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Jill Aspinwall
Department of Environmental Protection
Office of Policy Implementation
401 East State Street, 7th Floor
Trenton, NJ 08625-0420

Submitted via email

Dear Ms. Aspinwall,

Thank you for this opportunity to provide comments in response to New Jersey's Protecting Against Climate Threats (PACT) initiative. It is our understanding that within two years of Governor Murphy's Executive Order 100[1] signed January 27, 2020, New Jersey's Department of Environmental Protection (NJDEP) will adopt the reforms identified by PACT. Those reforms will integrate climate change considerations into state regulatory and permitting programs and planning processes, and related efforts to reduce harmful emissions and climate pollutants.

The Pew Charitable Trusts (Pew) works to protect valuable coastal waters and habitats, and to reduce the impact of flood-related disasters on communities and taxpayers. Pew supports New Jersey's effort to evaluate existing policies and identify near-term actions to incorporate resilience aspects into planning, infrastructure, and land use decisions.

Pew's comments below relate to proposed reforms of environmental land use rules, including, but not limited to NJDEP's Coastal Zone Management Rules[2], Freshwater Wetlands Rules, Flood Hazard Control Act Rules, and other regulations that address flooding, chronic inundation, and management and restoration of coastal habitats. We look forward to ongoing discussions with NJDEP on how to operationalize those commitments into new policies and regulations that recognize these challenges.

Recommendations

The New Jersey Scientific Report on Climate Change[3] shows that the state's economy, public safety and ecosystems are challenged by increased flooding, sea level rise, and other climate impacts. To meet these challenges, Pew recommends that NJDEP consider the following approaches and reforms within the PACT process to improve land use decisions, state investments, and flood preparedness. These center around restricting development in flood-prone areas and deliberately applying nature-based solutions across state agency programs. Conservation of coastal habitats should be incorporated into the state's climate hazard mitigation strategies, and the NJDEP should update regulations related to the restoration and management of coastal habitats like salt marsh, shellfish and submerged aquatic vegetation.

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[1] Governor Murphy Unveils Energy Master Plan and Signs Executive Order Directing Sweeping Regulatory Reform to Reduce Emissions and Adapt to Climate Change Governor Philip D Murphy, Executive Order 100, signed January 27, 2020 Accessed September 14, 2020 https://nj gov/infobank/eo/056murphy/pdf/EO-100 pdf

[2] Pew Commends New Jersey's Coastal Management Assessment and Strategy, The Pew Charitable Trusts' Comments on the New Jersey Coastal Management Program's draft 2021-2025 Section 309 Assessment and Strategy, May 29, 2020 https://pew org/30LSRK5

[3] New Jersey Department of Environmental Protection, "2020 New Jersey Scientific Report on Climate Change,"(2020), https://www nj gov/dep/climatechange/docs/nj-scientific-report-2020 pdf

Deploy the critical information in the Science Technical Advisory Panel report[4] (STAP) report and limit new development in "future inundation zones". The STAP report provides important, credible data on expected climate change scenarios specific to New Jersey, and this data must now be "translated" into a format that can be used by state agencies and local jurisdictions. We urge DEP to move quickly to develop statewide maps delineating zones of expected flood risk or inundation and to create a framework for applying the STAP data to different decision-making processes regarding land use, construction, conservation, and infrastructure investments. State maps with gradated zones of coastal flood risk could function similarly to the State's existing maps of areas subject to the Coastal Facility Review Act or the Waterfront Development Law, alerting decision makers and the public to the need for permit reviews or additional resilience protections.

Though not a state model, the approach of Virginia's City of Norfolk may be a helpful example. For Norfolk, the analysis of climate risk led local planners to divide the at-risk City into four basic zones, including adaptation areas where the City anticipates that sea level rise will have the greatest impact, with eventual permanent inundation of some areas. In this zone, the City will prioritize widespread use of wetlands restoration and other nature-based solutions, resilience improvements for existing homes and place restrictions on new construction. At the same time, the City will work to drive new development and economic growth to less vulnerable areas.[5]

New Jersey could evaluate and adopt its own version of this zone approach to adaptation, placing restrictions on certain types of non-water-dependent uses in delineated "future inundation zones". Additionally, as sea level rises, discouraging or restricting development in affected areas may help facilitate inland movement of vulnerable coastal habitats like salt marsh (i.e. "marsh migration"), which can absorb and slow flood waters. New Jersey can better optimize these future inundation areas by identifying and conserving priority parcels that will eventually serve as buffers for flooding for surrounding communities. In support of that outcome, Pew encourages the development of a special protective designation for suitable areas (e.g. undeveloped or lightly developed areas, marginal lands) that can be preserved or restored as marsh migration zones.

The state's designation of future inundation zones could also be aligned with NJDEP's continued buyouts through the Blue Acres Program. This approach should not only consider where people and valuable assets can be safely located or moved, but also prioritize conservation and restoration of natural defenses like coastal wetlands.

Pew also echoes the Scientific Report on Climate Change's recommendation that the state continue to study precipitation trends and model inland flooding related to stormwater and streamflows. State flood maps that acknowledge these inland flood risks can better inform decisions about future development, infrastructure, potential buyouts, and other activities that may be appropriate in flood prone areas. NJDEP may benefit from looking to the Charlotte-Mecklenburg area in North Carolina for a regulatory model that incorporates future flooding scenarios into mapping and permitting. By evaluating the likely impacts of flooding associated with changes in rainfall statistics and using full build-out scenarios, Charlotte-Mecklenburg planners were able to educate the public on expected damages to existing structures and build support for regulations to limit development and manage stormwater more effectively.

[4] Kopp R E , et al November, 2019 New Jersey's Rising Seas and Changing Coastal Storms: Report of the 2019 Science and Technical Advisory Panel Prepared for the New Jersey Department of Environmental Protection Trenton, NJ https://climatechange rutgers edu/images/STAP_FINAL_FINAL_12-4-19 pdf

[5] Green, Jared, "Norfolk Forges a Path to a Resilient Future," The Dirt, American Society of Landscape Architects, May, 14, 2019, https://dirt asla org/2019/05/14/norfolk-forges-a-path-to-future-resilience/ ; Barth, Brian, "The Silver Lining of Sea-Level Rise, Planning, American Planning Association, August/September 2018, https://www planning org/planning/2018/aug/silverlining/

Enhance climate-preparedness in municipal stormwater plans. New Jersey's stormwater management rule update in March 2020 was a significant step toward ensuring that local stormwater planning and new development processes include preparation for future storms and flooding. We encourage NJDEP to take the next step by requiring community stormwater plans to consider larger volumes of runoff in storm events in the future. These should also apply to any upgrades, retrofits, or other redevelopment projects. Additionally, NJDEP should establish minimum standards for on-site or equivalent off-site stormwater retention that anticipate future precipitation patterns and better guide how green infrastructure solutions are designed and applied to reduce stormwater runoff volume.

Prioritize the mapping, restoration and monitoring of coastal resources while seeking out regulatory changes that align and enhance habitat protection, restoration, and adaptation. Specifically, we recommend that New Jersey, through the PACT process update the state's policies related to shellfish restoration in impaired waters to boost restoration efforts, population recovery and coastal resiliency.

Shellfish, like oysters, provide habitat for diverse marine life, buffer coastlines against strong storms, and support jobs within New Jersey's coastal communities. However, it is our understanding that oyster restoration faces unique challenges regarding permitting requirements, such as the need to provide continuous surveillance when restoration is being performed in impaired waters. Meanwhile, states like New York, Maryland and others have shown that restoration can be achieved while limiting risks to public health and without harming other activities in the coastal zone – demonstrating under comparable circumstances how to both protect public health and promote oyster restoration in impaired waters.

Pew supports a collaborative, science-based approach where state managers, law enforcement, industry stakeholders and restoration practitioners work together to apply these best practices and update the regulations to better meet the climate challenges New Jersey faces. This approach is made possible by significant advancement in the technology[6] behind direct surveillance, remote sensing and vessel monitoring systems. Along with these technical advances, the efforts of NJDEP, the state's estuary programs, shellfish growers and non-governmental organizations have enhanced the public's understanding of the ecosystem role oysters play in coastal waters.

Lastly, it should be noted that restoration and enhancement activities require robust planning based on sound science and minimizing conflicts to increase the likelihood of maximizing ecological and societal benefits. As PACT seeks out a holistic evaluation of existing policies, we recommend keeping in mind what the development of a cohesive, overarching state plan for marine shellfish restoration would provide to New Jersey. A plan would serve as a guide for managers, restoration practitioners, scientists, and stakeholders toward improving shellfish populations and the ecosystem services they provide. A focus on developing a clear set of best practices for shellfish restoration – that includes baseline metrics for planning and a set of minimum standards to meet – would help to create more of a standardized statewide approach. A plan would also help to identify areas that need to be protected due to climate change and reduce user conflicts and maximize efficiencies in the restoration process – a win-win for the state's coastal communities and businesses.

PACT should consider regulatory changes that will lead to a statewide mapping, restoration and monitoring program for submerged aquatic vegetation. Submerged aquatic vegetation helps to stabilize sediment, improves water quality and removes carbon dioxide from the atmosphere. Pew was encouraged that New Jersey's Scientific Report on Climate Change highlighted submerged aquatic vegetation as a key habitat and pointed out its importance to resiliency given its capacity to dissipate

[6] NY/NJ Baykeeper, The Nature Conservancy Surveillance and Monitoring of Oyster Restoration: A Review of Potential Methods and Management Actions for the State of New Jersey Carolyn Gibson, June 8, 2017

wave energy.[7] However, the report also mentions the threat that climate change poses to this resource. Accordingly, we recommend updating permitting requirements so managers can better incorporate the carbon sequestration benefits of submerged aquatic vegetation, which could help New Jersey meet its greenhouse gas reduction and mitigation goals. It's also important that managers recognize and incorporate other ecosystem services provided by submerged aquatic vegetation into management of impacts, as well as the need to ensure availability of suitable bottom habitat as these areas shift in response to sea level rise. The development of a state-specific restoration manual that incorporates emerging science around restoration projects – such as siting of restoration efforts based on potential sea level rise impacts – as well as taking a mosaic approach to harness the positive interactions[8,9] among shellfish and submerged aquatic restoration, would help New Jersey secure successful conservation outcomes.

PACT should identify and address racial and economic inequities in its coastal adaptation, protection, and restoration efforts. Executive Order 100 explicitly recognizes that minority and low-income communities will be disproportionately affected by climate change. Pew applauds this recognition, and strongly encourages PACT to engage with the New Jersey Office of Environmental Justice and incorporate the state-specific guidance and policy options recommended by the 'A Seat at the Table' report[10] produced by Rutgers University via a NOAA national Project of Special Merit. COVID-19 adds another layer of complexity and urgency, as New Jersey communities most at-risk from climate change also bear the burden of an ongoing pandemic. Applying an environmental justice lens can reveal the potential impacts on socially vulnerable groups from proposed PACT reforms, and help NJDEP pursue co-benefits of advancing equity, improving environmental quality, and promoting public health and safety.

Conclusion

Thank you for this opportunity to comment on New Jersey's efforts to modernize its environmental laws and land use regulations to address climate change. As noted in PACT materials, NJDEP has a broader role than that of solely a regulator and Pew encourages active engagement and a holistic evaluation as plans are developed across the agency's many programs to respond to current threats and prepare for future impacts. We look forward to remaining involved as the state continues to evaluate and implements the PACT reforms to improve statewide resilience and protect and restore coastal habitats.

Sincerely,

Laura Lightbody
Project Director, Flood-Prepared Communities

Zachary Greenberg
Officer, Conserving Marine Life in the U.S.

[7] New Jersey Department of Environmental Protection 2020 New Jersey Scientific Report on Climate Change, Version 1 0 (Eds R Hill, M M Rutkowski, L A Lester, H Genievich, N A Procopio) Trenton, NJ 184 pp https://www nj gov/dep/climatechange/data html

[8] Renzi JJ, He Q and Silliman BR (2019) Harnessing Positive Species Interactions to Enhance Coastal Wetland Restoration Front Ecol Evol 7:131 doi: 10 3389/fevo 2019 00131 doi: 10 3389/fevo 2019 00131

[9] Brian Silliman, Can Partnerships Between Organisms Interactions Increase Yields and Decrease Coastal Restoration Costs?, The Pew Charitable Trusts, July 19, 2018 Accessed September 21, 2020 https://www lenfestocean org/en/research-projects/can-partnerships-between-organisms-interactions-increase-yields-and-decrease-coastal-restoration-costs

[10] Herb, J and L Auermuller May 31, 2020 A Seat at the Table: Integrating the Needs and Challenges of Underrepresented and Socially Vulnerable Populations into Coastal Hazards Planning in New Jersey 2020 Prepared for the New Jersey Department of Environmental Protection New Brunswick, NJ http://eac rutgers edu/a-seat-at-the-table-integrating-the-needs-and-challenges-of-underrepresented-and-socially-vulnerable-populations-into-coastal-hazards-planning-in-new-jersey/