Available online at www.sciencedirect.com
ScienceDirect
Fisheries Research xxx (2006) xxx–xxx
FISHERIES RESEARCH
www.elsevier.com/locate/fishres

Letter to the Editor

Keywords: Fishing-down food webs; Trophic level; Mexico; Fisheries statistics

Sir,

In their contribution that analyzes the phenomenon of fishing-down food webs in Mexican marine waters, Pérez-España et al. (2006) identified an interesting but strongly controversial fact: fisheries statistics do not always reflect the ecosystem impacts of overfishing.

Using Mexican and FAO fisheries statistics, Pérez-España et al., infer that ". . . no decrease in the trophic level of the catches, either globally or for a particular littoral was found [in Mexico]. These findings hold true regardless of the reported overexploitation of some of the fisheries." They also state that their inability to detect any fishing-down the food web may be due to the replacement of an overexploited species by another within the same trophic level. These replacements, however, cannot be detected given the scope of their exercise, since they failed to highlight the fact that Mexican fisheries statistics typically pool catch data from a variety of habitats and use coarse taxonomic categories to identify an ample variety of species belonging to multiple trophic levels. Although some catches have been stagnant or still increasing for some species groups, they also failed to address that fishing moves from coastal to offshore areas over time, spatially expanding the depletion of harvested species (McGoodwin, 1979; Berkes et al., 2006) and giving the illusion of immobility or even progress. Finally, while suggesting that the multi-specific nature of most Mexican fisheries and their low technological level steer clear of single trophic level decreases typical of temperate and mono-specific fisheries, Pérez-España et al., fail to detect that fishing does not only affect target species but also causes community-wide changes (Sala et al., 2004). And this can happen while total catches keep increasing.

Fishing-down food webs is a common phenomenon apparent in archaeological middens (Reitz, 2004), intergenerational anecdotes, grey literature and fishing statistics when analyzed at an appropriate scale (Pauly et al., 1998, 2001; Sala et al., 2004; Sáenz-Arroyo et al., 2005a,b). In the Gulf of California, for instance, mean trophic level decreased from 4.2 in the 1970s to 3.8 in 2000 (Sala et al., 2004), the greatest reduction being in the 1980s. This decline was greater than that in the global marine fisheries since 1950, and comparable only to the largest regional declines in Canada, northwest and western central Atlantic, and the south Pacific (Pauly et al., 1998, 2001). Furthermore, Sáenz-Arroyo et al. (2005b) showed how rapid shifts in perception of what is natural explain society's tolerance of the creeping decline of most fisheries, particularly in this Mexican region. When analyzed at appropriate spatial scales and using more resolved taxonomic data, fishing-down food webs in Mexican waters is all but evident.

We should be concerned that in the most common institutional format for fisheries management, Pérez-España et al.'s conclusion would not need to be carefully thought about by any manager because of their short-term benefits to society (i.e., jobs and profits). Part of the reason why little action has been taken to design sound policies to preserve marine biodiversity in Mexico is precisely because official fisheries statistics are currently poor indicators of ecosystem health. In recent years, it has become common for opponents of responsible fisheries policies to argue that the scientific basis for alleged harms is uncertain, unreliable, and fundamentally unproven. The "nothing is happening" conclusion by Pérez-España et al. may provide those opponents of change with more excuses for inaction.

Fishing capacity frequently reflects dependency of users on fisheries resources, which are already in excess of their sustainable production in some Mexican regions (Cisneros-Mata, 2004). Excess dependency can preclude the political will to consider alternative strategies, and only once it has been overcome, probably requiring solutions borrowed from outside fisheries, is effective management likely to be considered seriously. Responsible management, therefore, requires avoiding ambiguous approaches and setting measures in cooperation with fishers and other interest groups. Whatever the agreed strategy for Mexico is, it must be included in legislation to ensure transparency and accountability, and to constrain decision-makers—especially in Mexico nowadays.

What remains interesting now is how we reorganize the way we gather fisheries data so they can truly show to society how deeply fisheries are transforming our marine environments. The time for denial is long gone.

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Sala, E., Aburto-Oropeza, O., Reza, M., Paredes, G., López-Lemus, L.G., 2004. Fishing down coastal food webs in the Gulf of California. Fisheries 29, 19–25.

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9 August 2006

Please cite this article in press as: Aburto-Oropeza, O. et al., Letter to the Editor, Fish. Res. (2006), doi:10.1016/j.fishres.2006.09.015