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The United States Federal Strategy for Addressing the Global Issue of Marine Litter

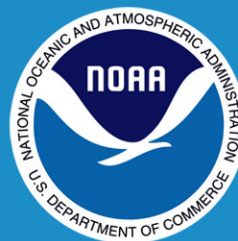


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Introduction

The United States prioritizes responsible and sound environmental policies, both at home and abroad. Various agencies throughout the federal government are leading global efforts to prevent and remove litter from entering our oceans. Marine litter, legally defined as “marine debris”¹, describes man-made solid materials that have been intentionally or accidentally released by humans into inland water bodies, near or on the shore, and in the open ocean.

In one year an average of eight million tons of marine plastic litter ended up in oceans across the world due to poor management of solid waste, insufficient infrastructure, littering, and dumping. In 2016, China was responsible for 7.4 percent of the world’s mismanaged plastic waste that entered into aquatic ecosystems (freshwater lakes, rivers, and oceans).ⁱ This mismanaged waste degrades our ecosystems, affects the health of marine life, and threatens sectors within the economy that rely on the well-being of the marine environment, including fishing and tourism. Further, waste that becomes marine litter often represents missed economic opportunity as many types of waste and scrap, including plastics, may be recycled into new products and re-enter commerce.

On October 11, 2018, President Trump signed the Save Our Seas Act, which directed the U.S. Government to continue its critical ongoing work of addressing the growing problem of marine litter in our oceans, both domestically and abroad.

“The United States has some of the most beautiful beaches and oceans in the world, and the coastlines are incredible. As President, I will continue to do everything I can to stop other nations from making our oceans into their landfills”
-President Donald J. Trump

¹ The NOAA Marine Debris Program is authorized by Congress to work on marine debris through the Marine Debris Act, signed into law in 2006 and amended in 2012 and 2018.

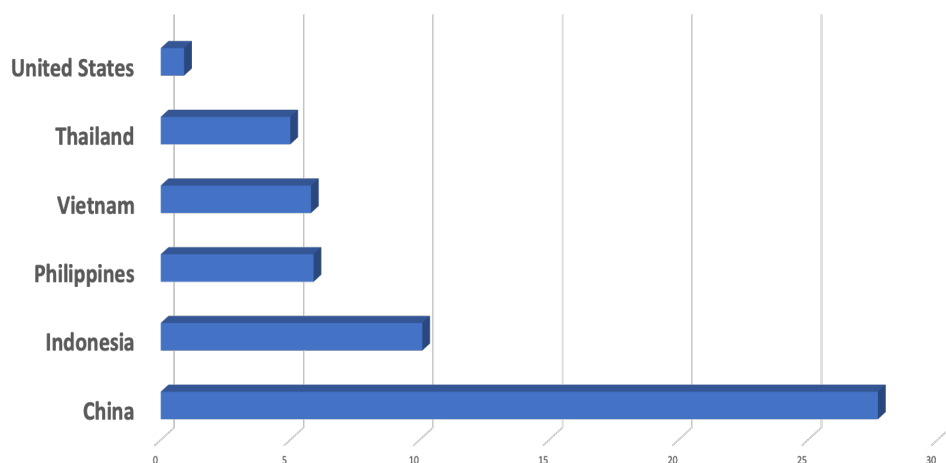
<https://marinedebris.noaa.gov/sites/default/files/2018%20Save%20our%20Seas%20Act%2C%20Title%20I%20%28S.%203508%29.pdf>

In addition to enhancing domestic efforts to prevent and reduce marine litter, President Trump also engages foreign governments and the private sector to hold them accountable and stop improperly managed waste from getting into the oceans. The recently signed United-States-Mexico-Canada-Agreement (USMCA) trade agreement includes commitments by parties to address both land-and sea-based marine litter as well as promote waste management infrastructure. In addition, Federal agencies including the Environmental Protection Agency (EPA), the National Oceanic and Atmospheric Administration (NOAA), U.S. Agency for International Development (USAID) and the Department of State (DOS) have improved interagency coordination and have been sharing expertise and resources with governments, organizations, and companies willing to address this global issue constructively.

DID YOU KNOW:

Five countries in Asia account for over half of the plastic waste input into the ocean – The People’s Republic of China (China), Indonesia, the Philippines, Thailand, and Vietnam.ⁱⁱ Specifically, data estimates are that China not only produces the largest quantity of plastic, nearly 60 million tons, but is the largest source of global plastic leakage, e.g., plastics that are not properly managed that leak into the environment.ⁱⁱⁱ A recent study estimates that 88 to 95 percent of the global load of river-origin mismanaged plastic originates from just ten rivers. Eight of the ten rivers are in Asia, and two of the top polluting rivers are Chinese, specifically the Yellow and the Yangtze rivers.^{iv}

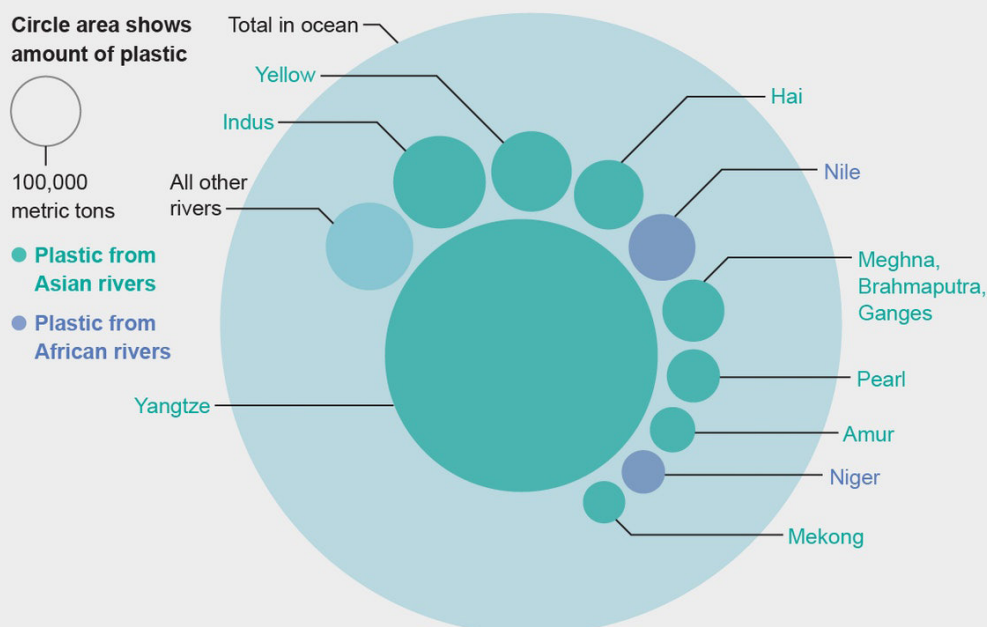
**Global Percentage of Mismanaged plastic waste by Country
in MMT/year**



As shown in the figure to the left, the most recent data indicates that China contributed the highest share of mismanaged plastic waste with around 28 percent of the global total, followed by Indonesia (10 percent), the Philippines and Vietnam (both 6 percent), and Thailand (5 percent).

The U.S. is 20th on this list, responsible for less than 1 percent of mismanaged plastic waste.

Top 10 Polluters



Source: Amanda Montañez; Source: "Export of Plastic Debris by Rivers into the Sea," by Christian Schmidt et al., in *Environmental Science & Technology*, Vol. 51, No. 21; November 7, 2017.

Marine Litter Costs

A recent study noted that marine litter hurts tourism and fishing, among other industries reliant on the marine ecosystem, and is estimated to cost the world, an average of \$264 billion annually.^{2 v}

Domestically, potential economic losses can be experienced across the country. In Orange County, California, a 2018 study estimated that doubling the amount of marine litter on beaches would result in an estimated loss of \$414 million in tourism dollars, and a decrease of nearly 4,300 jobs.^{vi} Additional economic costs from marine litter may include those associated with clean-up operations including litter removal. Communities along the West Coast of the U.S. spend over half a billion dollars a year on the clean-up of beaches and waterways, street-sweeping, the installation of storm-water capture devices, the cleaning and maintenance of storm drains, the manual clean-up of litter, and public anti-littering campaigns to clean up and prevent marine litter.^{vii}

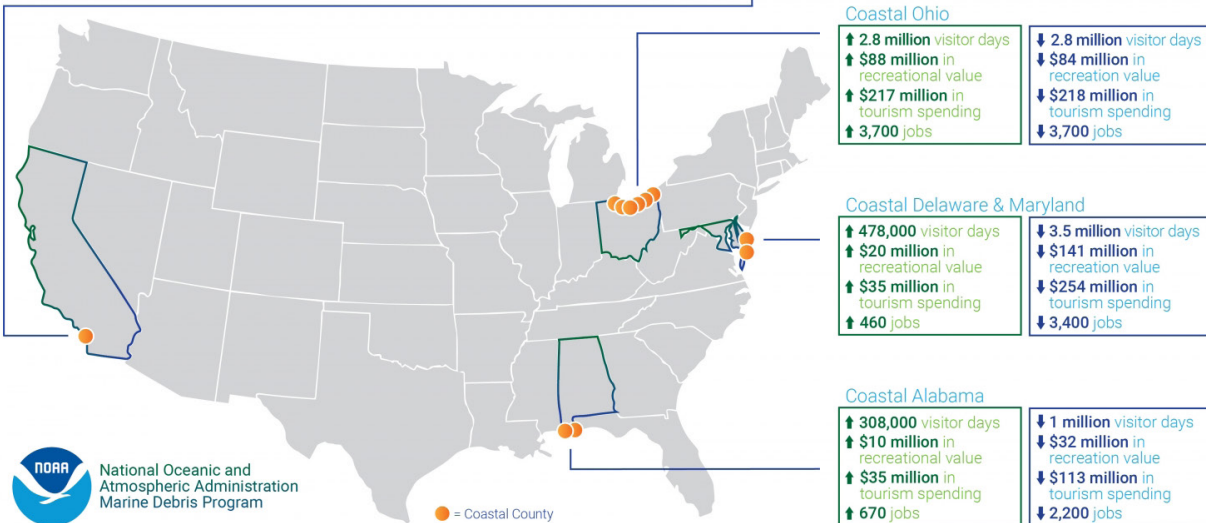


Photo Credit: NOAA

² Annual number extrapolated from the mid-range of \$3300-\$33,000 per ton of marine plastic/per year.

The Economic Impacts of Marine Debris on Beaches

The NOAA Marine Debris Program funded a study with Abt Associates to better understand the economic impacts of marine debris on beaches. The results of the study showed that the varying amounts of marine debris on beaches can have an impact on the number of days visitors spend on those beaches, resulting in changes to the amount of tourism dollars spent, the number of local jobs, and the value of beach recreation.



Together, We Can Address the Challenge

Marine litter is clearly a complex, global problem. Nonetheless, we know from experience that progress is possible, particularly when the public and private sectors work together with engaged citizens. This environmental challenge also presents an opportunity. Plastic and other materials can be recovered and recycled, creating sustainable supply chains and jobs across a diverse set of industrial sectors, but only if we can work together globally to find solutions.

This document contains various components. It first identifies the challenges of marine litter. It also highlights our federal government's four pillars for tackling the issue and for finding economic opportunities while doing so. The document identifies existing U.S. legal authorities and existing federal programs already underway and that are working hard to address the challenges of marine litter. Finally, this document identifies how the four pillars will continue to address the top two sources of marine litter prospectively.

It is important to note that the overall strategy presented in this document draws upon previous experiences in the management of domestic marine litter and recyclable materials throughout government, the private sector and non-governmental sectors.³ It is also informed by international efforts aimed at stopping the flow of waste into our waters and create economic opportunities through recovery and recycling of waste materials before they become marine litter.

³ This strategy includes a long-term planning horizon that can be used to inform future actions, but is not representative of formal federal funding commitments.



Defining the Challenge: What is Marine Litter?

Marine litter includes any persistent solid material that is manufactured or processed and is directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment. In other words, it is human-created waste that is discharged into the marine environment from land or sea. Uncollected waste accounts for 75 percent of plastic waste that ends up as marine litter.^{viii} Global waste generation will increase 70 percent by 2050 from 2.01 billion tons today to 3.4 billion tons of waste generated annually in 2050. Sub-Saharan Africa and South Asia will increase the fastest, generating 35 percent of all global waste.^{ix} The most common materials that make up marine litter are plastics, glass, metal, paper, cloth, rubber, and wood. Plastics make up 80 percent of all marine debris from surface waters to deep-sea sediments.^x Marine plastic litter is particularly problematic because it is unlikely to biodegrade under marine conditions and has the propensity to wash up on beaches due to its buoyancy. Plastic is light and easily transported by wind, rain and weather - unique characteristics that differentiate it from other parts of the waste stream. Plastic waste is often the most visible component of marine litter. It is largely these factors that have drawn an increasing amount of attention to the problems and impacts associated with plastic waste.

Reduced global demand for recyclable goods due in large part to China's National Sword policy is an important reality facing countries attempting to improve their solid waste management systems. China's National Sword policy, enacted in January 2018, abruptly banned the import of most plastic scrap and other materials. Prior to this policy, most of the world sent its scrap material to China to be processed into raw materials and eventually manufactured into valuable products. By the beginning of 2021, a full ban on unprocessed scrap materials will go into effect, which will further disrupt the global market for recyclable commodities.

The Two Main Sources of Marine Litter

Land-based Sources

Rivers and other waterways are common entry points for land-based waste to enter the marine environment. Marine litter from land-based sources comes primarily from littering, dumping, and poor waste management practices.

Sea-based Sources

Marine litter from sea-based sources, like cargo, solid waste, and fishing gear, come from shipping vessels, ferries and cruise liners, fishing vessels, private vessels, and other industry infrastructure. Abandoned, lost, or otherwise discarded fishing gear is the most prevalent source of sea-based marine litter and can be the most damaging from both an economic and environmental perspective. Discarding fishing gear leads to the entanglement of marine species, the smothering of coral reefs and other critical habitats, and navigational hazards to safety at sea.^{xi}



Photo Credit: NOAA



Photo Credit: NOAA

The U.S. Strategy for Success: Four Pillars

Building on a longstanding, successful, and holistic nationwide approach, the following four pillars for addressing marine litter can be replicated and adapted throughout the world:

1. **Building capacity** for better waste and litter management systems, including through improving infrastructure, government coordination, and public education and engagement.
2. **Incentivizing the global recycling market** in partnership with the private sector.
3. **Promoting research and development** for innovative solutions and technology.
4. **Promoting marine litter removal, including litter capture systems** in seas, rivers and inland waterways.

Following these four pillars, the U.S. has leveraged our expertise and a range of regulatory authorities and current funding sources to create both domestic and international programs aimed at preventing and reducing marine litter.

U.S. Legal Authorities for Addressing Marine Litter

Robust environmental regulations and laws that reinforce the systems for the management of solid waste are critical to preventing marine litter. This document highlights Federal government laws, regulations, and initiatives are highlighted here, but it is important to understand that state and local laws, regulations, and initiatives, as well as voluntary efforts undertaken by private companies and ordinary citizens acting individually and in association with one another, are also crucial to preventing and addressing the consequences of marine litter in the U.S.

In the U.S., the Federal Government establishes minimum national criteria for solid waste facilities through the **Resource Conservation and Recovery Act**, which ensures that the management of waste is done so in an environmentally sound manner.

To prevent waste from entering the ocean, efforts to capture and dispose of solid waste also should involve systems to manage stormwater and wastewater. The **Clean Water Act** requires the development of standards for addressing waters impaired by pollutants, including solid waste.

The primary authority for the U.S. to prevent and respond to marine debris is the **Marine Debris Act**, originally passed in 2006 and amended in 2018 when President Trump signed the Save Our Seas Act of 2018. The Marine Debris Act established the National Oceanic and Atmospheric Administration (NOAA) Marine Debris Program (MDP) to “identify, determine sources of, assess, prevent, reduce, and remove marine debris and address the adverse impacts of marine debris on the economy of the United States, marine environment, and navigation safety.” This program has occurred in the Atlantic and Pacific Oceans as well as the Great Lakes.

The Save Our Seas Act also encourages the U.S. Government Departments and Agencies to work with representatives of the governments of foreign countries that discharge the largest amounts of solid waste from land-based sources into the marine environment, to develop mechanisms to reduce such discharges.



Photo Credit: NOAA

Ongoing U.S. Initiatives Addressing Marine Litter

Various initiatives are taking place across U.S. Federal Departments and Agencies to address marine litter, including but are not limited to, the following:

- NOAA's **Marine Debris Program** has provided over \$24 million in funding to local partners for prevention, removal, and research initiatives to address marine debris. Thus far, the program has resulted in the removal of over 22,000 metric tons of marine debris from U.S. waters, engaged with more than 65,000 students on marine debris prevention activities, developed 12 marine debris response guides and 11 regional action plans.
- Since its inception in 2013, **Trash Free Waters Program** of the Environmental Protection Agency (EPA) works with local stakeholders to assist U.S. communities with addressing land-based sources of marine litter. In 2020, EPA awarded over \$7.8 million to 17 recipients within the Gulf States for innovative projects focused on reducing the amount of litter in our waterways through waste prevention and/or removal. EPA will award an additional \$2.1 million through the Great Lakes Restoration Initiative Trash Free Waters Grant Program established under President Trump to address marine litter within the Great Lakes watershed.
- EPA's **Sustainable Materials Management Program** is a systemic approach to using materials more productively over their entire lifecycles. EPA uses several voluntary programs to achieve environmental, economic, and social results, including America Recycles, the Sustainable Materials Management Electronics Challenge, WasteWise, and the Wrap Recycling Action Program.
 - ◊ **America Recycles** – The EPA-led America Recycles effort grows and strengthens the U.S. recycling system through multi-stakeholder collaboration. EPA convenes stakeholders from across the recycling system in working groups and at an annual America Recycles Summit. At the inaugural Summit in 2018, EPA and 44 stakeholders pledged to work together to

devise solutions to improve the U.S. recycling system. Today, the America Recycles Pledge has 250 signatories. In November 2019, after a year of collaboration with stakeholders from across the recycling system, EPA released the National Framework for Advancing the U.S. Recycling System. In October 2020 EPA released a draft National Recycling Strategy and in November 2020, EPA will announce national recycling goals.

- ◇ **Sustainable Materials Management Electronics Challenge** – EPA encourages electronics manufacturers, brand owners, and retailers to strive to send 100 percent of the used electronics they collect – from the public, from other businesses, and within their own organizations – to third-party certified refurbishers and recyclers of electronics. Participants in the challenge kept nearly 194,500 tons of used electronics from landfills in 2018.
 - ◇ **WasteWise** – EPA works with businesses, governments, and nonprofit organizations to promote the use and reuse of materials more productively over their entire life cycles. Partners demonstrate how they reduce waste, practice environmental stewardship, and incorporate sustainable materials management into their business model, including their waste-handling processes. Participants in WasteWise have prevented more than 247 million tons of waste from going to the landfill since 1994.
 - ◇ **Wrap Recycling Action Program (WRAP)**– In 2016, EPA signed a Memorandum of Understanding (MOU) with the Flexible Film Recycling Group of the American Chemistry Council (ACC) and the Sustainable Packaging Coalition on ACC’s WRAP. WRAP aims to create opportunities for consumers to recycle polyethylene film packaging, to educate consumers about these opportunities, and to build demand for recycled film and for products that contain recycled film.
- EPA’s **National Coastal Condition Assessment** is a statistical survey that assesses the condition of the coastal waters of the U.S., including the Great Lakes, to provide the public and decision-makers with nationally consistent and representative information on the condition of the Nation’s waters. EPA uses the survey’s findings to identify and mitigate challenges where they exist, and to protect areas that are still in good condition.
- The **Commission for Environmental Cooperation’s Stormwater Runoff and Marine Litter Prevention Program** has implemented four projects to reduce marine litter in North America. The first project by the Governments of the US (EPA), Mexico and Canada involved transboundary watersheds and focused on reducing litter in storm drains by installing litter capture devices in Vancouver, British Columbia, and Bellingham, Washington. The second project raised awareness on the Tijuana watershed at the U.S.- Mexico border through environmental-education campaigns in schools, community organizations, and businesses. The third project is ongoing and will provide key decision-makers in Canada, Mexico, and the U.S. with a guide to engaging stakeholders in North America successfully. The last project is aimed at inland North American communities that struggle to understand their impact on marine litter. These educational materials are designed to be ready-to-use and adaptable. They will offer municipalities, non-governmental organizations (NGOs), and educational institutions the ability to deliver highly effective, professional programs to raise awareness of litter-prevention that are relevant to their communities and require minimal investment.
- The Department of Energy (DOE) **Plastic Innovation Challenge** is a comprehensive program to accelerate innovations that will dramatically reduce plastic waste in oceans and landfills and will position the U.S. as a global leader in advanced plastics collection and recycling technologies

and in the manufacture of new plastics that are recyclable by design. Building from a foundation of prior investment and capabilities, DOE expanded their efforts in degradation, recycling and upcycling of plastics including:

- ◇ Launched two Energy Frontier Research Centers - the Center for Plastics Innovation (\$11.65 million) and the Institute for Cooperative Upcycling of Plastics (\$12.8 million).
- ◇ Issued a \$25 million funding opportunity announcement titled: Bio-Optimized Technologies to Keep Thermoplastics out of Landfills and the Environment (BOTTLE) funding opportunity announcement.
- ◇ DOE's Advanced Research Projects Agency-Energy (ARPA-E) piloted a \$4 million exploratory program for plastics conversion to fuels through the REcycle Underutilized Solids to Energy (REUSE) program.
- ◇ Reducing EMbodied-energy And Decreasing Emissions (REMADE), a Manufacturing USA Institute funded by DOE, issued a \$35 million call for proposals that included plastic recycling as a key topic area.
- ◇ Supported efforts that directly address ocean plastic waste, including the Small Business Innovation Research (SBIR) program providing \$1 million to fund five Phase I projects to develop Novel Utilization Strategies for Ocean Plastic Waste.

Additional Ongoing International Efforts to Address Marine Litter

- EPA's **Trash Free Waters International**, modeled after the Trash Free Waters domestic initiative, works with key stakeholders to assist international communities with addressing land-based sources of marine litter. Started in 2016, Jamaica, Panama and Peru have benefitted from this assistance through the increased awareness, collection, and segregation of waste in five communities.
- **International Technical Exchanges** are an important mechanism for sharing information on approaches to address marine litter through proper management of solid waste, including preventing and reducing marine litter in waterways and, the use of innovative technologies, and the use of related tools and resources. A recent example includes the EPA-led government-to-government webinar with Brazil to share U.S. approaches, initiatives, and tools and resources to address land-based sources of marine litter. Another technical exchange is planned with the United Kingdom to share approaches on successful international cooperation to reduce marine litter..
- **Municipal Waste Recycling Program** funded by the U.S. Agency for International Development's (USAID) reduces land-based sources of marine plastic pollution by providing grants and technical assistance worth \$14 million to local organizations to improve efforts in recycling and the management of solid waste. To date, through recycling and improved practices in the management of solid waste, the program has diverted over 3,100 metric tons of plastic waste from the natural environment. The program has awarded 30 locally led grant projects that have benefitted 3.3 million people in Indonesia, the Philippines, Sri Lanka, and Vietnam.
- **Clean Cities, Blue Ocean (CCBO)** is USAID's \$48 million flagship, five-year, global program that works in rapidly urbanizing countries across Asia and Latin America to target marine plastics directly at their source. CCBO works to improve systems that manage solid waste, build capacity and commitment to the "3Rs" (reduce, reuse, recycle) and promote sustainable social and behavior

change. CCBO initial focus countries include the Philippines, Vietnam, Sri Lanka, Maldives, the Dominican Republic and Peru.

- USAID's partnership with **Circulate Capital** incentivizes private investment in the recycling value chain in South and Southeast Asia. USAID provided a \$35 million through the U.S. International Development Finance Corporation, which Circulate Capital used to leverage more than \$100 million in private-sector capital from multinational companies, including PepsiCo, Procter & Gamble, Dow, Danone, Unilever and Coca-Cola.
- USAID is working with the **Alliance to End Plastic Waste**, an international organization that brings together more than 50 companies from across the plastics value chain that have committed collectively to investing \$1.5 billion in solutions to end plastic waste. USAID and the Alliance will deploy innovative, locally appropriate technologies, infrastructure, and business models to improve waste management and recycling in high-source cities.
- The **Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Area and its Land-Based Sources Protocol** are agreements that obligates Contracting Parties to address pollution from marine litter, nutrients and wastewater. EPA serves as the chair for the Open-Ended Working Group that advises the Secretariat for the Convention on efforts aimed at protecting the wider Caribbean region's waters, including pollution from marine litter.
- **Asia Pacific Economic Cooperation (APEC) Forum Engagement** in the Oceans and Fisheries Working group which has taken the lead for the APEC in tackling marine litter. Department of State (DOS) works closely with stakeholders to focus attention on combating marine litter using environmentally sound waste management best practices, innovation, and outreach. DOS secured the development of a marine litter management and innovation APEC-managed sub-fund and provided initial support of \$800,000.
- The **Global Ghost Gear Initiative** is the preeminent global organization of national governments, NGOs, and industry with the objective of combating abandoned, lost, or otherwise discarded fishing gear.
- **Marine Debris Grants** funded by the Department of State (DOS) has administered over \$5 million dollars in, **Waste Management Grants, and CAFTA-DR** small grants that help address marine debris from both land-based and sea-based sources. These grants support our partners in addressing all aspects of marine litter, from improving environmentally sound waste management capacity to raising public awareness about how marine litter negatively impacts local lives.



Stakeholder Feedback on Ongoing U.S. Initiatives

WHAT THEY ARE SAYING:



“There is no silver bullet to solving ocean plastic and scaling global recycling — investing in public education without infrastructure won’t achieve results, and vice versa. It is a systems challenge that requires systems solutions.”

- Rob Kaplan
Founder and CEO, Circulate Capital



“The work we will undertake with USAID advances the Alliance’s commitment to work through partnerships to develop, incubate and deploy projects in local cities and communities that support the goal to end plastic waste in the environment. Partnerships, such as this one, allow us to prove and accelerate solutions that will unlock capital investments, which are necessary to tackle the plastic waste challenge.”

- Jacob Duer, President and CEO
Alliance to End Plastic Waste



“To support prevention internationally, we [US Congress] can continue to provide funding through USAID and other bilateral initiatives, which I have seen give NGOs the opportunity to catalyze action, improve infrastructure and the economy, in countries like Vietnam, Philippines and Indonesia. [The US should continue to] show support for global initiatives to assist with the reduction of plastic entering the ocean and improvement of waste management infrastructure development around the world, along with technology and knowledge transfer to other countries on solid waste management through, for example, the U.S. State Department, US EPA and NOAA.”

- Dr. Jenna Jambeck, PhD, leading global expert on marine plastic waste
College of Engineering, University of Georgia^{xii}



U.S. Strategy for Success: Implementing the Four-Pillars

The U.S. strategy has proven a successful approach for addressing marine litter and can be replicated or adapted throughout the world to address both land and sea-based sources of marine litter. Below are numerous strategies to successfully implement the four pillars of success:

Utilizing the Four Pillars in Addressing Land-Based Sources

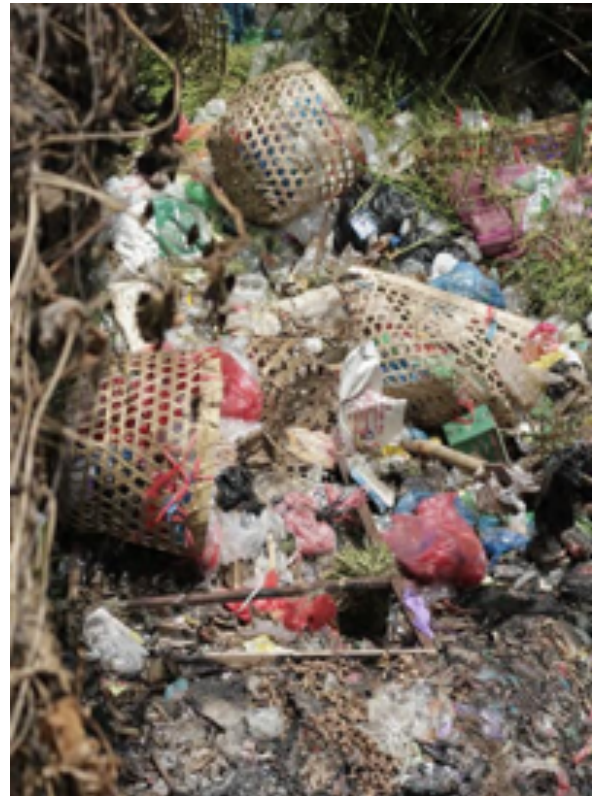
1. Building capacity through locally led development to provide skill development, training, and providing critical resources for success, including:

- Strengthening infrastructure of port reception facilities to effectively manage waste from ships.
- Developing infrastructure for environmentally-sound management of solid waste that enhances the value of recyclable materials;
- Identifying and supporting projects that will establish, improve, or scale up waste management capacity in local systems;
- Connecting partner countries with sources of financial assistance for waste infrastructure projects;
- Engaging the informal waste sector;
- Supporting the development and enforcement of robust laws, regulations, and policies, including relevant trade policies;
- Conducting educational outreach on the impacts, prevention, and management with industry sectors that contribute to waste entering the ocean
- Equipping local stakeholders with the information and tools to mobilize financial resources; and

- Enhancing the participation of citizens and encouraging behavior change through education to reduce waste, littering, and illegal dumping.

2. Incentivizing the global recycling market in partnership with the private sector, including through the following:

- Endorsing market-based incentives to encourage waste minimization and strengthen application of proper waste storage at sea, and disposal/recycling at port reception facilities.
- Advocating for efforts that recycle retired and/or retrieved fishing gear into new products.
- Improving the financial sustainability of services to manage solid waste;
- Pursuing policies that incentivize innovative eco-friendly product design, manufacturing, and packaging of products; and
- Supporting and promoting the role of the private sector.



3. Promoting research, development and application of innovative approaches and technology, including through the following:

- Supporting the development and promote the use of innovations in fishing gear design and application to reduce gear loss, such as through NOAA's Fishing for Energy program.
- Supporting the role of the academia, NGOs, and the private sector;
- Connecting impact investors in environmentally sound technology operations and infrastructure partner countries to help boost or develop waste-reducing technology; and
- Promoting international monitoring efforts to compile assessments that identify existing assets and deficiencies regarding waste management through a multi-stakeholder-based approach that prioritizes implementation needs.

4. Promoting marine litter removal, including through litter capture systems in rivers and inland waterways, including:

- Supporting removal efforts for abandoned, lost, or derelict fishing gear, including local-level cleanup initiatives;
- Supporting removal efforts in coastal conservation areas such as Federal, state, and local parks and protected habitats
- Developing local watershed management, litter capture, and river cleanup programs.



Utilizing the Four Pillars in Addressing Sea Based Sources

1. Building capacity for waste management and litter management systems, including:

- Developing and helping to facilitate the implementation of industry Best Management Practices designed to minimize the abandonment of vessels and the accidental loss of cargo, solid waste and gear at sea;
- Building capacity to implement, monitor, and enforce compliance with national and local legislation and relevant international instruments and agreements addressing sea-based sources of marine litter

2. Incentivizing the global recycling market in partnership with the private sector, including:

- Advocating for efforts that recycle retired and/or retrieved gear into new products.

3. Promoting research, development and application of innovative approaches and technology, including through the following:

- Supporting the development and promoting the use of innovations in the design and application of gear to reduce gear loss at sea, such as through NOAA's Fishing for Energy program.
- Expanding the application of advanced technologies to marine debris prevention and removal.

4. Promoting removal of sea-based sources of litter, including:

- Developing resources and guidance to assist in the assessment, removal, and disposal of abandoned and derelict vessels.
- Developing and promoting the use of fishing gear modifications or alternative technologies.



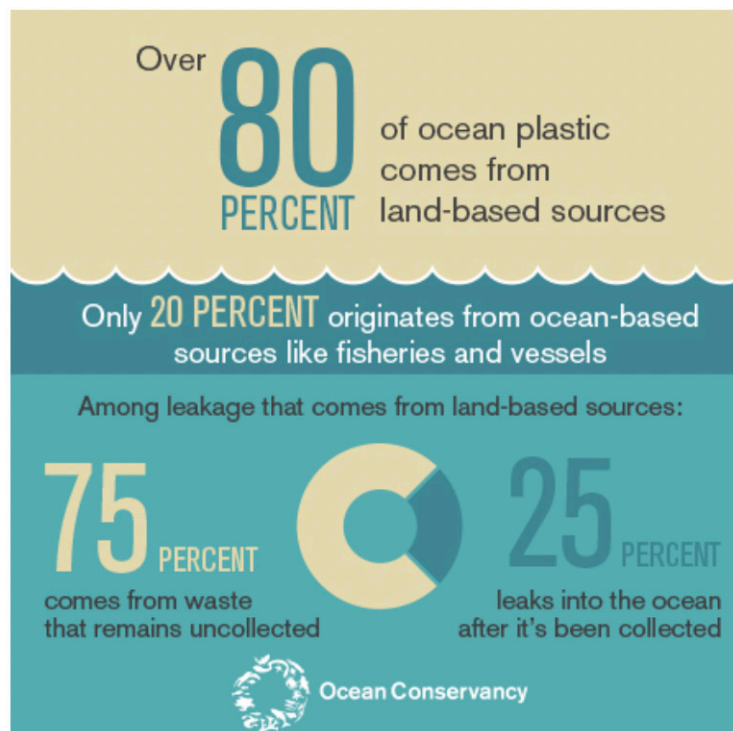
Photo Credit: NOAA

Moving Forward

The U.S. is committed to continuing our leadership role to prevent and reduce marine litter globally by sharing scientific and technical expertise with public and private partners, while looking for innovative ways to strengthen existing partnerships. A key focus of the U.S. international collaboration will be to pursue new partnerships with key major source countries -- for example, Indonesia, Thailand, Vietnam, the Philippines, and Sri Lanka — and important partners in the region such as Japan.

Future U.S. International Efforts to Address Land-based Sources

- Continuing to identify, incubate and scale successful and replicable approaches to improving the management of solid waste and recycling in high-source countries as under USAID's Municipal Waste Recycling Program and Clean Cities, Blue Ocean.
- Expanding EPA's Trash Free Waters International program to additional countries to support in-country projects in key countries in Asia, Latin America, and the Caribbean that address marine litter and waste management issues and sharing tools such as the Trash Free Waters Guide.



- Sharing waste management approaches, including recycling, and expertise for use by key countries to support their ongoing marine litter and solid waste management initiatives, in part by sharing tools such as the Solid Waste Management Guide for Developing Countries.
- Working in coordination with APEC, focusing on APEC economies, many of which are large contributors to help build capacity to prevent and reduce marine litter through improved waste management and recycling infrastructure, especially collection and separation.
- Working with major source countries in Asia and Latin America through MOUs to build institutional capacity at the national and local level to attract financial investment for improvements to the infrastructure for recycling and the management of solid waste and recycling infrastructure improvements.
- Sharing the U.S. Environmental Solutions Toolkit, which will include recycling and solid waste management technologies, with governments and the private sector in major source countries.

Future U.S. International Efforts to Address Sea-based Sources

- Conducting ocean-user education and outreach on impacts, prevention, and management of marine litter in major source countries.
- Developing incentives and markets to minimize waste and strengthen proper storage of waste at sea, and its recycling and disposal at port reception facilities.
- Developing and strengthening implementation of industry best management practices designed to minimize the abandonment of vessels and the accidental loss of cargo, solid waste, and gear at sea.
- Developing and promoting the use of modifications to fishing gear or alternative technologies.
- Implementing the U.S. Fishing for Energy program, which provides fishermen with no-cost opportunities to dispose of their old and unused fishing gear, which is converted into electricity. Promoting the Voluntary Guidelines on the Marking of Fishing Gear, which promotes fishing methods that pose fewer environmental risks.



Photo Credit: NOAA



Conclusion

The flow of mismanaged waste into our waters is threatening critical natural resources, economies, and industries around the world. The Trump Administration is committed to continue leading global efforts to prevent and reduce marine litter.

The United States Federal Strategy for Addressing the Global Issue of Marine Litter provides a holistic approach to preventing and reducing marine litter. Moreover, it can serve as a model for governments and the private sector to identify strategic methods for building capacity in systems to manage and recycle waste and litter. Some of these may include improving infrastructure, collection systems, government coordination, and public education and engagement, incentivizing the global recycling market in partnership with the private sector; advancing research into, and the development of innovative solutions and technology; and promoting the removal of marine litter.



Appendix

- i Borrelle et al., “Predicted Growth In Plastic Waste Exceeds Efforts to Mitigate Plastic Pollution” in *Science*, 369, (2020): 1515–1518
- ii Ocean Conservancy, *Stemming the Tide: Land-based Strategies for a Plastics Free Ocean Report* (2015): 44 (note: this data point was calculated by Our World in Data (OWID), based on per capita plastic waste generation data published by Jambeck (2015) and total population data published by in the World Bank, World Development Indicators).
- iii J. R. Jambeck, R. Geyer, C. Wilcox, T. R. Siegler, M. Perryman, A. Andrady, R. Narayan, and K. L. Law, “Plastic Waste Inputs from Land into the Ocean” in *Science*, 347, no. 622 (2015): 769- based on 2010 data
- iv C. Schmidt, T. Krauth, S. Wagner, “Export of Plastic Debris by Rivers into the Sea” in *Environ. Sci. Technol.*, 51, no. 21, 12246–12253 (2017):12250-12252
- v N Beaumont, M Aanesen, M. Austen, T. Börger, J. Clark, M. Cole, T. Hooper, P. Lindeque, C. Pascoe, K. Wyles, “Global Ecological, Social and Economic Impacts of Marine Plastic” in *Marine Pollution Bulletin*, 142 (2019):189-195.
- vi U.S. National Oceanic and Atmospheric Administration (NOAA), *The Effects of Marine Debris on Beach Recreation and Regional Economies in Four Coastal Communities: A Regional Pilot Study Final Report* (2019): vii
- vii U.S. Environmental Protection Agency, Region 9, *The Cost to West Coast Communities of Dealing with Trash, Reducing Marine Debris* (2012): 1
- viii Ocean Conservancy, *Stemming the Tide: Land-based Strategies for a Plastics Free Ocean Report* (2015): 7
- ix World Bank, “What a Waste 2.0” (2018)
- x Marine Debris: Impacts on Ecosystems and Species.” Statement of Stephen Guertin, Deputy Director of U.S. Fish and Wildlife Service, Department of the Interior before the Subcommittee on Interior, Environment, and Related Agencies House Committee on Appropriations on Marine Debris. September 19, 2019. <https://www.doi.gov/ocl/marine-debris-impacts>
- xi UNEP GESAMP (2019), *Guidelines for the Monitoring and Assessment of Plastic Litter in the Ocean*
- xii J.R. Jambeck, PhD, testimony before U.S. House Of Representatives Subcommittee on Water, Oceans, and Wildlife Committee on Natural Resources Hearing on *Plastic’s Impact on Oceans* (2017)





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