## LADI China Aff Addendum

### 1AC – FW

#### The standard is maximizing expected well-being.

#### 1. Simple perception tells us that pleasure is good and pain is bad – to deny the value of such judgments undermines the basis for any system of reasoning.

Nagel – Thomas Nagel. “The View from Nowhere”. Oxford University Press. 1986. pg 156-157

I shall defend the unsurprising claim that sensory [P]leasure is good and pain bad, no matter whose they are. The point of the exercise is to see how the pressures of objectification operate in a simple case. Physical pleasure and pain do not usually depend on activities or desires which themselves raise questions of justification and value. They are just sensory experiences in relation to which we are fairly passive, but toward which we feel involuntary desire or aversion. Almost everyone takes the avoidance of his own pain and the promotion of his own pleasure as subjective reasons for action in a fairly simple way; they are not back[ed] up by any further reasons. On the other hand if someone pursues pain or avoids pleasure [it is a means to their end], either it as a means to some end or it is backed up by dark reasons like guilt or sexual masochism. What sort of general value, if any, ought to be assigned to pleasure and pain when we consider these facts from an objective standpoint? What kind of judgment can we reasonably make about these things when we view them in abstraction from who we are? We can begin by asking why there is no plausibility in the zero position, that [if] pleasure and pain have no value of any kind that can be objectively recognized. That would mean that I have no reason to take aspirin for a severe headache, however I may in fact be motivated; and that looking at it from outside, you couldn't even say that someone had a reason not to put his hand on a hot stove, just because of the pain. Try looking at it from the outside and see whether you can manage to withhold that judgment. If the idea of objective practical reason makes any sense at all, so that there is some judgment to withhold, it does not seem possible. If the general arguments against the reality of objective reasons are no good, then it is at least possible that I have a reason, and not just an inclination, to refrain from putting my hand on a hot stove. But given the possibility, it seems meaningless to deny that this is so. Oddly enough, however, we can think of a story that would go with such a denial. It might be suggested that the aversion to pain is a useful phobia—having nothing to do with the intrinsic undesirability of pain itself—which helps us avoid or escape the injuries that are signaled by pain. (The same type of purely instrumental value might be ascribed to sensory pleasure: the pleasures of food, drink, and sex might be regarded as having no value in themselves, though our natural attraction to them assists survival and reproduction.) There would then be nothing wrong with pain in itself, and someone who was never motivated deliberately to do anything just because he knew it would reduce or avoid pain would have nothing the matter with him. He would still have involuntary avoidance reactions, otherwise it would be hard to say that he felt pain at all. And he would be motivated to reduce pain for other reasons—because it was an effective way to avoid the danger being signaled, or because interfered with some physical or mental activity that was important to him. He just wouldn't [Dis]regard[ing] the pain as itself something he had any reason to avoid, even though he hated the feeling just as much as the rest of us. (And of course he wouldn't be able to justify the avoidance of pain in the way that we customarily justify avoiding what we hate without reason—that is, on the ground that even an irrational hatred makes its object very unpleasant!) There is nothing self-contradictory in this proposal, but it seems nevertheless insane. Without some positive reason to think there is nothing in itself good or bad about having an experience you intensely like or dislike, we can't seriously regard the common impression to the contrary as a collective illusion. Such things are at least good or bad for us, if anything is. What seems to be going on here is that [W]e cannot from an objective standpoint withhold a certain kind of endorsement of the most direct and immediate subjective value judgments we make concerning the contents of our own consciousness. We regard ourselves as too close to those things to be mistaken in our immediate, nonideological evaluative impressions. No objective view we can attain could possibly overrule our subjective authority in such cases. There can be no reason to reject the appearances here.

#### 2. Only utilitarianism can serve as the basis to legitimately justify policy to the public. Government actions will inevitably lead to trade-offs between citizens. The only justifiable way to resolve these conflicts is utilitarianism.

Gary Woller [BYU Prof., “An Overview by Gary Woller”, A Forum on the Role of Environmental Ethics, June 1997, pg. 10]

Moreover, virtually all public policies entail some redistribution of economic or political resources, such that one group's gains must come at another group's ex- pense. Consequently, public policies in a democracy must be justified to the public, and especially to those who pay the costs of those policies. Such justification cannot simply be assumed a priori by invoking some higher-order moral principle. Appeals to a priori moral principles, such as environmental preservation, also often fail to acknowledge that public policies inevitably entail trade-offs among competing values. Thus since policymakers cannot justify inherent value conflicts to the public in any philosophical sense, and since public policies inherently imply winners and losers, the policymakers' duty to the public interest requires them to demonstrate that the redistributive effects and value trade-offs implied by their polices are somehow to the overall advantage of society. At the same time, deontologically based ethical systems have severe practical limitations as a basis for public policy. At best, [Also,] apriorimoral principles provide only general guidance to ethical dilemmas in public affairs and do not themselves suggest appropriate public policies, and at worst, they create a regimen of regulatory unreasonableness while failing to adequately address the problem or actually making it worse.For example, a moral obligation to preserve the environment by no means implies the best way, or any way for that matter, to do so, just as there is no a priori reason to believe that any policy that claims to preserve the environment will actually do so. Any number of policies might work, and others, although seemingly consistent with the moral principle, will fail utterly. That deontological principles are an inadequate basis for environmental policy is evident in the rather significant irony that most forms of deontologically based environmental laws and regulations tend to be implemented in a very utilitarian manner by street-level enforcement officials. Moreover, ignoring the relevant costs and benefits of environmental policy and their attendant incentive structures can, as alluded to above, actually work at cross purposes to environmental preservation. (There exists an extensive literature on this aspect of regulatory enforcement and the often perverse outcomes of regulatory policy. See, for example, Ackerman, 1981; Bartrip and Fenn, 1983; Hawkins, 1983, 1984; Hawkins and Thomas, 1984.) Even the most die-hard preservationist/deontologist would, I believe, be troubled by this outcome. The above points are perhaps best expressed by Richard Flathman, The number of values typically involved in public policy decisions, the broad categories which must be employed and above all, the scope and complexity of the consequences to be anticipated militate against reasoning so conclusively that they generate an imperative to institute a specific policy. It is seldom the case that only one policy will meet the criteria of the public interest (1958, p. 12). It therefore follows that in a democracy, policymakers have an ethical duty to establish a plausible link between policy alternatives and the problems they address, and the public must be reasonably assured that a policy will actually do something about an existing problem; this requires the means-end language and methodology of utilitarian ethics. Good intentions, lofty rhetoric, and moral piety are an insufficient though perhaps at times a necessary, basis for public policy in a democracy.

#### 3. No act omission distinction for states since their implicit approvals of actions still entail moral responsibility

Sunstein and Vermuele [Cass R. Sunstein and Adrian Vermeule. The University of Chicago Law School. “Is Capital Punishment Morally Required? The Relevance of Life‐Life Tradeoffs.” JOHN M. OLIN LAW & ECONOMICS WORKING PAPER NO. 239. The Chicago Working Paper Series. March 2005] AJ

In our view, both the argument from causation and the argument from intention go wrong by overlooking the distinctive features of government as a moral agent. Whatever the general status of the act-omission distinction as a matter of moral philosophy,38 the distinction is least impressive when applied to government.39 The most fundamental point is that unlike individuals, governments always and necessarily face a choice between or among possible policies for regulating third parties. The distinction between acts and omissions may not be intelligible in this context, and even if it is, the distinction does not make a morally relevant difference. Most generally, government is in the business of creating permissions and prohibitions. When it explicitly or implicitly authorizes private action, it is not omitting to do anything, or refusing to act.40 Moreover, the distinction between authorized and unauthorized private action—for example, private killing—becomes obscure when the government formally forbids private action, but chooses a set of policy instruments that do not adequately or fully discourage it.

#### 4. If there’s even a risk of ethical uncertainty, we should always prioritize the survival of the human race to ensure future value.

Bostrom [Nick Bostrom. Faculty of Philosophy & Oxford Martin School University of Oxford. “Existential Risk Prevention as Global Priority.” Global Policy (2012)]

These reflections on moral uncertainty suggest an alternative, complementary way of looking at existential risk; they also suggest a new way of thinking about the ideal of sustainability. Let me elaborate.¶ Our present understanding of axiology might well be confused. We may not now know — at least not in concrete detail — what outcomes would count as a big win for humanity; we might not even yet be able to imagine the best ends of our journey. If we are indeed profoundly uncertain about our ultimate aims, then we should recognize that there is a great option value in preserving — and ideally improving — our ability to recognize value and to steer the future accordingly. Ensuring that there will be a future version of humanity with great powers and a propensity to use them wisely is plausibly the best way available to us to increase the probability that the future will contain a lot of value. To do this, we must prevent any existential catastrophe.

### 1AC – Plan

#### Plan: The People’s Republic of China ought to prohibit the production of nuclear power in seaborne nuclear reactors.

### 1AC – SCS

#### Advantage One—SCS

#### China’s building floating nuclear reactors now

Tony Roulstone 16 [(Tony Roulstone, ) China wants a fleet of floating nuke plants, CNN 5-10-2016] AT

China is planning to build nuclear reactors that will take to the sea to provide power in remote locations, possibly including the controversial man-made islands in the contested waters of the South China Sea. These small power plants will be built in Chinese shipyards, mounted on large sea-going barges, towed to a remote place where power is needed and connected to the local power grid, or perhaps oil rig. After pausing its nuclear program after the Fukushima disaster in Japan in 2011, China has since committed to a huge clean energy drive of wind, solar and nuclear generation, each as big as any in the world. The ambitious 2016 nuclear plan, formalized in China's 13th five-year plan in March, includes completing 58 power reactors by 2020 and building perhaps another 100 gigawatt-sized reactors by 2030, when China would become the largest nuclear power producer in the world. As part of this plan China is going to build up to 20 floating nuclear plants. The plans have raised eyebrows and many are asking: Why are they being planned? Will they be safe? Will they be economic? This idea is not new. In 1966, the U.S. mounted a submarine nuclear power plant on the Liberty ship, Sturgis, to power the Panama Canal Zone from 1968 to 1975. Now Russia is building floating nuclear plants with reactors taken from their nuclear powered icebreaker program. The first of these plants is being built in a shipyard in St Petersburg. It has two 35 MW nuclear power plants, is 144m long and will have a crew of 69. The barge will be towed through the Baltic and Arctic seas, to sites in Siberia to power Gazprom, or military facilities. Seven floating nuclear power plants are planned by Russia. The first, the Akademik Lomonosov, should be completed this year at the high cost of $740m, according to World Nuclear News. It is destined for the Far East port of Pevek, in the Chukotka Republic of Kamchatka. Advanced plans But China's plans are much more ambitious. Construction of the first demonstration floating power plant is to start in 2017, with electricity generation to begin in 2020. The first plant of 20 that are planned may be destined for a site on Hainan Island in Southern China. China National Nuclear Company has been touring industry conferences for more than year explaining their small reactors and their applications and I visited the company in 2013. Reports suggest that oil and gas company China National Offshore Oil Corporation (CNOOC) is expected to use floating nuclear power plants for offshore exploration in the South China Sea. Also, it has been reported that these floating nuclear power plants are being considered for remote locations in the South China Sea, where China has been building man-made islands that are at the heart of disputes over ownership of what is expected to be oil-rich waters.

#### Those will allow China to enforce an ADIZ around the SCS

Keith Johnson 16 [(Keith Johnson, ) China’s Got Nuclear Power Plans for its Fake Islands, Foreign Policy 4-23-2016] AT

China’s quest to fence off a big chunk of the South China Sea may have just gotten another, powerful boost: plans for a fleet of floating nuclear power plants that could provide huge amounts of electricity for the far-flung atolls and islets. While floating nuclear power plants are hardly a novel idea, their use in the South China Sea — a typhoon-wracked hotbed of territorial disputes and increasing military rivalries — would be worrisome both for environmental and security reasons. Chinese state media said Friday that Beijing plans to build as many as 20 floating nuclear power plants to supply power to remote locations. That could include offshore oil drilling rigs and the sparsely inhabited islands that China has spent the past two years building up and steadily turning into military outposts. Floating nuclear plants have been around for decades. Most recently, Russia’s Rosatom started building floating nuclear plants for use in remote locations, such as the Arctic. Those plants are powered by the same, tiny nuclear reactors used in Russia’s biggest icebreakers. Indeed, China’s floating plants will be built by China Shipbuilding Industry Corp., the country’s biggest constructor of naval vessels, including nuclear submarines. CSIC is close to finishing Beijing’s first floating reactor. Nuclear power experts said there are few technical obstacles to converting naval nuclear plants into stationary generators; the U.S. Navy has operated nuclear-powered submarines and aircraft carriers for decades, with a sterling safety record. “The Chinese have been operating nuclear-powered submarines for a number of years. It’s not a big leap” to modify those power plants into electricity generators, said Rod Adams, who served as the engineer officer on a U.S. nuclear sub and now publishes Atomic Insights, an industry reference. He said there are “few insurmountable challenges” to deploying those reactors by 2020. But China’s nuclear plans cause concern for both security analysts and some nuclear power experts. Many Chinese initiatives, from port deals in the Indian Ocean to its frantic building in the South China Sea, ostensibly serve civilian purposes but can also mask military buildups. In recent years, Beijing has turned tiny atolls into artificial islands, replete with military-grade airfields and, in some cases, with advanced air-defense radars. Adding a big new source of power could make those military systems a lot more powerful, potentially giving China the ability to create a no-go zone in the air and waters around its fake islands. That’s especially worrisome since the United States is trying to ensure free and open access to the waters in the South China Sea, one of the world’s busiest and most important trade thoroughfares. “Nuclear reactors afloat would give the Chinese military sustainable energy sources to conduct their full panoply of operations, from air early warning and defenses and offensive fire control systems to anti-submarine operations and more,” said Patrick Cronin, senior director of the Asia-Pacific Security Program at the Center for a New American Security, a think tank. Air-defense radars, in particular, could benefit from extra power, because that would increase their range. Cronin and other security experts noted that floating nuclear reactors could also give China an extra measure of protection from any potential attacks, whether by the United States or other militaries in the region, because of the risk of sparking a nuclear disaster at sea. That is particularly alarming because many experts fear China will try to enforce an Air Defense Identification Zone, or ADIZ, around its disputed properties in the Paracel or Spratly islands, as it did in 2013 in the East China Sea. Many security analysts are concerned that China could announce an ADIZ in the South China Sea in response to an adverse judgment from an international arbitration tribunal in the Hague that is weighing a complaint by the Philippines. That tribunal is expected to rule before the summer, and most legal experts expect the Hague will declare much of China’s recent activity in the region unlawful. The State Department said it was aware of Chinese media reports about floating reactors. “We continue to encourage all South China Sea claimants to avoid taking unilateral actions that change the status quo,” a spokesperson said.

#### But it requires infrastructure to successfully prosecute

Ankit Panda, The Diplomat 16 [(Ankit Panda, The Diplomat, ) Is China Really About to Announce a South China Sea Air Defense Identification Zone? Maybe, Diplomat 6-1-2016] AT

On Wednesday morning, the South China Morning Post, citing sources close to the People’s Liberation Army, reported that China may be preparing to announce an air defense identification zone (ADIZ) over the South China Sea. The SCMP doesn’t identify its source, but the source notes that the declaration would be a response to “provocative moves” by the U.S. military in the region–ostensibly referring to the U.S. practice of carrying out freedom of navigation patrols and surveillance flights in international airspace. The report comes at a particularly sensitive time in the South China Sea. China, regional claimant states, and interested observers, including the United States, await the verdict of the Permanent Court of Arbitration in Philippines v. China. A verdict is expected later this summer. Moreover, Chinese and U.S. senior representatives are expected to meet soon for their eighth annual Strategic and Economic Dialogue. Finally, the report comes as international diplomats and security analysts converge for the Shangri-La Dialogue, a major regional security forum, this weekend in Singapore. Moreover, these reports follow on the heel of a particularly tense month in U.S.-China activity in the South China Sea. The beginning of the month saw the third U.S. freedom of navigation operation take place in the Spratly Islands, when the USS William P. Lawrence sailed within 12 nautical miles of Fiery Cross Reef. Later in the month, a U.S. EP-3 Aries surveillance aircraft faced what U.S. officials described as an “unsafe” intercept at the hands of two Chinese fighters, the first incident of its kind over the South China Sea in nearly two years. Finally, the SCMP‘s source threatens the implementation of an ADIZ just as Chinese state media report that Beijing would increase “pressure” on the United States over maritime issues. Analysts and observers of the South China Sea have long wrangled with the possibility that China could move to declare an ADIZ there, just like it did in the East China Sea in November 2013 (read The Diplomat‘s round-up of analysis after the declaration for more context). Tensions have risen markedly in the South China over the last two years amid international attention to China’s construction of artificial islands on features disputed by regional claimant states–including Malaysia, the Philippines, Vietnam, Brunei, and Taiwan–in the Spratly Islands. When China declared an ADIZ in November 2013, tensions were high with Japan in the East China Sea. There are certainly several signs that point toward the eventuality of a Chinese ADIZ over the South China Sea. ADIZs require extensive infrastructure in order to be successfully enforced. China has already faced some difficulty regularly and evenly enforcing its East China Sea ADIZ. In the South China Sea, we’ve seen Beijing build two new airfields in the Spratlys, at Fiery Cross and Subi Reefs, to supplement an existing strip at Woody Island. Already, Chinese J-11 fighters have held exercises off Woody Island, where they’re now based. In its latest annual assessment of Chinese military capabilities, the U.S. Department of Defense assessed that these airstrips could host any aircraft in the People’s Liberation Army inventory. Moreover, China has sought to improve its intelligence, surveillance, and reconnaissance capabilities in the area by building advanced long-range radars and, more recently, even moving some surveillance drones to the South China Sea.

#### We’ll isolate three independent impact scenarios---

#### One – A2AD – island building and increased radar power expands DF-21D range and crushes US carrier power – causes Chinese aggression and guts US defenses

Michael Forsythe and Jane Perlez 16 [(Michael Forsythe and Jane Perlez, ) South China Sea Buildup Brings Beijing Closer to Realizing Control, New York Times 3-8-2016] AT

When the aircraft carrier John C. Stennis and four other American warships sailed into the South China Sea last week for what were described as routine exercises, the message was clear: The United States is the dominant military power in the region and plans to keep it that way. But numerous Chinese naval ships were operating nearby, the United States Navy said, noticeably more than in past years. A Chinese officer told the state-run news media that the ships were there to “monitor, identify, follow and expel” foreign vessels and aircraft, depending on how close they came “to our islands.” The encounter, which passed without incident, was the latest episode in a wary standoff between the United States and China over two contested island chains known as the Paracels and the Spratlys. Since taking office three years ago, President Xi Jinping has used the isles to expand China’s military footprint in the region, taking one step after another to build and equip outposts far from the Chinese mainland over protests from its neighbors and from Washington. The scale of the multibillion-dollar effort has raised tensions in the region and strengthened China’s disputed claim to the entirety of the South China Sea, home to some of the world’s busiest shipping lanes. The buildup has also challenged the military status quo in the Western Pacific since the end of World War II, bringing China closer to its goal of establishing a security buffer extending far from its coast — a dream of Chinese strategists since the Korean War. “China wants a bathtub,” said Marc Lanteigne, a senior research fellow at the Norwegian Institute of International Affairs who studies Chinese foreign policy, drawing a comparison with American dominance in the Caribbean. “China wants waters that are theirs, that they can operate military and police vessels in, without having to worry about the presence of the U.S. or the Philippines or Vietnamese or Indian naval forces.” The buildup has proceeded incrementally but remarkably swiftly given that China and its neighbors have been locked in a stalemate over the islands that has simmered for decades. Dredging of sand to build artificial islands atop coral reefs in the Spratlys began as early as 2014 but accelerated last year, and the isles now feature deepwater harbors and long runways suitable for warships and fighter jets. Then surface-to-air missile batteries appeared last month in the Paracels, more than 300 miles to the north. Now satellite photos show what seem to be powerful radar facilities, potentially extending the kill zone of missiles on the Chinese mainland that are devised to sink aircraft carriers. The new fortifications pose little threat to the United States military, which could easily destroy them in a conflict. But American officials are increasingly worried that the buildup, if unchecked, will give China de facto control of an expanse of sea the size of Mexico and military superiority over neighbors with competing claims to the waters. That, some say, could prompt a regional arms race and increase the risk of conflict. While officials in Washington say China is nowhere near gaining the capacity to keep American forces out of the South China Sea, analysts say the buildup will make it more difficult for the United States Navy to quickly defend allies with weaker militaries, like the Philippines. The deployment of fighter jets, antiship missiles and more powerful radar in particular could embolden the Chinese Navy while giving American commanders pause, they said. Testifying before the Senate Armed Services Committee last month, Adm. Harry B. Harris Jr., commander of the United States Pacific Command, warned that China’s actions were “changing the operational landscape in the South China Sea.” And in written answers submitted to the committee, the Obama administration’s top intelligence official, James R. Clapper, forecast that China would “have significant capacity to quickly project substantial military power to the region” by early next year. Though China has not finished construction, he wrote, it can already deploy fighter aircraft, surface-to-air missiles, coastal defense cruise missiles as well as large warships and sizable Coast Guard vessels to the new artificial islands in the Spratlys. Mr. Clapper also confirmed that military radar had been installed more than 600 miles from the Chinese island province of Hainan on Cuarteron Reef, the southernmost of the seven artificial islets. In theory, that could improve the ability of China’s so-called carrier-killer missile, the DF-21D, to strike faraway targets and complicate United States Navy efforts to develop countermeasures against it. Last month, Vietnam lodged a formal protest after satellite photos indicated that China had deployed HQ-9 surface-to-air missile batteries on the largest island in the Paracels, Woody Island. Vietnam claims both the Paracels and the Spratlys, and nationalist sentiment has been running high since the appearance of a Chinese oil drilling platform near the Paracels led to anti-Chinese demonstrations and riots two years ago. China’s buildup in the Spratlys has also angered the Philippines. Chinese forces wrested control of Scarborough Shoal in the Spratlys from the Philippines after an extended standoff four years ago, a move that President Benigno S. Aquino III later compared to Nazi Germany’s annexation of Czechoslovakia. Senator John McCain, the Republican chairman of the Senate Armed Services Committee, warned recently that China seemed poised to expel Philippine forces from another outpost and urged the Obama administration to clarify how it would respond. Last month, Chinese vessels drew protests by blocking Philippine fishing boats from reaching a disputed atoll. Analysts said the buildup had made it easier for Chinese ships to operate for long periods in the Spratlys without returning to the Chinese mainland. “Now Chinese ships can stay out in the Spratlys whenever they want, pretty confidently,” said Gregory B. Poling, director of the Asia Maritime Transparency Initiative at the Center for Strategic and International Studies in Washington. Mr. Poling said the new radar installations on Cuarteron Reef could give China the ability to see over the horizon and perhaps track targets as far away as the vital Malacca Strait hundreds of miles to the southwest. At his summit meeting with President Obama in September, Mr. Xi pledged not to “pursue militarization” of the Spratlys, but he did not include the Paracels, and Beijing has since insisted that it is entitled to “limited defensive facilities” across the South China Sea, comparing them to United States bases in Hawaii. Chinese analysts argue that the buildup preserves peace by deterring others with territorial claims to the sea, including Brunei, Indonesia, Malaysia and Taiwan. “The main reason for the construction is to tell other countries to stop their provocations, because if they continue to push, we have the capability to push back,” said Xu Liping, a researcher at the Chinese Academy of Social Sciences. United States officials said they expected China to build large fuel storage tanks on the islands next, which would allow its fighter jets to remain in the region longer, and then to declare an “air defense identification zone” over the South China Sea as it did for a contested part of the East China Sea in late 2013.

#### These anti-ship missiles disrupt the balance of power – US Naval weakness crushes command of the seas and causes US-China war – sea power also ensures global coop and solves every conflict

Robert C. Rubel 14, Dean of Naval Warfare Studies at the Naval War College, “Navies and Economic Prosperity: The New Logic of Sea Power,” in Writing to Think: The Intellectual Journey of a Naval Career, p.60-68

Systems thinking recognizes the interdependency of the various elements that contribute to a system. If we understand and accept that the world has knitted itself together into a global system of commerce (and the necessary forms of collective security that accompany commerce), then we are prepared to recognize and acknowledge that a wide range of factors impinge upon and even govern the effectiveness and efficiency of each subsystem. Using this logic we can easily understand not only that resource extraction, manufacturing, consumption and transportation are inextricably integrated elements of the world economy, but also that the protection of one to the exclusion of the others is not rational. The system as a whole must be protected. While it is true that no single military service—or nation—has the capability to render holistic systemic protection it is also true that the effects of each one’s operations ripple throughout the system as a whole, either enhancing or diminishing its overall security.¶ For navies, then, it is not sufficient to think of their purpose only in terms of protecting shipping. Certainly, shipping must be protected, but if there is nothing to put in those ships, their transits, safe or not, are meaningless. Therefore, it is as important that manufacturing nodes and resource nodes be similarly protected and that efforts be made to protect and enhance the nations and societies that constitute these nodes, not to mention the nations and societies that consume their output. Thus we have an endto- end systemic-view of what we might call the “mission space” of navies. The better the system works—the more secure it is—the better the world’s prospects for economic prosperity. It does not work for just one nation. For the purposes of this discussion, the important point is that the flow of finance, goods, information, etc. must be sustained across the system. The flow can be interrupted by disrupting shipping (and air travel and the internet), but commercial shipping, at least, is not significantly threatened in today’s world. On the other hand, war among major powers, instability in resource areas and major terrorist attacks in consumption areas all could significantly disrupt the flow, with disastrous results for the world economy as well as international peace. Given the dependency of most pension plans on the growth in the value of securities, it is not inaccurate to say that the well-being of much of the world’s greying population is dependent upon the effective functioning of navies.¶ Having established the systemic context for the new syllogism, we can engage in some reductionism to sort out some individual factors that can help us identify particular naval capabilities that are needed, their magnitude and even their mode of application (strategy). In doing so, we will focus, naturally, on threats to the system, proceeding from the most to the least dire.¶ As intimated previously, war among major powers is potentially the most disruptive threat to the global system. When one considers the almost eighty-year global system “dark age” between the outbreak of the First World War and the end of the Cold War, the impact of major power war becomes obvious. It would be arrogant and facile to suggest that navies themselves can prevent such wars, but it should be noted that a naval arms race between Great Britain and Germany played no small part in the chain of events leading to 1914 and the perceived vulnerability of the U.S. fleet in Hawaii was a factor in the Japanese decision to attack in 1941. These two themes, naval arms races and perceived naval vulnerability, constitute factors that have continuing relevance in today’s systemic world.¶ Let us start with naval arms races. We must admit that nations build navies for a range of reasons beyond protection of merchant shipping. These may include the desire to protect a vulnerable coast line, deter depredations by other powers and even generate prestige. There is, perhaps, one element of Mahan’s syllogism that continues to be true: at a certain level of economic activity and wealth, nations start building navies. A capable, ocean-going navy is a sign that a nation has “arrived” as a major power. Whether such navy building is a herald of future war or is a politically neutral phenomenon is not clear, although the historical record is cause for concern. Today, China, Japan, India, Brazil and other nations are building navies. They each have their reasons, but the prospects that such building programmes will lead to suspicion, alarm, fear and ultimately war may depend very much on how the current leading navies and their parent nations proceed.¶ An important reason the world system has been able to stitch itself back together after the world wars is the military superiority of the United States. A liberal democratic trading nation, it has coupled this superiority with free trade policies to stimulate economic growth. Capital, goods and people can flow freely around the globe, generating systemic behaviour. A key element of American military superiority is command of the seas, a term denoting the inability of any other navy to impose a strategic defeat on the U.S. Navy on the high seas. It is this command, like that achieved by the Royal Navy in the nineteenth century, which helped create the necessary conditions for system formation. When it is lost, as it was in 1914 and 1941, the world fragments and falls into war.¶ The challenge becomes how to use command of the sea to manage or influence the emergence of other navies such that true naval arms races do not occur. The right way to do this is not completely clear but there appear to be several sure-fire losing strategies. The first is for the United States to start the arms race itself by reflexively viewing the emergence of the Chinese Navy or others as a threat. Policies and patterns of building and deployment based on alarm and fear will generate reciprocal responses in China and elsewhere. This is why CS21 does not mention China or any other nation by name, something often criticized by those with an alarmist bent. Among the ways the U.S. Navy can stimulate Chinese alarm is to openly consider interdiction of their seaborne commerce in exercises, war games or articles. Not only would this strengthen the hand of Chinese alarmists, but commerce interdiction would probably be infeasible on a number of counts anyway. Another good way to invoke this kind of reciprocal security dilemma is to link sea control and power projection. After the Cold War, the U.S. Navy focused so narrowly on power projection that it and some of its allied navies forgot how to talk about sea control.12 While progress has been made in this area, there is still a sense in the doctrine that U.S. forces will use land strikes to neutralize shore based antiaccess systems with sea control being an exercise in access generation that is prerequisite to projecting power ashore.13 One can imagine the effect such talk has on a nation like China that has suffered humiliation and exploitation from the sea at the hands of western nations. Already, the Chinese are reacting to the most recent U.S. concept of this ilk, Air-Sea Battle: “If the U.S. military develops Air-Sea Battle to deal with the [People’s Liberation Army], the PLA will be forced to develop anti-Air-Sea Battle.”14¶ A second way to increase the odds that navy building will lead to war is for the leading navies to allow vulnerabilities to emerge. The U.S. Navy did this in two ways during the 1930s and up to 1941. First, it was slow to recognize and accept that the bomb-carrying aircraft had replaced the major calibre gun as the dominant naval weapon. Although war games at the Naval War College and demonstrations by Billy Mitchell provided clear indicators, it took the December 1941 disasters of Pearl Harbor and the sinking of the HMS Repulse and Prince of Wales to force the new reality on the admirals. Today, the new reality is that the anti-ship missile is the arbiter of what floats and what does not. This is a condition that has existed since the early 1970s but has not been compellingly revealed due to the lack of an all-out naval battle, just as there was no all-out naval battle between 1922 and 1941 to reveal the bomb’s superiority. Vulnerability can also be generated by concentration. In 1941 the bulk of the U.S. fleet was concentrated at Pearl Harbor, leading Admiral Yamamoto to think that a single knock-out blow was possible. Although today the U.S. Navy is strategically dispersed around the world, its principal combat power is concentrated into eleven aircraft carriers. Taking several of these out would seriously compromise the strategic capabilities of the U.S. Navy, not to mention the potential adverse effects of derailing U.S. policy as happened via the loss of eighteen Special Forces soldiers in Somalia, or conversely stimulating escalation, possibly to the nuclear level. Moreover, a hit on a nuclear carrier that killed hundreds, if not thousands, of U.S. sailors in a single blow might easily generate national outrage and serve to escalate the conflict far above initial intentions. In naval warfare, history has shown that the tactical offense has most often trumped the tactical defence, and thinking that aircraft carriers can be defended against the array of existing and potential anti-ship missiles is not much different than the outlook of battleship admirals in the fall of 1941.15¶ The combination of vulnerability issues suggests that the U.S. Navy and any allied or cooperating navies that seek to constitute a combat credible force in ocean zones threatened by anti-ship missiles will have to disaggregate their power into a dispersed grid of submarines, destroyers and unmanned vehicles, themselves armed with highly lethal anti-ship missiles. Their purpose should be clearly articulated as defending the system by deterring aggression via the sea by means of defeating—at sea—any attempt to do so. Even the best anti-ship missile cannot hit what cannot be found. By disaggregating naval combat power and equipping it to exert sea control—at sea—we thereby eliminate both forms of naval vulnerability that contribute to naval arms races, and the deterioration of deterrence.¶ There is one other vulnerability issue that must be considered, and that is positioning. If caught out of position when a crisis erupts, the reactive movements of naval forces can catalyse rather than deter military action. In 1982, during the crisis leading up to the Falklands War, fears that the British were gathering up naval forces to send south helped put the Argentine Junta in a now-or-never state of mind, which precipitated their invasion and the war.16 If catalysis is to be avoided, naval forces must maintain a persistent presence in such areas where deterrence is necessary. This is why CS21 prescribes concentrated, credible combat forces be stationed forward in East Asia and the Persian Gulf. The Navy’s inventory of ships, aircraft and other systems must be sufficiently large such that this presence can be maintained indefinitely without “using up” ships and sailors at an unsustainable rate.¶ If command of the seas is achieved and maintained wisely by not provoking alarm and not allowing naval vulnerabilities to occur, the seas can constitute a massive geopolitical shock absorber, preventing conflicts in one area of the world from spilling over into others, mainly by keeping hostile armies from moving by sea, and allowing one’s own to do so. Even though this condition holds today as a function of American command of the sea, there has emerged, since the attacks on the World Trade Center in New York, the prospect of terrorists and their weapons being smuggled by sea to the shores of America, Europe, China, Japan and other developed countries. Given the disruptive potential of terrorist attacks, it is reasonable to regard them as only a step down from major power war as a threat to the system. Although the attacks of 9/11 were perpetrated by the radical Islamic organization al Qaeda, in the future such strikes might be staged by any number of groups. Although neutralization of such organizations by intelligence or law enforcement agencies is the preferred method, the lack of success to date in doing so for narco-traffickers and other criminal enterprises leaves us to consider at-sea interdiction as a necessary measure.¶ The seas, of course, are huge, and at any moment they are dotted with tens of thousands of ships. There is not now nor has there ever been a navy of sufficient size to hermetically seal off the seas to smugglers. The only way to make the seas a barrier to terrorists is to have every costal nation effectively guard its own waters and establish good teamwork between its navy, intelligence service and law enforcement agencies. Some nations do but many do not. Thus CS21 calls for building capacity in those developing nations whose navies or coast guards are embryonic.¶ The mission of capacity building requires a very different kind of naval force than the one needed to prevent major power war. The main “weapon system” of such a force is the sailors and other personnel that train, educate and influence those in developing countries that will become sailors. The sheer number of countries needing such assistance suggests these missions be conducted from relatively inexpensive ships that can be procured in some numbers. In addition to actual naval forces deployed for capacity building purposes, the navies of developed nations employ their shore training and education infrastructures. The importance of naval academies and war colleges in building not only capacity but relationships cannot be overstated.¶ Beyond capacity building, making the seas a barrier to terrorists requires information about who is at sea, what is in the containers and holds, and where they are. Not only are new forms of surveillance needed, but also intensive information sharing so that two and two can be put together to reveal suspicious activity. To manage this, the U.S. Navy is developing a global network of maritime operations centres that will develop regional pictures that will be shared globally. This, in turn requires an international effort to develop trust and confidence so that information flows freely.¶ If an adequate degree of maritime security can be achieved, the seas will constitute a geopolitical shock absorber in another way. In the wake of 9/11 the United States had no equivalent of the First Lord of the Admiralty, Admiral Lord St Vincent, who supposedly advised a jittery parliament in 1801, “I do not say my lords that the French will not come, I say only that they will not come by sea.” Without the assurance of the seas as a barrier to further attack, it was as if New York City was connected to Kabul and Baghdad by a land bridge. The Bush Administration was spooked by the prospect of a WMD attack and rather stampeded itself into two simultaneous Eurasian land wars that got the United States mired down and over-extended. The comfort of insulating oceans can provide, among other things, a certain poise to the deliberations of the National Security Council and time for cooling off and reflection before committing the nation to war. Moreover, in the wake of the pull-out from Iraq and an increasingly rapid drawdown in Afghanistan, both the current and former U.S. Chiefs of Naval Operations have advanced the notion of an “offshore option” for anchoring forward U.S. military capabilities in the future.17 This would increase the proportionate contribution of naval forces to the U.S. effort to maintain global stability.¶ The threat of terrorism emanates principally from an area of a world that has been variously referred to as the “arc of instability” and Barnett’s Non-Integrating Gap. It encompasses much of Africa and the Middle East as well as parts of Southeast Asia. It is where most failed states exist but also where much of the natural resources necessary for the world economy are found. Thus the nations that constitute the global economic system can ill afford a hands-off strategy of containment, hoping to seal off the area against the spread of terrorism until it heals itself. Therapeutic incisions have been and will continue to be necessary at various times and places.¶ Because of the undeveloped nature of this area of the world, along with the fact that most of its inhabitants live within several hundred miles of the coast, naval force projection capability from a sea base will be necessary. The early phases of the Afghanistan operations were of this nature and we can confidently expect that if and when the world’s developed nations reach a consensus about going into Somalia to cure the piracy problem, it will be a sea-based expeditionary operation. Thus, protection of resource areas will require that some number of navies possess substantial sea-based expeditionary force capability, preferably of a kind that can integrate multi-national contributions easily. Rendering disaster relief, as was done in the tsunami relief effort in 2004, the Haiti earthquake and the Japan tsunami, is also an important form of sea-based force projection that mitigates economic damage to the system. It is likely that future sea-based expeditionary operations will be international, and so that capability must be conceptualized and practiced.¶ The mere presence of naval forces in areas of the world that are the source of resources, notably oil, seems to have a beneficial economic effect. Both routine presence of naval forces and their responses in crises were shown to have a substantial economic benefit in a 1997 study by the U.S. Naval Postgraduate School.18 It found that the initial naval response to the Iraqi invasion of Kuwait is likely to have increased global GDP by over $86 billion.19 Perhaps the least dire threat to the global system is piracy —albeit one that is currently seizing the headlines. Somali pirates, a manifestation of a failed state in the Non-Integrating Gap, hijack merchants and demand ransom for the crew and ship. The actual chance of a particular merchant being hijacked is less than one in nine hundred,20 and shipping companies seem more inclined to pay the ransom than install armed guards aboard their ships. However, the publicity has galvanized nations and their navies to take action. A previous bout of piracy in the Straits of Malacca was cured by the joint action of local navies. The Somalia/Gulf of Aden situation is more problematic since there is no effective governmental authority ashore. However, the emerging world response to it reveals some important facets of an emerging global naval infrastructure that supports the global system of commerce and security.¶ In Mahan’s day, the movement of major naval forces was noted by many countries, sometimes with alarm, as it might presage invasion, or at least a round of coercive diplomacy. In fact, when the PRC announced it was dispatching a small squadron to the Gulf of Aden, there was alarm in some quarters in the United States and other countries that this was a sign of an expansionist China. The Chinese themselves announced that their ships would operate independently in the Gulf of Aden to protect their own merchants. However, after several weeks on station two things happened: the alarm about their movement died off and the Chinese commander suggested a cooperative zone defence in order to make most efficient use of the international naval forces on station. Moreover, not only the Chinese are there, but the Russians, NATO, EU (different task force), the Japanese, Koreans, Singaporeans and even the “rogue” nation of Iran. Everybody is cooperating—why, how and what does it mean?¶ To start with, we must acknowledge the uniqueness of the Gulf of Aden situation. Somalia is a failed state that possesses neither resources nor location that would incite major power rivalry over influence ashore there. There is a universal confluence of interests centred on the protection of shipping. The unusual absence of major power competition allows naval operations to follow their natural course and provide a unique opportunity for us to see the security side of the global system in action.¶ The Chinese, Russians, Iranians and other naval forces have become virtually invisible in the Gulf of Aden because they have fallen in on an existing framework and infrastructure of sea power that girdles the globe. This infrastructure (perhaps more accurately the maritime security subsystem of the global economic system) consists of both physical and intangible elements. On the physical side, there is the U.S. Navy’s world-wide logistics system. It operates 24/7/365 and is composed of a web of bases, husbanding (victuals) contracts and replenishment ships, augmented by the supply ships of the Royal Navy, Japan and other allies. This system can support international naval operations anywhere in the world. In addition, there are GPS and communication satellites as well as the ubiquitous internet. Among the intangibles are the UN Law of the Sea that provides a clear framework for who can do what in whose waters, any number of other international agreements governing a range of maritime issues, and a world conditioned to see U.S. Navy and allied ships cruising the littorals of Eurasia. Perhaps another intangible element is CS21 itself, which casts the United States and its navy in a defensive posture (defence of the global system). This makes it easier politically for other nations to deploy their ships on a cooperative mission and make use of the U.S. Navy’s logistics system. It also appears that the navies of the world are getting comfortable with looser coordination arrangements. Before the internet, strict communications, protocols, and structured command and control schemes were necessary. With the internet, everyone can talk more extensively and in new ways such that restrictive command arrangements are not so necessary. This in turn obviates the need for formal agreements prior to conducting cooperative operations. With the political and technical barriers to entry low, nations become more willing to send their navies on cooperative ventures.¶ Previously we discussed the seas as geopolitical shock absorbers, both to limit other nations’ options for aggression and to provide our own government time for reflection and preserving the option of doing nothing. In the cooperative naval operations off Somalia, we see another aspect of the phenomenon emerging in a very positive way. It turns out that ships from the Chinese, Japanese and South Korean navies have taken to operating together in the Gulf of Aden. Strange bedfellows indeed, but as both the Japanese navy’s operations chief and a Chinese maritime scholar have said to the author on different occasions, cooperating on easier missions can build trust and confidence that will provide a basis for achieving resolution of more difficult maritime issues between the nations. This is indeed geopolitical shock absorbing of the most congenial kind.¶ We have now arrived at a point where we can put all of the elements of modern naval endeavour together in a new syllogism. Navies protect their nations’ economic prospects by operating cooperatively to defend all elements of the global system of commerce and security. Their necessary functions range from averting naval arms races to rendering disaster relief to, yes, protecting shipping. But it is not an every navy for itself process; the more cooperation, the better. It may even turn out that sustained and habitual international naval cooperation will someday make the concept of command of the sea irrelevant. Until then, the U.S. Navy must exert careful stewardship over its command of the sea, keep its global logistics system robust and develop the capacity to catalyse a global maritime security partnership on a broad front by being in a lot of places at the same time. Other navies must also look at the world in systems terms if they are to most effectively develop utility arguments and determine how to most effectively target their limited resources.¶ If one accepts the arguments that underpin the new syllogism of how navies support economic prosperity, then reasons for optimism become clear. Naval building programmes in China, India and elsewhere do not have to lead to war as has happened in the past in Europe; there is a reasonable prospect that the seas can be denied to terrorists; the seas can be used to bring the Non-Integrating Gap into the system; and the emerging pattern of naval cooperating can not only secure the seas but reduce the likelihood of conflict and war.¶ None of this will happen if nations let their navies decay. The unique thing about navies is that their optimum utility is in time of peace. When sea power is hitting on all cylinders, it is invisible. An investment in sea power is most appropriate and effective at a point when threats are not apparent. In Mahan’s day the syllogism of sea power focused on the sovereign interests of individual nations and its application led eventually to war.¶ Today we see the world as a system, with a sea power logic that is expressed in systems terms. Its application, that is, investment in navies structured along systemic lines, promises a massive return in the form of an extended and improving peace and—despite the current global economic woes—prosperity.

#### Lack of redlines makes US-China the most probable scenario for nuclear war

Fisher 11—Associate editor at The Atlantic, where he edits the International channel [Max Fisher, “5 Most Likely Ways the U.S. and China Could Spark Accidental Nuclear War,” **The Atlantic**, Oct 31 2011, http://tinyurl.com/6nh9yjm]

Neither the U.S. nor China has any interest in any kind of war with one other, nuclear or non-nuclear. The greater risk is an accident. Here's how it would happen. First, an unforeseen event that sparks a small conflict or threat of conflict. Second, a rapid escalation that moves too fast for either side to defuse. And, third, a mutual misunderstanding of one another's intentions. This three-part process can move so quickly that the best way to avert a nuclear war is for both sides to have absoThlute confidence that they understand when the other will and will not use a nuclear weapon. Without this, U.S. and Chinese policy-makers would have to guess -- perhaps with only a few minutes -- if and when the other side would go nuclear. This is especially scary because both sides have good reason to err on the side of assuming nuclear war. If you think there's a 50-50 chance that someone is about to lob a nuclear bomb at you, your incentive is to launch a preventative strike, just to be safe. This is especially true because you know the other side is thinking the exact same thing. In fact, even if you think the other side probably won't launch an ICBM your way, they actually might if they fear that you're misreading their intentions or if they fear that you might over-react; this means they have a greater incentive to launch a preemptive strike, which means that you have a greater incentive to launch a preemptive strike, in turn raising their incentives, and on and on until one tiny kernel of doubt can lead to a full-fledged war that nobody wants. The U.S. and the Soviet Union faced similar problems, with one important difference: speed. During the first decades of the Cold War, nuclear bombs had to be delivered by sluggish bombers that could take hours to reach their targets and be recalled at any time. Escalation was much slower and the risks of it spiraling out of control were much lower. By the time that both countries developed the ICBMs that made global annihilation something that could happen within a matter of minutes, they'd also had a generation to sort out an extremely clear understanding of one another's nuclear policies. But the U.S. and China have no such luxury -- we inherited a world where total mutual destruction can happen as quickly as the time it takes to turn a key and push a button. The U.S. has the world's second-largest nuclear arsenal with around 5,000 warheads (first-ranked Russia has more warheads but less capability for flinging them around the globe); China has only about 200, so the danger of accidental war would seem to disproportionately threaten China. But the greatest risk is probably to the states on China's periphery. The borders of East Asia are still not entirely settled; there are a number of small, disputed territories, many of them bordering China. But the biggest potential conflict points are on water: disputed naval borders, disputed islands, disputed shipping lanes, and disputed underwater energy reserves. These regional disputes have already led to a handful of small-scale naval skirmishes and diplomatic stand-offs. It's not difficult to foresee one of them spiraling out of control. But what if the country squaring off with China happens to have a defense treaty with the U.S.? There's a near-infinite number of small-scale conflicts that could come up between the U.S. and China, and though none of them should escalate any higher than a few tough words between diplomats, it's the unpredictable events that are the most dangerous. In 1983 alone, the U.S. and Soviet Union almost went to war twice over bizarre and unforeseeable events. In September, the Soviet Union shot down a Korean airliner it mistook for a spy plane; first Soviet officials feared the U.S. had manufactured the incident as an excuse to start a war, then they refused to admit their error, nearly pushing the U.S. to actually start war. Two months later, Soviet spies misread an elaborate U.S. wargame (which the U.S. had unwisely kept secret) as preparations for an unannounced nuclear hit on Moscow, nearly leading them to launch a preemptive strike. In both cases, one of the things that ultimately diverted disaster was the fact that both sides clearly understood the others' red lines -- as long as they didn't cross them, they could remain confident there would be no nuclear war But the U.S. and China have not yet clarified their red lines for nuclear strikes. The kinds of bizarre, freak accidents that the U.S. and Soviet Union barely survived in 1983 might well bring today's two Pacific powers into conflict -- unless, of course, they can clarify their rules. Of the many ways that the U.S. and China could stumble into the nightmare scenario that neither wants, here are five of the most likely. Any one of these appears to be extremely unlikely in today's world. But that -- like the Soviet mishaps of the 1980s -- is exactly what makes them so dangerous. (1) China or the Philippines seize a disputed island. Many of these islands are resource rich, important to controlling the South China Sea (one of the world's most important shipping lanes), or both. It's also not clear who owns which. The U.S. has worked hard to create dispute-resolution mechanisms so that the Pacific rim nations can peacefully resolve conflicts over disputed islands. But it's always possible that confusion, greed, or domestic politics could drive one of these three countries to act rashly. There's an off chance that could lead to a naval skirmish, then maybe even a troop deployment. China, which has one of the world's largest militaries, might be tempted to use overwhelming force to quickly and decisively end such a dispute. This might lead the Philippines to act disproportionately aggressive. If the two countries escalate rapidly and unpredictably, the Philippines could remind the U.S. about their mutual defense treaty. And that's how the threat of a Sino-Filipino war could become the threat of a Sino-American war. Photo: Philippine marines watch as U.S. Marines storm a beach with Philippine counterpart during a joint military exercise. China-watchers may have noticed something missing from this list: a Chinese invasion of Taiwan. It's possible though unlikely this could happen, and just as possible (though even less likely) that it could happen and it could escalate to the point of drawing in U.S. involvement. But this probably poses the least risk of escalating into nuclear conflict precisely because the U.S. and China have spent so much time discussing it and have achieved such mutual clarity on the matter. The U.S. knows exactly where China and Taiwan stands; China knows exactly where Taiwan and the U.S. stand. Even if a Chinese invasion ever does happen, there's enough mutual understanding that both sides will have a good idea how to avoid unwanted escalation. And that's exactly what the U.S. and China need more of if they want to prevent nuclear war: clarity, understanding, and if not trust in each other, then at least trust in each other's incentives and intentions. In the coming decades, one of the above five incidents may very well happen. Where it leads will depend a great deal on what kind of groundwork the U.S. and China can lay now.

#### Two—shipping – successful ADIZ expansion collapses global shipping and shuts down oil

Anthony Fensom 16 [(Anthony Fensom, Australia-based freelance writer and consultant with more than a decade's experience in Asia-Pacific financial/media industries, ) $5 Trillion Meltdown: What If China Shuts Down the South China Sea?, National Interest 7-16-2016] AT

China has fired off a music video, editorials and plenty of other propaganda, along with a few volleys from PLA Navy ships, in response to the international court ruling on the South China Sea, which it denounced as “null and void.” But after threatening to set up an air defense identification zone, what might the economic impact be if Beijing went one step further and closed off the entire area inside its so-called “nine-dash line”? Based on a 1947 map by the then Kuomintang government, the vaguely defined nine-dash line encompasses around 90 percent of the South China Sea. It spans an area the size of Mexico extending more than one thousand kilometers from China, and which encompasses territory claimed by Malaysia, the Philippines, Taiwan and Vietnam. While China is the major beneficiary of freedom of movement in the region, a number of other countries rely upon shipping routes through the disputed area, namely Japan, South Korea and Australia. An estimated $5 trillion worth of goods are transported through South China Sea shipping lanes each year, including more than half the world’s annual merchant fleet tonnage and a third of all maritime traffic worldwide. Oil transported through the Malacca Strait from the Indian Ocean, en route to East Asia via the South China Sea, is triple the amount that passes through the Suez Canal and fifteen times the volume that transits the Panama Canal. According to Robert D. Kaplan, some two-thirds of South Korea’s energy supplies, nearly 60 percent of Japan’s and Taiwan’s, and 80 percent of China’s crude oil imports flow through the South China Sea. Analysts estimate the cost of rerouting oil tankers via the Lombok Strait and east of the Philippines at $600 million per annum for Japan, and $270 million per annum for South Korea. The majority of Australian cargo travelling through the South China Sea is destined for China; however, were China to obstruct shipping routes in the South China Sea between Australia and its other trading partners, it could force a costly reroute of some $20 billion worth of cargo per annum. Oil and Gas Wealth Another reason for China’s interest in the South China Sea is its massive potential for oil and gas—what Kaplan has described as a “second Persian Gulf.” The U.S. Energy Information Agency estimates the South China Sea holds eleven billion barrels of oil—similar to Mexico’s total oil reserves and 190 trillion cubic feet of natural gas—enough to meet twenty-eight years of Chinese gas demand. The China National Offshore Oil Corporation has invested some $20 billion in attempting to prove its more optimistic estimate of 125 billion barrels of oil and five hundred trillion cubic feet of natural gas. Should these estimates prove accurate—and there is some debate over the actual recoverable reserves—then the South China Sea could contain more oil than anywhere else on Earth, apart from Saudi Arabia. The caveat is that much of these reserves are located in deepwater fields, which are more technologically difficult and extremely costly to extract. For China’s energy needs, cheaper alternatives are readily available, particularly given low current oil prices. But for the Philippines and Vietnam, losing access to the South China Sea’s potential oil and gas wealth would be far more economically significant. Fishing Rights As marine populations decline in China’s coastal waters, overfishing has forced Chinese vessels further from home, advancing as far south as Indonesian territorial waters and causing growing conflict. While China has sought to shut out other nations’ fishing vessels from the South China Sea since 2012, a total closure of the region would be extremely damaging to Southeast Asia. Commercial fishing accounts for an estimated 3 percent of Indonesia’s GDP and almost 2 percent in Malaysia, the Philippines and Thailand. China has a powerful bargaining chip in its position as the largest trading partner for nearly all Southeast Asian economies. According to ASEAN data, in 2014, China accounted for more than one of every five dollars of imports from Southeast Asia, with the European Union accounting for one of every eight, and Japan one in ten. While analysts such as Malcolm Cook suggest that China “doesn’t have the clout” to exert hegemony in the region apart from the states of Cambodia, Laos and Myanmar, shutting the South China Sea would damage Southeast Asia as well as curtailing the flow of goods to larger economies, such as Japan, South Korea and Australia. Yet should the crisis escalate, the most damaging economic fallout would likely be a breakdown of trade in one of the world’s last remaining regions of economic dynamism. Even for China, the world’s second-biggest economy, the cost of such a shutdown would vastly surpass the benefits from keeping the South China Sea all to itself.

#### Safe shipping routes key to global survival

Mitropoulos 5 [(Efthimios, Secretary-General of the International Maritime Organization of the United Nations) World Maritime Day Parallel Event, 11/15, International Maritime Organization]

We hoped to kick-start moves towards creating a far broader awareness that a healthy and successful shipping industry has ramifications that reach far beyond the industry itself. Global economic prosperity is dependent on trade and trade, in turn, is dependent on a safe and secure transport network. Shipping is the most important part of that global network, although it is rarely acknowledged as such, and seldom given the credit it deserves. Indeed, I have long come to the sad conclusion that the contribution made by the shipping industry - and, in particular, by those who work hard, both on board ships and ashore, to make it safer and more environmentally friendly - is greatly undervalued by the public at large. You may have noticed that I used the word "sad" to brand my conclusion. I am sorry to say that there is another word I might suggest as more fitting to characterize the situation and that is the word "unfair" - in capital letters! I think it is worth pausing for a moment to consider just how vital the contribution of ships and shipping actually is. More than 90 per cent of global trade is reportedly carried by sea; over the last four decades, total seaborne trade estimates have nearly quadrupled, from less than 6 thousand billion tonne-miles in 1965 to 25 thousand billion tonne-miles in 2003; and, according to UN figures, the operation of merchant ships in the same year contributed about US$380 billion in freight rates within the global economy, equivalent to about 5 per cent of total world trade. This year, the shipping industry is expected to transport 6.6 billion tonnes of cargo. If you consider this figure vis-a-vis the 6.4 billion population of the world, you will realize that this works out at more than one tonne of cargo for every man, woman and child on the face of the planet - even more for the richer nations. As seaborne trade continues to expand, it also brings benefits for consumers throughout the world. The transport cost element in the price of consumer goods varies from product to product and is estimated to account for around 2 per cent of the shelf price of a television set and only around 1.2 per cent of a kilo of coffee. Thanks to the growing efficiency of shipping as a mode of transport and to increased economic liberalization, the prospects for the industry's further growth continue to be strong. Shipping is truly the lynchpin of the global economy. Without shipping, intercontinental trade, the bulk transport of raw materials and the import and export of affordable food and manufactured goods would simply not be possible. Shipping makes the world go round and, so, let us be in no doubt about its broader significance. To put it in simple terms, as I have done before on a number of occasions during the campaign initiated at IMO to encourage all those involved in shipping to pay more attention to its public perception, without international shipping half the world would starve and the other half would freeze.

#### Oil shocks go nuclear

King 08 (Neil, Peak Oil: A Survey of Security Concerns, Center for a New American Security, p. 14-17)

Many commentators in the United States and abroad have begun to wrestle with the question of whether soaring oil prices and market volatility could spark an outright oil war between major powers—possibly ignited not by China or Russia, but by the United States. In a particularly pointed speech on the topic in May, James Russell of the Naval Postgraduate School in California addressed what he called the increasing militarization of international energy security. “Energy security is now deemed so central to ‘national security’ that threats to the former are liable to be reflexively interpreted as threats to the latter,” he told a gathering at the James A. Baker Institute for Public Policy at Houston’s Rice University.6 The possibility that a large-scale war could break out over access to dwindling energy resources, he wrote, “is one of the most alarming prospects facing the current world system.”7 Mr. Russell figures among a growing pool of analysts who worry in particular about the psychological readiness of the United States to deal rationally with a sustained oil shock. Particularly troubling is the increasing perception within Congress that the financial side of the oil markets no longer functions rationally. It has either been taken over by speculators or is being manipulated, on the supply side, by producers who are holding back on pumping more oil in order to drive up the price. A breakdown in trust for the oil markets, these analysts fear, could spur calls for government action—even military intervention. “The perceptive chasm in the United States between new [oil] market realities and their impact on the global distribution of power will one day close,” Mr. Russell said. “And when it does, look out.”8 The World at Peak: Taking the Dim View For years, skeptics scoffed at predictions that the United States would hit its own domestic oil production peak by sometime in the late 1960s. With its oil fields pumping full out, the U.S. in 1969 was providing an astonishing 25 percent of the world’s oil supply—a role no other country has ever come close to matching. U.S. production then peaked in December 1970, and has fallen steadily ever since, a shift that has dramatically altered America’s own sense of vulnerability and reordered its military priorities. During World War II, when its allies found their own oil supplies cut off by the war, the United States stepped in and made up the difference. Today it is able to meet less than a third of its own needs. A similar peak in worldwide production would have far more sweeping consequences. It would, for one, spell the end of the world’s unparalleled economic boom over the last century. It would also dramatically reorder the wobbly balance of power between nations as energy-challenged industrialized countries turn their sights on the oil-rich nations of the Middle East and Africa. In a peak oil future, the small, flattened, globalized world that has awed recent commentators would become decidedly round and very vast again. Oceans will reemerge as a hindrance to trade, instead of the conduit they have been for so long. An energy-born jolt to the world economy would leave no corner of the globe untouched. Unable to pay their own fuel bills, the tiny Marshall Islands this summer faced the possibility of going entirely without power. That is a reality that could sweep across many of the smallest and poorest countries in Africa, Asia, and Latin America, reversing many of the tentative gains in those regions and stirring deep social unrest. Large patches of the world rely almost entirely on diesel-powered generators for what skimpy electricity they now have. Those generators are the first to run empty as prices soar. A British parliamentary report released in June on “The Impact of Peak Oil on International Development” concluded that “the deepening energy crisis has the potential to make poverty a permanent state for a growing number of people, undoing the development efforts of a generation.”9 We are seeing some of the consequences already in Pakistan – a country of huge strategic importance, with its own stash of nuclear weapons – that is now in the grips of a severe energy crisis. By crippling the country’s economy, battering the stock market, and spurring mass protests, Pakistan’s power shortages could end up giving the country’s Islamic parties the leverage they have long needed to take power. It’s not hard to imagine similar scenarios playing out in dozens of other developing countries. Deepening economic unrest will put an enormous strain on the United Nations and other international aid agencies. Anyone who has ever visited a major UN relief hub knows that their fleets of Land Rovers, jumbo jets and prop planes have a military size thirst for fuel. Aid agency budgets will come under unprecedented pressure just as the need for international aid skyrockets and donor countries themselves feel pressed for cash. A peaking of oil supplies could also hasten the impact of global climate change by dramatically driving up the use of coal for power generation in much of the world. A weakened world economy would also put in jeopardy the massively expensive projects, such as carbon capture and storage, that many experts look to for a reduction in industrial emissions. So on top of the strains caused by scarce fossil fuels, the world may also have to grapple with the destabilizing effects of more rapid desertification, dwindling fisheries, and strained food supplies. An oil-constricted world will also stir perilous frictions between haves and have-nots. The vast majority of all the world’s known oil reserves is now in the hands of national oil companies, largely in countries with corrupt and autocratic governments. Many of these governments—Iran and Venezuela top the list—are now seen as antagonists of the United States. Tightened oil supplies will substantially boost these countries’ political leverage, but that enhanced power will carry its own peril. Playing the oil card when nations are scrambling for every barrel will be a far more serious matter that at any time in the past. The European continent could also undergo a profound shift as its needs—and sources of energy—diverge all the more from those of the United States. A conservation-oriented Europe (oil demand is on the decline in almost every EU country) will look all the more askance at what it sees as the gluttonous habits of the United States. At the same time, Europe’s governments may have little choice but to shy from any political confrontations with its principal energy supplier, Russia. An energy-restricted future will greatly enhance Russia’s clout within settings like the UN Security Council but also in its dealings with both Europe and China. Abundant oil and gas have fueled Russia’s return to power over the last decade, giving it renewed standing within the UN and increasing sway over European capitals. The peak oil threat is already sending shivers through the big developing countries of China and India, whose propulsive growth (and own internal stability) requires massive doses of energy. For Beijing, running low on fuel spells economic chaos and internal strife, which in turn spawns images of insurrection and a breaking up of the continent sized country. Slumping oil supplies will automatically pit the two largest energy consumers—the United States and China—against one another in competition over supplies in South America, West Africa, the Middle East, and Central Asia. China is already taking this competition very seriously. It doesn’t require much of a leap to imagine a Cold War-style scramble between Washington and Beijing—not for like-minded allies this time but simply for reliable and tested suppliers of oil. One region that offers promise and peril in almost equal measure is the Artic, which many in the oil industry consider the last big basin of untapped hydrocarbon riches. But the Artic remains an ungoverned ocean whose legal status couldn’t be less clear, especially so long as the United States continues to remain outside the international Law of the Sea Treaty. As the ices there recede, the risk increases that a scramble for assets in the Artic could turn nasty.

### 1AC – Oceans

#### Advantage Two—Oceans

#### Reactors will be unsafe – accidents will devastate marine bioD

Keith Johnson 16 [(Keith Johnson, ) China’s Got Nuclear Power Plans for its Fake Islands, Foreign Policy 4-23-2016] AT

But the floating reactors also raise plenty of environmental and safety concerns, especially because the area suffers frequent powerful storms, and it is not clear what kind of mobility the floating nukes will have. “China has already done enough damage to the maritime environment by hastily building artificial islands and destroying irreplaceable coral reefs,” Cronin said. “We do not need a nuclear accident in these important fishing grounds and sea lanes.” The concern about nuclear safety is particularly relevant in light of the 2011 meltdown at the Fukushima Daiichi nuclear power plant in Japan, which was triggered when a tsunami flooded generators that ran the safety systems. It’s not clear that a floating reactor would be any more able to avoid catastrophic power outages than a land-based reactor, said Dave Lochbaum, a nuclear safety expert at the Union of Concerned Scientists. And the risk of a meltdown at sea, while remote, could still have nasty consequences. “Reactor core damage is never a good day, whether at a land-based reactor or one afloat,” Lochbaum said. A meltdown that sent molten, radioactive material through the hull of the ship and into the ocean would be especially grim, he said. “The water is good for cooling, but not good for containment.”

#### Safeguards don’t check and enable terrorist attacks

Joe Mcdonald 16 [(Joe Mcdonald, ) China's nuclear power ambitions sailing into troubled waters, No Publication 7-31-2016] AT

"The security concerns are clear: such reactors would be tempting targets for military or terrorist attacks," Edwin Lyman, a nuclear specialist for the Union of Concerned Scientists in Washington, said in an email. "Maintaining the full contingent of security officers necessary to effectively deter attack would not be feasible." Other perils include stormy seas—the South China Sea is buffeted by powerful seasonal typhoons—and the need to exchange radioactive fuel at distant sites. CGN says its seaborne unit will have "passive safety," or features that function without moving parts or outside power, such as control rods that drop by gravity in an emergency. No commercial reactor operates with such features. "There are questions about how reliable passive safety systems will be in extreme conditions," Lyman said. CGN wants to simplify operations by requiring refueling only once every three years instead of the industry standard of 18 months, Luk said. That would require more highly enriched fuel, with the amount of the U-235 isotope raised to as much as 10 percent from the typical 4.5 percent. "If it were seized by terrorists or someone else, that would be a big problem," he said.

#### Nuclear war

Barrett et al 13—PhD in Engineering and Public Policy from Carnegie Mellon University, Fellow in the RAND Stanton Nuclear Security Fellows Program, and Director of Research at Global Catastrophic Risk Institute—AND Seth Baum, PhD in Geography from Pennsylvania State University, Research Scientist at the Blue Marble Space Institute of Science, and Executive Director of Global Catastrophic Risk Institute—AND Kelly Hostetler, BS in Political Science from Columbia and Research Assistant at Global Catastrophic Risk Institute (Anthony, 24 June 2013, “Analyzing and Reducing the Risks of Inadvertent Nuclear War Between the United States and Russia,” Science & Global Security: The Technical Basis for Arms Control, Disarmament, and Nonproliferation Initiatives, Volume 21, Issue 2, Taylor & Francis)

War involving significant fractions of the U.S. and Russian nuclear arsenals, which are by far the largest of any nations, could have globally catastrophic effects such as severely reducing food production for years, 1 potentially leading to collapse of modern civilization worldwide, and even the extinction of humanity. 2 Nuclear war between the United States and Russia could occur by various routes, including accidental or unauthorized launch; deliberate first attack by one nation; and inadvertent attack. In an accidental or unauthorized launch or detonation, system safeguards or procedures to maintain control over nuclear weapons fail in such a way that a nuclear weapon or missile launches or explodes without direction from leaders. In a deliberate first attack, the attacking nation decides to attack based on accurate information about the state of affairs. In an inadvertent attack, the attacking nation mistakenly concludes that it is under attack and launches nuclear weapons in what it believes is a counterattack. 3 (Brinkmanship strategies incorporate elements of all of the above, in that they involve intentional manipulation of risks from otherwise accidental or inadvertent launches. 4 ) Over the years, nuclear strategy was aimed primarily at minimizing risks of intentional attack through development of deterrence capabilities, and numerous measures also were taken to reduce probabilities of accidents, unauthorized attack, and inadvertent war. For purposes of deterrence, both U.S. and Soviet/Russian forces have maintained significant capabilities to have some forces survive a first attack by the other side and to launch a subsequent counter-attack. However, concerns about the extreme disruptions that a first attack would cause in the other side's forces and command-and-control capabilities led to both sides’ development of capabilities to detect a first attack and launch a counter-attack before suffering damage from the first attack. 5 Many people believe that with the end of the Cold War and with improved relations between the United States and Russia, the risk of East-West nuclear war was significantly reduced. 6 However, it also has been argued that inadvertent nuclear war between the United States and Russia has continued to present a substantial risk. 7 While the United States and Russia are not actively threatening each other with war, they have remained ready to launch nuclear missiles in response to indications of attack. 8 False indicators of nuclear attack could be caused in several ways. First, a wide range of events have already been mistakenly interpreted as indicators of attack, including weather phenomena, a faulty computer chip, wild animal activity, and control-room training tapes loaded at the wrong time. 9 Second, terrorist groups or other actors might cause attacks on either the United States or Russia that resemble some kind of nuclear attack by the other nation by actions such as exploding a stolen or improvised nuclear bomb, 10 especially if such an event occurs during a crisis between the United States and Russia. 11 A variety of nuclear terrorism scenarios are possible. 12 Al Qaeda has sought to obtain or construct nuclear weapons and to use them against the United States. 13 Other methods could involve attempts to circumvent nuclear weapon launch control safeguards or exploit holes in their security. 14 It has long been argued that the probability of inadvertent nuclear war is significantly higher during U.S.–Russian crisis conditions, 15 with the Cuban Missile Crisis being a prime historical example. It is possible that U.S.–Russian relations will significantly deteriorate in the future, increasing nuclear tensions. There are a variety of ways for a third party to raise tensions between the United States and Russia, making one or both nations more likely to misinterpret events as attacks. 16

#### It’s the single greatest danger to the environment

Stapleton 9 - Richard M Stapleton Is the author of books such as Lead Is a Silent Hazard, writes for pollution issues (“Disasters: Nuclear Accidents” <http://www.pollutionissues.com/Co-Ea/Disasters-Nuclear-Accidents.html>) RMT

Of all the environmental disaster events that humans are capable of causing, nuclear disasters have the greatest damage potential. The radiation release associated with a nuclear disaster poses significant acute and chronic risks in the immediate environs and chronic risk over a wide geographic area. Radioactive contamination, which typically becomes airborne, is long-lived, with half-lives guaranteeing contamination for hundreds of years. Concerns over potential nuclear disasters center on nuclear reactors, typically those used to generate electric power. Other concerns involve the transport of nuclear waste and the temporary storage of spent radioactive fuel at nuclear power plants. The fear that terrorists would target a radiation source or create a "dirty bomb" capable of dispersing radiation over a populated area was added to these concerns following the 2001 terrorist attacks on New York City and Washington, D.C. Radioactive emissions of particular concern include strontium-90 and cesium-137, both having thirty-year-plus half-lives, and iodine-131, having a short half-life of eight days but known to cause thyroid cancer. In addition to being highly radioactive, cesium-137 is mistaken for potassium by living organisms. This means that it is passed on up the food chain and bioaccumulated by that process. Strontium-90 mimics the properties of calcium and is deposited in bones where it may either cause cancer or damage bone marrow cells.

#### Ocean bioD loss causes extinction

Craig 3 [Robin Craig, Indiana University, Robin Kundis, Winter, 34 McGeorge L. Rev. 155, p. 264-266]

Biodiversity and ecosystem function arguments for conserving marine ecosystems also exist, just as they do for terrestrial ecosystems, but these arguments have thus far rarely been raised in political debates. For example, besides significant tourism values - the most economically valuable ecosystem service coral reefs provide, worldwide - coral reefs protect against storms and dampen other environmental fluctuations, services worth more than ten times the reefs' value for food production. Waste treatment is another significant, non-extractive ecosystem function that intact coral reef ecosystems provide. More generally, "ocean ecosystems play a major role in the global geochemical cycling of all the elements that represent the basic building blocks of living organisms, carbon, nitrogen, oxygen, phosphorus, and sulfur, as well as other less abundant but necessary elements." In a very real and direct sense, therefore, human degradation of marine ecosystems impairs the planet's ability to support life. Maintaining biodiversity is often critical to maintaining the functions of marine ecosystems. Current evidence shows that, in general, an ecosystem's ability to keep functioning in the face of disturbance is strongly dependent on its biodiversity, "indicating that **more diverse ecosystems are more stable**." Coral reef ecosystems are particularly dependent on their biodiversity. Most ecologists agree that the complexity of interactions and degree of interrelatedness among component species is higher on coral reefs than in any other marine environment. This implies that the ecosystem functioning that produces the most highly valued components is also complex and that many otherwise insignificant species have strong effects on sustaining the rest of the reef system. Thus, maintaining and restoring the biodiversity of marine ecosystems is critical to maintaining and restoring the ecosystem services that they provide. Non-use biodiversity values for marine ecosystems have been calculated in the wake of marine disasters, like the Exxon Valdez oil spill in Alaska. Similar calculations could derive preservation values for marine wilderness. However, economic value, or economic value equivalents, should not be "the sole or even primary justification for conservation of ocean ecosystems. Ethical arguments also have considerable force and merit." At the forefront of such arguments should be a recognition of how little we know about the sea - and about the actual effect of human activities on marine ecosystems. The United States has traditionally failed to protect marine ecosystems because it was difficult to detect anthropogenic harm to the oceans, but we now know that such harm is occurring - even though we are not completely sure about causation or about how to fix every problem. Ecosystems like the NWHI coral reef ecosystem should inspire lawmakers and policymakers to admit that most of the time we really do not know what we are doing to the sea and hence should be preserving marine wilderness whenever we can - especially when the United States has within its territory relatively pristine marine ecosystems that may be unique in the world. We may not know much about the sea, but we do know this much: if we kill the ocean we kill ourselves, and we will take most of the biosphere with us**.** The Black Sea is almost dead, its once-complex and productive ecosystem almost entirely replaced by a monoculture of comb jellies, "starving out fish and dolphins, emptying fishermen's nets, and converting the web of life into brainless, wraith-like blobs of jelly." More importantly, the Black Sea is not necessarily unique. The Black Sea is a microcosm of what is happening to the ocean systems at large. The stresses piled up: overfishing, oil spills, industrial discharges, nutrient pollution, wetlands destruction, the introduction of an alien species. The sea weakened, slowly at first, then collapsed with shocking suddenness. The lessons of this tragedy should not be lost to the rest of us, because much of what happened here is being repeated all over the world. The ecological stresses imposed on the Black Sea were not unique to communism. Nor, sadly, was the failure of governments to respond to the emerging crisis. Oxygen-starved "dead zones" appear with increasing frequency off the coasts of major cities and major rivers, forcing marine animals to flee and killing all that cannot. Ethics as well as enlightened self-interest thus suggest that the United States should protect fully-functioning marine ecosystems wherever possible - even if a few fishers go out of business as a result.

#### Ecosystems aren’t resilient or redundant

Vule 13-School of Biological Sciences, Louisiana Tech University (Jeffrey V. Yule \*, Robert J. Fournier and Patrick L. Hindmarsh, “Biodiversity, Extinction, and Humanity’s Future: The Ecological and Evolutionary Consequences of Human Population and Resource Use”, 2 April 2013, manities 2013, 2, 147–159) LADI

Ecologists recognize that the particulars of the relationship between biodiversity and community resilience in the face of disturbance (a broad range of phenomena including anything from drought, fire, and volcanic eruption to species introductions or removals) depend on context [16,17]. Sometimes disturbed communities return relatively readily to pre-disturbance conditions; sometimes they do not. However, accepting as a general truism that biodiversity is an ecological stabilizer is sensible— roughly equivalent to viewing seatbelt use as a good idea: although seatbelts increase the risk of injury in a small minority of car accidents, their use overwhelmingly reduces risk. As humans continue to modify natural environments, we may be reducing their ability to return to pre-disturbance conditions. The concern is not merely academic. Communities provide the ecosystem services on which both human and nonhuman life depends, including the cycling of carbon dioxide and oxygen by photosynthetic organisms, nitrogen fixation and the filtration of water by microbes, and pollination by insects. If disturbances alter communities to the extent that they can no longer provide these crucial services, extinctions (including, possibly, our own) become more likely. In ecology as in science in general, absolutes are rare. Science deals mainly in probabilities, in large part because it attempts to address the universe’s abundant uncertainties. Species-rich, diverse communities characterized by large numbers of multi-species interactions are not immune to being pushed from one relatively stable state characterized by particular species and interactions to other, quite different states in which formerly abundant species are entirely or nearly entirely absent. Nonetheless, in speciose communities, the removal of any single species is less likely to result in radical change. That said, there are no guarantees that the removal of even a single species from a biodiverse community will not have significant, completely unforeseen consequences. Indirect interactions can be unexpectedly important to community structure and, historically, have been difficult to observe until some form of disturbance (especially the introduction or elimination of a species) occurs. Experiments have revealed how the presence of predators can increase the diversity of prey species in communities, as when predators of a superior competitor among prey species will allow inferior competing prey species to persist [18]. Predators can have even more dramatic effects on communities. The presence or absence of sea otters determines whether inshore areas are characterized by diverse kelp forest communities or an alternative stable state of species poor urchin barrens [19]. In the latter case, the absence of otters leaves urchin populations unchecked to overgraze kelp forests, eliminating a habitat feature that supports a wide range of species across a variety of age classes. Aldo Leopold observed that when trying to determine how a device works by tinkering with it, the first rule of doing the job intelligently is to save all the parts [20]. The extinctions that humans have caused certainly represent a significant problem, but there is an additional difficulty with human investigations of and impacts on ecological and evolutionary processes. Often, our tinkering is unintentional and, as a result, recklessly ignores the necessity of caution. Following the logic inherited from Newtonian physics, humans expect single actions to have single effects. Desiring more game species, for instance, humans typically hunt predators (in North America, for instance, extirpating wolves so as to be able to have more deer or elk for themselves). Yet removing or adding predators has far reaching effects. Wolf removal has led to prey overpopulation, plant over browsing, and erosion [21]. After wolves were removed from Yellowstone National Park, the K of elk increased. This allowed for a shift in elk feeding patterns that left fewer trees alongside rivers, thus leaving less food for beaver and, consequently, fewer beaver dams and less wetland [22,23]. Such a situation represents, in microcosm, the inherent risk of allowing for the erosion of species diversity. In addition to providing habitat for a wide variety of species, wetlands serve as natural water purification systems. Although the Yellowstone region might not need that particular ecosystem service as much as other parts of the world, freshwater resources and wetlands are threatened globally, and the same logic of reduced biodiversity equating to reduced ecosystem services applies. Humans take actions without considering that when tugging on single threads, they unavoidably affect adjacent areas of the tapestry. While human population and per capita resource use remain high, so does the probability of ongoing biodiversity loss. At the very least, in the future people will have an even more skewed perspective than we do about what constitutes a diverse community. In that regard, future generations will be even more ignorant than we are. Of course, we also experience that shifting baseline perspective on biodiversity and population sizes, failing to recognize how much is missing from the world because we are unaware of what past generations saw [11]. But the consequences of diminished biodiversity might be more profound for humans than that. If the disturbance of communities and ecosystems results in species losses that reduce the availability of ecosystem services, human K and, sooner or later, human N will be reduced.

## 1AR – SCS Extra Cards

### Missile Range Key

#### The US loses the proximity war --- Chinese anti-ship missiles outrange US defenses

Robert Haddick 14, Managing Editor of Small Wars Journal, independent contractor to U.S. Special Operations Command, he has advised the State Department, the National Intelligence Council, and U.S. Central Command, *Fire on the Water: China, America, and the Future of the Pacific*, Naval Institute Press, 2014, ebook no pg #s

Note: ASCM = Anti-Ship Cruise Missile China has similarly aimed the missile and sensor revolution at the sea. China has fielded a variety of missile-based strategies with the goal of keeping adversary surface warships, including U.S. aircraft carriers, away from its Near Seas. These strategies again exploit China’s continental position and the basing and range advantages it provides. By next decade, the missile and sensor revolution will allow China to dominate the sea from the land out to unprecedented distances. China plans to control its maritime approaches without having to match the U.S. Navy warship for warship. A side-by-side comparison of the two fleets is not the relevant measure of naval power and, therefore, the likelihood of strategic success. What matters is what the U.S. Navy can do to cope with China’s antiship missile coverage, which by next decade will extend two thousand kilometers from China’s coast. China’s possesses a wide variety of antiship cruise missile (ASCM) types, whose range, speed, and performance will increasingly threaten U.S. surface ships. China employs ASCMs from aircraft like the Flanker, surface ships, submarines, small fast patrol craft, and land-based mobile TELs. U.S. surface naval forces will thus encounter a thickening defense of ASCM launch platforms as they approach China’s coast. Chinese Flanker aircraft, armed with the latest models of ASCMs, will present one of the first, and perhaps most dangerous, threats to U.S. surface ships, such as those in carrier and expeditionary strike groups. As mentioned above, China’s Flankers have a combat radius of 1,500 kilometers. They can be armed with up to six ASCMs, including the highly capable Russian SS-N-22 Sunburn supersonic ASCM, with a range of about 250 kilometers, or the Chinese-built YJ-91/12 ASCM, with a range of up to 400 kilometers.46 The Flanker-ASCM combination can thus attack targets 1,750 to 1,900 kilometers from the Flanker’s last refueling point. China’s most advanced ASCM models—the Sunburn, the Russian submarine-launched SS-N-27 Sizzler, and the YJ-91/12—are especially dangerous to adversary surface warships. These missiles approach their targets at wave-top heights to avoid detection and fly at supersonic speeds while executing very sharp terminal attack maneuvers to thwart ship defense systems. These missiles use both inertial and satellite navigation and acquire their targets with active radar, infrared tracking, and homing on the target’s own electronic emissions.47 There are grave doubts about the capacity of U.S. warships to defend themselves against ASCMs that have acquired their targets, especially when launched in coordinated, multi-axis volleys.48 China’s acquisition of long-range air-launched ASCMs like the Sunburn and YJ-91/12 has greatly increased the danger to U.S. carrier strike groups. Previously, when China’s air-launched ASCMs had ranges under one hundred kilometers, U.S. aircraft carriers and their air defense escorts would be able to prepare for the incoming attackers and employ the full range of the strike group’s defenses. The carrier’s early warning aircraft and combat air patrols could detect incoming formations of enemy aircraft many hundreds of kilometers from the strike group. This would allow the carrier time to launch more interceptors to battle the incoming attackers before they reached a launch point for their ASCMs. Even worse for the adversary, that launch point would be well within the range of the strike group’s surface-to-air missiles, directed by the powerful Aegis combat system. But the addition of the YJ-91/12 has shifted the advantage to China. The four hundred kilometer–range of this missile places its launch point beyond the range of the Aegis and its missiles. It also allows very little time for the carrier to get more interceptors into the air to battle the inbound Flankers before they reach the four hundred–kilometer launch point. A hypothetical attack by two Flanker regiments would involve forty-eight aircraft, about 12 percent of China’s Flanker inventory in 2020. These two regiments could approach the carrier strike group from at least two axes. Since such an attack could arrive at any time, the strike group could maintain a continuous combat air patrol of only a few interceptor aircraft. Although the strike group could rush a few more interceptors to the air defense perimeter before the Flankers reached their missile launch points, the Flankers would heavily outnumber the defenders and would likely approach from more axes than the Navy fighters could defend. Accepting that the strike group would shoot down some Flankers before they launched their antiship missiles, the strike group would still have to contend with 125 to 200 incoming ASCMs, which would make wave-top, supersonic approaches to the U.S. ships. In past engagements of antiship missiles against alerted surface warships, 32 percent of attacking missiles scored hits.49 If only 5 percent of the ASCMs scored hits, the carrier strike group’s ships would still receive five to ten missile impacts, likely causing enough damage to render the group ineffective and possibly defenseless against another attack. Even if few or no ASCMs achieved hits, the carrier strike group would still very likely have to retire, having exhausted its defensive missile magazines. U.S. naval forces will also have to contend with Chinese attack submarines armed with ASCMs and wake-homing torpedoes. In 2012 China possessed twenty-nine attack submarines, each armed with up to eight advanced ASCMs. Eight of these submarines are Russian-built Kilo-class boats armed with the supersonic Sizzler ASCM.50 China’s attack submarine force will continue to expand, with two indigenous models the focus of production. The Type 041 Yuan-class is a new diesel-electric submarine. The Yuan-class submarine is expected to have air-independent propulsion (AIP), for sustained and very quiet subsurface operations. Unlike nuclear-powered submarines, diesel-electric submarines like the Type 041 are not well suited for long-range operations. But AIP-equipped diesel-electric submarines present a particular challenge to antisubmarine forces, especially when operating in the relatively shallow waters such as those in the First Island Chain zone.51 The Yuan boats are armed with new models of long-range land-attack and antiship cruise missiles, wired-guided and wake-homing torpedoes, and naval mines (China has over fifty thousand naval mines). The Congressional Research Service estimated that China added five Yuan submarines to its fleet in 2012, presumably with a similar production rate in the future.52 In 2015 China is expected to begin production of a new Type 095 nuclear-powered attack submarine, which will feature improved quieting technology. Although somewhat easier to detect than the Type 041 Yuan, as a nuclear-powered boat the Type 095 will be capable of wide-ranging missions in the Pacific, including intelligence gathering and land-attack strikes on bases in the Second Island Chain (e.g., Guam) and beyond. China’s total attack submarine force is expected to reach more than seventy units by 2020 and become increasingly modern and well armed, as new models replace obsolescent types.53 China also operates thirteen destroyers and twenty-two frigates armed with ASCMs. Four of China’s destroyers are the Russian-built Sovremenny-class ships, each armed with sixteen of the supersonic Sunburn ASCMs. Closer to shore, the PLAN operates over eighty fast attack craft, each armed with eight ASCMs. In almost all cases, the ASCMs China deploys on surface ships outrange the U.S. Navy’s Harpoon ASCM. In a hypothetical surface engagement, U.S. warships would have to endure missile volleys from China’s surface forces before they closed to the Harpoon’s range. Finally, China’s land-based ASCM batteries, deployed on TELs, will be able to strike naval targets out to 160 kilometers.54 China’s layers of ASCM launch platforms thus present a substantial challenge to the U.S. Navy’s long-favored method of projecting power ashore. Since the closing months of World War II and up through the employment of carrier-based strike aircraft over Afghanistan, U.S. fleet commanders have enjoyed the freedom to sail their aircraft carriers close to an enemy’s shore, confident that these adversaries had little or no capacity to interrupt the carriers’ flight operations. With the missile and sensor revolution, the rules have changed dramatically. In a conflict with China, it will be highly dangerous for U.S. aircraft carrier strike groups to operate within 1,100 kilometers of China, the maximum combat radius of the carrier’s strike aircraft. We should expect the missile and sensor revolution to continue, with ASCM ranges increasing, pushing the U.S. Navy’s airpower capability even farther from shore.

### Command of Seas Collapse

#### Chinese defeat of the carrier collapses U.S. command of the seas --- amount of attrition the Navy can sustain is low

Robert C. Rubel 14, Dean of Naval Warfare Studies at the Naval War College, “Command of the Sea: An Old Concept Resurfaces in a New Form,” in Writing to Think: The Intellectual Journey of a Naval Career, p. 49-52

Let us now assume that the Chinese allow these forces into the zone and then spring a trap, shooting first with missiles and torpedoes, supported by mines. This “battle of the first salvo” succeeds in disabling the two carriers and several surface ships. The president of the United States now has a decision to make. Does the United States continue to “feed the fight” with more naval forces? Does the United States escalate with strikes against Chinese area-denial systems on the mainland? Or does the United States decline to challenge the military status quo and instead call for negotiations? The latter two choices would be politically and strategically unpalatable, at least as long as the United States sees an opportunity to stay in the fight via the first option.¶ But the question now arises of how much of its navy the United States is prepared to risk in the fight. The criterion on which this judgment is made should be based on an understanding of the role that command of the sea plays in the functioning of the modern global system and on a calculation of how much loss the U.S. Navy can absorb before the edifice crumbles.¶ Before proceeding farther, it should be noted that there are those who refuse to contemplate issues such as this, being convinced that the U.S. Navy would be able to prevail quickly and decisively, without significant loss, in any such contest. Whether such outlooks are based on computer simulations or fear of admitting potential weakness (whether to the Chinese or to other services, which might take advantage to seize more budget share), they constitute a roadblock to thinking and could leave the national command authority unprepared in case the unthinkable happens. In any case, the purpose of positing such a negative scenario is not to assert that U.S. aircraft carriers are vulnerable but to explore the dimensions of command of the sea. To do so, we have to get on the other side of the loss of several carriers to see how the options play out. Any attempt to discredit this argument on the basis of an assertion that “it would never happen” would therefore be specious.¶ The foregoing notwithstanding, however, we must first ask ourselves what might happen if the U.S. Navy were successful, if it forced the PLAN to retreat from the scene and was able to prevent land-based systems from achieving significant effects. Would China then withdraw from the system—that is, put an embargo on trade with the United States and its allies? Despite the emotional and cultural imperative of saving face, economic survival might dictate that China keep its ports open and even continue to trade with the United States, if only indirectly. In any case, while a Chinese withdrawal from the system would be damaging, it is plausible to think that the system would adapt and remain functional. On the other hand, if the war escalated to the use of nuclear weapons or China won the engagement, the system would likely break.¶ If a win of sorts is possible for the U.S. Navy, what cost would be acceptable? Beyond a certain level of destruction, given the length of time needed to build, fit out, and work up a modern warship, the U.S. Navy would become less than a global navy. At that point it could no longer provide the security environment necessary for the global system to operate.17 If the current U.S. Navy, at around 280 ships, is stretched thin and strains to meet demands from regional commanders, the amount and kind of losses it could absorb in a fight with the Chinese and still maintain command of the sea—in its modern instantiation—likely would be relatively low. This is especially the case for aircraft carriers, whose capacity to project power ashore has made them such useful geopolitical chess pieces that President Barack Obama dictated that the Navy retain eleven in commission, even in the face of huge defense-budget cuts. Almost paradoxically, the utility of carriers on a global scale in maintaining the system’s security environment makes them too valuable to risk in a regional sea-control fight, even though, or perhaps precisely because, command of the sea is at stake. A posture that would align better with the strategic architecture would be to create a naval force consisting of submarines, smaller surface combatants, and unmanned systems that could impose losses on the PLAN but could also absorb losses without jeopardizing command of the sea.¶ This brief thought experiment reveals an interesting inversion of naval strategic imperatives that highlights how the nature of command of the sea has changed since Sir Walter Raleigh concocted his syllogism. As codified by both Mahan and Corbett, command of the sea was to be won by defeating or bottling up the enemy battle fleet. This was a matter for the navy’s most powerful ships to settle. Once command of the sea was gained, the seas became safe for smaller units, like frigates, to spread out and exercise sea control in specific and local circumstances. In other words, one fought for command of the sea—via battle, if possible—and exercised sea control, via dispersed security operations. This general relationship held good at least through the end of World War II. Now, however, as we see in our thought experiment, our most capable ships, the carriers, are best used to exercise command of the sea—that is, maintain the security environment—while smaller, more numerous forces may have to fight a decisive battle for local or regional sea control, the outcome of which would likely have profound global strategic consequences. This inversion is new and runs counter to common wisdom. It must be understood if we are properly to assess risk and structure fleet architecture.¶ Assessing and Managing Risk¶ “Command of the sea” is a descriptive term. What it describes is a strategic condition. As the world geopolitical environment evolves, so does the nature of the condition that the term describes. Great and broad strategic conditions are not easily encapsulated by a four-word term, so it is both necessary and useful to inquire more deeply into its definition and thus into the parameters of the condition. Such inquiry as we have outlined reveals important relationships between strategic conditions and the nature and use of naval forces.¶ Naval forces have always been expensive and relatively scarce. Their employment, especially of the largest and scarcest of these, must therefore be attended by clearheaded calculations of acceptable risk.18 Bottom-up examinations of potential tactical outcomes using computer simulations have their uses, but these must not constitute the sole basis for assessing risk. The enemy could always get lucky, and an understanding of risk from the top-down strategic perspective allows us to understand the consequences of loss in a way that provides better ability to better assess and manage risk.¶ The inquiry conducted in this article reveals that a new relationship has emerged between command of the sea and sea control, and the kinds of ships that are appropriate to each function. Whether an aircraft carrier is a capital ship in the sense a battleship was in 1922 is beside the point. Their unique characteristics, coupled with today’s changed geopolitical circumstances, suggest that they should be used in a dispersed manner to exercise command of the sea on a day-to-day basis, much as British frigates in 1812 exercised sea control around the periphery of the British Empire. While carriers will never be numerous, the implication is that we should have enough of these ships to make them readily available in most regions. The U.S. Navy may never again have more than eleven of them, but assuming most nations have incentives to do their part to protect the global system, their carriers, even including those of China, could be enlisted in the common effort. More total carriers being operated by like-minded nations make the continuous and systemic exercise of command of the sea all the more effective, because they will be available in more places more often. Aircraft carrier building is more widespread today than it has been at any time since World War II. But given their vulnerability to missiles, torpedoes, and mines, why would nations devote their scarce resources to such ships? Beyond national prestige, which is no small thing, it appears that there is a tacit understanding that they contribute to the overall security environment—a corporate command of the sea by an informal condominium of nations all of which, despite particular differences in policy, share a common incentive to keep the global system operating.¶ The new logic of command of the sea also suggests a kind of strategic equivalence between aircraft carrier forces and amphibious forces. Modern amphibious groups, especially when equipped with missiles, unmanned systems, and modern vertical/ short-takeoff-and-landing jets, have a legitimate capability to conduct autonomous power-projection operations, thus increasing the capability of the U.S. Navy and others to exercise command in more places at more times, making that command more effective and secure. Moreover, the flexibility of some new designs, such as the San Antonio (LPD 17) class, offers the potential of significantly increasing the sea control, shore-bombardment capability, and cooperative international expeditionary operations capabilities of an amphibious group. ¶There may never be a fight for sea control between the United States and China. If there is, it will be in the American interest to fight it with forces made up of units that are relatively hard to find and hit and whose acceptable-risk profile is more compatible with the conditions that would obtain in the East Asian arena.19 This would allow the president to feed the fight without placing himself on the horns of a difficult strategic dilemma. If the United States has the option of fighting—and winning—the war solely at sea (on, under, and above it, using joint forces), the strategic risks of nuclear escalation and rupture of the system are minimized. If such a posture is credibly attained through force-structure investments, concept and doctrine development, and strategic communication, deterrence will be enhanced. In the end, the issue may not be U.S. ability to seize sea control in the South China Sea but its ability to deny it to China—a less rigorous and presumably less costly requirement.

## 1AR – Oceans Extra Cards

### Accidents Inevitable

#### The reactors make accidents inevitable – maintenance, storms, and attacks

Tony Roulstone 16 [(Tony Roulstone, ) China wants a fleet of floating nuke plants, CNN 5-10-2016] AT

While the barge can provide similar safety systems there many are questions whether these reactors will be safe on the seas. They will be exposed to the vagaries and the uncertainties known by seafarers and to extreme storms and waves -- sinking of the barge is a possibility. Also, it could be harder to protect seaborne reactors -- opposed to their land-based counterparts -- from external threats such as the loss of off-site power or a terrorist attack. Maintenance, key to safe operation, will be much more difficult in remote locations. These are new and different hazards from those considered for land-based reactors. The crucial issues of flooding for nuclear reactors and the loss of power required for cooling were highlighted by the accident at Fukushima.

### Accidents Kill Population

#### Accidents devastate population centers and the water disperses contaminants

Michael Forsythe 16 [(Michael Forsythe, ) China to Develop Floating Nuclear Power Plants, New York Times 4-22-2016] AT

Typhoons regularly cross the South China Sea, and ships and submarines that run on nuclear power generally have the means to quickly sail away from a storm. It is unclear how mobile or seaworthy these reactor ships will be. Safety regulations for the seaborne reactors are being drawn up and reviewed, Global Times said, quoting Tang Bo, an official at China’s National Nuclear Safety Administration. David Lochbaum, a nuclear engineer and the director of the Nuclear Safety Project for the Union of Concerned Scientists, said that in the event of a major nuclear accident at a floating barge, like a meltdown of the reactor core, winds could carry radioactivity to large population centers. “The floating nuke accident scenario also carries with it the potential for molten parts of the reactor core burning through the bottom of the barge to reach the water below,” Mr. Lochbaum wrote in an email. “The water is good for cooling, but not good for containment.” In the 1970s, an industry consortium called Offshore Power Systems also had plans for floating nuclear power plants in the United States. An electric utility had ordered a plant that would have been moored outside Atlantic City. The facility, which would have been built in Florida, was canceled, Mr. Lochbaum said. The Army’s floating nuclear reactor in the Panama Canal Zone provided power during the late 1960s and into the 1970s to the grid in what was then United States territory. But China would be placing floating atomic power stations at islands that until recently did not exist in seas claimed by several nations.

#### Empirics prove accidents

Haverkamp 14 [(Jan Haverkamp) Floating Nuclear Power Stations - History'S Warnings, 29 August, 2014 8-1-2014] AT

After an unsuccessful try at selling floating nuclear power stations all over the world, including to Indonesia and Cape Verde, Rosatom, the main nuclear operator in Russia, is now trying to tie up a deal with China. Russia is currently finishing the construction of the Akademik Lomonosov, whose two adapted KLT-40 reactors run on 14,1% enriched uranium (just low enough to "make it unattractive for production of mass destruction weapons"). The reactors are to deliver 70 MW of electricity to the Siberian town of Vilyuchinsk. The reactor can be categorised as second generation. Not really the latest technology. There has been one "floater" before in history: the US MH-1A mounted on an old Liberty barge called "Sturgis", which provided the Panama canal zone with 10 MW electricity from 1968 to 1976. This was a one-loop pressurized water reactor that, after it was taken out of operation, received so much damage during a storm on its voyage back to the US that it needed structural repairs before it could go to its temporary mooring place in the James River outside Fort Eustis, Virginia. Storms are, of course, a bit of a different risk for ships than for land-based nuclear power stations - who had thought of that? The fuel of the "Sturgis"was unloaded and now awaits some kind of final disposal in Oak Ridge... if there ever is some kind of final disposal, of course. The ship itself will have to be dismantled in the coming four years in Galveston, Texas. That will be almost 40 years after it was taken out of operation! One keeps wondering: why do engineers constantly come up with these kinds of ideas when there are suitable and clean alternatives? The floater looks like just another form of nuclear addiction.