THEY’RE MORE LIKE GUIDELINES: THE CASE FOR AQUACULTURE REGULATION

California State Fish & Game Commissioner Michael Sutton said it best in 2009 when he said QUOTE[[1]](#footnote-1):

“Just as we replaced hunting with farming on land, we are in the process of replacing fishing with farming in our oceans. But the environmental damage caused by the ``Green Revolution'' to terrestrial ecosystems is now well understood, and its lessons are sobering as we contemplate a ``Blue Revolution'' in our oceans. As we develop the U.S. aquaculture industry to keep pace with the demand for seafood, our challenge will be to ensure that fish farming is conducted in a way that sustains the health of our ocean and coastal ecosystems.” UNQUOTE

We need to develop US offshore aquaculture, but we also need to manage the risks it poses. That’s why we’re here today affirming that The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. We use the following DEFINITIONS

Marine Natural Resources:

National Oceanic & Atmospheric Administration, revised in 2010. National Marine Protected Areas Center, Glossary (brackets in original) last revised 12 Feb 2010 <http://www.mpa.gov/glossary.html>

**[Marine] Natural Resources:** Any biological or physical component of the marine environment that contributes to the structure, function, or services provided by a marine ecosystem.

**Substantial**: The experts at the Pew Charitable Trusts Marine Aquaculture Task Force used this word contextually in 2007[[2]](#footnote-2) to describe our plan, when they said QUOTE: “Congress should enact legislation ensuring that strong environmental standards are in place to regulate the siting and conduct of offshore marine aquaculture. Regardless of potential impacts, aquaculture is a substantial new use of federal ocean waters.” UNQUOTE

**Reform:** “to put or change into an improved form or condition” Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/reform>)

Aquaculture:

National Sea Grant Law Center 2007. (attorneys participating in education programs and conferences; The Sea Grant Law Center and Mississippi-Alabama Sea Grant Legal program are funded by a grant from the U.S. Dept of Commerce. Matching funds are contributed by the State of Mississippi, the Legal Program, and the Univ of Mississippi) “Fisheries Management” Ethical disclosure about the date: The document is undated, but refers internally to events in 2007, so we know it was written no earlier than that year. We took the oldest possible date to be completely fair. <http://nsglc.olemiss.edu/Slide%20Shows/Knauss%20presentation/Fisheries.pdf>

"The propagation and rearing of aquatic organisms in controlled or selected environments for any commercial, recreational or public purpose.”

OBSERVATION 2. The STATUS QUO. One simple fact: they’re just guidelines. Current NOAA policies are just guidelines, not actual rules fish farms must follow

Dr. George Leonard 2011. (director of Ocean Conservancy's Aquaculture Program; Ph. D. in marine ecology and evolutionary biology) “NOAA Aquaculture Policy Puts Future of Fish at Risk” 10 June 2011 <http://tocdev.pub30.convio.net/news-room/aquaculture/noaa-aquaculture-policy-puts.html>

"While February's draft policy was a step in the right direction, this final version is simply not the full suite of national standards we need. NOAA needs to call on Congress to empower the agency with the needed authority to protect our ocean from the well-known environmental risks caused by ocean fish farming. There is currently no guarantee that any new fish farms will be required to meet these guidelines. Unless and until comprehensive new federal legislation that addresses environmental, socioeconomic, and liability concerns is passed, open ocean aquaculture should not proceed in our ocean."

OBSERVATION 3. RISKS. Aquaculture presents numerous risks that should be managed properly. We detail 3 of them here. Let’s start with…

RISK 1. Invasive species. Aquaculture creates invasive species risk with big economic and environmental impacts

Michael Sutton 2009 (Vice President of the Monterey Bay Aquarium in California; member of the California state Fish and Game Commission) statement to the oversight hearing, 9 Sept 2009 testimony before the House Natural Resources Committee Subcommittee on Insular Affairs, Oceans and Wildlife <http://www.gpo.gov/fdsys/pkg/CHRG-111hhrg52311/html/CHRG-111hhrg52311.htm>

Accidental or intentional introductions of non-native species have become an alarming global environmental problem (Leung and Dudgeon, 2008). Aquaculture is considered one of the major pathways for introducing non-native aquatic species that may become harmful invasives (Weigle et al, 2005; Casal, 2006). The risk of accidental escape of farmed fish is especially high in open-water aquaculture systems and we can predict with absolute certainty that fish will escape from offshore facilities. In addition to the complex ecological interactions, the overall economic costs of harmful invasive species in the United States alone have been estimated at US$ 120 billion annually (Pimentel et al, 2000, 2005). Forty two percent of the species listed as threatened or endangered with extinction in the United States are at risk primarily because of exotic invasive species (Pimentel et al, 2005).

RISK 2. Depleted wild fish. While aquaculture sounds like a way to make fish food available without putting pressure on the world’s natural fish population, people often forget one thing: Many fish eat other fish. Thus, raising fish in a fish farm requires massive open water fishing efforts to go out and catch the fish that the farm fish will eat. Dr George Leonard explains in 2009:

Dr. George Leonard 2009. (director of Ocean Conservancy's Aquaculture Program; Ph. D. in marine ecology and evolutionary biology) 9 Sept 2009 testimony before the House Natural Resources Committee Subcommittee on Insular Affairs, Oceans and Wildlife <http://tocdev.pub30.convio.net/news-room/aquaculture/oc-testifies-offshore-aqua.html>

Increased Fishing Pressure on Wild Fish Stocks: Feed for many of the "carnivorous" species likely to be farmed in open-ocean environments contains very high percentages of fishmeal and fish oil derived from wild-caught forage fish. As a result, these species consume two to five times as much wild fish as they produce in farmed product. As global aquaculture has grown dramatically over the past two decades, the total demand for fishmeal and fish oil for use in aquaculture feeds has expanded. If the farming of carnivorous fish continues to grow at its current rate, the demand for fish oil will outstrip world supply within a decade, while a similar result is expected for fish meal by 2050. This will likely impose additional pressure on wild forage fish stocks with the potential to undermine marine food webs by removing key prey species on which economically and environmentally important wild species depend. Separating fish farming from its reliance on wild fish must occur if aquaculture is to be considered a sustainable means to increase seafood supply.

RISK 3. Waste discharge. Management of aquaculture is key to minimizing pollution effects

Pew Charitable Trusts Marine Aquaculture Task Force 2007. (organized by researchers from the Woods Hole Oceanographic Institution, an independent panel of leaders from scientific, policymaking, business, and conservation institutions; task force chairman was retired US Navy Rear Admiral Richard Pittenger: retired in 2004 as Vice President for Marine Operations and Arctic Research Coordinator for Woods Hole Oceanographic Institution) Sustainable Marine Aquaculture:Fulfilling The Promise; Managing The Risks, January 2007 <http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/Sustainable_Marine_Aquaculture_final_1_07.pdf>

Marine aquaculture facilities produce a variety of wastes that are potentially harmful to the environment and which are discharged untreated into coastal and ocean waters. Wastes from marine aquaculture generally include dissolved (inorganic) nutrients, particulate (organic) wastes (feces, uneaten food and animal carcasses), and chemicals for maintaining infrastructure and animal health. In the United States, aquaculture discharges are currently small compared to other sources of water pollution, but little is known about the assimilative capacity of the marine environment for these pollutants. Additionally, marine aquaculture operations tend to cluster geographically, raising the potential for cumulative impacts. If marine aquaculture expands considerably in the U.S., the choices made regarding the species and methods of culture, as well as the location and concentration of facilities, will determine whether pollution effects from marine aquaculture will be substantial or minor.

OBSERVATION 5. The PLAN. Congress will enact the following plan to manage aquaculture in ocean waters under federal jurisdiction:

1. No use of wild caught fish to feed farmed fish
2. No non-native species
3. Restrictions on location and density of aquaculture farms
4. Safety standards for preventing escapes and disease transmission and for controlling waste
5. NOAA is authorized and tasked with setting up a regulatory permitting process with standards and procedures modeled on the California Sustainable Oceans Act (SB201).
6. Funding from cuts in Head Start
7. Plan takes effect 30 days after an Affirmative ballot
8. Affirmative speeches may clarify the plan.
9. Enforcement through NOAA and the federal courts. Violators will receive sentences similar to existing crimes under existing laws.

OBSERVATION 6. The ADVANTAGES

ADVANTAGE 1. Better ecosystem protection. The California model would protect the ecosystem while allowing the industry to develop

Dr. George Leonard 2009. (director of Ocean Conservancy's Aquaculture Program; Ph. D. in marine ecology and evolutionary biology; task force chairman was ) 9 Sept 2009 testimony before the House Natural Resources Committee Subcommittee on Insular Affairs, Oceans and Wildlife <http://tocdev.pub30.convio.net/news-room/aquaculture/oc-testifies-offshore-aqua.html>

A key starting point for development of a strong, precautionary bill should be the recommendations of the high-level commissions and advisory bodies that have already examined this issue. Most notable of these are the Pew Oceans Commission (2003), the U.S. Commission on Ocean Policy (2004), and the Marine Aquaculture Task Force (2007). Provisions should also draw heavily on California's Sustainable Oceans Act (SB 201), currently the most comprehensive law in the U.S. on marine aquaculture. SB 201 contains many of the environmental, socioeconomic and liability provisions necessary to protect marine ecosystems yet allow a responsible industry to develop. It is a good model upon which to build an environmentally sound and socially responsible national framework.

ADVANTAGE 2. Prevent overfishing. Focusing on vegetarian fish is better for people and fisheries

Dr Carl Safina 2009. (PhD ecology from Rutgers Univ.; director of the Blue Ocean Institute) Summer 2009, University of Texas at Dallas, “A Future for U.S. Fisheries, ISSUES IN SCIENCE AND TECHNOLOGY, <http://www.issues.org/25.4/safina.html>

Fish are not cabbages; they do not grow on sunlight. They have to be fed something, and what most fish eat is other fish. Just as the nation’s ranchers raise cows and not lions, fish farmers should raise species such as clams, oysters, herring, tilapia, and other vegetarian fish, but not tuna. Farming large carnivores would take more food out of the ocean to feed them than the farming operation would produce. The result would be a loss of food for people, a loss of fish to other fisheries, and a loss to the ocean. Done poorly, aquaculture is as much of a ticking time bomb as were overcapitalized fisheries.

ADVANTAGE 3. Native species protection. Restriction of non-native species minimizes ecological risk

Pew Charitable Trusts Marine Aquaculture Task Force 2007. (organized by researchers from the Woods Hole Oceanographic Institution, an independent panel of leaders from scientific, policymaking, business, and conservation institutions; task force chairman was retired US Navy Rear Admiral Richard Pittenger: retired in 2004 as Vice President for Marine Operations and Arctic Research Coordinator for Woods Hole Oceanographic Institution) Sustainable Marine Aquaculture:Fulfilling The Promise; Managing The Risks, January 2007 <http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/Sustainable_Marine_Aquaculture_final_1_07.pdf>

Culture of native species of the local wild genotype substantially addresses two major concerns regarding marine aquaculture: the introduction of invasive species and genetic effects of escapes on wild populations of marine life. Invasive species are a global environmental and economic problem. In addition, there is growing evidence that escaped farmed salmon are interbreeding with wild Atlantic salmon, spreading their genes within dwindling wild stocks of Atlantic salmon and potentially confounding the recovery of this species. Most of the species currently being used or developed for marine aquaculture are depleted in many areas of their range. To minimize the ecological risk of introducing a species that might become invasive, or of introducing harmful genes to wild populations, marine aquaculture permits should be limited to native species of the local wild genotype unless scientific information and analysis shows the risk of harm from culturing a nonnative species or a native species of nonlocal genotype to be negligible.

SEA OF TROUBLES: THE CASE AGAINST ARCTIC OFFSHORE OIL DRILLING

Imagine the risks involved that would make a certain type of oil drilling so dangerous to the environment that a major international oil company says it ought to be banned. Please listen carefully as we explain the ecological time bomb that awaits us unless we affirm that The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. We’ll use the following DEFINITIONS

Marine Natural Resources:

National Oceanic & Atmospheric Administration, revised in 2010. National Marine Protected Areas Center, Glossary (brackets in original) last revised 12 Feb 2010 <http://www.mpa.gov/glossary.html>

**[Marine] Natural Resources:** Any biological or physical component of the marine environment that contributes to the structure, function, or services provided by a marine ecosystem.

**Substantial**: “considerable in quantity **:** significantly great” (Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/substantially>)

**Reform:** “to put or change into an improved form or condition” Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/reform>)

OBSERVATION 2. INHERENCY. Some disturbing facts about the Status Quo

FACT 1. Arctic Offshore Drilling has begun. Shell Oil Company tried but failed to drill for oil off the Alaska coast. But despite the failure, to adapt the immortal words of Arnold Schwarzenegger: “They’ll be back.”

NEW YORK TIMES 2013. (journalist John Broder) 27 Feb 2013 “With 2 Ships Damaged, Shell Suspends Arctic Drilling“ <http://www.nytimes.com/2013/02/28/business/energy-environment/shell-suspends-arctic-drilling-for-2013.html?_r=0>

The company’s two drill ships suffered serious accidents as they were leaving drilling sites in the Beaufort and Chukchi Seas last fall and winter and are being sent to Asia for repairs. Shell acknowledged in a statement that the ships would not be repaired in time to drill during the short summer window this year. “Our decision to pause in 2013 will give us time to ensure the readiness of all our equipment and people,” said Marvin E. Odum, president of Shell Oil Company. He said Arctic offshore drilling was a long-term project that the company would continue to pursue.

FACT 2. No Safety Margin and No Cleanup Technology. Shell was unprepared for an oil spill, and adequate response would have been impossible in any case.

Frances Beinecke 2013. (President, Natural Resources Defense Council; master's degree from the Yale School of Forestry and Environmental Studies; appointed by Pres. Obama to the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling) After Shell Fiasco, Oil Companies Acknowledge Hazards of Arctic Drilling 29 Mar 2013 <http://switchboard.nrdc.org/blogs/fbeinecke/after_shell_fiasco_oil_compani.html>

If a major spill had occurred, it is clear Shell wasn’t prepared to respond. The company’s emergency response barge—a linchpin of its spill response strategy—was stuck in Bellingham, Washington throughout the drilling season because it kept violating standards for safety, air pollution, and other critical measures. Meanwhile, the containment dome the company was supposed to use to capture oil in the event of spill was “crushed like a beer can” during pre-deployment testing. There is no backup in the American Arctic when systems fail. The Coast Guard oversees spill response, yet the closest Coast Guard base is 1,000 miles away. Two of the Coast Guards polar icebreaking vessels are not even operational, leaving them with only one. There are few shipping ports or landing strips near the lease sites. Bringing rescue crews and clean up equipment to the Arctic environment would be a staggering challenge. And even if we could get them there, the region is covered in ice for over eight months a year, and no proven technology has been able to clean up oil in icy waters.

OBSERVATION 2. The HARMS

HARM 1. Arctic environment threatened. Arctic conditions make the environment and its wildlife uniquely vulnerable to oil spills

Hannah King 2009. (JD candidate, U. of Maine Law School) PROTECTING THE NORTHWEST PASSAGE: ASSESSING THE THREAT OF YEAR-ROUND SHIPPING TO THE MARINE ECOSYSTEM AND THE ADEQUACY OF THE CURRENT ENVIRONMENTAL REGULATORY REGIMES, OCEAN & COASTAL LAW JOURNAL, <http://mainelaw.maine.edu/academics/oclj/pdf/vol14_2/vol14_oclj_269.pdf> (brackets in original)

In the event of an oil spill, marine flora would likely suffer heavy mortality rates and population recovery would be slow, due to reduced rates of productivity in the cold waters of the Arctic. In addition, the “[p]roductivity [of these plant communities] is concentrated in space and time;” thus, an oil spill occurring along the edge of sea-ice, in a biological “hot spot” or during the spring break up of the ice has the potential to devastate a large percentage of the Arctic’s plankton population. Plankton is a vital part of the Arctic food chain nourishing Arctic cod and amphipods, which are the primary food source for harp seals, narwhales, beluga whales, seabirds, ring seals, and Arctic foxes. The tangential effects of a mass die-off of subtidal flora are unknown; however, the delicate balance of the Arctic environment and the interdependence of species indicate that the effects would be significant and wide-ranging.

HARM 2. Lives and livelihoods at stake. The lives of rescue workers and the livelihoods of Alaskan Native communities are at stake in Arctic offshore drilling scenarios

Marilyn Heiman 2013 (Secretary of Interior’s Alaska policy advisor during the Clinton administration; served on the six-person Exxon Valdez Oil Spill Trustee Council; former special assistant on natural resources and oceans for the governor of Alaska ) 14 Mar 2013 CHRISTIAN SCIENCE MONITOR Arctic oil drilling needs better federal regulation <http://www.csmonitor.com/Commentary/Opinion/2013/0314/Arctic-oil-drilling-needs-better-federal-regulation-video> (brackets added)

But the issues go beyond any single accident or oil company. The [Shell Oil Company ship] Kulluk ran aground in the Gulf of Alaska only 50 miles from the closest US Coast Guard station, yet the current targets for drilling lie 1,000 miles farther north in the Arctic Ocean. Helicopters, planes, and vessels were on hand to evacuate the crew of the Kulluk and assist in the salvage. But farther north, there are no major ports, airports, or roads. Hurricane-force winds, subzero temperatures, shifting sea ice, and long periods of fog and darkness could shut down a rescue operation or spill response altogether. No proven methods exist to clean up oil in broken ice. At stake is not only the safety of crew members and rescue workers, but also a rich and complex ecosystem found nowhere else in the United States. The Arctic Ocean is home to bowhead whales, walruses, polar bears, and other magnificent marine mammals as well as millions of migratory birds. Alaska Native communities have depended on a healthy ocean for traditional hunting and fishing for hundreds of years.

HARM 3. The Cleanup Costs. Cleaning polluted shorelines costs up to $294,000 per metric ton of oil spilled. And they don’t come close to getting it all.

Ellycia Harrould-Kolieb, Jacqueline Savitz, Dr. Jeffrey Short and Marianne Veach 2009. (Harrould-Kolieb - Master of Environment from the University of Melbourne, Australia. Savitz - master's degree in environmental science with emphasis in toxicology from the University of Maryland, Chesapeake Biological Laboratory; bachelor's degree in marine science and biology from the University of Miami, Fla. Short - Ph.D., Fisheries Biology, University of Alaska ; research chemist at National Oceanic & Atmospheric Administration. Veach – climate change intern at Oceana) March 2009 TOXIC LEGACY: LONG-TERM EFFECTS OF OFFSHORE OIL ON WILDLIFE & PUBLIC HEALTH <http://oceana.org/sites/default/files/reports/Toxic_Legacy_FINAL.pdf>

When an oil spill reaches coastal areas the cost and scope of the cleanup efforts increase significantly. When a spill hits a coast, as much as 99 percent of the costs can go to just cleaning-up the shoreline. Some estimate the cost of cleaning oil from offshore waters to be approximately $7,350 per metric ton of oil spilled, while shoreline cleanup can average twenty times that at $147 thousand to $294 thousand per metric ton. Smaller spills may be more costly to clean up for a given amount of oil spilled because of the relatively high price tag on evaluating the spill, bringing in equipment and getting it set up. Besides the costs of cleanup the impacts on coastal ecosystem structure and function, as well as the valuable services provided by the ecosystem, such as water filtration by wetlands and mangroves, that will likely be lost or disrupted should also be taken into account when evaluating the cost of an oil spill. All told, these large scale cleanups are rarely complete and the effects of oil on the coastline can linger for many decades after a spill. In the case of the Exxon Valdez spill in 1989, $2.5 billion was spent over the three years following the spill. In 1998, nine years after the spill, studies showed that the cleanup efforts had little effect on the oil deposits left under rocks. In 2001, twelve years after the spill, studies of the area showed that more than half of the beaches analyzed still had considerable amounts of oil remaining from the Exxon Valdez spill.

OBSERVATION 3. Congress and the President should adopt our PLAN.

1. A ban on offshore oil drilling in US waters north of 60 degrees north latitude.
2. Enforcement through the Coast Guard, the Navy and the Justice Department. Convicted violators receive 5 years imprisonment.
3. Funding through existing budgets of existing agencies.
4. Plan takes effect immediately upon an Affirmative ballot.
5. Affirmative speeches may clarify the plan as needed.

OBSERVATION 4. SOLVENCY. Experts recommend our plan because it works. We see this in 2 key facts:

FACT 1. Oil company chairman agrees. It might amaze you to learn that the first advocate for our plan is not a radical environmentalist, but the CEO of the large French oil company “Total,” as reported by NBC News in 2012:

NBC News 2012. “Environmental risk of drilling in Arctic too high, CEO of oil giant Total says” 26 Sept 2012 <http://worldnews.nbcnews.com/_news/2012/09/26/14107150-environmental-risk-of-drilling-in-arctic-too-high-ceo-of-oil-giant-total-says?lite>

Energy companies should not drill for crude oil in Arctic waters because the environmental risks are too high, Total SA Chief Executive Officer Christophe de Margerie told the Financial Times on Wednesday. The newspaper, which operated behind a pay wall, described de Margerie's comments as the first time a major oil company has publicly criticized offshore exploration in the Arctic. The risk of an oil spill in such an environmentally sensitive area was simply too high, according to de Margerie. "Oil on Greenland would be a disaster. A leak would do too much damage to the image of the company," he said.

FACT 2. Now is the perfect time to stop Arctic drilling. Shell’s bad experience in the Arctic makes it clear that our plan is needed, and that now is the perfect time to do it.

Margaret Kriz Hobson 2013. (journalist) ENERGY & ENVIRONMENT DAILY 11 Apr 2013 Interior under fire as another oil major cancels exploration plans <http://www.eenews.net/public/energywire/2013/04/11/1> (brackets added)

[managing director of ClearView Energy Partners Kevin] Book noted that Shell and ConocoPhillips began their recent Arctic oil programs before the unconventional oil boom began in America. At that point, the Alaskan Arctic and Gulf of Mexico offered the nation's most promising oil and gas reserves. "They were looking for an enormous opportunity in a world where opportunities were few and far between," he said. "Alaska was going to be where you had to go" to tap large oil reserves. "It's no longer the case that Alaska is where you have to go," he concluded. "It's where you can go." Book predicted that oil companies are not likely to walk away from the massive oil and gas reserves in the American Arctic. "I think it's rational to suggest that the majors will come back to these opportunities," he said. "They don't have to commit capital now, particularly if they think there's going to be a better justification for committing capital in a better oil price environment in two or three years." With the oil majors postponing their Arctic drilling projects, environmental advocates say now is the time for the federal government to adopt more aggressive controls on exploration in Alaska's offshore waters. "Today's announcement from ConocoPhillips is further proof that no oil company is ready to drill in the harsh and unpredictable environment of the Arctic Ocean," said Cindy Shogan, executive director at the Alaska Wilderness League. "This pause is a real opportunity for President Obama to revisit his position on Arctic Ocean drilling," Shogan said. "With no infrastructure or ability to clean up an oil spill in ice and Shell's extensive laundry lists of mishaps and failures, it is a no-brainer to suspend drilling in the Arctic."

UNQUOTE. Judge, please do exactly that with an Affirmative ballot in today’s debate. Thank you.

INTRUDER ALERT: THE CASE FOR STOPPING ASIAN CARP

In the early 1900s, engineers rigged up a system of canals to connect Lake Michigan with the tributaries feeding into the Mississippi River. It seemed like a good idea at the time, and it did bring some benefits. But nobody realized then that this man-made connection would open the path for a silent invasion that will devastate the Great Lakes ecosystem unless we stop it. There’s no time to waste: the invasion is coming, and may have already begun. Please act quickly by joining us as we affirm that The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. We offer the following DEFINITIONS

**Resource**: “c : a natural feature or phenomenon that enhances the quality of human life” (*Merriam-Webster Online Dictionary 2013.* <http://www.merriam-webster.com/dictionary/resource>*)*

Marine Natural Resources:

National Oceanic & Atmospheric Administration, revised in 2010. National Marine Protected Areas Center, Glossary (brackets in original) last revised 12 Feb 2010 <http://www.mpa.gov/glossary.html>

**[Marine] Natural Resources:** Any biological or physical component of the marine environment that contributes to the structure, function, or services provided by a marine ecosystem.

**Substantial**: “considerable in quantity **:** significantly great” (Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/substantially>)

**Reform**: “to put or change into an improved form or condition” *Merriam-Webster Online Dict., 2013,* <http://www.merriam-webster.com/dictionary/reform>*)*

**Policy:** “b : a high-level overall plan embracing the general goals and acceptable procedures especially of a governmental body” *(Merriam-Webster Online Dict. 2013* <http://www.merriam-webster.com/dictionary/policy?show=0&t=1369417068>*)*

Asian Carp

CHRISTIAN SCIENCE MONITOR 2012. (journalist Trevor Quirk) 27 Feb 2012 “Why Asian carp are such a threat” <http://www.csmonitor.com/Science/2012/0227/Why-Asian-carp-are-such-a-threat>

“ 'Asian carp' is a catchall for four distinct species: the Bighead, Silver, Grass, and Black carp. Though their names might signify otherwise, these species do closely resemble each other, tending to have the same lurid tarnished-silver scales. The four species vary in size, but are large compared to native American freshwater fish. They can weigh anywhere from 60 to 110 pounds, and range from 40 to 60 inches in length. All four are known to inhabit the Mississippi River Basin, which eventually connects to the Great Lakes.”

OBSERVATION 2. INHERENCY. Some important facts about the status quo

FACT 1. Hydrologic Connection. Lake Michigan is connected to the Mississippi River system by canals

Fisheries & Oceans Canada, 2006. (Government of Canada, agency responsible for marine conservation) article date is 2006, web page was last modified 22 April 2013 “Will Asian Carp Invade Canada?” <http://www.dfo-mpo.gc.ca/science/Publications/article/2006/01-01-2006-eng.htm>

Back in 1900, American authorities created a canal linking Lake Michigan to the Mississippi system by way of the Des Plaines and Illinois rivers. The purpose was to flush Chicago's sewage southward, rather than into Lake Michigan, which provided drinking water. Today, the Chicago Sanitary and Ship Canal also provides transport and recreational boating, and officials are reluctant to close it.

FACT 2. Closure blocked. 5 States have requested closure of the Mississippi/Lake Michigan shipping locks to stop Asian Carp from getting into the Great Lakes, but the federal government refuses.

CHRISTIAN SCIENCE MONITOR 2012. (journalist Trevor Quirk) 27 Feb 2012 “Why Asian carp are such a threat” <http://www.csmonitor.com/Science/2012/0227/Why-Asian-carp-are-such-a-threat>

The US Supreme Court has refused to hear the Great Lakes states' appeal to close shipping locks to stymie the on-going incursion of Asian carp. Michigan, Minnesota, Ohio, Pennsylvania, and Wisconsin are suing the Army Corps of Engineers to provide greater protection to prevent the fish from entering the Great Lakes. While this suit continued, the five states sought an injunction to have the Corps close locks on waterways that connect the Mississippi River with Lake Michigan. The federal government said that the efforts proposed by these states would detract from the long-term strategy of the Corps. This is the third time such an appeal has been rejected.

FACT 3. We’re on the brink. A few Asian carp may be in the Great Lakes already, but if we act now we can stop them.

Associated Press 2013. “Report: Asian carp may have reached Great Lakes,” 5 Apr 2013 <http://lacrossetribune.com/news/local/report-asian-carp-may-have-reached-great-lakes/article_4ad2d56e-9da4-11e2-897e-001a4bcf887a.html> (ellipses in original)

At least some Asian carp probably have found their way into the Great Lakes, but time remains to stop the dreaded invaders from becoming established, according to a scientific report released Thursday. Written by experts who pioneered use of genetic data to search for the aggressive fish, the paper disagrees with government scientists who say many of the positive Asian carp DNA hits recorded in or near the lakes could have come from other sources, such as excrement from birds that fed on carp in distant rivers. “The most plausible explanation is still that there are some carp out there,” said Christopher Jerde of the University of Notre Dame, the study’s lead author. “We can be cautiously optimistic ... that we’re not at the point where they’ll start reproducing.”

OBSERVATION 3. The HARMS.

HARM 1. Ecosystem destruction

American Sportfishing Association 2013. (recreational fishing trade association) “The Advancing Threat of Asian Carp” <http://kaf.qc.astutetech.com/action/article_ne/the_advancing_threat_of_asian_carp>

Asian carp escaped into the Mississippi River from southern aquaculture facilities in the early 1990s when the facilities were flooded. Steadily, the carp made their way northward, becoming the most abundant species in many areas of the Mississippi; out-competing native fish and causing severe hardship to the anglers who fish the river. The Chicago Ship and Sanitary Canal connects the Mississippi River to the Great Lakes. Currently, the only barrier to prevent carp from entering Lake Michigan is an electric barrier along the canal. Recently however, an Asian carp was found beyond the electric barrier – just six miles from Lake Michigan and Asian carp DNA has been collected in Lake Erie, suggesting that they may have already entered the Great Lake system. Asian carp are voracious feeders and if allowed to enter the Great Lakes, they will quickly out-compete the forage base of valuable sport fish such as walleye, trout and salmon, creating the potential for large-scale ecosystem devastation.

HARM 2. Enormous Economic Hardship in the US.

Letter signed by 11 US Congressmen in May 2013. (Representatives Mike Rogers, Dan Benishek, Dave Camp, John Conyers, Brian Higgins, Bill Huizenga, Dave Joyce, Ron Kind, Gary Peters, Fred Upton and Tim Walberg) Letter addressed to Rep. Bill Shuster, Chairman of House Transportation & Infrastructure Committee and to Rep. Nick Rahall, Ranking Member of same committee, 13 May 2013 <http://upton.house.gov/uploadedfiles/05_13_2013_asian_carp.pdf>

Over the past several decades, the spread of Asian carp in the Great Lakes has posed a significant threat to the ecologic balance and economic viability of the Great Lakes fisheries that generate $7 billion annually. As our economy continues to slowly recover, it is necessary to ensure that preventive measures are in place to protect our Great Lakes region that supports 1.5 million U.S. jobs. In the 113th Congress, several legislative proposals have been introduced to prevent this invasive species from further damaging our country’s largest freshwater resource. The failure to expediently act on this critical issue will present our region with enormous economic hardships.

HARM 3. Wasting money on temporary measures

Associated Press 2010. (journalist John Flesher; has covered the Great Lakes since 1989) 11 Feb 2010 “Feds Pass on Surest Solution to Asian Carp Advance” <http://chestertontribune.com/Environment/211102%20feds_pass_on_surest_solution_to.htm>

"We're spending close to $80 million just for a short-term deterrent," said Joel Brammeier, president of the Alliance for the Great Lakes, an environmental group. "We need to stop pushing money toward temporary solutions and get everyone on track toward investing in one that works for good — and that means absolute physical separation."

OBSERVATION 4. We have the PLAN to do just that. Congress will authorize and the Army Corps of Engineers will carry out the following PLAN:

1. Establish barriers in the Chicago Area Waterway System to break the connection between Lake Michigan and the Mississippi River Basin, creating complete hydrologic separation.

2. Use any necessary safe means to eradicate Asian carp from the Chicago Area Waterway System.

3. Funding from canceling temporary carp abatement measures, and cutting Head Start.

4. Plan takes effect the day after an Affirmative ballot

5. Enforcement through normal military discipline.

6. Affirmative speeches may clarify the plan

OBSERVATION 5. ADVANTAGES

ADVANTAGE 1. Stop Asian Carp. The Attorneys General of Michigan, Wisconsin, Minnesota, Ohio, and Pennsylvania have been begging the federal courts to force the Army Corps of Engineers to do our plan for several years now. Listen to their reasons in the brief they filed in Federal court in 2010, when they said:

Attorneys General of Michigan, Wisconsin, Minnesota, Ohio, and Pennsylvania 2010. Brief filed 19 July 2010 in the case of STATE OF MICHIGAN, STATE OF WISCONSIN, STATE OF MINNESOTA, STATE OF OHIO, and COMMONWEALTH OF PENNSYLVANIA v.UNITED STATES ARMY CORPS OF ENGINEERS and METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO, US District Court, Northern District of Illinois <http://www.michigan.gov/documents/ag/Complaint_328189_7.pdf>

The Defendants, the United States Army Corps of Engineers (Corps) and the Metropolitan Water Reclamation District of Greater Chicago (District) have created and maintained, and continue to operate and control facilities within the Chicago Area Waterway System (CAWS) that link Illinois waters – that are infested with the harmful invasive species bighead carp and silver carp (collectively Asian carp) – to Lake Michigan and other connected waters. To the extent those facilities are maintained and operated in a manner that allows the migration of Asian carp into the Great Lakes and connected waters, they constitute a public nuisance that threatens grave and irreparable harm to public trust resources as well as riparian and other rights of the citizens of the Plaintiff States. The Complaint seeks a declaratory judgment that Defendants are maintaining a public nuisance and that the Corps has acted unlawfully, as well as injunctive relief. Specifically, Plaintiffs seek to require Defendants to take immediate and comprehensive action to abate the nuisance and to minimize the risk that Asian carp will migrate from the CAWS into Lake Michigan, and to plan and implement, as soon as possible, permanent measures to physically separate the Asian carp-infested Illinois waters from Lake Michigan.

ADVANTAGE 2. We solve for all other invasive species. Closing the Great Lakes/Mississippi River connection is the best long-term solution.

Great Lakes Commission 2012 (chaired by James Tierney, assistant commissioner for water resources at the New York State Department of Environmental Conservation, is an interstate compact agency established under state and U.S. federal law ; consists of governors’ appointees, state legislators and agency officials from its eight member states) “Restoring the Natural Divide – Separating the Great Lakes and Mississippi River Basins in the Chicago Area Waterway System” January 2012 (brackets added) <http://www.glc.org/caws/pdf/CAWS-PublicSummary-mediumres.pdf>

In addition to Asian carp, separation will prevent future AIS [aquatic invasive species] from entering the Great Lakes or Mississippi River basins via the CAWS [Chicago Area Waterway System]. The U.S. Army Corps of Engineers has identified 39 AIS with a high risk of passing into either the Great Lakes or Mississippi River. More than 250 non-native species are already established in one or both of the basins, and invasive species cost the Great Lakes region alone an estimated $200 million annually. For these reasons, separation appears to be the best long-term option to prevent Asian carp and other AIS from invading the Great Lakes or Mississippi River basins through Chicago-area waterways.

ADVANTAGE 3. Economic benefits. Closure brings economic benefits to the region

Andy Buchsbaum, Glynnis Collins, Joel Brammeier, Jennifer Nalbone, Thomas Cmar, & Cheryl Mendoza 2011. (Buchsbaum – Regional Executive Director, National Wildlife Federation. Collins – Exec. Director, Prairie Rivers Network. Brammeier – President, Alliance for the Great Lakes. Nalbone – Director of Navigation and Invasive Species, Great Lakes United. Cmar – Midwest Program Attorney, Natural Resources Defense Council. Mendoza – Assoc. Director, Freshwater Future) Great Lakes and Mississippi River Interbasin Study (GLMRIS) Comments March 31, 2011 <http://www.nwf.org/~/media/PDFs/Regional/Great-Lakes/GLMRIS_CommentsFINAL.pdf>

While we have several recommendations to improve GLMRIS which are highlighted below, we would like to first express that the overarching goal for GLMRIS and addressing the transfer of aquatic nuisance species (“ANS”) must be a permanent solution to this ongoing crisis. The only permanent and sustainable solution to this problem is hydrologic separation of the Great Lakes and the Mississippi River basin. Very simply, if water does not flow between the two great watersheds, aquatic plants, animals and diseases will not be able to migrate actively or passively between the two. If done right, hydrologic separation will leverage new and existing smart, well-planned investments that will establish new transportation infrastructure in the Chicago area that make the region more globally competitive, and upgrade treatment of wastewater and storm water. The result can be a revitalized Chicago Area Waterway System (CAWS) that not only closes the highway for invasive species, but also enhances Chicago‘s transportation system, creates local and regional jobs, reduces business costs across the region, and improves water quality, tourism, and recreation. Hydrologic separation means infrastructure upgrades that will benefit the entire Great Lakes and Mississippi region by enhancing our economic competitiveness and allow us to live more sustainably with our freshwater resources.

LET’S MAKE A DEAL: THE CASE FOR CHESAPEAKE BAY NUTRIENT & SEDIMENT TRADING

[Note: This case is based on legislation introduced into Congress but not enacted at Blue Book publication time. Stay current on the research to ensure this plan has not been enacted before you run this case.]

When you hear the word “nutrient,” you normally think of it as a good thing. But materials that are nutrients to land-based agricultural plants, like nitrogen and phosphates, are deadly to marine ecosystems. As sewage from cities and fertilizer from farms run off into the Chesapeake Bay, these nutrients fuel exponential growth of poisonous algae and wreck the marine ecosystem. Status Quo methods aren’t working fast enough to reduce this deadly threat. That’s why my partner and I are affirming that The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. We offer the following DEFINITIONS

Marine Natural Resources:

National Oceanic & Atmospheric Administration, revised in 2010. National Marine Protected Areas Center, Glossary (brackets in original) last revised 12 Feb 2010 <http://www.mpa.gov/glossary.html>

**[Marine] Natural Resources:** Any biological or physical component of the marine environment that contributes to the structure, function, or services provided by a marine ecosystem.

**Substantial**: “considerable in quantity **:** significantly great” (Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/substantially>)

**Reform**: “to put or change into an improved form or condition” Merriam-Webster Online Dict., 2013, [*http://www.merriam-webster.com/dictionary/reform*](http://www.merriam-webster.com/dictionary/reform))

Chesapeake Bay States:

H.R.4153, the Chesapeake Bay Program Reauthorization and Improvement Act 2011. <http://thomas.loc.gov/cgi-bin/query/F?c112:1:./temp/~c112PKhdhD:e30336>:

The term `Chesapeake Bay State' means Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia, and the District of Columbia.

**TMDL**: Total Maximum Daily Load – the total amount of pollution allowed to enter the Chesapeake Bay on a daily basis.

OBSERVATION 2. INHERENCY. Some important facts about the Chesapeake Bay in the Status Quo

FACT 1. Vital but threatened marine resource. The Chesapeake Bay is a vital resource under threat from numerous sources of pollution, and cleanup is slow

Cy Jones, Evan Branosky, Mindy Selman, Dr. Michelle Perez 2010. (Jones - MS in Environmental Engineering Univ of Iowa; leads Water Quality Trading Initiative for the Chesapeake Bay watershed at World Resources Institute. Branosky - masters in environmental policy U. of Maryland. Selman – masters degree Sustainable Development and Conservation Biology from U. of Md. Perez – PhD in environmental policy from the U. of Maryland School of Public Policy) How Nutrient Trading Could Help Restore the Chesapeake Bay Feb 2010 World Resources Institute <http://pdf.wri.org/working_papers/how_nutrient_trading_could_help_restore_the_chesapeake_bay.pdf>

The largest estuary in the United States, the Chesapeake Bay is a vital economic, cultural, and ecological resource for the region and the nation. Excess runoff and discharges of nutrients—particularly nitrogen and phosphorus—from farms, pavement, wastewater treatment plants (WWTPs), and other sources have placed the bay on the Environmental Protection Agency’s (EPA’s) List of Impaired Waters. This nutrient pollution is responsible for creating large algal blooms that lead to “dead zones” in the bay (Chesapeake Bay Program, 2009b). Despite decades of restoration efforts, progress has been slow, and the rivers and streams that drain into the Bay remain polluted (Chesapeake Bay Program, 2009b).

FACT 2. Exorbitant Cost. The high cost of fully implementing status quo clean-up plans is unfunded and politically unlikely to ever be funded.

Environmental policy workshop at the School of Public Policy of the University of Maryland 2012. (Melanie Foley, Jeremy Hanson, Giuliana Kunkel, Fernando Saltiel, and Laura Vykol – Masters Degree candidates. Supervised by Prof. Robert H. Nelson, School of Public Policy, Univ of Maryland) Oct 2012 SAVING THE CHESAPEAKE BAY TMDL: THE CRITICAL ROLE OF NUTRIENT OFFSETS <http://www.chesapeakebay.net/channel_files/19062/660_--_environmental_workshop_report,_final,_spring_2012.pdf> (brackets added)

Combining the cost estimates for all six states and the District thus suggests a grand total of around $50 billion by 2025 for the purpose of cleaning up the Bay. Dividing these costs over 15 years from 2010 to 2025, it would amount to about $3.3 billion per year. Individually, Maryland, Virginia and Pennsylvania might each be expected to incur state costs of about $1 billion per year. The states of Delaware, New York and West Virginia might be expected to incur costs in total among the three of about $325 million per year. The 2010 Bay TMDL and the state and local WIPs [Watershed Implementation Plans] subsequently prepared do not indicate where funding of this large magnitude – much of which would have to be new -- might be obtained. In a system of adaptive management, the large funding requirements would be addressed and the potential for funding shortfalls taken into account as they arise. Political resistance is likely to develop in some Bay states when the tradeoffs between spending for Bay cleanup and other state funding needs are examined. (This may be particularly likely for those states that do not directly border on the Bay.) The actual funding that will become available is thus a major uncertainty, depending in part on future political developments at both the federal and state levels. As discussed above, however, the Bay TMDL in practice makes little provision for such uncertainty and for a process of adaptive management to deal with it. It does not examine the significant possibility that sufficient funds might not be forthcoming and that the 2010 Bay TMDL might therefore soon require substantial revisions, including potentially some changes in the 2017 and 2025 reduction targets themselves.

OBSERVATION 3. The IMPACTS. Pollution in the Chesapeake Bay hurts us in two ways

IMPACT 1. Human Health. Toxic algae threatens human health in the Chesapeake Bay

Tom Pelton 2009. (award winning journalist) Bad Water 2009: The Impact on Human Health in the Chesapeake Bay Region <http://www.cbf.org/document.doc?id=328>

Nutrient pollution and warmer weather also stimulate the growth of harmful algal blooms. Blue green algae, also known as cyanobacteria, can cause liver disease, skin rashes, nausea, and vomiting. Dr. Peter Tango, Chesapeake Watershed Monitoring Coordinator for the U.S. Geological Survey, recently co-authored a report that called harmful algal blooms a “significant and expanding threat to aquatic life, human health, and regional economies.” Between 2000 and 2006, Dr. Tango tested waters with cyanobacteria blooms and found that 31 percent had enough toxins to make the waters unsafe for children to swim in.

IMPACT 2. Ecosystem destruction. Nutrient runoff creates conditions fatal to marine ecosystems

Lisa Dirks 2010. (BS in biology ; Masters in Sustainability from Arizona State U.) Eutrophication Overview - Results Of Excessive Nitrogen & Phosphorous Runoff <http://www.greenharvestgroup.com/feed-the-earth-blog/eutrophication-overview-results-excessive-nitrogen-amp-phosphorous-runoff-photos>

Excessive nutrients in water bodies cause exponential growth of algae. High levels of organic matter combined with decomposing algae rob the water of available oxygen, resulting in broad "dead zones" such as those often documented in the Gulf of Mexico and the Chesapeake Bay. Furthermore, some types of algae, like red tide, produce a deadly neurotoxin hazardous or even fatal to both marine life and humans. As a result, eutrophication destroys fisheries, habitats, ecosystems, and causes the death of marine life living in or dependent on this body of water.

OBSERVATION 4. The PLAN. Congress and the President will enact section 117A of the proposed Chesapeake Bay Program Reauthorization and Improvement Act (HR4153). This will include the following:

1. Establish the Chesapeake Bay Nutrient and Sediment Trading Commission
2. The Commission administers an interstate nitrogen, phosphorus and sediment discharge credit trading program for the Chesapeake Bay States to meet existing water quality goals set by EPA for total allowable discharge from all sources, including agriculture.
3. Section 117A paragraph “h” of HR4153, regarding termination of the Commission in 2018, is not enacted.
4. Enforcement through the EPA, the Justice Department and federal courts. Violators subject to the same penalties as for similar crimes under existing law.
5. Funding from cuts in Head Start and general federal revenues
6. Plan takes effect the day after an Affirmative ballot
7. Affirmative speeches may clarify the plan as needed.

OBSERVATION 5. SOLVENCY. The Chesapeake Bay Commission and RTI International explain in 2012 the methodology and success factors of our plan:

Chesapeake Bay Commission and RTI International 2012. (CBC is an organization set up by the legislatures of Maryland, Virginia and Pennsylvania that coordinates efforts to improve the Chesapeake Bay – they commissioned and published this study; the study was written by George Van Houtven, Ross Loomis, Justin Baker, Robert Beach, Sara Casey of RTI International, an independent, nonprofit institute that provides research, development, and technical services to government and commercial clients worldwide) Nutrient Credit Trading for the Chesapeake bay - An Economic Study MAY 2012 <http://www.chesbay.us/Publications/nutrient-trading-2012.pdf>

Nutrient trading is a market-based strategy for meeting nutrient-related water quality goals. The idea is to harness the benefits offered by a competitive marketplace and use it to achieve environmental goals in a more cost-effective way. A nutrient market works by establishing a mandatory cap on the combined pollution loads from multiple sources. It then allows trading of individual loads among individual sources to determine where and how the load reductions occur to meet the cap. It takes advantage of the fact that the multiple sources face different costs when seeking to accomplish the load reductions. The differences in costs occur due to myriad factors ranging from an individual source’s production processes to its location or size to available technologies for reducing the load. Trading allows those sources with relatively low costs to generate “nutrient credits” by reducing loads by more than is required. The generator of the credits can then sell these credits to relatively high-cost sources, allowing the purchaser to de facto “reduce” its load at less cost. The combined result is an overall achievement of pollution load reductions at a lower total cost.

OBSERVATION 6. COMPARATIVE ADVANTAGES

ADVANTAGE 1. Cost-effective cleanup. Tradable offsets improve the cost-effectiveness and overall efficiency of Bay cleanup

Environmental policy workshop at the School of Public Policy of the University of Maryland 2012. (Melanie Foley, Jeremy Hanson, Giuliana Kunkel, Fernando Saltiel, and Laura Vykol – Masters Degree candidates. Supervised by Prof. Robert H. Nelson, School of Public Policy, Univ of Maryland) Oct 2012 SAVING THE CHESAPEAKE BAY TMDL: THE CRITICAL ROLE OF NUTRIENT OFFSETS <http://www.chesapeakebay.net/channel_files/19062/660_--_environmental_workshop_report,_final,_spring_2012.pdf>

Offsets would offer major advantages for the Bay cleanup in three further ways besides as a means of achieving pollution reduction targets by offsetting new or increased loads in the Bay watershed due to new development. A first such additional advantage is that a system of offsets will create incentives for new developers themselves to make voluntary nutrient and sediment flow reductions from their own development projects. For example, if a developer has to offset the stormwater nutrient loads from a new subdivision, there will be a significant incentive to minimize the subdivision’s stormwater nutrient flows through low-impact development (LID) or other innovative measures (thus reducing the burden of required offset purchases by the developer). Furthermore, if there is an active market for offsets, the developer may seek to generate credits by voluntarily installing a high-performance on-site disposal system (OSDS) that can connect to nearby septic systems and reduce overall nutrient loads. An offset scheme in this way provides incentives to minimize total TMDL implementation costs, further improving the cost-effectiveness and overall efficiency of the Bay cleanup.

ADVANTAGE 2. Faster cleanup. Trading could accelerate progress toward clean water goals

Cy Jones, Evan Branosky, Mindy Selman, Dr. Michelle Perez 2010. (Jones - MS in Environmental Engineering Univ of Iowa; leads Water Quality Trading Initiative for the Chesapeake Bay watershed at World Resources Institute. Branosky - B.S. in agricultural science from Rutgers Univ; masters in environmental policy U. of Maryland. Selman – masters degree Sustainable Development and Conservation Biology from U. of Maryland. Perez – PhD in environmental policy from the U. of Maryland School of Public Policy) How Nutrient Trading Could Help Restore the Chesapeake Bay Feb 2010 World Resources Institute <http://pdf.wri.org/working_papers/how_nutrient_trading_could_help_restore_the_chesapeake_bay.pdf>

Trading could accelerate nutrient load reductions. Nutrient trading encourages identiﬁcation and adoption of the least expensive nutrient reduction practices, many of which are frequently faster and easier to implement. By achieving the most efficient, readily available nutrient reductions, trading can accelerate progress toward achieving clean water goals.

ADVANTAGE 3. Economic benefits. A regional nutrient trading market would produce significant economic benefits

Cy Jones, Evan Branosky, Mindy Selman, Dr. Michelle Perez 2010. (Jones - MS in Environmental Engineering Univ of Iowa; leads Water Quality Trading Initiative for the Chesapeake Bay watershed at World Resources Institute. Branosky - B.S. in agricultural science from Rutgers Univ; masters in environmental policy U. of Maryland. Selman – masters degree Sustainable Development and Conservation Biology from U. of Maryland. Perez – PhD in environmental policy from the U. of Maryland School of Public Policy) How Nutrient Trading Could Help Restore the Chesapeake Bay Feb 2010 World Resources Institute <http://pdf.wri.org/working_papers/how_nutrient_trading_could_help_restore_the_chesapeake_bay.pdf> (brackets added)

Establishing a baywide nutrient trading market could help reduce nutrient pollution in the Chesapeake Bay in the most cost-effective, timely manner. It could allow sources of pollution such as WWTPs and municipal stormwater programs to inexpensively meet their pollution targets and could create new revenue opportunities for farmers, entrepreneurs, and others who implement low-cost pollution reduction practices. Preliminary analyses indicate that the economic beneﬁts of a baywide nutrient trading market for nitrogen could be signiﬁcant. Municipalities could save hundreds of millions of dollars each year on stormwater nutrient reductions. Wastewater treatment plants could see nitrogen reduction costs lowered by as much as 60 percent in some cases. The agricultural sector could earn $45 million to $300 million per year in new revenue, an amount comparable to current levels of annual public funding for agriculture conservation cost-share programs for the bay. In short, nutrient trading could harness market forces to help save the bay.

UNDER THE SEA: THE CASE FOR CORAL REEF PROTECTION

You may not have ever realized its significance, but coral is a marine resource on which the livelihoods of literally millions of people depend. Our comparative advantage case today will reform two aspects of federal policies on coral protection: First, protection of coral in US waters. And second, aiding the protection of coral in foreign waters. as we affirm that The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. We offer the following DEFINITIONS

Marine Natural Resources:

National Oceanic & Atmospheric Administration, revised in 2010. National Marine Protected Areas Center, Glossary (brackets in original) last revised 12 Feb 2010 <http://www.mpa.gov/glossary.html>

**[Marine] Natural Resources:** Any biological or physical component of the marine environment that contributes to the structure, function, or services provided by a marine ecosystem.

**Substantial**: “considerable in quantity **:** significantly great” (Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/substantially>)

**Reform**: “to put or change into an improved form or condition” Merriam-Webster Online Dict., 2013, [*http://www.merriam-webster.com/dictionary/reform*](http://www.merriam-webster.com/dictionary/reform))

OBSERVATION 2. INHERENCY. Some important facts about the status quo

FACT 1. All Florida coral reefs are threatened

Lauretta Burke, Kathleen Reytar, Mark Spalding, and Allison Perry 2011. (Burke - M.A. in Environment and Resource Policy from the George Washington University and an M.A. in Geography from the University of California, Santa Barbara. Reytar - Master of Environmental Science & Management from the Bren School at the University of California, Santa Barbara. Spalding - Senior Marine Scientist with The Nature Conservancy’s Global Marine Team and works out of the Dept of Zoology at the Univ of Cambridge. Perry - Postdoctoral Fellow with The World Fish Center) “Reefs at Risk Revisited” World Resources Institute <http://pdf.wri.org/reefs_at_risk_revisited.pdf>

In the Atlantic region, more than 75 percent of reefs are threatened, with more than 30 percent in the high or very high threat category. In more than 20 countries or territories in the region—including Florida (United States), Haiti, the Dominican Republic, and Jamaica— all reefs are rated as threatened.

FACT 2. 85% of Coral Triangle reefs are threatened

Lauretta Burke, Kathleen Reytar, Mark Spalding and Allison Perry 2012. Burke - M.A. in Environment and Resource Policy from the George Washington University and an M.A. in Geography from the University of California, Santa Barbara. Reytar - Master of Environmental Science & Management from the Bren School at the University of California, Santa Barbara. Spalding - Senior Marine Scientist with The Nature Conservancy’s Global Marine Team and works out of the Dept of Zoology at the Univ of Cambridge. Perry - Postdoctoral Fellow with The World Fish Center) Reefs at Risk Revisited in the Coral Triangle <http://pdf.wri.org/reefs_at_risk_revisited_coral_triangle.pdf>

Spanning the marine waters of Indonesia, Malaysia, Papua New Guinea, the Philippines, Solomon Islands, and Timor-Leste, the Coral Triangle is the global heart of coral reefs. This magnificent area, often called the “Amazon of the Seas*,”* contains nearly 30 percent of the world’s coral reefs and 75 percent of all known coral species. It is home to more than 3,000 species of fish—twice the number found anywhere else in the world. The region’s coral reefs produce natural resources that sustain the lives of more than 130 million people living within the Coral Triangle and millions more worldwide. But these precious resources are at risk. Overfishing, destructive fishing, coastal development, and pollution threaten more than 85 percent of the Coral Triangle’s reefs.

FACT 3. US Coral Triangle Initiative Support Program will end in Sept 2013

US Agency for International Development (USAID) 2013. (an agency of the US State Department), Coral Triangle Initiative, US CTI Support Program Weekly Highlights <http://www.uscti.org/pages/NewsEvents_ProgramUpdates_Weekly-all.html>

On January 16-17, 2013, over 50 representatives from the Coral Triangle Initiative (CTI) Interim Regional Secretariat, official CTI partners and prospective new donors met in Sanur, Indonesia at a Partner Coordination Meeting to identify needs and garner commitments to maintain the forward momentum of the Initiative. With the recognition that USAID’s five-year $42 million US Coral Triangle Initiative Support Program will end in September 2013, participants identified key priorities to ensure the establishment of the permanent Secretariat and advancement of regional and national plan of action goals.

FACT 4. Lack of Marine Protected Areas. Less than 0.1% of coral reefs are in “no-take” MPAs

Green, White, Christie, Kilarski 2011. Stuart J Green, Dr. Alan T White, Dr. Patrick Christie, Stacey Kilarski, Anna Blesilda T Meneses, Dr. Giselle Samonte-Tan, Dr. Leah Bunce Karrer, Dr. Helen Fox, Stuart Campbell, and John D Claussen 2011. (White – PhD, President of the Coastal Conservation and Education Foundation Inc, Cebu City, Philippines. Christie – PhD; Associate Professor University of Washington School of Marine Affairs. Meneses – M.S., Coordinator of the Marine Protected Area Project of the Coastal Conservation and Education Foundation Inc., Cebu City, Philippines. Kilarski - Marine Technician, Global Marine Initiative, The Nature Conservancy. Samonte-Tan – PhD; Director for Social Science Research and Outreach of Conservation International. Karrer – PhD; Senior Director, Marine Management Area Science. Conservation International. Fox – PhD in coral research; Marine Conservation Biologist and a Senior Program Officer for the Conservation Science Program of World Wildlife Fund. Campbell – masters degree in Environmental Science. Claussen - Director of the Conservation and Community Investment Forum (CCIF) and a Partner with Starling Resources; almost 10 years experience managing economic development and conservation finance programs throughout Asia ) Emerging marine protected area networks in the coral triangle: Lessons and way forward, CONSERVATION & SOCIETY Vol 9 Issue 3 <http://www.conservationandsociety.org/article.asp?issn=0972-4923;year=2011;volume=9;issue=3;spage=173;epage=188;aulast=Green>

A key management strategy to address the many issues affecting marine and coastal ecosystems is the establishment and implementation of marine protected areas (MPAs). A MPA is a coastal or offshore marine area that is managed to protect natural and/or cultural resources (Agardy & Staub 2006; International Union for Conservation of Nature-World Commission on Protected Areas 2008). Globally, MPA coverage has grown rapidly since the 1970s, coincident with the adoption of various international conventions, in particular, the Ramsar Convention, the World Heritage Convention, and the Man and the Biosphere Programme of the UNESCO. However, global distribution of MPAs is both uneven and unrepresentative at multiple scales and only half of the world's MPAs are part of a coherent network (Wood *et al.* 2008). Worldwide, only about 0.08% of the world's oceans and 0.2% of the total marine area under national jurisdictions are 'no-take' where extractive uses are prohibited (Wood 2007). Less than 0.1% of the world's coral reefs are within 'no-take' MPAs with no poaching (Mora *et al.* 2006).

OBSERVATION 3. The IMPACT. Coral has huge impacts on humanity

National Oceanic & Atmospheric Administration, last revised 2008. NOAA Ocean Service Education, “Corals“ revised 25 Mar 2008 <http://oceanservice.noaa.gov/education/kits/corals/coral07_importance.html>

Coral reefs support more species per unit area than any other marine environment, including about 4,000 species of fish, 800 species of hard corals and hundreds of other species. Scientists estimate that there may be another 1 to 8 million undiscovered species of organisms living in and around reefs (Reaka-Kudla, 1997). This biodiversity is considered key to finding new medicines for the 21st century. Many drugs are now being developed from coral reef animals and plants as possible cures for cancer, arthritis, human bacterial infections, viruses, and other diseases. Storehouses of immense biological wealth, reefs also provide economic and environmental services to millions of people. Coral reefs may provide goods and services worth $375 billion each year. This is an amazing figure for an environment that covers less than 1 percent of the Earth’s surface (Costanza et al., 1997). Healthy reefs contribute to local economies through tourism. Diving tours, fishing trips, hotels, restaurants, and other businesses based near reef systems provide millions of jobs and contribute billions of dollars all over the world. Recent studies show that millions of people visit coral reefs in the Florida Keys every year. These reefs alone are estimated to have an asset value of $7.6 billion (Johns et al., 2001).

OBSERVATION 4. The PLAN. Congress and the President will enact the following policy changes:

1. Pass a Coral Protection & Management Act (CPMA) using recommendation 21-1 of the US Commission on Ocean Policy

2. Establish networks of large no-take MPAs in areas of US waters with coral reefs

3. Annual US funding and technical advisory support for the Coral Triangle Initiative, with all support earmarked for establishing and improving MPAs in the Triangle, $40 million dollars per year inflation adjusted.

4. Enforcement through the Coast Guard, the State Department, the Justice Department and federal courts.

5. Funding from cuts in Head Start

6. Plan takes effect the day after an Affirmative ballot

7. Affirmative speeches may clarify the plan as needed.

OBSERVATION 5. The IMPROVEMENTS. 3 Reasons why our plan will better protect coral reefs compared to the Status Quo

IMPROVEMENT 1. CPMA improves coral management. The congressionally-chartered US Commission on Ocean Policy recommended this action in 2004 when they said QUOTE:

US Commission on Ocean Policy 2004. (panel of experts commissioned by act of Congress and appointed by the President. Chairman was retired US Navy Admiral James D. Watkins) 22 Feb 2004 AN OCEAN BLUEPRINT FOR THE 21ST CENTURY – Chapter 21 - PRESERVING CORAL REEFS AND OTHER CORAL COMMUNITIES <http://govinfo.library.unt.edu/oceancommission/documents/full_color_rpt/21_chapter21.pdf>

Despite recent management efforts, the health of coral reef ecosystems is continuing to decline at a rapid pace, demanding that further action be taken to overcome gaps and inefficiencies in the existing patchwork of laws, regulations, and agency programs. An improved governance regime is needed to better respond to coral reef management priorities at all levels (local, state, territorial, regional, and national), improve coordination among agencies, facilitate regional approaches, and implement national action on coral reefs. This regime can build on existing ideas and strategies of the U.S. Coral Reef Task Force, the U.S. All Islands Coral Reef Initiative, the Coral Reef Conservation Act, and the Marine Protection, Research, and Sanctuaries Act, tasking federal agencies with the promulgation and enforcement of effective regulations to protect coral reef resources. Concerted support among all levels of government and increased public awareness are also essential for successfully implementing improved management strategies to achieve and sustain healthy coral reef ecosystems.  
 Recommendation 21–1  
Congress should establish a Coral Protection and Management Act that enhances research, protection, management, and restoration of coral ecosystems. The new legislation should include the following elements:  
• mapping, monitoring, assessment, and research programs to fill critical information gaps, to be carried out primarily through the National Oceanic and Atmospheric Administration and the U.S. Coral Reef Task Force in partnership with the academic research community.  
• increased protections for vulnerable coral reefs, including the use of marine protected areas.  
• liability provisions for damages to coral reefs, similar to those in the National Marine Sanctuaries Act, but with greater flexibility to use funds in a manner that provides maximum short- and long-term benefits to the reef.  
• support for state-level coral reef management.  
• outreach activities to educate the public about coral conservation and reduce human impacts.  
• support for U.S. involvement, particularly through the sharing of scientific and management expertise, in bilateral, regional, and international coral reef management programs.

IMPROVEMENT 2. CTI Support. The Coral Triangle Initiative needs international support to achieve sustainable change

Coral Triangle Initiative 2011 . (regional association of 6 governments in the Coral Triangle) Regional Priorities and Funding Needs 2012-2013 (ethical disclosure about the date: The article is undated, but references a meeting in the past that was held in Oct 2011, and references future events in 2012-2013.) <http://www.coraltriangleinitiative.org/sites/default/files/resources/High%20Level%20Document%20for%20Regional%20Secretariat.pdf> (brackets added)

While significant progress has been made towards establishing the CTI-CFF [Coral Triangle Initiative on Coral Reefs, Fisheries & Food Security] and implementing the Regional Plan of Action, the challenges the region faces are complex and long term. The Coral Triangle countries are committed to continued action, but require support of the international community to achieve sustainable change.

IMPROVEMENT 3. MPAs save coral. A University of North Carolina Study shows conclusively that MPAs are very effective at reversing coral reef damage.

UNC News 2010. “UNC study: Coral loss slowed, reversed by marine protected areas” 17 Feb 2010, published by Univ. of N. Carolina-Chapel Hill, <http://uncnews.unc.edu/content/view/3356/74/>

Marine scientists Elizabeth Selig, Ph.D., and John Bruno, Ph.D., from the University of North Carolina at Chapel Hill, analyzed a global database of 8,534 live coral cover surveys conducted between 1969 and 2006. They compared changes in coral cover in 310 marine protected areas to those in nearby unprotected areas, looking at 4,456 reefs in 83 countries. Coral cover, or the percentage of the ocean floor covered by living coral tissue, is a key measure of the health of coral ecosystems. “We found that, on average, coral cover in protected areas remained constant, but declined on unprotected reefs,” said Selig, the study’s lead author, who completed the work for her doctoral dissertation at UNC. She is now a researcher with Conservation International. Bruno, associate professor of marine sciences in the UNC College of Arts and Sciences, said the results also suggest the protective benefits of such areas increase with time. Initially, coral cover continued to decrease after protections were put in place. However, several years later, rates of decline slowed and then stopped. For example, in the Caribbean, coral cover declined for about 14 years after protection began – possibly due to the time it took for fisheries to rebound – but then stopped falling and began to increase. In the Indo-Pacific, cover kept declining for the first five years after protections were established, then began to improve, eventually reaching growth rates of two percent yearly after two decades. “Given the time it takes to maximize these benefits, it makes sense to establish more marine protected areas. Authorities also need to strengthen efforts to enforce the rules in existing areas,” Bruno said.

HOTTEST SPOT NORTH OF HAVANA: THE CASE FOR CUBAN OFFSHORE OIL

Cuba has something the US needs: billions of barrels of oil under its ocean waters offshore. And the US has something Cuba needs: the technology to retrieve it. Today we’ll make the case for comparative advantages of the environment, human rights, the economy, and US foreign policy, as we affirm that: The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. DEFINITIONS

**Substantial**: “considerable in quantity **:** significantly great <earned a substantial wage>” *(*Merriam-Webster Online Dictionary copyright 2013 [*http://www.merriam-webster.com/dictionary/substantially*](http://www.merriam-webster.com/dictionary/substantially)*)*

Marine Natural Resources:

National Oceanic & Atmospheric Administration, revised in 2010. National Marine Protected Areas Center, Glossary (brackets in original) last revised 12 Feb 2010 <http://www.mpa.gov/glossary.html>

**[Marine] Natural Resources:** Any biological or physical component of the marine environment that contributes to the structure, function, or services provided by a marine ecosystem.

**Substantial**: “considerable in quantity **:** significantly great” (Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/substantially>)

**Reform**: “to put or change into an improved form or condition” Merriam-Webster Online Dict., 2013, [*http://www.merriam-webster.com/dictionary/reform*](http://www.merriam-webster.com/dictionary/reform))

**Policy**: “b : a high-level overall plan embracing the general goals and acceptable procedures especially of a governmental body” *(Merriam-Webster Online Dictionary 2013* [*http://www.merriam-webster.com/dictionary/policy*](http://www.merriam-webster.com/dictionary/policy)*)*

OBSERVATION 2. INHERENCY: Cuban offshore oil development is blocked. Three key FACTS

FACT 1. Only 1 oil rig in the world Cuba can use

Associated Press 2012. (Peter Orsi, journalist) “Cuba oil dreams on hold as drill rig set to depart “ 13 Nov 2012 <http://www.businessweek.com/ap/2012-11-13/cuba-oil-dreams-on-hold-as-drill-rig-set-to-depart>

The Scarabeo-9, a 380-foot-long (115-meter), semisubmersible behemoth that leases out for prices approaching a half-million dollars a day, steamed all the way from Asia at tremendous cost to arrive in Cuba in January. That was the only way companies could avoid sanctions under Washington's 50-year-old embargo against Cuba. The Scarabeo is the only rig of its kind built with less than 10 percent American parts — an extreme rarity in an industry where U.S. technologies play a major role.

FACT 2. Cuban oil exploration hampered

David LaGosse 2012. (journalist) National Geographic News, 19 Nov 2012 Cuba's Oil Quest to Continue, Despite Deepwater Disappointment <http://news.nationalgeographic.com/news/energy/2012/11/121119-cuba-oil-quest/> (brackets added)

Leasing the semisubmersible platform at an estimated cost of $500,000 a day, three separate companies from three separate nations took their turns at drilling for Cuba. In May, Spanish company Repsol sank a well that turned out to be nonviable. Over the summer, Malaysia's Petronas took its turn, with equally disappointing results. Last up was state-owned Petróleos de Venezuela (PDVSA); on November 2, Granma, the Cuban national Communist Party daily newspaper, reported that effort also was unsuccessful. It's not unusual to hit dry holes in drilling, but the approach in offshore Cuba was shaped by uniquely political circumstances. [Univ. of Nebraska Professor] Benjamin-Alvarado points out that some of the areas drilled did turn up oil. But rather than shift nearby to find productive—if not hugely lucrative—sites, each new company dragged the rig to an entirely different area off Cuba. It's as if the companies were only going for the "big home runs" to justify the cost of drilling, he said. "The embargo had a profound impact on Cuba's efforts to find oil."

FACT 3. Inadequate response to Cuban oil spills

Emily A. Peterson, Daniel J. Whittle, J.D., and Dr. Douglas N. Rader, Ph.D. 2012. (Whittle - Senior Attorney and Cuba Program Director, Environmental Defense Fund. Rader – chief oceans scientist, Environmental Defense Fund) “Bridging the Gulf: Finding Common Ground on Environmental and Safety Preparedness for Offshore Oil and Gas in Cuba” <http://thecubaneconomy.com/articles/tag/petroleum/>

The United States government enacted stricter regulations governing deepwater drilling in U.S. waters in the aftermath of the Deepwater Horizon oil spill, and has publicly acknowledged a need to better prepare for a potential major spill in neighboring Cuban waters of the Gulf of Mexico. Yet U.S. policy still does not do enough to lessen the likelihood of such a spill or to ensure that sufficient resources will be at the ready to respond to a spill in a timely and effective manner. Beyond their geographical proximity, Cuba and the United States are tightly interconnected by ocean currents and share ecosystems such that a spill in either country could have profound impacts on fisheries, tourism, and recreation in the entire region. Yet, due to longstanding U.S. economic sanctions, international operators working in Cuba are unable to turn northward to the United States to freely access equipment and expertise in the event of an oil disaster.

OBSERVATION 3. The PLAN, to be implemented by Congress through any necessary constitutional means

1. US embargoes on Cuba are amended to allow any activity related to offshore petroleum or natural gas development.

2. US companies will be pre-authorized to engage with Cuba in response to any marine oil spill.

3. Funding through normal means within existing budgets

4. Plan takes effect the day after an Affirmative ballot

5. Affirmative speeches may clarify the plan as needed.

OBSERVATION 4. SOLVENCY. Cuba wants to work with American oil companies

OIL & GAS JOURNAL 2012. (Nick Snow, Washington Editor) 21 May 2012 Cuba drilling continues as US groups press spill response need (brackets in original; “Benjamin-Alvarado” is Dr. Jonathan Benjamin-Alvarado, PhD, Professor of Political Science at University of Nebraska at Omaha) <http://www.ogj.com/articles/print/vol-110/issue-5b/general-interest/cuba-drilling-continues-as-us-groups-press-spill-response-need.html>

"Cubans are serious about developing their oil resources," Benjamin-Alvarado said. "They want to work with American companies and use American equipment. That reflects the work Jorge R. Pinon [a former Amoco official who recently became a research fellow at the University of Texas at Austin's Jackson School of Geoscience's Center for International Energy and Environmental Policy] and others have done to lay the foundation."

OBSERVATION 5. ADVANTAGES. There are 3 major reasons to vote for this plan: the environment, human rights, and the economy.

ADVANTAGE 1. The Environment.

A. The Link: US technology would reduce likelihood and impact of Cuban oil spills

Vicki Huddleston 2008. (Visiting Fellow, Foreign Policy, Brookings Institution; expert on Latin America and Africa. A career member of the Foreign Service, she served as U.S. Ambassador to Mali and Madagascar, acting U.S. ambassador to Ethiopia and Chief of the American Interests section in Cuba) June 2008, Who Will Help Cuba Exploit its Offshore Oil Wealth? [www.brookings.edu/opinions/2008/0616\_cuba\_oil\_huddleston.aspx](http://www.brookings.edu/opinions/2008/0616_cuba_oil_huddleston.aspx)

If American companies with expertise in oil exploitation and protection of the environment were able to cooperate with the six oil companies that have contracts to search for Cuba's offshore resources, we would have considerably greater confidence that the latest and safest technology would reduce the environmental impact and diminish the possibility of a spill that might impact states along the Gulf of Mexico.

B. The Impact: Cuban oil spill would be catastrophic to Florida’s economy and environment

Tim Padgett 2012. (journalist) The Oil Off Cuba: Washington and Havana Dance at Arms Length Over Spill Prevention, TIME magazine, 27 Jan 2012 <http://www.time.com/time/world/article/0,8599,2105598,00.html#ixzz2JCC3IQXv>

A serious oil spill could scuttle those drilling operations — especially since Cuba hasn't the technology, infrastructure or means, like a clean-up fund similar to the $1 billion the U.S. keeps on reserve, to confront such an emergency. And there is another big economic anxiety: Cuba's $2 billion tourism industry. "The dilemma for Cuba is that as much as they want the oil, they care as much if not more about their ocean resources," says Billy Causey, southeast regional director for the U.S. National Oceanic and Atmospheric Administration's marine sanctuary program. Cuba's pristine beaches and reefs attract sunbathers and scuba divers the world over, and a quarter of its coastal environment is set aside as protected. So is much of coastal Florida, where tourism generates $60 billion annually — which is why the state keeps oil rigs out of its waters. The Florida Keys lie as close as 50 miles from where Repsol is drilling; and they run roughly parallel to the 350-mile-long (560 km) Florida Reef Tract (FRT), the world's third largest barrier reef and one of its most valuable ocean eco-systems. The FRT is already under assault from global warming, ocean acidification and overfishing of symbiotic species like parrotfish that keep coral pruned of corrosive algae. If a spill were to damage the FRT, which draws $2 billion from tourism each year and supports 33,000 jobs, "it would be a catastrophic event," says David Vaughan, director of Florida's private Mote Marine Laboratory.

ADVANTAGE 2. Human rights. Allowing US oil companies to trade with Cuba increases the opportunities for human rights and democratic reform in Cuba.

A. The Link: It allows US engagement with Cuba’s leaders to promote reforms

Dr Jonathan Benjamin-Alvadaro 2010. (PhD, Professor of Political Science at University of Nebraska at Omaha ) Report for the Cuban Research Institute, Florida International University, Brookings Institution book, “Cuba’s Energy Future: Strategic Approaches to Cooperation” <http://books.google.fr/books?id=7jNs2P2Z9NYC&pg=PA127&lpg=PA127&dq=%22by+licensing+American+oil+companies+to+participate+in+the+development+of+Cuba%E2%80%99s+energy+resources.+%22&source=bl&ots=HyrSpfHfHJ&sig=QCSlA9_Xg21EfaqSCbRv1ZDuWaQ&hl=en&sa=X&ei=m0DPUZL8CInFPfvdgcAE&redir_esc=y#v=onepage&q=%22by%20licensing%20American%20oil%20companies%20to%20participate%20in%20the%20development%20of%20Cuba%E2%80%99s%20energy%20resources.%20%22&f=false>

If U.S. companies are allowed to contribute to the development of Cuba’s hydrocarbon reserves, as well as the development of alternative and renewable energy (solar, wind, and biofuels), it will give the United States the opportunity to engage Cuba’s future leaders to carry out long-overdue economic reforms and development that will perhaps pave the way to a more open and representative society while helping to promote Cuba as a stable partner and leader in the region and beyond.

B. The Impact: Cubans get a better chance for a stable, prosperous and democratic future.

Dr Jonathan Benjamin-Alvadaro 2010. (PhD, Professor of Political Science at University of Nebraska at Omaha ) Report for the Cuban Research Institute, Florida International University, Brookings Institution book, “Cuba’s Energy Future: Strategic Approaches to Cooperation” <http://books.google.fr/books?id=7jNs2P2Z9NYC&pg=PA127&lpg=PA127&dq=%22by+licensing+American+oil+companies+to+participate+in+the+development+of+Cuba%E2%80%99s+energy+resources.+%22&source=bl&ots=HyrSpfHfHJ&sig=QCSlA9_Xg21EfaqSCbRv1ZDuWaQ&hl=en&sa=X&ei=m0DPUZL8CInFPfvdgcAE&redir_esc=y#v=onepage&q=%22by%20licensing%20American%20oil%20companies%20to%20participate%20in%20the%20development%20of%20Cuba%E2%80%99s%20energy%20resources.%20%22&f=false>

Ironically, Cuban officials have invited American oil companies to participate in developing their offshore oil and natural gas reserves. American oil, oil equipment, and service companies possess the capital, technology, and operational know-how to explore, produce, and refine these resources in a safe and responsible manner. Yet they remain on the sidelines because of our almost five-decades-old unilateral political and economic embargo. The United States can end this impasse by licensing American oil companies to participate in the development of Cuba’s energy resources. By seizing the initiative on Cuba policy, the United States will be strategically positioned to play an important role in the future of the island, thereby giving Cubans a better chance for a stable, prosperous, and democratic future.

ADVANTAGE 3. The Economy.

A. Link: Cuban drilling would help reduce oil prices

Vicki Huddleston 2008 (Visiting Fellow, Foreign Policy, Brookings Institution; expert on Latin America and Africa. A career member of the Foreign Service, she served as U.S. Ambassador to Mali and Madagascar, acting U.S. ambassador to Ethiopia and Chief of the American Interests section in Cuba) June 2008, Who Will Help Cuba Exploit its Offshore Oil Wealth? <http://www.brookings.edu/opinions/2008/0616_cuba_oil_huddleston.aspx>

Citing rising oil prices, President Bush called for repealing the ban on drilling for oil along our continental shelf. Vice President Cheney, in an effort to justify US drilling in offshore waters, claimed that China was drilling for Cuban oil 60 miles from the Florida coast. Ironically, neither Bush nor Cheney have any intention of allowing American companies to exploit any of the 4.6 billion barrels of unproven oil reserves or the 9.8 trillion cubic feet of natural gas off of Cuba's coast. Yet, allowing US petroleum companies to do so would go a long way toward resolving both their concerns. If we had access to Cuba's offshore oil, it would diversify our sources—Venezuela is now our fifth largest supplier—and help dampen the upward price spiral at the pump.

B. Impact: Oil prices hurt the US & global economy

Jeff Rubin 2012. (former chief economist and chief strategist at CIBC World Markets Inc) 23 Sept 2012 How High Oil Prices Will Permanently Cap Economic Growth <http://www.bloomberg.com/news/2012-09-23/how-high-oil-prices-will-permanently-cap-economic-growth.html>

There are many ways an oil shock can hurt an economy. When prices spike, most of us have little choice but to open our wallets. Paying more for oil means we have less cash to spend on food, shelter, furniture, clothes, travel and pretty much anything else. Expensive oil, coupled with the average American’s refusal to drive less, leaves a lot less money for the rest of the economy. Worse, when oil prices go up, so does inflation. And when inflation goes up, central banks respond by raising interest rates to keep prices in check. From 2004 to 2006, U.S. energy inflation ran at 35 percent, according to the Consumer Price Index. In turn, overall inflation, as measured by the CPI, accelerated from 1 percent to almost 6 percent. What happened next was a fivefold bump in interest rates that devastated the massively leveraged U.S. housing market. Higher rates popped the speculative housing bubble, which brought down the global economy. Unfortunately, this pattern of oil-driven inflation is with us again.

ADVANTAGE 4. Enhanced US foreign policy. Engagement with Cuba increases our capability to solve other big foreign policy problems.

Lieutenant Colonel Sergio M. Dickerson 2010 (US Army ) 14 Jan 2010 "United States Security Strategy Towards Cuba," Strategy Research Project, [www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA518053](http://www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA518053)

Today, 20 years have passed since the fall of the Berlin Wall – it’s time to chip away at the diplomatic wall that still remains between U.S. and Cuba. As we seek a new foreign policy with Cuba it is imperative that we take into consideration that distrust will characterize negotiations with the Cuban government. On the other hand, consider that loosening or lifting the embargo could also be mutually beneficial. Cuba’s need and America’s surplus capability to provide goods and services could be profitable and eventually addictive to Cuba. Under these conditions, diplomacy has a better chance to flourish.¶ If the Cuban model succeeds President Obama will be seen as a true leader for multilateralism. Success in Cuba could afford the international momentum and credibility to solve other seemingly “wicked problems” like the Middle East and Kashmir. President Obama could leverage this international reputation with other rogue nations like Iran and North Korea who might associate their plight with Cuba. The U.S. could begin to lead again and reverse its perceived decline in the greater global order bringing true peace for years to come.

THE DEADLIEST CATCH: THE CASE FOR FISHING ITQs

Iain Murray and Roger Abbott said it best in 2012 when they said QUOTE: “The saying goes, ‘Give a man a fish and he will eat for a day. Teach a man to fish and he will eat for a lifetime.’ Today, that could be rephrased: ‘Pay a man to fish and he will eat everyone’s fish. Give a man property rights to fish, and we will eat for life.’ ”[[3]](#footnote-3) We will offer you a better system of managing US ocean fisheries with comparative advantages over the Status Quo as we affirm that The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. We offer the following DEFINITIONS

Marine Natural Resources:

National Oceanic & Atmospheric Administration, revised in 2010. National Marine Protected Areas Center, Glossary (brackets in original) last revised 12 Feb 2010 <http://www.mpa.gov/glossary.html>

**[Marine] Natural Resources:** Any biological or physical component of the marine environment that contributes to the structure, function, or services provided by a marine ecosystem.

**Substantial**: “considerable in quantity **:** significantly great” (Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/substantially>)

**Reform:** “to put or change into an improved form or condition” Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/reform>)

ITQ – Individual Transferable Quotas:

National Oceanic and Atmospheric Administration 2009, National Marine Fisheries Service, 21 May 2009, “Ocean Quahog” <http://www.warpraptor.com/x/BookRawMaterial--Programs,%20Database,%20Unused%20Images,%20etc/Bookpages/Clam/FishWatch%20-%20Ocean%20Quahog.htm>

ITQ is a system that gives private property rights to fishermen by assigning a fixed share of the catch to each fisherman.

OBSERVATION 2. INHERENCY: We observe how the Status Quo is managing ocean fisheries in 2 FACTS

FACT 1. Traditional Management Methods. Since the passage of the Magnuson-Stevens Act (MSA) in 1976, the federal government has managed most fisheries by a command-and-control approach that regulates total catch and individual methods of fishing.

Dietmar Grimm, Ivan Barkhorn, David Festa, Kate Bonzon , Judd Boomhower , Valerie Hovland , Jason Blau 2011. (Grimm - Managing Director for Conservation Strategy at The Nature Conservancy. Barkhorn - MBA from the Yale School of Management . Festa - Vice President of West Coast operations, Environmental Defense Fund; master’s degree in Public Policy from Harvard University’s Kennedy School of Government . Bonzon - M.S., Earth Systems (focus in Marine Conservation), Stanford University. Boomhower - graduate student, Univ of Calif.-Berkely, Haas School of Business . Hovland - MS and BS degrees from MIT in mechanical engineering with a concentration in economics.. Blau – senior associate with Redstone Strategy Group; magna cum laude BA in Political Economics from Yale, specializing in development studies. ) Assessing catch shares’ effects evidence from Federal United States and associated British Columbian fisheries, published in MARINE POLICY, Oct 2011 (brackets in original) <http://www.redstonestrategy.com/wp-content/uploads/2013/01/Grimm-et-al-Assessing-Catch-Shares-Effects.pdf>

In the post-MSA 1970s and 1980s, the ‘‘traditional management’’ approach to fisheries was implemented. Traditional management fisheries are non-catch share fisheries that use any or all of the following management tools: limited entry, effort control, trip limits, and total catch limits [8]. As of 2010, traditional management still covers 70% of federal fisheries (50% by value) [8]. However, this style of management contains inherent imbalances. In theory, it reins in overfishing through input and output controls that limit how a fisherman can fish and how much a fisherman can produce. In practice, fisherman innovation leads to increased fishing capacity and effort, which then leads to progressively more Draconian command-and-control measures [6].

FACT 2. The “race for fish.” Current regulatory methods lead to a “race for fish”. The same experts cited above go on later in the same context in 2011 to say QUOTE:

Dietmar Grimm, Ivan Barkhorn, David Festa, Kate Bonzon , Judd Boomhower , Valerie Hovland , Jason Blau 2011. (Grimm - Managing Director for Conservation Strategy at The Nature Conservancy. Barkhorn - MBA from the Yale School of Management . Festa - Vice President of West Coast operations, Environmental Defense Fund; master’s degree in Public Policy from Harvard University’s Kennedy School of Government . Bonzon - M.S., Earth Systems (focus in Marine Conservation), Stanford University. Boomhower - graduate student, Univ of Calif.-Berkely, Haas School of Business . Hovland - MS and BS degrees from MIT in mechanical engineering with a concentration in economics. Blau – senior associate with Redstone Strategy Group; magna cum laude BA in Political Economics from Yale, specializing in development studies. ) Assessing catch shares’ effects evidence from Federal United States and associated British Columbian fisheries, published in MARINE POLICY, Oct 2011 (brackets added) <http://www.redstonestrategy.com/wp-content/uploads/2013/01/Grimm-et-al-Assessing-Catch-Shares-Effects.pdf>

Thus, by 1990, non-pollock landings were still only 40% higher than in 1935 despite a 460% increase in vessels resulting in the average vessel catching even less than it did in 1975. This process locks fishermen into a cycle of increasing effort and control called the ‘‘race for fish.’’ In a race for fish, fisheries are closed either for the remainder of the season or until the next pre-determined opening as soon as the TAC [total allowable catch] is reached. Thus, an individual fisherman must catch the fish quickly; otherwise, other fishermen will catch the limited supply of fish. This situation has negative environmental, economic, and social repercussions.

UNQUOTE. Let’s talk about those negative repercussions in…

OBSERVATION 3. The FAILURES of current policy.

FAILURE 1. Safety risk. The “race to fish” leads to injuries and deaths at sea.

Jon Sanders 2012. (Director of Regulatory Studies at the John Locke Foundation; former adjunct instructor in economics at North Carolina State University; masters degree in economics ) 2 May 2012 Catch Shares: A Potential Tool to Undo a Tragedy of the Commons in NC Fisheries <http://www.johnlocke.org/acrobat/spotlights/CatchShares.pdf>

The urgency of race to fish in limited days to fish causes fisher­men to take risks such as overloading their boats and fishing during dangerous weather conditions. For an extreme example, in the Alaskan halibut and king crab fisheries prior to the introduction of Individual Transferable Quotas (ITQs), the fishing season had fallen to just two to three days and the king crab fishery was so marked with injury and death that it hatched a television series, “The Deadliest Catch.”

FAILURE 2. Failing fisheries and bailouts

Jon Sanders 2012. (Director of Regulatory Studies at the John Locke Foundation; former adjunct instructor in economics at North Carolina State University; masters degree in economics ) 2 May 2012 Catch Shares: A Potential Tool to Undo a Tragedy of the Commons in NC Fisheries <http://www.johnlocke.org/acrobat/spotlights/CatchShares.pdf>

Fisheries management has traditionally followed a command-and-control model, with managers applying controls over inputs and outputs. Unfortunately, these controls have incentivized winning the “race to fish” and outmaneuvering the planners, so fisheries have continued to decline. The U.S. government has been spending $70 million a year to bail out failing federally managed fisheries under traditional management systems.

OBSERVATION 4. We offer the following PLAN to be implemented by any necessary constitutional means:

**Agency:** Congress and the President will enact any necessary legislation. Oversight and regulations will be managed by the 8 regional councils already in existence under Magnuson-Stevens.

**Mandates:** The Magnuson-Stevens Act will be amended as follows:

1. Fisheries management policy in US ocean waters shall be changed to Individual Transferable Quotas for all species following the New Zealand model.

2. Regulations regarding methods, technologies, and times of fishing are repealed.

3. All Federal fishing subsidies cancelled.

**Funding:** Existing budgets of the 8 regional councils, cancellation of subsidies, and revenues from sale of ITQs.

**Enforcement:** … through the Coast Guard, the 8 regional councils, and any other existing means of enforcing existing fishing quotas. Violators will receive 1 year imprisonment without parole and confiscation of fishing boats and equipment.

**Timeline:** This plan takes effect January 1 of the year following an Affirmative ballot.

And all Affirmative speeches may clarify the plan as needed.

OBSERVATION 5. ITQ fishing policy produces multiple ADVANTAGES

ADVANTAGE 1. Safer fishing. Removing the “race for fish” makes fishing safer

Dr Carl Safina 2009. (PhD ecology from Rutgers Univ.; director of the Blue Ocean Institute) Summer 2009, University of Texas at Dallas, “A Future for U.S. Fisheries” ISSUES IN SCIENCE AND TECHNOLOGY, <http://www.issues.org/25.4/safina.html>

By significantly reducing competition that breeds a race for fish, this approach offers several benefits. For one, it makes for safer fishing. Fishers who own shares know that they have the whole season to fill their quota regardless of what other boats are catching, so they are less likely to feel forced to head out in dangerous weather.

British news magazine THE ECONOMIST gave an empirical example of ITQ safety when they said in 2008:

THE ECONOMIST (respected British news magazine), 18 Sept 2008 [www.economist.com/PrinterFriendly.cfm?story\_id=12253181](http://www.economist.com/PrinterFriendly.cfm?story_id=12253181)

The Alaskan halibut and king crab fisheries illustrate how ITQs can change behavior. Fishing in these waters had turned into a race so intense that the season had shrunk to just two to three frantic days. Overfishing was common. And when the catch was landed, prices plummeted because the market was flooded. Serious injury and death became so frequent in the king crab fishery that it turned into one of America’s most dangerous professions (and spawned its own television series, “The Deadliest Catch”). After a decade of using ITQs in the halibut fishery, the average fishing season now lasts for eight months. The number of search-and-rescue missions that are launched is down by more than 70% and deaths by 15%.

ADVANTAGE 2. Good incentives. The New Zealand ITQ system creates incentives for sustainable fishing and turns around depleted fish stocks

Iain Murray and Roger Abbott 2012. (Murray -VP for Strategy and the Director of the Center for Economic Freedom at the Competitive Enterprise Institute; BA and MA from the Univ of Oxford, MBA from the Univ of London and the Diploma of Imperial College of Science, Technology and Medicine. Abbott - former CEI Research Associate.) “Give a Man a Fish - The Case for a Property Rights Approach to Fisheries Management” 17 May 2012 NPOINT, <http://cei.org/sites/default/files/Iain%20Murray%20and%20Roger%20Abbott%20-%20Give%20a%20Man%20a%20Fish.pdf>

In the modern context of commercial fishing, the best way forward is for government to create rights with similar characteristics to private property rights. The most effective solution to date has been New Zealand’s Individual Transferrable Quota (ITQ) system, which has resulted in the speedy turnaround in the health of that country’s fishing stock. New Zealand’s Individual Transferable Quota System. Individual Transferable Quota systems operate by capping a country or region’s total allowable catch (TAC) and guaranteeing fishers a share or quota, often as a percentage of the TAC. Once the initial allocation is made, fishing rights take on the features of property rights. They may be exploited to the degree allowed by the quota, and they may be leased, sold, or otherwise transferred to other fishers. Since the shares are owned in perpetuity, fishers have a strong incentive to harvest as many as possible in accordance with the quota without depleting the fish stock.

ADVANTAGE 3. Better fisheries. The New Zealand plan prevents and even reverses fishery collapse

Iain Murray and Roger Abbott 2012. (Murray -Vice President for Strategy and the Director of the Center for Economic Freedom at the Competitive Enterprise Institute; BA and MA from the University of Oxford, an MBA from the University of London and the Diploma of Imperial College of Science, Technology and Medicine. Abbott - former CEI Research Associate.) “Give a Man a Fish - The Case for a Property Rights Approach to Fisheries Management” 17 May 2012 NPOINT, <http://cei.org/sites/default/files/Iain%20Murray%20and%20Roger%20Abbott%20-%20Give%20a%20Man%20a%20Fish.pdf>

In 2008, researchers Christopher Costello, Steven Gaines and John Lynham investigated the effects of all 121 fisheries where IFQs and other catch share schemes exist around the world for a study published in *Science* magazine, comparing them to the 11,000 fisheries without property rights and controlling for confounding factors such as fish species and ecosystem characteristics. They found that the existence of catch share rights not only precluded fishery collapse but, as in New Zealand, often helped reverse pre-existing collapse. Moreover, the authors found that if catch shares had been instituted globally from 1970, then the incidence of fishery collapse would have been reduced by two-thirds. Fish stocks, furthermore, would be rising rather than falling.

ENERGIZE: THE CASE FOR HYDROKINETIC ENERGY

Hydrokinetic energy – the use of ocean waves, currents and tides - is a vast resource of clean renewable energy just waiting to be tapped. Unfortunately, today the environmental regulations on this clean energy source are far more complex than the rules regulating offshore oil drilling. The comparative advantages to removing the barriers to clean ocean energy will compel you to join us as we affirm that The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. We offer the following DEFINITIONS

Marine Natural Resources:

National Oceanic & Atmospheric Administration, revised in 2010. National Marine Protected Areas Center, Glossary (brackets in original) last revised 12 Feb 2010 <http://www.mpa.gov/glossary.html>

**[Marine] Natural Resources:** Any biological or physical component of the marine environment that contributes to the structure, function, or services provided by a marine ecosystem.

**Substantial**: “of considerable importance, size, or worth” *(Oxford Dictionaries online, copyright 2013 Oxford University Press* <http://oxforddictionaries.com/us/definition/american_english/substantial>*)*

**Reform:** “to put or change into an improved form or condition” *Merriam-Webster Online Dict., 2013,* <http://www.merriam-webster.com/dictionary/reform>*)*

Hydrokinetic Energy:

Derek Bertsch 2010 (JD candidate at University of South Dakota School of Law ) Hydrokinetic Energy: Trying to Navigate the Energy and Water Law Framework to Develop New Renewable Energy Technology (ethical disclosure about the date: The article is undated but refers internally to dates that indicate it was written in 2010) <http://www.elizabethburleson.com/HydrokineticEnergyDerekBertsch.pdf>

“Hydrokinetics is the process of extracting energy from currents, tides, or waves.”

OBSERVATION 2. INHERENCY. Two disturbing facts about the Status Quo

FACT 1. Over-regulated. Hydrokinetic regulations are more complex than oil and gas drilling. You don’t have to write this all down, but see if you can follow this simplified list of regulations required for hydrokinetic projects, as explained by Amanda Righi in 2011:

Amanda Righi 2011. (J.D. candidate, University of Washington School of Law, Class of 2012 ) WASHINGTON JOURNAL OF ENVIRONMENTAL LAW & POLICY. “ROUGH SEAS FOR RENEWABLE ENERGY: ADDRESSING REGULATORY OVERLAP FOR HYDROKINETIC PROJECTS ON THE OUTER CONTINENTAL SHELF » <http://digital.law.washington.edu/dspace-law/bitstream/handle/1773.1/1044/1WJELP079.pdf?sequence=4> (brackets added)

In summary, commercial-scale hydrokinetic projects require a lease from BOEM [Bureau of Ocean Energy Management], a license from FERC [Federal Energy Regulatory Commission], approval from the NMFS [National Marine Fisheries Service] under the ESA [Endangered Species Act], MMPA [Marine Mammal Protection Act] and Magnuson-Stevens Fisheries Act, concurrences from four additional federal agencies under six different statutes and approval from state agencies for any project impacts on state waters or coastal areas. In addition, the current regulatory structure requires at least three, and up to five, NEPA [National Environmental Policy Act] analyses. In contrast, BOEM-regulated oil and gas leases require two to three EIS’s [Environmental Impact Statements] and take approximately five years to complete. The same natural resource agency approvals are required but because the environmental effects of oil and gas facilities are better understood, the leasing process is less protracted than hydrokinetic approvals.

FACT 2. Development blocked. Without better balancing of environmental concerns with energy benefits, hydrokinetic energy is unlikely to be developed

Craig W. Collar 2009. (Senior Manager, Energy Resource Development, Snohomish Public Utility District No. 1 Everett, WA) December 3, 2009 , testimony before the U.S. House of Representatives House Committee on Science and Technology Subcommittee on Energy and Environment <http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/120309_Collar.pdf>

Some resource agencies, however, perceive that their existing regulatory accountability precludes their full support of the FERC Pilot Process. For example, we understand that National Marine Fisheries Service (NMFS) generally supports the appropriate development of hydrokinetic projects in United States waters. Nonetheless, given the presence of endangered salmon and killer whales in Puget Sound, NMFS feels that they have little latitude to accept anything less than extremely detailed and rigorous studies in order to support their environmental analysis. While Snohomish has conducted or committed to approximately $1 million in pre-installation and baseline studies (the data from which will add to the already very substantial body of environmental information available for the Admiralty Inlet site) for the pilot project, NMFS is reluctant to state with any certainty that this baseline information is sufficient. Given that these studies necessarily incur significant cost prior to any certainty of actually receiving a plant license, it is not difficult to see how the study burden could easily prevent even small research and development projects like the proposed Admiralty Inlet effort from going forward. It seems clear that so long as key resource agencies are not enabled to effectively balance the proactive facilitation of renewable energy efforts with their existing responsibilities, the progress of renewable energy in the U.S will advance at a pace unlikely to meaningfully address our country’s energy and environmental challenges.

OBSERVATION 3. The PLAN, to be implemented by Congress and any necessary federal agencies

1. Single environmental review. Hydrokinetic projects will be required to perform no more than 1 Environmental Impact Statement and 1 NEPA analysis.
2. Monitoring for uncertainty. Projects proposed where there is not enough data available in advance may replace pre-project studies with pre- and post-implementation site monitoring for environmental impacts. In other words, rather than studying it for years in advance to resolve all remaining uncertainties after the EIS is done, they can go ahead and start the project and monitor it as it goes forward, and then if it hurts anything, they stop.
3. Marine spatial planning. NOAA will conduct marine spatial planning studies to guide future location of hydrokinetic projects, but no projects will be blocked before the studies are completed.
4. Funding from general federal revenues and cuts in Head Start.
5. Plan takes effect 10 days after an Affirmative ballot.
6. Enforcement through existing agencies under existing law, including the Justice Department and the Federal Courts.
7. Affirmative speeches will clarify as needed.

OBSERVATION 4. SOLVENCY. Two important facts:

FACT 1. Reforms work. Regulatory reforms will open the door for environmentally safe hydrokinetic projects

Amanda Righi 2011. (J.D. candidate, University of Washington School of Law, Class of 2012 ) WASHINGTON JOURNAL OF ENVIRONMENTAL LAW & POLICY. “ROUGH SEAS FOR RENEWABLE ENERGY: ADDRESSING REGULATORY OVERLAP FOR HYDROKINETIC PROJECTS ON THE OUTER CONTINENTAL SHELF » <http://digital.law.washington.edu/dspace-law/bitstream/handle/1773.1/1044/1WJELP079.pdf?sequence=4> (brackets added)

The current regulatory structure, which requires duplicative environmental reviews, can be modified to encourage the environmentally safe and efficient deployment of hydrokinetic energy. Implementing a programmatic EIS [Environmental Impact Statement] at an early stage of the leasing process will provide a comprehensive, ecosystem-based understanding of the potential effects of, and alternatives to, hydrokinetic projects on the OCS [Outer Continental Shelf]. Other federal agencies can rely on this comprehensive overview for their subsequent environmental reviews of specific projects. This programmatic EIS will also eliminate the need for an additional NEPA analysis during the leasing stage as FERC can undertake site-specific environmental analysis during the licensing stage. The NMFS, tasked with implementing the ESA, MMPA and the Magnuson-Stevens Fisheries Act, should capitalize on all available means and methods to implement these important ocean conservation statutes. For projects like hydrokinetic facilities, that are removable, impermanent and offer substantial long-term benefits to the ocean environment, natural resource agencies should accept additional scientific uncertainty when implementing their statutory mandates. Adaptive management approaches will allow for pre- and post-implementation monitoring to mitigate scientific uncertainty and provide additional information for future hydrokinetic projects. Marine spatial planning, if implemented in a balanced way and in consideration of all stakeholders, provides a long-term solution for optimal siting of hydrokinetic facilities. The urgency of climate change requires we do everything possible to ensure that new hydrokinetic technologies are efficiently implemented with minimal adverse impact to natural systems. Unfortunately, the current regulatory structure, which requires multiple, overlapping environmental reviews, delays the deployment of hydrokinetic projects. Small changes to the current regulations that shorten the leasing and licensing process will benefit the ocean environment, project developers, federal and state agencies, and the public.

FACT 2. Significant resources. We can get significant power supplies from hydrokinetic

Todd J. Griset 2010. (J.D., attorney with Preti Flaherty’s Energy and Telecommunications Group) HARNESSING THE OCEAN’S POWER: OPPORTUNITIES IN RENEWABLE OCEAN ENERGY RESOURCES , OCEAN AND COASTAL LAW JOURNAL <http://mainelaw.maine.edu/academics/oclj/pdf/vol16_2/vol16_oclj_395.pdf>

While offshore wind projects capture energy from winds located over the ocean’s waters, marine hydrokinetic technologies capture energy from moving water itself. United States offshore hydrokinetic energy resources have the potential to provide a significant amount of power. These resources include the harnessable power of ocean currents, tides, and waves. Tidal and marine current power projects use the mechanical energy of moving water to generate electricity.

OBSERVATION 5. ADVANTAGES

ADVANTAGE 1. Less pollution. Hydrokinetic has no emissions or toxic by-products

Manomet Center for Conservation Sciences 2009. (non-profit scientific research organization based in Plymouth, Mass.) « Hydrokinetic Energy” October 2009 <http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=5&cad=rja&ved=0CFsQFjAE&url=http%3A%2F%2Fwww.wcs.org%2Fabout-us%2Fgrants-and-opportunities%2F~%2Fmedia%2FFiles%2Fpdfs%2FManomet%2520Hydrokinetic%2520Energy%2520Report%2520FINAL%2520DRAFT.ashx&ei=dqSGUYzGDoKA9QT_54Fg&usg=AFQjCNGzql9Vs6Re0_-rO5yfjOSpcwAyiQ&sig2=KG_9AAe6j3mSLOSvbaxS6Q>

There are numerous benefits to harnessing and using the power of tides and waves. Hydrokinetic energy is a renewable source which helps in lessening the strain on the consumption of resources that cannot be renewed or grown. It has been estimated that approximately 255 TWh/year is available nationwide, which is Approximately 6% of the electrical power demand (Scruggs and Jacob, 2009). It is also a clean source of power that uses water, not fuel, to generate electricity. There are no emissions or toxic by-products.

ADVANTAGE 2. More jobs. Growing hydrokinetic energy would create jobs in the US

Ocean Renewable Energy Coalition and Verdant Power Inc. 2012. (OREC - non-profit industry trade association. Verdant Power – a corporation that is building hydrokinetic projects) “Marine and Hydrokinetic Environmental Policy Workshop Marine and Hydrokinetic Technology – Background and Perspective for New York State” Apr 2012 <http://www.bire.org/approach/documents/MHKTechPrimer_DiscussionDraft_final.pdf> (brackets added)

“As outlined in the OREC MHK Roadmap, the MHK [marine hydrokinetic] industry has significant potential for job creation in the manufacturing and marine services sectors. Using the range of 2.1 to 2.4 job years per MW, [megawatt] the roadmap estimates that, based on the goal of 15 GW [gigawatts] installed capacity by 2030, up to 36,000 direct and indirect jobs could be created across the United States for fabrication, installation, operations and maintenance of MHK devices.”

DEEP FREEZE: THE CASE FOR ICEBREAKERS

The topic of “marine natural resources” makes us think about things “in” the sea, but we often forget that the biggest marine natural resource is the ocean itself. As a means of travel and transportation, the ocean provides a resource to man that we can exploit for our economic benefit and national security. But the US federal government currently falls short in a key capability needed to exploit this resource. We’ll gain comparative advantages over the Status Quo by filling that gap, as we affirm that The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. We offer the following DEFINITIONS

**Resource**: “c : a natural feature or phenomenon that enhances the quality of human life” (Merriam-Webster Online Dictionary 2013. [*http://www.merriam-webster.com/dictionary/resource*](http://www.merriam-webster.com/dictionary/resource))

Marine Natural Resources:

Genevieve Anderson, last revised in 2009. (Science instructor at Santa Barbara City College, California) MARINE SCIENCE, “Marine Natural Resources” copyright 2003, last revised 2 June 2009 <http://www.marinebio.net/marinescience/06future/olres.htm>

Physical marine natural resources include products from the ocean as well as the ocean itself.

**Substantial**: “considerable in quantity **:** significantly great” (Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/substantially>)

**Reform**: “to put or change into an improved form or condition” Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/reform>)

OBSERVATION 2. INHERENCY. Some important facts about the status quo

FACT 1. Status Quo has 1 heavy and 1 medium icebreaker. While a new heavy icebreaker has been proposed for inclusion in the federal budget, it would only replace the existing icebreaker *Polar Star* when it is retired.

Ronald O'Rourke 2013. (Specialist in Naval Affairs at Congressional Research Service) 25 April 2013 Coast Guard Polar Icebreaker Modernization: Background and Issues for Congress <http://www.fas.org/sgp/crs/weapons/RL34391.pdf>

With the reactivation of Polar Star, the operational U.S. polar icebreaking fleet consists of one heavy polar icebreaker (Polar Star) and one medium polar icebreaker (Healy). The new polar icebreaker for which initial acquisition funding is requested in the FY2013 budget would replace Polar Star at about the time Polar Star’s 7- to 10-year reactivation period ends.

FACT 2. We need 6 heavy-duty icebreakers and 4 medium icebreakers

Associated Press 2012. Coast Guard icebreaker gets reprieve from demolition 15 June 2012 <http://www.adn.com/2012/06/15/2506218/coast-guard-to-keep-seattle-based.html#storylink=cpy>

One Coast Guard study determined the agency and the Navy need six heavy duty icebreakers and four medium icebreakers, the senators said. The reduction in Arctic ice has created more opportunities for Northwest Passage trade, fishing and oil exploration, as well as more environmental and security concerns. The icebreakers also travel to Antarctica to resupply McMurdo Station.

OBSERVATION 3. The RISKS. Inadequate icebreaking capability leads to 3 RISKS:

RISK 1. Arctic Ice Hazards. Warming Arctic climate alters the dynamics of ice floes and creates a more hazardous maritime environment

U.S. Coast Guard Arctic Strategic Plan 2008. Published by Operations Directorate at US Coast Guard Headquarters in Dec 2008 <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=5&ved=0CFgQFjAE&url=http%3A%2F%2Fwww.uscg.mil%2Fhq%2Fcg5%2Fcg513%2Fdocs%2FDraft_CG_Arctic_Strategic_Plan_12012008.rtf&ei=IhWBUeLCPKHH0wHQh4DoAQ&usg=AFQjCNF786nVF31B_ZrKoCp47Tfvbv3TBw&sig2=geZVVwn99Sk6LZEM1gyuHQ&bvm=bv.45921128,d.dmg>

Arctic multi-year ice has been declining over the past 30 years and as a result there are more “ice free” days in the Arctic. However, this does not equate to an inherently safer environment. The resultant effect of this open water is increased wave action due to the wind’s effect on the greater area of the ocean’s surface, which causes large sheets of sea-ice to breakaway, forming large ice-floes up to a half-mile in size. Sea-ice floes of increasing size and frequency, driven unpredictably by winds and currents, create a more dynamic and hazardous maritime environment. From a practical standpoint, this “open water” and potential increase in human activity in the region presents additional risks for people, vessels, and the environment.

RISK 2. Increased Arctic Shipping. Increased shipping in the Arctic increases icebreaking requirements

Ronald O'Rourke 2013. (Specialist in Naval Affairs at Congressional Research Service) 25 April 2013 Coast Guard Polar Icebreaker Modernization: Background and Issues for Congress <http://www.fas.org/sgp/crs/weapons/RL34391.pdf>

Although polar ice is diminishing due to climate change, observers generally expect that this development will not eliminate the need for U.S. polar icebreakers, and in some respects might increase mission demands for them. Even with the diminishment of polar ice, there are still significant ice-covered areas in the polar regions. Diminishment of polar ice could lead in coming years to increased commercial ship, cruise ship, and naval surface ship operations, as well as increased exploration for oil and other resources, in the Arctic—activities that could require increased levels of support from polar icebreakers.

RISK 3. Antarctic Research. The US presence in Antarctica cannot be sustained without substantial icebreaking capabilities, and missions are at risk of failure

National Academy of Sciences, Polar Research Board 2007. Polar Icebreakers in a Changing World: An Assessment of U.S. Needs <http://www.nap.edu/openbook.php?record_id=11753&page=23>

The principal role of the U.S. Coast Guard has been to provide logistics support to the U.S. Antarctic Program by breaking a channel into McMurdo Sound to allow resupply of McMurdo Station by tanker and cargo ships. Supplies from McMurdo are transferred to the South Pole Station by air, recently supplemented on a developmental basis by ground traverse. Icebreakers are a lifeline to and critical for the maintenance of USAP operations at the shore of McMurdo Sound and at the South Pole. Until recently, the two Polar class icebreakers (sometimes together and sometimes separately depending on ice conditions) were used to break open a channel for resupply. However, more challenging ice conditions and the deteriorating status of the Polar class ships now adds uncertainty and risk of failure to the operation. The National Science Foundation (NSF) is concerned that the lack of reliable icebreaking support may make it increasingly difficult to maintain the permanent stations and associated science programs. Investigations of alternate logistics plans by NSF (discussed in Chapter 8) have reaffirmed that icebreaker support is necessary to the Antarctic resupply chain for now and in the foreseeable future.

OBSERVATION 4. We have the “Six Plus Four” PLAN, to be implemented by Congress, the Navy and the Coast Guard:

1. Over the next 2 years, buy 6 heavy and 4 medium icebreaker ships and assign them to the Coast Guard.

2. Funding from cutting Head Start.

3. Plan takes effect 30 days after an Affirmative ballot

4. Enforcement through normal military discipline and existing defense contracting procurement laws.

5. Affirmative speeches may clarify the plan

OBSERVATION 5. The ADVANTAGES

ADVANTAGE 1. Increased national security. Icebreakers are critical to US national security in the Arctic

Jacqueline Klimas with NAVY TIMES 2012. (journalist) Coast Guard asks to buy new Arctic icebreaker 24 May 2012 <http://www.navytimes.com/article/20120324/NEWS/203240313/Coast-Guard-asks-to-buy-new-Arctic-icebreaker>

Access to the Arctic has received broad support in Congress. While the purchase of a new icebreaker has been supported by both Alaska senators, senators including Joe Lieberman, I-Conn., and Maria Cantwell, D-Wash., say the acquisition of a new icebreaker is a national priority. "Icebreakers are of critical importance to America's national security as well as our economic interests in the Arctic," Cantwell said in a statement. "According to the Coast Guard's own comprehensive analysis, we need to invest in at least six new icebreakers to fulfill our nation's icebreaking missions."

ADVANTAGE 2. Arctic development.

A. The Link: Icebreaking capability is key to resource development in the Arctic

Ronald O'Rourke 2013. (Specialist in Naval Affairs at Congressional Research Service) 25 April 2013 Coast Guard Polar Icebreaker Modernization: Background and Issues for Congress <http://www.fas.org/sgp/crs/weapons/RL34391.pdf>

Although polar ice is diminishing due to climate change, observers generally expect that this development will not eliminate the need for U.S. polar icebreakers, and in some respects might increase mission demands for them. Even with the diminishment of polar ice, there are still significant ice-covered areas in the polar regions. Diminishment of polar ice could lead in coming years to increased commercial ship, cruise ship, and naval surface ship operations, as well as increased exploration for oil and other resources, in the Arctic—activities that could require increased levels of support from polar icebreakers.

B. The Impact: Economic & Environmental benefits. New shipping routes in the Arctic will create economic and environmental advantages over existing routes

Alex Williams, Aisling O’Sullivan Darcy, Dr Angela Wilkinson 2011. (Williams – bachelor of science degree, Imperial College, London. Darcy - BSc in Government and Public Policy and a Diploma in Environmental Science from University College, Cork, with an MSc in Environment and Development from the London School of Economics. Wilkinson – PhD physics; Director of Scenario Planning and Futures Research at the Institute for Science, Innovation and Society, Oxford Univ.) The future of Arctic enterprise: Long-term outlook and implications, Smith School of Enterprise and the Environment, University of Oxford, Nov 2011 <http://www.smithschool.ox.ac.uk/wp-content/uploads/2011/03/SSEE-Arctic-Forecasting-Study-November-2011.pdf>

With reductions in the extent of sea ice, the long-term horizon creates the possibility of increasing usage of Arctic waters for transport shipping. New shipping routes through the Arctic could have similar effects and impacts to that of the transformation of the Middle East by the opening of the Suez Canal, where benefits would include the potential distances saved and associated economic and environmental advantages (in terms of reduced voyage time, reduced fuel consumption and reduced emissions).

ADVANTAGE 3. Polar science.

National Academy of Sciences, Polar Research Board 2007. Polar Icebreakers in a Changing World: An Assessment of U.S. Needs <http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDYQFjAB&url=http%3A%2F%2Ffhfl.wikispaces.com%2Ffile%2Fview%2FIce%2BBreakers%2BAff%2B-%2BSCuFI.doc&ei=E4jYUYjTBpCUjAKe54GwBA&usg=AFQjCNG8isK0IQKKeWtq_Zekbvn_McQJ1g&sig2=UNi7tBsldzUF3ro9HO_NNw&bvm=bv.48705608,d.cGE>

Polar research has brought, and will continue to bring, tangible societal benefits. The success of polar research is intimately linked to the availability of appropriate infrastructure and logistical support to allow scientists to work in these natural laboratories whose unique settings enable research on fundamental phenomena and processes that are feasible nowhere else. Access to the polar regions, predicated on the availability of adequate icebreaking capability, is essential if the United States is to continue as a leader in polar science.

ADVANTAGE 4. Antarctic Leadership.

A. The Link: Treaty jeopardized. Without US presence, the Antarctic Treaty is jeopardized and a scramble for control breaks out

National Academy of Sciences, Polar Research Board 2007. Polar Icebreakers in a Changing World: An Assessment of U.S. Needs <http://www.nap.edu/openbook.php?record_id=11753&page=23>

According to a representative of the Department of State assigned to Antarctic issues, if resupply of South Pole Station is not successful and the station were abandoned, this would jeopardize, and probably reduce, the influence of the United States in Antarctic governance. There would be significant consequences because abandonment of that key site would create a vacuum in leadership and likely result in a scramble for control. Abandoning it would be detrimental to the U.S. position as well as to the stability of the treaty system. To preserve the U.S. presence in Antarctica and hence its influential role in the Antarctic Treaty, it is paramount to maintain the three permanent research stations and their associated active research programs throughout the Antarctic continent. Icebreaker operations are critical to the continued existence of these stations and their associated outlying field sites.

B. The Impact: We prevent war. Maintaining the Antarctic Treaty prevents international conflict

Dr. Gillian Triggs 2009. (PhD; Dean of Sydney Law School, University of Sydney; Australian public international lawyer) “The Antarctic Treaty System: A Model of Legal Creativity and Cooperation” (Ethical disclosure about the date: The article is undated but refers to being written at the 50th anniversary of the Antarctic Treaty of 1959. It also refers in footnotes to an article published in 2009, but no references later than that year.) <http://www.atsummit50.org/media/book-8.pdf> (ellipses in original)

For the last 50 years a tenth of the Earth has been regulated peacefully and in the interest of scientific research. Negotiated during the cold war, the treaty has ensured that potential conflict over the seven largely unrecognised and disputed claims to territorial sovereignty in Antarctica has been avoided. Indeed, as Phillip C. Jessup argued before the U.S. Senate Committee on Foreign Relations, the importance of the Antarctic Treaty “lies. . . in the fact that it will permit the last great empty continent from becoming an international bone of contention, a scene of controversy and actual fighting.”

LOST AT SEA: THE CASE FOR THE LAW OF THE SEA TREATY

Delaware Senator Chris Coons said it best in 2012 when he said QUOTE:

“When I was brand-new to the Senate,” Senator Coons said at the hearing, “one of the earlier meetings I took with was with the then outgoing Chief of Naval Operations, Admiral Gary Roughead. And when I asked him, what is the single most important thing we can do to help the Navy over the next decade, he said, without hesitation, ratify the Law of the Sea treaty.”[[4]](#footnote-4) UNQUOTE

Please join us as we affirm that The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. Our DEFINITIONS

**Resource**: “c : a natural feature or phenomenon that enhances the quality of human life” (*Merriam-Webster Online Dictionary 2013.* <http://www.merriam-webster.com/dictionary/resource>*)*

Marine Natural Resources:

Genevieve Anderson, last revised in 2009. (Science instructor at Santa Barbara City College, California) MARINE SCIENCE, “Marine Natural Resources” copyright 2003, last revised 2 June 2009 <http://www.marinebio.net/marinescience/06future/olres.htm>

Physical marine natural resources include products from the ocean as well as the ocean itself.

**Substantial**: “considerable in quantity **:** significantly great” (Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/substantially>)

**Reform**: “to put or change into an improved form or condition” *Merriam-Webster Online Dict., 2013,* <http://www.merriam-webster.com/dictionary/reform>*)*

OBSERVATION 2. INHERENCY. One simple fact about the status quo: The US needs to, but hasn’t yet ratified the Law of the Sea Treaty

Zenonas Tziarras 2012. (Junior Research Scholar, Strategy International; PhD Candidate, International Politics, Univ of Warwick) The Law of the Sea Convention, the Eastern Mediterranean, and Clinton’s Testimony, Oct 2012 <http://www.academia.edu/2054703/The_Law_of_the_Sea_Convention_the_Eastern_Mediterranean_and_Clintons_Testimony>

“We believe that it is imperative to act now”, the United States Secretary of State, Hilary Clinton, said while addressing the Senate Committee on Foreign Relations in May, 2012. She was referring to the urgent need of the U.S. to ratify the Law of the Sea Convention.

OBSERVATION 3. Our simple PLAN

1. The President signs and the Senate ratifies the Law of the Sea Convention 3 days after an Affirmative ballot

2. Enforcement through the State Department for carrying out treaty provisions, through normal means.

3. Affirmative speeches may clarify the plan.

OBSERVATION 4. The ADVANTAGES

ADVANTAGE 1. Military Capabilities. Every Chairman of the Joint Chiefs of Staff since ’94 has endorsed the treaty because it would benefit US military capabilities.

Gen. Martin E. Dempsey 2012. (Chairman of the Joint Chiefs of Staff; US Army general; highest ranking military officer in the US) 9 May 2012 Pew Charitable Trusts and Atlantic Council Forum on Law of the Sea <http://ratifythetreatynow.org/sites/default/files/pdf/May%209-Transcript-Highlights.pdf>

With that, it’s my privilege to join Secretary Panetta today to speak in support of the Law of Sea Convention. My voice joins past and present senior civilian and military defense leaders to include our Joint Chiefs of Staff, and it echoes every chairman of the Joint Chiefs of Staff since the convention was first sent to the Senate in 1994. This long line of support has been so consistent because of what the convention would do for our armed forces. It codifies navigational rights and freedoms essential for our global mobility. It helps sustain our combat forces in the field. It includes the right of innocent passage through foreign territorial seas, the right of transit passage through international straits and the right to exercise high-seas freedoms in foreign exclusive economic zones, all without permission or prior notice. It affirms the sovereign immunity of our warships and other public vessels, and it gives us the framework to counter excessive claims by states seeking to illegally restrict movement of vessels and aircraft. Now, these are all rights and capabilities that we want and that we need.

ADVANTAGE 2. Better diplomacy. LOS Convention aids diplomacy in resolving Asia-Pacific conflicts

Gen. Martin E. Dempsey 2012. (Chairman of the Joint Chiefs of Staff; US Army general; highest ranking military officer in the US) 9 May 2012 Pew Charitable Trusts and Atlantic Council Forum on Law of the Sea <http://ratifythetreatynow.org/sites/default/files/pdf/May%209-Transcript-Highlights.pdf>

Finally, joining the Law of the Sea Convention will strengthen our strategic position in Asia. The western Pacific is a mosaic of competing claims for territory and for resources. This is a critical region where, as a Pacific nation, our security and economic prosperity are inextricably linked. We have a vested interest in mitigating any conflict in the Asia-Pacific before it occurs. The convention gives us another tool to effectively resolve conflicts at every level. It provides a common language, and therefore a better opportunity to settle disputes with cooperation instead of cannons.

ADVANTAGE 3. Better marine law enforcement and interdiction.

Admiral Robert Papp 2012. (Commandant of the US Coast Guard) 9 May 2012 Pew Charitable Trusts and Atlantic Council Forum on Law of the Sea <http://ratifythetreatynow.org/sites/default/files/pdf/May%209-Transcript-Highlights.pdf> (ellipses in original)

The convention sets overarching framework for cooperative law enforcement at sea, … an important force multiplier for the United States Coast Guard. On a daily basis we rely upon bilateral and multilateral international agreements and cooperation with partner nations to effectively interdict and combat threats to the United States of America, especially drug trafficking, migrants, smuggling and proliferation of weapons of mass destruction. These agreements that we have, these multilateral and bilateral agreements, enable us to quickly counter the threat and then release on-scene personnel and cutters and aircraft to continue other operations across vast ocean operating areas. But every time we enter into one of these agreements, once again the opening argument is, why hasn’t the United States acceded to the Law of the Sea Treaty? And we have to start at basics to negotiate agreements that are very important for our country. So when diplomatic negotiations over where to bring and prosecute contraband and detainees are prolonged because the United States is not a party to the convention, we keep our front-line cutters, our scarce front-line cutters and personnel and boarding teams, sidelined from the battle. We miss actionable intelligence and items that are out there because we have our people tied up as we struggle with the legal regimes. Joining the convention better positions the United States to interpret and demand adherence to convention provisions that ensure rapid disposition of cases and better protect America’s maritime security.

ADVANTAGE 4. Seabed Mining. We see this in 2 sub-points

The Link: We need legal certainty.

Jennifer Warren 2012. (Vice President, Technology Policy & Regulation, Lockheed Martin Corporation) 9 May 2012 Pew Charitable Trusts and Atlantic Council Forum on Law of the Sea <http://ratifythetreatynow.org/sites/default/files/pdf/May%209-Transcript-Highlights.pdf>

The changed market circumstances and technology availability alone would create for us a sense of urgency. But the importance of these resources is also well-understood internationally. Other countries are moving forward quickly and aggressively to access them. In fact, the first four ISA – International Seabed Authority – licenses for deep seabed exploration were granted last July. Two of the four are held by China and Russia. As a consequence of the ISA moving forward already, the urgency is particularly acute. And the implications, we would argue, are significant for the United States. For one thing, we believe it is in our national and economic interest to ensure an expanded source of rare earth elements, given the virtual monopoly that is widely reported as existing today for those resources. Others may see this differently. And we – we’re very careful about not trying to conflate our interests with broad U.S. interests. But as the only U.S.-based claimant, our view is pretty straightforward. Business initiatives to exploit deep seabed mineral resources will only be able to secure the necessary financial investments if it’s done pursuant to the existing international framework. It really is that simple. The framework is there to establish and protect legal rights to claims. And the legal-certainty theme you’ve heard throughout the panel applies here. And for a U.S.-based claim to be protected, the U.S. must be a party to the Law of the Sea and an active participant in the International Seabed Authority as it moves to develop the rules for exploitation of the deep seabed.

The Impact: Trillions of dollars. Seabed mining unlocks vast riches

NEW YORK TIMES 2012. (William J. Broad, journalist) 9 May 2012 “A Gold Rush in the Abyss“ <http://www.nytimes.com/2012/07/10/science/vast-deposits-of-gold-and-other-ores-lure-seabed-miners.html?pagewanted=all&_r=0>

[ocean explorer] Mr. [Tom] Dettweiler has now turned from recovering lost treasures to prospecting for natural ones that litter the seabed: craggy deposits rich in gold and silver, copper and cobalt, lead and zinc. A new understanding of marine geology has led to the discovery of hundreds of these unexpected ore bodies, known as massive sulfides because of their sulfurous nature. These finds are fueling a gold rush as nations, companies and entrepreneurs race to stake claims to the sulfide-rich areas, which dot the volcanic springs of the frigid seabed. The prospectors — motivated by dwindling resources on land as well as record prices for gold and other metals — are busy hauling up samples and assessing deposits valued at trillions of dollars.

ADVANTAGE 5. Business opportunities. Businesses are waiting for clear legal status to begin development of massive natural resources under the sea.

R. Bruce Josten 2012 (Executive Vice President, Government Affairs, U.S. Chamber of Commerce) 9 May 2012 Pew Charitable Trusts and Atlantic Council Forum on Law of the Sea <http://ratifythetreatynow.org/sites/default/files/pdf/May%209-Transcript-Highlights.pdf>

This is an essential action that’s needed to protect the interests of our American industry and the development and use of these resources. This is the next and new American frontier, and probably for a generation or more. It holds hope, if you will, for the next big thing in this country in terms of energy resources – and not just energy resources. It’s important that the U.S. Geological Survey estimates for us that nearly a hundred billion barrels of oil, trillions of cubic feet of natural gas as well as deposits of industrial metals from copper to lead, and importantly, rare earth minerals, which is crucial to the United States military as well as industry – and important to recognize that 85 percent of known deposits of rare earth minerals today are in China, not here, and we need access to them. Business needs international recognition of legal rights to exploit these resources that could be claimed, and some are trying to claim. We have nations kind of posting flags in the Arctic underground and saying this is ours. Business simply will not invest or explore or take the risk in the extended shelf until it’s clear and certain that their licenses to these deposits will not only be recognized here in America, but by all other nations participating in this treaty. We need protection against erosion of legal rights as we go in to explore and exploit. We need to have our government actively involved in defending those interpretations and those rights and understandings of the Law of the Sea, and that has to be done very simply through the Law of Sea Convention, or it’ll be done without us and without our government’s voice. Ratifying this treaty is needed to enable us to be able to obtain that international recognition of those resources, and the cost of nonparticipation in this treaty today by our government is simply too high a cost and too high a price to pay for America

OBSERVATION 6: The total IMPACT: Law of the Sea would generate trillions of dollars and a tremendous number of jobs

Andrew Langer 2012. (BA in International Relations; Masters in Public Admin from Troy State Univ; President of the Institute for Liberty. Note: Langer and his organization formerly opposed Law of the Sea, but changed their position in late 2012 after more research) 28 Nov 2012 The Case for Ratification of the Law of the Sea Treaty <http://www.realclearpolitics.com/articles/2012/11/28/the_case_for_ratification_of_the_law_of_the_sea_treaty_116272-full.html>

Ratification of the Law of the Sea Treaty is long overdue. With millions out of work, and an exploding deficit, ratifying this treaty is something the U.S. Senate can get to work to accomplish by the end of 2012. It is a critical step toward putting America back on a path to financial prosperity and to ensuring American exceptionalism. LOTS prevents the U.S. from losing more ground to the Chinese and the Russians. It will generate trillions of dollars and create a tremendous number of jobs. It protects our national security.

NOISY NEIGHBORS: THE CASE FOR NAVY SONAR RESTRICTIONS

Imagine a noise as loud as a rocket engine blasting from your next door neighbor’s house. Not just once, but over and over again for hours or days. It would make you physically or mentally ill in a very short time, if it didn’t drive you from your home completely. You don’t need to imagine, because it’s really happening. Today, we will win comparative advantages as we affirm that: The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. We offer the following DEFINITIONS

Marine Natural Resources:

National Oceanic & Atmospheric Administration, revised in 2010. National Marine Protected Areas Center, Glossary (brackets in original) last revised 12 Feb 2010 <http://www.mpa.gov/glossary.html>

**[Marine] Natural Resources:** Any biological or physical component of the marine environment that contributes to the structure, function, or services provided by a marine ecosystem.

**Substantial**: “considerable in quantity **:** significantly great” (Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/substantially>)

**Reform:** “to put or change into an improved form or condition” Merriam-Webster Online Dict., 2013, [*http://www.merriam-webster.com/dictionary/reform*](http://www.merriam-webster.com/dictionary/reform))

Sonar:

Alicia Schaffner 2008. (JD candidate, Roger Williams Univ. School of Law) National Security vs. Whales: The Navy and the Natural Resources Defense Counsel Battle Their Way to the Supreme Court , Dec 2008, Sea Grant Law and Policy Journal, Vol. 1, No. 2 <http://nsglc.olemiss.edu/SGLPJ/Vol1No2/Schaffner.pdf> (brackets added)

Sonar is an acronym for the phrase “Sound Navigation and Ranging.” It is used to detect objects, such as underwater mines and other submarines, and estimate their range, velocity, and direction.

Schaffner goes on to say later in the same context:

“Mid-frequency sonar (1kHz-10kHz), with a range of one to ten nautical miles, is the primary tool for identifying submarines. Mid-frequency sonar is emitted into the water column at a pressure of 235+ decibels for about 0.5 – 2 seconds and repeated every 28 seconds. To provide some perspective, this intensity would be similar to that of a rocket taking off. The Occupational Safety and Health Administration (OSHA) requires that hearing protection be used where workers are exposed to sounds at ‘90 dB [decibels] for eight hours or 110 dB for as little as thirty minutes.’ “

OBSERVATION 2. INHERENCY, or some key facts about the Status Quo as it pertains to US Navy sonar

FACT 1. Large test plan. The Navy is doing a large number of tests in the Pacific Ocean

California Coastal Commission 2013. (California state regulatory agency) Staff Report:Regular Calendar, Feb 2013 Project Description: California portion of Hawaii-Southern California Training and Testing Program –Continuation of and modifications to Navy training and testing activities <http://documents.coastal.ca.gov/reports/2013/3/F9a-3-2013.pdf>

The Navy proposes to conduct a large number of training and testing activities, which would include the use of active sonar and explosives, primarily within existing range complexes and ocean operating areas (OPAREAs); at Navy piers, ports, and shipyards; and at contractor shipyards located along the U.S. Pacific coast, as well as in the transit corridor between Southern California and Hawaii. The proposal also includes pier side sonar testing conducted as part of overhaul, modernization, maintenance, and repair activities at Navy piers in Southern California. Training and testing activities on land areas within the study area (SCI and SSTC) are not part of the proposed action. Briefly, the training elements involve anti-air warfare, amphibious warfare, strike warfare, anti-surface warfare, anti-submarine warfare, electronic warfare, and mine warfare activities.

FACT 2. Environmental exemption. The Navy was exempted from key environmental laws

San Diego Union-Tribune 2013. (journalist Jeanette Steele) 8 mar 2013 “Coastal panel rejects Navy sonar plan” <http://www.utsandiego.com/news/2013/mar/08/coastal-commission-navy-sonar/> (brackets added)

Michael Jasny of the Natural Resources Defense Council, or NRDC, said if the Navy continues training without the Coastal Commission’s acceptance of the plan, it would “open them up to judicial review.” In 2007, the NRDC [Natural Resources Defense Council] and the [California] Coastal Commission separately sued the Navy over the disputed effects of sonar. In 2008, the Supreme Court sided with the George W. Bush administration in ruling that the White House could exempt Navy sonar training from key environmental laws.

FACT 3. Solution ignored. Avoiding important habitat zones is the best solution, but the Navy ignores it and relies instead on faulty alternatives.

Michael Jasny and Susan Jordan 2013. (Jasny – Senior Policy Analyst and Director of Marine Mammal Project at Natural Resources Defense Council. Jordan – Director of California Coastal Protection Network) Letter to the California Coastal Commission, 20 Feb 2013 <http://documents.coastal.ca.gov/reports/2013/3/F9a-3-2013.pdf>

The Navy’s consistency determination, like the DEIS it released last year and the Proposed Rule that NMFS issued last month, reflects no movement forward on developing habitat-based mitigation. This is true even though both NOAA and the scientific community have concluded that avoiding important habitat represents the most effective available means of reducing impacts of Navy active sonar on marine mammals. The Navy does not rovide any additional protection for State Reserves and other Marine Protected Areas, or for known important habitat of particularly vulnerable species. Instead, despite the enormous increase in its estimates of harm, the Navy continues to rely on a mitigation scheme – centered on the ability of lookouts to detect whales and dolphins – that by itself will not result in an appreciable decrease in marine mammal take. For example, according to a published study, the Navy has only a one-in-fifty chance of detecting a beaked whale within one kilometer of its sonar vessel, directly on the trackline.

OBSERVATION 3. The HARM. Navy sonar testing damages the marine environment because marine mammals like whales and dolphins use sound to navigate and they become confused, sickened or killed as a result of the blasts of sound from Navy vessels. We prove this with evidence outlined in 3 FACTS:

FACT 1. Multiple impacts to susceptible species. Some species of whales and dolphins are susceptible to injury and death from sonar.

Alicia Schaffner 2008. (JD candidate, Roger Williams Univ. School of Law) National Security vs. Whales: The Navy and the Natural Resources Defense Counsel Battle Their Way to the Supreme Court , Dec 2008, Sea Grant Law and Policy Journal, Vol. 1, No. 2 <http://nsglc.olemiss.edu/SGLPJ/Vol1No2/Schaffner.pdf> (brackets added)

Not all marine mammals respond to sound in the same way. Some species are very susceptible to sonar. The species affected include: the Pygmy Sperm Whale, Gervais’ Beaked Whale, Blainville’s Beaked Whale, Melon-Headed Whales, Bottlenosed Dolphin, and the Cuvier’s Beaked Whale, which is quite possibly the marine mammal most affected by sonar. Scientists have not yet determined why these animals are so vulnerable to sonar, but all the above species share two traits: the use of echolocation and migration to cold waters for feeding and to warmer waters to give birth. Both physical and behavioral change can be observed after a marine mammal is exposed to acoustic trauma. Physiological damage includes: injury to body tissue, embolism, gross damage to the auditory system, permanent and temporary hearing loss and disorientation. Due to the stress from the sounds, their immune systems are often vulnerable to disease and reproductive rates decrease. Repetitive exposures to noise, such as sonar, may also to lead to chronic impacts, such as desensitization to noise, which results in animals remaining near the sources of the damaging sound. There are other behavioral effects as well, such as stranding, interruption to normal behavior such as feeding, breeding and nursing, loss of efficiency, increased antagonism, and displacement from preferred areas. Ocean noise may hinder the ability of individual cetaceans to communicate with other members of the same species. Biologically important sounds may be masked by sonar, which leads to decreased reproductive rates. In addition, there may be some interference with the ability to acoustically interpret their environment and interference with food-finding.

FACT 2. Navy Study Confirms. The Navy’s own research admits its sonar and explosives kill and injure dolphins and whales

Associated Press 2012. “Navy study: Sonar, blasts might hurt more sea life” 11 May 2012 <http://www.foxnews.com/us/2012/05/11/navy-study-sonar-blasts-might-hurt-more-sea-life/#ixzz2Qq3RzLMk>

The U.S. Navy says its training and testing using sonar and explosives could potentially hurt more dolphins and whales in Hawaii and California waters than previously thought. The new research and more thorough analysis are part of a draft environmental impact statement covering Navy training and testing planned for 2014-2018. A notice about the study is due to appear in the Federal Register on Friday. In the study, the Navy estimates its use of explosives and sonar may unintentionally cause more than 1,600 instances of hearing loss or other injury to marine mammals in one year. The service calculates that its use of explosives may inadvertently cause more than 200 marine mammal deaths a year.

FACT 3. The scope of the impact. 1.78 million marine mammals will be affected

California Coastal Commission 2013. (California state regulatory agency) Staff Report:Regular Calendar, Feb 2013 Project Description: California portion of Hawaii-Southern California Training and Testing Program –Continuation of and modifications to Navy training and testing activities <http://documents.coastal.ca.gov/reports/2013/3/F9a-3-2013.pdf>

Based on the Navy’s modeled estimates under the Marine Mammal Protection Act (MMPA), which use newer lower thresholds than the Navy applied the last time the Commission reviewed these types of activities (in 2008), and assuming that all the marine mammal species in the project area can be considered coastal species(as explained in pages 16-18 below), the proposed activities could result in the behavioral harassment (qualifying as “Level B take” under the MMPA) of up to 1.78 million marine mammals per year, “Level A” take of up to 336 marine mammals, and up to 26 mortalities.

OBSERVATION 4. The PLAN, to be carried out by Congress, NOAA, National Marine Fisheries Service, the US Navy and any other necessary federal agency, is simple: Habitat-based mitigation. It means not doing testing in specific areas of the ocean where we know large numbers of each species live. We break it down into 5 items:

1. In addition to maintaining current regulations, we enact a ban on Navy sonar and explosive testing in known hot spots of susceptible species of marine mammal habitats based on NOAA and NMFS data.

2. NOAA and NMFS publish maps of all known hot spots and research any for marine mammal species not yet mapped or any species later discovered to be susceptible.

3. Enforcement through the Secretary of the Navy. Any Navy personnel in violation will be disciplined through normal military disciplinary means.

4. Funding through normal Navy, NOAA and NMFS budgets. Any minimal increase in costs covered by cutting Head Start.

5. Plan takes effect 10 days after an Affirmative ballot.

6. Affirmative speeches may clarify the plan as needed.

OBSERVATION 5. WE REDUCE THE DAMAGE. The Plan produces the best alternative, as we see in 2 FACTS:

FACT 1. Avoiding critical habitats is the best way to reduce damage

Michael Jasny 2013. (Senior Policy Analyst and Directory of Marine Mammal Project at Natural Resources Defense Council ) Navy training harming whales and other marine mammals 6 Mar 2013 <http://www.utsandiego.com/news/2013/mar/06/navy-training-whales-California-coast/?page=2>

The Navy should be smarter when testing and training with dangerous sonar and explosives. The National Oceanic and Atmospheric Administration has concluded that avoiding important marine mammal habitat is the most effective available means of reducing harm. Surely, within the Navy’s vast Southern California training range – an area as large as the state itself – some important habitat could be put off-limits to sonar during critical breeding and feeding seasons, when training can be done elsewhere.

FACT 2. Mammal habitat modeling and avoidance is the most effective mitigation measure available

Dr. Jane Lubchenco 2010. (PhD, Under Secretary of Commerce for Oceans and Atmosphere) Letter to Nancy Sutley, Chair, Council on Environmental Quality, 19 Jan 2010 <http://documents.coastal.ca.gov/reports/2013/3/F9a-3-2013.pdf> (brackets added)

The Navy and NMFS [National Marine Fisheries Service] have made substantial investments in models of existing whale distribution and environmental data to predict abundance and distribution of whales and other mammals in specific locations. As part of this focus, the workshop will evaluate these models, developed primarily for the Northwest Atlantic and the California Current and eastern tropical Pacific, and assess their general applicability. Such models, if verified, have great potential to assist in the design of appropriate mitigation measures that are effective and efficient. Protecting important marine mammal habitat is generally recognized to be the most effective mitigation measure currently available.

SEA OF TROUBLES II: THE CASE AGAINST OFFSHORE OIL DRILLING

See if you can guess who made the following optimistic statement about offshore oil drilling in their official report to the US Mineral Management Agency in February 2009 QUOTE[[5]](#footnote-5):

"In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of BP's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery and removal of the oil spill."

UNQUOTE. If you guessed “BP” -- you’re right. “Unlikely to have an impact” sounded good, until BP’s Deepwater Horizon exploded in April 2010, and gushed millions of gallons of oil into the Gulf of Mexico. “Never again” doesn’t even begin to cover the outrage you should feel, but it’s a good place to start as we affirm that The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. We offer the following DEFINITIONS

Marine Natural Resources:

National Oceanic & Atmospheric Administration, revised in 2010. National Marine Protected Areas Center, Glossary (brackets in original) last revised 12 Feb 2010 <http://www.mpa.gov/glossary.html>

**[Marine] Natural Resources:** Any biological or physical component of the marine environment that contributes to the structure, function, or services provided by a marine ecosystem.

**Substantial**: “considerable in quantity **:** significantly great” (Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/substantially>)

**Reform:** “to put or change into an improved form or condition” Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/reform>)

OBSERVATION 2. INHERENCY. Some disturbing facts about the Status Quo

FACT 1. The disaster. Keep in mind the background of the 2010 Deepwater Horizon rig explosion

Kiley Kroh and Michael Conathan 2012. (Kroh - Associate Director for Ocean Communications at Center for American Progress. Conathan - Director of Ocean Policy at Center for American Progress; former staff member for the Senate Committee on Commerce, Science, and Transportation’s Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard; master’s degree in marine affairs from the Univ of Rhode Island) 19 Apr 2012 “The Lasting Impact of Deepwater Horizon” <http://www.americanprogress.org/issues/green/news/2012/04/19/11409/the-lasting-impact-of-deepwater-horizon/>

Two years ago an explosion aboard the Deepwater Horizon rig in the Gulf of Mexico took the lives of 11 men and spewed nearly 5 million barrels of oil into the Gulf. It took 9,700 vessels, 127 aircraft, 47,829 people, nearly 2 million gallons of toxic dispersants, and 89 days to stop the gush of oil.

FACT 2. Gulf drilling rebounds. The BP oil spill is hardly a blip in the rearview mirror, as we are now drilling more in the Gulf of Mexico than before the disaster. The NEW YORK TIMES reported in 2012:

NEW YORK TIMES 2012. (journalists Clifford Krauss and John M. Broder) 4 Mar 2012 “Deepwater Oil Drilling Picks Up Again as BP Disaster Fades <http://www.nytimes.com/2012/03/05/business/deepwater-oil-drilling-accelerates-as-bp-disaster-fades.html?pagewanted=all&_r=0>

For a time after the BP spill, the drilling moratorium ordered by the Obama administration caused a decline in gulf production, but a reversal has occurred. Forty rigs are drilling in the gulf today compared with 25 a year ago. BP has five rigs drilling in the gulf, making it one of the most active drillers there. That is the same number BP operated before the accident, and it plans to have three more rigs drilling in the gulf by the end of the year. The Energy Department recently projected that gulf oil production would expand from its 2011 level of 1.3 million barrels a day, still nearly a quarter of total domestic production, to two million barrels a day by 2020. Last December, the Obama administration held its first offshore auction since the BP spill, granting leases for more than 20 million acres of federal waters — bigger than West Virginia.

FACT 3. No safety improvements. Drilling was allowed to continue after the BP disaster with hardly any safety improvements

Michael Craig & Jacqueline Savitz 2011. (Craig - Energy Analyst at *Oceana*; Policy Fellow at Americans for Energy Leadership. Savitz - Deputy Vice President, U.S. Campaigns at Oceana; former Executive Director of Coast Alliance; master's degree in environmental science with emphasis in toxicology from the University of Maryland, Chesapeake Biological Laboratory; bachelor's degree in marine science and biology from the University of Miami, Fla. Oceana - largest international organization focused solely on ocean conservation, protecting marine ecosystems and endangered species) “False Sense of Safety - Safety Measures Will Not Make Offshore Drilling Safe” Oct 2011 <http://oceana.org/sites/default/files/reports/OffshoreSafetyReport_Oceana_10-18-11.pdf>

In little over a year, offshore drilling has largely returned to pre-spill conditions. Government and industry have justified this by claiming that new safety measures allow offshore drilling to be done in a safe and responsible way. Unfortunately, this claim does not stand up to scrutiny. Having compiled and analyzed all of the new safety measures implemented since the Deepwater Horizon spill to determine what effect, if any, they would have on the safety of offshore drilling, Oceana has found that, contrary to claims by the government and industry, new safety measures will only marginally increase the drilling safety. Consequently, the risk of large spills remains largely the same as it was prior to the Deepwater Horizon.

OBSERVATION 3. The HARMS. We spell out the terrible consequences in 4 HARMS:

HARM 1. The Economic Impact. $8.7 billion and 22,000 jobs

Kiley Kroh and Michael Conathan 2012. (Kroh - Associate Director for Ocean Communications at Center for American Progress. Conathan - Director of Ocean Policy at Center for American Progress; former staff member for the Senate Committee on Commerce, Science, and Transportation’s Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard; master’s degree in marine affairs from the Univ of Rhode Island) 19 Apr 2012 “The Lasting Impact of Deepwater Horizon” <http://www.americanprogress.org/issues/green/news/2012/04/19/11409/the-lasting-impact-of-deepwater-horizon/>

The Gulf of Mexico is one of the nation’s most productive fishing grounds, providing one-third of all seafood consumed in the United States prior to the spill. But in 2010, at peak response to the oil spill, about 40 percent of Gulf waters were closed to all commercial and recreational fishing—a huge blow to area fishermen, many of whom have yet to rebound. Louisiana oysterman Terrence Shelley recently told Bloomberg that total losses from the 18,000 acres of oyster reefs his family owns could reach $20 million by 2017, the year their oyster leases are projected to fully recover. And while long-term damage estimates vary, a new study published in the Canadian Journal of Fisheries and Aquatic Sciences determined that over seven years, the oil spill could have a $8.7 billion impact on the economy of the Gulf of Mexico including losses in revenue, profit, wages, and close to 22,000 jobs.

HARM 2. The Environmental Impact. Oil spills threaten the marine food chain

Kiley Kroh and Michael Conathan 2012. (Kroh - Associate Director for Ocean Communications at Center for American Progress. Conathan - Director of Ocean Policy at Center for American Progress; former staff member for the Senate Committee on Commerce, Science, and Transportation’s Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard; master’s degree in marine affairs from the Univ of Rhode Island) 19 Apr 2012 “The Lasting Impact of Deepwater Horizon” <http://www.americanprogress.org/issues/green/news/2012/04/19/11409/the-lasting-impact-of-deepwater-horizon/>

During the three-month spill, a staggering volume of oil spilled into the Gulf far beneath the surface. We are only beginning to understand the impact that will have on deep-sea health. A study released last month by Charles Fisher of Penn State University and Helen White of Haverford College offers a clue. It determined the BP spill was “definitely linked” to “widespread signs of distress” and the slow death of deepwater coral within seven miles of the blowout site. The crew traveled nearly a mile below the surface, and one researcher said of the scene, “It was like a graveyard of corals.” The long-term implications of widespread coral damage are extensive. Corals and other species at the furthest depths of the ocean often serve as barometers for overall ocean health and are critical components of the food chain.

HARM 3. The Cleanup Costs. Cleaning polluted shorelines costs up to $294,000 per metric ton of oil spilled. And they don’t come close to getting it all.

Ellycia Harrould-Kolieb, Jacqueline Savitz, Dr. Jeffrey Short and Marianne Veach 2009. (Harrould-Kolieb - Master of Environment from the University of Melbourne, Australia. Savitz - master's degree in environmental science with emphasis in toxicology from the University of Maryland, Chesapeake Biological Laboratory; bachelor's degree in marine science and biology from the University of Miami, Fla. Short - Ph.D., Fisheries Biology, University of Alaska ; research chemist at National Oceanic & Atmospheric Administration. Veach – climate change intern at Oceana) March 2009 TOXIC LEGACY: LONG-TERM EFFECTS OF OFFSHORE OIL ON WILDLIFE & PUBLIC HEALTH <http://oceana.org/sites/default/files/reports/Toxic_Legacy_FINAL.pdf>

When an oil spill reaches coastal areas the cost and scope of the cleanup efforts increase significantly. When a spill hits a coast, as much as 99 percent of the costs can go to just cleaning-up the shoreline. Some estimate the cost of cleaning oil from offshore waters to be approximately $7,350 per metric ton of oil spilled, while shoreline cleanup can average twenty times that at $147 thousand to $294 thousand per metric ton. Smaller spills may be more costly to clean up for a given amount of oil spilled because of the relatively high price tag on evaluating the spill, bringing in equipment and getting it set up. Besides the costs of cleanup the impacts on coastal ecosystem structure and function, as well as the valuable services provided by the ecosystem, such as water filtration by wetlands and mangroves, that will likely be lost or disrupted should also be taken into account when evaluating the cost of an oil spill. All told, these large scale cleanups are rarely complete and the effects of oil on the coastline can linger for many decades after a spill. In the case of the Exxon Valdez spill in 1989, $2.5 billion was spent over the three years following the spill. In 1998, nine years after the spill, studies showed that the cleanup efforts had little effect on the oil deposits left under rocks. In 2001, twelve years after the spill, studies of the area showed that more than half of the beaches analyzed still had considerable amounts of oil remaining from the Exxon Valdez spill.

HARM 4. The Social Impacts. Shoreline communities are torn apart

Dr Jeffrey Short 2010. (Ph.D., Fisheries Biology, University of Alaska; retired after 31 years as research chemist at National Oceanic & Atmospheric Administration) 9 June 2010 written statement to the Energy & Environment Subcommittee, US House of Representatives Committee on Science, Space & Technology <http://oceana.org/en/our-work/stop-ocean-pollution/oil-pollution/learn-act/the-facts-dr-jeffrey-short>

Oil spill cleanup efforts may provide a temporary boon to local economies by providing a source of additional income, which may be especially welcome by those livelihoods are jeopardized by fishery closures, product contamination or oil-related declines in tourism. However, these benefits are typically short-lived, and may create additional adverse social impacts. Selective participation in cleanup efforts may create winners and losers within the same communities, engendering resentments that can seriously damage the character and social fabric of these communities. Protracted lawsuits typically add to individual and community stress. In extreme cases, where some members of a community are financially ruined while others are enriched, the result may be considerably increased incidences of domestic violence, substance abuse, violent crime and suicide, as was documented in communities affected by the 1989 Exxon Valdez spill (Russell et al. 1996).

OBSERVATION 4. The PLAN.

Congress enacts legislation denying any new offshore oil drilling permits in US territorial waters.

The Federal government refunds the leasing fees and cancels the leases on any leased undrilled areas.

Funding from general federal revenues.

Plan takes effect the day after an Affirmative ballot, and Affirmative speeches may clarify as needed.

OBSERVATION 5. SOLVENCY. It’s simple: If we’re not drilling, we’re not spilling.

Michael Craig & Jacqueline Savitz 2011. (Craig - Energy Analyst at *Oceana*; Policy Fellow at Americans for Energy Leadership. Savitz - Deputy Vice President, U.S. Campaigns at Oceana; former Executive Director of Coast Alliance; master's degree in environmental science with emphasis in toxicology from the University of Maryland, Chesapeake Biological Laboratory; bachelor's degree in marine science and biology from the University of Miami, Fla. Oceana - largest international organization focused solely on ocean conservation, protecting marine ecosystems and endangered species) “False Sense of Safety - Safety Measures Will Not Make Offshore Drilling Safe” Oct 2011 <http://oceana.org/sites/default/files/reports/OffshoreSafetyReport_Oceana_10-18-11.pdf>

Given the numerous problems in new safety measures and consequently continued weakness in the regulation of the offshore oil and gas industry, it is imperative that new drilling permits are not issued. Instead, while oil production continues to occur on existing wells, an investment should be made in developing clean energy manufacturing to support a new, spill proof energy industry focused on onshore and offshore wind, solar power, second generation biofuels like cellulosic ethanol and other renewables. This should include investments to build at least some of the needed manufacturing facilities in Gulf states. The only real way to ensure there is not another spill is to stop offshore drilling. It’s time we began to focus on how we can systematically build the energy of the future rather than continuing to repeat the mistakes of the past.

PLOP PLOP FIZZ FIZZ: THE CASE FOR OLIVINE GEOENGINEERING

Pavan Sukhdev, leader of a European Commission studying biological diversity, explained in 2008 the dilemma we face today when he said QUOTE[[6]](#footnote-6): “The treatment of climate change by the Stern Review surfaced an issue which had been widely recognized but not tackled squarely: how to assess a roll of the dice, when one of the outcomes is the end of civilization as we know it?” UNQUOTE.

If the Status Quo is running a risk of ending civilization as we know it, we have an obligation to reduce that risk in any reasonable way we can. Reduction of that risk will be our goal and our voting criterion as we affirm that The United States federal government should substantially reform its marine natural resource policies.

OBSERVATION 1. Our DEFINITIONS

Marine Natural Resources:

National Oceanic & Atmospheric Administration, revised in 2010. National Marine Protected Areas Center, Glossary (brackets in original) last revised 12 Feb 2010 <http://www.mpa.gov/glossary.html>

**[Marine] Natural Resources:** Any biological or physical component of the marine environment that contributes to the structure, function, or services provided by a marine ecosystem.

**Substantial**: “considerable in quantity **:** significantly great” (Merriam-Webster Online Dict., 2013, <http://www.merriam-webster.com/dictionary/substantially>)

**Reform:** “to put or change into an improved form or condition” *Merriam-Webster Online Dict., 2013,* <http://www.merriam-webster.com/dictionary/reform>*)*

Olivine:

Society for Mining, Metallurgy & Exploration 1990. SURFACE MINING 2nd Edition (edited by Bruce Kennedy) <http://books.google.fr/books?id=qJJrYnpT2pYC&pg=PA218&lpg=PA218&dq=olivine+is&source=bl&ots=YA6OxNctoj&sig=57tlzn5hfcBokT5yDQq1KqPxZ5s&hl=en&sa=X&ei=4WCXUZqQBMKwhAe8pYGgBg&redir_esc=y#v=onepage&q=olivine%20is&f=false>

“Olivine is a mineral containing a mixture of forsterite (Mg2SiO4) and fayalite (Fe2SiO4) in solid solution.”

OBSERVATION 2. INHERENCY. Some disturbing facts about the Status Quo

FACT 1. Record Atmospheric Carbon. Atmospheric Carbon Dioxide in 2013 hit 400 parts per million

WASHINGTON POST 2013. (journalists Brian Vastag and Jason Samenow) 10 May 2013 Carbon dioxide levels hit troubling milestone, scientists say <http://www.washingtonpost.com/national/health-science/atmospheric-carbon-dioxide-levels-hit-worrisome-milestone/2013/05/10/7cfe450c-b9a4-11e2-b94c-b684dda07add_story.html> (brackets in original)

A monitoring station in Hawaii recorded carbon dioxide concentrations of 400 parts per million Friday, dramatically up from the 316 parts per million recorded when the station made its first measurements in 1958. The monitor, high atop the Mauna Loa volcano, offers the longest-running record of atmospheric carbon dioxide measured directly from the air. Carbon dioxide is a primary greenhouse gas, efficient at trapping heat from the sun. The colorless gas is released from power plants and vehicles as they burn coal, oil and gas. “[The] increase is not a surprise to scientists,” said Pieter Tans, a senior scientist at the National Oceanic and Atmospheric Administration. “The evidence is conclusive that the strong growth of global [carbon dioxide] emissions from the burning of coal, oil and natural gas is driving the acceleration.”

FACT 2. Current efforts are inadequate – we need geoengineering. We need to reduce CO2 emissions, but it’s just not happening. That means we need to start exploring how to modify the environment to increase the earth’s ability to absorb CO2 after it’s already emitted.

Dr. R.D. Schuiling and Oliver Tickell 2010. (Schuiling – PhD; professor in Department of Earth Sciences - Geochemistry Faculty of Geosciences Utrecht University. Tickell - environmental journalist) Olivine against climate change and ocean acidification (ethical disclosure about the date: the article is undated, but references footnotes of documents published in 2010, and none later than that.) <http://www.innovationconcepts.eu/res/literatuurSchuiling/olivineagainstclimatechange23.pdf>

Mankind burns at considerable economic, social and environmental cost in a few hundred years the fossil fuels that have formed over hundreds of millions of years. Weathering cannot keep up with this greatly increased CO2 production, and the atmosphere's CO2 content is rapidly rising. Many of the most weatherable rocks are now covered by a thick weathering crust - called lateritic soils - which effectively prevents them from further contributing to CO2 capture (Fig.1). The preferred response to date has been to reduce the rate at which fossil fuels are burnt – in principle at least. However despite widespread agreement as to this objective, there has been little actual progress to this end (IPCC 2007, Prins & Rayner 2007). It therefore makes sense to prepare to deploy ‘geoengineering’ solutions.

OBSERVATION 3. The URGENCY. Let’s look at the RISK and the IMPACT of growing atmospheric CO2 in 2 subpoints.

First the RISK: Catastrophic climate change

Peter Orszag 2008. (director, Congressional Budget Office) Feb 2008, Congressional Budget Office, CBO Study: Policy Options for Reducing CO2 Emissions, <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/89xx/doc8934/02-12-carbon.pdf>

There is a growing scientific consensus that rising concentrations of carbon dioxide (CO2) and other greenhouse gases, which result from the burning of fossil fuels, are gradually warming the Earth’s climate. The amount of damage associated with that warming remains uncertain, but there is some risk that it could be large and perhaps even catastrophic.

Second, the IMPACT: Trillions of dollars in economic damages

Dr. William Nordhaus 2008 (PhD; professor of economics, Yale Univ.) A Question of Balance - Weighing the Options on Global Warming Policies, [http://books.google.com/books?id=qgeoZDu5SbQC&pg=PA204&lpg=PA204&dq=%22Climate+change+is+unlikely+to+be+catastrophic+in+the+near+term,+but+it+has+the+potential+for+serious+damages+in+the+long+run.+There+are+big+economic+stakes+in+designing+efficient+approaches.+The+total+discounted+economic+damages+with+no+abatement+are+on+the+order+of+$23+trillion.%22&source=bl&ots=gHiOstMtcX&sig=d43qHk3BoSM-TEa14g\_MFBAd39w&hl=en&sa=X&ei=v4zYUa2dOe7RigKQi4GQDA&ved=0CC8Q6AEwAA#v=onepage&q=%22Climate%20change%20is%20unlikely%20to%20be%20catastrophic%20in%20the%20near%20term%2C%20but%20it%20has%20the%20potential%20for%20serious%20damages%20in%20the%20long%20run.%20There%20are%20big%20economic%20stakes%20in%20designing%20efficient%20approaches.%20The%20total%20discounted%20economic%20damages%20with%20no%20abatement%20are%20on%20the%20order%20of%20%2423%20trillion.%22&f=false](http://books.google.com/books?id=qgeoZDu5SbQC&pg=PA204&lpg=PA204&dq=%22Climate+change+is+unlikely+to+be+catastrophic+in+the+near+term,+but+it+has+the+potential+for+serious+damages+in+the+long+run.+There+are+big+economic+stakes+in+designing+efficient+approaches.+The+total+discounted+economic+damages+with+no+abatement+are+on+the+order+of+$23+trillion.%22&source=bl&ots=gHiOstMtcX&sig=d43qHk3BoSM-TEa14g_MFBAd39w&hl=en&sa=X&ei=v4zYUa2dOe7RigKQi4GQDA&ved=0CC8Q6AEwAA#v=onepage&q=%22Climate%20change%20is%20unlikely%20to%20be%20catastrophic%20in%20the%20near%20term%2C%20but%20it%20has%20the%20potential%20for%20serious%20damages%20in%20the%20long%20run.%20There%20are%20big%20economic%20stakes%20in%20designing%20efficient)

Climate change is unlikely to be catastrophic in the near term, but it has the potential for serious damages in the long run. There are big economic stakes in designing efficient approaches. The total discounted economic damages with no abatement are on the order of $23 trillion.

OBSERVATION 4. The GOAL: Reduce atmospheric CO2. The risk and its impact are so great that you should vote Affirmative if we can offer you any reasonable means of CO2 reduction.

Dr. Jennie C. Stephens & Dr. David W. Keith 2008. ( Stephens – PhD; assoc. professor of Environmental Science and Policy Program, Department of International Development, Community, and Environment, Clark University. Keith – PhD; professor in Department of Chemical and Petroleum Engineering, University of Calgary) Assessing geochemical carbon management , CLIMATIC CHANGE Published online: 24 June 2008 <http://wordpress.clarku.edu/jstephens/files/2012/04/Stephens-Keith-2008.pdf>

The challenge of reversing rising atmospheric CO2 concentrations is growing with the continued expansion of CO2-emitting energy infrastructure throughout the world and with the lack of coordinated, effective measures to manage and reduce emissions. Given this situation, it is prudent for society to explore all potential carbon management options, including those with seemingly low probability for success.

OBSERVATION 5. We have a PLAN. Congress votes to fund and authorize the National Oceanic & Atmospheric Administration to do the following:

1. Olivine Research. Research into optimal methods of introducing crushed olivine particles in the oceans through land distribution with river runoff, coastal zone application, and/or by ship directly into the sea, to increase oceanic CO2 capture

2. Pilot Programs. Small scale pilot programs to test olivine distribution, followed by…

3. Wide scale olivine usage. Results subject to continuous monitoring and testing. Program is canceled if negative impacts outweigh the benefits.

4. Funding from cuts in Head Start

5. Plan takes effect the day after an Affirmative ballot

6. Affirmative speeches may clarify as needed.

OBSERVATION 6. The ADVANTAGES

ADVANTAGE 1. Cost-effective reduction in atmospheric CO2

Dr. R.D. Schuilling & Prof. P.L. DeBoer 2010. (Schuiling – PhD; professor in Department of Earth Sciences - Geochemistry Faculty of Geosciences Utrecht University DeBoer – professor with Sedimentology Research Group, University of Utrecht, Netherlands) International Journal of Greenhouse Gas Control, Coastal spreading of olivine to control atmospheric CO2 concentrations: A critical analysis of viability. Comment: Nature and laboratory models are different <http://www.greensand.nl/content/user/1/files/%2B%2BArticle%20Olaf-Poppe%20op%20Hangx%20en%20Spiers.pdf> (brackets added)

The olivine option, in the coastal zone and on the land, is a cost-effective way to counteract the increase of CO2 level in the atmosphere, at the same time mitigating ocean acidiﬁcation. The volume of olivine needed for the neutralisation of human fossil fuel burning is ∼7 km3[seven cubic kilometers] /year, that is about 1 m3[one cubic meter] /human. This is a large amount indeed, but comparable to the volume of fossil fuels which mankind burns annually, expressed in oil equivalent∼10 km3 /year, i.e., ∼1.4 m3 /human. Olivine is produced in open pit mines, while hydrocarbons are often retrieved from kilometres depth in often remote areas. Olivine weathering is a natural process that takes time, years to decades when applied to suitable environments. Contrary to CCS [carbon capture & storage], the effect is not instantaneous, but in the course of the coming decades in which society will continue to produce CO2 and to be threatened by continued greenhouse warming, the annual addition of large volumes of olivine to suitable environments will counteract the rise of CO2 level of the atmosphere and the acidiﬁcation of ocean waters.

ADVANTAGE 2. Better environmental policy-making. It’s better to start testing geoengineering options now and find out if they work, rather than waiting until the crisis forces us into desperate, uninformed decisions. Listen to Charles Greene, D. James Baker and Daniel Miller in 2010:

Prof. Charles H. Greene, D. James Baker & Daniel H. Miller 2010. (Greene - Director, Ocean Resources and Ecosystems Program, Department of Earth and Atmospheric Sciences, Cornell University. Baker – Director, Global Carbon Measurement Program, The William J Clinton Foundation. Miller – Managing Director, The Roda Group, Berkely CA.) OCEANOGRAPHY Vol 23 No 1, March 2010 “A Very Inconvenient Truth,” <http://www.tos.org/oceanography/archive/23-1_greene.pdf>

The geoengineering options discussed to date by scientists and engineers have not figured prominently in policy discussions because of the perception that they may have detrimental environmental consequences, are prohibitively expensive, or both (Schneider, 2008; Jones, 2009; Morton, 2009; Royal Society, 2009). However, the appropriate course of action is to evaluate the relative financial and environmental costs of each emission reduction or geoengineering option, compare them to the anticipated costs of adaptation if that particular option is not adopted, and then rank them by a set of standards agreed upon by policymakers. IPCC Working Groups II and III should undertake these activities as they prepare the next assessment report. The initial step in the above process cannot be undertaken without a serious investment in geoengineering research and development. Financial and environmental costs can only be estimated by conducting scalable experiments with reasonable levels of control and replication. As these experiments are scaled up, they will become increasingly difficult to control and replicate. In addition, their financial costs and environmental impacts will likely increase at least proportionally with their scale. Geoengineering experiments will raise serious ethical and legal issues, and society may ultimately decide that most of the proposed approaches cannot be implemented on a global scale because of their anticipated risks to the environment and our socio-economic well being (e.g., ocean fertilization; see Strong et al., 2009). However, investing in geoengineering research now will enable policymakers to make informed decisions based on science rather than uninformed decisions made out of desperation.

1. Michael Sutton 2009 (Vice President of the Monterey Bay Aquarium in California; member of the California state Fish and Game Commission) statement to the oversight hearing, 9 Sept 2009 testimony before the House Natural Resources Committee Subcommittee on Insular Affairs, Oceans and Wildlife <http://www.gpo.gov/fdsys/pkg/CHRG-111hhrg52311/html/CHRG-111hhrg52311.htm> [↑](#footnote-ref-1)
2. Pew Charitable Trusts Marine Aquaculture Task Force 2007. (Organized by researchers from the Woods Hole Oceanographic Institution, an independent panel of leaders from scientific, policymaking, business, and conservation institutions; task force chairman was retired US Navy Rear Admiral Richard Pittenger: retired in 2004 as Vice President for Marine Operations and Arctic Research Coordinator for Woods Hole Oceanographic Institution) Sustainable Marine Aquaculture:Fulfilling The Promise; Managing The Risks, January 2007 <http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/Sustainable_Marine_Aquaculture_final_1_07.pdf> [↑](#footnote-ref-2)
3. Iain Murray and Roger Abbott 2012. (Murray -Vice President for Strategy and the Director of the Center for Economic Freedom at the Competitive Enterprise Institute; BA and MA from the University of Oxford, an MBA from the University of London and the Diploma of Imperial College of Science, Technology and Medicine. Abbott - former CEI Research Associate.) “Give a Man a Fish - The Case for a Property Rights Approach to Fisheries Management” 17 May 2012 NPOINT, <http://cei.org/sites/default/files/Iain%20Murray%20and%20Roger%20Abbott%20-%20Give%20a%20Man%20a%20Fish.pdf> [↑](#footnote-ref-3)
4. Sen. Chris Coons (D-Delaware) 30 May 2012 quoted by his legislative team staff writing on his own official Senate web page “Law of the Sea treaty vital to U.S. interests”<http://www.coons.senate.gov/blog/post/law-of-the-sea-treaty-vital-to-us-interests> [↑](#footnote-ref-4)
5. *BP, 23 Feb 2009 “Initial Exploration Plan Mississippi Canyon Block 252” report submitted to the US Minerals Management Service, quoted by 8 US Senators in their letter to Attorney General Eric Holder, 17 May 2010 http://www.epw.senate.gov/public/index.cfm?FuseAction=Majority.PressReleases&ContentRecord\_id=a7fcc6d2-802a-23ad-4dd0-016664a97c56&IsPrint=true* [↑](#footnote-ref-5)
6. Pavan Sukhdev ( Study Leader,European Commission, Ninth Conference of the Parties to the Convention on Biological Diversity) May 2008, The Economics of Ecosystems and Biodiversity – Interim Report, <http://ec.europa.eu/environment/nature/biodiversity/economics/pdf/teeb_report.pdf> [↑](#footnote-ref-6)