

Center for American Progress



Blue Future

Mapping Opportunities for U.S.-China Ocean Cooperation

By Melanie Hart, Michael Conathan, Blaine Johnson, and Shiva Polefka

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Introduction and summary

The United States and China share a deep common interest in ocean protection. The world's ocean and coastal resources are currently under threat from overfishing, pollution, and unchecked resource extraction. Global ocean health is declining rapidly and has already reached crisis levels. As the largest ocean stakeholders—with unparalleled dependence on seaborne trade, the economic vitality of coastal cities, and the production and consumption of living marine resources—the United States and China face new, increasing economic and security risks from the degradation of global ocean health.

Yet the ocean also represents a tremendous opportunity for the two countries to turn this trend around. The marine environment has a proven capacity to heal and rebuild itself under proper management, and as the two largest economies in the world, the United States and China have an ability as well as a responsibility to rally other countries on issues relating to the global commons. In the run-up to the 2015 U.N. Framework Convention on Climate Change (UNFCCC) Conference of the Parties in Paris, it was a bilateral agreement between the United States and China that paved the way for multilateral agreement on a landmark climate accord.¹ The same could happen on ocean protection. If the United States and China can forge a common agenda for action, the rest of the world will follow.

To be sure, thus far in 2018, the U.S.-China relationship has trended in a direction that has made game-changing cooperation increasingly difficult to achieve—at least in the near term. On the U.S. side, the Trump administration is viewing its policy toward China through a narrow lens that focuses exclusively on trade and North Korea; all other issues struggle to find space on the leadership agenda. That approach prioritizes immediate U.S. concerns but also makes it difficult to pursue and expand bilateral cooperation on broader, longer-term issues, such as ocean protection, where the two nations share common interests and China has a growing capability to contribute to the global commons. While the U.S. and Chinese governments grapple with difficult issues, at a nongovernmental level, their experts have an opportunity to join forces in an effort to lay groundwork for future cooperation on broader issues such as ocean protection.

That is exactly what the “Blue Future” dialogue aimed to achieve. Despite the great need and potential for U.S.-China cooperation in this domain, ocean issues remain a relatively unexplored area in U.S.-China relations. Officials from the two countries added a dedicated track on ocean cooperation to the U.S.-China Strategic and Economic Dialogue in 2015 and 2016. Those preliminary discussions produced or continued a few high-level areas of agreement, including a marine protected area in Antarctica’s Ross Sea and efforts to combat unsustainable fishing, marine pollution, and marine litter.² Thus far, however, U.S.-China government-to-government discussions have only managed to probe the surface of the two countries’ interests in ocean protection and sustainable development. More work is needed to map out exactly where U.S. and Chinese interests converge, where they diverge, and where the two countries should focus their efforts over the near-, medium-, and long-term.

In other areas of U.S.-China relations, nongovernment experts have always played a critical role in driving that process forward. Compared with their government counterparts, U.S. and Chinese nongovernment experts are generally able to speak more frankly with one another and delve into sensitive political areas without fearing that putting new ideas on the table could undercut their diplomatic position. They can also collaborate on joint research projects that help both countries develop a set of common assumptions and common data that has been lacking in the ocean domain. Many of the best U.S. and Chinese ocean experts still do not know one another. As with U.S. and Chinese experts working in energy, climate change, or hard security issues, ocean experts should seek opportunities for increased collaboration, such as repeated interaction at bilateral conferences, collaboration on joint research projects, and development of the personal connections that make it possible to forge new understandings and achieve breakthroughs on seemingly intractable issues.

With support from the David and Lucile Packard Foundation, the Center for American Progress is bringing U.S. and Chinese ocean experts together to help fill this gap. In June 2017, CAP convened eight leading ocean science and policy experts from the United States and eight from China for Blue Future 2017, a three-day forum held in Honolulu, Hawaii. The event aimed to push beyond the official-track discussions in order to better understand where U.S. and Chinese interests align, where they differ, and where the two nations should focus their efforts to facilitate breakthrough cooperation that can lead to bilateral progress on these issues and serve as a model for the rest of the world. The group discovered that U.S. and Chinese ocean experts share more areas of agreement than disagreement. At the same time, the group was also struck by the differences that emerged; indeed, many participants remarked that, prior to the meeting, they did not fully understand these differences.

The 2017 forum brought together experts in four key issue areas: global fisheries policy; the blue economy; polar issues, including both the Arctic and Antarctic; and global environmental challenges. Participants discussed these specific issues as well as cross-cutting implications for the United States and China.

As a result of these discussions, participants came to the following conclusions about how the United States and China could collaborate more effectively with one another as they look to bring an ethos of sustainability, ecological security, and economic development to future ocean management science and policy.

- **Foster bilateral relationships.** In both nations, leaders in ocean policy, marine science, civil society, and ocean industries should prioritize investments of time, energy, and resources to build bilateral relationships. The group acknowledged differences that have made such partnerships difficult in the past, but they also recognized that fostering professional relationships would build trust and mutual understanding, enhance scientific research endeavors, and pay dividends for years to come.
- **Build institutional capacity in China.** Chinese participants in the Blue Future dialogue identified a need for collaboration in order to help build institutional capacity in China across several specific areas related to oceanographic science capabilities.
- **Grow the sustainable blue economy.** The United States and China should remain open-minded to further expansion of their definitions of the ocean economy sector and to improving mutual understanding of basic terminology. American and Chinese specialists may need to begin by drafting a Chinese-English glossary of terminology such as “sustainable fishing,” “illegal fishing,” “blue economy,” and “marine protected area.” Ensuring clarity of communication is critical to the collaborations called for in this report and to developing mutually understood and beneficial outcomes.
- **Maintain some form of government-to-government dialogue on ocean issues.** At a time when U.S.-China relations present so few areas for positive cooperation, it will be critical to maintain some form of routine, official-track communication on ocean issues. Washington and Beijing should consider launching a dedicated platform—either as a fourth comprehensive dialogue pillar or entirely outside of the existing three-pillar platform—in order to provide more political space for ocean cooperation as it relates to security and economy.

- **Create a narrative on ocean cooperation.** The lack of a single, strong, cohesive, and overarching narrative on ocean cooperation represents a major deficiency that is precluding action on critical ocean issues within the international policy sphere. In its absence, advocates and scientific specialists have tended to fragmentize ocean issues, which has resulted in a dispersion of political capital and ignorance by key policymakers in both countries.

The Blue Future conference presented a powerful opportunity to delve into these issues and begin to sketch out a path toward enhanced future collaboration between these two ocean superpowers. This work can and should continue, regardless of how other U.S.-China issues fare. If, in the near term, it is too difficult to move forward on these issues at the government-to-government level, there is ample space for nongovernment experts—including those from the commercial sector—to drive initial progress.

Identifying U.S.-China commonalities and differences

One fundamental finding from the Blue Future discussion is that experts from the United States and China have much to learn about how the two nations differ and what their distinct approaches mean for potential cooperation. This insight was among the most striking, particularly for the U.S. participants. The two nations often approach ocean issues from fundamentally different angles and occupy different parts of the value chain. For example, the United States is one of the world's biggest importers of seafood, while China is the largest exporter. Even something as simple as looking at policy issues from the perspective of the other side proved to be an eye-opening exercise, and it was clear that proposals for cooperation on ocean issues must be based on a solid mutual understanding of each nation's position—both geographical and economic—and on domestic politics. The discussions at the conference found four key factors to be particularly important for each nation: ocean geography; commercial ocean activity; domestic political and regulatory context; and growing sustainability awareness.

Ocean geography

Chinese participants in the Blue Future dialogue repeatedly pointed out that the United States has more abundant ocean resources than China and a smaller population vying for them. China has a population that exceeds 1.3 billion—roughly a billion more than that of the United States—yet it has a far smaller exclusive economic zone (EEZ), the area of ocean under national control for purposes of natural resource management. The United States has extensive shorelines on the Atlantic, Pacific, and Arctic oceans; the Gulf of Mexico; and remote island territories in the Caribbean Sea and the Pacific Ocean, which collectively give it jurisdiction over 3.4 million square nautical miles of ocean. This ocean area is larger than the land mass of the entire United States and is the second largest EEZ of any nation in the world—behind only France, which tops the list largely as a result of its numerous island territories.³

From the perspective of some participants, U.S.-China ocean geography comparisons are complicated by the fact that China's maritime territory is a matter of debate and uncertainty. Beijing asserts jurisdiction or sovereignty over a total of approximately 1.2 million square miles, including both its internationally recognized EEZ and the area inside the internationally controversial "Nine-Dash Line," which encompasses virtually all of the South China Sea over which China claims jurisdiction.⁴ The United States and other countries, following legal standards set forth under the U.N. Convention on the Law of the Sea, regard some of China's maritime claims as inconsistent with international law.⁵ However, regardless of how one assesses China's maritime territory, it is clearly smaller than that of the United States.

Commercial ocean activity

Chinese participants in the Blue Future dialogue stated that China's smaller ocean area, combined with the marine resource development pressure exerted by such a large population, forces the nation to balance environmental sustainability with pressing human development needs. The need for China to provide food and employment for all of its citizens places increasing pressure on regional fisheries and creates strong incentives to seek additional protein capacity from aquaculture and distant water fishing—the practice of purchasing rights to fish in other countries' waters. Although some U.S. experts pointed out that smaller ocean geographical areas are easier to monitor and police than larger ones, Chinese scholars stressed that Chinese leaders face much higher political costs than their U.S. counterparts when imposing limitations on commercial ocean activity.

Domestic political and regulatory context

The United States and China also have different political systems, which translates into differences in how the two nations formulate and implement ocean policy. In China's top-down political system, it is easier for central leaders in Beijing to set national-level priorities but hard to enforce policy implementation at lower levels. In the U.S. democratic system, national-level priorities continue to be hotly debated and, at times, divided along political lines. Certain issues, such as establishment of marine protected areas or permitting of offshore fossil fuel development, are far more palatable in some regions and partisan factions of the United States than others. In some areas, these divergences extend to core acceptance of even the most basic facts of climate change science, with some more conservative-leaning states

such as Florida even going so far as to ban the use of the term “climate change” from inclusion in public policy initiatives; in other regions, climate action is a political necessity.⁶ However, once U.S. ocean management laws and regulations are enacted, policy implementation is much easier to monitor and enforce than in China, and compliance is relatively high.

Despite those macro-level differences between the U.S. and Chinese political systems, the two nations share a similar bureaucratic structure for ocean governance. In the United States, the National Oceanic and Atmospheric Administration (NOAA) is the primary agency responsible for ocean regulation, though it shares oversight of certain activities with other agencies, including the Bureau of Ocean Energy Management in the case of offshore energy decisions and the U.S. Coast Guard, which assists with enforcement and safety of navigation. Meanwhile, in China, the Ministry of Agriculture oversees marine fisheries policy, while the State Oceanographic Agency (SOA)—under the Ministry of Land and Natural Resources—oversees management of coastal and ocean spaces. In March 2018, China announced a “State Council Institutional Reform Plan” that redistributes the responsibilities of the erstwhile State Oceanic Administration to the newly founded Ministry of Natural Resources, the Ministry of Ecological Environment, and the State Forestry and Grassland Administration of the Ministry of Natural Resources; the Ministry of Agriculture was also renamed as the Ministry of Agriculture and Rural Affairs. Time will tell how this restructuring at the central level will play out in terms of China’s ocean governance.⁷ At both the national and the state or provincial level, each country also has numerous other agencies and departments that play a role in local implementation and other specific areas of ocean management, such as water quality control; enforcement of maritime law and safety of life at sea; and offshore oil and gas development.

Both the United States and China have found the cross-cutting nature of ocean regulatory issues to be a challenge requiring new innovations in political leadership. In recent years, both nations have developed interagency structures designed to improve coordination on ocean management. In 2012, the United States established a National Ocean Council and a regional ocean management process,⁸ and one year later, China established a National Oceanic Commission.⁹ Each provides a forum for leaders from different agencies and levels of government to consult with each other and bring greater coherence to the complex world of ocean governance.

Growing sustainability awareness

Until recently, the two nations had taken somewhat different approaches toward environmental issues, though that gap has closed significantly. In the United States, the environmental movement began in the late 1960s and was inspired by high-profile events. Two such significant events occurred in 1969. The first was a major oil spill off the coast of Santa Barbara, California, that discharged 100,000 barrels of crude oil into the region's rich fishing grounds and scenic beaches.¹⁰ Then, in June of that same year, the highly polluted Cuyahoga River caught fire near Cleveland. These events sparked a consciousness—among both the American public and elected officials—of the link between environmental and human well-being; furthermore, they spurred a political movement that led to the passage of landmark environmental legislation, including the National Environmental Policy Act, the Clean Air Act, the Clean Water Act, and the Endangered Species Act.

In some ways, it could be said that China is currently undergoing its own environmental awakening, with increased emphasis on “ecological civilization” in recent high-level policies.¹¹ In some regions of the country, air quality has deteriorated to the point that it threatens citizens' health, which has raised awareness and activism among the population. When it comes to ocean policy, Beijing primarily has viewed ocean management through an economic development lens, but recently ocean sustainability has emerged as a national priority due to the threat that depleted resources will undermine China's ocean development goals. The shift toward sustainability is particularly notable in the nation's ocean economic development plans. Since the country's 11th five-year plan, ocean development has increased in priority—and was explicitly labeled “blue economy” in the most recent plan.¹² Additionally, in these plans and in policy development in general, government leaders increasingly emphasized sustainability components and a recognition that if the economic benefits of marine resources were to continue to grow, management policies would have to be adapted to reflect not just maximum value output in the immediate term but rather a longer-term approach that did not sacrifice future productivity for immediate gains.

Ever since America's environmental revolution of the 1960s and early 1970s, the bridge between science and policymaking has been strong. Science directly shapes and influences ocean-related regulations, fishing quotas, and permitting decisions; and many environmental and natural resource laws specifically require that policymakers apply the best available science to their decision-making.¹³ However, the current U.S. presidential administration's skepticism regarding the role of accepted science and scientific data in policymaking is straining that relationship—particularly in the area of climate change and in a few recent natural resource management decisions.¹⁴

Meanwhile, in China, the last two decades of policies designed to spur rapid economic growth at all costs have increasingly used scientific research to project more sustainable growth, with an eye toward protecting resources for future use.

Fisheries management stands out as one area where the two nations have markedly different oversight structures. In the United States, federal water fisheries are managed primarily by a set of eight regional fishery management councils comprised of industry members, state regulators, and other fisheries stakeholders. These bodies recommend fishery management plans that must meet certain legal criteria, such as science-based annual catch limits for all species. Plans then must be approved by NOAA. Meanwhile, in China, at different levels of government, there is significant inconsistency among fishery management priorities. Officials within the national government have become the driving force behind a more sustainable management agenda, whereas provincial governments tend to prioritize shorter-term economic growth over ecological sustainability concerns. Even at the national level, some policies—such as the blanket regulation that closes all fisheries during the summer months as a conservation measure—do not use scientific methodology to fine-tune restrictions or other actions. One example, which represents the difference between the U.S. and Chinese approaches to fisheries management, is that the U.S. National Marine Fisheries Service (NMFS), a division of NOAA, employs over 2,800 people,¹⁵ while one Chinese participant described the number of officials from his country in charge of distant water fishing as being “in the single digits.”¹⁶

In both nations, resource managers—particularly at the local and regional levels—must deal with the trade-offs between continued employment and profitability, as fishermen have to catch a certain quantity of fish in order to support their businesses but cannot continue to overfish or else the industry will be lost entirely in perpetuity. Both Chinese provincial governments and U.S. state governments grapple with these challenges as they seek to protect their economies both today and for years to come.

Growing the sustainable blue economy

Economic activity dependent on or linked to coastal and ocean resources represents a major component of each country's gross domestic product. Ocean and coastal regions are critical to food security; trade and access to international markets; and energy supply. Yet while other industrial sectors have an array of metrics to track their economic contributions, there is no standard set of measurements for ocean industries. Both the United States and China have, to varying degrees, attempted to define, measure, and grow the “blue economy,” but agreement on the foundational assumptions of what it encompasses remains elusive—not only between the two countries but even within them.

When the idea of the blue economy first emerged in official-track discussions, there was a wide gulf between U.S. and Chinese concepts, so much so that some U.S. government officials initially resisted U.S.-China collaboration in this space. At a macro level, that gulf—and the concerns it triggered on the U.S. side—narrowed when China shifted from a development-only concept to one that incorporated sustainability. In China, that shift is most apparent in its five-year development plans. The nation's 12th five-year development plan for 2011–2015 largely framed ocean activities exclusively with an economic development lens.¹⁷ In contrast, the 13th five-year plan for 2016–2020 emphasized that strengthening protection of marine resources and the environment was a key priority.¹⁸ To be sure, Beijing is still struggling to balance economic development and environmental protection; but the Blue Future participants recognize that a rhetorical shift is underway in China, as issues of sustainability, environmental impact mitigation, and scientific monitoring are increasingly articulated by national government authorities in the context of marine resources management.

For example, coincident with the third day of the Blue Future conference, the Chinese national government released a document entitled “Vision for Maritime Cooperation under the Belt and Road Initiative,” which articulates a set of principles and aspirations that the nation intends to apply to its international development scheme known as the “21st Century Maritime Silk Road.”¹⁹ In its overarching summary, the document states that the government's “vision” for the project will be pursued “with a view to ... jointly protecting and sustainably utilizing marine resources to achieve harmony between man and the ocean for common development and enhancement of marine welfare.”²⁰

This shift parallels a broader sustainability movement in China's overall economic development model and opens up new space for international cooperation. If government action follows the path prescribed by the 13th five-year plan, it could represent a significant movement toward incorporating environmental goals into policymaking and development investments.

At the same time, although the general trend may be one of convergence, the United States and China still take notably distinct approaches to their ocean-linked economic sectors. They diverge at multiple points, ranging from the terminology used to describe their ocean economies to the relative level of priority each government affords to delineate and prioritize their respective ocean-linked economies to the strategic objectives scholars and policymakers from each country impute to their respective ocean economy sectors. These differences surfaced quickly during the Blue Future discussion.

Significantly, on the question of what precisely the blue economy should encompass, the U.S. and Chinese participants not only diverged on national lines but also between fellow participants from the same country. While some participants felt that the “blue” moniker implied that all economic activity in the ocean should be included, others felt that it implied a sustainability component and should be used exclusively to measure industries that either benefited from or contributed to healthy ocean and coastal ecosystems. The latter approach would therefore exclude polluting or destructive industries, such as oil and gas development and seabed mining, as well as the shipping industry, which, at least for business purposes, is largely indifferent to the relative health of the ocean on which its vessels travel. One U.S. participant even felt that the definition should be broadened to include all water-related industries—including fresh water management; drinking water processing and distribution; and wastewater treatment—not just those exclusive to the ocean. The group also discussed other options for labeling sectors. In addition to the discussion on the term “blue economy,” participants discussed how to define terms such as “maritime economy,” “coastal economy,” and “ocean economy,” as well as what distinctions might exist between each. Participants did not conclude on definitions for any of the above.

In 2014, the Asia-Pacific Economic Cooperation forum brought its members together to discuss new partnerships in ocean cooperation. As part of that meeting, members also established a definition of the term “blue economy,” describing it as “an approach to advance sustainable management and conservation of ocean and coastal resources and ecosystems and sustainable development, in order to foster economic growth.”²¹ Based on discussions within the group, this definition would capture some but not all of the term's nuanced meaning.

These differences are not just rhetorical: Setting clear parameters for such categorization is vital to understanding and ultimately growing the sector's economic potential. Participants from both countries articulated the importance of thorough economic accounting of ocean-linked economic activities to proper policy development and stressed that bilateral cooperation would be impeded without a clear and common set of metrics and definitions.

Managing global fisheries and aquaculture

China is the world's biggest fish exporter, and the United States imports more seafood than any other country.²² Thus, the two nations are major stakeholders in global fisheries policy and share a common interest in fishery sustainability over the longer term. Yet their commercial fishing industries are quite distinct. In the United States, fishermen tend to pursue single, higher-value species or participate in multispecies fisheries governed by a single management plan. By law, each fishery operates under an annual catch limit set on a species-by-species basis. In China, fishermen tend to be more focused on volume of catch, seeking larger quantities of lower-value species, and regulations take on more of a sweeping scope. As a result, the two countries' different positions in the global value chain sometimes lead to different commercial interests and policy positions.

At a macro level, both nations view illegal, unreported, and unregulated fishing (IUU) as exploitative or destructive fishing practices, and they view the impacts of climate change as potential economic and national security threats. One common theme that emerged during the Blue Future fishery discussions is that closing science and data gaps on fisheries should be a top priority for U.S.-China cooperation. Under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the United States requires fishery managers to set annual catch limits—based on scientific stock assessments—for each fishery.²³ Fisheries data are published and monitored by the NMFS and applied to management through regional councils of fisheries experts from academia; state and local governments; and the private sector. China is conducting similar science in order to better understand fish population dynamics. However, there is a lack of transparency with their findings. For example, technical reports may only be available in unpublished hard copy. The public release of scientific data is also constrained by entrenched commercial interests that may feel threatened by the prospect of improved management; when data do not enter broader policy debates, they do not always translate directly to effective fishery policy measures. Chinese fisheries management has traditionally relied on top-down controls such as seasonal closures and bans of specific gear types.²⁴ These one-size-fits-all approaches do not reflect a deep understanding of the differing biology of individual fish stocks and, therefore, likely do not result in ideal sustainability measures.

The regional fisheries management approach used in the United States could be replicated in Chinese waters. In addition, data sharing between the United States and China may help accurately model and manage fishery populations. Distrust, however, continues to hinder data sharing between the two countries—a theme that was echoed throughout the topics covered at this conference. This tension could be alleviated through continued dialogue and relationship building between ocean experts in the two nations.

Combating IUU fishing

Efforts to combat IUU fishing also represent a bright spot in past U.S.-China fisheries cooperation. For example, the U.S. Coast Guard has cooperative agreements with numerous countries including China. The so-called Shiprider agreement with China allows Chinese officers to ride aboard U.S. Coast Guard cutters to facilitate enforcement actions in the North Pacific Ocean.²⁵ They also operate a joint surveillance program—the only such program China has with any other country.

Illegal fishing negatively affects ocean ecosystems and undermines the livelihoods of honest fishermen and wholesalers who harvest and sell fish legally. Over the past four years, the United States has strengthened its efforts to deter illegal fishing by ratifying an international treaty known as the Port States Measures Agreement, which requires member states to ban vessels from entering their ports if they are known to have fished illegally while also taking steps to increase transparency in the seafood supply chain.²⁶

During the conference discussions, another interesting divergence emerged: While both countries acknowledged the harmful impacts of IUU fishing, Chinese and American ocean experts voiced different opinions on the definition of crimes associated with illegal fishing and how to approach enforcement. Several Chinese participants went out of their way to point out that they would not characterize all activities commonly lumped into the term IUU fishing as “crimes” but rather “global security concerns.”²⁷ In further discussion, some participants sought to differentiate the different components of IUU fishing into illegal activity (I) and unreported or unregulated fishing (UU). In addition, the ongoing boundary disputes in the South and East China seas make defining “illegal” fishing activity problematic because different states have different perspectives on what constitutes legality. The participants’ disagreement on these points laid bare the need to better define terms in order to ensure that both sides are speaking the same language so that additional progress can be made.

The role of marine protected areas

Participants expressed differences of opinion regarding marine protected areas (MPAs), which are delineated ocean areas where fishing or other extractive activities are not permitted. MPAs that include prohibitions on commercial fishing help fish stocks recover by alleviating pressure in certain areas, allowing for increased reproduction as well as the out-migration of more fish to fishing grounds beyond the protected area boundary. Growing evidence from around the world shows that well-implemented MPAs increase fish biomass and the prosperity of fishing communities. However, they also mean that fishermen who have traditionally fished inside the boundaries must move their operations to new places. This shift in traditional fishing grounds and consolidation of effort often causes conflicts among fishermen—conflicts that must be carefully managed. MPAs must be fully enforced, so that their benefits can actually be realized, and governments must take steps to alleviate the temporary costs and declines in income that are associated with implementing an area closure.

Participants from the United States voiced that while fishermen are often resistant to the establishment of year-round, permanent MPAs, empirical data show that the long-term ecological and economic benefits of protected areas can outweigh the short-term inconveniences. Chinese participants focused more on seasonal closures and marine germplasm areas. They stressed that opposition from fishing communities—particularly in areas where subsistence fishing occurred—had made MPA designation exceedingly problematic. This difficulty is exacerbated by China’s ocean geography, which includes, mainly, narrower seas and more heavily used coastal areas rather than large swaths of sparsely used ocean space. Some participants questioned the ability of local governments to enforce restrictions and to monitor illegal poaching, especially within particularly large or remote MPAs.

Debates over fisheries subsidies

In China, subsidization of fishing fleets remains a challenge since subsidies distort markets and lead to unsustainable fishing practices and levels of fishing effort. The central government and many coastal provinces subsidize diesel and other fishing inputs in order to support local economic development, particularly for China’s controversial distant water fishing industry. Analogous to overcapacity industries in China such as shipbuilding, power generation, and steel, favorable policies for the fishing industry have led to overcapacity, which decreases profitability, causes overreliance on state investment,

stirs up political tension, and depletes natural resources. The United States has direct experience with the problems that fishing subsidies can cause. After initial passage of the MSA in 1976, in order to replace the foreign fishing vessels that had previously been fishing in waters off U.S. coasts, the government poured money into increasing the size of domestic fishing fleets. The resulting overcapitalization of fishing fleets led directly to overfishing, which, by the early 1990s, had caused the collapse of many commercially important stocks. While new federal fisheries policy passed in 2006 helped the United States to rebuild many of its overfished stocks, some fisheries—particularly in New England—have yet to recover to commercially viable levels.²⁸

Fisheries subsidies are a topic of concern during attempts to address IUU cases and fishery disputes—in addition to being a concern for the World Trade Organization. As with efforts within the G-20 framework to phase out fossil fuel subsidies, reforms to reduce fisheries subsidies could provide valuable opportunities for U.S.-China engagement. According to Chinese participants, in recent years, China has claimed to be reducing capacity enhancement subsidies for the fishing industry but increasing subsidies for environmental protection. Yet data transparency has been a real problem—especially since 2012, when China stopped releasing official figures on fuel subsidies for the distant water fishing industry, failing to include an official figure for fuel subsidies at all since 2014. U.S.-China engagement on this issue must account for and address the policy incoherence of well-intentioned, sustainability-oriented central government policies that could be seen to contradict other capacity-inflating policies carried out by provincial governments.

The growth of aquaculture

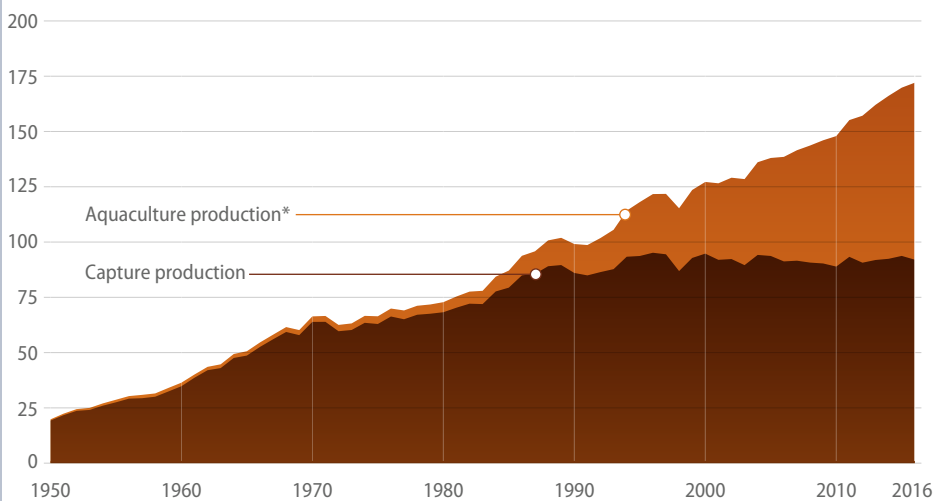
Aquaculture provides a significant near-term opportunity for scientific, policy, and commercial collaboration and could help alleviate pressure on global fish stocks while generating domestic jobs and food security for both nations. While wild fisheries production has remained steady since the mid-1980s, in the same time, global aquaculture production has more than doubled.²⁹ China is the largest producer in this field. According to the Food and Agriculture Organization of the United Nations (FAO) statistics, in 2014, Chinese aquaculture production accounted for 61.62 percent of total global farmed fish and other aquaculture production, while the entirety of aquaculture production in North America yielded only 0.76 percent of global production.³⁰

Given this rapid increase in production, countries with significant stakes in the sustainability of aquaculture—including China and the United States—should lead with robust research and collaboration in order to address the environmental issues in the aquaculture industry and move fish farming methods toward a sustainable future. Current problematic areas include the ratio of wild fish that need to be caught and processed into fish meal to feed farmed fish—the so-called “fish in, fish out” ratio. According to a report published by Greenpeace in July 2017, 76 percent of China’s aquaculture species require fish as feed and, in 2014, its aquaculture industry consumed at least 7.17 million tons of China’s domestic marine fisheries resources, accounting for over 55 percent of the country’s total marine catch production.³¹ Issues have also arisen about raising nonnative species in cages in the ocean. For example, in summer 2017, a net pen full of Atlantic salmon ruptured, releasing thousands of the fish into Washington’s Puget Sound and raising concerns that the species could jeopardize the native Pacific salmon species—many populations of which are already imperiled.³² Furthermore, careless or insufficiently regulated aquaculture indirectly diminishes wild fisheries through habitat modification, wild stock collection, food web interactions, nutrient pollution, and the introduction of pathogens that could harm wild fish populations.

FIGURE 1

Aquaculture accounts for a significant and growing share of reported global fish production

Global capture fisheries and aquaculture production, as reported to the FAO, in million tons, 1950–2016



*Aquaculture production does not include aquatic plants.

Sources: Food and Agriculture Organization of the United Nations, Fisheries and Aquaculture Department, "Statistical Query Results, Capture: Quantity," available at <http://www.fao.org/fishery/statistics/global-capture-production/query/en> (last accessed April 2018). Food and Agriculture Organization of the United Nations, Fisheries and Aquaculture Department, "Statistical Query Results, Aquaculture: Quantity," available at <http://www.fao.org/fishery/statistics/global-aquaculture-production/query/en> (last accessed April 2018).

In some areas of the United States, the commercial fishing industry will likely continue to oppose increased investment in aquaculture, both because of potential environmental problems and because commercial fishermen fear a loss of market share or a reduction of prices. China's aquaculture industry does not have a reputation for addressing these issues, and they will have to be dealt with before large-scale development can occur in the United States. In addition to this opposition, participants from both countries cited high levels of risk as a major factor preventing greater investment and development in the sector.

Nevertheless, many economic and ecological factors support the continued growth of aquaculture in both the United States and in China, and several areas of potential cooperation emerged during the Blue Future discussion, including the concept of developing a fund or risk pool for aquaculture operators—an idea that the Chinese government has begun considering for its industry. In addition, public and private entities within both the United States and China have explored more deeply the development of so-called closed loop aquaculture systems onshore. While such operations are capital-intensive and thus present significant upfront costs, wastewater can be treated and recycled, and, because the farms are inland-based facilities, fish cannot escape to contaminate or crossbreed with native populations. Joint research on these systems could help reduce costs, alleviate the environmental pressure from existing aquaculture operations, and bring the economic development benefits of aquaculture to underprivileged regions in both countries.

Polar issues: collaboration and caution

The Arctic Ocean and the Southern Ocean—which surrounds Antarctica—are both resource-rich, climatologically extreme, yet increasingly accessible marine areas of significant strategic interest to both the United States and to China. These two polar seas each have distinct characteristics, management challenges, and governance regimes. The Arctic is the world's smallest ocean basin, and dramatic warming has facilitated both the navigation and exploitation of Arctic waters that were once largely shielded by perennial sea ice. The Arctic contains a central area of international waters, which is ringed with the EEZs and extended continental shelf claims of the eight nations that have Arctic Ocean coastlines. The United States is one such nation, with an Arctic Ocean EEZ extending north from the coast of Alaska; China is not. Yet both nations have an increasing strategic interest in the Arctic due to economic, military, and conservation considerations, which are only growing as the region's loss of ice cover opens the opportunity for development of northern shipping routes and potential natural resource extraction.

At the southern extreme, the Antarctic continent represents the only landmass on the planet managed—by formal treaty—as a global commons, as are the resources of the Southern Ocean. These two regions provide excellent examples of both the potential and the complexity of U.S.-China cooperation on ocean issues.

An international effort to establish an MPA in Antarctica's Ross Sea presented a prime example of what can be achieved when the United States and China work together to address a problem. In 2015, China agreed to work with the United States to promote a multilateral attempt to establish an MPA in a large portion of the Southern Ocean. That effort succeeded in 2016, and as a result, the international Convention on Conservation of Antarctic Living Marine Resources set aside over 1.5 million square kilometers of the Ross Sea to create the largest MPA in the world.³³ The Ross Sea agreement not only protected a unique and globally treasured biodiversity hotspot, it provided both a touchstone and a template for future international cooperation on marine resources in high seas or international waters. Additionally, in December 2017,

China, South Korea, Japan, and Iceland joined the five states with Arctic coastlines as well as the European Union (EU) in establishing a ban on fishing in the high seas area of the Arctic Ocean for the next 16 years.³⁴

Despite this recent accomplishment, cooperation in the Arctic has been more politically fraught. The Arctic Council is a multilateral body comprised of the eight Arctic nations and tasked with managing Arctic issues that overlap jurisdictions. China has observer status and, according to Chinese participants, would like to play a bigger role, but Arctic Council nations—including the United States—have been resistant to that. U.S. experts shared that the U.S. security community tends to link the Arctic with the South China Sea and has raised concerns that, given recent trends in what the United States views as increasingly assertive Chinese action regarding its expansive territorial and maritime claims in the South China Sea, supporting greater Chinese presence in the Arctic could pave the way for Beijing to deploy similar tactics in that region as well.

Chinese participants objected to that linkage, arguing that the two regions have different historical legal situations and frameworks. One Chinese participant asserted that “China has never wanted to seek unreasonable interest in the Arctic”; one stated that “China has no military interest in the Arctic”; and another argued that the two situations were not analogous at all because the Arctic Ocean has a commonly recognized area of high seas or international waters, while the South China Sea does not, asserting that nations’ territorial claims “completely overlap.”³⁵ This last participant also asserted not having “seen any action by China to obstruct governance in the South China Sea, on the contrary [it] has maintained freedom of navigation.”³⁶ U.S. participants strongly disagreed with that distinction, though opinions varied regarding how important this issue was for the Arctic from the U.S. perspective.

On the whole, most U.S. participants in this dialogue supported finding avenues for U.S.-China cooperation in the Arctic. One participant stated that the United States would be foolish not to collaborate with China since the latter country’s growing presence in the Arctic is inevitable, and it would be best for all parties if they could work within the existing structure.

All participants agreed that there were clear areas in which both nations could benefit from cooperation in the Arctic and that would have the side benefit of building mutual trust. Participants felt that one clear first step would be to welcome China into existing search and rescue cooperation, which currently occurs among Arctic Council member nations and their coast guards but does not provide a role for observer nations.

There was also agreement that scientific research represents an opportunity for future collaboration. An American participant pointed out that science is international, and it is incredibly inefficient for the two nations to be conducting their own research without collaborating. Building on this concept, a Chinese participant suggested that such cooperation would have the added benefit of forming a bridge between science and policy. The link between those two areas, he said, was currently “very weak” in China, where science has limited influence on decision-making—particularly in international affairs—though another participant clarified that the role of polar science, in particular, did contribute actively to political goals.³⁷

Global environmental issues

In addition to the specific issues discussed above, in its deliberations, the group also considered broader global environmental issues. The majority of the global ocean is comprised of the high seas—areas beyond any individual national jurisdiction—and actions in coastal waters affect not only the coastal state but its neighbors, the ocean as a whole, and the entire planet.

Throughout the Blue Future discussion, participants identified an array of common environmental challenges that both nations are facing within the ocean domain: marine pollution, plastics, and debris; habitat degradation and loss; high seas MPAs; ocean warming and acidification; and the need for additional baseline scientific research and exploration in order to better understand the ocean, its systems, and its resources.

The deep ocean and high seas offer an array of opportunities for near-term collaboration on these challenges. As one Chinese participant pointed out, political sensitivities decline as one gets farther from national shorelines. There is also a clear dearth of understanding about the deep ocean ecosystems of the high seas. The United States and China have much to gain from working collaboratively to better understand issues such as ocean warming and acidification and how they will affect marine food webs. One suggestion was the formation of a bilateral, jointly funded, jointly staffed center on Pacific Rim oceanographic change, at which marine scientists from each country could pursue scientific solutions to problems and challenges such as marine pollution, ecosystem health, and the modeling and prediction of dynamic ocean characteristics—including in the Arctic. The idea is that with increased comparative and collaborative research, researchers could better determine the causes and status of threatening global and regional ocean change while working to develop potential solutions.

Multiple participants flagged ocean acidification as a particular area that requires additional scientific research and one that could have far-reaching economic and environmental implications for China, the United States, and the entire planet. As research progresses in coastal regions, evidence is mounting that acidification affects the deep ocean and that declining pH could have significant implications for the marine food web as a whole.³⁸ Participants from both sides agreed that the United States and China could play a leadership role in pursuing additional research on this topic.

Conducting quality science in deep sea areas will require the establishment of high seas marine protected areas. Fully or strongly protected MPAs not only safeguard the resources contained within them but also provide scientists with areas to measure over time and in the absence of human extractive activities such as commercial fishing or minerals extraction. As discussed above, participants from both sides acknowledged that coastal MPAs are politically fraught because they compromise the interests of fishermen and others whose industries rely on access to the ocean. Yet these concerns are far less prevalent on the high seas, which are, by definition, far from ports or other shoreside facilities. There was hope and general agreement among the participants that the two nations could build on their success with Antarctica's Ross Sea MPA and work together to lead the international community toward designations in other areas of the high seas.

The other major topic covered in this section of the discussion was marine pollution. The conversation largely focused on the issue of marine debris—particularly plastics pollution—but also touched upon carbon pollution's effect on climate change, ocean warming, sea level rise, and ocean acidification. It was clear that there is tremendous common interest and need to address marine debris; however, as one American participant pointed out, it has proven difficult to generate sufficient political will and resources to address the issue.

The problem is particularly acute in Asia. A 2015 study published in *Science* estimated that eight of the top 10 producers of plastic marine debris worldwide are in Asia, including China and several of its neighbors.³⁹ As a result, plastics pollution seems to be a topic that would be best addressed by regional or global multilateral organizations, such as the Association of Southeast Asian Nations (ASEAN) or the United Nations. One Chinese participant also suggested that the issue could, perhaps, be addressed more rapidly at a subnational level, relying on city-to-city partnerships on issues like waste management in order to control the flow of plastic before it reaches the ocean. However, to fully address this problem, national-scale approaches will be required. The United States and China could develop a cooperative commitment to support the development of technological solutions in order to reduce reliance on harmful single-use plastics and replace them with biodegradable compounds; and, in order to reduce the quantity of unmanaged plastic, the two countries could also support the expanded implementation of modern solid waste management systems throughout Asia.

Next steps and policy recommendations

As two of the largest stakeholders in the wealth and security provided by a healthy and productive global ocean, the United States and China have a profound incentive to turn the tide on the world's worst trends in ocean health and marine resource management. To best ensure that the ocean's prosperity and security are preserved for future generations in both nations, scientists, scholars, and policymakers from the United States and China should collaborate on the following proactive, near-term measures. These steps can help to solve some of the most pressing ocean policy challenges and lay the groundwork for a new era of positive cooperation and shared U.S.-China leadership in the management of the world ocean.

Foster bilateral relationships

First and foremost, both U.S. and Chinese leaders in ocean policy, marine science, civil society, and ocean-linked business should prioritize investments in time, energy, and resources in order to build bilateral relationships with their counterparts across the Pacific. The group acknowledged important differences that have made such partnerships difficult in the past, such as U.S. companies being private entities while many Chinese companies are state-sponsored or state-owned. Additionally, in the past, there have been issues with the security of proprietary data that have led to a reluctance to partner too closely. However, fostering these professional relationships represents the creation of relational infrastructure that will build trust and mutual understanding; enhance scientific research endeavors; and pay dividends for years to come as the international community looks to China and the United States to lead on solving major ocean policy challenges.

The participants in the Blue Future conference serve as leaders for numerous nongovernmental institutions that can and should take steps to reach out to their bilateral counterparts; devise and pursue new projects with counterpart collaborators from the United States and China; and encourage partners and colleagues within their host countries to do the same. The existing collaborations are promising; many Blue Future participants

highlighted examples of recent and current ocean policy or ocean science collaboration between American and Chinese experts. All participants agreed on the critical need for a broad, systematic effort to foster engagement between ocean stakeholders from both countries across the full range of sectors, which include academia, nongovernmental organizations, government agencies, and business.

Bridge gaps in capacity and understanding

Chinese participants in the Blue Future dialogue also identified a need for collaboration in order to help build institutional capacity in China across several specific areas related to oceanographic science capabilities. Though, in recent years, China has made great strides in building up its marine science institutions, one Chinese participant identified a technical “gulf” between the two nations, which was characterized by persistent stark differences in technical capabilities; scientific standards and methodologies; and data collection and distribution systems.⁴⁰ Some of the Chinese participants called for expanding U.S.-China technical cooperation through major joint oceanographic research endeavors in an effort to build Chinese research capacity as well as relationships, trust, bodies of shared data, and a common set of scientific practices and terminology between the two countries. However, as with the challenge of private sector cooperation between U.S. and Chinese companies, American participants identified past challenges of respect for intellectual property rights within China as an impediment to greater scientific collaboration.

Cooperative efforts on many fronts will touch virtually all of the specific policy areas examined during the Blue Future conference. For example, scholars could begin by exchanging case studies that analyzed specific ocean economic policy successes or failures. Such case studies could enhance mutual understanding of the characteristics, advantages, and limitations of each country’s approach to managing ocean-linked economic activities.

Given the current importance of trade in fish products, aquaculture could help bridge the vast trade gap in seafood products between China and the United States. As discussed in the fisheries section of this report, as the aquaculture industry develops in the United States, it has an opportunity to learn from China on how to increase commercial production, marketing, and infrastructure. Meanwhile, U.S. marine scientists and academic institutions that focus on the research and development of aquaculture technology could partner with Chinese producers to improve the sustainability of Chinese

output, sharing supply chain innovations and test beds for evaluation of the commercial viability of new technologies. It is important for the United States to scale up its aquaculture production in a responsible and environmentally conscious way. Ramping up the American aquaculture industry presents an opportunity to establish best practices for responsible production and harvest for both the United States and China.

Develop a shared vocabulary for the sustainable blue economy

Similarly, a group of U.S. and Chinese scholars akin to the one that convened for the Blue Future conference should attempt to collaboratively build on these case studies and other analyses in order to develop an overarching umbrella concept for the ocean economy. A multilateral effort in this space is already underway. Under the leadership of the Center for the Blue Economy—based at the Middlebury Institute for International Studies at Monterey—this group is working to reach consensus on definitions, methodologies, and metadata to include within the ocean economy, coastal economy, and blue economy discourse. Similar work is also underway in the EU, including the development of detailed satellite accounts in Ireland and Portugal.⁴¹ The Chinese data center has the most detailed and probably extensive set of categories for this purpose but looks to the United States for leadership in moving forward to reach consensus, so the separate bilateral track could yield strong benefits to help drive the international effort. This has been an unusual collaboration between an arm of the Chinese government and a private research center operating with the knowledge and approval of the U.S. government.

Ongoing collaboration in this space will require an improvement in the mutual understanding of basic terminology. American and Chinese marine science and policy specialists may need to begin by drafting a Chinese-English glossary for key concepts such as “sustainable fishing,” “illegal fishing,” “blue economy,” and “marine protected area.” During conference discussions, U.S. and Chinese counterparts discovered surprising differences in their respective understanding or usage of these terms. Without directly addressing these terminology-based misunderstandings—either through development of an ocean policy glossary or formulation of a mutually agreed upon set of terms—U.S. and Chinese counterparts may fail to robustly align on basic priorities or objectives of oceanographic science and marine resource policy.

In addition, both American and Chinese ocean policy leaders should remain open-minded to further expansion of their definitions of the ocean economy sector. For example, major maritime industries of the future—based on cutting-edge advancements in materials science, biotechnology, fresh water production, food science, and other areas—are currently being launched within highly innovative “blue clusters,”

where groups of startup firms co-locate in order to stimulate and accelerate innovation while also accelerating scaling and business development. Such entrepreneurs will likely play a key role in solving major challenges for marine resource management, food security, and provision of basic resources. Accordingly, the United States and China have tremendous incentive to ensure that individual and joint policy initiatives related to the ocean economy foster these up-and-coming industries.

Collaborate on ocean science

Conference participants agreed on the value of establishing a dedicated and actively managed clearinghouse of collaborative ocean science projects. Such a database would be a valuable resource not only for ocean scientists who seek collaboration with Chinese or American counterparts but also for policymakers, diplomats, and industry in both countries.

Across the board, these collaborations would help further strengthen and institutionalize linkages between the marine science community and its governments' ocean policymakers. Chinese participants identified a need for this development within their national government, and participants from both sides agreed on the need for marine scientists to have a strong and permanent role at the international policy level, as do climate and earth sciences experts in international climate policy frameworks. One such example is the ongoing effort in both countries to establish—with help from organizations such as the Center for the Blue Economy and The Maritime Alliance—an ocean satellite account within governmental accounting frameworks. Such an account would include new innovative ocean industries that have yet to be captured by either country in their respective ocean economy accounts. Here, the United States and China have taken the lead while also including Europe and Southeast Asian states in discussions.

Such collaboration extends to ecological protection and economic policy analysis. The United States and China should build on their efforts to establish MPAs as well as the associated ecological, fisheries, and economic benefits that have resulted from these efforts. The successful multilateral efforts to establish the Ross Sea protected area in the waters around Antarctica and the no-fishing zone in the central Arctic Ocean provide an ideal springboard for further collaboration on additional protected areas in critically important ecological habitats within other areas of the high seas.

Maintain government-to-government dialogue on ocean issues

Leaders in both countries should also support the inclusion of ocean issues in forthcoming government-to-government dialogues. In 2017—with the shift from the Obama-era Strategic and Economic Dialogue to the Trump-era, three-pillar dialogue and its economic, security, and people-to-people tracks—past ocean cooperation was acknowledged, but, in the high-level U.S.-China dialogue agenda, future action was not identified as a priority.⁴² Thus far in 2018, as its interest in U.S.-China engagement wanes, the Trump administration has suspended and refused to restart the comprehensive economic dialogue. However, despite the emerging trade difficulties and other contentious issues, there is still value in maintaining bilateral dialogue in areas of common interest. At a time when U.S.-China relations present so few areas for positive cooperation, both sides would benefit from maintaining at least some form of government-to-government dialogue on ocean protection and other common sustainability interests. Washington and Beijing should consider launching a dedicated U.S.-China dialogue track to provide more political space for ocean cooperation as it relates to security and economy—basic priorities that should be included with other critical global governance issues. That track could be a fourth comprehensive dialogue track or something that exists entirely outside of the 2017 three-pillar platform.

Create an overarching narrative for ocean cooperation

Lastly, conference participants identified the lack of a single strong, cohesive, and overarching narrative on ocean cooperation as a major deficiency that is precluding action on key ocean issues within the international policy sphere. In its absence, advocates and scientific specialists have tended to fragmentize ocean issues, which has resulted in a dispersion of political capital and ignorance by key policymakers in both countries. In the short term, leading American and Chinese ocean policy and science experts must continue to convene in order to formulate a set of common definitions, priorities, and objectives. At the very least, they should continue to seek clarity on each side's definitions of key concepts, with the strategic objective of articulating an overarching global ocean narrative that can inspire political leaders to help build a blue future to which the two countries—and the rest of the planet—can look forward.

Conclusion

The threats to the health and sustainability of the ocean are numerous and dire; and it is an environmental, economic, and national security imperative that we ensure healthy marine ecosystems for the planet. China and the United States share a common interest in the future of this vital natural resource; both countries heavily rely on the shared global ocean commons of the high seas and on use of the waters closer to home that each nation claims as its own. In order to advance ocean protection efforts, China and the United States must recognize their similarities and learn from each other's experiences. Real collaboration between these two countries will be critical in order to mitigate the existential threats facing the world's oceans and to forge a path toward long-term, sustainable prosperity for themselves and for the rest of the world.

Participants in the June 2017 dialogue

CAO Ling, Research Scholar, Stanford University

CHEN Jiliang, Researcher, Greenovation Hub

Michael Conathan, Director of Ocean Policy, Center for American Progress

GUO Peiqing, Professor and Executive Director, Ocean University of China

Melanie Hart, Senior Fellow and Director for China Policy, Center for American Progress

Michael Jones, President, The Maritime Alliance

Beth Kerttula, Former Director, U.S. National Ocean Council, Obama Administration

Judith Kildow, Director, National Ocean Economics Program, Center for the Blue Economy

LI Shuo, Senior Global Policy Advisor (Climate & Ocean), Greenpeace East Asia

LIU Shuguang, Deputy Director and Research Fellow, KRI Institute of Marine Development, Ocean University of China

Tabitha Mallory, Affiliate Professor, University of Washington

SUN Kai, Faculty, School of Law and Politics, Ocean University of China

SUN Song, Director, Institute of Oceanology, Chinese Academy of Sciences

TANG Yi, Professor and Associate Dean of College of Marine Science, Institute of Marine Policy and Law, Shanghai Ocean University

Kathleen Walsh, Associate Professor of National Security Affairs, National Security Affairs Department, U.S. Naval War College

Rear Adm. Jonathan White, President and CEO, Consortium for Ocean Leadership

Sally Yozell, Senior Associate and Director, Environmental Security Program, Stimson Center

ZHANG Hongzhou, Research Fellow, S. Rajaratnam School of International Studies

Dialogue support staff

Blaine Johnson, Policy Analyst for China and Asia Policy, Center for American Progress

Meredith Leal, Program Coordinator for National Security and International Policy, Center for American Progress

Shiva Polefka, Associate Director of Ocean Policy, Center for American Progress

Avery Siciliano, Research Associate for Ocean Policy, Center for American Progress

About the authors

Melanie Hart is a senior fellow and director for China Policy at the Center for American Progress. She is responsible for formulating CAP policy proposals on China and U.S.-China relations and leading CAP efforts to promote those proposals with political leaders in the United States and Asia. Dr. Hart's research focuses primarily on China's domestic political trends, U.S.-China trade and investment, U.S.-China energy and climate cooperation, Chinese foreign policy engagement in Asia, and U.S. foreign policy toward China. She founded and leads multiple US-China track II dialogue programs at the Center and frequently advises senior U.S. political leaders on China policy issues. Dr. Hart also serves as a Senior Advisor on China to The Scowcroft Group, a premier international business advisory firm managed directly by Brent Scowcroft, former National Security Advisor to Presidents George H.W. Bush and Gerald Ford. She also serves on the board of the American Mandarin Society, a nonprofit organization dedicated to supporting the professional development of current and future stewards of the U.S.-China relationship. Dr. Hart has a Ph.D. in political science from the University of California, San Diego, and a B.A. from Texas A&M University.

Michael Conathan previously served as the director of Ocean Policy at the Center for American Progress. His work focused on driving progressive solutions to the multitude of problems facing the world's oceans, with a particular focus on the sustainable blue economy, including domestic and international fishery management; offshore energy development; coastal restoration and resiliency; and the promotion of ocean and coastal recreation as well as tourism. He now serves as the Executive Director of the Aspen Institute High Seas Initiative. Prior to joining American Progress, he spent five years staffing the U.S. Senate Committee on Commerce, Science, and Transportation's Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard, where he worked primarily for then-subcommittee ranking member Sen. Olympia Snowe (R-ME). He holds a master's degree in marine affairs from the University of Rhode Island and a Bachelor of Arts in English literature from Georgetown University. He lives in South Portland, Maine.

Blaine Johnson serves as a policy analyst for National Security and International Policy at the Center for American Progress. She focuses on China and Asia policy, with an interest in energy, and frequently conducts research trips in the region. Previously, Johnson worked in government relations in Shanghai and on policy analysis for Fudan University's Sustainable Behavior Research Group. She received her master's in public administration from Fudan University, where she was a James B. Reynolds scholar. She previously interned with the American Council on Renewable Energy and graduated with a bachelor's degree from Dartmouth College.

Shiva Polefka is the associate director of Ocean Policy at the Center for American Progress, where he works on domestic and international affairs related to marine natural resource management, with a focus on identifying and developing opportunities to link equitable economic growth with the protection and restoration of ocean health. Polefka earned his M.A. from the Johns Hopkins School of Advanced International Studies and previously worked as an analyst for the Coast and Ocean program at the Environmental Defense Center in Santa Barbara, California.

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Endnotes

- 1 For background, see Melanie Hart, Pete Ogden, and Greg Dotson, “U.S.-China Climate Announcements Lay Foundation for Success in Paris,” Center for American Progress, September 25, 2015, available at <https://www.americanprogress.org/issues/security/news/2015/09/25/122098/u-s-china-climate-announcements-lay-foundation-for-success-in-paris/>.
- 2 Commission for the Conservation of Antarctic Marine Living Resources, “CCAMLR to create world’s largest Marine Protected Area,” available at <https://www.ccamlr.org/en/news/2016/ccamlr-create-worlds-largest-marine-protected-area> (last accessed April 2018).
- 3 National Oceanic and Atmospheric Administration, *The United States Is an Ocean Nation* (U.S. Department of Commerce, 2011), available at http://www.gc.noaa.gov/documents/2011/012711_gcil_maritime_eez_map.pdf.
- 4 Ministry of Foreign Affairs of the People’s Republic of China, “Zhong hua ren min gong he guo zheng fu guan yu fei lv bin gong he guo suo ti nan hai zhong cai an guan xia quan wen ti de li chang wen jian” (Position Paper of the Government of the People’s Republic of China on the Jurisdiction of the Arbitration Case in the South China Sea Proposed by the Republic of the Philippines), December 7, 2014, available at http://www.fmprc.gov.cn/web/ziliao_674904/tytj_674911/zcwj_674915/t1217143.shtml; *People’s Daily*, “Cong ren shi hai yang zou xiang jing lve hai yang – xie zai guo jia hai yang ju cheng li 50 zhou nian zhi ji” (From Understanding the Ocean to Managing and Planning the Ocean – Written on the 50th Anniversary of the State Oceanic Administration), July 23, 2014, available at http://www.soa.gov.cn/xw/hyyw_90/201407/t20140723_33254.html.
- 5 Marineregions.org, “China MRGID 8486,” available at <http://www.marineregions.org/eezdetails.php?mrgid=8486&zone=eez> (last accessed January 2018).
- 6 Tristram Korten, “In Florida, Officials Ban Term, ‘Climate Change,’” Florida Center for Investigative Reporting, March 8, 2015, available at <https://fcir.org/2015/03/08/in-florida-officials-ban-term-climate-change/>.
- 7 Xinhua, “Wang yong: zu jian zi ran zi yuan bu bu zai bao liu guo tu zi yuan bu, guo jia hai yang ju, guo jia ce hui di li xin xi ju” (Wang Yong: Set up the Ministry of Natural Resources—No Longer Retain the Ministry of Land and Resources, the State Oceanic Administration, the National Bureau of Surveying and Mapping Geographic Information), Ministry of Land and Resources of the People’s Republic of China, March 13, 2018, available at http://www.mlr.gov.cn/xwdt/jrxw/201803/t20180313_1763470.htm. For a guide to the restructuring in English, see NPC Observer, “A Guide to 2018 State Council Institutional Reforms,” available at <https://npcobserver.com/2018/03/14/a-guide-to-2018-state-council-institutional-reforms/> (last accessed March 2018).
- 8 The White House Council on Environmental Quality, *Final Recommendations Of The Interagency Ocean Policy Task Force* (Executive Office of the President, 2010), available at https://obamawhitehouse.archives.gov/files/documents/OPTF_FinalRecs.pdf.
- 9 Xinhua, “China to restructure oceanic administration, enhance maritime law enforcement,” National People’s Congress of the People’s Republic of China, March 10, 2013, available at http://www.npc.gov.cn/englishnpc/news/Events/2013-03/10/content_1774480.htm.
- 10 National Oceanic and Atmospheric Administration, “Santa Barbara Well blowout,” available at <https://incidentnews.noaa.gov/incident/6206> (last accessed May 2018).
- 11 For background, see Zhang Chun, “Pilot scheme to grade officials on environmental protection,” chinadialogue, September 28, 2015, available at <https://www.chinadialogue.org.cn/article/show/single/en/8198-Pilot-scheme-to-grade-officials-on-environmental-protection>.
- 12 National Development and Reform Commission of the People’s Republic of China, “The 13th Five-Year Plan for Economic and Social Development of the People’s Republic of China (2016–2020)” (2016), available at <http://en.ndrc.gov.cn/newsrelease/201612/P020161207645765233498.pdf>.
- 13 For example, see *Magnuson-Stevens Fishery Conservation and Management Act*, Public Law 94-265, 94th Cong., 2d sess. (April 13, 1976); one of its “national standards” stipulates: “Conservation and management measures shall be based upon the best scientific information available.” Section 301(a)(2), available at <https://legcounsel.house.gov/Comps/Magnuson-stevens%20Fishery%20Conservation%20And%20Management%20Act.pdf>.
- 14 For an example of Trump administration skepticism, see Memorandum from Mick Mulvaney and Michael Kratsios to the heads of executive departments and agencies, August 17, 2017, available at <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2017/m-17-30.pdf>.
- 15 Penny Pritzker, *The Department of Commerce Budget in Brief: Fiscal Year 2016*, U.S. Department of Commerce, p. 73–104, available at <http://www.osec.doc.gov/bmi/budget/FY16BIB/EntireDocument-WebVersionWithCharts.pdf>.
- 16 Participant statement during Blue Future 2017 discussion in Honolulu, Hawaii, June 2017.
- 17 For the relevant section of the 12th five-year plan in Chinese, see People’s Republic of China Government, “Guo min jing ji he she hui fa zhan di shi er ge wu nian gui hua gang yao (quan wen)” (The Twelfth Five-Year Plan Outline for National Economic and Social Development (Full Text)), March 16, 2011, available at http://www.gov.cn/2011lh/content_1825838_4.htm.
- 18 For example, in the 12th five-year plan’s section on promoting maritime economy, the two subheadings are “Optimizing the Marine Industry Structure” and “Strengthening Integrated Marine Management,” whereas the 13th five-year plan includes “Strengthening the Marine Economy,” “Strengthening Protection of Marine Resources and Environments,” and “Safeguarding Maritime Rights and Interests.” For a copy of the 13th five-year plan in English, see National Development and Reform Commission, “The 13th Five-Year Plan for Economic and Social Development of the People’s Republic of China (2016–2020).”
- 19 Xinhua, “Full text: Vision for Maritime Cooperation under the Belt and Road Initiative,” June 20, 2017, available at http://news.xinhuanet.com/english/2017-06/20/c_136380414.htm.
- 20 Ibid.
- 21 Asia-Pacific Economic Cooperation, “2014 APEC Ocean-Related Ministerial Meeting Joint Statement,” August 28, 2014, available at https://www.apec.org/Meeting-Papers/Sectoral-Ministerial-Meetings/Ocean-related/2014_ocean.

- 22 Food and Agriculture Organization of the United Nations, "The State of World Fisheries and Aquaculture 2016" (2016), p.53, available at <http://www.fao.org/3/a-i5555e.pdf>.
- 23 Michael Conathan and Avery Siciliano, "America's Blueprint for Sustainable Fisheries" (Washington: Center for American Progress, 2016), available at <https://www.american-progress.org/issues/green/reports/2016/09/14/144126/americas-blueprint-for-sustainable-fisheries/>.
- 24 Ling Cao and others, "Opportunity for marine fisheries reform in China," *Proceedings of the National Academy of Sciences* 114 (3) (2017): 435–442, available at <http://www.pnas.org/content/114/3/435.full>. For the simplified Chinese version of this report, see <http://www.oceanol.com/content/201705/03/c64171.html>.
- 25 Coast Guard News, "Coast Guard and Chinese Fisheries Enforcement Cooperation Intercepts 3 Chinese Drift Net Fishing Vessel," October 11, 2007, available at <http://coastguardnews.com/coast-guard-and-chinese-fisheries-enforcement-cooperation-intercepts-3-chinese-drift-net-fishing-vessel/2007/10/11/>; Coast Guard News, "United States and China Coast Guards Interdict vessel for illegally fishing on the high seas," June 3, 2014, available at <http://coastguardnews.com/united-states-and-china-coast-guards-interdict-vessel-for-illegally-fishing-on-the-high-seas/2014/06/03/>.
- 26 Food and Agriculture Organization of the United Nations, "Port State Measures Agreement," available at <http://www.fao.org/fishery/psm/agreement/en> (last accessed April 2018); National Ocean Council Committee on IUU Fishing and Seafood Fraud, "U.S. Seafood Import Monitoring Program," available at <http://www.iuufishing.noaa.gov/RecommendationsandActions/RECOMMENDATION1415/FinalRuleTraceability.aspx> (last accessed April 2018).
- 27 Participant statement during Blue Future 2017 discussion in Honolulu, Hawaii, June 2017.
- 28 Conathan and Siciliano, "America's Blueprint for Sustainable Fisheries."
- 29 Food and Agriculture Organization, "The State of World Fisheries and Aquaculture 2016."
- 30 Ibid.
- 31 Greenpeace, "Almost one third of China's annual fisheries catch is 'trash' fish," Press release, July 31, 2017, available at <http://www.greenpeace.org/eastasia/press/releases/oceans/2017/Almost-one-third-of-Chinas-annual-fisheries-catch-is-trash-fish---Greenpeace/>.
- 32 Courtney Flatt and John Ryan, "Environmental Nightmare' After Thousands of Atlantic Salmon Escape Fish Farm," NPR, August 24, 2017, available at <https://www.npr.org/sections/thesalt/2017/08/24/545619525/environmental-nightmare-after-thousands-of-atlantic-salmon-escape-fish-farm>.
- 33 Michael Slezak, "World's largest marine park created in Ross Sea in Antarctica in landmark deal," *The Guardian*, October 27, 2016, available at <https://www.theguardian.com/world/2016/oct/28/worlds-largest-marine-park-created-in-ross-sea-in-antarctica-in-landmark-deal>.
- 34 Hannah Hoag, "Nations agree to ban fishing in Arctic Ocean for at least 16 years," *Science*, December 1, 2017, available at <http://www.sciencemag.org/news/2017/12/nations-agree-ban-fishing-arctic-ocean-least-16-years>.
- 35 Participant statement during Blue Future 2017 discussion in Honolulu, Hawaii, June 2017.
- 36 Ibid.
- 37 Ibid.
- 38 Royal Society, "Ocean acidification due to increasing atmospheric carbon dioxide" (2005), available at https://royalsociety.org/~media/Royal_Society_Content/policy/publications/2005/9634.pdf.
- 39 Jenna R. Jambeck and others, "Plastic waste inputs from land into the ocean," *Science* 347 (6223) (2015): 768–771, available at <http://science.sciencemag.org/content/347/6223/768>.
- 40 Participant statement during Blue Future 2017 discussion in Honolulu, Hawaii, June 2017.
- 41 Department of National Accounts, Unit for Satellite Accounts and Quality Assessment of the National Accounts, Statistics Portugal, "Satellite Account for the Sea – 2010-2013: Methodological Report" (2016), available at https://www.ine.pt/ngt_server/attachfileu.jsp?look_parentBoui=300613867&att_display=n&att_download=y.
- 42 U.S. Department of State, "U.S.-China Social and Cultural Dialogue," Press release, September 29, 2017, available at <https://www.state.gov/r/pa/prs/ps/2017/09/274520.htm>.

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The Center for American Progress is an independent, nonpartisan policy institute that is dedicated to improving the lives of all Americans, through bold, progressive ideas, as well as strong leadership and concerted action. Our aim is not just to change the conversation, but to change the country.

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As progressives, we believe America should be a land of boundless opportunity, where people can climb the ladder of economic mobility. We believe we owe it to future generations to protect the planet and promote peace and shared global prosperity.

And we believe an effective government can earn the trust of the American people, champion the common good over narrow self-interest, and harness the strength of our diversity.

Our Approach

We develop new policy ideas, challenge the media to cover the issues that truly matter, and shape the national debate. With policy teams in major issue areas, American Progress can think creatively at the cross-section of traditional boundaries to develop ideas for policymakers that lead to real change. By employing an extensive communications and outreach effort that we adapt to a rapidly changing media landscape, we move our ideas aggressively in the national policy debate.

