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Statement of
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INTRODUCTION

Chairman Barrasso, Ranking Member Udall and distinguished members of the subcommittee, thank you for the invitation to testify today on the programs, policies and resources of the Bureau of Oceans and International Environmental and Scientific Affairs (OES) at the State Department. The OES Bureau traces its beginnings within the Department back to 1973. In 1973, Congress passed a State Department authorization bill (Public Law 93-126) establishing OES with wide-ranging global responsibilities, including science, pollution, conservation, and health, to name a few. From an historical perspective, the Bureau was created against the backdrop of space exploration and landmark legislation establishing the Clean Water, Clean Air, and Marine Mammal Protection Acts, among others. At a time when foreign policy was viewed through the lens of the Cold War, Congress correctly saw the need for these issues to be treated as an integral part of our foreign policy. Since 1973, OES Assistant Secretaries and the many foreign and civil servants in OES have worked hard to this end. Today, OES issues are front and center on the international agenda and are recognized worldwide as critical foreign policy and security issues. Our foreign policy efforts to address these fundamental topics are more critical than ever.

Changes to our organizational structure are helping OES meet the opportunities presented by the rising prominence of these foreign policy challenges. The Department's first Quadrennial Diplomacy and Development Review (QDDR), released in 2010, realigned the three Bureaus addressing economic growth, energy and the environment under the Office of the Under Secretary for Economic Growth, Energy and the Environment. This realignment has created new synergies among the three bureaus to strengthen America's security and prosperity and has fueled the evolution of our diplomacy and development strategies. The just released 2015 QDDR contains further evidence of the priority placed upon OES issues, and the incorporation of these issues into the broader diplomatic and development mainstream.

As coordinator of the interagency process for many international ocean, environmental, scientific and health issues, OES brings federal entities together such as the National Oceanic and Atmospheric Administration (NOAA), U.S. Agency for International Development (USAID), the Environmental Protection Agency (EPA), the National Science Foundation (NSF), and the Department of Health and Human Services (HHS), to meld our collective agendas into coherent U.S. government policies, negotiating positions and programs. We integrate into this work the interests of private stakeholders (including non-governmental domestic and international entities). Against this backdrop, I will now turn to a description of the Bureau's major program

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priorities; address how they serve U.S. national and economic interests; and describe some of our plans moving forward.

SEIZING THE MOMENTUM ON OCEAN ISSUES

Secretary Kerry has made ocean conservation a centerpiece of U.S. foreign policy, including by hosting the groundbreaking “Our Ocean” Conference in Washington last June. The conference was a tremendous success, spurring new partnerships and initiatives valued at more than \$800 million to conserve the ocean and its resources, as well as new commitments on the protection of more than 3 million square kilometers of the ocean.

In the wake of that conference, we have made significant progress on sustainable fishing, marine pollution and plastics, ocean acidification, and marine protected areas. For example, the Administration just rolled out its historic plan to fight illegal, unreported, and unregulated fishing and seafood fraud. This plan, developed by the Task Force on Combating Illegal, Unreported, and Unregulated Fishing and Seafood convened by the President provides a comprehensive framework of integrated programs to combat IUU fishing and seafood fraud. The plan breaks new ground in sustainable fisheries and aims to level the playing field for legal fishers and fishing businesses in the United States and around the world by strengthening enforcement, creating and expanding partnerships among local, regional, and international actors, and creating a risk-based traceability program to track seafood from harvest to entry into U.S. commerce.

Last year the United States created the largest marine protected area (or “MPA”) in the world by expanding our Pacific Remote Islands Marine National Monument by six times its original size. We also want to make sure MPAs around the world are not just paper parks, so we are working to improve cooperation, capacity, and the application of new technologies to detect illegal activities in these areas. We are very interested in working with other governments to create more, and more effective, MPAs to help the long-term health and sustainability of our ocean.

Our priorities for the next Our Ocean Conference, which Chile will host later this year in Valparaiso, are to move forward on promoting sustainable fisheries (especially by bringing the Port State Measures Agreement into force), reducing marine debris (especially plastic waste), improving worldwide capability to monitor ocean acidification, and creating new and more effective MPAs.

Although we are working to take advantage of the opportunities presented by the recent focus on the ocean, the United States has a strong, decades-long record of global leadership in conserving and managing shared fisheries resources. We negotiated innovative mechanisms like the UN Fish Stocks Agreement, the UN Food and Agriculture Organization (FAO) Fisheries Compliance Agreement and the FAO Code of Conduct for Responsible Fishing, to strengthen the conservation and management regimes of the world’s fish stocks. With science underpinning the work of our regional fisheries management organizations, the United States is already a party to more than a dozen such regional agreements governing such diverse resources as tunas in the Pacific and Atlantic Oceans, groundfish in the North Atlantic Ocean and the Bering Sea, and salmon in the North Pacific and North Atlantic Oceans, among others.

In addition to conserving target fish stocks, international fisheries agreements and other forms of cooperation can advance important economic benefits for the owners and operators of U.S. fishing vessels, associated industries, and consumers. In negotiating agreements, OES works to promote fair and equitable fishing access opportunities for U.S. vessels, while also protecting our global and regional marine conservation interests. For example, the 1987 Multilateral Treaty on Fisheries – also referred to as the South Pacific Tuna Treaty – has for decades set the terms and conditions for the U.S. purse seine fleet to fish in a vast area of the western and central Pacific Ocean, providing access for up to 40 vessels to some of the most valuable tuna resources in the world. In collaboration with Department and interagency partners, OES leads U.S. efforts to revise and extend the terms of the Treaty and explore other ways to ensure economically viable fishing access to waters under the jurisdiction of Pacific Island parties. The parties met most recently in March 2015 to discuss renegotiation of the Treaty, as well as fishing access opportunities for the U.S. purse seine fleet in 2016. We remain committed to working with the Pacific Island parties to achieve an outcome that meets the economic objectives of both sides and contributes to an effective and transparent conservation and management regime.

We are extremely pleased to note that the Senate, acknowledging the importance of taking action to address IUU fishing and sustainable fisheries management, gave its advice and consent to the following four important treaties last year to help cement U.S. leadership in these areas: The FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (hereinafter the “Port State Measures Agreement” or “PSMA”); The Convention on the Conservation and Management of High Seas Fisheries Resources of the North Pacific Ocean (hereinafter “NPFC Convention”); The Convention on the Conservation and Management of High Seas Fishery Resources of the South Pacific Ocean (hereinafter “SPRFMO Convention”); and Amendments to the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries (hereinafter “NAFO Amendments”). These four agreements represent significant progress in protecting U.S. interests to prevent illegal fishing activities from undermining our global and regional efforts toward these ends, advance our international policies and priorities to conserve and manage shared living marine resources, and protect U.S. interests and the broader marine environment from the effects of destructive fishing practices. OES participated in all four negotiations that led to agreements the U.S. Senate approved and we continue to work with NOAA and USAID as part of an effective strategy to educate and raise awareness among foreign governments and the fishing industry of the deleterious effects of destructive fishing practices.

Turning to a brief description of the four treaties, the Port State Measures Agreement is the first binding global agreement specifically intended to combat IUU fishing. IUU fishing undermines efforts to conserve and manage shared fish stocks and threatens the sustainability of all fisheries. The global values of economic losses due to IUU fishing have been estimated to be in the billions of dollars each year. The large number of developing nations that depend on fisheries for food security and export income are particularly vulnerable. A secondary benefit to the United States joining the Port State Measures Agreement and the other treaties under consideration is that it will give the United States additional tools to address illegal activities that are often intertwined with IUU fishing, including labor exploitation, drug trafficking, environmental degradation, and organized crime. Since IUU fishers can operate anywhere, detecting activities at sea is difficult and expensive. But, in order to sell or trade their illegal

catch, they ultimately need to ensure that it is brought to a port for landing or transshipment. The Port State Measures Agreement establishes standards and requirements for port States to ensure IUU-caught fish will not be landed, transshipped, packaged, or processed in their ports.

The OES Bureau is working to bring the Port State Measures Agreement into force in order to combat illegal, unreported and unregulated (IUU) fishing by driving up the bad actors' cost of doing business and preventing illegally caught fish from entering global seafood markets. This is just one example of how we are carrying out the Secretary's vision on ocean conservation.

Turning to the Convention on the Conservation and Management of High Seas Fisheries Resources of the North Pacific Ocean, the Convention Area of the NPFC Convention includes areas of the high seas immediately adjacent to the U.S. Exclusive Economic Zone (EEZ) off Alaska, the Pacific west coast, Hawaii, and U.S. territories and possessions in the North Pacific. U.S. accession will create a stronger United States leadership role in managing fishing activities outside the U.S. EEZ that could have a direct impact on resources within waters under U.S. jurisdiction.

The SPRFMO Convention establishes the South Pacific Regional Fisheries Management Organization (SPRFMO) through which the Parties will cooperate to ensure the long-term and sustainable use of fisheries in the Convention Area. Although the United States currently has no fishing activity for fish stocks covered by the Convention, accession to the Convention will yield significant benefits to U.S. interests. The Convention Area includes areas of the high seas closest to the U.S. territory of American Samoa, and immediately adjacent to the U.S. exclusive economic zone off a number of U.S. Pacific possessions including Jarvis, Howland and Baker Islands, Kingman Reef and Palmyra Atoll. As in the NPFC, U.S. accession to the SPRFMO Convention will ensure participatory rights for U.S. fishers in fisheries within the Convention Area.

NAFO is charged with coordinating scientific study and cooperative management of the fisheries resources of the Northwest Atlantic Ocean, excluding salmon, tunas, and sedentary species of the Continental Shelf. The NAFO- adopted amendments add additional rigor and transparency to the decision-making process, establish a dispute settlement procedure, improve the guiding language for allocating catches, and provide a more equitable basis for calculating Contracting Parties' budget contributions more equitably.

These agreements have strong economic benefits as well as strong support from a broad and diverse range of U.S. stakeholders from both the fishing industry and conservation community. In the weeks ahead, we will continue to work diligently with the Senate and the House of Representatives to move implementing legislation this year to make joining these agreements a reality.

LEADING THE ARCTIC COUNCIL

The Arctic Council is the preeminent international forum for promoting cooperation, coordination, and interaction among the Arctic States (Canada, Denmark (via Greenland), Finland, Iceland, Norway, Russia, Sweden and the United States). Its mandate encompasses

critically important environmental and economic issues with the active engagement of indigenous communities and other stakeholders. Created in 1996, the Council is chaired by each Member State for two years.

On April 24, the United States assumed the Arctic Council Chairmanship and introduced an ambitious and balanced program focusing on three crucial areas: improving economic and living conditions for Arctic communities; Arctic Ocean safety, security and stewardship; and addressing the impacts of climate change. These priorities are consistent with the priorities laid out in the National Strategy for the Arctic Region and its subsequent Implementation Plan. Under the leadership of Admiral Robert Papp, the U.S. Special Representative for the Arctic and former Commandant of the United States Coast Guard, OES is working with its domestic and international Arctic partners to assist remote Arctic communities with adapting to the rapid changes that are altering traditional ways of life, prioritize collaborative search and rescue and oil pollution preparedness and response exercises, implement circumpolar demonstration projects to reduce contaminants in the Arctic, including black carbon, develop national black carbon emission inventories, and work with Arctic stakeholders to encourage positive collaborative relationships, while continuing to see the region's marine ecosystems and resources flourish. As Chair of the Arctic Council, we are committed to advancing our national interests, pursuing responsible stewardship, and strengthening international cooperation in the Arctic Council among all Arctic stakeholders. OES intends to contribute in a sustained and meaningful way toward achieving these objectives.

Joining the Law of the Sea Convention remains a top priority for the Obama Administration, including for important considerations relating to the Arctic. The Convention, which sets forth a comprehensive legal framework governing uses of the oceans, protects and advances a broad range of U.S. interests, including U.S. national security and economic interests. U.S. accession will secure, as treaty law, highly favorable provisions that guarantee our military and commercial vessels worldwide navigational rights, and accord to the United States expansive sovereign rights over offshore resources, including oil and gas on the continental shelf beyond 200 nautical miles. Accession will also support important U.S. geostrategic interests by underscoring our engagement in the Arctic and strengthening our engagement in East Asia, particularly around South Asia maritime issues. Becoming a Party to the Law of the Sea Convention would allow the United States to fully secure its rights to the continental shelf off the coast of Alaska, which is likely to extend out to more than 600 nautical miles.

CONFRONTING CLIMATE CHANGE

As the February 2015 National Security Strategy states, "climate change is an urgent and growing threat to our national security, contributing to increased natural disasters, refugee flows, and conflicts over basic resources like food and water. The present day effects of climate change are being felt from the Arctic to the Midwest. Increased sea levels and storm surges threaten coastal regions, infrastructure, and property. In turn, the global economy suffers, compounding the growing costs of preparing and restoring infrastructure."

Although OES does not lead U.S. negotiations on climate change, the Office of the Special Envoy for Climate Change (SECC) relies on the Bureau for scientific and technical support. In

confronting this challenge, we have taken numerous steps to exercise leadership and spur a global all-hands-on-deck effort. I will highlight just a few examples of this leadership. In November, the United States and China made an historic announcement of their intended post-2020 targets to reduce carbon emissions. The United States announced a strong national target to reduce carbon emissions 26-28 percent below 2005 levels by 2025 and China agreed - for the first time - to peak its CO2 emissions around the year 2030 – and to make best efforts to peak before then. China also announced an ambitious target of achieving around 20 percent non-fossil energy in its energy mix by 2030. The United States and China are the world's two largest economies and the two largest emitters of carbon pollution. As crucial participants in climate change negotiations, the U.S.-China joint announcement provides momentum for the climate negotiations and firmly establishes that the outcome of the Paris conference later this year will reflect action from both developed and developing countries. The United States also has a critically important overall bilateral foreign policy relationship with China which the announcement reinforces.

The Administration exercised leadership in promoting climate-resilience international development when he signed an Executive Order 13677 in September 2014. The EO directed United States department and agencies to integrate climate-resilience into all US international development work. These additional considerations are critical for managing risks posed by climate change in vulnerable populations and for insuring US investments would continue to benefit developing countries even as climate changes. The Working Group on Climate-Resilient International Development is actively developing guidelines for integrating climate change considerations in international decisions, identifying and facilitating the exchange of existing climate-change data and tools, and sharing best practices with other donor countries to advance climate-resilient developmental policies.

In another example, in November, 2014, President Obama announced the intention of the United States to contribute \$3 billion to the Green Climate Fund (GCF), reflecting the U.S. commitment to reduce carbon pollution and strengthen resilience in developing countries, especially the poorest and most vulnerable. By financing investments that help countries reduce carbon pollution and strengthen resilience to climate change, the GCF will help leverage public and private finance to avoid some of the most catastrophic risks of climate change. By reducing those risks, the GCF will help promote smart, sustainable long-term economic growth and preserve stability and security in fragile regions of strategic importance to the United States. We would also note that the U.S. will play a significant role in deciding how and where to disburse funds from the GCF, and our contributions to the GCF will not subject the U.S. to any new enforceable international obligations or oversight. The U.S. pledge of up to \$3 billion to the GCF demonstrated U.S. leadership and was instrumental in catalyzing further contributions from developed and developing countries to the GCF. The GCF is just one element of a much larger effort by the international community to mobilize \$100 billion from a variety of sources, including both public finance and private investment by 2020.

The U.S. contribution to the GCF builds on a history of U.S. leadership to support climate action. In 2008, the Bush Administration pledged \$2 billion to the Climate Investment Funds, which were established as a transitional measure to finance efforts to help developing countries address climate change. The U.S. pledge to the GCF demonstrates a continuation of the bipartisan

resolve to help developing nations reduce their own emissions as well as to help the most vulnerable cope with the impacts of climate change. The GCF will also help spur global markets in clean energy technologies, creating opportunities for U.S. entrepreneurs and manufacturers who are leading the way to a low-carbon future.

In addition to concluding a successful international climate change agreement this December, we are committed to the success of the Climate and Clean Air Coalition (CCAC) to reduce climate pollutants such as methane, black carbon and hydrofluorocarbons (HFCs). The CCAC, a voluntary initiative with 41 country and 52 non-state partners, is a pillar of international efforts to reduce pollution and protect human health. We appreciate the bipartisan efforts of Senators Murphy and Collins in championing landmark legislation to address these short-lived climate pollutants in the United States.

We are also working with Mexico and Canada to garner global support for a North American amendment to the highly successful Montreal Protocol to phase down the production and consumption and eliminate byproduct emissions of HFCs. These potent greenhouse gases are rapidly increasing in the atmosphere mostly due to increased demand for refrigeration and air conditioning, and because they are the primary replacements for ozone depleting substances (ODS) being phased out under the Montreal Protocol. This amendment could produce benefits of more than 90 billion tons of carbon dioxide-equivalent through 2050.

Last month, I had the honor of participating in an important symposium on climate change at St. John's College in Santa Fe with former New Mexico Senator Jeff Bingaman and other distinguished panelists. I was impressed by the enthusiasm, genuine interest and reservoir of goodwill the audience displayed.

WILDLIFE TRAFFICKING

Wildlife trafficking is a multi-billion-dollar criminal enterprise that is both a conservation concern and an acute security threat. The increasing involvement of organized crime in wildlife trafficking promotes corruption, threatens the peace and security of fragile regions, strengthens illicit trade routes, destabilizes economies and communities that depend on wildlife for their livelihoods, and contributes to the spread of disease.

Driven by high demand and high profits for wildlife and wildlife products, coupled with low risk of detection and often inadequate penalties, criminal syndicates are increasingly drawn to wildlife trafficking, which generates revenues conservatively estimated at \$8-10 billion per year. Rhino horn, for example, is currently worth more than gold, yet in many parts of the world those caught engaging in wildlife trafficking may risk small fines or minimal jail sentencing. Recognizing that this issue will require significant and sustained effort, OES worked closely with the Co-Chairs and other members of the Presidential Task Force on Wildlife Trafficking over this past year to develop an Implementation Plan for the National Strategy for Combating Wildlife Trafficking. The Implementation Plan was released this past February on the first anniversary of the release of the National Strategy. The Plan will be our roadmap going forward. It details how we will further realize the Strategy's goals, it lays out specific next steps, it identifies lead agencies for each objective, and it defines how we will measure our progress.

OES is leading the coordination of two elements of the Strategy – building international cooperation and public-private partnerships to combat wildlife poaching and illegal trade; and reducing demand for illegally traded wildlife at home and abroad. To this end, we are engaging diplomatically to catalyze political will and mobilize global support for the fight against wildlife trafficking. This includes efforts to strengthen international agreements that protect wildlife, promote conservation commitments, and fight wildlife trafficking within and between countries and regions, while enlisting the support of our partners – ranging from non-profit conservation groups and grass-roots activists to private industry and the media.

We've made progress in our interactions with China. Last July, during the U.S.-China Strategic and Economic Dialogue, Secretary of State John Kerry, together with China's Vice Premier Liu and State Councilor Yang confirmed their commitment to stamp out illegal trade in wildlife. And in November, President Obama and Chinese President Xi Jinping reaffirmed this commitment and agreed to cooperate in the areas of e-commerce, public outreach, joint training, and law enforcement. Last month, I met with Chinese officials in Beijing for an exchange on the concrete activities we are undertaking on these commitments, as well as with Chinese wildlife NGOs who expressed appreciation for our focus on combatting wildlife trafficking.

Through our support for regional Wildlife Enforcement Networks (WENs), OES is also contributing to the third strategic priority – strengthening domestic and global enforcement, including assessing the related laws, regulations, and enforcement tools.

Addressing the threats that wildlife trafficking poses is truly a whole-of-government effort with more than a dozen federal agencies working collaboratively on this issue. OES works within and outside the Department to promote greater information sharing and coordination within and among governments, law enforcement and intelligence agencies, conservation groups and other actors working in this area. One important effort is to leverage trade agreements and trade policy to press countries and regions which account for a sizeable portion of the consumption, illegal take and trade of wildlife and wildlife products to uphold their commitments to combat wildlife trafficking and strengthen wildlife conservation.

We appreciate the strong attention Congress is paying to the issues of poaching, smuggling and the involvement of transnational organized crime. We would like to extend our thanks to Senator Udall, in particular, for his commitment to raising the profile of this issue. This is evidenced by legislation he has co-sponsored in the past to strengthen the role of the United States in the international community to conserve natural resources to further global prosperity and security. We believe that the steps the United States is taking to implement the national Strategy will go a long way to achieve the legislation's goals.

INCREASING MARKETS FOR U.S. GOODS AND SERVICES

OES leads implementation of environmental cooperation mechanisms that provide capacity-building and technical assistance to support fulfilment of environmental provisions USTR negotiates in free trade agreements. Since 2012, the Bureau has provided critical support to FTA partners from Latin America to the Middle East, with notable successes including capacity

building for environmental oversight and enforcement bodies; bringing over 40.5 million hectares under improved natural resource management; training for over 30,700 farmers in environmentally friendly practices; and assistance to 829 small and medium sized enterprises to reduce their energy and water use and waste and emissions.

Looking ahead, OES anticipates that trade-related cooperation programs will help support implementation of FTA obligations in future agreements. For example, the Administration is pursuing environmental commitments in the Trans-Pacific Partnership Agreement (TPP) with eleven other countries in the Asia-Pacific region as well as the Transatlantic Trade and Investment Partnership Agreement (T-TIP) negotiations with the European Union (EU). The TPP in particular includes countries accounting for an estimated \$ 8-10 billion in illegal wildlife trade, and one-quarter of global marine catch and global seafood exports. The TPP is on track to include commitments that the parties maintain high levels of environmental protection and effectively enforce domestic environmental laws. It would also include strengthened protections for wildlife, and commitments to combat IUU fishing, and prohibit harmful fisheries subsidies, including those that contribute to overfishing. These commitments would also be fully enforceable, including through recourse to trade sanctions.

The United States has already concluded numerous free trade agreements and cooperated extensively with six TPP countries, including Australia, Canada, Chile, Mexico, Peru, and Singapore. We also have significant ongoing environmental capacity building activities with Brunei, Malaysia and Vietnam. To give you an idea of Bureau's successes related to trade and the environment, since 2012, over 40.5 million hectares are under improved natural resource management; over 30,700 farmers have been trained in environmentally friendly practices; a total of 829 small and medium sized enterprises have been helped to reduce their energy and water use and waste and emissions. In a nutshell, we are pushing for the world's highest standards in the environmental chapters of the trade agreements that we are pursuing.

WATER AND SANITATION

Perhaps no two issues are as important to human health, economic development and peace and security as access to water and sanitation. By 2025, nearly two-thirds of the world's population will be living under water stressed conditions, including roughly a billion people that will face absolute water scarcity (a level that threatens economic development as well as human health). According to the 2012 Intelligence Community Assessment on Global Water Security, "During the next 10 years, many countries important to the United States will experience water problems—shortage, poor water quality, or floods – that will risk instability and state failure, increase regional tensions, and distract them from working with the United States on important U.S. policy objectives." Without water, countries will struggle to produce food, generate energy, and sustain the ecosystems on which all life depends. These impacts are being translated across the global economy. For instance, the 2011 flooding in Thailand shut down manufacturing and disrupted global supply chains, impacting the production of cars and computers in the United States. As water resources become scarce, tensions are likely to rise. Globally, more than 260 rivers are shared by two or more nations. Many countries view water as a national security issue which is often embedded within broader set of regional relationships and concerns.

The State Department is working to expand access to safe drinking water and sanitation, improve the management of water resources, and promote cooperation on shared waters. On the Nile, OES has supported efforts by the riparian countries to establish a cooperative framework for managing the basin's water resources and to reach an agreement on controversial projects. OES also leads the Environment and Water pillar in the Lower Mekong Initiative – working within the region to improve the sustainability of hydropower infrastructure on a river system that produces some 90 percent of the protein consumed regionally, and which will likely become a major source of energy for the region.

Many water resource issues will be exacerbated by climate change. The State Department is working with other federal agencies to insure climate-resilience will be addressed in international development decisions. This insures that investments in the future of developing countries would withstand and adapt to changes in temperature, precipitation, and sea-level rise.

We have developed partnerships, like the U.S. Water Partnership, a public-private partnership which unites and mobilizes American knowledge, expertise and resources to address international water challenges, especially in developing countries where needs are greatest. We have supported colleagues from USAID, the Millennium Challenge Corporation and many others from across the U.S. government in their efforts to bring safe drinking water and sanitation to millions of people throughout the world.

LEADING IN SCIENCE & INNOVATION

Science and technology (S&T) are among the most respected fields of endeavor in our society, creating opportunities for international leadership in science diplomacy. Science and technology are key drivers of the global economy, making them vital tools in diplomacy and development. S&T engagement can create partnerships with developed and developing countries to tackle the most pressing problems confronting humanity: climate change, energy security, food security and water shortages. OES, with its strong complement of Ph.D. scientists and subject matter experts, helps to ensure that our decisions are rooted in science and that objective scientific data informs public policy decision making. Through our bilateral science and technology relationships, we provide a framework for scientific engagement and contribute to a diversity of thought in line with key U.S. policies, including intellectual property rights and access to data. Our science diplomacy facilitates access for U.S. researchers to cutting edge research as well as research infrastructure overseas. The Joint Committee Meetings and science dialogues that OES hosts create platforms to promote the Administration's policy and program initiatives, such as the national strategies on innovation and combatting antibiotic-resistant bacteria.

I just returned last week from Colombia where I participated in an environmental and scientific dialogue to enhance U.S. understanding of the complexities that Colombia faces to sustain its natural resource base in a post-conflict environment. The importance of the State Department's efforts, including those of our Embassies and Consulates overseas, to build relationships with representatives of foreign governments in respective areas of expertise cannot be overstated. This communication leads to more confidence, trust and understanding of cultures. Absent such an exchange of ideas, fostering U.S. economic growth and opening up new markets for Americans becomes a more difficult undertaking.

The Bureau's investments in science, technology and innovation have shown results. The OES-sponsored Global Innovation through Science and Technology (GIST) initiative has worked in 86 emerging economies to train over 4500 startups and has created a network of over 243,000 young motivated entrepreneurs who are moving their science and technology based innovations into the commercial arena. As the National Security Strategy notes, "More than 50 percent of the world's people are under 30 years old. Many struggle to make a life in countries with broken governance." Our GIST program is a small and inexpensive effort to tap into the collective global entrepreneurial spirit and to the sharp and nimble minds of young people everywhere to foster sustained growth and prosperity. The GIST initiative does not operate in a vacuum. It is part of the Department's larger Shared Prosperity Agenda that seeks to advance U.S. commercial and economic interests worldwide, elevate the role of economics in U.S. foreign policy, and provide the Department's personnel with the needed tools and training to carry out that mission.

Additionally, the Science Envoy program continues to build on its previous successes, with the unveiling of the fifth cohort of eminent scientists, bringing their expertise and engagement to bear in our engagement with countries and civil society around the world. This new cohort is focusing on infectious disease, energy, women in science, and the ocean.

ADDRESSING GLOBAL HEALTH

Building health capacity abroad is a central pillar of U.S. foreign policy; OES is a critical partner in advancing the U.S. global health mission. The Ebola epidemic is a striking example of the impact health threats have on the security, stability and the development potential of nations and of the critical importance of sustainable health systems. OES works with foreign governments, international organizations, and civil society to help countries develop the health standards and systems they need for stable, healthy, productive societies. We work with global partners to improve their ability to prevent, detect and respond to health emergencies, whether from disease, disaster, food contamination, or the accidental or intentional release of a biological agent. In addressing global health, we also coordinate the work of the Department and other federal agencies to facilitate U.S. policies to counter international bioterrorism and infectious disease, provide surveillance and response, protect environmental health and improve health in post-conflict situations.

Having seconded key staff members to the Department's Ebola Coordination Unit since September 2014, the OES Bureau reassumed lead responsibility for addressing the health, science, and technology related aspects of the response effort when the Unit stood down effective March 31. We are working hand-in-hand with the Department's Bureau of African Affairs, as well as a host of U.S. agencies and international organizations and the affected country governments to ensure that all three affected countries reach – and stay at - zero new cases. Reaching "zero" will require epidemiological teams to track down every step in the transmission chain. New flare-ups in Guinea and Sierra Leone, coupled with continued challenges with social mobilization, make clear the need for continued international action to stop future and ongoing transmissions. OES is working to secure a sustained commitment from donor nations to ensure that the resources needed are available to end the epidemic. In one

specific example, OES led diplomatic outreach efforts to encourage francophone countries to deploy senior epidemiologists as a first priority.

Looking to the future, the OES Bureau is working to ensure the continued commitment of international resources for health system build-back in the affected countries, leaving them stronger and more resilient than they were before this epidemic. With the heightened global awareness of the devastating impact of health emergencies, we are actively pursuing international efforts to improve local, national, regional and global efforts to prevent, detect and respond to health threats. We are involved in extensive diplomatic engagement and coordinate the work of the Department and other federal agencies to advance measurable progress under the Global Health Security Agenda launched by President Obama and forty nations on September 26, 2014. In addition to advancing GHSA globally, OES enables advancement of some of the GHSA core elements including vaccination, the International Health regulations, and combating antibiotic resistance.

The OES Assistant Secretary serves as the Special Representative on Avian and Pandemic Influenza and Pandemic Influenza Coordinator. In this capacity, OES led the successful adoption of the Pandemic Influenza Preparedness Framework at the World Health Organization. This broke new ground by creating a public-private partnership to improve influenza preparedness capabilities around the world. This required taking an innovative approach with both funding and donated vaccines from the private sector and utilizing WHO's surveillance and response network. As a result of the norms established by this Framework, China, the WHO, and other international partners such as the United States were able to rapidly and transparently share information during the 2013 outbreak of H7N9 avian influenza and thereby facilitate surveillance activities and the immediate development of a vaccine to prevent an epidemic from ever arising.

OES also supports global vaccination activities such as the global effort to eradicate polio. OES engages donors, regional organizations, and multilateral organizations to encourage support of global polio eradication efforts and to condemn violence against polio workers in Pakistan. While the world is closer than ever to eradicating polio, substantial political and security challenges remain. OES engagement has led to an increased commitment from new donors to the polio eradication effort including the United Arab Emirates and Saudi Arabia.

OES addresses environmental risks to human health through negotiations on chemicals, ozone, air quality, climate change, and other environmental issues – with particular attention to vulnerable populations such as children and nursing mothers as well as in communities in high risk locations such as the Arctic and Small Island Developing States. We are working to limit mercury deposition, improve quality, remove lead additives from paint, reduce risk in artisanal and small-scale gold mining operations and seek better interim means for storing mercury. These dangerous pollutants are well known to cause severe health effects and even death. For example, last year the World Health Organization released a report noting that there are seven million premature deaths every year caused by largely preventable air pollution. We also promote cross-sectoral coordination among the medical, veterinary, agricultural, environmental, and security fields and corresponding governmental bodies. Both human health and prosperity are linked to

animal health through organisms that can infect both humans and animals and the economic importance of livestock.

EXPANDING SPACE COOPERATION

As the 2010 National Space Policy notes, “Space systems allow people and governments around the world to see with clarity, communicate with certainty, navigate with accuracy, and operate with assurance.” “The United States hereby renews its pledge of cooperation in the belief that with strengthened international collaboration and reinvigorated U.S. leadership, all nations and peoples –space-faring and space-benefiting, will find their horizons broadened, their knowledge enhanced, and their lives greatly improved.” The OES Bureau is furthering the goals of our national space policy by helping to build an international policy framework that supports the peaceful exploration and utilization of outer space by both public institutions and new private ventures. A number of U.S. companies have recently announced plans for unprecedented commercial activities in outer space, including on-orbit satellite servicing and exploitation of lunar and asteroid resources. Ensuring that the executive branch is in a position to authorize and supervise them consistent with U.S. international obligations, and assuring our foreign partners that these activities will be conducted in accordance with international law, is critical in providing commercial space companies and investors a degree of certainty enabling them to make greater investments and spurring innovation.

The Bureau represents the Department on civil space policy formulation within the executive branch, leads interagency coordination on all civil space-related international agreements implementing important NASA, NOAA, and USGS cooperation with other space agency partners, and plays a key role in the implementation of National Space Policy focused on dual-use space applications such as space-based positioning, navigation, and timing, satellite-based remote sensing and earth observation, and the monitoring of physical phenomena in the Sun-Earth system (space weather). A little known fact about the work of the Bureau is that OES maintains the official U.S. registry of objects launched into outer space and has primary responsibility for U.S. representation to the United Nations (UN) Committee on the Peaceful Uses of Outer Space (UNCOPUOS).

A huge success for the Bureau over the past fifteen years has been the coordination of a broad diplomatic effort to encourage acceptance of the U.S. Global Positioning System (GPS) as a worldwide standard for satellite-based navigation. GPS has grown into a global public asset. Its multi-use services are integral to U.S. national security, economic growth, transportation safety, and homeland security, and are an essential element of the worldwide economic infrastructure. OES leads both bilateral dialogues with other global navigation satellite system (GNSS) providers and multilateral coordination through the International Committee on GNSS (ICG), to promote compatibility and interoperability with GPS, and transparent civil service provision, and trade practices that ensure open and fair market-driven competition for GNSS goods and services.

CONCLUSION

With the support of Congress, OES is helping to promote American values, promote global stability and protect the environment both at home and abroad by leading and supporting crucial international negotiations and creating valuable partnerships among key stakeholders on crucial topics such as oceans, water & sanitation, pollution, science cooperation, and public health. By helping young science and technology entrepreneurs, we are leading the way in providing opportunities for U.S. businesses and economic growth. Though we address many complex challenges in OES, our overarching objective is to leave a healthier planet for generations to come than the one we currently occupy.

Thank you for the opportunity to testify and I look forward to responding to any questions you may have.