

Shifting environmental baselines among small-scale fishers in the Galera-San Francisco Marine Reserve, Ecuador



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Shifting Environmental Baselines

- Daniel Pauly 1995



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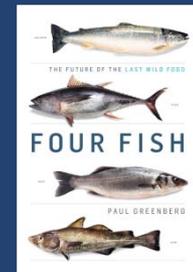
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In fisheries management “you must know how many fish there were *before* fishing began to be able to predict how many fish there *can be*...

This model, however, has one basic, gargantuan flaw: it assumes that it is scientists who find fish first...

In the entire history of fishing, this has probably never occurred.”

-Paul Greenberg





Galera-San Francisco Marine Reserve

- October 2008
- 54,604 hectares, 10 nautical miles
- 37 km coastline, to high tide line

Management Plan

- Baselines set in first 5 years of implementation:
 - Populations of commercial resources
 - Capture rates by fishing gear type
 - Diversity, abundance, distribution of species



Goals of the Study

- Capture local knowledge
- Discover shifting baselines
 - Quantify differences among generations
- Determine support for conservation measures



Communities

- Fishing is primary economic activity
- 92 fishers interviewed (23%)
- 3 generations: young 18-30
middle-aged 31-50
older >50



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Fisheries

- Green spiny lobster
- Pacific bearded brotula
- Snapper
- Bighead tilefish
- Mahi mahi
- Marlin
- Tuna
- Sailfish
- Swordfish



Type of boat and distance

- Older fishers use canoes, fish closer to shore
- Young and middle-aged fishers use motorboats, fish farther from shore



Current condition of fisheries

- Older and middle-aged: depleted
- Young: underfished
- Fishing has depleted stock of species
- Fishing sites that are no longer productive
- Trend across generations



Steps to recover depleted species

- 93% willing to participate



Shifts in Environmental Baselines

- Different perception of condition of fisheries
- No difference on whether certain species or fishing sites are depleted



History of the Fishery

- Shift in type of boat and distance from shore
- Comments from fishers:
 - Diminishing abundance of species
 - Fish for a longer period of time
- Management implications



Thank you-

- University of Maryland
 - Sustainable Development and Conservation Biology
- Peace Corps
- Master's International
- Instituto Nazca
- Communities of the GSFMR

Questions?

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