

<p>Bycatch of sea turtles is a serious conservation threat around the world</p>	<p>In Baja California Sur, Mexico, there is a lot of overlap between bottom-set net fisheries with important foraging (feeding) areas for loggerhead sea turtles</p>
<p>In Baja California Sur, Mexico, previous research has measured one of the highest recorded rates of sea turtle bycatch in the world</p>	<p>Loggerhead turtles are globally endangered</p>
<p>One way to reduce sea turtle bycatch could be to modify fishing gear so that there is a lower risk of catching sea turtles.</p>	<p>Modifying fishing gear might reduce bycatch, but it is also important to know how this new gear affects the number of fish that fishers are able to catch. It is important to know if fishers can still make enough money using the new gear.</p>
<p>2007-2009: We conducted experiments comparing control (regular) and buoyless nets during the summer fishing seasons.</p> <p>We compared these 2 nets in experiments on 136 fishing trips, working with fishers who allowed us to have a researcher on board.</p>	<p>Fishers chose the fishing areas for the experiments. They set both the buoyless and control nets in the same area, at the same depths.</p>

Based on a market survey of fish prices, we categorized each target fish species into 4 groups or “market classes”: First Class (highest value), Second Class, Third Class, and Fourth Class (lowest value).

Fishers and researchers worked together to identify catch composition (species of fish).

We calculated the Bycatch Per Unit Effort or BPUE for the turtles that were captured, using the formula:

$$\text{BPUE} = \# \text{ of turtles captured} / (\text{net length}/100 \text{ meters}) * (\text{soak time of net}/24 \text{ hrs})$$

Soak time means how long the net was in the water

We calculated the Catch Per Unit Effort or CPUE for the target fish that were caught, using the formula:

$$\text{CPUE} = \text{kg of target species} / (\text{net length}/100 \text{ meters}) * (\text{soak time}/24 \text{ hours})$$

To calculate the market value of each fishing trip, we weighed the number of kg of fish in each market class and then multiplied the number of kg by the market value (US \$) for that market class. Then we added up the market value for all market classes that were caught during that fishing trip.

To test whether there were significant differences between BPUE, CPUE, and market value of fish catch between the 2 net types, we used Paired Bootstrap Resampling (statistics test). P-values of less than 0.05 were considered significant.

36 sea turtles were caught in the 136 experimental fishing trips: 32 loggerheads, 3 green turtles, and 1 olive ridley.