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U.S. House of Representatives
Committee on Natural Resources
Subcommittee on Water, Oceans, and Wildlife

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Chairman Huffman, Ranking Member Westerman, and Distinguished Members of the Subcommittee:

Good afternoon and hello from New Jersey. My name is Capt. Alek Modjeski, and I am the Habitat Restoration Program Director at the American Littoral Society (the Society) with over 26 years of experience in the science-based, ecological restoration field. I am also a USAF Desert Storm veteran and a licensed captain through the merchant marines.

Thank you for the opportunity to present to you today, and to address the need and importance of a dedicated, long-term, national investment in the conservation and restoration of natural habitats as part of our country's effort to rebuild our communities, our environment, and our economy.

A national commitment is needed that will not only conserve and restore vital elements of our environment but also provide the goods, resources, and services necessary to improve community resiliency and create jobs in the face of a changing climate. We appreciate the Sub-committee's interest in this subject and I am committed to provide information that will demonstrate habitat restoration's importance to not only help protect our coastal communities from the all-too-real and devastating impacts of climate change, increased storm periodicity and ferocity, and loss of resources; but also to show how its implementation based on our experiences could better prepare the country to protect our ecological and human-built environs and sustain the long-term

health of our coastal economy. Simply, I hope to provide testimony that shows that habitat restoration creates jobs, it provides community resiliency, it stimulates local economies, better allows us to prepare for future disasters, and connects communities to nature and the environment. The benefits to coastal resiliency, the ecology and the economy resulting from habitat restoration are essential in the nation's efforts to build back better.

The American Littoral Society is a member-based, coastal conservation organization headquartered on Sandy Hook, part of the Gateway National Recreation Area located in Highlands, New Jersey. For over 50 years, we have promoted the study and conservation of marine life and habitat, protected the coast from harm, and empowered others to do the same. Since the late 1990's, we have completed more than 50 restoration projects and restored or enhanced over 300 acres of important coastal and shoreline habitat. This includes: 16 acres of oyster reefs and clam beds; 76 acres of beach-dune complex; 62 acres of freshwater wetland and pond habitats; and 140 acres of intertidal habitats including flats, salt marshes, and mangroves.

In the aftermath of Hurricane Sandy through funding provided by the National Fish and Wildlife Foundation (NFWF) Coastal Resiliency Program and the US Fish and Wildlife Service, the Society quickly rallied with its partners to restore beach habitat destroyed in Delaware Bay by Hurricane Sandy, habitat necessary to the survival of the horseshoe crab and the Federally-listed red knot. Since then, we have been able to restore eight (8) Delaware Bay beaches (3.24 miles or over 79 acres), placed over 211,000 cubic yards of sand, removed 1,000s of tons of rubble, built 8 intertidal oyster reefs, restored over 1 acre of salt marsh, and engaged tens of thousands of people to aid in this work. Our restoration work helped save the Federally-listed red knot and helped to build resiliency for small rural communities located in Southern New Jersey.

We also created a paid US Military Veteran's Program and our projects provided millions of dollars to local businesses either directly through implementation of the restoration work itself or indirectly through increased eco-tourism related to the wildlife which benefitted from the habitat work.

We have set the foundation for a more long-term program in Delaware Bay by working with federal partners to develop an efficient comprehensive vision of the conservation work, supported by a 10-year federal regional permit to perform beach, reef, and berm restoration and a 5-year state permit that allows us to do the same. These permits allow us to plan collaboratively, act quickly in such a dynamic environment, have a more proactive approach to restoration prioritization, and be "shovel ready" when funding becomes available.

By restoring saltmarsh, creating oyster reefs, opening streams and rivers for fish passage, and replacing or hybridizing hard shoreline structures using a softer, living shorelines approach; restoration provides myriad benefits that support several congressional interests relating to carbon sequestration, ecology and biodiversity, economic growth and sustainability, water quality, and sea level rise and climate change. We believe the strategies implemented in New Jersey can provide lessons and have relevance and applicability in providing positive solutions to other states across the nation, coastal or non-coastal, that are struggling with similar issues related to climate change, an economic downturn (pandemic or for other reasons), loss of habitat, and loss of resources.

A healthy economy depends on a healthy environment. Restoring habitat restores local economies by providing jobs, patrons to local businesses, and places where visitors can go to connect with nature and open spaces. In a study performed by Restore America's Estuaries (RAE) in 2017, it was estimated that 30 jobs were generated for every million dollars invested in coastal restoration. That was equated to more than twice as many jobs as the oil and gas and road construction industries combined. In a 2014 Federal Reserve Bank of Boston analysis, it was estimated that the US restoration economy as a whole produced $9.47 billion in economic output. This figure included the value of all sales or revenue to firms doing the restoration work, from the environmental staff and engineering firms that plan, design, and oversee a restoration project, to the sub-contracted construction companies hired to do the on-the-ground work, and to the greenhouses, nurseries and manufacturers that supply plants and materials for the restoration. The restorations directly generated 126,111 jobs and approximately $6.27 billion in labor income. All included, the Federal Reserve Bank of Boston analysis estimated that the national restoration economy generated approximately 221,000 jobs and $24.86 billion in economic output. NOAA's 2017 "Socioeconomic Benefits of Habitat Restoration" report that assessed $167M dollars awarded to 47 restoration projects nationwide reinforced the aforementioned, and showed a return on investment, to include the ecosystem services provided by habitat restoration, such as an increase in property value, lower infrastructure costs, and flood protection, that generated $260.5 million annually.

For our work in Delaware Bay, in an area that is literally the poorest county in New Jersey, our restoration of beaches and marsh for the horseshoe crab and threatened shorebirds Post Sandy has generated and provided millions of dollars to local contractors and suppliers and over 40 plus new jobs. These include shell suppliers for oyster reefs, truck drivers who deliver sand, heavy equipment operators who spread the sand, quarries who supply the sand, and engineering firms and universities who provide

monitoring and input on design. The implementation of our US military veterans program in Delaware Bay to support monitoring and reef building, provided up to 13 jobs over 5 years and gave veterans serving from the Korean War to Afghanistan, exposure to a new career field and money to help themselves and their families during their transition to civilian life. With newly awarded projects in Delaware Bay funded through NFWF including non-federal match, we have over $13M and we intend to continue our US military veterans program and hire locally to keep the economic momentum during the pandemic. It should be noted that these are funded through competitive grants, and the future of continued funding is uncertain.

Delaware Bay is the global epicenter for migrating shorebirds and horseshoe crab spawning. The NJ Division of Fish and Wildlife estimated that over $34 million dollars is generated annually in Cape May and Cumberland counties through ecotourism and avid birders. The Nature Conservancy estimated $313 million in revenue in Cape May county, New Jersey just from birders visiting the Delaware Bay. Our completed projects that have restored shorebird and horseshoe crab habitat have helped sustain that revenue and our outreach programs associated with each restoration further provide public engagement and community stewardship.

The increase in eco-tourism has even been more evident during the COVID 19 pandemic. More people want to be outside and connect with nature. In a recent conversation with a park ranger in Jamaica Bay, New York, I was told that since the pandemic, the number of visitors to her park has doubled and almost tripled. This increase in visitors means more spending at mom-and-pop businesses, gas stations, convenience stores, and tackle shops which further stimulates the local economy. The draw to nature in Delaware Bay and the need to sustain and restore those habitats for the horseshoe crab and shorebirds is key in sustaining the economy supported by those species.

Habitat Restoration and nature-based strategies or solutions promote and improve community resiliency. At Lower Cape May Meadows in Cape May county New Jersey, average flood damage from storms before habitat restoration was estimated to be $143,713. This cost dropped drastically post-restoration to $3,713 per storm for the same level of storm surge. During Hurricane Sandy, the majority of the New Jersey coastline was decimated. Coastal communities along the Atlantic Ocean that had dunes in place fared better than those that did not. Buildings, homes, utilities, and stores suffered minimal damage in comparison to neighboring municipalities that did not have dunes. Even though human-built infrastructure was severely damaged in those towns, the natural habitats in each sustained little damage and infrastructure protected by natural elements fared better than those that lacked natural protection. Using an

extensive database of property exposure, a regional study conducted after the hurricane showed that wetlands provided storm protection which avoided $625 million in direct flood damages. Further local study combined models with a database of synthetic storms in Ocean County and estimated a 16% average reduction in annual flood losses by salt marshes with higher reductions at lower elevations. The flood protection benefits associated with these habitats further warrants the long-term investment in restoring natural elements to promote resiliency.

We don't just restore habitat; we restore the community connectivity to that habitat and to the ecology and services that restored habitat provides. Our habitat restoration model embraces community connectivity through the use of a formal local decision-makers and stakeholders advisory committee, volunteers, US military veterans, community scientists, paid restoration corps, interns, and in-kind services from all levels of government. We strongly believe in the need to recruit individuals and engage other organizations and partners to be involved in the planning and execution of our projects. When funding is available to us, we hire community members to help us and also provide them with training that they may find relevant for future careers. We currently manage one of the largest horseshoe crab tagging programs in the nation, if not the world, and have tagged over 25,000 horseshoe crabs since Hurricane Sandy. Tagging allows us to better track this flagship species. The tagging is done by volunteers and our paid US military veterans who are trained to captain beaches and oversee volunteers. Volunteers and our US military veterans are exposed to biological monitoring and learn the logistical planning behind such endeavors. Visitors from all over the US come to volunteer and, pre-pandemic, we had over 600 volunteers per year. We also have developed community scientist programs to monitor outcomes of our restoration projects and involve local schools, organizations like the girl scouts, churches, and municipal groups. Through their involvement, we are able to continue our restoration work and adaptively manage projects when funding is scarce. Restoration sites provide outdoor educational opportunities and classrooms where anyone can learn about the importance of our restoration work and hopefully inspire future generations of restoration practitioners, scientists, and ecologists.

In closing, habitat restoration can provide natural solutions that sustain or improve community resiliency and engagement; improve ecological uplift; foster public and private partnerships; create jobs; and generate a solid return in investment that further adds to the needed ecological services that restoration provides today and will provide tomorrow. Habitat restoration improves local economies directly through restoration work and indirectly through the patronage of local businesses. A long-term investment and a more programmatic approach to habitat restoration and resiliency is needed. We have an opportunity to use habitat restoration to improve disaster preparedness and

minimize impact from storms. We have an opportunity to use habitat restoration to stimulate our local economies. We have an opportunity to use habitat restoration to protect the natural resources we depend upon. We have an opportunity and an obligation to build our country back better and support long-term initiatives like habitat restoration, restoration that will benefit all Americans for generations to come.

Thank you, and I am happy to respond to any questions the committee might have.

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