

2 August 2019

Dear Roddy Bachman,

Listed below are our observations regarding the Bluewater Texas Terminal, LLC (Bluewater) project documents you provided in your recent request for agency assistance.

1. The HDD10-Pipeline Exit Location on the southern end of San Jose Island (Engineering Drawings) and trenching and installation of pipelines transects beach nesting habitat for Kemp's ridley (day nesting), loggerhead and green sea turtles (night nesting). Nesting occurs from March 30–October 1st each year. Horizontal directional drilling (HDD) will reduce impacts, but onshore trenching and drilling may still pose a disturbance threat to nesting sea turtles, which are very sensitive to light (night nesting species only), vibrations (including those from loud sounds), and movement, as a predator avoidance mechanism. This is in slight contradiction to the statement on page 8-47 that states “Impacts on the beaches of San Jose Island will also be avoided by HDD.” This can be clarified by providing more detail and descriptions regarding how this will be the case. It should at least be placed in the category “may affect, but is not likely to adversely affect”.

2. The 80-92 foot water depth indicated for the offshore port is located in the Kemp's ridley sea turtle main migratory pathway and foraging areas, established by satellite tracking adult nesting turtles (Shaver et al. 2016a, 2017a). During construction and operations of the port, threats to this species include disturbance caused by increased boat traffic and impacts from increased pollution caused by increased boat traffic. Of 43 post-nesting Kemp's ridleys tracked by satellite tagging from Mexican nesting beaches, 84% of them migrated north using the nearshore waters off the Texas coast (Shaver & Rubio 2008, Shaver et al. 2016a). The threats to this species are higher since the Kemp's ridley is limited to coastal migration unlike other sea turtle species that can migrate in deeper water. This species is the smallest of the sea turtles and thus has a limited dive depth and cannot forage in deeper water. A portion of adult Kemp's ridleys have also been documented as year round residents in the area where the project is proposed (Shaver & Rubio 2008, Shaver et al. 2016a, b, 2017a) extending the threats to the species beyond the seasonal nesting and migration periods.

3. VolII, Pg. 22-1: Onshore components associated with the proposed deepwater port are defined as those components landward side of the western Redfish Bay mean high tide (MHT) line, located in San Patricio and Aransas Counties, Texas. Inshore components associated with the proposed Project are defined as those components located between the western Redfish Bay MHT line and the MHT line located at the interface of San Jose Island and the Gulf of Mexico (GOM). Offshore components associated with the proposed Project are defined as those components located seaward of the MHT line located at the interface of San Jose Island and the GOM.

4. Volume II: Environmental Evaluation (Public); Section 8 – Wildlife and Protected Species: The last sentence of the second paragraph under heading “8.2.2.7.2 MARINE REPTILES” (p. 8-46) states that “There are very few sightings of these species in nearshore marine environments.” While this might have been true 10-15 years ago, juvenile green sea turtles have become much more numerous in the inshore waters around the project areas, both inshore and offshore, and are very frequently seen surfacing (Shaver et al. 2017b). There are high concentrations of turtles near the ship channel jetties and in Redfish Bay. As these turtles reach approximately 20–25cm SCL (straight carapace length), they transition from offshore pelagic habitats (w/ Sargassum sp.) to

shallow inshore and nearshore neritic zone habitats where algae and seagrass beds provide forage and shallow water provides safety from larger predators such as sharks (Howell et al. 2016). These juveniles inhabit inshore waters year-round and comprise the largest population of green sea turtles in Texas, with the largest number of individuals residing in the Laguna Madre (Shaver et al. 2017b). This puts them at risk of impact and disturbance during construction for this project, especially in the trench and pipe laying areas. HDD will reduce impacts, but please clarify how it will eliminate all impacts to these turtles.

There is a copy/paste error on page 8-47, the last paragraph of the Kemp's ridley section refers to green sea turtles. There are a few 'USFWS reference' errors that need to be corrected as well, where the one listed in the text does not match with regard to the species in the document reference section.

Both Kemp's ridley sea turtles (day nesting) and to a lesser extent loggerhead sea turtles (night nesting) and green sea turtles (night nesting) nest on San Jose and Mustang Island beaches, where the project is proposed. Though this is partially covered in the document, the description is incomplete in some sections.

Within the description of the Kemp's ridley (pp.8-46 to 8-47) the information listed above (#2) regarding migration would strengthen the material.

The main concerns regarding project impacts to sea turtles during construction, routine operation, potential accidents, and end of use decommission are to juvenile green sea turtles and the adult Kemp's ridley sea turtles that inhabit and use those areas. Strengthening the discussion regarding those two species is suggested. Timing of the 9-week HDD construction phase will be important in regards to reducing impacts to avoid nesting season and periods of extreme cold weather when inshore sea turtles can become incapacitated (hypothermic stunned sea turtles described in Shaver et al. 2017b).

Sincerely,

Sincerely,

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Referenced publications:

Howell LN, Reich KJ, Shaver DJ, Landry AM Jr, Gorga CC. (2016) Ontogenetic shifts in diet and habitat of juvenile green sea turtles in the northwestern Gulf of Mexico. *Mar Ecol Prog Ser.* 559: 217–229

Shaver DJ & Rubio C (2008) Post-nesting movement of wild and head-started Kemp's ridley sea turtles, *Lepidochelys kempii*, in the Gulf of Mexico. *Endang Species Res* 4:43–55

- Shaver DJ, Hart KM, Fujisaki I, Rubio C, et al. (2016a) Migratory corridors of adult female Kemp's ridley turtles in the Gulf of Mexico. *Biol Conserv* 194:158
- Shaver DJ, Rubio C, Walker JS, George J, et al. (2016b) Kemp's ridley sea turtle (*Lepidochelys kempii*) nesting on the Texas coast: geographic, temporal, and demographic trends through 2014. *Gulf Mex Sci* 33: 158–178
- Shaver DJ, Hart KM, Fujisaki I, Bucklin D, Iverson AR, Rubio C, et al. (2017a) Inter-nesting movements and habitat-use of adult female Kemp's ridley turtles in the Gulf of Mexico. *PLoS One* 12(3):e0174248
- Shaver DJ, Tissot PE, Streich MM, Walker JS, Rubio C, Amos AF, et al. (2017b) Hypothermic stunning of green sea turtles in a western Gulf of Mexico foraging habitat. *PLoS ONE* 12(3): e0173920.