye CPUE at distances greater than 600 NM (1,111 km) from the monument boundary.

Is the relative change in CPUE a good proxy measure for spillover?

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Dennis Moran • 2nd
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6d (edited) •••

These fake science papers are nearing the point of being official comedy. There was virtually no yellowfin harvest in the closed area before the closure, so the closure of a place that doesnt have fish or get fished in the first place magically makes fish appear? Makes as much sense as banning fishing on land, then when the biomass in the water next to the land increases, claim that the land fishing closure did it. Just dumb. I wonder who peer reviews this dumb stuff. Coincidence does not prove or even imply causation. Do they teach this rule to the fish scientists?

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Differenc in YFT Catch (Mt)
-1,000 1,000

Ln(Relative Change in YFT CPUE)
-5.00 5.00

Relative change in YFT CPUE
0.00
10.00
20.00
32.70

Difference in Yft Hooks
-3M 3M

Relative Change in CPUE vs Distance from PMNM Expansion Area

Catch (Mt)
0
100
200
300
400
500

Relative Change in YFT CPUE
1
0
-1

Relative Change in BET CPUE
10
1
0.1
-0.1
-1

0Km 200Km 400Km 600Km 800Km 1,000Km 1,200Km 1,400Km

Distance from Monument Boundary