



TALKING POINTS:

Protecting New Jersey's Tidelands and the Marine Environment by Opposing the Northeast Supply Enhancement Project (NESE)

Talking Point: NESE is not in the public interest of New Jersey citizens because the construction of NESE threatens water quality in Raritan Bay and the economy. The Tidelands Resource Council should deny a Tidelands Utility License for NESE.

Coastal water has improved significantly since the low point in the 1970s. Stricter environmental laws, investments in waste treatment, and the decline of industries on the rivers that flow into the region have led to a dramatic improvement in water quality. Old toxins have become buried beneath the seabed of the Raritan Bay.

Under the Federal Water Quality Act, states have the right and the duty to protect the quality of their local waters. Under New Jersey State law, it is the Department of Environmental Protection that carries out this responsibility. The NJDEP must evaluate any project that might degrade the color, clarity, temperature, or odor of NJ waters, or that might introduce oils, chemicals, or other refuse. Thus far, Williams/Transco has not demonstrated that they would not degrade water quality in Raritan Bay or wetlands from construction of the NESE Project.

- **Contaminated Underwater Sediments**

Laying a 26-inch diameter pipeline in a 26-mile long trench below the seafloor is a very disruptive construction project that will result in a significant decline in the quality of the water in the Raritan Bay and threaten the large variety of marine wildlife that call it home. The NESE Project will increase the toxic substances in the waters in which we swim and fish.

A shortened timeline increases the intensity of work so the overall impacts will be magnified. Further, deeper drilling has been approved in some New York areas, having further reaching effects on the timeline and backing into the work in New Jersey. If the sediment modeling was conservative and was based on a 15-month timeline, there should be greater impacts since faster excavation rates are being requested, and increased depths are now proposed in certain areas. Faster excavation rates would also lead to greater loss of sediment into the water column. This could not have been fully accounted for and still maintain a minimal impact, as is currently reported.

The potential resuspension and redistribution of toxic substances now buried under the seafloor is one of the most serious impacts of this pipeline construction on the water quality in Raritan Bay. These toxins pose a serious danger to both human health and marine wildlife.

Trenching will kick-up more than 1 million cubic yards of sediment containing heavy metals and PCBs.

Dredging up buried industrial toxins (like arsenic, lead, zinc and mercury) and organic compounds (PCBs, DDT, dioxins) from the seabed will poison fish, shellfish and marine life in the Raritan and Lower NY Bays. Dredged-up toxins could affect aquatic migration, clog fish gills, interfere with breeding, and contribute to harmful algae blooms.

There are many points along the proposed route that exceed contamination levels; minimal to no testing was done to test sediment along other alternate routes to determine if there were routes with less contamination. FERC's FEIS maintains that "Concentrations of organic contaminants were greater than upper-level effects thresholds at approximately 33 percent of the sample sites. Approximately 83 percent of the sample sites had at least one exceedance of an inorganic (metal) threshold." The sediment modelling does not address the effects of the different toxins in the contaminated sediments to any of the marine species (benthic or pelagic, migratory or otherwise) that may be exposed to those chemicals (including sediment used in backfill) with minimal evaluation of the effects otherwise. Such an oversight underscores Williams/Transco's intentional focus on sediment transport and misdirection away from what is actually in the sediment.

Exceedances of upper-level effects thresholds for heavy metals (e.g., copper, lead, zinc, mercury) were detected at multiple locations. These included exceedances for mercury at one site; lead and mercury at one site; lead, zinc, and mercury at two sites; and copper, lead, and mercury at one site.

The impact on human health of these substances is well known. Arsenic, for example, causes a variety of cancers in humans. Lead causes neurologic impairment, especially in children. PCBs enter the food chain. More than 90% of human exposure to PCBs is through food, including fish and shellfish.

Additionally, Williams/Transco plans to release water used in testing the pipeline into the bay. Their plan involves releasing 3.2 million gallons of seawater that was treated with the toxic chemical CORRTREAT 15316. According to the Environmental Protection Agency, CORRTREAT 15316 is a highly toxic substance harmful to humans.

Part of the Raritan Bay Loop would go through the Raritan Bay Slag Superfund Site. Lead, arsenic, antimony, copper, iron and chromium, are the primary contaminants contained in slag. Other metal contaminants include manganese, vanadium and zinc. Areas 7 & 11 of the Raritan Bay Slag Superfund Site are part of the NESE construction workspace, and toxic levels of lead, arsenic and other heavy metals have been found by the EPA and NJDEP in soils, sediments and surface waters here. The complex currents, eroded slag particles and dissolved metals from the jetty have not been adequately accounted for in avoidance plans by Williams/Transco. EPA recommended continued consultation about construction here.

- **Threat of Harmful Algal Blooms (HABs)**

Incidence of **Harmful Algal Blooms (HABs)** is likely to increase due to resuspended sediments increase. This issue is not addressed by the NJ DEP permit and it clearly affects Water Quality Certification. Though admitting to the fact that the study was not done in a saltwater environment similar to the project area, the FERC FEIS maintains that this would have a negligible effect on potential for HAB formation. However, the study was just of placement of dredge sediment with little mention of its level of contamination. Part of what we have seen influencing HAB occurrence, even in freshwater, is the

conversion of nutrients that are bound in the upper layer of sediment and unavailable to plankton for growth into a more biologically available form. This happens due to shifts in environmental conditions, not unlike the removal of sediment from dredging. The study presented in the FEIS does not address the resuspension of nutrients into the water column by exposure from direct removal and disturbance, not just addition of sediment. This study does not provide a reliable comparison and cannot be relied on in this context. There is still concern for the increase of HAB occurrence.

Talking Point: NESE is not in the public interest of New Jersey citizens because the construction of NESE will adversely impact the shore economy and those who depend on Raritan Bay and the ocean for their livelihood. The Tidelands Resource Council should deny a Tidelands Utility License for NESE.

➤ **Shore Economy**

Many New Jerseyans at the shore depend on clean water and access to the Raritan Bay for their livelihoods, and construction of the NESE pipeline would hurt them.

Fishermen, recreational boaters, and whale-watching businesses would be negatively impacted since construction of the Raritan Bay Loop will go through seven separate recreational & commercial fishing grounds and hinder travel of boaters, including whale-watching vessels.

The people in the Rockaways in NY and Sayreville in NJ suffered devastating losses after Superstorm Sandy, and now they are being asked to support a Project that would increase Greenhouse Gases and grossly impact their fishing and shore recreational economy.

There was no complete analysis of the economic adverse impact from NESE that will result from disturbances in/by the Raritan & Lower New York Bays on the habitat or the greater community that relies on fishing and recreation.

There was no comprehensive assessment of potential long-term effects of toxic sediment disturbance on shorelines, beachgoers, marine life or the health of shoreline communities in terms of costs to health, safety and economics.

Talking Point: NESE is not in the public interest of New Jersey citizens because NESE Threatens Marine Mammals and Sea Turtles that utilize NJ Tidelands for feeding, breeding, and other life stages. The Tidelands Resource Council should deny a Tidelands Utility License for NESE.

One of the positive effects of the cleaner water off the shore of Raritan Bay has been the recent return of marine wildlife. The disruptions necessitated by a construction project of this magnitude will negatively affect marine mammals and sea turtles who live or migrate through the region.

The NESE Project threatens the water quality of Raritan Bay and the marine wildlife that inhabit it – endangered whales, endangered sea turtles and seals. The increased cloudiness of water (turbidity) from excavating the 23-mile trench will make it difficult for these animals to find food and to navigate. The toxins churned up by the excavation threaten to enter the food chain.

- **Whales:** The sightings of humpback whales has increased from only one (1) between 2011-2013 to 45 between 2014-2016. Humpbacks are seen in all seasons except winter. Fin and right whales have also been seen in the New York Bight. All three of these whales are endangered. Williams/Transco's construction schedule calls for trench work below the seafloor from August through December, a period when whales are particularly active in the area.
- **Sea Turtles:** Five species of sea turtle are found in NESE's project area - Loggerhead, Green, Leatherback, Atlantic hawksbill, and, just recently, Kemp's ridley sea turtle. *All five of these species are listed as endangered or as threatened in New York and New Jersey, the states bordering the waters through which the pipeline would run.* In the summer of 2018, a Kemp's ridley sea turtle (endangered) emerged from the water onto the beach on the western end of the Rockaway Peninsula, built a nest, and laid eggs. The following October, 96 hatchlings were released into local waters. This critically endangered species generally returns to the same beach when they are ready to lay their own eggs. Potential impact avoidance for them was not considered to be needed by Williams/Transco or the Federal Energy Regulatory Commission (FERC), the agency that oversees federal energy projects in the United States, in their documents.
- **Noise Impacts:** Acoustic impacts and harassment of marine mammals will be intensified with an increase in work activity as Transco attempts to squeeze the amount of work originally proposed to be done over 15 months into only 9 months.

Acoustic impacts are not fully addressed for fish or turtles relative to updated timelines.

Marine mammals are sensitive to noise, and the constant (24 hours/7 days per week) noise and vibration generated by vessel engines and construction (in particular, pile-driving) will be difficult for these animals to tolerate and could alter their behaviors (travel, communication, breeding and eating). Noise and vibration can also disorient marine species and lead to long-lasting damage and growth abnormalities in newly hatched organisms. The number of marine vessels required by the NESE Project (with diesel engines 24/7) and the drilling required for the tunnelling portions will disrupt all types of species from bottom dwelling shellfish, such as crabs, to gigantic marine mammals such as whales.

Nine months of constant construction in the bay also poses a hazard to marine life from vessel strikes and noise. To protect these animals, Williams/Transco has proposed training vessel operators and crews to recognize them in the water and then take avoidance measures like slowing a vessel

down or maneuvering it away. However, this will not work at night or in bad weather. Also, the kinds of vessels used to construct an in-water pipeline are not agile or easy to maneuver. Vessel operators are unlikely to be able to prevent collisions that may injure or kill seals, whales and turtles.

Talking Point: NESE is not in the public interest of New Jersey citizens because the project will disrupt and harm benthic (bottom) resources (including Shellfish, Horseshoe Crabs) and the endangered Atlantic sturgeon that utilize NJ Tidelands for feeding, breeding, and other life stages. The Tidelands Resource Council should deny a Tidelands Utility License for NESE.

The project will unavoidably impact soft-bottom benthic habitats. Impacts to benthic resources, including shellfish, need to be fully assessed and mitigated. NESE's land use permit application provides only a draft mitigation framework for proposed compensatory mitigation. The application lacks: detail on the extent of the proposed impacts to benthic resources, including shellfish; proposed compensatory mitigation measures; and performance measures for ensuring mitigation measures are successful.

Marine life that lives and feeds on the seafloor - clams, oysters and other mollusks, crabs and horseshoe crabs - are particularly vulnerable to the disruptions from the construction of the Williams/Transco NESE pipeline. These species have both ecological and commercial value.

FERC estimates it would take these bottom-dwelling species, like clams and crustaceans, 1 to 3 years to recover after construction of the Raritan Bay Loop, but it could be longer, factoring in weather, currents and the overall disruption caused by trenching the pipeline.

As of now, there has not been an agreement between agencies charged with protecting endangered species in the waters and Williams/Transco for "time-of-year restriction" adherence and the proposed construction schedule. The 24/7 construction schedule for 9 months will disrupt fish migration, including that of the endangered Atlantic sturgeon. Williams/Transco has requested "flexibility" for the restricted times to construct during times that are sensitive periods for the species – such as their peak migration periods.

- **Time of Year Restrictions**

Transco has chosen to request flexibility with Time of Year Restrictions (TOYR) for specific species over infringing on the TOYR of other sensitive species. Horseshoe crabs are threatened, and their status directly impacts that of at least one other species on the federally endangered list, the red knot. At this point, Williams/Transco is choosing to forego avoidance measures during a critical time of year for this species and not proposing any mitigation measures. It seems that there is no adherence at all to the "avoid, minimize, mitigate" practice relative to the horseshoe crab whatsoever. This is unacceptable and cannot be allowed to proceed without directly complying with these measures more completely. The encroachment of the TOYR on the Horseshoe crab mating and nesting period makes it more likely that there will be an adverse impact on an endangered species' population. Compliance with state laws governing endangered and threatened species has not been satisfied by Williams/Transco. Specifically, N.J.A.C. 7:7-9.36(a)3(b) states "Development of endangered or threatened wildlife or plant species habitat is prohibited unless it can be demonstrated, through an endangered or threatened wildlife or plant species impact assessment as described at N.J.A.C. 7:7-11, that endangered or threatened wildlife or plant species habitat would not directly or through secondary impacts on the relevant site or in the surrounding area be adversely affected").

Migratory fish pathways lie within the water column above the proposed pipeline path, where sediment will be resuspended and where vessels will be travelling to conduct the proposed work. Many of the species will be impacted during their annual migration through the water column and not just along the bottom.

TOYR flexibility will not only affect benthic species such as the horseshoe crab, but it will also adversely affect sturgeon, winter flounder, and other migratory and economically important species, like blue crab.

- **Unearthing and spreading toxins**

The excavation of an 8 to 15-foot deep trench for 23+ miles will disturb hundreds of acres of sand and gravel, creating increased sediment in the water. The resulting increase in the cloudiness of the water (known as “turbidity”) threatens marine life since the clarity of water is critical to the ability of many species to navigate, find food, and avoid predators. Additionally, as the sediment settles back down, it will cover seabed species like clams and crabs.

The endangered Atlantic sturgeon and winter flounder are bottom feeders, and churning of buried toxins from construction of NESE in Raritan Bay threatens food sources and impacts to the food chain.

Toxins from years of industrial dumping have become buried below the seabed of Raritan Bay. Some of these toxins include copper, lead, zinc, and mercury. The NESE Project would unearth them and make them available on the surface of the seabed for ground-feeding fish to ingest.

The release of toxic sediments would be particularly harmful to a number of bottom feeding species which play a vital role in the marine food web. For example, the Atlantic sturgeon, an endangered species, and the oyster, a species that filters seawater and creates reefs that assist with storm protection, will be impacted from NESE.

Additionally, the construction plan is to dig through areas where clams are infected with Quahog Parasitic Unknown (QXP) which would be spread by dredging.

- **Habitat**

There was no comprehensive, scientific assessment of the short- and long-term impacts to benthic organisms (horseshoe crabs, surf clams) habitat in the land use permit applications.

- **Noise**

Noise and vibration can also disorient marine species and lead to long-lasting damage and growth abnormalities in newly hatched organisms. The number of marine vessels required by the NESE Project (with diesel engines 24/7), inserting piles with diesel impact and vibratory hammers, and the drilling required for the tunnelling portions, will disrupt all types of species from bottom dwelling shellfish such as crabs to gigantic marine mammals such as whales.

- **Thermal Discharges**

Construction activities will also create thermal discharges. A number of marine species are sensitive to fluctuations in water temperature – for example, the eggs of Atlantic cod and winter flounder. The massive construction barges and large machines, such as drilling equipment, will likely raise temperatures in surrounding waters.

Shellfish, which are sensitive to both the warming and the higher acidification of seawater as it stores more carbon dioxide, move relatively slowly to escape the threats. Surf clams along the East Coast die when it becomes too hot.

- **Atlantic sturgeon (endangered)**

The endangered Atlantic sturgeon and winter flounder are bottom feeders, and churning up of buried toxins from construction of NESE in Raritan Bay threatens their food source and impacts the food chain.

Raritan Bay is a major habitat for Atlantic sturgeon. Atlantic sturgeon feed on bottom-dwelling invertebrates. Transco acknowledges that those species -- clams, crustaceans, etc. -- would be the most directly and adversely impacted by construction. Williams/Transco estimates that it would take 1-3 years for these species to recuperate. The impacts of the 3-12 hours per day of construction activity on the sturgeon's habitat will not only expose them to plumes of toxic sediments (given that Sturgeon consume large amounts of mud and sand as they feed) but also reduce and poison their prey. Williams/Transco does not adequately address the long-term implications of any of this, especially considering that sturgeon are slow to mature and reproduce males take at least 12 years to mature and females reach maturity at 18 years.

- **Horseshoe crabs**

Horseshoe crabs are recognized as a "keystone" species because its eggs and larvae are an essential food source for other marine wildlife as well as for migrating birds, including the threatened red knot.

Their blood (which is blue!) plays an essential role in human medicine. Pharmaceutical companies use Limulus Amoebocyte Lysate (LAL) made from horseshoe crab's blood to test the sterility of vaccines, drugs, prosthetics, and other medical devices. The LAL test is the most accurate test currently available.

The horseshoe crab population has substantially declined in recent decades.

The construction schedule of Williams/Transco's NESE includes May to September, disrupting the horseshoe crab in the crucial months when larvae are hatching. Impacts have not been identified, and avoidance / mitigation plans haven't been published.

The Final Environmental Impact Statement (FEIS) for NESE states: "The most recent stock assessment report for horseshoe crab concluded that, since the ASMFC's initial horseshoe crab stock assessment in 1998, declining abundance in the New York region is evident, and the trend has not reversed (ASMFC, 2013a) ... In the 9 years of monitoring conducted by BRWC, there has been no sign of sustained recovery, and the population remains at about 25 percent of its carrying capacity (Reynolds, 2017)." This is likely due to diminished water quality, lack of spawning habitat, and constant disturbance; any action by Transco for development -- especially during spawning season -- will further disrupt important ecological processes relating to the horseshoe crab (*Limulus polyphemus*) and eliminate any possibility of potential recovery, particularly in New Jersey where there are spawning populations. Several studies (including those done by the National Park Service) document small but viable breeding populations in portions of New York and along the southern coast of Raritan Bay in New Jersey; all of these areas would be impacted by the NESE project. Due to the nature of the size of the *Limulus* populations that occupy Raritan Bay and nest on the surrounding shorelines, any impact to the benthic environment would have significant and potentially irreversible impacts on habitat, food resources, and recruitment.

- **Surfclams**

Interestingly, Transco reports that the dominant shellfish community in New York waters near Rockaway Delivery Lateral Project Transfer Point was the Atlantic Surfclam (*Spisula solidissima*) but that post-construction surveys show that concentrations and sizes of surfclams are declining in this area. The decline has also contributed to substantial decreases in harvesting due to small surfclam sizes. If Transco's NESE project is allowed to proceed, further harm will be imposed on the already vulnerable surfclam populations of both New Jersey and New York.

The Raritan Bay Loop route and temporary construction workspace avoids the surf clam bed identified by the New Jersey Department of Environmental Protection (NJDEP), specifically on Flynn's Knoll. However, the Project will directly disturb benthic habitat containing surf clam in other New Jersey waters. Surf clams in the seabed adjacent to the disturbed area may also be impacted by construction of the Raritan Bay Loop because of elevated levels of suspended sediments and additional sedimentation.

- **Oysters**: As a species that filters seawater, the oyster is essential to the health of the New York Bight waters, which includes Raritan Bay. Oyster reefs can also reduce the impact of storms like Superstorm Sandy.