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Dune Repair and Beach Renourishment Becoming More Costly and Frequent: DNREC Exploring a Cost-Sharing Ask for Five Beach Towns and Sussex County to Help Fund their Non-Federal Share

Executive Summary: *Work to restore dunes and renourish beaches has to be done more frequently to return these projects to their design condition because the frequency and intensity of storms and subsequent damages has escalated well beyond expectations. Additionally, repair and renourishment costs increased significantly, projected to exceed DNREC's capabilities in the near future. Therefore, in 2023, DNREC initiated a very narrowly-focused economic study to help state decisionmakers determine if the five beach communities and/or Sussex County should provide funds toward the non-federal (DNREC's) share of periodic dune repair and renourishment, and if so, based on what ratio or formula to calculate said funds. The economic data to be collected will be severely restricted to the point where, according to observers and town officials, a preponderance of the actual benefits and costs relevant to any credible economic study of this nature will be excluded for the analysis. Also, the working group does not include representatives from the five towns, Sussex County, tribes, businesses, environmental organizations, or the public at large.*

BACKGROUND:

On January 18, 2024, the Delaware Department of Natural Resources and Environmental Control (DNREC) held a virtual webinar to announce the initiation of a new study, "[Economic Analysis for Shoreline Management](#)" by the Woods Hole Group and Industrial Economics, Incorporated. DNREC is the primary body concerned with the governance of public land, natural resources and environmental regulations for the state. The DNREC and consultant's slides can be viewed and downloaded from this [weblink](#). An article by Mike Smith appeared in the print version of the *Coastal Point* on February 2, 2024, and can be found [here](#).

A key point made repeatedly during the webinar presentation was that in perhaps 5-10 years, DNREC will "*struggle to be able to sustain the current level of beach nourishment at current levels of funding.*" The frequency, intensity and damaging impacts of storms have exceeded expectations. DNREC has already spent significantly more than predicted and budgeted for when the projects were formulated and the project cooperation agreement with the federal government was signed in July 2006. Work to restore dunes and renourish beaches has been done more frequently, and the amount of work and sand required to return these projects to their design condition also has

exceeded estimates because the frequency and intensity of storms and subsequent damages has escalated. Additionally, the costs of sand, equipment, fuel, labor, and mobilization also have gone up. In summary, rising demands and costs are projected to exceed DNREC's capabilities at some point in the near future.

A second key point made was that "because local and non-local entities benefit from beach nourishment, along with the state as a whole, the department has commissioned a study to examine just how these benefits are distributed. The study will develop cost share ratios, based on these benefits, to be presented to policy makers as possible avenues for future cost-sharing." In other words, DNREC has contracted for a study to help state decisionmakers determine if the five beach communities (Bethany Beach, Dewey Beach, Fenwick Island, Rehoboth Beach and South Bethany) and/or Sussex County should provide funds toward the non-federal (DNREC) share of periodic renourishment. A primary goal of the study is how to determine, by ratio or formula, how much each of the five beach towns, and/or Sussex County, should be required to pay. DNREC staff did note that Sussex County and the state might ultimately be identified as beneficiaries and thus the former could be asked to contribute funds from its budget and surplus (e.g., a transfer tax account), and that the state may have to find additional funds from its existing budget or from larger appropriations from the state legislature.

According to DNREC, the five beach communities are protected from storms and hurricanes by federal dune and beach projects cost-shared 65% federal (through the U.S. Army Corps of Engineers ("USACE")) and 35% non-federal (DNREC) for initial construction and required operation and maintenance costs, including periodic dune restoration and beach renourishment. These federal projects protect people, environmental resources, public and private infrastructure, businesses, energy and water facilities and more from flooding, wave action and erosion that historically caused tremendous damages during coastal storms. Dune and beach projects are formulated and designed based upon the principles and protocols of coastal engineering, environmental science and climate science, supplemented with extensive, sophisticated modeling and analyses to generate the best engineering structural solutions. Project operation and maintenance requirements, including how often to restore dunes and renourish beaches, are determined as part of the design process.

BENEFITS FOR MAINTAINING OUR DUNES:

For more information on how dunes and beaches help protect coastal communities like Bethany Beach, read the BBLA article ["What is a Dune?."](#) This article points out that natural and artificially-created dunes are dynamic because, in general, coastal systems are extraordinarily dynamic, characterized by perpetually shifting sands (dunes and beaches), wetlands, backwaters, bays, and of course tributaries that flow to the coast. In their natural, pre-development state, these landscape features were in perpetual motion, shifting and reorganizing in response to seasons, storms, climatic shifts and depositional and erosional cycles of the ocean. Today, the five beach communities benefit from dune and beach projects that are sacrificial in nature, which means that they absorb the wave energy and lose sand, but the trade-off is that millions of gallons of saltwater is prevented from flooding the communities and stormwaters and sand

wash into the ocean. Specific to Bethany Beach, here's a [visual](#) of flooding frequency. Notice that the entire town is subject to flood - there are no areas that are NOT subject to flooding. Flooding gets worse every year - experts and town officials predict that the areas that will be flooded frequently will expand in the near future.

The dune and beach projects provide tremendous recreational opportunities and benefits, not just to the five communities, but to Sussex County, the State and the Nation. By law and regulation, federal dune and beach projects (referred to by USACE as storm and hurricane protection projects) must have verifiable national benefits to justify the costs of construction and operation. This requirement was met by the five coastal communities. Also, there are significant, ever-growing regional and local economic, environmental, social and cultural benefits associated with protecting and restoring the coastline, protecting people, lands and infrastructure.

In fact, economic data from the [Delaware Tourism Site](#) provides the economic impact of tourism on the State of Delaware in 2021. The tourism industry is the 4th largest private employer in the state, accounting for 47,760 jobs in 2021; and the tourism industry generated \$620 million in tax revenue. Without tourism, each DE household would pay an additional \$1,608 in taxes. Tourism's contribution the state GDP in 2021 was \$4 billion. The report can be found [HERE](#).

WHY RESIDENTS AND VISITORS ARE ATTRACTED TO BB:

The *BBLA Newsletter* [Spring 2020 edition](#), stated that "*Bethany Beach is a very special place, blessed with sun and sand, and also with critically important environmental resources in and around the community. It is the environmental values, in part, that attract people to live, work, and vacation in our community.*" People come to the five coastal communities for many reasons, but foremost among them is access to the ocean and its quality beaches. It is critically important that the federal (USACE) and state (DNREC) governments continue to place the highest possible priority on supporting and funding extant dune and beach projects. At this point in time, and for the foreseeable future, there are no other feasible, economically-justified, environmentally acceptable or socially acceptable solutions available. The BBLA Board supports continued dune restoration and beach renourishment per the extant federal-state project cooperation agreement that will be in force until 2057.

SUMMARY OF DNREC STUDY DESIGN AND SCHEDULE:

DNREC announced that they will have a draft report by March 2024 and that a final report will be delivered to the Governor's office in August 2024. This extraordinarily short timeline will make it challenging for meaningful involvement by the coastal communities, organizations, businesses and the public. Thus far, according to the Mayor and Town Manager, the Town of Bethany Beach has not been asked to provide any input on their views, economic benefits attributable to the project, the costs of managing a beach community with 20,000+ annual visitors (the resident population is ~1,096), or the town's overall financial capability in terms of being able to afford contributing its limited discretionary funds to defray some portion of DNREC's cost obligation. When DNREC signed the project cost-sharing agreement on behalf of the

state and all of the communities within it, the expectation was that all of the dune and beach project costs would be state costs through 2052. Many observers to this process believe it would be inappropriate to suddenly try to find a way to make the local communities cover DNREC's costs, and to do so based upon a narrowly and improperly-scoped economic study. Observers have also expressed concerns about the fact that the work group established by DNREC does not include tribes, elected officials from the five beach communities, an elected official from the Sussex County Council, the recreation and tourism industries, businesses in general, and the public (resident and visitors).

Slide 6 in the DNREC presentation lists six members of the Project Workgroup:

- DNREC Shoreline and Waterways, Coastal Programs
- IEC & Woods Hole Group (consultant for DNREC)
- Bay Beach Association (focused on bay shores, Lewes, Bowers and Slaughter Beaches as well as some other unincorporated communities)
- Association of Coastal Towns (ACT), which is composed of seven (7) southern Delaware coastal communities that include Lewes, Henlopen Acres, Rehoboth, Dewey Beach, Bethany Beach, South Bethany and Fenwick Island. ACT strives to collectively preserve and protect the unique character of coastal Delaware by focusing on the preservation of coastal ecosystems and other critical issues such as beach replenishment, maintenance of navigable waterways, tidal flooding, and sea level rise.
- University of Maryland Environmental Finance Center
- Delaware Sea Grant (DESG helps Delaware communities wisely use, manage, and conserve our state's valuable coastal resources by fostering sustainable coastal economies, developing resilience to coastal hazards, and preparing the next generation of coastal leaders.)
- **Tribes – none**
- **Elected officials – none**
- **Representatives of environmental organizations – none**
- **Representatives of recreation and tourism industries – none**
- **At large members of the public - none**

According to the DNREC and contractor slides, the economic data to be collected and used will be severely restricted to the point where, according to observers and town officials, a preponderance of the actual benefits and costs relevant to any economic study of this nature will be excluded, further biasing the effort --- i.e., to make the beach communities pay. An obvious question is why DNREC feels that it is necessary to conduct this study at all when, for example, USACE, NOAA, USEPA and other federal agencies already have done extensive studies and have in hand information and thousands of pages of report text on the benefits and costs of the five projects, along with climate study results, economic data, environmental benefits, and community and county values at risk. During their presentations, neither DNREC nor their contractor were able to provide a rationale for NOT considering important coastal resiliency issues such as back bay flooding, saltwater intrusion, development trends and so forth, as

noted by DNREC's contractor. All of these important issues are interrelated and inseparable economically, environmentally, hydrologically, and socially.

BBLA QUESTIONS FOR CONSIDERATION:

The BBLA Board will continue to monitor study progress and results. The Board offers this article as an information resource to help keep our members informed and think about how they might want to get engaged. There are several key questions the Board and our members might want answers to:

1. Might the study simply conclude that when DNREC signed the project cooperation agreements for the five dune and beach projects that it assumed 100% of the financial responsibility through the life of the agreement (2025)?
2. Does DNREC (or the state) have the authority in existing law and regulation to require the five coastal communities to pay a fee towards DNREC's non-federal cost share of these projects?
3. Do the five towns have the existing authority in law and regulation to collect funds from property owners and/or visitors and contribute those funds towards DNREC's share of the costs?
4. Will DNREC coordinate with the five towns and find out their perspectives on the benefits and costs of the dune and beach projects, and whether the towns actually can afford to pay a portion of DNREC's obligation with their very small and limited budgets?
5. Will DNREC consider asking Sussex County to cover these costs?
6. To the extent the beach towns might have to contribute to the costs of beach replenishment, do the towns have the authority to impose real estate tax increases, sales taxes, parking fee increases or beach usage fees imposed on visitors (passes or tags)?
7. Bethany Beach is about 1.16 square mile with a resident population of ~1,096 --- the tax base is very small and revenues obtained from visitors do not cover the costs of operating the town during beach season. Beach use and beach rentals extend west to Route 113, south to Maryland, and north to Rehoboth. With this in mind, would it not make more sense to study Sussex County as a whole, especially the extensive new development, and explore the possibility of Sussex County contributing funds to DNREC instead of the very small coastal towns?
8. If at some point DNREC requires Bethany Beach to pay a portion of the Operation & Management costs how might that requirement affect the critically-important Bladder Dam proposal or the USACE-DNREC "Back Bay Study", which is currently experiencing a "pause" in its work?

Note: The Challenge of Funding Nourishment Projects: The department pays for beach nourishment using funds generated by the state accommodations tax – DNREC receives one-eighth of the funds raised by that tax specifically for shoreline management – and funds appropriated for Shoreline and Waterway Management by the Delaware General Assembly. [See DNREC reference](#)