

Summary of cetacean bycatch issues in the Pacific Islands Region, and  
Recommendations to the Kobe II By-catch Workshop, Brisbane, Australia June 2010

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Fishing gear by-catch and entanglement is regarded as one of the most serious threats to cetacean species worldwide (Northridge 1991, Lewison et al. 2004). Globally extrapolated incidences of cetacean by-catch estimate that over 300,000 cetaceans are killed as a result of fisheries interactions each year (Read et al., 2006). An estimate of cetacean by-catch within the Pacific Islands Region (PIR)<sup>2</sup> is limited by the small amount of fishing vessel monitoring (Lawson 2001). The PIR covers all or part of four FAO fishing areas: the Western Central Pacific, the Southwest Pacific, the Eastern Central Pacific, and Southeast Pacific.

The Western Central Pacific area produces the highest catches of these four regions and also has a significant bearing on the economies of several Pacific Island nations (SPREP 2004). Onboard observer programs do exist within the region but their overall coverage is not extensive. On average less than 1% of all long-line fishing vessels within the western, central and South Pacific waters had independent observers aboard between 1987 and 2000 (Lawson 2001). Between 1994 and 2000, the maximum observer coverage on purse-seiners was only 5%, and for a single year of coverage (1988) observers were present aboard line-and pole boats in the Solomon Islands for just 2% of total fishing trips (Lawson 2001).

Such level of observer coverage is inadequate to determine the true level of cetacean by-catch. Major gaps in current observer coverage include data from distant-water long-liners of Korea and Taiwan, and Japanese vessels fishing in international waters. Coverage of certain domestic fleets of Pacific Island nations has also been poor. Some assert that the by-catch of domestic fleets is less than that of distant foreign fleets (Chapman 2001) but the limited datasets fail to confirm or deny this. Given that the PIR is purported to hold the most extensive and biologically diverse coral reefs in the world, the deepest ocean trenches, the world's largest tuna fishery, as well as a range of globally threatened species such as sea turtles, dugongs and cetaceans (UNDP 1999) – this lack of observer coverage is a serious omission of our global understanding of cetacean by-catch.

As part of the background documentation for the recently signed Convention of Migratory Species Memorandum of Understanding on the Conservation of Cetaceans and their Habitats in

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<sup>2</sup> Geographically defined as the marine areas under the jurisdiction of each Country or Territory of the Pacific Islands Region, and extend to the area defined by the Noumea Convention, i.e., between the Tropic of Cancer and 60° South latitude, and between 130° East longitude and 120° West longitude.

the PIR (CMS, 2006) a regional report on threats, diversity and status of cetaceans was prepared (Miller, 2007; Miller, 2009). Within this report an overview of cetacean-fisheries interactions was prepared and is summarized below. Records are ordered according to fishery type, species involved (with numbers taken and condition where available), and locations of catches (and source of observer coverage). Additional notes, as well as unusual records including incidences attributed to depredation and an event suggesting IUU activities are also listed.

Based on recent experience in the PIR, it is recommended that observer coverage, training programs on cetacean species identification, and the comprehensiveness of cetacean data collected need to be increased across all tuna RFMOS. Observer programs, both within PIR and elsewhere need to be of a level sufficient to provide statistically significant data, and there is also the need to validate and verify all cetacean by-catch records.

The IATTC observer program, which has been established to inform the Agreement on the International Dolphin Conservation Program<sup>3</sup> in the eastern Pacific Ocean, could provide one possible template for the development of such observer and training programs.

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<sup>3</sup> see <http://www.iattc.org/PDFFiles2/MOP-21-09-RFMO-observer-program-comparison.pdf> for a comparison of observer programs across the RFMOs. The IATTC observer program is the longest running of these programs, and also benefits from the fact that it is fully co-ordinated by the IATTC Secretariat.

## References

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Table 1. Summary of cetacean bycatch in the Pacific Islands Region.

Fishery or activity (reference s)	Species documented, condition and number taken (as available)	Observer coverage and/or location	Notes
Long-line (Lawson, 2001)	Bottlenose dolphin, common dolphin, dusky dolphin, humpback whale, sperm whale, unidentified dolphin and whale species.	Oceanic Fisheries Program (OFP) data from the national programs of Australia (1987–1997), Federated States of Micronesia (1992–1999), Marshall Islands (1995, 1997), New Zealand (1987–1999), Palau (1999), Papua New Guinea (1999) and Solomon Islands (1996, 1998–1999). Secretariat of the Pacific Community (SPC) regional program (1992–2000) covering long-liners operating in the waters of American Samoa, Cook Islands, Fiji, Federated States of Micronesia, French Polynesia, Kiribati, Marshall Islands, New Caledonia, Papua New Guinea, Palau, Samoa, Solomon Islands and Tonga.	Most of the data provided was derived from Australian and New Zealand monitoring schemes. Data was provided as overall summary information rather than being attributed to location or fishing nation.
Long-line (Molony, 2005)	Bottlenose dolphin (3), common dolphin (3), dusky dolphin (1), humpback whale (2), Risso's dolphin (7), short-finned pilot whale (4), sperm whale (2), spinner dolphin (2), 'blackfish' (2), dolphins/porpoise (unidentified) (2), and whale (unidentified) (11). Condition of the animals was not given.	1980-2004 for long-line observer data in the SPC region	It is possible that this information overlaps in part with Lawson's (2001) review.
Long-line (Williams, 1996)	Common dolphin and other (unidentified) marine mammals, as well as 'possible' catches of false killer whale. Unidentified marine mammals on rare occasions. Takes of <i>Orcinus orca</i>	Western and central sub-tropical Pacific Western and central tropical Pacific Western and central temperate Pacific	Data may overlap with Lawson's (2001) review.
Long-line IUU (Dalebout et al. 2008)	Gingko-toothed beaked whale (1) carcass.	Federated States of Micronesia	This case suggests the prevalence of IUU as the animal was only discovered upon inspection in Guam during which the captain indicated intention to sell the animal in Taipei.

<p>Purse seine (Coan et al., 1999; Lawson, 2001).</p>	<p>127 unidentified marine mammals: 24 when nets were set without any school association, 41 when the net was set on a drifting log or debris, 45 when a raft, fish aggregating device or payoa was set on (32 if drifting, 13 if anchored), 15 when on a whale, and 1 each when a whale shark or unknown conditions were set on. All animals were reportedly discarded.</p>	<p>Information was collated from seven observer programs of the OFP, i.e. the national programs of the Federated States of Micronesia (1994–1999), Nauru (1996), Papua New Guinea (1996–1999) and Solomon Islands (1998–1999), and the regional programs of the Federated States of Micronesia Arrangement (1998–2000), SPC (1995–2000) and the US treaty (1994–2000).</p>	<p>No details on species were given in these records.</p>
<p>Purse seine (Molony, 2005)</p>	<p>Bottlenose dolphin (18), common dolphin (24), pygmy killer whale (1), shortfinned pilot whale (2), spinner dolphin (4), ‘blackfish’ (19), unidentified whale (5), and unidentified dolphins/porpoises (33). Condition of animals was not included.</p>	<p>Records from 1980-2004 for purse-seine observer data in the SPC region.</p>	<p>These records overlap with source material contained within Lawson’s (2001) review.</p>
<p>Long-line depredation and/or IUU (Donoghue et al., 2003)</p>	<p>100 carcasses: primarily pantropical spotted, spinner, and striped dolphins. A small number of ‘blackfish’ (i.e., killer, false killer, pilot, or possibly pygmy killer or melon headed whales) were present. Condition: 23 had been hooked in the mouth or throat region, 11 had been entangled, and 53 had been harpooned, while poor condition of 13 carcasses prohibited deciding the nature of the interaction. Dolphins appeared to have died after becoming entangled in lines. Cause of death for blackfish could not be directly attributed to longline gear.</p>	<p>1994-1995. Taiwanese distant water fleet. Animals were documented at two Taiwanese fishing ports after long-line activities in Pacific waters.</p>	<p>It is possible that these numbers are conservative as animals may have been discarded at sea or consumed onboard.</p>