IMPACTS ON WILDLIFE AND HABITATS

Construction threatens wildlife and habitats on land and in the bay.

The fishing and tourism industry in/by the Raritan Bay should be protected for the people who depend on it, those who enjoy it, and the marinelife that depends on maintaining decades of efforts to clean up the waters in the bay.

Whales are seen with increased frequency in Raritan Bay, and communities of seals live on Sandy Hook and an island by the Verrazano Bridge. Source: Brown, D.M., Robbins, J., Sieswerda, P.L., Schoelkopf, R., & Parsons, E.C.M. (2018 January). Humpback whale *(Megaptera novaeangliae)* sightings in the New York-New Jersey Harbor Estuary. Marine Mammal Science, 34(1): 250-257.

The waters in Raritan Bay were once referred to as a "dead sea". They have become cleaner due to years of efforts.

Dredging up buried toxins like PCBs, arsenic and lead from the seabed will poison fish, shellfish and marine life in the Raritan and Lower NY Bays.

Nine months of 24/7 construction in the bay poses a hazard to marine life from vessel strikes and noise.

Construction noise harms marine mammals, and compressor station operational noise could harm nearby birds.

Around the compressor station, the constant low frequency hum could result in abnormal levels of stress hormones for birds, and this could lead to breeding and health issues. Source: https://www.washingtonpost.com/news/speaking-of-science/wp/2018/01/09/some-birds-are-so-stressed-by-noise-pollution-it-looks-like-they-have-ptsd/?utm_term=.fee3d319db22

Marine mammals are sensitive to noise, and the construction could alter their behaviors (travel, communication, breeding and eating).

RISKS TO WILDLIFE FROM NOISE OF COMPRESSOR STATION

Noise pollution from a compressor station could have a devastating effect on wildlife in the surrounding area, consequently creating a negative impact on bird populations, as reported in studies conducted by the University of Colorado Boulder (1), Live Science (2), Phys.Org (3), and in a book entitled Ornithological Monographs by Ecosphere Environmental Services (4).

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(1) http://www.colorado.edu/today/2009/07/23/noise-pollution-negativelyaffects-woodland-bird-communities-according-cu-boulder-study

(2) http://www.livescience.com/4283-noise-pollution-threatens-birds.html

(3) http://phys.org/news/2011-08-noise-pollution-birds-songs.html

(4) http://www.bioone.org/doi/abs/10.1525/om.2012.74.1.6

INADEQUATE ASPECTS OF THE DEIS PERTAINING TO ECOLOGICAL IMPACTS

1. **In the DEIS, FERC failed to provide a realistic analysis of specific ecological impacts associated with loss of forest and wetland habitat.**
   - FERC dismissed concerns about the loss of forested land by noting that, in the bigger picture in the areas, there was plenty more forested land. FERC acknowledges that it would take at least 50 years for these trees to re-establish themselves, but there is no plan to have Williams/Transco maintain responsibility for this until the trees are fully re-established. (DEIS, page ES-14)
   - The benefit of forests absorbing stormwater and pollutants was not considered by FERC in their DEIS.
   - Removal of 17.7 acres of forest to build the proposed Compressor Station 206 and its access road (DEIS, page 4-80) is not insignificant.
   - There were no presented plans or reviews of wetland impacts from constructing a septic system at CS206.

2. **There was no complete analysis of the short- and long-term potential impacts of noise from construction activity on marinelife in and around the Raritan & Lower New York Bays.**
   - There was no assessment of acoustic impacts from construction of the Raritan Bay Loop to North Atlantic right whales.
   - There was no reporting or analysis of construction methods that could refine pile driving methods to reduce acoustic impact.
   - There was no reporting of acoustic analyses for the added piles that would be installed and removed as part of the new platform at the Morgan Shore Approach.

3. **There was no analysis of the impact of marine vessel traffic (insertion/removal of piles, transporting, loading/unloading, staging and mooring) on the environment, local economies and marinelife in and around the Raritan & Lower New York Bays.**
   - FERC likens concentrated marine vessel activities and movement patterns along the 15,585.7 acres of work space to normal bay marine vessel activities instead of reviewing activities, patterns and moorings associated with each pipeline segment and the impact on toxic sediment disruption, benthic organisms and acoustical impacts.
   - There was no detailing of potential impacts from marine vessel traffic and activities disrupting the seafloor from transporting, loading/unloading, staging and construction or a plan for avoiding or mitigating the impacts of these activities.
   - Since the schedule for construction is not finalized, the impact of restricted zones for local fishing or other boats is not yet known in terms of costs to those who rely on these for their living or recreational activities.

4. **There was no 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.**
   - The impacts to benthic and demersal marine species will certainly impact the economics of the local fishing industry, but FERC did not independently evaluate this prior to reaching conclusions about impacts.
   - The DEIS did not include a realistic analysis of specific impacts that would occur following destruction of benthic communities that are essential food sources for marine life. FERC dismissed concerns about the loss of benthic species from burial by noting that, in the bigger picture in the areas, there were plenty more sources of this food for marine life in the New York Bight.
   - There was not an adequate assessment of avoiding and mitigating impacts from construction on the horseshoe crabs which have a fragile existence, serve as a food source for threatened and endangered species, and are extremely important to biomedical research. FERC basically dismissed impacts to this important species. Additionally, FERC used outdated data about horseshoe crabs that was supplied by Williams/Transco without verifying its accuracy.
   - FERC used a study from 1983 rather than a more current 2001 study to render conclusions about the hard clam population in the waters to be crossed by the Raritan Bay Loop. Additionally, there was no mention in the DEIS of the fact that the proposed route would go through areas of clam populations infected with the Quahog Parasitic Unknown (QPX) disease which is in sediment and waters that could spread from construction disturbances. There was no attention given to future clam harvesting or a possible transplantation program in the DEIS.
   - There were no reported results of testing for contaminants and the impact of excavation for areas from which Williams/Transco might get backfill material for the Raritan Bay Loop, and the source areas have yet to be finalized.
   - Without specifically knowing the potential impacts, and providing information about possible avoidance measures, any suggested mitigation measure is meaningless.

5. There was no comprehensive, scientific assessment of the short- and long-term impacts to benthic organism (horseshoe crabs, surf clams) and marine mammal (dolphins, seals and whales) habitat.

- The DEIS only addressed the actual 117.2 acres of pipe laying activities and did not assess environmental impact of the full work space of 15,585.7 acres with the associated marine vessel traffic, activities and moorings.
- During the construction, there would be a high concentration of marine vessel traffic, activities and moorings within the 15,585.7-acre workspace. It is impossible that this doesn't directly disturb benthic and marine mammal habitats as well as disturb the toxic sediment which can also adversely impact habitats and food sources of marine mammal, benthic, fish and migratory bird species.

6. There was no sediment core sampling of the entire designated workspace in Raritan Bay & Lower New York Bay.

- Williams/Transco's primary sediment core samples were only taken along the proposed pipeline path with additional sampling in the Raritan Bay Slag Superfund site waters. However, sediment core samples were not taken throughout the entire 15,585.7 acre workspace.
- Without this data, it is impossible to assess the full toxic sediment potential contamination and resuspension in the work area.
- The need to take more sediment core samples in the workspace areas was submitted in 2017 to FERC numerous times after the 3/27/2017 application was issued.
- Without this data, FERC is unable to accurately assess environmental impact of the focused traffic, activities and moorings within the 15,585.7-acre workspace area.

RISKS TO ENVIRONMENT & WILDLIFE FROM CONSTRUCTING THROUGH OR CLOSE TO TOXIC SITES

The DEIS did not include an analysis of short- and long-term impacts on all threatened, endangered or species of concern from the spread of toxins when they are released from digging near/through toxic land sites.

In the DEIS, it was noted that 83% of the samples taken for chemical analysis from the Raritan & NY Bay floors contained metals like lead, mercury, copper & zinc with levels above "acceptable" thresholds.

EPA plans to complete a 5-year review of remediation efforts at the Higgins Farm Superfund Site in 2018, and assumptions about risks were made before this was completed and published.

- Next to the Compressor Station 206 site is contaminated groundwater at Higgins Farm Superfund Site.
- The proposed pipeline (onshore) would go by/through landfills, areas with buried fuel tanks or munitions debris, and ongoing cleanup of contaminated groundwater.
- Construction of the cable part of pipeline in the Bay is planned to go through lead-covered jetty areas of the Raritan Bay Slag Superfund Site in Sayreville.
- Dredging, drilling, and dropping anchors in Raritan & NY Bays would unearth and spread years of accumulated toxins – lead, mercury, PCB, cadmium & chromium.
- Waters off Rockaway were called "dead sea" until 1972, and those toxins have been buried by years of human efforts & natural processes.
- Sampling of seafloor composition was only done along the 117-acre area where pipeline construction would have a direct impact. Sampling for chemical analysis was not done within the 15,585.7-acre workspace area where seafloor disturbances would occur from anchor-spread & vessel mooring activities.

SURVIVAL, GROWTH & REPRODUCTION RISKS TO MARINE MAMMALS (WHALES, SEALS & DOLPHINS), FISH, SHELLFISH, BENTHIC INVERTEBRATES & DEMERSAL (BOTTOM-DWELLING) FISH SPECIES FROM PIPELINE CONSTRUCTION

The DEIS did not consider short- and long-term impacts from the spread of toxins when they are released from the seafloor of Raritan & Lower NY Bays during pipeline construction on marine life, beachgoers, those whose livelihoods rely on clean water, the environment on shore, or all species that are threatened, endangered or of concern.

Even though FERC acknowledged that the vibratory noise from pile driving is capable of causing marine mammal behavior disturbance at a distance up to 2.9 miles from the sound source, they minimized these risks.

- Noise of drilling (especially pile installation & removal) would disrupt communication, migratory patterns, feeding & breeding of marine mammals & fish.
- Fluid leaks or spills, along with release of toxic chemicals from digging in the seabed and mooring the construction vessels, could harm marine life.
- Construction in the Raritan Bay puts marine mammals (whales, seals & dolphins) at risk of being struck by a vessel or caught in moorings.
- **Atlantic sturgeon** is an endangered fish in the area of the proposed pipeline. Previous dredging & habitat impacts caused their population to decline in the past. Construction of this pipeline would disrupt migratory patterns, and stirred-up contamination could interfere with their habitat and result in reduced egg viability & early mortality. Since they feed on bottom-dwelling species (clams, crustaceans) and suck-up large amounts of sand & mud when they eat, contaminant disruption from pipeline trenching would harm them & then poison their prey.
- Ground disturbance & redistribution of contaminants would threaten the dwindling **horseshoe crab** population (whose eggs = important food source for migratory birds & who are important for scientific research for human health conditions).
- **Humpback whales** have recently increased in number in the waters where they want to put the pipeline.
- **Harbor seals** live on 2 small islands by Verrazano Bridge (adjacent to the pipeline route), and construction would drive them off their safe shores & negatively impact population growth. They also live in waters off Sandy Hook.
- The bay area provides habitat & food for some **endangered birds** (peregrine falcon, Cooper's hawk & red-shouldered hawk). The threatened **osprey** has nesting grounds near the pipeline construction area.

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Brown, D.M., Sieswerda, P.L., Schoelkopf, R., and Parsons, E.C.M. (2018, January). Humpback whale *(Megaptera novaeangliae)* sightings in the New York-New Jersey Harbor Estuary. Marine Mammal Science 34(1), 250-257. Accessed at: https://onlinelibrary.wiley.com/doi/full/10.1111/mms.12450

RISKS TO ENVIRONMENT & WILDLIFE FROM OPERATION OF COMPRESSOR STATION 206 (CS206) EMISSIONS & EXHAUST TEMPERATURE

The DEIS did not include an analysis of risks or recommend any impact-reducing methods to address (1) the temperature of emissions from smokestacks for CS206 or (2) all of the chemicals that will be released from CS206 into the air.

- Emissions from other gas-powered compressor stations have damaged nearby trees & plants.
- Emissions from 50' smokestacks would be over 850° F (and FERC dismissed this concern by saying birds would likely not fly into this). No studies were provided to support this idea.
- NJ's Water Plan suggests that Trap Rock Quarry could be a reservoir after 2045. FERC would not consider risks of decades of airborne pollutants on this site (a potential future drinking water source) since this reservoir is not yet a certainty.