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UMD's Research Assesses Economic Benefit Value of Two Delaware Watersheds in the Millions of Dollars Annually

Understanding How Locals Value the Mispillion and Cedar Creek Watersheds is Expected to Help with Policy Decisions and Investment for Some of the Delaware's Most Bountiful and Threatened Areas

College Park, Md. (July 21, 2021) – Leisure, recreation, and wildlife viewing in Delaware's Mispillion River and Cedar Creek watersheds provide benefits to the community valued at several million dollars annually, according to a [new economic assessment](#) released today by The Environmental Finance Center (EFC) at the University of Maryland.

These rivers and their surrounding waterways include some of the state's most bountiful natural resources and last remaining large tracts of undisturbed land. Like so many coastal areas, this part of Delaware's coast is under growing pressure from coastal development, sea level rise, and storms of increasing frequency and severity. Similar pressures on the region's resources are also emanating from increasing interest in outdoor activities. Because outdoor recreation is beneficial to the region, planning to provide sustainable access to nature is important.

A broad coalition of governmental and environmental nonprofit entities known as the [Waterways Infrastructure and Investment Network](#) (WIIN) formed last year to devise a nature-based investment strategy to capitalize on environmental opportunities, while also mitigating people-created threats. This [assessment is the first phase of the work](#). It was commissioned by The Pew Charitable Trusts, which is a member of WIIN.

The Delaware Bayshore offers extensive recreational and ecotourism opportunities—including boating, fishing, hunting, and wildlife, shorebird, and horseshoe crab viewing. In addition, the watersheds provide [crucial habitat for a range of wildlife](#), and storm protection for surrounding communities. The historic commercial shipping industry, based in the Mispillion Harbor, is culturally important to the local community, and the Vinyard Shipyard in Milford aims to preserve the region's maritime history.

"This research underscores what residents and leaders of Delaware's Bayshore have long known: The watersheds' beauty, marine life, and recreational and historical resources are essential to the local way of life," said Joseph Gordon, director of the conserving marine life in the United States project at The Pew Charitable Trusts. "We envision the research as the first step in creating a strategy that will boost the region's economy, conserve its coastal resources, and improve the entire area's resilience to sea-level rise."

"Pew hopes that other Bayshore towns, along with coastal communities across the country, will follow the lead of the city of Milford, town of Slaughter Beach, and Kent and

Sussex counties, and pursue integrated plans that advance economic and environmental resilience,” Gordon added.

Major attractions were identified through interviews with community members who have expertise in the natural resources of the area. Major assets that provide access to enjoy the nature and culture of the area include: [Abbott’s Mill Nature Center](#), [Mispillion Riverwalk Greenway](#), [Vinyard Shipyard](#), [Marvel Saltmarsh Preserve Boardwalk](#), [Mispillion Harbor Reserve](#), [DuPont Nature Center](#), and [Slaughter Beach](#).

The report estimated that the benefit values for urban park leisure, hiking, and shorebird viewing alone is substantial, at over several million dollars annually. Estimates of “environmental services,” such as the feeling of well-being while walking along a tree-lined river or the enjoyment of viewing endangered shore birds in their natural habitat is called “environmental service benefit valuation.” Benefit values make to establish the significance of various aspects of nature by placing dollar value on them. These values are substantial pieces in a larger calculation that can establish nature’s total economic value. This report focused on specific community-identified benefits to spotlight what makes this area unique in Delaware and the Bayshore.

WIIN is an offshoot of the larger [Delaware Resilient and Sustainable Communities League \(RASCL\)](#), a consortium of 22 entities, including nonprofits, academic institutions, and state agencies dedicated to helping Delaware communities improve how they respond to changing environmental conditions. In addition to Pew, organizations that are part of WIIN include: the Delaware Department of Natural Resources and Environmental Control; the Delaware Nature Society; Delaware Sea Grant; Kent County; Milford; Partnership for the Delaware Estuary; Slaughter Beach; Sussex County; and the EFC.

“These communities and organizations are working together to protect and enhance the areas’ natural resources, not only for long-term resource management for local residents, but also for the Delaware Bayshore’s potential to draw visitors to this area,” said Dr. Jennifer Egan, program manager at the Environmental Finance Center, and the project’s lead researcher.

At 60 feet, Delaware has the [lowest mean elevation](#) of any U.S. state, and areas within it experience a rate of sea level rise twice the international average, [according to Delaware Sea Grant](#). Over the last century, the watersheds, which include Milford and Slaughter Beach, have experienced considerable losses in forests and wetlands. The watersheds are bordered by national wildlife refuges, and contain internationally recognized flyways for migrating birds, including the endangered Red Knot. Slaughter Beach is a horseshoe crab sanctuary and offers vital spawning habitat to the 400-million-year old creatures. These resources are increasingly threatened. For example, the Red Knot count of 7,000 in the spring 2021 was the lowest since the 1980s, when numbers were approximately 90,000.

In addition to providing outdoor recreational opportunities and storm protection, wetlands and saltmarshes protect inland areas from storm surges and can reduce flooding. Recent research estimates that healthy marshes protect Delaware coastlines and reduce damages by 10% or more, compared to open water. There have been approximately 12 extreme events in the Mispillion watershed since 1980. The area’s saltmarshes and wetlands provide storm protection valued at between \$7,800 and \$125,200 per extreme weather event. This estimate relies only on flood loss claims, which include everything from local storms to declared national disasters, and is considered conservative.

The project’s next phase will develop a management plan and identify community assets and natural resources at risk of flooding, sea-level rise, and changes in land use. The economic benefit valuation will

be extended to explore enhancing and increasing access to outdoor recreation and enjoyment for the region. It will be funded largely by a competitive grant secured by WIIN from the National Fish and Wildlife Foundation National Coastal Resilience Fund.

About the Environmental Finance Center: The Environmental Finance Center (EFC) at the University of Maryland is one of 10 university-based centers across the country that provides communities with the tools and information necessary to manage change for a healthy environment and an enhanced quality of life. For more information: <https://arch.umd.edu/research-creative-practice/centers/environmental-finance-center>

Partners

Waterways Infrastructure Investment Network (WIIN): Town of Slaughter Beach, City of Milford, Sussex and Kent counties, Delaware Department of Natural Resources and Environmental Control, Resilient and Sustainable Communities League (RASCL), Partnership for the Delaware Estuary, Delaware Sea Grant, and Delaware Nature Society

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The Pew Charitable Trusts. Established in 1948, [The Pew Charitable Trusts](#) is a global nongovernmental organization that seeks to improve public policy, inform the public, and invigorate civic life.

See photos of Red Knot and Mispillion wetlands attached