



NATIONAL
MARINE
SANCTUARY
FOUNDATION



CAPITOL HILL OCEAN WEEK 2016

PRESENTED BY
NATIONAL MARINE SANCTUARY FOUNDATION

Summary Report
June 7 – 9, 2016
Washington, D.C.



BIG, BLUE & BOLD

Capitol Hill Ocean Week 2016

Waves were made at Capitol Hill Ocean Week® (CHOW) this year with groundbreaking announcements, engaging discussions, expert panelists, and celebrations of marine conservation success. Since 2001, people across the country – policymakers, Hill staff, scientists, ocean enthusiasts, educators, and students – gathered in person or virtually for the largest ocean policy conversation in the U.S. Hosted by the National Marine Sanctuary Foundation, this event is the platform for ocean leadership and enthusiasts to engage in dialogue about conservation issues, solutions for protecting marine resources, and make critical connections with leaders from the Hill and beyond.



600+
in person attendees

4,500+
virtual attendees
via livestream

Leading the U.S.
Ocean Policy
conversation since
2001

150+
Members of Congress
as part of the
Honorary Committee

Global livestream
reached viewers in
37
countries across
5
continents

20.8 +
MILLION
Twitter impressions
during event

60+
Speakers including
scientists,
policymakers,
educators,
and industry experts



OCEANSLIVE! Brings CHOW to Ocean Enthusiasts Everywhere

For the past four years, the OceansLIVE! team has brought the excitement from Capitol Hill to homes and offices around the globe. In addition to livestreaming the entire conference, including the opening keynote session, the team also provides exclusive online content featuring additional interviews and discussions with speakers.

Moderator Kate Thompson from NOAA's Office of National Marine Sanctuaries led discussants through nine sessions that covered issues mirroring many of the CHOW panels. Topics included: the importance of understanding and buying sustainable seafood; ways the public can stop ocean trash before it reaches the water; how national parks and national marine sanctuaries are working with diverse groups to create a more inclusive experience for visitors; the efforts groups are taking to mitigate the effects of ocean acidification; and an appreciation of the Flower Garden Banks National Marine Sanctuary's role in the Gulf of Mexico and in Gulf restoration.



OPENING KEYNOTE: The Administration's Ocean Legacy

Christy Goldfuss, Managing Director for the White House Council on Environmental Quality, opened CHOW 2016 with an address that emphasized the importance of ensuring that the ocean is a critical component of the U.S. global climate plan; called on the conservation community to better connect people to the ocean; and celebrated the recent proposal to expand the Flower Garden Banks National Marine Sanctuary to protect critical marine habitat off the coasts of Texas and Louisiana.

Some highlights of her keynote address include:

- Many Americans feel disconnected from the ocean. Helping people make meaningful connections will be critical to leveraging action to protect the ocean and coasts against climate change and other impacts.
- Ms. Goldfuss lamented the ocean's absence from many climate change discussions – including the recent Paris Climate Agreement signing – but stressed that the ocean cannot and should not be ignored on this important issue.
- She urged thought leaders, scientists, and ocean advocates to become authentic voices for the ocean and to share compelling stories of how change is currently threatening coastal communities and ocean resources. She cited nine-year-old ocean conservationist Ka'ala from Hawaii as one of these authentic voices that can remind people to "...do all we can to protect the incredible ocean resources we have."
- **After 30 years of scientific research, the National Oceanic and Atmospheric Administration (NOAA) announced a proposed expansion of the Flower Garden Banks National Marine Sanctuary.** The plan includes five scenarios, which could increase the sanctuary's size from 56 to 935 square miles, providing additional protected habitat for commercially and recreationally important fish and at least 15 threatened or endangered species.
- Ms. Goldfuss encouraged the U.S. to take new, progressive approaches to ocean governance as outlined in the Administration's landmark National Ocean Policy.
- The White House is motivated and committed to ensuring that the ocean and coasts are part of the national conversation about environmental policy. As proof, Ms. Goldfuss highlighted several recent accomplishments:
 - The imminent completion of both the Northeast and Mid-Atlantic regional marine plans' formal public comment periods, a key element of the planning process; and
 - Submission of the Administration's proposed rule on the Presidential Task Force on Illegal, Unreported, and Unregulated (IUU) Fishing and Seafood Fraud's action plan and development of implementation plans to help curb IUU fishing. These actions reinforce the United States' role as a leader in national and international areas to prevent, deter, enforce, and eliminate IUU fishing.

“We cannot truly have a conversation about protecting our planet for future generations without addressing the impacts of climate change on our ocean and marine resources.”

– Christy Goldfuss, Managing Director,
White House Council on Environmental Quality

In closing, Ms. Goldfuss again emphasized the importance of using stories – supported by facts – to illustrate how society's actions are changing the ocean. She also issued the audience an impassioned call to action: “Join the Administration as we talk about the oceans...Join us in this conversation as storytellers and I guarantee you will be very excited and have a lot to celebrate at next year's Capitol Hill Ocean Week.”



SMART INVESTMENTS In the Future of Our Ocean

After centuries of being underestimated and discounted, the ocean's true monetary value is only beginning to be understood and quantified. Panelists at CHOW 2016 examined the ocean financial portfolio to ask what investment decisions should be made to ensure responsible use and smart stewardship. The group analyzed the potential investment market for a range of ocean uses; explored the issues driving investment in the new blue economy; offered suggestions for managing risk to ensure the sustainability of the marine environment and ocean use; and voiced hope that the U.S. can be a leader in the global blue economy.

- Ocean investment interests are changing, creating opportunities to build new constituencies for a new blue economy – a broad, inclusive ocean economy with supporting uses (e.g., knowledge-based activities, many of which rely on environmental data and predictions).
- Historically, investment in the ocean has been based on a model of exploitation. Panelists mentioned the tensions between investments that protect or better understand the ocean and those that are intended to utilize ocean resources and emphasized the importance of striking a balance between the two. The Ocean Investment Platform was introduced as a new global effort that seeks to engage the investment community, ocean industries, and innovators in achieving that balance.
- *The Atlas of Ocean Wealth*, introduced during CHOW 2016, is the largest collection of information on the economic, social, and cultural values of the world's coastal and marine habitats. The work helps to accurately quantify the value of marine resources and channel new opportunities and investments in the ocean.
- Panelists highlighted the importance of developing private-public sector partnerships while working toward a sustainable ocean economy. They also noted that the bipartisan Senate Oceans Caucus provides opportunities for bipartisan solutions to ocean issues, including the Caucus's current priorities of illegal, unreported, and unregulated (IUU) fishing, marine debris, and ocean data and monitoring.
- Panelists advised potential shareholders to exercise patience and embrace the long-term cultivation of capital over the lure of short-term gains when investing in the ocean economy.
- In the face of climate change, channeling new investment into adaptation efforts – including shoreline, coral reef, and mangrove protection – can benefit people, businesses, and the environment.
- Panelists would like to see the U.S. emerge as a leader in the global blue economy. Events such as CHOW 2016 highlight the country's potential for leadership but panelists stressed that more can and should be done.

Throughout the discussion, the panel agreed that there is a growing investment community that recognizes the value and impact of financing responsible ocean economic activity and related sustainability efforts. Sharing stories of how a healthy ocean benefits the private sector can be a persuasive argument to engage new investors. The group also emphasized the need to expand stewardship and foster leadership with existing communities while attracting new investors to ensure the responsible, sustainable use of the ocean.



For years, **Senator Sheldon Whitehouse (RI)** has been one of the strongest ocean champions on Capitol Hill. During the panel, he advocated for increased investment in ocean science, funding opportunities, and support for public/private partnerships.


In addition, Sen. Whitehouse has sponsored several ocean-focused pieces of legislation, including the National Endowment for the Oceans Act, which became law in December 2015. The legislation created a fund that will provide grants to support ocean and coastal research, strengthen coastal infrastructure, and build resiliency to sea level rise and other consequences of climate change in coastal communities.



OUR BLUE PARKS LEGACY

The Next 100 Years of the Great Outdoors





“We still do need places that are going to be left in their pristine states. These places [such as Papahānaumokuākea Marine National Monument] need to be protected to allow for replenishment.”

– Solomon Pili Kaho’ ohalahala, Kupa ʻĀina o Lānaʻi, Maunalei Ahupuaʻa Mauka-Makai Managed Area

As the National Park System celebrated its centennial anniversary, CHOW 2016 brought together leaders in place-based conservation to examine the present and future of the country’s blue parks and how to advance a blue parks legacy that will serve future generations. The panel discussed the merits of granting access to parks while still providing proper protection; the role aquariums can play in creating ocean stewards; the importance of science in designating blue parks; and ways to improve the park creation process.

📷 Solomon Pili Kaho’ ohalahala

- National Parks – both on land and in the sea – were established to allow human interaction with nature. Panelists noted that granting access to parks while still providing proper protection is a delicate, yet crucial, balancing act.
- There is still a need for pristine ocean areas left in their natural state to serve as areas of replenishment for marine ecosystems.
- Aquariums are the gateways to the ocean, granting people access to marine environments that few will ever see in person. They serve an important role in inspiring the public to care for and conserve ocean resources.
- By immersing themselves in the “living museum” of a marine park or viewing a remote marine habitat at an aquarium, people can be inspired to become stewards of these natural resources.
- Panelists would like to see increased use of citizen scientists at marine parks, such as the National Park Service’s BioBlitz program, to help close data gaps.
- Creating marine parks is a very slow process, typically involving a diverse set of stakeholders and user groups. Moving forward, it is important to help stakeholders see past the myopic viewpoint of short-term gains and focus on long-term goals.

Panelists also noted that securing funding is an ever-present concern for marine parks. They called for developing a groundswell of support from constituents, including the use of social media, to voice the public’s opinions and support for parks and protected areas. Bringing the economic argument – that investing in marine parks makes both economic and ecological sense – to Congress is one important way to secure the country’s blue parks legacy for the next 100 years.



U.S. Representative Don Beyer (VA-8), a former park ranger, addressed CHOW attendees where he lamented the lack of interest Congress had demonstrated regarding the effects of climate change on the ocean. However, Rep. Beyer noted that members have recently begun to realize the ocean’s importance and climate change’s associated risks. He encouraged the creation of blue parks and marine protected areas as a strategy to help the oceans stay healthy and urged stakeholders to plan and work together. Despite some delays, Rep. Beyer is optimistic that the U.S. – and the rest of the world – is moving in the right direction in ocean conservation.

“We must celebrate the National Ocean Policy. It encourages...everyone to come together to develop regional plans that help safeguard ocean resources.”

– The Honorable Don Beyer, U.S. House of Representatives, VA-8



In order for the ocean movement to gain momentum and relevance in a changing world, it is time for more Americans of all backgrounds and experiences to see themselves as part of the solution. CHOW 2016 hosted a panel to advance the conversation on the diversity – or lack thereof – in conservation fields. What followed was a frank discussion about the struggles minorities face in a predominantly Caucasian workforce; the frustration caused by the ocean movement’s assumptions about minority interests; the importance of building strong, trust-based relationships with communities of color; and leadership’s responsibility to create a more open, inclusive, and diverse environment.

THE POWER OF DIVERSITY To Strengthen the Ocean Movement

“Diversity is not just a thing or idea; it’s actually an integrated practice.”

– José González, Founder, Latino Outdoors



- Panelists observed that the current “monochromatic” makeup of the ocean conservation workforce does not accurately reflect the diversity of the American population.
- Panelists urged the audience to engage minority communities and encourage their involvement at the start of the project, rather than asking them to join an established movement. As one panelist noted, “There’s a difference between being a contributor and being an afterthought.”
- There is no one-size-fits-all method to addressing environmental issues. Panelists suggested that the conservation field should not diminish minority communities’ contributions if they don’t conform to the traditional or mainstream approach.
- Relationship building with communities of color is a crucial and undervalued component to increasing diversity in the ocean movement.
- Being a minority in a predominantly Caucasian field can be daunting and at times make individuals feel isolated, intimidated, and ignored. As a result, the panel urged the audience to become allies for minorities among their peers.
- There is a need for strong leadership to initiate and advance diversity within organizations. Doing so can be a win-win situation: increased workforce diversity leads to higher rates of employee satisfaction while making the organization more appealing to potential employees.

In closing, the group noted that this is not the first – nor will it be the last – conversation about diversity. Few expected the situation to change in the immediate future. Panelists also acknowledged that dealing with diversity is difficult and at times uncomfortable, but stressed that tackling the issue is essential to making progress. After all, they reminded the audience, regardless of race or ethnicity, we all share a common conservation goal.



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INFORMATION AGE: Tracking and Enforcing IUU Fishing

CHOW 2016 built upon last year's conversation about illegal, unreported, and unregulated (IUU) fishing with another look at the threats IUU fishing poses to global ocean fisheries and what is happening across the larger community. Experts from technology, enforcement, industry, and policy examined the key problems and potential solutions of IUU fishing; highlighted the challenges facing the U.S. in its attempts to combat this problem; the role technology can play in monitoring; and the importance of strong seafood traceability to discourage IUU fishing practices.

- The panel celebrated the passage of implementing legislation and ratification of the Port State Measures Agreement in the U.S. (which came into effect globally on June 5, 2016) and expressed optimism that the agreement can help identify and ostracize the “bad actors” selling IUU fishing products. Like all treaties, it only applies to signing nations, but additional countries continue to join.
- The speed and breadth of technological advancement holds tremendous promise. Combining existing monitoring efforts (including VMS, satellites, radar, and drones) with emerging technologies (smartphones and crowd-sourcing data collection) can greatly enhance monitoring and enforcement capabilities.
- Panelists would like to see the creation of an unclassified, consistent technological monitoring system to build a sharable database to track smuggling vessels. Unresolved issues regarding data collection, data sharing, and the protection of privacy and trade secrets have raised concerns.
- The U.S. continues to struggle with a lack of transparency when working with other nations and flag states on enforcement efforts. The Port State Measure Agreement attempts to address this issue by requiring accountability and feedback from participating countries and flag states during investigations.
- Being able to determine a product's supply chain – where it was caught, when, and under what conditions – is an important tool in combating IUU fishing. Improving seafood traceability “from bait to plate” through bills of lading, product labeling, and retailer pressure can help discourage the sale and purchase of illegally caught seafood. This traceability is the focus of new U.S. anti-IUU fishing regulations.
- It is often unclear which entity has jurisdiction in certain types of enforcement cases and how far their authorities extend. Market access-type measures can be important tools to address this situation and help improve enforcement.

Overall, panelists agreed that any progress made in monitoring, control, and surveillance methods is greatly reduced if countries and flag states lack the political will to investigate IUU fishing violations and enforce penalties. In fact, port state agreements and market access measures were created in part to compensate for inconsistent enforcement. The panel advocated for the use of the entire suite of monitoring and sanction tools, including market access and port state agreement measures, to ensure better stewardship over global ocean fisheries.

Ocean trash has become one of the most pervasive pollution problems facing the planet. An estimated 8 million tons of plastic ends up in waterways each year and a recent report estimates that by 2050 there will be more plastic than fish by weight in the ocean. Panelists at CHOW 2016 led an in-depth discussion that explored a holistic approach to addressing the problem of marine debris; examined how industry can re-evaluate product lifecycles; considered ways to alter consumer behavior; and debated the value of marine debris cleanup versus prevention.



CLOSING THE LOOP ON TRASH: Innovation and Industry Leadership

📷 Nicholas Mallos

- Efforts to address and prevent ocean trash must take a holistic approach that incorporates what the panel labeled the “3 Ms”:
 - Minimize the amount of debris reaching the ocean
 - Manage trash disposal in a responsible manner
 - Mitigate the threat of plastic and litter already in the ocean.
- The business sector must continue to take innovative approaches to developing packaging products that reduce their environmental footprint. Panelists argued that the onus is on industry to develop consistent messaging to inform consumers which products are recyclable and how to successfully interpret labels such as “biodegradable” and “bioplastics.”
- Ocean trash is a global problem originating from developed and developing nations around the world. When searching for international solutions, panelists admitted that it can be difficult to address the myriad cultural choices, issues, and lifestyles across multiple nations in order to prioritize pollution prevention.
- Panelists agreed that the ocean trash problem is too complex and broad in scope for any one entity to tackle. Finding solutions will require partnerships and a concerted effort from all stakeholders, including government, industry, and consumers.
- While cleanup efforts, such as the International Coastal Cleanup, are important to removing existing debris, panelists emphasized that pollution prevention should be the focus of ocean trash efforts.



📷 NOAA

Panelists unanimously agreed that there is no single solution to the problem of ocean trash. However, the panel was optimistic that integrated solutions – such as government support and involvement, innovative approaches from the business sector, and changes in consumer behavior – can help address this complex issue and stem the tide of marine debris entering the world’s waterways.



A CHANGING OFFSHORE ENERGY PORTFOLIO

True energy security will come from diversifying the U.S. energy portfolio, including its offshore energy sources. The Obama Administration has fostered an environment for both conventional and renewable energy development on the Outer Continental Shelf. During CHOW 2016, panelists discussed the growing momentum of the offshore wind energy industry; examined factors affecting future oil and gas exploration; and considered the benefits of planning, coordination, and community engagement.

- Offshore wind energy is emerging as a promising technology in the renewable energy sector. However, panelists acknowledged that prohibitive cost remains a key challenge to development. It can also be very difficult to break through government and policy “silos” and get multiple agencies and entities to work together.
- In the past decade, the oil and gas industry has been a leading investor in zero-carbon and low-carbon emitting technologies, as well as in wind, solar and geothermal technologies. Oil and gas has also identified many potential marketing opportunities and overlap with wind energy (e.g., providing controls, maintenance, supplies, etc.).
- One panelist would like to see the U.S. make more oil and gas exploration opportunities available in the Atlantic Ocean, especially while other countries are moving forward with their own exploration activities.
- The federal government will continue to make acreage available for drilling in the Arctic and review any proposed plans and leases. Industry has tremendous interest in the region – both domestically and internationally – but many companies have been reluctant to invest due to the lack of permitting and regulatory certainty.
- Panelists repeatedly mentioned that inclusive planning and coordination efforts that bring project stakeholders together during the decision-making process provide transparency, build trust, and help facilitate cooperation.



Rep. Alan Lowenthal (CA-47), ranking member of the House Natural Resources Subcommittee on Energy and Mineral Resources and chair of the Safe Climate Caucus, spoke on the importance of exploring renewable energy resources, calling it “the next great adventure for the nation.” He hopes to begin a discussion in Congress on renewable energy, especially offshore wind technology, in the near future. With so much energy development occurring in offshore waters, Rep. Lowenthal noted that there is a pressing need for smart, streamlined, multi-stakeholder ocean use plans. He concluded his remarks with a call for Congress to work together on the U.S. National Ocean Policy and he is hopeful that the next Congress could address many of these issues in a bipartisan manner.

Despite the increased interest in renewable energy sources, panelists acknowledged that oil and gas would continue to be a significant energy source for decades. However, advancements in technology will continue to alter the offshore energy portfolio. Panelists are confident that the U.S. will continue to explore ways to mitigate fluctuating economic impacts, help meet climate change commitments, and create greater certainty and confidence for businesses, investors, utilities, and communities.



BLUE OCEAN, BLACK TIE

14th Annual Ocean Awards Gala

RAISE YOUR GLASS

In addition to the ocean awards, the Gala celebrated three special anniversaries:

- 40th Anniversary of the Magnuson-Stevens Act, the primary law governing U.S. marine fisheries management
- 50th Anniversary of NOAA Sea Grant, a university-based “land grants for the sea” program formed by government, university, and community partnerships
- National Parks Service (NPS) Centennial, recognizing 100 years of NPS’s biological, cultural, and recreational value that engages stewardship in communities through recreation, conservation, and historic preservation programs

📷 Matt McIntosh

Black-tie mixed with blue as more than 500 national leaders in ocean policy, industry, conservation, and education gathered for the National Marine Sanctuary Foundation’s (NMSF) 14th annual Ocean Awards Gala. The event honored Senator Maria Cantwell (D-WA), Nainoa Thompson, and Captain Scott Hickman for their commitment to ocean stewardship and celebrated several important anniversaries in ocean conservation.

📷 Matt McIntosh





LEADERSHIP AWARD 2016

NMSF recognized **Senator Maria Cantwell (D-WA)** for her exceptional leadership in ocean conservation. Sen. Cantwell has been a key champion for bolstering sustainable fisheries, supporting Olympic Coast National Marine Sanctuary, expanding ocean acidification research, increasing ocean monitoring and science, and has secured oil spill prevention and response reforms. As a senior member of the Senate Commerce Committee and Ranking Member of the Senate Committee on Energy and Natural Resources, Sen. Cantwell is the leading voice for strengthening our nation's fleet of polar icebreakers and is a vocal defender of sustainable, science-based fishery management practices in the Magnuson-Stevens Act. *(left: Senator Maria Cantwell, D-WA)*



LIFETIME ACHIEVEMENT AWARD 2016

NMSF bestowed its Lifetime Achievement Award on Native Hawaiian **Nainoa Thompson** for dedicating his life to exploring the ocean, maintaining the health of the planet, and ensuring that the ancient marine heritage and culture of Polynesia remain vibrant into the future. Mr. Thompson is the first Hawaiian in 600 years to practice the ancient Polynesian art of wayfinding, sailing the traditional double-hulled Hōkūleʻa from Hawaiʻi to Tahiti without navigational instruments. He and his family have also been involved in Papahānaumokuākea Marine National Monument since the monument's inception and are passionate advocates on behalf of its expansion. His ability to blend traditional principles with modern scientific knowledge and work with the next generation of ocean stewards is ensuring the continued connection between the ocean past and future. *(left: Nainoa Thompson and Bob Talbot, Chairman, NMSF Board of Trustees)*



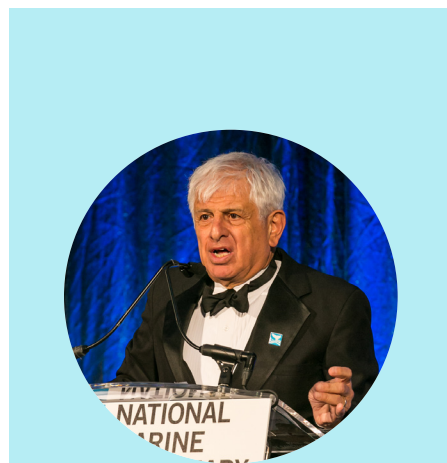
VOLUNTEER OF THE YEAR AWARD 2016

Captain Scott Hickman was named NMSF Volunteer of the Year for helping to ensure the sustainability of the Flower Garden Banks National Marine Sanctuary's marine ecosystem and strengthening the partnership between the recreational fishing community and the National Marine Sanctuary System. Owner of Circle H Outfitters in Galveston, Texas, a recreational fishing operation in the Gulf, Hickman is active in numerous charter fishing organizations working to promote conservation and stewardship of the Gulf. A respected advocate for protecting the Gulf's natural resources, Captain Hickman works to bring together diverse stakeholders to protect and preserve the sanctuary's marine habitats while enabling human activity. *(left: John Armor, Acting Director, NOAA's Office of National Marine Sanctuaries, U.S. Rep. Randy Weber, TX-14, Scott Hickman, Bob Talbot)*



EAT 'EM TO BEAT 'EM: INNOVATIVE USES FOR INVASIVE SPECIES

In an effort to illustrate the potential seafood market for invasive species, NMSF challenged local chefs to create hors d'oeuvres featuring Chesapeake wild blue catfish, an invasive species found in the Chesapeake Bay. Organized by Congressional Seafood Co., chefs from The Oval Room, Momofuku DC, Thames Street Oyster House, Clyde's Restaurant Group, and Congressional Seafood Co. created a variety of dishes for the reception, including blue catfish rilletes, Korean fried catfish, catfish sandwiches, catfish banh mi, and catfish escabeche. Invasive species were also featured at the Gala dinner as guests dined on southwestern Caesar salad with roasted northern snakehead (an invasive fish species found in Washington, DC-area waters and Maryland's Eastern Shore) and steamed blue catfish in lotus leaf.



Toby Moffett, a member of the NMSF Board of Trustees since 2015 and former four-term Congressman from Connecticut, served as the Ocean Awards Gala Master of Ceremonies. During his years in Congress, he was regarded as one of the top lawmakers on environmental protection.



📷 Saltwater Inc.

EYES ON THE WATER: Guiding Use of Advanced Technology for Monitoring U.S. Fisheries

Forty years ago, the Magnuson-Stevens Fishery Conservation and Management Act established the framework for managing U.S. fisheries in a sustainable manner through science-based processes and accountability. As part of this effort, the law mandates observer coverage on fishing vessels to monitor the type and amount of species caught. Traditionally, human observers filled this role, but today electronic monitoring and reporting (which includes simple and complex video and camera software systems) offers new opportunities to collect critical data on commercial fishing activities. Panelists at CHOW 2016 discussed the potential of monitoring technology to improve fisheries science and data collection; analyzed the pros and cons of using electronic monitoring and reporting; and addressed issues of data ownership, use, collection, and storage.



- Overall, panelists praised electronic monitoring as an excellent option for monitoring fisheries and providing accurate, reliable data to inform management decisions. Panelists suggested that electronic monitoring could provide a cost-effective complement to human observer programs, particularly in fisheries where the safety and logistics of providing human observers is a concern. Panelists also noted the need to develop protocols for cost-effective data storage (e.g., what data is stored and for how long).
- The accuracy and reliability of electronic monitoring can help build trust between government, fishermen, and fisheries management. Technology can also help complement and verify fishermen's on-the-water reports (e.g., bycatch discards) that were previously impossible to confirm.
- Currently, there are no standards for electronic monitoring data formats. The panel would like to see industry use more non-proprietary, open specification/open source software because it is adaptable to different users and data acquisition programs and would allow for greater flexibility in data review.
- Panelists also discussed some fishermen's concerns about protecting confidential and proprietary information in an age of electronic monitoring. One panelist has observed a generational shift between older fishermen who are more protective of their privacy and younger fishermen who have grown up in the sharing world of social media and are less concerned.
- While some panelists argued against "collecting data for data's sake," others were less troubled by data redundancy and believed that overlap can actually help bridge potential gaps in data sets. On a related note, panelists stressed the importance of adopting technology that aids and/or improves data collection and not just "pursuing new technology for technology's sake."

“[We need to ask] do we gain more by being more open and sharing our data...than we lose by sharing that information? Do we gain more by being more open in a time when this could get us more accurate, more real-time, faster data?”

– Kate Wing, Consultant, KW Consulting



In closing, panelists expressed optimism about the role of electronic monitoring and reporting in fisheries management and its potential to improve catch science and management decisions. In the future, the group envisions improved electronic monitoring data collection that is accurate, user-friendly, and cost-effective with high accountability and established performance standards. Challenges still remain, however, including the need to address software data collection storage issues and to reconcile differing opinions on data ownership and data sharing.



Opportunities and Obstacles for AMERICAN AQUACULTURE

In the past 20 years, world aquaculture production has become the fastest growing food-producing sector while development and acceptance of the American aquaculture industry has lagged, even though the U.S. remains a major importer of seafood. However, NOAA's recent decision to allow exploration of open ocean aquaculture in the Gulf of Mexico opens the dialogue about these prospects as well as the challenges. CHOW 2016 once again led the nation's ocean policy conversation by convening a panel to discuss this timely issue, the opportunities U.S. aquaculture presents, and what role it plays in these developments. Panelists praised the industry's recent improvements in efficiency and environmental practices; cited the importance of nurturing U.S. aquaculture's short- and long-term development; offered suggestions to improve the current laborious permitting process; and discussed the need to educate consumers to move the U.S. aquaculture industry forward.

- The U.S. aquaculture industry has made many improvements in recent years, including developing best practices, eco-certification, and ratings programs; using water more efficiently; improving equipment technology; and reducing the use of antibiotics and chemicals.
- Panelists stressed that wild-capture fisheries alone cannot satisfy the country's increasing demands for seafood. Aquaculture can help provide U.S. consumers with a moderately priced, high-volume product that alleviates pressure on wild-capture fisheries while meeting the overall demand for seafood.
- Moving forward, panelists agreed that the industry's short-term focus should be on long-term development. As such, the U.S. should develop a regulatory system that is more efficient and less expensive and helps develop domestic seafood stocks to meet the country's future needs.
- Securing permits for aquaculture farms is a difficult and lengthy process that can take decades. Currently, the industry relies on a complex maze of laws, jurisdictions, and agencies operating with little sense of urgency. Panelists advocated for the need to reduce the complexity of regulatory agency involvement, clarify the permitting process, and establish timelines for agency responses to permit requests.
- Increased education and awareness are necessary to help consumers understand aquaculture's value. Panelists suggested that the industry should engage consumers and emphasize the regulatory and safety aspects of U.S. aquaculture to make it an attractive alternative to imported aquaculture products.

Panelists concluded that the current regulatory structure would not engender an increase in U.S. aquaculture production. At this time, neither nutrition nor food security issues seem able to drive the regulatory changes that would make aquaculture an attractive business opportunity despite a general acceptance of farming as an appropriate way to produce seafood.





📍 Florida Department of Environmental Protection

In April 2016, a federal judge awarded a historic \$20.8 billion settlement for the 2010 Deepwater Horizon oil spill. BP will pay more than \$13 billion for restoration, recovery, and research activities in the Gulf to address the impacts to the coasts and offshore environments. Only a portion of the funds has been awarded thus far, making this a pivotal time to advocate for a strategic, comprehensive vision for Gulf restoration efforts. CHOW 2016 convened the major national and local decision makers to discuss the challenges facing restoration efforts; the importance of coordination and communication among stakeholders; and the need for transparency when allocating funds.



THE VISION FOR GULF RESTORATION

- Panelists agreed that attempting such a large-scale restoration effort poses daunting logistical challenges: the sheer size and complexity of the Gulf’s marine ecosystem will test physical and technical capabilities and few, if any, of the participating stakeholders have experience with projects of this size and magnitude.
- The Gulf restoration effort is juggling a diverse range of stakeholders operating within different timeframes. Therefore, coordination and open communication among participants will be crucial to restoration success.
- Panelists stressed the need to establish consistent metrics and science in monitoring efforts (e.g., annual milestones) to gauge long-term progress.
- Many local communities have developed science-based and community-driven projects but have been unable to implement them due to inadequate funding. The BP settlement provides a much-needed opportunity to kick-start these plans.
- When selecting projects, panelists suggested that funds should be distributed to projects that can deliver concentrated, large-scale impacts. Some panelists also proposed placing a high priority on projects that not only ensure restoration but also have deliberate processes that encourage consideration of resource deployment.
- Panelists emphasized the importance of transparency – including encouraging public engagement and holding open meetings – to build community trust and support for the funding allocation process.
- Project leaders face a complex landscape of funding sources and choosing the appropriate source for their projects can be confusing. Bringing key stakeholders together to explain the myriad funding priorities can help resource managers coordinate projects with the appropriate funders.



📍 Texas Parks and Wildlife

In the coming months and years, the settlement’s managing entities will be charged with reviewing, analyzing, and committing funding to restoration projects throughout the Gulf region. Panelists warned of the dangers of falling into the paradox of wanting the most thoughtful, strategic approach to restoration implemented as quickly as possible. Consequently, managing entities will strive to select projects that align with the region’s immediate needs while considering long-term planning goals in an effort to create a strategic, comprehensive vision for Gulf restoration efforts.

LOCAL VOICES AND TRADITIONAL KNOWLEDGE for a Sustainable Arctic Economy



📷 Jenny K. Evans

Scientific studies, reports, and media coverage continue to document the dramatic transformation in the Arctic and Indigenous Arctic communities are on the front lines of these changes. CHOW 2016 invited indigenous leaders to share their concerns for the changing environment and to discuss how local voices and traditional knowledge can help plan for a sustainable Arctic economy. The group touched on a variety of topics, including the effects of climate change on their communities; the potential loss of the traditional subsistence lifestyle; and the value Indigenous knowledge can bring to resource management discussions.

- Climate change is drastically and rapidly altering many Arctic communities' subsistence way of life. It has limited Indigenous communities' access to resources and altered their hunting practices by forcing them to either travel longer distances to find resources or to become opportunistic and take whatever resource is currently available.
- Another challenge these communities face is the inconsistent and unstable nature of the local economy. Job availability in the Arctic is seasonal and fluctuates annually, which adversely affects many Indigenous communities.
- The importance of indigenous/traditional knowledge and its ability to enhance science and inform resource management decision was a recurring topic. Panelists explained that traditional knowledge is more than simple observation: it is a cumulative body of knowledge, practices, and beliefs that is multi-generational, systematic, place-based, and offers valuable insight on Arctic resources and ecosystems.
- Communicating the needs and issues of subsistence communities to the rest of the country has been a consistent challenge. Panelists suggested searching for opportunities to emphasize similarities that can help bridge the different value systems between Arctic and "lower-48" communities.
- Panelists stressed that losing subsistence resources would likely result in the loss of Indigenous communities' identities, including their knowledge, language, and culture – "the whole fabric of life."



Panelists expressed concern about the potential loss of subsistence resources, identity, and traditional way of life in the face of increasing development and climate change in the Arctic. Moving forward, Indigenous communities are committed to being active ocean stewards, building partnerships to manage resources, and preserving ancestral connections to the environment. They would also like to see their communities consulted on management decisions and given greater opportunities to contribute to planning for a sustainable Arctic economy and a better future for Alaskan communities.

Superstorm Sandy's devastating impact on the New York, New Jersey, and Connecticut coasts in 2012 forced leaders to reassess how they build and prepare resilient communities in the face of increasingly severe storms, coastal erosion, and flooding. CHOW's signature Leadership Roundtable brought together representatives from federal government, academic institutions, and local leaders to discuss how their communities have been working together to promote smarter development, improve investments, utilize natural barriers, and reduce future economic losses.

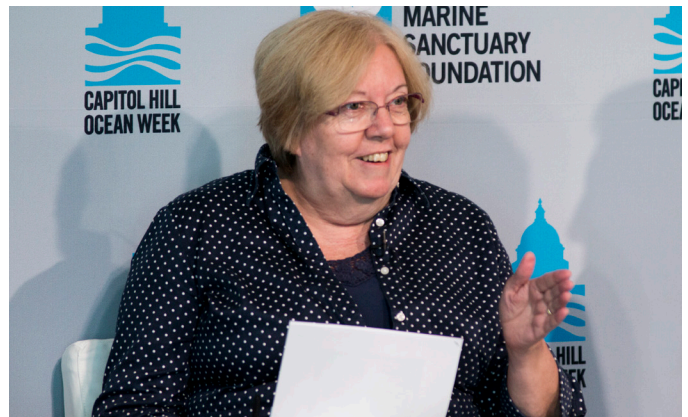


Connecticut Sea Grant

LEADERSHIP ROUNDTABLE: Community Action for Resilient Coasts

- While multiple agencies have made significant investments in helping people understand science, it's not clear that agencies have made science real, relevant, and actionable at the community level – which is where substantial decision-making happens. Panelists suggested agencies should “socialize the science” to make it clear and compelling for communities.
- People's perception of risk is typically based on personal experience, which can make communicating risk and science difficult at the local level. Agencies need to translate science and communicate it in a way that makes it relevant to local communities.
- Even though the best investments in resilience occur before an event or disaster, communities consistently fund resilience planning efforts after an event. Several panelists cited the need to build community and political commitment to make proactive investments in resilience.
- Local leaders are conducting workshops to record, inform, and educate the most vulnerable communities of potential dangers and crafting targeted messages to help them understand their risks. GIS databases are also becoming important tools to record and store information on vulnerable communities in high-risk areas.
- Few communities have the capacity to incorporate resilience strategies or practices into their plans and processes. Panelists recommended training planners, engineers, and elected officials to build these strategies into their mitigation efforts.
- Panelists emphasized the importance of consistently practicing emergency/contingency plans and exercises with relevant local stakeholders. Exercising idealistic scenarios can identify gaps and funding needs before an actual event occurs.

Panelists noted that even though there is a growing awareness of the connection between changes in coastal ecosystems and lowered community resilience, the inability to quantify ecosystem benefits could make it difficult for communities to appreciate the long-term investment value of healthy ecosystems. As a result, panelists reiterated the importance of investing in targeted and consistent communication, using correct tools to build resiliency, and developing a broad portfolio to help communities rebuild more resilient environments, communities, and economies.





A PLATFORM FOR CONGRESS

CHOW is the premier ocean policy conference held annually in our nation's capital. During CHOW 2016, several Members of Congress took the stage to address issues that their communities are facing, including the blue economy, climate change, and renewable energy. These issues extend from coast to coast, affect Americans every day, and will require strong leadership both on and off the Hill to address and seek solutions.

CHOW plays an invaluable role in the national dialog on ocean policy and governance. Members can raise issues that are priorities to their constituents or within their jurisdiction, and present those issues to a knowledgeable audience that spans the globe.

Thank you to the Members of Congress that spoke at CHOW 2016:



Senator Sheldon Whitehouse,
Rhode Island



Representative Don Beyer,
VA-08



Representative Alan Lowenthal,
CA-47

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Opening Keynote:

The Administration's Ocean Legacy

Christy Goldfuss | Managing Director, White House Council for Environmental Quality

Smart Investments in the Future of Our Ocean

Moderator: **Barry D. Gold** | Environment Program Director, Walton Family Foundation
Discussants: **The Honorable Sheldon Whitehouse** | U.S. Senate, Rhode Island and Co-Chair, Senate Oceans Caucus
Rob Brumbaugh, Ph.D. | Director of Ocean Mapping, Planning and Protection, The Nature Conservancy
Paul Holthus | CEO, World Ocean Council
Richard Spinrad, Ph.D., CMarSci | NOAA Chief Scientist, U.S. Department of Commerce
Kelly Wachowicz | Principal Advisor, Strengthening U.S. Fishing Communities Initiative

Our Blue Parks Legacy: the Next 100 Years of the Great Outdoors

Moderator: **Michael Conathan** | Director of Ocean Policy, Center for American Progress
Discussants: **Kriston Barnes** | Alumni, National Parks Service BioBlitz
Aimee David | Director of Ocean Conservation Policy and Initiatives, Monterey Bay Aquarium
Capt. **Lain Goodwin** | Owner and Operator, Dirty Waters Charters, Inc.
Solomon Pili Kaho'ohalahala | Kupa 'Āina o Lāna'i, Maunalei Ahupua'a Mauka-Makai Managed Area
Closing Remarks: **The Honorable Don Beyer** | U.S. House of Representatives, VA-08

The Power of Diversity to Strengthen the Ocean Movement

Moderator: **Darryl Fears** | Staff Writer, The Washington Post
Discussants: **Vice Admiral Manson K. Brown, USCG (Ret)** | Assistant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator, U.S. Department of Commerce
José González | Founder, Latino Outdoors
Marce Gutiérrez-Graudinš | Founder and Director, AZUL
Rachel Stewart | Volunteer Diver, Youth Diving with a Purpose

Information Age: Tracking and Enforcing IUU Fishing

Moderator: **Ian Urbina** | Investigative Reporter, New York Times
Discussants: **Michele Kuruc** | Vice President for Marine Policy, World Wildlife Fund – U.S.
Chris Lischewski | President and CEO, Bumble Bee Foods
Shah Selbe | Engineer and Conservation Technologist, National Geographic Society
Geo.Guy Thomas | Co-Founder, C-SIGMA Centre

Closing the Loop on Trash:

Innovation and Industry Leadership
Moderator: **Nicholas Mallos** | Director, Trash Free Seas Program, Ocean Conservancy
Discussants: **Keith Christman** | Managing Director for Plastic Markets, American Chemistry Council
Lynn Dyer | President, Foodservice Packaging Institute
Carla Friedrich | Programme Officer, UNEP Regional Office of North America
Erin Simon | Deputy Director for Sustainability Research & Development, World Wildlife Fund – U.S.

A Changing Offshore Energy Portfolio

Moderator: **Monica Trauzzi** | E&TV/E7E Publishing
Discussants: **Abigail Ross Hopper** | Director, U.S. Department of the Interior
Erik Milito | Group Director of Upstream and Industry Operations, American Petroleum Institute
Nancy Sopko | Manager, Advocacy and Federal Legislative Affairs, American Wind Energy Association
John Weber | Executive Director, Northeast Regional Ocean Council
Closing Remarks: **The Honorable Alan Lowenthal** | U.S. House of Representatives, CA-47

Eyes on the Water: Guiding Use of Advanced Technology for Monitoring US Fisheries

Moderator: **Kate Wing** | Consultant, KW Consulting
Discussants: **Christopher McGuire** | Massachusetts Marine Program Director, The Nature Conservancy
Nancy Munro | President, Saltwater, Inc.
Brad Pettinger | Director, Oregon Trawl Commission
Samuel D. Rauch III | Deputy Assistant Administrator for Regulatory Programs, NOAA National Marine Fisheries Service

Opportunities and Obstacles for American Aquaculture

Moderator: **Scott Nichols, Ph.D.** | Founder and CEO, Food's Future
Discussants: **Alan Cook** | Vice President for Aquaculture, Iccle Seafoods, Inc.
Kevan L. Main, Ph.D. | Senior Scientist, Mote Marine Laboratory
Harlon H. Pearce | Chairman, Gulf Seafood Institute and Managing Member, Harlon's LA Fish
Lisa Tucker | Seafood Watch Aquaculture Program Manager, Monterey Bay Aquarium

The Vision for Gulf Restoration

Moderator: **Annie Snider** | Reporter, POLITICO Pro
Discussants: **Robert Bonnie** | Under Secretary, USDA Natural Resources and Environment
Leslie Craig | Southeast Supervisor, Restoration Center, NOAA Office of Habitat Conservation
Michael Sharp | Director, Gulf Environmental Benefit Fund, National Fish and Wildlife Foundation
Roberta Swann | Director, Mobile Bay National Estuary Program

Local Voices and Traditional Knowledge for a Sustainable Arctic Economy

Moderator: **Raina Thiele** | Associate Director of Intergovernmental Affairs and Public Engagement, The White House
Discussants: **Austin Ahmasuk** | Marine Advocate, Kawerak, Inc.
Harry Brower, Jr. | Chairman, Alaska Eskimo Whaling Commission
Raychelle Aluaq Daniel | Senior Associate, The Pew Charitable Trusts
Vera Metcalf | Director, Eskimo Walrus Commission, Kawerak, Inc.

Leadership Roundtable: Community Action for Resilient Coasts

Moderator: **Sylvain De Guise, DMV, PhD.** | President, Sea Grant Association
Discussants: **Michael P. De Luca** | Senior Associate Director, Office of Research, Rutgers University
Laura Furgione | Deputy Assistant Administrator for Weather Services, NOAA's National Weather Service
John Haines, Ph.D. | Program Coordinator, Coastal and Marine Geology Program, U.S. Geological Survey
Denise Savageau | Conservation Director, Town of Greenwich, Connecticut



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