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WHALES, WHALING, AND THE WARMING OCEANS

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Abstract: In its first campaign of ocean diplomacy for the twenty-first century, the United States is trying to save the international whaling regime from breaking apart over the issue of commercial whaling. On the assumption that a reformed whaling regime could address the challenges whales face due to global warming, negotiators have come closer to a compromise than any previous attempt. But any effort to maintain a role for the International Whaling Commission (IWC) must not undermine the application by other regimes of new international norms, which include protecting the integrity and resilience of marine ecosystems. A compromise that does not repudiate the "whales-eat-our-fish" notion underlying the IWC's current view of the ecosystem approach will hinder progress in other ocean governance institutions whose need for reform greatly surpasses that of the IWC.

Introduction

The great whales have long been a symbol of humanity's relationship to the oceans. In the nineteenth century, whales were the object of the first industrial fishery, and were hunted nearly to extinction.[1] After World War II, two decades of unrestrained factory-ship whaling in the Antarctic decimated the few populations the Yankee whaling ships had been unable to reach. The whales' survival then became a symbol of the early environmental movement of the late twentieth century. The slogan "save the whales" was a call to arms to save the planet from humanity's folly. Now, in the twenty-first century, whales are sentinels for the large-scale changes that global warming and ocean industrialization are bringing to the seas.[2] They have also become a symbol of human-

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[1] *See generally* Andrew Darby, Harpoon into the Heart of Whaling (2008).

[2] Thomas J. O'Shea & Daniel K. Odell, *Large-Scale Marine Ecosystem Change and the Conservation of Marine Mammals*, 89 J. Mammalogy 529, 529–31 (2008).

kind's inability to find common ground and cooperate to protect the global environment.[3]

When nations agreed to a worldwide moratorium on the hunting of whales in the early 1980s, they fulfilled a central goal of the 1972 U.N. Conference on the Environment in Stockholm.[4] But the conservation movement behind the moratorium was never able to resolve a basic question: should whaling be banned permanently or, if and when whale populations recover, should they again be hunted for "sustainable use"? As the climate crisis brings unprecedented changes to species, ecosystems, and the access of different peoples to the Earth's resources, this unresolved question overshadows and undermines institutions we have with which to address these changes.

In its first major undertaking in ocean diplomacy of the twenty-first century, the United States began a campaign to save one of the oldest elements of the public order of the oceans, the international regime for the regulation of whaling. The deliberations of the International Whaling Commission (IWC), the management body created by treaty in 1946, have deteriorated into an annual confrontation between the proponents of conflicting values: biodiversity preservation versus consumptive use of marine wildlife. The whaling regime has been verging on dissolution over the issue of commercial whaling for almost two decades. While this existential struggle has been waged, some state parties to the regime have sought quietly to turn its attention to the challenges cetaceans face from climate change, to position the IWC to engage with other international regimes to ensure whales survive the coming changes.[5]

U.S. whaling diplomacy appears to assume that the international regime for whale conservation is worth saving: an accommodation that removes the commercial whaling issue from the IWC's agenda will free

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[3] *See* Cinnamon P. Carlarne, *Saving the Whales in the New Millenium: International Institutions, Recent Developments and the Future of International Whaling Policies*, 24 Va. Envtl. L.J. 1, 48 (2005); *see also* 60th Annual Meeting of the Int'l Whaling Commission [IWC], Santiago, Chile, June 23–27, 2008, *The Future of the International Whaling Commission: Strengthening Ocean Diplomacy*, at 5, Doc. IWC/60/12rev (May 2008) (*prepared by* Calestous Juma, Special Advisor to the IWC) [hereinafter IWC 60th Annual Meeting], *available at* http://www.iwcoffice.org/_documents/commission/IWC60docs/60-12rev.pdf.

[4] Carlarne, *supra* note 3, at 7.

[5] *See* William C.G. Burns, *From the Harpoon to the Heat: Climate Change and the International Whaling Commission in the 21st Century*, 13 Geo. Int'l Envtl. L. Rev. 335, 347–51 (2001). The whaling treaty is formally known as the International Convention for the Regulation of Whaling (ICRW). ICRW, Dec. 2, 1946, 62 Stat. 1716, 161 U.N.T.S. 72 (amended 2008). The ICRW is implemented in U.S. law by the Whaling Convention Act of 1949, 16 U.S.C. §§ 916–916l (2006).

that body to address the numerous environmental challenges that cetaceans face today, from climate change and marine pollution to collisions with vessels and fishing gear.[6] In this optimistic view, the IWC could become the keystone species in the "ecosystem" of international ocean institutions.[7] However, the norms that underlie ocean governance in the twenty-first century have been forged in an era of resource scarcity, declining ocean health, and recognition of the interdependence of governance institutions across temporal and spatial scales. Collectively referred to as the precautionary and ecosystem approaches, these principles and norms are almost diametrically opposed to those that underlie the 1946 International Convention on the Regulation of Whaling (ICRW), the IWC's constitutive document.[8]

For the last decade, one contracting government to the IWC—Japan—has presented legal and scientific arguments for lifting the moratorium on commercial whaling. Stressing the need for adherence to international law, this State relies upon the text of the ICRW to reinforce its view that ecosystem-based management of oceans prioritizes human needs.[9] As long as the ICRW remains in force, Japan is likely to continue to rely upon that treaty's approval of consumptive use of whales to support its view that whaling must be allowed as "sustainable

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[6] In 2007, a coalition of non-governmental organizations (NGOs) mounted a campaign to convince President George W. Bush to direct his administration to do everything it could to continue the global moratorium on the hunting of whales. By the time the campaign was launched, however, the chief U.S. official responsible for international whaling policy had already begun a campaign to broker a compromise to preserve the IWC and to keep the pro-whaling countries from abrogating the International Convention for the Regulation of Whaling. The NGO coalition feared that U.S. delegates were so intent on reaching a compromise with pro-whaling nations that they may be tempted to agree to a new type of whaling, that of "small type coastal whaling" by vessels in Japan and Norway. *See International Whaling Commission: Hearing Before the Subcomm. on Fisheries, Wildlife and Oceans of the H. Comm. on Natural Resources*, 110th Congress (2008) (statement of Patrick R. Ramage, Global Whale Program Director, International Fund for Animal Welfare). U.S. diplomats believe the global whaling regime, based upon the ICRW, although dysfunctional for the past two decades, should be preserved, and that over time the treaty can be amended or finessed to allow the IWC to contribute to the conservation and management of cetaceans and other marine mammals. *See International Whaling Commission: Hearing Before the Subcomm. on Fisheries, Wildlife and Oceans of the H. Comm. on Natural Resources*, 110th Congress (2008) [hereinafter *Hogarth Statement*] (statement of William T. Hogarth, U.S. Comm'r, International Whaling Commission).

[7] IWC 60th Annual Meeting, *supra* note 3, at 6 (explaining that uncertainties about the state of marine ecosystems represent an opportunity to position the IWC as a "flagship organization in ocean diplomacy and science-based conservation and management").

[8] *See generally* Duncan Currie, *Whales, Sustainability and International Environmental Governance*, 16 Rev. Eur. Community & Int'l Envtl. L. 45 (2007).

[9] *See* Joji Morishita, *Multiple Analysis of the Whaling Issue: Understanding the Dispute by a Matrix*, 30 Marine Pol'y 802, 804–05 (2006).

use."[10] But as long as a majority of other parties to the treaty reject this view, Japan is likely to continue to misuse the treaty's special permit provisions to support a growing consumptive take of whales and to characterize that unilateral "harvest" as science- and ecosystem-based management.[11] It is not clear that a diplomatic agreement to put aside debates over commercial or "scientific" whaling—or anything short of international adjudication—will be sufficient to prevent these legal and scientific claims from detracting from the ability of other ocean regimes to apply a truly precautionary and ecosystem approach to governance.

Over the course of the last two decades, during which the collapse of the international whaling regime has been imminent, our understanding of marine ecosystems and how human activities affect them has advanced. Ocean governance institutions have been slow to incorporate this knowledge, choosing instead to focus on maximizing the extraction of marine wildlife for human consumption and appropriating ocean space and minerals for human use.[12] The need for reform of these institutions greatly surpasses the need for reform of the whaling regime, especially in light of climate change and its impacts on ecosystems. Any effort to maintain a role for the IWC in ocean governance must be part of the overall transformation of ocean institutions to precaution- and ecosystem-based management that emphasizes resource protection over exploitation. Otherwise, such effort risks being judged as the diplomatic equivalent of fiddling while Rome is burning.[13]

This Article begins with a brief review of the long-range challenges facing whales in light of ocean warming and what whales require from international governance. It then considers the recent efforts to reform the IWC and the premise that it could, if the moratorium stalemate

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[10] *Id.* at 804.

[11] *See generally* Phillip J. Clapham et al., *The Whaling Issue: Conservation, Confusion, and Casuistry*, 31 Marine Pol'y 314 (2007).

[12] *See, e.g.*, Carl Safina & Dane H. Klinger, *Collapse of Bluefin Tuna in the Western Atlantic*, 22 Conservation Biology 243, 243–44 (2008). The collapse of the bluefin tuna is only one of many examples of management failure, where scientific advice is ignored due to industrial lobbying, inability of parties to agree on common goals for shared resources, and interference with management by elected officials on behalf of their industrial constituencies. *See id.* at 245.

[13] The whaling industry was the first industrial fishery in the world, and its history should inform all policies on what the role of industrial fisheries should be in the new realities of altered marine ecosystems, global warming, and decreasing food and health security of coastal communities affected by global warming. If whaling were still being carried out by several nations, the IWC would be the most notoriously ineffective regional fishery management body. Instead, in view of the moratorium and the impending collapse of the Atlantic bluefin tuna, that honor would likely be bestowed upon the International Commission for the Conservation of Atlantic Tunas. *See id.* at 243.

were resolved, contribute to the protection of marine ecosystems that whales depend on as they face the unprecedented challenge of global climate change. A particularly troubling aspect of the current reform discussions is the assertion that "normalization" of the regime is in fact consistent with an ecosystem approach, the emerging norm of international environmental governance. This rationale happens to coincide with the latest rationale the pro-whaling nations give for restarting commercial whaling, that culling top predators is needed in order to secure human food supplies. A brief look at the management regime for the burgeoning Antarctic krill fishery tests the premise that the IWC can function as an advocate for the whales to ensure other ocean regimes protect their ecosystems on a precautionary basis.

I. Long-Term Threats to Cetaceans

A 2008 study published in the journal *Science* reveals the magnitude of the human footprint on the oceans.[14] Few, if any, areas of the oceans are free from human impacts.[15] These impacts reduce the amount of habitat suitable for whales to live in, challenging their ability to recover from the factory-whaling era. For example, shipping noise in the ocean increases exponentially with each decade, degrading the underwater acoustic environment whales depend on for communicating and locating prey.[16] Noise pollution may force whales out of the habitat where they are most likely to find prey, even as those prey fields are changing in response to ocean warming, further reducing the likelihood of population recovery.[17]

Ship strikes, entanglement in fishing gear, and ecological interactions with fisheries pose additional challenges to whales. The number of cetaceans that die or are weakened by these forms of habitat degradation vastly outnumber the number of whales deliberately killed by whaling.[18] The North Atlantic right whale (*Eubalaena glacialis*), for ex-

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[14] Benjamin S. Halpern et al., *A Global Map of Human Impact on Marine Ecosystems*, 319 Science 948, 949 (2008) (noting that forty-one percent of the world's oceans are affected by multiple anthropogenic drivers of ecological change).

[15] *See id.* at 950 fig.2.

[16] *See* O'Shea & Odell, *supra* note 2, at 531.

[17] *See* Peter L. Tyack, *Implications for Marine Mammals of Large-Scale Changes in the Marine Acoustic Environment*, 89 J. Mammalogy 549, 554–55 (2008). Tyack estimates that certain noises, like military and commercial sonar and seismic exploration, are especially damaging and could have a population-level effect equivalent to an increase in predation, that is, to a commercial whaling quota. *See id.* at 555.

[18] *See, e.g.*, Mike Iliff, *Normalization of the International Whaling Commission*, 32 Marine Pol'y 333, 335 (2008) (explaining that pollution, anthropogenic undersea noise, bycatch,

ample, occupies a greatly contracted range along the eastern seaboard of North America, and its population numbers in the few hundreds.[19] Right whales use their baleen to strain large quantities of the copepod *Calanus finmarchicus* from the water.[20] Mother whales and their calves migrate along the coast from the calving grounds off Georgia and Florida to find the dense swarms near Cape Cod and the Bay of Fundy in the spring and summer.[21] These migrations, however, take them through some of the world's busiest shipping lanes and densest fields of stationary fishing gear, including millions of lobster traps and their associated lines and buoys.[22] At least eighteen right whales from a population of about 350 have been lost to the slow death from gear-entanglement injuries since 1986.[23] Since 1970, another twenty-four right whales have been killed by ship strikes.[24] As shipping intensifies with global trade, the percentage of unnatural mortality of great whales that is due to shipping is likely to grow.[25]

The human race's competition with whales for ocean space may soon be joined by its competition with whales for prey. Although there is currently no commercial fishery for *Calanus finmarchicus*, Norwegian

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and ship strikes are "known to kill many times the number of whales killed annually by whaling activities"). The member states of the IWC have acknowledged that the great whales face a host of significant environmental challenges. Mortality from these sources far exceeds that of all whaling, including the commercial whaling carried out under objections to the moratorium, aboriginal subsistence whaling, and the special permit whaling under Article VII whaling ("scientific whaling"). *See id.* (noting that the total annual harvest under all forms of whaling is about 3000, including aboriginal subsistence whaling (300), Japan's Article VII whaling (2000), Norway's EEZ commercial whaling under objection (650), and Iceland's EEZ commercial whaling (100)).

[19] Robert D. Kenney, *North Atlantic, North Pacific, and Southern Right Whales*, *in* Encyclopedia of Marine Mammals 806, 808 (William F. Perrin et al. eds., 2002).

[20] Mark F. Baumgartner et al., *Enormous Carnivores, Microscopic Food, and a Restaurant That's Hard to Find*, *in* The Urban Whale: North Atlantic Right Whales at the Crossroads 138, 143 (Scott D. Kraus & Rosalind M. Rolland eds., 2007).

[21] *See id.* at 155.

[22] *See generally* Amanda J. Johnson et al., *The Entangled Lives of Right Whales and Fishermen: Can They Coexist?*, *in* The Urban Whale, *supra* note 20, at 380.

[23] Andrew J. Read, *The Looming Crisis: Interactions Between Marine Mammals and Fisheries*, 89 J. Mammalogy 541, 543 (2008). It may take as long as several months for a large whale to die from entanglement injuries and starvation, raising animal welfare issues as well as the risk of extinction. *Id.* (citing Michael J. Moore et al., *Right Whale Mortality: A Message from the Dead to the Living*, *in* The Urban Whale, *supra* note 20, at 358, 368).

[24] Amy R. Knowlton & Moira W. Brown, *Running the Gauntlet: Right Whales and Ship Strikes*, *in* The Urban Whale, *supra* note 20, at 410, 410.

[25] *See id.* at 412–13. An examination of anecdotal records from the 1970s through the 1990s indicates that between thirteen and twenty percent of all large whale strandings (where carcasses wash ashore) in the United States, Italy, France, and South America were due to ship strikes. *Id.*

companies are developing a *Calanus* fishery in the Barents Sea to produce fish meal for salmon farms.[26] Given the common pattern of boom-and-bust fishing from one species to another down the marine food web,[27] and the growing demand for sea-farmed salmon, it is not inconceivable that a similar fishery could develop in the Gulf of Maine. Furthermore, a *Calanus* fishery in the Eastern North Atlantic could affect the current-driven supply of copepods to U.S. waters.[28] On the other side of the world, the fishery for Antarctic krill (*Euphausia superba*), the most important prey species in the Southern Ocean ecosystem, is on the verge of a major expansion, just as krill populations are decreasing, likely in response to climate change.[29]

The greatest long-term threat to the North Atlantic right whale and all cetaceans, however, is the synergistic effect of climate change with these sources of habitat alteration. Warming oceans will alter the conditions that make life in the oceans possible for whales, through acidification, changing oceanographic conditions, reduction in habitat for prey species, and changes to processes upon which marine ecosystems depend.[30] Migratory species like whales may be required to travel greater distances to find areas where large quantities of their prey species aggregate.[31] Greater travel distances will affect the energetics of whales and could affect mating and reproductive success.[32]

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[26] *See* Rachel G. Tiller, *The Norwegian System and the Distribution of Claims to Redfeed*, 32 Marine Pol'y 928, 928 (2008) (noting Norway's heavy investment in research on a potential *Calanus* fishery in the waters surrounding Norway as a replacement for dwindling populations of fish species used for fishmeal and fish oil). In March 2006, the Norwegian government put a moratorium on plankton harvesting in order to research the ecological effects of a fishery before it commences. Rachel G. Tiller, New Resources and Old Regimes: Will the Harvest of Zooplankton Bring Critical Changes to the Svalbard Fisheries Protection Zone? 7 (Mar. 26–30, 2008) (unpublished paper presented at International Studies Assoc. 49th Annual Meeting, San Francisco, CA), *available at* http://www.allacademic.com/meta/p252114_index.html. At least one commercial enterprise already exists and is marketing nutritional supplements made from *Calanus*. *See* Calanus AS, About Us, http://www.calanus.no/About.aspx (last visited Mar. 31, 2009).

[27] *See* Daniel Pauly et al., *Fishing Down Marine Food Webs*, 279 Science 860, 863 (1998).

[28] *See* Robert D. Kenney, *Right Whales and Climate Change: Facing the Prospect of a Greenhouse Future*, *in* The Urban Whale, *supra* note 20, at 436, 448.

[29] *See* Virginia Gascon & Rodolfo Werner, *CCAMLR and Antarctic Krill: Ecosystem Management Around the Great White Continent*, 7 Sustainable Dev. L. & Pol'y 14, 16 (2006); Angus Atkinson et al., Letter to the Editor, *Long-term Decline in Krill Stock and Increase in Salps Within the Southern Ocean*, 432 Nature 100, 102–03 (2004).

[30] *See generally* Burns, *supra* note 5.

[31] 60th Annual Scientific Committee Meeting of the IWC, Santiago, Chile, June 1–13, 2008, *Assessing the Impacts of Future 2°C Global Warming on Southern Ocean Cetaceans*, at 15, IWC Doc. SC/60/E3 (May 30, 2008) (*prepared by* Cynthia Tynan & Joellen Russell) [hereinafter IWC Scientific Committee Meeting], *available at* http://assets.panda.org/downloads/wwf_

Acidification may make some species less abundant, especially the invertebrates that whales and other marine life consume. Like the reef-building corals—corals that use carbonate to build their colonies—these prey species may find fewer carbonate ions with which to build their shells as the oceans absorb more and more carbon dioxide from the atmosphere and ocean pH decreases.[33] This reduced availability of carbonate will be especially pronounced in the cold Arctic and Antarctic waters where many cetaceans live.[34] Beaked and sperm whales may find fewer squids as those species decline in acidified oceans.[35]

Climate change is especially challenging for whale species that are already at greatly reduced population levels.[36] *Calanus*, the right

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russell30may08_tynan.doc. For example, the frontal zones in the Antarctic where krill are abundant are likely to move as the sea-ice coverage declines with warming seas. *Id.* This will affect all baleen whale species in the Antarctic including humpback, blue, fin and minke whales. *Id.*

[32] *See generally id.* Despite the increasing certainty that surrounds the latest predictions of climate change, it is difficult to assess the global impacts of climate change on cetaceans. The scientific evidence indicates that climate change is likely to decrease or restrict the preferred habitat of all cetacean species listed as threatened on the IUCN Red List for which projections can be made. Because the polar regions are changing most rapidly, it is here that whales may experience the greatest impacts. For example, in the Southern Ocean, under a scenario of a two degree Celsius warming, sea ice could be decreased by ten to fifteen percent with regional losses of up to thirty percent. *See id.* at 7–8. The loss of sea ice will affect the extent and distribution of habitat of species like the Antarctic minke whale. With this level of ice loss, the remaining populations could be crowded into the remaining suitable sea-ice habitat, competing with other marine wildlife for food and space leading to further reductions in the availability of prey and in the size of these wildlife populations. Loss of the sea ice would also reduce the availability of Antarctic krill, *Euphasia superba*, the principal prey species for whales in the Southern Ocean. Loss of sea ice adversely affects krill in two ways: it can reduce the amount of its preferred habitat and the availability of its preferred food. Atkinson et al., *supra* note 29, at 102. A loss of up to twenty-five percent will increase by a corresponding amount the area of open ocean and of phytoplankton blooms, and greater blooms may lead to changes in the ecology of phytoplankton, reducing the amount of the large diatoms that krill like to eat and increasing the species (cryptophyes) that they do not. *See* IWC Scientific Committee Meeting, *supra* note 31, at 14.

[33] *See* The Royal Society, *Ocean Acidification Due to Increasing Atmospheric Carbon Dioxide*, Policy Doc. 12/05, 20 (June 2005) (prepared by John Raven et al.), *available at* http://royalsociety.org/displaypagedoc.asp?id=13539; *see also* Wendy Elliott, WWF Int'l, Whales in Hot Water? The Impact of a Changing Climate on Whales, Dolphins and Porpoises: A Call for Action 10 (Mark Simmonds, ed., 2007), *available at* http://assets.panda.org/downloads/climatechange16ppfinallo.pdf.

[34] *See* Elliott, *supra* note 33, at 10.

[35] *Id.* at 10.

[36] *See generally* Charles H. Greene & Andrew J. Pershing, *Climate and the Conservation Biology of North Atlantic Right Whales: The Right Whale at the Wrong Time?*, 2 Frontiers in Ecology & Env't 29 (2004). Again, the plight of the North Atlantic right whale illustrates the synergistic impacts of the transitory environmental change and climate change. Deaths

whale's prey, is swept into the Gulf of Maine from sub-polar regions because of the particular interplay of atmospheric and hydrologic conditions of the North Atlantic.[37] If these conditions change as is predicted with ocean warming and the melting of polar ice, the abundance and distribution of this zooplankton is likely to change as well. Scientists predict that *Calanus* will survive global warming.[38] But the ability of right whales, with such low population numbers, to find *Calanus* in concentrations adequate to support reproduction is in serious doubt.[39] Similarly, the blue whale (*Balaenoptera musculus*), reduced from a population of roughly half a million in 1900 to less than 5000 today, may not be able to survive a reduction in Antarctic krill.[40]

The ability of cetaceans to adapt to warming-induced changes in the ocean may depend on whether we can improve the quality of their environments and thus enhance their resilience. This requires that we use our governance institutions to reduce human-caused mortality from pollution, ship strikes, fishing-gear entanglement, and ocean noise, and the reduced health of individuals and populations that these conditions can lead to.[41] Global, regional, and national institutions that govern fisheries must take seriously the emerging norms requiring precaution and an ecosystem approach. Merely paying them lip service through non-binding resolutions and action plans will not be enough.[42] Unfortunately, while many cetacean species face increasing urbanization of the coastal and offshore waters they utilize for migration and calving, the willingness of shipping, fishing and other marine industries, and the military to alter their practices to reduce these threats is

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from ship strikes and entanglement in fishing gear exceed the population growth rate and increase the likelihood of the species' extinction. *See id.* at 30. If mortality from these sources stays at current levels or increases, mother whales will not be able to explore and find the new places and timing of blooms of their zooplankton prey and pass on the knowledge of new feeding areas to their young. *See id.* at 30–31.

[37] *Id.* at 31 fig.2.

[38] Jim Provan et al., *High Dispersal Potential Has Maintained Long-Term Population Stability in the North Atlantic Copepod* Calanus Finmarchicus, 276 Proc. Royal Soc'y B: Biological Sci. 301, 305–06 (2009) (indicating *Calanus* has enough genetic diversity to be able to adapt).

[39] Eliminating mortality from these immediate anthropogenic threats will increase the number of mother-and-calf pairs that may stray into areas where they will encounter the new locations of *Calanus* and learn how to find them again. *See* Kenney, *supra* note 28, at 453.

[40] Elliott, *supra* note 33, at 10.

[41] *See id.* at 5.

[42] *See* Currie, *supra* note 8, at 50.

not keeping pace, and institutions are not changing fast enough to require them to do so.[43]

This institutional failure is particularly apparent with respect to marine fisheries. While the oceans are being urbanized by a host of other industries,[44] fishing fleets have functioned as "roving bandits," responding to global markets and seafood demand with sequential depletion of virtually all marine resources, starting with the large predatory fish and moving down through the marine food web to successively lower trophic levels.[45] Because many nations and international management bodies have not managed industrial fisheries effectively, fish populations around the world have been depleted.[46] Collectively, we have removed both large quantities of fish and entire trophic levels.[47]

The great whales were the first species to fall victim to the "roving bandits" phenomenon, and the IWC was the first ineffective fishery management body.[48] Member states used the IWC as a whalers' club

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[43] *See, e.g.*, Robbie Brown, *U.S. Requires Ships to Cut Speed in Waters Used by Right Whales*, N.Y. Times, Oct. 10, 2008, at A19. The final regulations setting speed limits on merchant shipping to and from U.S. ports when right whales are present, first proposed in 2006, were published in late 2008. Final Rule to Implement Speed Restrictions to Reduce the Threat of Ship Collisions with North Atlantic Right Whales, 73 Fed. Reg. 60,173 (Oct. 10, 2008) (to be codified at 50 C.F.R. pt. 224). The U.S. Navy's opposition to court-imposed restrictions on the use of sonar in military exercises to prevent damage to whales was vindicated by the U.S. Supreme Court. *See* Winter v. Natural Res. Def. Council, Inc., 129 S. Ct. 365, 381 (2008) (invalidating lower court injunction imposing mitigation measures on Navy sonar exercises to protect whales for giving inadequate weight to military readiness needs).

[44] *See, e.g.*, Rachael E. Salcido, *Offshore Federalism and Ocean Industrialization*, 82 Tul. L. Rev. 1355, 1356 (2008).

[45] F. Berkes et al., *Globalization, Roving Bandits, and Marine Resources*, 311 Science 1557, 1557–58 (2006).

[46] Food & Agriculture Org. of the U.N., The State of World Fisheries and Aquaculture 2006, at 29 (2006) *available at* ftp://ftp.fao.org/docrep/fao/009/a0699e/a0699e.pdf. The United Nations' Food and Agriculture Organization (FAO) estimates that in 2005, twenty-five percent of the world's marine fisheries (the ones that rely on capturing wild stocks) were overexploited, depleted, or recovering from depletion; fifty-two percent were fully exploited; twenty percent were moderately exploited; and three percent were underexploited. *Id.*

[47] *See* Ransom A. Myers & Boris Worm, *Rapid Worldwide Depletion of Predatory Fish Communities*, 423 Nature 280, 282 (2003) (noting that in a fifteen-year period following World War II, industrialized fisheries removed eighty percent of large predatory fish communities across a wide range of ecosystems). Many marine ecosystems have experienced a decline in the average trophic level of fish catches over the past fifty years, a sign that "fishing down marine food webs" is occurring. Pauly et al., *supra* note 27, at 860.

[48] The history of the IWC's management of the whaling industry has been recounted and analyzed from various perspectives. *See, e.g.*, 1 Patricia Birnie, International Regulation of Whaling: From Conservation of Whaling to Conservation of Whales and Regulation of Whale-Watching 1–12 (1985); Phillip J. Clapham & C. Scott Baker,

rather than a mechanism to constrain their factory whaling fleets and protect whale populations as called for in the whaling treaty. Acting together through the IWC, these fishing states set a precedent for international neglect in managing industrial fisheries that continues to this day at virtually all international fisheries bodies, a pattern of disregarding scientific evidence that catch rates are unsustainable and affording the industrial fishing sector a degree of political access and success disproportionate to its economic and social value.[49]

Even if commercial whaling does not recommence, whales will continue to be affected by roving-bandit fishing fleets through their serial depletion of marine wildlife and the resulting ecological impacts of fishing that are making ecosystems less resilient in the face of ocean warming.[50] To protect whales and other marine life from this fate, ocean governance institutions must begin to focus on the impact of ocean warming on whales' habitat and prey, to ratchet down fishing pressure on ecosystems, and to prevent new fisheries from developing that will compound the ecological challenges.

New fisheries for prey species that are critical to the functioning of marine food webs and ecosystems should be subject to the most precautionary and ecosystem-based approach. Krill and copepod harvesting, for example, are already increasing with the development of new technologies and new products.[51] These methods allow for the continuous extraction and near-simultaneous processing by very large fishing trawlers built by companies that manufacture feeds for salmon and other finfish aquaculture, and products for the burgeoning consumer health products market.[52] As these new industries grow, the demands

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Modern Whaling, *in* ENCYCLOPEDIA OF MARINE MAMMALS, *supra* note 19, at 1328, 1328–32; Michael Heazle, *Scientific Uncertainty and the International Whaling Commission: An Alternative Perspective on the Use of Science in Policy Making*, 28 MARINE POL'Y 361, 361–74 (2004); *see also* Carlarne, *supra* note 3, at 7 (noting that the IWC has undergone a normative transition from a "whaling club" to an agent of conservation).

[49] *See, e.g.*, Safina & Klinger, *supra* note 12, at 245; Carl Safina, *Bluefin Tuna in the West Atlantic: Negligent Management and the Making of an Endangered Species*, 7 CONSERVATION BIOLOGY 229, 233 (1993).

[50] *See generally* U.N. ENV'T PROGRAMME, IN DEAD WATER: MERGING OF CLIMATE CHANGE WITH POLLUTION, OVER-HARVEST, AND INFESTATIONS IN THE WORLD'S FISHING GROUNDS (Christian Nellemann et al. eds., 2008), *available at* http://www.unep.org/pdf/InDeadWater_LR.pdf. (discussing the cumulative effects of human activities on the oceans).

[51] *See* Stephen Nicol & Jacqueline Foster, *Recent Trends in the Fishery for Antarctic Krill*, 16 AQUATIC LIVING RES. 42, 42–43 (2003).

[52] *See* Gascon & Werner, *supra* note 29, at 16; *see also infra* text accompanying notes 122–29. Aker BioMarine, the company operating the new vessel technology in Atlantic sector of the Southern Ocean has applied for eco-labeling certification from the Marine Stewardship Council. Press Release, Marine Stewardship Council (MSC), Antarctic Krill

placed upon the oceans will grow even greater, just as whales need to adapt to the reduced abundance and changing spatial distribution brought about by ocean warming.[53] Fisheries for species that are prey for whales and other marine predators—for example, seabirds, sharks, and polar bears—are especially in need of a new norm for management, one based on estimates of the health of the entire ecosystem and not just the size of the exploitable biomass of the prey species.

II. New Ocean Governance Norms and the International Whaling Regime

Given the realities of a warming ocean and its projected ecological impacts, how likely are ocean governance bodies to break with past practice and begin to apply precaution- and ecosystem-based approaches to their mandates? More specifically, would resolution of the commercial whaling stalemate free the International Whaling Commission (IWC) to promote ecosystem-based management of fisheries and other ocean industries to improve the prospects for cetaceans? To consider this question we must take a closer look at the ecological arguments that have been made in the context of the whaling stalemate, including the rationale that pro-whaling member states give for seeking a resumption of whaling.[54] This shows, unfortunately, that the IWC's current characterization of the "ecosystem approach" is widely divergent from the emerging norm in international environmental law. It is therefore difficult to envision the IWC regime as an effective ambassador for cetaceans and their ecological requirements in other international governance bodies, especially those involving fisheries. In management decisions for the growing Antarctic krill fishery, for example, if the IWC's contribution reflects the whaling regime's view of the ecosystem approach, this will lay a very poor foundation for governing fisheries and other activities in the Southern Ocean.

A. *The Law of the Sea and the Emerging Norms of Precaution and Ecosystem-Based Management*

The Law of the Sea Convention created a new framework for ocean governance that sought to balance the interests of coastal states

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Fishery Enters Marine Stewardship Council Full Assessment (Oct. 10, 2008) [hereinafter MSC Press Release], *available at* http://www.msc.org/newsroom/press_releases/archive-2008/antarctic-krill-fishery-enters-marine-stewardship.

[53] *See supra* text accompanying notes 29–32.

[54] *See* discussion *infra* notes 93–96.

with broader community interests in the utilization of ocean space and resources.[55] Although it was negotiated before there was widespread recognition of climate change and the need for a precautionary, ecosystem approach, instruments negotiated since the Convention's entry into force adapt the Convention's framework principles to the current realities. The United Nations Fish Stocks Agreement of 1995, for example, acknowledges the limitations of the Convention's "optimum use" paradigm for living marine resources. It codifies a precautionary approach in setting allowable catches and recognizes the impact of fishing on the health of the marine ecosystem.[56] Other instruments go even farther in making ecosystem health the central goal of international cooperation.[57]

Characterized as an "implementing agreement," the 1995 Agreement directs nations that fish on the high seas to join and cooperate with regional ocean governance bodies.[58] These bodies in turn must set fish conservation measures that take into account the needs of ecologically associated and dependent species and protect the marine environment from adverse fishing impacts.[59] The Agreement was the first international fisheries treaty to recognize the need to protect marine biological diversity.[60] It also borrowed some of the elements of the ecosystem approach to fisheries that was written into the fisheries treaty for the Southern Ocean under the Antarctic treaty system known as

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[55] *See* United Nations Convention on Law of the Sea, pmbl., *opened for signature* Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS].

[56] 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, pmbl., *opened for signature* Dec. 4, 1995, 34 I.L.M. 1542 [hereinafter U.N. Fish Stocks Agreement]. The Agreement fleshed out the obligations of fishing states with respect to certain high seas fish stocks. *See* Alison Rieser, *International Fisheries Law, Overfishing and Marine Biodiversity*, 9 GEO. INT'L. ENVTL. L. REV. 251, 268–74 (1997). The U.N. Convention on the Law of the Sea guarantees the right of all nations to fish on the high seas as long as they cooperate in the conservation of fish. *See* UNCLOS, *supra* note 55, art. 116, at 441. Furthermore, articles 61 and 62 encourage coastal nations to make the fish stocks in their 200-mile EEZs available to foreign fishing fleets if the local population does not have the capacity to harvest the entire surplus of fish, determined in the process of setting total allowable catch levels. *Id.* at 420–22. The coastal nation has a duty to ensure "optimum utilization" of the fish stocks in its EEZ. *Id.* art. 62, at 421. States that fish on the high seas have a duty to cooperate in taking measures to ensure the conservation of high seas fish stocks that are highly migratory or that straddle the high seas and the EEZ pursuant to articles 63 and 64, respectively. *Id.* at 422–23.

[57] *See* Currie, *supra* note 8, at 45–47.

[58] U.N. Fish Stocks Agreement, *supra* note 56, art. 8, at 1553–54.

[59] *Id.* art. 9, at 1554–55.

[60] Rieser, *supra* note 56, at 268.

CCAMLR.[61] Most notably, the 1995 Agreement broke with the standard risk-prone approach of single-species management to require a precautionary approach in setting target and limit fisheries rates and biomass levels.[62]

While generally-agreed-upon guidelines for implementing an ecosystem-based management of marine systems are lacking, there is consensus that the approach contains a number of elements that are not common in conventional fisheries management. Under an ecosystem approach, management is based on the properties of the relevant ecosystem rather than on the population dynamics of a single target species. Rather than "maximum sustainable yield," the goal of the ecosystem approach is to maintain the structure and function of ecosystems, including their biodiversity and value as habitat.[63] In exploiting a fish species, measures are adopted to prevent fishing from adversely affecting populations of multiple species and their trophic interactions, including predator-prey relationships. In addition to CCAMLR, the ecosystem approach is reflected in a number of multilateral environmental agreements, including the 1992 Convention on Biological Diversity, the Rio Declaration and Agenda 21, the Madrid Protocol, and the Convention on Migratory Species.[64]

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[61] Gascon & Werner, *supra* note 29, at 14; *see* Convention on the Conservation of Antarctic Marine Living Resources art. II, ¶ 3(c), art. IX, ¶ 2(i), May 20, 1980, 19 I.L.M. 841 [hereinafter CCAMLR]. Its members include Argentina, Australia, Belgium, Brazil, Chile, European Community, France, Germany, India, Italy, Japan, Republic of Korea, New Zealand, Norway, Poland, Russia, South Africa, Spain, Sweden, Ukraine, United Kingdom, United States, and Uruguay.

[62] *See* Rieser, *supra* note 56, at 274. With respect to marine mammals, however, the Law of the Sea Convention does more than require international cooperation and precautionary management. It states that marine mammals are not subject to the principle of "optimum utilization" and coastal nations, which have sovereign rights over marine mammals within their waters, are free to fully protect the whales in their EEZs and territorial waters. UNCLOS, *supra* note 55, art. 65, at 423. On the high seas, nations are obliged to cooperate through international bodies for the study, conservation and management of marine mammals. Again, they are free not to use the optimum utilization norm but to adopt a regime of total protection. *Id.* arts. 64, 120, at 423, 442. These last two provisions do not necessarily require that nations act through the International Whaling Commission; they could cooperate through another body, either existing or one that they bring into being through another instrument. *See* William T. Burke, *A New Whaling Agreement and International Law*, *in* Toward a Sustainable Whaling Regime 51, 55 (Robert L. Friedheim ed., 2001).

[63] *See, e.g.*, E.K. Pikitch et al., *Ecosystem-Based Fishery Management*, 305 Science 346, 346–47 (2004).

[64] *See generally* 59th Annual Meeting of the IWC, Anchorage, U.S., May 28–31, 2007, *Ecosystem-Based Management in Multilateral Environmental Agreements: Progress Towards Adopting the Ecosystem Approach in the International Management of Living Marine Resources*, Doc. IWC/59/18

Despite the normative advances of the 1995 U.N. Fish Stocks Agreement, the regional fisheries bodies have been very slow to adopt the new approaches, and fisheries managers have not yet developed widely agreed-upon guidelines.[65] Even CCAMLR, with its explicit ecosystem objective and management boundary (based on the Antarctic Convergence), is making very limited progress, especially in the ecologically significant krill fishery.[66]

B. *The Impact of the Whaling Regime Stalemate on the Ecosystem Approach*

As many commentators have noted, the mission and majority changed at the IWC in the early 1980s.[67] Long considered a whalers' club, it had seemingly presided over the demise of one whale stock after another. After the Stockholm conference on the environment (UNCED) in 1972 at which a nearly unanimous vote supported a global moratorium on whaling, the IWC began to entertain resolutions reducing the catch limits to zero. Several zero quotas were adopted as whale stocks fell to levels approaching extinction. The United States delegation, spurred on by environmental groups and the congressional policies of the Marine Mammal Protection Act of 1972, began introducing resolutions and campaigning for a total cessation of all whaling.[68] In 1974, the United States reluctantly accepted the Australian government's proposal that instead of a global moratorium, the IWC adopt a New Management Procedure, under which quotas would be set on a species-specific basis and would be driven by science rather than by the demands of the whaling industries of member states.[69]

After several years in which new members were encouraged to join the IWC in order to support the moratorium, enough votes were present to achieve the three-fourths majority needed. In 1982, the IWC member states adopted a moratorium on all commercial whaling—in the form of a zero-catch quota for all whale species—effective in the 1986–87 season.[70] Although several countries immediately announced

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(May 28, 2007) (*prepared by* Duncan E.J. Currie), *available at* http://globelaw.com/Whales/Currie%20Ecosystem%20Approach%20Paper%20for%20IWC.pdf.

[65] A. Willock & M. Lack, WWF Int'l, Follow the Leader: Learning from Experience and Best Practice in Regional Fisheries Management Organizations 16 (2006), *available at* http://assets.panda.org/downloads/rfmoreport06.pdf.

[66] *See* Gascon & Werner, *supra* note 29, at 15.

[67] For an extended examination of the changing role of the IWC, *see generally* Burke, *supra* note 62.

[68] *Hogarth Statement*, *supra* note 6.

[69] *Id.*; *see also* Carlarne, *supra* note 3, at 7.

[70] *Id.*

an objection to the resolution, all but Norway were persuaded to withdraw their objections.[71]

Japan was persuaded by the United States to withdraw its objection to the moratorium through an agreement with the U.S. Department of Commerce.[72] That same year, however, Japan announced that it was beginning a program of scientific research that would require lethal takes of whales in the North Pacific and in the Antarctic.[73] This program provided a means of getting around the moratorium, using the chief rationale for the moratorium as justification: uncertainty surrounding estimates of whale population levels makes it difficult to regulate their hunting effectively.[74] Japan asserted that its research would improve the understanding of certain cetacean species' population dynamics so that sustainable catch limits could be defined.[75] The improved information could be used by the IWC in the Revised Management Procedure, which its Scientific Committee developed in order to set precautionary catch limits, and which the IWC formally adopted in 1994.[76]

Rejecting this carefully crafted rationale, the United States and other IWC member states have consistently opposed the scientific whal-

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[71] *See, e.g., id.*; Carlarne, *supra* note 3, at 39–40; Sean D. Murphy, *U.S. Sanctions Against Japan for Whaling*, 95 Am. J. Int'l L. 149, 150 (2001).

[72] Murphy, *supra* note 71, at 150 & n.10. In exchange for its withdrawal, the executive branch agreed to abstain from certifying Japan as a country whose actions undermined the decisions of international conservation bodies, potentially triggering an embargo on imports from Japan and the revocation of Japan's access to fishing in U.S. waters. *Id.* at 150 n.10. After the U.S. Supreme Court upheld the agreement in *Japan Whaling Ass'n v. American Cetacean Society*, Japan withdrew the objection, thereby relinquishing the right of its nationals to engage in commercial whaling. 478 U.S. 221 (1986); Murphy, *supra* note 71, at 150 n.10.

[73] Murphy, *supra* note 71, at 150–51. Article VIII of the ICRW allows state parties to issue special permits to their nationals to take whales for research purposes regardless of whether the cetacean species to be taken are subject to a zero commercial catch quota. ICRW, *supra* note 5, 62 Stat. at 1719–20, 161 U.N.T.S. at 82; *see* William de la Mare, *Problems of "Scientific" Whaling*, 345 Nature 771, 771 (1990); Dennis Normile, *Japan's Whaling Program Carries Heavy Baggage*, 289 Science 2264, 2264 (2000). Descriptions of Japan's plans for whaling under article VIII, and the response of various national delegations, are contained in the reports of the IWC Standing Working Group on Scientific Permits, available online at http://www.iwcoffice.org/_documents/sci_com/.

[74] This rationale has been criticized by a number of scientists who work with the IWC's Scientific Committee. Clapham et al., *supra* note 11, at 314; *see also* Phillip J. Clapham et al., *Whaling as Science*, 53 Bioscience 210, 210 (2003) [hereinafter Clapham et al., *Whaling as Science*]. Nevertheless, Japan has conducted continuous programs of "scientific whaling" since shortly after the zero-quota moratorium went into effect in 1986. At almost every annual meeting of the IWC, Japan introduces a resolution to lift the moratorium and to set one or more commercial catch quotas. *See* Carlarne, *supra* note 3, at 3–4.

[75] *See* Morishita, *supra* note 9, at 804.

[76] *See* Carlarne, *supra* note 3, at 14–16; Currie, *supra* note 8, at 49.

ing programs but have had little recourse under the terms of the ICRW.[77] The United States threatened to levy trade sanctions during the Clinton Administration, but these measures were never invoked.[78] As Japan has grown increasingly frustrated by the IWC's failure to adopt the Revised Management Procedure and lift the commercial whaling moratorium, it has expanded the scope of its research whaling program in both the number and species of whales permitted to be killed.[79]

The reluctance of some anti-whaling states to sanction Japan for its scientific whaling program is likely due at least in part to the fear that Japan will withdraw from the IWC and abrogate the treaty, creating its own management body to set quotas for whaling.[80] Other observers take the view that Japan has more to lose than to gain by withdrawing from the Commission. Nevertheless, the commitment of the government of Japan to bringing about the resumption of commercial whaling is impressive in the face of such consistent opposition and disapproval. This is especially so given that Japan's whaling industry has never been and is unlikely to become a major contributor to the Japanese economy.[81]

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[77] ICRW article VIII allows a contracting party to issue itself a special permit to take whales for scientific purposes. The Japanese government authorizes Japan-flagged whaling vessels under arrangements with the Institute for Cetacean Research to hunt for whales and to sell the whale meat once the samples are taken for analysis. Other features of the ICRW that contribute to the current stalemate include the requirement of a three-quarters majority for Schedule amendments, the opting-out provision, the absence of a dispute settlement procedure, the absence of an independent scientific advisory body (members of the Scientific Committee represent member states rather than independent scientific institutions), the open membership, and the absence of a mechanism for amending the Convention. Currie, *supra* note 8, at 48–52. Together these provisions result in a "governance gap." *Id.*

[78] Murphy, *supra* note 71, at 151–52.

[79] David Cyranoski, *Whaling Divisions Deepen as Japan Pushes for Credibility*, 435 NATURE 861, 861 (2005); Nicholas J. Gales et al., *Japan's Whaling Plan Under Scrutiny*, 435 NATURE 883, 883 (2005).

[80] *See* Mike Iliff, *The International Whaling Regime Post 2007*, 32 MARINE POL'Y 522, 524 (2008). Under article XI of the ICRW, for Japan to withdraw from the IWC, it would have to formally notify the United States, as the depository government for the ICRW, of its intentions by January 1 of the year of its withdrawal and that by June 30 it no longer intends to be bound by the Convention. *Id.* The Government of Iceland withdrew from the IWC in 1992 after the IWC voted not to lift the moratorium after its first ten years. *Id.* at 524 n.12. It then entered into an agreement creating the North Atlantic Marine Mammal Commission with Norway, the Faroe Islands, and Greenland. *See id.* 524 & n.13. Iceland "rejoined" in 2002 after a special meeting and vote allowing Iceland to "re-adhere" to the ICRW with a reservation on the moratorium after 2006. *Id.* at 524 n.12.

[81] *See* Amy L. Catalinac & Gerald Chan, *Japan, the West, and the Whaling Issue: Understanding the Japanese Side*, 17 JAPAN F. 133, 158 n.20 (2005) (indicating sales of whale meat from Japan's research program only cover eighty percent of its costs). For various perspec-

The determination of Japan to overturn the whaling moratorium and restore commercial whaling under the international regime can be understood better when considered in the larger context of global fisheries and the emerging norms for their management. The government of Japan views the whaling moratorium as a bad precedent that, if emulated by other regional fisheries organizations or governance bodies, would threaten Japan's access to marine resources around the world.[82] Japan was one of the larger fishing states forced to stop large-scale high seas driftnet fishing under United Nations General Assembly resolution and pressure from the United States and other countries.[83] Supporters of the driftnet-fishing moratorium justified it on the basis of the precautionary principle.[84] Adverse ecological impacts were also used to support the ban despite the limited data on the ecological or species-population level impacts of the practice.[85] Experience with this manifestation of the precautionary approach to fisheries has likely left Japan's fishery officials with a dim view of the benefits Japan would derive from broader application of the principle especially in the management of the lucrative international tuna fisheries.[86]

To hold the line on what it views as overly restrictive ocean governance norms that compete for legitimacy with the sustainable use principle, the government of Japan is committed to restoring its commercial whaling industry. Some long-time observers of the whaling regime

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tives on Japan's motives, see generally *id.*; Mike Danaher, *Why Japan Will Not Give Up Whaling*, 14 Pacifica Rev. 105 (2002); Sidney J. Holt, *Whaling: Will the Phoenix Rise Again?*, 54 Marine Pollution Bull. 1081 (2007). Holt argues that the only logical explanation for the Japanese government's actions is its firm commitment to have large-scale and profitable whaling in the distant future, allowing it to exploit its monopoly position in factoryship whaling. Holt, *supra,* at 1084. Holt asserts that Japan increased the number and species in its scientific whaling program in the North Pacific to include large baleen whales in order to increase the pelagic whaling fleet's profitability so the government could reduce its subsidy. Sidney J. Holt, *Propaganda and Pretext*, 52 Marine Pollution Bull. 363, 365 (2006).

[82] Clapham et al., *supra* note 11, at 318.

[83] Large-Scale Pelagic Driftnet Fishing and Its Impact on the Living Marine Resources of the World's Oceans and Seas, G.A. Res. 44/225, ¶ 4, U.N. Doc. A/RES/44/225 (Dec. 22, 1989), *available at* http://www.un.org/documents/ga/res/44/a44r225.htm.

[84] *See, e.g.*, James Carr & Matthew Gianni, *High Seas Fisheries, Large-Scale Drift Nets, and the Law of the Sea*, *in* Freedom for the Seas in the 21st Century 272, 281 (Jon M. Van Dyke et al. eds., 1993). *See generally* Virginia M. Walsh, *Eliminating Driftnets from the North Pacific Ocean: U.S.-Japanese Cooperation in the International North Pacific Fisheries Commission, 1953–1993*, 29 Ocean Dev. & Int'l L. 295 (1998).

[85] Carr & Gianni, *supra* note 84, at 280–81.

[86] *See, e.g.*, Kazuo Sumi, *The International Legal Issues Concerning the Use of Drift Nets, with Special Emphasis on Japanese Practices and Responses*, *in* Freedom for the Seas in the 21st Century, *supra* note 84, at 292, 300–02 (defending driftnet fishing).

are convinced that Japan's long-range plan is to work with other member states to build the three-fourths majority necessary to lift the zero-catch quota provision that effectuates the moratorium and put in place the Revised Management Scheme that will be the basis for setting catch quotas.[87] Japan's goal is to keep the IWC focused on setting quotas for whaling. This narrow focus on the IWC as a bulwark against excessively conservation-oriented fisheries governance also helps explain why Japan's delegation has opposed efforts to expand the agenda of the IWC to include conservation issues and the effects of climate change.[88]

Most assessments of the state of fisheries take a very different view of current ocean governance regimes and attribute declining fish catches to overfishing and inadequate management of fisheries under the sustainable use paradigm.[89] Ocean diplomacy has begun to focus on reforming the regional management bodies through which member states coordinate their conservation and management of high seas fisheries. With increasing frequency, parties to multilateral agreements are expressing the view that fisheries can adversely affect marine biological diversity, including via resolutions by parties to the Convention on Biological Diversity.[90] International trade is threatening some fish species with extinction, either through directed fisheries or from incidental catch in industrial fisheries.[91] The consensus appears to be that ocean governance needs to be more, not less, precautionary and ecosystem-based.[92]

In contrast, Japanese delegates at the IWC and Japan's representatives on the IWC's Scientific Committee have suggested that depressed fish stocks may be a sign that recovering whale populations are taking the fish.[93] Japan and other pro-whaling states argue that it may be necessary to cull top predators to reduce their take of fish species that are needed for human consumption and food security, citing the drastic declines in world fisheries to advance a new rationale for commercial whaling.[94] According to this view, whales eat fish from coastal waters where people would otherwise fish, leading to an imbalance in some marine ecosystems. In order to restore fish populations and ensure the

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[87] Holt, *Propaganda and Pretext*, *supra* note 81, at 364–65.
[88] *See generally* Iliff, *supra* note 18.
[89] Holt, *Propaganda and Pretext*, *supra* note 81, at 365.
[90] *See* Currie, *supra* note 64, at 40–42.
[91] *See id.* at 45–46.
[92] *See generally* Willock & Lack, *supra* note 65.
[93] Clapham et al., *supra* note 11, at 315.
[94] *See id.*

food security of coastal nations, cetaceans should be hunted to reduce their numbers and thus make whales' prey species available to fish which can then be available for human consumption.[95]

Proponents of this view assert it as the scientific rationale for the pro-whaling resolutions at the IWC. They argue that the opposition's insistence on maintaining the moratorium is a case of emotional attachment to whales blinding one's ecological and scientific judgment. This argument is disturbing to some fishery scientists, as it seems to attribute the overexploitation of the world's fishery resources to marine mammals instead of to human fisheries.[96] This theory has emerged from scientific papers resulting from the Japanese program of article VIII whaling.

More than just a variation on the sustainable-use argument used in the past, this view has a more sinister aspect, conveying as it does an over-simplification of our understanding of marine ecosystems and a likely deliberate distortion of the scientific evidence in order to advance the "sustainable whaling" agenda.[97] Some of the new members of the IWC recruited from the ranks of developing nations to support this view include small-island and coastal states from the Caribbean, West Africa, and the Pacific. These states have concerns for the viability of their tuna and coastal fish stocks, the economic prospects of their domestic fishing industries, and the food security of their citizens.[98] Misunderstanding the reasons behind these stocks' conditions makes them even more vulnerable to changes brought by warming oceans.

The "whales are eating our fish" argument fails to explain why historically there were both higher fish biomass and marine mammal populations.[99] Moreover, there is often very little overlap between the

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[95] *See* Wilf Swartz & Daniel Pauly, Who's Eating All the Fish? The Food Security Rationale for Culling Cetaceans 7 (2008) (summarizing the "whales eat our fish" argument put forth by pro-whaling proponents), *available at* http://www.hsus.org/webfiles/PDF/hsi/daniel-pauly-paper-iwc-2008-pdf-doc.pdf.

[96] *See id.*

[97] *See id.* at 9–10.

[98] *Id.* at 10–11. In an essay reprinted in the report's appendix, Daniel Pauly describes the chagrin expressed by members of the parliament of Senegal, when at a workshop on the issue, national fishery officials expressed the whales-eat-our-fish rationale. *Id.* at 29–30. Pauly reports that the members said those views were contrary to the information they received from fishers in their communities on the causes of the decline of coastal fisheries and was also contrary to the nation's cultural admiration for cetaceans. *Id.* at 30.

[99] *See* Swartz & Pauly, *supra* note 95, at 5–6. It is likely that the historically large whale populations were in part responsible for the massive fish populations. Baleen whales, if they eat fish at all, eat tiny, larval stages of fish, in addition to zooplankton and phytoplankton. *Id.* at 5. This may have had the evolutionary effect of pushing fish populations to evolve into short-lived (high-fecundity) animals that could grow fast and avoid being eaten.

food preferences of cetaceans and of commercial fisheries, nor do they overlap spatially. Most great whales, for example, feed in high latitude places for species that are not accessible to fishing gear and are not desirable for human consumption.[100]

This alternative view of the ecosystem approach reached its high water mark at the IWC in 2006. At the annual meeting that year, the Commission adopted a resolution acknowledging that ecosystem-based management is the new international standard and that whale stocks must be considered in a broader ecological context.[101] But in a logic that appears to turn the ecosystem approach on its head, the resolution suggests that whales may need to be culled in order to ensure food security,[102] or at the very least that nations should continue "scientific whaling" until such time as the ecological role of whales in fishery ecosystems is clarified.[103]

Id. at 5–6. This effect has been reversed by fisheries, which by targeting larger fish, have been giving selective pressure for fish to grow slowly and mature later with lower productivity. *Id.* at 6.

[100] *Id.* at 8.

[101] IWC, *St. Kitts and Nevis Declaration*, IWC Res. 2006-1 (2006), http://www.iwcoffice.org/_documents/commission/IWC58docs/Resolution2006-1.pdf.

[102] *See, e.g.*, Peter Corkeron, Letter to the Editor, *Fishery Management and Culling*, 306 Science 1891, 1891 (2004); Peter Yodzis, *Must Top Predators Be Culled for the Sake of Fisheries?*, 16 Trends In Ecology & Evolution 78, 79 (2001). This is despite the fact that several scientific studies dispute the value of culling to increase fish stocks. *See* Corkeron, *supra*, at 1891; Yodzis, *supra*, at 80–81. Corkeron reports that the Norwegian Parliament, in May 2004, endorsed a new national policy for marine resources that would establish an ecosystem-based management regime for marine mammals in Norway's marine waters. Corkeron, *supra*, at 1891. In order to increase fisheries production, this policy will presumably be translated into larger quotas for the hunting of minke whales, harp seals and coastal seals in the sub-Arctic and Arctic waters in Norway's exclusive economic zone to reduce these populations' "competition" with humans for fish. *Id.*

[103] *See* IWC, *supra* note 101. A group of Caribbean nations introduced the Declaration in a resolution after Japan's proposed resolutions to amend the Schedule to set quotas for its four coastal whaling communities for North Pacific minke, Bryde's and sperm whales were voted down. IWC, 59th Annual Meeting of the IWC, St. Kitts and Nevis, June 16–20, 2006, *Agenda Item 19: St. Kitts and Nevis Declaration*, at 1–2, Doc. IWC/58/16 (June 17, 2006), *available at* http://iwcoffice.org/_documents/commission/IWC58docs/58-16.pdf. The resolution included the following statement:

> ACCEPTING that scientific research has shown that whales consume huge quantities of fish making the issue a matter of food security for coastal nations and requiring that the issue of management of whale stocks must be considered in a broader context of ecosystem management since eco-system management has now become an international standard.

IWC, *supra* note 101. Of the thirty-three countries that voted for the St. Kitts and Nevis Declaration, fourteen are classified as low-income, food-deficient countries by the FAO. *See* FAO.org, Low-Income Food-Deficit Countries (LIDFC), http://www.fao.org/countrypro-

This interpretation of the ecosystem approach makes no mention of the need for ocean governance bodies to reduce human fisheries to maintain predator diversity and the predator-prey relationships characterizing healthy marine ecosystems. Nor does it suggest it may be necessary to reserve portions of prey species' biomass for whales as their populations recover and they adapt to climate change, rather than simply assuming that the maximum amount of exploitable biomass can be taken for human use. Moreover, the IWC's ecosystem approach resolution in no way advances any of the ecosystem health needs of cetaceans by urging action to prevent habitat degradation from pollution, lost or active fishing gear, noise, ship strikes, and climate change.[104] It merely asserts the ecosystem approach as justification for returning the IWC to the task of setting catch quotas for whaling.[105]

The culling hypothesis now serves as the scientific rationale for the extensive whaling carried out in the Southern Ocean under a special permit issued by the Government of Japan.[106] Although the value of these investigations has been challenged publically by leading cetacean scientists,[107] the international whaling regime has no mechanism to force it to be terminated.[108] But, the longer the scientific whaling program continues, the harder anti-whaling proponents hang on to the

files/lifdc.asp (last visited Apr. 2, 2009). This is cited as evidence that the argument based on food security as well as the financial assistance offered to domestic fisheries by Japan has influenced the size of the pro-whaling faction. It has been noted that some of the same countries that expressed concern for food security in voting for the Declaration have not joined the regional fishery body that manages tuna and other fish stocks in their EEZs, even though its membership fee is lower than the IWC's. SWARTZ & PAULY, *supra* note 95, at 12.

[104] IWC, *supra* note 64, at 55.

[105] *See id.* at 57–58. Others have suggested that the declaration lays the groundwork for setting whale catch quotas in the Antarctic that are higher than would otherwise result from the Scientific Committee's application of the highly precautionary Revised Management Procedure. *See, e.g.*, DAVID M. LAVIGNE & SHERYL FINK, IFAW, WHALES & FISHERIES 4 (2001) *available at* http://www.ifaw.org/Publications/Program_Publications/Whales/asset_upload_file954_12140.pdf.

[106] *See* Normile, *supra* note 73, at 2265. Japan's Institute of Cetacean Research operates a factory-whaling fleet in the Antarctic and each year kills hundreds of whales so that their stomach contents can be analyzed to determine if they compete with humans for marine resources. *See id.* Under this rationale, Japan's researchers added Bryde's and sperm whales to the scientific whaling program. *See id.*

[107] *Id.*; *see also* Clapham et al., *Whaling as Science, supra* note 74.

[108] *See* Normile, *supra* note 73, at 2264. Because the whaling is carried out under the special permit provision of article VIII, Japan believes that the activities of its fleet are not subject to the regulations contained in the IWC's Schedule, including the Southern Ocean Sanctuary and the ban on factory whale ships. *See* ICRW, *supra* note 5, sched. ¶ 7(b) n.**, *available at* http://www.iwcoffice.org/_documents/commission/schedule.pdf.

moratorium. The longer the moratorium stays in place, the bigger and more audacious the scientific whaling program becomes, despite the weaknesses in its ecosystem-based rationale. Meanwhile, the ability of the IWC to address ecological and environmental challenges to whales is stymied by the impasse.

The IWC's whales and ecosystems resolution may ultimately have little impact on the whaling moratorium at the IWC or, if the moratorium is ever lifted, on the setting of sustainable catch quotas under the Revised Management Procedure. But the possibility that some member states may actually accept the premise of the ecosystem resolution does not bode well for progress by other regional fishery management bodies. To keep their fleets fishing, fishing states frequently look for ecological reasons to explain declining fish stocks, such as a reduction in the environment's carrying capacity. As in the case of western Atlantic bluefin tuna, whenever a marginally plausible ecological explanation is found, states can rationalize putting off decisions to reduce the size and capacity of the industrial fishing fleets or maintaining high catch rates of top predators.[109] States with large distant-water fishing fleets need only find one scientist who is willing to express the view that recovering whales or some other ecological phenomenon may be responsible for the poor conditions of certain fish stocks.[110] Scientific uncertainty, presented at the time when precautionary action is most needed, has often given cover to management officials who give greater weight to short-term economics than long-term ecosystem health and sustainability.[111]

III. The IWC and Precautionary Management of the Antarctic Marine Ecosystem

The best rationale for retaining the whaling regime is its potential to influence other governance regimes on behalf of whales.[112] The question is whether in order to reach the agreement needed to permit the whaling regime to perform this function, it will be necessary to com-

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[109] *See* Safina & Klinger, *supra* note 12, at 244–45.

[110] *See id.*

[111] *See generally* Andrew A. Rosenberg, *Managing to the Margins: The Overexploitation of Fisheries*, 1 Frontiers In Ecology & Env't 102 (2003).

[112] *See* Burns, *supra* note 5, at 354. As a regime that failed to achieve its basic objective of ensuring a sustainable fishery, the IWC can serve as a cautionary tale for other governance regimes, providing testament to the need for setting catch limits that are truly precautionary; for not disregarding scientific advice; for requiring verifiable and timely reporting of all catch and other data, supported by an effective compliance and infractions program; and for a mechanism for resolving disagreements over treaty interpretation that does not rely on an objection or opt-out clause.

promise on principles in a manner that would make the whaling regime ineffective or, worse, counterproductive. For example, the pro-whaling member states' interpretation of the ecosystem approach may continue to be based on the premise that "whales are eating our fish."[113] If so, the International Whaling Commission's (IWC's) contribution to management of fisheries targeting prey species will undermine rather than enhance efforts to ensure that dependent and ecologically associated species are not adversely affected, as required by the 1995 U.N. Fish Stocks Agreement.[114] Instead of ensuring that catch quotas are set low enough to protect foraging grounds for whales, the participation of whaling states holding this interpretation of the ecosystem approach could lead to higher quotas for prey, to "cull" whales indirectly by reducing their food sources.

Developments in the management of Antarctic krill suggest that these concerns are not merely academic. Japan and Norway, fishing states that promote the culling hypothesis at the IWC and elsewhere, are also major participants in the developing Antarctic krill fishery.[115] Krill is managed by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), a regional body that has a reputation for being the most ecosystem-based and precautionary of all international fisheries regimes.[116]

CCAMLR is well regarded because its treaty was the first international agreement to build ecosystem and precautionary principles into its management regime, serving as the model for the innovative provisions of the 1995 U.N. Fish Stocks Agreement.[117] CCAMLR incorporates these principles because it was founded for the purpose of managing fishing for krill in the Southern Ocean. With such an ecologically

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[113] *See* discussion *supra* notes 97–103.

[114] U.N. Fish Stocks Agreement, *supra* note 56, art. 5.

[115] *See* Nicol & Foster, *supra* note 51, tbl.1; Andrew Darby, *Ecologists Fear Huge Rise in Krill Catch*, Sydney Morning Herald, Nov. 5, 2007, *available at* http://www.smh.com.au/articles/2007/11/04/1194117879703.html.

[116] Gascon & Werner, *supra* note 29, at 14; *see* Philip Bender, *The Precautionary Approach and Management of the Antarctic Krill*, 18 J. Envtl. L. 229, 232–33 (2006).

[117] Gascon & Werner, *supra* note 29, at 14. Living resources management in the Southern Ocean, however, has a somewhat checkered history. *See* A.J. Constable, Sustainable Fisheries in a High Latitude, Nov. 2001 (unpublished paper presented at symposium of the Australian Academy of Technological Sciences and Engineering), *available at* http://www.atse.org.au/index.php?sectionid=324. Both cetaceans and seals were hunted heavily and the result was extirpation and near extinction for many species despite the adoption of international conservation agreements. The Agreement for the Conservation of Antarctic Seals was adopted as part of the Antarctic Treaty System, as is CCAMLR, *supra* note 61, and was negotiated by the Antarctic Treaty Consultative Parties after entry into force of the Antarctic Treaty in 1959. Constable, *supra*.

significant species as the target for the fisheries, the CCAMLR treaty adopted an ecological boundary for its management area and standards requiring fisheries to be controlled in order to maintain the ecological relationships between harvested, dependent, and related populations of Antarctic marine resources.[118]

Despite CCAMLR's advantages, in the face of pressure to expand fishing opportunities, states with fisheries operating in the Southern Ocean have resisted precautionary management, preventing the regime from fulfilling the promise reflected in its treaty provisions.[119] Fishing pressure in the Southern Ocean is on the rise as declining fish stocks in the Northern Hemisphere have sent vessels south in search of unexploited species to replace them. The Patagonian toothfish (*Dissostichus eleginoides*) is the most well-known of these quarries, becoming the target of rampant illegal fishing by vessels registered by CCAMLR member states and by open-registry states that may or may not be cooperating with CCAMLR.[120]

Fishing companies are also searching for abundant marine species that can be converted into fish feed. The international fish-farming industry has grown tremendously as catches in capture fisheries have declined due to overfishing.[121] This had led to intense interest in the Antarctic krill (*Euphausia superba*), the species at the center of the marine food web in the Antarctic, and a key prey species for baleen whales and for the fishes that are preyed on by toothed whales.[122]

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[118] CCAMLR, *supra* note 61, arts. I, II(3)(b), at 842–43. The boundary of the Convention area reflects the ecological boundary formed by the Antarctic Convergence (a frontal zone where currents carrying cold Antarctic waters and the warmer sub-Antarctic waters meet). These farsighted provisions are likely due to the low level of fishing pressure at the time it was negotiated and the significant role played by the international scientific research community in creating the Antarctic Treaty System. Growth in the krill fishery was anticipated, however, and the potential for a massive krill fishery was viewed as a threat to the entire Antarctic marine ecosystem. *See* Constable, *supra* note 117. It is somewhat ironic that the precautionary management procedures and methods for assessing the potential yield of exploited whale populations developed by the IWC's Scientific Committee in the late 1970s and 1980s inspired CCAMLR's approach. *See id.*

[119] S*ee generally* Gascon & Werner, *supra* note 29.

[120] *See* Philip Bender, *A State of Necessity: IUU Fishing in the CCAMLR Zone*, 13 Ocean & Coastal L.J. 233, 237 (2008). *See generally* G. Bruce Knecht, Hooked: Pirates, Poaching and the Perfect Fish (2006) (discussing illegal fishing of the Patagonian toothfish—also known as Chilean Sea Bass—by flags of convenience fishing vessels).

[121] The United Nations Food and Agriculture Organization predicts that world aquaculture production will increase significantly and is already responsible for over seventy percent of the increase in fish production, with China and southeast Asian countries becoming the largest producers. *See* Rebecca Goldburg & Rosamond Naylor, *Future Seascapes, Fishing, and Fish Farming*, 3 Frontiers In Ecology & Env't 21, 21 (2005).

[122] *See* Bender, *supra* note 116, at 230, 234.

Under its mandate to manage fisheries with precaution and on an ecosystem basis, CCAMLR has adopted several well-conceived provisions for the krill fishery. These include a more conservative total catch quota than the conventional maximum sustainable yield model produces, subdivided into smaller areas.[123] For example, the quota for the area around the Antarctic Peninsula and the islands of South Orkney and South Georgia is capped at four million metric tons per season.[124] Because krill fishing vessels tend to concentrate in areas where land-based predators such as penguins and seals need to forage, CCAMLR also created fifteen smaller units, allowing quotas to be fined-tuned to prevent localized depletion of krill during the nesting season.[125]

To meet the growing interest in krill-based products, a diversified maritime company based in Norway, Aker BioMarine, has now developed a technology that allows one krill fishing vessel to take nearly as many tons per season as has been taken by all krill-fishing vessels in an entire season in the polar fishery using the old methods.[126] New vessels are being constructed to replace the older, less efficient ones. As this happens, CCAMLR parties seem less willing to apply the ecosystem and precautionary approaches to the krill fishery. Krill is the only CCAMLR-managed fishery that is exempt from the requirement to board scientific observers on the vessels, contrary to the advice from CCAMLR's

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[123] *Id.* at 233–34.

[124] CCAMLR, *Precautionary Catch Limitations on* Euphausia Superba *in Statistical Area 48*, Conservation Measure 32/XIX (2001–2002), http://www.ccamlr.org/pu/e/e_pubs/cm/01-02/cm32-XIX.pdf; *see* Bender, *supra* note 116, at 234.

[125] Gascon & Werner, *supra* note 29, at 15. CCAMLR agreed to subdivide the Southwest Atlantic area (Area 48) into fifteen small-scale management units around the Antarctic Peninsula and the islands of South Orkney and South Georgia in 2002. *See id.* If the fishery in a given season ever reaches a 620,000-ton level, under CCAMLR's measures this will trigger further subdividing the quota among the smaller areas in order to protect penguin and seal rookeries that depend on the availability of abundant krill. *See* CCAMLR, *supra* note 124. However, while CCAMLR has not be able to reach consensus on how to allocate the krill catch limit among these areas, the krill fishery continues to grow, with new vessels being identified for participation every year. Gascon & Werner, *supra* note 29, at 15. The idea behind precautionary measures is to have them in place before the industrial fishery develops and sets expectations for future seasons. Until these precautionary measures to protect dependent species can be agreed to, the Antarctic and Southern Ocean Coalition (ASOC), the leading NGO participating in CCAMLR scientific and plenary meetings, has urged CCAMLR to freeze the expansion of the krill fishery in these critical areas while models are being built to help determine the level of krill exploitation the system can tolerate and appropriate compliance measures are put in place. Bender, *supra* note 116, at 234. The ASOC papers submitted to CCAMLR are available online at http://www.asoc.org/.

[126] *See* Gascon & Werner, *supra* note 29, at 14, 16; Darby, *supra* note 115; *see also* MSC Press Release, *supra* note 52.

scientific committee that such information is crucial.[127] The krill-fishing states have also blocked adoption of recommendations to expand the monitoring program, which is designed to detect whether ecologically related species are being adversely affected by exploitation of the krill.[128] Krill-fishing states like Japan blocked consensus approval of the observer requirement at the 2008 meeting of CCAMLR, despite a commitment in 2007 to adopt the program in 2008.[129] Likewise, fishing states have blocked a management procedure that would adjust control measures in response to the ecosystem-monitoring program.[130]

Shortly after the IWC adopted a standing committee to address conservation issues, it also directed its Scientific Committee to work with the CCAMLR on its ecosystem approach. This work includes providing CCAMLR with the scientific information it needs to construct a model of the Antarctic marine ecosystem and to better manage the krill fishery.[131] The best mathematical models in the world, however, cannot compensate for a lack of data, especially if the goal is to model the effects of exploiting one population on other species. The joint IWC-CCAMLR modeling effort is hindered by the krill-fishing states' unwillingness to submit catch and other data to CCAMLR and to require that scientific observers be placed on krill vessels. By depriving the modelers of the information they need, these states are acting more to protect their companies' competitive advantage than to protect the Antarctic marine ecosystem.

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[127] *See* Gascon & Werner, *supra* note 29, at 15–16.

[128] *See* 27th Annual Meeting of CCAMLR, Hobart, Austl., Oct 27–Nov. 7, 2008, *Report of the Twenty-Seventh Meeting of the Commission*, at 11–14 [hereinafter CCAMLR, *Report of the Twenty-Seventh Meeting*], *available at* http://www.ccamlr.org/pu/E/e_pubs/cr/08/all.pdf. The monitoring program is one of the measures upon which CCAMLR's reputation for strong ecosystem-based management is based. Previously, Commission members agreed to research on the status of ecologically related species and to make changes in conservation and management measures for fisheries if the evidence showed they were being adversely affected. *See* Gascon & Werner, *supra* note 29, at 15.

[129] *See* CCAMLR, *Report of the Twenty-Seventh Meeting*, *supra* note 128, at 56, 180; Press Release, Antarctic & S. Ocean Coal. [ASOC], International Antarctic Meeting Falls Short of Providing Needed Protection to Antarctic Marine Ecosystems under Threat (Nov. 24, 2008) [hereinafter ASOC Press Release], *available at* http://www.krillcount.jp/pdf/ASOC%20CCAMLR%20Results%20Press%20Release%20112408.pdf.

[130] *See* CCAMLR, *Report of the Twenty-Seventh Meeting*, *supra* note 128, at 11–14; ASOC Press Release, *supra* note 129. In 2007, krill-fishing parties agreed to require their vessels to have Vessel Monitoring Systems so that they could monitor their catches during the fishing season. *See* 26th Annual Meeting of CCAMLR, Hobart, Austl., Oct 22–Nov. 2, 2007, *Report of the Twenty-Sixth Meeting of the Commission*, at 54, http://www.ccamlr.org/pu/E/e_pubs/cr/07/all.pdf.

[131] *See* IWC, Joint IWC/CCAMLR Workshop on Ecosystem Modelling, http://www.iwcoffice.org/sci_com/workshops/IWC-CCAMLRworkshop.htm (last visited Apr. 2, 2009).

Conclusion

Despite the apparent willingness of IWC member states to cooperate with CCAMLR's ecosystem-based management, some member states are at the same time using CCAMLR to block measures aimed at minimizing the indirect effects of fishing on cetaceans and other krill predators.[132] Considering this contradiction, it is not immediately apparent how reform of the IWC could help. It is conceivable the whaling negotiators could use Japan's desire to restore commercial whaling in non-Antarctic waters as leverage for reform of CCAMLR's krill management. This kind of cross-regime horse-trading is probably not uncommon, but if it does exist, there is little evidence that it results in anything other than more extractions from ecosystems. But if the reform compromise allows the pro-whaling states who represent a small minority among IWC member states to prevail in exchange for progress in krill regulation, the whole enterprise of international cooperation in marine ecosystem management would suffer a huge setback. This seems an unnecessarily high price, especially given that Japan's claims of right under the ICRW to its scientific whaling program have such a shaky legal foundation.[133] It seems that international adjudication would be better suited to clarifying what the legal obligations are of parties to the whaling regime. If diplomacy to resolve the whaling regime stalemate can only succeed by compromising norms that were earned the hard way, diplomacy in that case is really not working. Indeed it may be better to litigate than accommodate.[134]

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[132] *See* ASOC Press Release, *supra* note 129.

[133] The International Fund for Animal Welfare asked a committee of independent legal experts to prepare a legal analysis of the scientific whaling issue, including its legality under the ICRW and other international law. The panel concluded that a legal challenge to the scientific whaling program would likely succeed at the International Court of Justice or the International Tribunal for the Law of the Sea (ITLOS) under the international law theory of abuse of rights and several international treaties, including the ICRW, UNCLOS and CCAMLR. Laurence Boisson de Chazournes et al., Report of the International Panel of Independent Legal Experts On: Special Permit ("Scientific") Whaling Under International Law, (2006), http://www.mardecetaceos.net/media_files/ download/ CompleteParisReport001.pdf. The panel members were Laurence Boisson de Chazournes, Pierre-Marie Dupuy, Donald R. Rothwell, Philippe Sands, Alberto Székely, William H. Taft IV, and Kate Cook. The Australian Government has been under pressure by NGOs to pursue such litigation. *See, e.g.*, Donald R. Rothwell, *Time to End Loophole "Scientific" Whaling*, Cosmos Online, July 31, 2007, http://www.cosmosmagazine.com/node/1510.

[134] After Australia and New Zealand challenged Japan's experimental fishing for southern bluefin tuna under the UNCLOS dispute resolution provisions, ITLOS concluded that the dispute concerned legal as well as scientific questions and that all parties should take measures to avert further deterioration of the stock. Southern Bluefin Tuna Cases (New Zealand v. Japan; Australia v. Japan), ¶¶ 79, 80, 38 I.L.M. 1624 (Int'l Trib. L. of

Obviously, the best way that U.S. ocean diplomacy can serve the long-range interests of cetaceans is to adopt a serious program to combat global warming by rapidly transitioning to a non-carbon based economy.[135] In addition, the United States can redouble its efforts to ensure that standards for international shipping require the construction of quieter vessels that burn cleaner fuels and can slow down—especially where shipping lanes cross whale migration routes—and avoid whale foraging grounds altogether. It should set a global example by scaling down commercial fisheries that deploy and leave fishing gear in whale habitat and insist that international regimes require the same. If, in the meantime, the Obama Administration wants to resolve the impasse over commercial whaling, it must be cognizant of the normative impact of such action. Any reform must advance and not set back the progress of the last fifteen years. The need for reform is much greater in other regimes; a regime for whaling that is very costly to reform is not worth the price. Greater effort at other international bodies to advance precautionary and ecosystem approaches will in the long run do more for whales in a warming ocean than a less acrimonious IWC.[136]

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the Sea 1999). The Arbitral Panel later found it had no jurisdiction due to the dispute settlement provision (article 16) of the 1993 Convention for the Conservation of Southern Bluefin Tuna. Southern Bluefin Tuna Cases (New Zealand v. Japan; Australia v. Japan), 39 I.L.M. 1359, 1393 (UNCLOS Arbitral Trib. 2000). Despite the litigation, the working relationship among the litigants improved at the Commission for the Conservation of Southern Bluefin Tuna, even though Japan revealed that it had grossly underreported bluefin imports in the previous twenty years. *See* Alastair Cameron, *Is There Hope for Fish?: The Post-Arbitration Effectiveness of the Convention for the Conservation of Southern Bluefin Tuna*, 15 N.Y.U. L. Envtl. L. J. 247, 264–66 (2007); *see also* Ana Parma, Southern Blues: The Challenge of Managing by Consensus to Sustain an International Tuna Fishery, Abstract of Presentation at the University of Washington Bevan Series on Sustainable Fisheries (Mar. 2, 2006), http://courses.washington.edu/susfish/2006/speakers/parma.html.

[135] *See generally* Burns, *supra* note 5.

[136] Just before the IWC's annual meeting in 2007, three NGOs hosted a workshop in Dakar, Senegal to discuss the claim that whales are responsible for declining fish catches. The workshop inspired one participant to later conclude:

> The most crucial reform would be moving from a situation where West African waters are seen as larder from which an endless supply of fish can be extracted to supply foreign markets . . . to one where West African countries could build on export and processing of fish to strengthen their own economy, and benefit their own people . . . . [But] such reforms are not being contemplated. [T]op fisheries officials of West African countries appear to have thrown their lot with their Japanese advisors, and their 'whales-eat-our-fish' mantra, for reasons that are either obscure, or too obvious to mention.

Swartz & Pauly, *supra* note 95, at 29–30.