


THE
PEW
CHARITABLE TRUSTS

JUNE 10–14, 2013 | VERACRUZ, MEXICO



POLICY
STATEMENT

RECOMMENDATIONS TO THE 85TH MEETING OF THE
INTER-AMERICAN TROPICAL TUNA COMMISSION

RECOMMENDATIONS

The Pew Charitable Trusts calls on the Members and Cooperating Non-Members (collectively referred to as "IATTC members") at the 85th Meeting of the Inter-American Tropical Tuna Commission, or IATTC, to take the following critical actions:

- 1. Implement best practices for tuna management.**
 - 1.1 Establish science-based catch limits and stronger monitoring and enforcement measures for Pacific bluefin tuna.
 - 1.2 Improve data collection and management of fish aggregating devices, or FADs.
 - 1.3 Adopt target and limit reference points for skipjack, yellowfin, and bigeye tuna.
 - 1.4 Increase observer coverage on longline vessels.
- 2. Adopt conservation and management measures to protect sharks.**
 - 2.1 Prohibit the retention of biologically vulnerable shark species, particularly silky and hammerhead sharks.
 - 2.2 Limit the mortality of other shark species, including blue and shortfin mako sharks, to sustainable levels.
 - 2.3 Establish best practices for reducing shark finning and bycatch.
- 3. Improve compliance with IATTC measures.**
 - 3.1 Strengthen port State measures, or PSMs.
 - 3.2 Adopt International Maritime Organization, or IMO, numbers for fishing vessels.

1. IMPLEMENT BEST PRACTICES FOR TUNA MANAGEMENT

Pew remains concerned about the health of tuna populations in the eastern Pacific Ocean. The current catch and effort-based catch limits have failed to protect the populations of several commercially and ecologically important stocks of tuna. Based on recent stock assessments, management measures must be taken to reduce fishing pressure on yellowfin, bigeye, and Pacific bluefin tuna. Precautionary, science-based catch limits are a key part in the plan to safeguard these depleted tuna populations.

1.1 ESTABLISH SCIENCE-BASED CATCH LIMITS AND STRONGER MONITORING AND ENFORCEMENT MEASURES FOR PACIFIC BLUEFIN TUNA

The December 2012 International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean, or ISC, stock assessment¹ paints a dire picture for Pacific bluefin: The population has declined by 96.4 per cent from unfished levels, with a 70 per cent decline over the past 15 years. Moreover, 100 per cent of the Pacific bluefin caught in the eastern tropical Pacific are juveniles, taken before they are sexually mature. Adding to the problem, IATTC members exceeded the commission's Pacific bluefin quota by nearly 20 per cent in 2012.



Pacific Bluefin, © Richard Hermann

The ISC stock assessment provides formal scientific evidence that the Pacific bluefin stock is **overfished**, and **overfishing** is threatening the future of the species. Given that recent management actions have not stopped overfishing or reversed the decline of the Pacific bluefin population, Pew calls on IATTC members to take the following critical actions:

- Review the most recent stock assessment and set precautionary, science-based catch limits for Pacific bluefin, as required in IATTC Resolution C-12-09, in order to begin rebuilding the imperilled population:
 - In 2013, the Pacific bluefin quota should be set at 3300 metric tons to comply with measure C-12-09.
 - For 2014 and beyond, quotas should be set based on an ambitious rebuilding plan aimed to restore the population to maximum sustainable yield by 2020.
- Set a minimum size limit for catches that will stop overfishing and protect future generations by reducing the mortality of juvenile Pacific bluefin.
- Implement strong monitoring and enforcement measures to prevent future quota overages, including a catch documentation system, weekly reporting requirements, full observer coverage at transfer to ranches and at harvest, and authorized vessels lists.
- Cooperate with the Western and Central Pacific Fisheries Commission, or WCPFC, to ensure management measures are complementary and applied consistently on both sides of the Pacific, as required in Article XXIV of the Antigua Convention.

Without immediate, comprehensive action by the IATTC², the Pacific bluefin will continue its precipitous decline, and such measures as an international trade ban may need to be taken in other international fora. **Strong management decisions, applied consistently and in concert with those in the western Pacific, will help rebuild the bluefin population and help avoid the need for international trade restrictions.**

1.2 IMPROVE DATA COLLECTION AND MANAGEMENT OF FISH AGGREGATING DEVICES, OR FADS

Fisheries using drifting FADs have been shown to have significant adverse impacts on juvenile tuna and other marine species such as billfish, sharks, and turtles. In fact, bigeye tuna are likely experiencing overfishing, driven mainly by the catch of juveniles in the FAD fishery. Moreover,

research suggests that networks of thousands of FADs could act as “ecological traps” for open-ocean species by altering their natural distribution patterns, habitat associations, migration, and residence periods.³



A recent Pew report estimated that more than 17,000 drifting FADs are placed in the waters of the eastern Pacific Ocean each year.⁴ Given the uncontrolled proliferation of FADs in the eastern Pacific and the possible ecological consequences, Pew calls on IATTC members to take immediate action to better manage FAD fisheries:

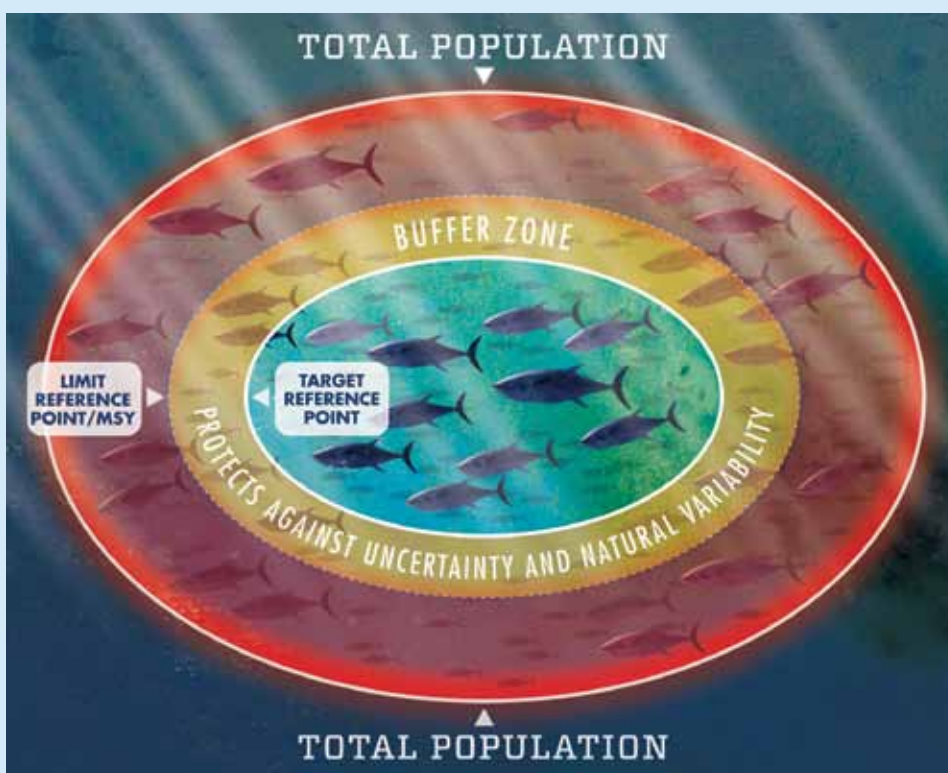
- Limit sets on FADs to levels that prevent overfishing of juvenile bigeye and yellowfin tuna.
- Share real-time data with the IATTC scientific staff from all satellite and sonar buoys attached to drifting FADs. This will allow more accurate stock assessments, provide information on the extent of FAD use, and inform scientists about potential ecosystem impacts.
- Implement measures to minimize the effects of FADs on non-target species, such as requiring non-entangling FADs by 2014.
- Ensure that compliance with FAD measures is reviewed annually and action is taken in instances of noncompliance.

1.3 ADOPT TARGET AND LIMIT REFERENCE POINTS FOR SKIPJACK, YELLOWFIN, AND BIGEYE TUNA

The Antigua Convention entered into force in 2010 and commits IATTC members to applying the precautionary approach and to minimizing the ecosystem impacts of fishing activities. However, neither provision has been fully implemented. According to Article IV of the convention, “members shall be more cautious when information is uncertain.” Although IATTC scientific staff has identified significant uncertainties in the tuna stock assessments, no precautionary limits have been recommended.

Pew calls on IATTC members to immediately adopt interim target and limit reference points for skipjack, yellowfin, bluefin, and bigeye tuna as a precautionary measure to ensure healthy tuna stocks into the future.

INTRODUCTION TO TARGET AND LIMIT REFERENCE POINTS



The Antigua Convention, which entered into force in 2010, requires IATTC to apply the precautionary approach, including the setting of target and limit reference points, in accordance with the UN Fish Stocks Agreement and the FAO Code of Conduct for Responsible Fisheries.

In a precautionary approach to fisheries management, a target reference point creates a buffer to account for uncertainty and prevent the overfishing of the stock. Traditional fisheries management often fails to account for uncertainty in the fishery and can lead to fishing above sustainable levels, which can potentially damage the future of the stock as well as the value of the catch.

1.4 INCREASE OBSERVER COVERAGE ON LONGLINE VESSELS

The quality of data in longline fisheries is highly uncertain. While we recognize that 100 per cent observer coverage is unrealistic for the entire longline fleet in the near term, IATTC should develop a plan to significantly increase overall coverage levels.

Given the high impact that large-scale freezer longliners have on target, associated, and dependent species, Pew calls on IATTC to:

- Mandate 100 per cent observer coverage on large-scale freezer vessels by 2014.
- Commit to immediately implementing observer coverage on 5 per cent of other longline vessels, with the intent to increase coverage to at least 20 per cent by 2017, in accordance with the best available scientific advice.⁵

2. ADOPT CONSERVATION MEASURES TO PROTECT SHARKS

Whether the catch of sharks in commercial fisheries is unintended, unwanted, or highly sought-after, the practice, and the resulting impact on ocean ecosystems, requires urgent action. While stock assessments have not been made for the majority of shark species, limited data should not preclude precautionary action by IATTC members. Shark fishing should not occur in the absence of precautionary, science-based management plans.

2.1 PROHIBIT THE RETENTION OF BIOLOGICALLY VULNERABLE SHARK SPECIES, PARTICULARLY SILKY AND HAMMERHEAD SHARKS

Silky sharks (*Carcharhinus falciformis*) are the shark species most commonly caught in purse seines, but they are also caught in longline fisheries. Based on data from the silky shark assessment, their numbers have declined significantly in the IATTC region.⁶ Silky sharks are often mislabeled by fishermen, who refer to them as “punta negra” (blacktip); therefore, actual bycatch may be higher than recorded since some silky sharks are likely being reported as blacktips.⁷ Based on the results of the recent stock assessment, IATTC should take action to significantly reduce mortality of silky sharks.

Hammerhead sharks are targeted for their highly valued fins and are also caught as bycatch. They are one of the top shark species caught in the eastern Pacific Ocean’s purse-seine and longline fisheries. In addition, juvenile and neonate hammerheads are being targeted in coastal fisheries, particularly in gillnets. Catch data are limited, but populations are shown to be declining. According to the International Union for Conservation of Nature (IUCN) Red List of Threatened Species, scalloped (*Sphyrna lewini*) and great (*S. mokarran*) hammerheads are classified as Endangered, and smooth hammerheads (*S. zygaena*) are classified as Vulnerable. Furthermore, hammerheads have some of the lowest recovery potentials in comparison with other shark species, which makes them even more susceptible to extinction. The Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, or CITES, recently recognized the need to protect the scalloped, great, and smooth hammerheads and adopted proposals to include them in CITES Appendix II, which regulates international trade in listed species. Hammerheads require complementary fisheries conservation and management measures.



Scalloped Hammerheads, © Chris and Monique Fallows



Silky shark, © Chris and Monique Fallows

Following the example of the International Commission for the Conservation of Atlantic Tunas, or ICCAT, Pew calls on IATTC to prohibit retaining on board, transshipping, landing, storing, selling, or offering for sale silky sharks and all hammerhead shark species (*Sphyrna spp.*).

2.2 LIMIT THE MORTALITY OF OTHER SHARK SPECIES, INCLUDING BLUE AND SHORTFIN MAKO SHARKS TO SUSTAINABLE LEVELS

There is concern that other shark species, such as blue and shortfin mako, are being caught at unsustainable levels. For example, one recent study showed that standardized catch rates by longline fleets in the North Pacific declined significantly for blue sharks (by 5 per cent a year) and mako sharks (by 7 per cent a year).⁸ It is time for IATTC to put in place precautionary measures to limit mortality of these species.

Numbers of blue and shortfin mako sharks have declined significantly in recent years; thus, Pew calls on IATTC to implement precautionary measures to limit mortality of these species to sustainable levels.

2.3 ESTABLISH BEST PRACTICES FOR REDUCING SHARK FINNING AND BYCATCH

Approximately 100 million sharks are killed in commercial fisheries every year, and many of these have been finned.⁹ While IATTC has taken actions to prevent finning, loopholes still hamper enforcement of the ban. The existing ban on finning can be strengthened by prohibiting the removal of shark fins at sea, which would also facilitate collection of species-specific catch data and help ensure compliance with IATTC conservation and management measures for sharks.

Shark bycatch in IATTC fisheries is detrimental to the continued survival of many shark populations. It is higher on longlines that use wire leaders (also known as steel traces) because sharks are unable to break the wire to escape.¹⁰ Thus, the use of wire leaders creates a de facto targeted but unregulated shark fishery. Prohibiting wire leaders is a clear solution for reducing shark bycatch in longline fisheries. Furthermore, the use of monofilament can actually increase the catch of some target species such as tuna¹¹ and swordfish.¹² In addition, while somewhat rare in IATTC fisheries, the practice of setting purse seines around whale sharks can lead to their deaths. Thus, IATTC should follow the example set by WCPFC and prohibit the intentional setting of purse seines around whale sharks.

As part of the requirements for establishing precautionary management measures, Pew calls on IATTC to establish the following best practices for reducing shark finning and bycatch:

- Require that sharks are landed with their fins naturally attached.
- Ban the use of wire leaders.
- Prohibit the intentional setting of purse seines around whale sharks.

3. IMPROVE COMPLIANCE WITH IATTC MEASURES

Illegal, unreported, and unregulated, or IUU, fishing is a global threat, and the eastern Pacific Ocean is no exception.¹³ Cases of noncompliance with IATTC rules by authorized vessels continue to arise; in addition, 14 vessels remain on IATTC's list of IUU vessels.¹⁴ IATTC's system has a number of loopholes that make it possible for IUU fishing operators to remain undetected. IATTC members should take decisive steps to control fishing operations in the IATTC area of competence and to ensure that flag and port States take effective measures in cases of noncompliance.

3.1 STRENGTHEN PORT STATE MEASURES

Port State measures are globally recognized as a cost-effective tool for combating IUU fishing.¹⁵ In addition to the adoption in 2009 of the UN Agreement on Port State Measures to Prevent, Deter, and Eliminate IUU Fishing (Port State Measures Agreement),¹⁶ a number of regional fisheries management organizations, or RFMOs, have strengthened their measures on port State controls in recent years.¹⁷ The successful implementation in 2012 of PSMs in the Indian Ocean demonstrates their effectiveness at the regional level when coupled with timely information-sharing, regional cooperation, and transparency.¹⁸

While other RFMOs are making progress on port State measures, IATTC does not have a port inspection scheme and does not even require IATTC members to inspect IUU-listed vessels if they are in port.¹⁹ Pew is aware that a number of members may require assistance with training and funding to effectively implement PSMs. However, this should not prevent IATTC from taking the initiative to strengthen its measures. For example, the Indian Ocean Tuna Commission, or IOTC, is undertaking capacity-building efforts to strengthen the implementation of its comprehensive port State control scheme.²⁰ IATTC members should also initiate actions to assist developing country States in implementing new PSMs.



Purse seine vessel in Manta, Ecuador, © The Pew Environment Group

To stop IUU fishing vessels at port, Pew calls on IATTC to:

- Adopt minimum standards for port inspections and inspection reports, and require effective follow-up actions and communications between the flag States and port States involved and the IATTC Secretariat.
- Initiate actions to assist developing country States in conducting port inspections.

3.2 ADOPT IMO NUMBERS FOR FISHING VESSELS

To support the responsible and transparent operation of fishing vessels, and to ensure their compliance with conservation and management measures, as well as with safety and other international legal standards, vessels need to be readily identifiable through a unique vessel number that is verifiable worldwide. Many fishing vessels are not adequately identified by national authorities due to the disparity of identification systems and, in particular, recurrent changes of vessel names and flags, especially of those involved in illegal activities.

There is increasing international support for a global system to identify fishing vessels. International bodies and meetings that have called the IMO number system the best available for easily and quickly identifying fishing vessels include the Kobe Joint Tuna RFMO meetings and their Consolidated List of Authorized Vessels of Tuna RFMOs workshops, the UN Food and Agriculture Organization (FAO) Fisheries and Aquaculture Committee on Fisheries (COFI), and FAO technical consultations.²¹ In addition, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) required in 2011 that all vessels authorized to fish for toothfish in its area of competence have an IMO number.²² Moreover, research published in the journal *Science* in 2010 demonstrates that the lack of IMO numbers on fishing vessels is a prime factor in the failure of port officials to identify and take action against illegal fishing operators.²³

In the face of continued illegal fishing operations, Pew calls on IATTC to undertake the following actions:

- Require as a first step that IATTC records include IMO numbers for vessels that already have such numbers and, to this end, amend IATTC Resolutions C-11-05, C-11-06, and C-12-07 to include a vessel's IMO number as mandatory information.²⁴
- Commit to mandating IMO numbers for all vessels at least 24 meters in length or operating in waters outside the exclusive economic zone of the flag State that is authorized to fish in the IATTC's area of competence. IATTC should also require that IMO numbers be reported in all records and relevant communications involving such vessels.



Yellowfin tuna, © Chris and Monique Fallows

CONCLUSION AND THE GLOBAL CONTEXT

In June 2012, States met in Rio de Janeiro at the UN Conference on Sustainable Development, or Rio+20, and agreed by consensus to the outcome document, “The Future We Want.” This document, which was endorsed by the UN General Assembly, includes several important commitments to better manage international fisheries.

States through the Rio+20 outcome reaffirmed the goal to restore depleted fish stocks and committed to take urgent measures to maintain or restore them to at least levels that can produce maximum sustainable yield. States also committed to:

- Eliminate IUU fishing.
- Implement measures to strengthen monitoring, control, surveillance, and enforcement.
- Implement science-based management.
- Enhance management of bycatch and discards.
- Protect vulnerable ecosystems and increase transparency and accountability of RFMOs.

The recommendations outlined above offer a road map for fulfilling the Rio+20 commitments. IATTC should implement these measures to improve management of their fisheries and deliver on international commitments.

In the Rio+20 outcome document, States agreed to call on all RFMOs to regularly undertake independent performance reviews and make the results publicly available to contribute to transparency and accountability. At last year’s IATTC meeting, an independent performance review was discussed, but no action was taken. To fulfill the Rio+20 commitment and set the standard for global RFMO transparency and accountability, Pew, also calls on the IATTC to follow the lead of the other four tuna RFMOs to commission an independent performance review and to make the results of that review publicly available.

ENDNOTES

- 1 International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean, "Pacific Bluefin Tuna Stock Assessment Summary" (Dec. 19-21, 2012), isc.ac.affrc.go.jp/pdf/Stock_assessment/Final_Assessment_Summary_PBF.pdf.
- 2 In concert with the WCPFC.
- 3 Alexia Morgan, *Fish Aggregating Devices (FADs) and Tuna: Impacts and Management Options* (Washington: The Pew Environment Group, 2011), pewenvironment.org/news-room/reports/fish-aggregating-devices-fads-and-tuna-impacts-and-management-options-85899361033.
- 4 Adam Baske et al., *Estimating the use of drifting Fish Aggregation Devices (FADs) around the globe* (Washington: The Pew Environment Group, 2012), pewenvironment.org/news-room/reports/a-growing-fad-estimating-the-use-of-drifting-fish-aggregating-devices-fads-around-the-globe-85899433314.
- 5 Elizabeth Babcock and Ellen Pikitch, *How Much Observer Coverage Is Enough to Adequately Estimate Bycatch?* (Miami: Pew Institute of Ocean Science, 2003), pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/oceana_bycatch_110403.pdf.
- 6 Aires-da-Silva, Alexandre. Stock status of the silky shark in the eastern Pacific Ocean. Inter-American Tropical Tuna Commission (IATTC). Presentation to the 4th Meeting of the IATTC Scientific Advisory Meeting La Jolla, USA, 29 April – 3 May 2013.
- 7 Marlon Román-Verdesoto and Mauricio Orozco-Zöller, *Bycatches of Sharks in the Tuna Purse-Seine Fishery of the Eastern Pacific Ocean Reported by Observers of the Inter-American Tropical Tuna Commission, 1993-2004* (La Jolla, CA: Inter-American Tropical Tuna Commission, 2005), <http://www.iatcc.org/PDFFiles2/DataReports/Data-Report-11.pdf>.
- 8 Shelley C. Clarke et al., "Population Trends in Pacific Oceanic Sharks and the Utility of Regulations on Shark Finning," *Conservation Biology* 27(1) (2013): 197-209.
- 9 Boris Worm et al., "Global catches, exploitation rates, and rebuilding options for sharks," *Marine Policy* 40 (2013): 194-204.
- 10 Peter Ward et al., "Large-scale experiment shows that nylon leaders reduce shark bycatch and benefit pelagic longline fishers," *Fisheries Research* 90 (2008): 100-8.
- 11 Eric Gilman et al., *Shark Depredation and Unwanted Bycatch in Pelagic Longline Fisheries: Industry Practices and Attitudes, and Shark Avoidance Strategies* (Honolulu: Western Pacific Regional Fishery Management Council, 2007), wpcouncil.org/pelagic/documents/shark-longline_interactions_report.pdf.
- 12 R. Vega and R. Licandeo, "The effect of American and Spanish longline systems on target and non-target species in the eastern South Pacific swordfish fishery," *Fisheries Research* 98 (2009): 22-32.
- 13 The UN General Assembly, or UNGA, has underlined that "IUU fishing constitutes a serious threat to fish stocks and marine habitats and ecosystems, to the detriment of sustainable fisheries as well as the food security and the economies of many States, particularly developing States." UNGA, Resolution A/RES/67/79, "Oceans and the law of the Sea: sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments" (Nov. 21, 2012), un.org/ga/search/view_doc.asp?symbol=A/67/L.22.
- 14 One vessel is flagged to an IATTC member, one to a nonmember, and the rest have unknown flags. See Inter-American Tropical Tuna Commission, "Current IUU Vessel List," iatcc.org/VesselRegister/IUU.aspx?Lang=en.
- 15 See, for example, *Chair's Report of the Third Joint Meeting of the Tuna Regional Fisheries Management Organizations (Kobe III)*, tuna-org.org/Documents/TRFMO3/REP-KOBE3-ENG.pdf.
- 16 See Fisheries and Aquaculture Department, "Port State Measures Agreement," fao.org/fishery/topic/166283/en and the text of the agreement at fao.org/fileadmin/user_upload/legal/docs/1_037t-e.pdf.
- 17 In 2010, the IOTC adopted Resolution 10/11 on port State measures to prevent, deter, and eliminate IUU fishing (iotc.org/files/CMM/Resolution%2010-11.pdf). In 2011, the South East Atlantic Ocean Fisheries Organization, or SEAFO, adopted Conservation Measure 2/11 on port State control. In 2012, the measure was repealed and its content integrated in Chapter VI of SEAFO's new system of observation, inspection, compliance, and enforcement (seafo.org/ConservationMeasures/2013%20CM/SEAFO_SYSTEM_2013.pdf). Also in 2012, CCAMLR adopted Conservation Measure 10-03 on port inspections of fishing vessels carrying Antarctic marine living resources (ccamlr.org/sites/drupal.ccamlr.org/files//10-03_2.pdf), and ICCAT adopted Recommendation 12-07, a scheme for minimum standards for inspection in port (not yet published).
- 18 After identification of suspicious activities of the South Korean vessel Premier in February 2012 in Liberia, the vessel was identified in the Indian Ocean, where it was inspected, and forged Liberian documents were found on board. This triggered activities within a regional network of South East Africa countries, or FISH-i. Due to the ongoing IUU case in Liberia, several FISH-i countries in the western Indian Ocean denied fishing licenses to the vessel, and finally the Premier was denied permission to offload its catch in the Seychelles port of Victoria. The denial of use of Victoria for landing or transshipment was implemented pursuant to the Indian Ocean Tuna Commission's Port State Measures Resolution 10/11, Article 9.1 e). See pewenvironment.org/news-room/other-resources/a-successful-illegal-fishing-crackdown-85899465019 and stopillegalfishing.com/sifnews_article.php?ID=106.
- 19 Pew Environment Group, *Closing the gap: Comparing IATTC's port State measures with the FAO Agreement on Port State Measures* (Washington: The Pew Charitable Trusts, June 20, 2011), pewenvironment.org/uploadedFiles/PEG/Publications/Fact_Sheet/IATTC%20GAP%20Analysis%20June%20FINAL%20%283%29.pdf.

- 20 As part of the European Union-funded ACP II Fish Programme, capacity needs assessments were undertaken for five countries, applying a methodology developed jointly by Pew and the Stop Illegal Fishing initiative, and training was conducted on legal and administrative mechanisms to assist the countries with implementation of the resolution. In addition, the IOTC Secretariat provided technical support to train inspectors in two countries. For more information, see The Pew Environment Group, *A Methodology for Capacity Needs Assessments Towards Implementation of the Port State Measures Agreement* (Washington: The Pew Charitable Trusts, July 7, 2011), pewenvironment.org/news-room/reports/a-methodology-for-capacity-needs-assessments-towards-implementation-of-the-port-state-measures-agreement-8589942331 and IOTC, *Summary Report on the Level of Compliance*, [iotc.org/files/proceedings/2012/coc/IOTC-2012-CoC09-03%20Rev_2\[E\].pdf](http://iotc.org/files/proceedings/2012/coc/IOTC-2012-CoC09-03%20Rev_2[E].pdf).
- 21 See Report of the Joint Meeting of Tuna RFMOs (2007), p. 2 and Appendix 14, and Reports of the first and second Workshops on Exchange of Information and Maintenance of the Consolidated List of Authorized Vessels of Tuna Regional Fisheries Management Organizations, T-RFMO CLAV Technical Report No. 1, 2011, p. 8 and T-RFMO CLAV Technical Report No. 2, 2012, tuna-org.org/Documents/other/TRFMO_CLAV_2011.pdf and tuna-org.org/Documents/other/TRFMO_CLAV_2012.pdf.
- 22 See CCAMLR Conservation Measure 10-02 (2011) on licensing and inspection obligations of Contracting Parties with regard to their flag vessels operating in the Convention Area. ccamlr.org/sites/drupal.ccamlr.org/files//10-02.pdf.
- 23 Stefan Flothmann, et al. "Closing Loopholes: Getting Illegal Fishing Under Control," *Science* 328 (2010): 1235-36.
- 24 Suggested amendments would be to add "IMO number (if any)" in para. 2.a) of Resolution C-11-05 on the Establishment of a List of Longline Fishing Vessels over 24 Meters (LSTLFVs) Authorized to Operate in the Eastern Pacific Ocean; para. 2.a) of Resolution C-11-06 on a Regional Vessel Register; and para.7 of Resolution C-12-07, Amendment to Resolution C-11-09 on Establishing a Program for Transshipments by Large-Scale Fishing Vessels.

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