

Table 2.3-1
SNWW Alternatives Comparison Table
Screened Alternatives Analysis Matrix - Potential Impacts to Evaluation Criteria

<i>Note</i> Column Letter is for reference in this table ONLY	No-Action Alternative	Alternative A	Alternative B	Alternative C	Alternative D (Preferred Alternative)	Alternative E	Alternative F	Alternative G
ALTERNATIVES	Maintain existing 40-foot-deep by 800-foot-wide by 22-mile-long Sabine Bank and Outer Bar Channels, transitioning to 500 feet wide in the Sabine Pass Jetty Channel, and 400-x-40-foot-deep channel to Beaumont	45-Foot Channel to Beaumont with an 8-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins.	46-Foot Channel to Beaumont with a 9.7-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	47-Foot Channel to Beaumont with a 11.4-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	48-Foot Channel to Beaumont with a 13.2-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	49-Foot Channel to Beaumont with a 14.8-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	50-Foot Channel to Beaumont with a 16.5-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	Up to eight Neches River Turning and Anchorage Basins
PLAN COMPARISON								
Construction Dredging Note: All totals in this section are approximate								
Inshore SNWW Navigation Channels and Basins	None	35.1 mcy	41.9 mcy	48.8 mcy	54.4 mcy	61.3 mcy	67.2 mcy	8.2 mcy
Offshore SNWW Navigation Channel	None	29.2 mcy	33.8 mcy	38.4 mcy	43 mcy	48.6 mcy	54.1 mcy	NA
Total	NA	64.3 mcy	75.7 mcy	87 mcy	98 mcy	109.9 mcy	121.3 mcy	8.2 mcy
Maintenance Dredging (50-year plan) Note: All totals in this section are approximate								
Inshore SNWW Navigation Channels and Basins	245 mcy	249 mcy	258.4 mcy	267.6 mcy	280.6 mcy	289.9 mcy	295 mcy	8.4 mcy
Offshore SNWW Navigation Channel	161 mcy	332.8 mcy	345.1 mcy	357.2 mcy	369.8 mcy	382 mcy	394.2 mcy	0.0 mcy
Total	407 mcy	581.8 mcy	603.5 mcy	624.8 mcy	650.4 mcy	671.9 mcy	689.2 mcy	8.4 mcy
Dredged Material Placement (50-year plan)								
Upland PAs	16 existing PAs with periodic raising of containment levees.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative	16 existing PAs with higher containment levees; new cells at existing PAs (18A and 24A).	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative; marginal additional quantities already provided for in upland PAs.
Neches River Beneficial Use (BU) Feature	None. No suitable new work material available to construct containment levees.	New work and maintenance material quantities expected to be lower than Preferred Alternative, marginally reducing size of Neches River BU Feature.	New work and maintenance material quantities expected to be lower than Preferred Alternative, marginally reducing the size of the Neches River BU Feature.	New work and maintenance material quantities expected to be lower than Preferred Alternative, marginally reducing the size of the Neches River BU Feature.	New work material is used beneficially to construct this BU feature at Rose City, Bessie Heights, and Old River Cove. No material from the offshore channels would be used beneficially.	New work and construction material quantities expected to be higher than the Preferred Alternative. Increasing size of BU feature is unlikely since there are limited areas remaining near the channel that would be least-cost placement alternatives.	New work and construction material quantities expected to be higher than the Preferred Alternative. Increasing size of BU feature is unlikely since there are limited areas remaining near the channel that would be least-cost placement alternatives.	Material quantities from the turning/anchorage basins would be used beneficially, but quantities are so small that they would not significantly affect size of the size of the Neches River BU Feature.
Gulf Shore BU Feature	Nourishment of 3 miles of Texas and Louisiana Point shorelines, alternating every 3 years. Material from offshore channels is not being used beneficially.	Quantity of maintenance material will be less than that available with Preferred Alternative, but nourishment would still occur over 3 miles of shoreline at both Texas and Louisiana Points, alternating every 3 years for 50 years.	Quantity of maintenance material will be less than that available with Preferred Alternative, but nourishment would still occur over 3 miles of shoreline at both Texas and Louisiana points, alternating every 3 years for 50 years.	Quantity of maintenance material will be less than that available with Preferred Alternative, but nourishment would still occur over 3 miles of shoreline at both Texas and Louisiana points, alternating every 3 years for 50 years.	Same as No-Action Alternative	Quantity of maintenance material would be more than that available with the Preferred Alternative, but nourishment would still occur over 3 miles of shoreline at both Texas and Louisiana points, alternating every 3 years for 50 years.	Quantity of maintenance material would be more than that available with the Preferred Alternative, but nourishment would still occur over 3 miles of shoreline at both Texas and Louisiana Points, alternating every 3 years for 50 years.	Not applicable
ODMDS	4 existing ODMDSs. No size increase is projected; sites are dispersive.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative	4 existing ODMDSs and designation of 4 new ODMDSs	Same as Preferred Alternative	Same as Preferred Alternative	Not applicable
EVALUATION CRITERIA								
Water Quality								
Water Column Effects	Turbidity during periodic maintenance dredging of existing Federal and non-Federal channels, basins, and berthing areas; best management practices employed during placement activities to ensure minimal effects on turbidity.	About the same as Preferred Alternative	About the same as Preferred Alternative	About the same as Preferred Alternative	Turbidity during construction up to 1 mile downcurrent from cutter or drag head. Little, if any, difference in turbidity during periodic maintenance dredging of the navigation channels, basins, and berthing areas. Best management practices employed during placement activities ensure minimal turbidity and no release of contaminated materials. Neches River BU Feature would result in net benefit to water quality in study area.	About the same as Preferred Alternative	About the same as Preferred Alternative	Turbidity during construction up to 1 mile downcurrent from cutter or drag head. Little, if any, difference in turbidity during periodic maintenance dredging of navigation channels, basins, and berthing areas. Best management practices employed during placement activities ensure minimal turbidity and no release of contaminated materials.
Sediment Quality								
Surficial Sediments	Alternative is not expected to change the quality of surficial sediments.	About the same as Preferred Alternative	About the same as Preferred Alternative	About the same as Preferred Alternative	Data from physical, chemical, and bioaccumulation studies indicate that construction material from this Alternative is suitable for ocean placement and use in BU features.	About the same as Preferred Alternative	About the same as Preferred Alternative	About the same as Preferred Alternative

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Sediment Quality, cont'd								
Maintenance Material	Most material from inshore channel reaches is currently placed in upland confined PAs. Data from physical, chemical, and bioaccumulation studies indicate no cause for concern from effluent. Material from Section 5 would be used in the Gulf Shore BU Feature. Based upon past experience with SNWW testing, material is expected to be environmentally acceptable under all applicable regulations.	The quantity of maintenance material from inshore and offshore channel reaches would be less than the Preferred Alternative. The source of the material is the same as the No-Action Alternative. Material would be used beneficially at the Neches River and Gulf Shore BU features. Based upon past experience with the testing on the SNWW material, material is expected to be environmentally acceptable under all applicable regulations.	About the same as Alternative A	About the same as Preferred Alternative	The quantity of maintenance material from inshore channel reaches would increase 15% over the No-Action Alternative; in offshore reach the quantity would increase 130%. The source of the material is the same as the No-Action Alternative. Material would be used beneficially at the Neches River and Gulf Shore BU features. Based upon past experience with the testing on the SNWW material, material is expected to be environmentally acceptable under all applicable regulations.	About the same as Preferred Alternative	The quantity of maintenance material from inshore and offshore channel reaches would be higher than the Preferred Alternative.	Turning and anchorage basins in this alternative are located immediately adjacent to the navigation channel, in relict Neches River oxbows. The relict oxbow channels maintain circulation with the larger river and navigation channel. Slower relative velocities in the oxbows may result in higher shoaling rates. However, the turning/anchorage basins would not be expected to add significant maintenance dredging quantities due to their small size relative to the navigation channel.
Hydrology								
Circulation, Exchange, Velocities	Increases in tidal exchange, velocities and water surface elevations would be expected with "most likely" RSLR of 1.1 feet.	Deeper navigation channel would allow greater tidal circulation and exchange with Gulf than No-Action Alternative. Average water elevations would be negligibly higher in most places, though lower than the Preferred Alternative. Velocity magnitudes would be slightly higher, but absolute magnitudes are small.	Same as Alternative A	Same as Preferred Alternative	Deeper navigation channel would allow greater tidal circulation and exchange with Gulf than No-Action Alternative. Average water elevations are negligibly higher, averaging less than 0.8 inch. Velocity magnitudes would be slightly higher, but absolute magnitudes are small.	Deeper navigation channel would allow greater tidal circulation and exchange with Gulf than No-Action Alternative. Average water elevations would be slightly higher in most places, and slightly higher than the Preferred Alternative. Velocity magnitudes would be slightly higher, but absolute magnitudes are small.	About the same as Alternative E	The turning/anchorage basin Alternative would have no effect on tidal circulation or exchange.
Freshwater Flows	Future freshwater inflows determined by precipitation, demand and supply strategies, and the Neches River and Sabine River Water Authorities in accordance with State and Federal operating permits.	About the same as Preferred Alternative	About the same as Preferred Alternative	About the same as Preferred Alternative	Alternative will have no effect on freshwater inflows; however, by slight tidal exchange increases anticipated, conveying outflows to the Gulf marginally faster than under the No-Action Alternative.	About the same as Preferred Alternative	About the same as Preferred Alternative	About the same as Preferred Alternative
Sediment Transport - Inshore Channels	The amount of sediment-laden run-off is likely to increase under the No-Action Alternative due to climate change. Low bottom velocities in some areas result in higher than average shoaling rates. These channel segments are portions of the Sabine Pass Channel near the mouth of Sabine Lake, the Port Arthur and Taylor Bayou Junction in the Sabine-Neches Canal, and a downstream section of the Sabine-Neches Canal.	This Alternative will have a larger volume below the existing river bed than the No-Action Alternative, resulting in higher shoaling rate than the No-Action Alternative. The channel prism would be smaller than alternatives B through F.	This Alternative will have a larger volume below the existing river bed than the No-Action Alternative, resulting in higher shoaling rate than the No-Action Alternative. The channel prism would be smaller than Alternatives C through F.	This Alternative will have a larger volume below the existing river bed than the No-Action Alternative, resulting in higher shoaling rate than the No-Action Alternative. The channel prism would be smaller than alternatives D through F.	This Alternative will have a larger volume below the existing river bed than the No-Action Alternative, resulting in higher sheeting rate than the No-Action Alternative and Alternatives A through C.	This Alternative will have a larger volume below the existing river bed than the No-Action Alternative, resulting in higher sheeting rate than the No-Action Alternative and Alternatives A through D.	This Alternative will have a larger volume below the existing river bed than the No-Action Alternative, resulting in higher sheeting rate than the No-Action Alternative and alternatives A through E.	Turning and anchorage basins in this Alternative are located immediately adjacent to the navigation channel, in relict Neches River oxbows. The relict oxbow channels maintain circulation with the larger river and navigation channel. Slower relative velocities in the oxbows may result in higher shoaling rates.
Coastal Shoreline Erosion	Coastal shoreline erosion would continue and accelerate on the Texas Gulf shoreline, beyond 0.5 mile from the West Jetty. The Louisiana Gulf shoreline is not eroding in the study area. The shoreline within 0.5 mile of each jetty is accreting.	There would be a slight reduction in the accretion rate near both jetties, but between 0.5 and 3.5 miles from both jetties, erosion would increase by 2-4 inches/year.	There would be a slight reduction in the accretion rate near both jetties, but between 0.5 and 3.5 miles from both jetties, erosion would increase by 2-4 inches/year.	There would be a slight reduction in the accretion rate near both jetties, but between 0.5 and 3.5 miles from both jetties, erosion would increase by 3-5 inches/year.	There would be a slight reduction in the accretion rate near both jetties, but between 0.5 and 3.5 miles from both jetties, erosion would increase by 3-5 inches/year.	There would be a slight reduction in the accretion rate near both jetties, but between 0.5 and 3.5 miles from both jetties, erosion would increase by 4-6 inches/year.	There would be a slight reduction in the accretion rate near both jetties, but between 0.5 and 3.5 miles from both jetties, erosion would increase by 4-6 inches/year.	Not applicable - inshore turning and anchorage basins would have no effect on offshore conditions.
Inland Shoreline Erosion	Continuation of significant channel shoreline erosion along the Sabine-Neches Canal and portions of the Port Arthur Canal. Acceleration of shoreline recession of east Sabine Lake.	About the same as Preferred Alternative	About the same as Preferred Alternative	About the same as Preferred Alternative	Confined inland channel erosion rates reduced relative to the No-Action Alternative because of the larger channel and the fewer vessel trips predicted under this Alternative. East Sabine Lake shoreline recession same as the No-Action Alternative.	About the same as Preferred Alternative	About the same as Preferred Alternative	About the same as Preferred Alternative
Salinity	Salinity intrusion from existing SNWW Ship Channel, GIWW and Calcasieu Ship Channel would continue to affect majority of study area. Salinity would increase between 0 and 2 parts per thousand (ppt) due to RSLR under median flows.	Salinity would increase from 0 to 1.3 ppt over No-Action Alternative under median flows.	Salinity would increase from 0 to 1.5 ppt over the No-Action Alternative under median flows.	Salinity would increase from 0 to 1.6 ppt over the No-Action Alternative under median flows.	Saltwater wedge penetration expected farther up the SNWW navigation channels than under the No-Action Alternative. Salinities would increase from 0 to 1.8 ppt over the No-Action Alternative under median flows.	Salinity would increase from 0 to 2.0 ppt over the No-Action Alternative under median flows.	Salinity would increase from 0 to 2.2 ppt over the No-Action Alternative under median flows.	The addition of turning and anchorage basins on the Neches River Channel would have no measurable effect on salinity because of their small size relative to the existing tidal prism.

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Hydrology, cont'd								
Groundwater	Groundwater in the upper Chicot aquifer in the study area ranges from slightly to moderately saline, and increases in salinity as it nears the coast. Current activities that may affect groundwater (i.e., well extraction and existing dredging activities) are expected to continue. RSLR would adversely affect freshwater aquifers.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative	Navigation channel deepening under this Alternative would not be expected to increase salinities in the aquifer beyond those already present under the No-Action Alternative. No impacts would be expected with the additional placement of dredged material into upland PAs under this alternative.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative
Hazardous Materials								
	Evaluation and clean-up of nine priority sites of concern would continue under the No-Action Alternative	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative	Four of the nine priority hazardous materials sites are located adjacent to the SNWW. These sites present minimal potential for risk to this alternative. PA 17 contains hazardous materials from landfill and dumping activities. The type and extent of these hazardous materials must be determined before the PA can be used.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative
Air Quality								
Land-side Mobile Emissions	Land-side emissions in support of waste material placement will be maintained consistent with the level of existing maintenance dredging activities.	Air contaminant emissions from the combustion of fuel in equipment used for placement activities are estimated to be about 6% less than for the Preferred Alternative with a corresponding reduction in impact compared to the Preferred Alternative.	Air contaminant emissions from the combustion of fuel in equipment used for placement activities are estimated to be about 4% less than for the Preferred Alternative with a corresponding reduction in impact compared to the Preferred Alternative.	About the same as the Preferred Alternative	Air contaminant emissions from the combustion of fuel in equipment used for placement activities would result in minor short-term impacts on air quality in the immediate vicinity of the project area.	About the same as the Preferred Alternative	Air contaminant emissions from the combustion of fuel in equipment used for placement activities are estimated to be about 4% more than for the Preferred Alternative with a corresponding increase in impact compared to the Preferred Alternative.	Air contaminant emissions from the combustion of fuel in equipment used for placement activities are estimated to be small and would result in correspondingly minor short-term impacts on air quality in the immediate vicinity of the project area.
Ocean-Going Transit Emissions	Maintenance dredging activities will result in air emissions impact to project area.	Air contaminant emissions from the combustion of fuel in equipment used for placement activities are estimated to be about 59% less than for the Preferred Alternative with a corresponding reduction in impact compared to the Preferred Alternative.	Air contaminant emissions from the combustion of fuel in equipment used for placement activities are estimated to be about 43% less than for the Preferred Alternative with a corresponding reduction in impact compared to the Preferred Alternative.	About the same as the Preferred Alternative	Air contaminant emissions from the combustion of fuel in equipment used for dredging and placement activities would also result in short-term impacts on air quality in the immediate vicinity of the project area.	About the same as the Preferred Alternative	Air contaminant emissions from the combustion of fuel in equipment used for placement activities are estimated to be about 52% more than for the Preferred Alternative with a corresponding increase in impact compared to the Preferred Alternative.	Air contaminant emissions from the combustion of fuel in equipment used for dredging and placement activities are estimated to be small and would also result in correspondingly minor short-term impacts on air quality in the immediate vicinity of the project area.
Construction Emissions	Not applicable.	Air contaminant emissions from construction and dredging activities are expected to be about 18% less than for the Preferred Alternative with a corresponding reduction in short-term impacts on air quality in the immediate vicinity of the project area compared to the Preferred Alternative.	Air contaminant emissions from construction and dredging activities are expected to be about 12% less than for the Preferred Alternative with a corresponding reduction in short-term impacts on air quality in the immediate vicinity of the project area compared to the Preferred Alternative.	About the same as the Preferred Alternative	Pollutant emissions from construction and dredging activities will result in short-term impacts on air quality in the immediate vicinity of the project site. Construction of the proposed project would result in a 1 to 2% increase in emissions of nitrogen oxides (NO _x) above those resulting from existing emissions sources in the Beaumont-Port Arthur area.	About the same as the Preferred Alternative	Air contaminant emissions from construction and dredging activities are expected to be about 14% more than for the Preferred Alternative with a corresponding reduction in short-term impacts on air quality in the immediate vicinity of the project area compared to the Preferred Alternative.	Air contaminant emissions from construction and dredging activities are estimated to be much less than for the Preferred Alternative and will result in minor short-term impacts on air quality in the immediate vicinity of the project site.
General Conformity	Not required for No-Action Alternative.	A General Conformity Determination for NO _x emissions would likely be required for evaluation of emissions from construction activities.	A General Conformity Determination for NO _x emissions would likely be required for evaluation of emissions from construction activities.	A General Conformity Determination for NO _x emissions would likely be required for evaluation of emissions from construction activities.	A General Conformity Determination for NO _x emissions was submitted to TCEQ. TCEQ provided written concurrence that emissions are conformant with the Texas SIP for the Beaumont-Port Arthur region.	A General Conformity Determination for NO _x emissions would likely be required for evaluation of emissions from construction activities.	A General Conformity Determination for NO _x emissions would likely be required for evaluation of emissions from construction activities.	A General Conformity Determination would not be required for this construction.

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Habitat Effects					<i>Note: All CIP habitat impacts in Texas would be minimized and offset by the DMMP and no mitigation is required. All mitigation measures are located in Louisiana, compensating for salinity increase and loss to biological productivity.</i>			
Terrestrial and Emergent Vegetation (uplands and bottomland hardwoods)	No change to existing conditions for most uplands and bottomland hardwood areas. Most of the area is an upland ridge covered by primarily tallow woods; 86 acres are fresh marsh. Productivity impacts of this conversion are fully offset by productivity benefits of the Neches River BU Feature.	All other alternatives would use the same upland PAs as the Preferred Alternative.	All other alternatives would use the same upland PAs as the Preferred Alternative.	All other alternatives would use the same upland PAs as the Preferred Alternative.	No change to existing conditions for most uplands and bottomland hardwood areas. Two upland areas are being converted to new PA cells. In addition to PA 24A (see No-Action), another 71 acres of disturbed, low-quality scrub habitat would be converted to new PA 18A. Five currently inactive PAs (23A, 25A, 26, 27C, and 27D) would be returned to active use. All have been modified extensively by past placement activities and levees that isolate them and prevent contributions to the adjacent wetlands and riparian corridor. All contain degraded habitat with low habitat values, primarily roosting habitat for birds and some wildlife cover.	All other alternatives would use the same upland PAs as the Preferred Alternative.	All other alternatives would use the same upland PAs as the Preferred Alternative.	No incremental impacts to terrestrial and emergent vegetation from turning/anchorage basins.
Submerged Aquatic Vegetation (SAV)	Existing rate of emergent marsh loss would increase size of open-water areas at the expense of intertidal habitat, reduce marsh edge, and protected shallow-water habitat for SAV. Salinity-tolerant SAV species would expand coverage due to RSLR.	About the same as Preferred Alternative	About the same as Preferred Alternative	About the same as Preferred Alternative	Construction dredging would not affect SAV. The Neches River BU Feature would result in net increase in shallow-water ponds and sinuous channels, which provide still, protected waters beneficial to SAV. SAV coverage would be expected to increase over the No-Action Alternative in BU and mitigation areas.	About the same as Preferred Alternative	About the same as Preferred Alternative	Turning and anchorage basins in this alternative are located immediately adjacent to the navigation channel, in relict Neches River oxbows. The relict oxbows maintain circulation with the larger river and navigation channel. Protected shallow-water areas at oxbow edge that may provide SAV habitat would be temporarily affected during construction.
Freshwater Aquatic Habitat (freshwater streams, fresh marsh and swamp)	Existing high rate of marsh loss would continue under No-Action Alternative due to combined effect of RSLR, and altered hydrology and salinity levels. Swamps subject to pulses of higher salinity during low-flow conditions.	Generally the same as the Preferred Alternative because there would be no change to upland PAs and no significant differences in salinity impacts. New work and maintenance material quantities are expected to be lower than the Preferred Alternative, marginally reducing the size of Neches River BU Feature.	About the same as Alternative A	About the same as the Preferred Alternative	Impacts would consist of the conversion of 86 acres of wetlands to an upland confined placement area and small reductions in biological productivity due to small increase in salinity over 35,600 acres of fresh marsh and 804 acres of swamps in Texas and Louisiana. The Nueces River BU Feature would offset all productivity from small reductions in biological productivity due to a small increase in salinity. Compensatory mitigation would replace the lost biological productivity to fresh marsh and swamp in Louisiana.	Generally the same as the Preferred Alternative because there would be no change to upland PAs, and no significant differences in salinity impacts. New work and maintenance material quantities are expected to be higher than the Preferred Alternative but no change in the size of the Neches River BU Feature would be expected.	About the same as Alternative E	No freshwater habitat would be affected by turning/anchorage basin dredging or placement activities.
Estuarine Habitats (Sabine Pass, Sabine Lake, Neches and Sabine rivers and tributaries; Intermediate, Brackish, and Saline Marsh)	Existing high rate of marsh loss would continue under No-Action Alternative due to combined effect of RSLR, and altered hydrology and salinity levels. Water column turbidity and nutrient release associated with periodic, ongoing maintenance dredging would continue, although significant impacts are not anticipated.	Generally the same as the Preferred Alternative because there would be no significant difference in salinity impacts. New work and maintenance material quantities are expected to be lower than the Preferred Alternative, marginally reducing the size of Neches River BU Feature.	About the same as Alternative A	About the same as the Preferred Alternative	Small reductions in biological productivity due to small increase in salinity over large areas of estuarine marsh habitat (over 22,200 acres in Texas and 153,000 acres in Louisiana). Short-term impacts to benthic organisms are expected with channel dredging and the borrow trench and access channel for compensatory mitigation in the Willow Bayou marshes. Productivity impacts in Texas would be fully offset by benefits of Neches River and Gulf Shore BU features. Compensatory mitigation in Louisiana would fully compensate productivity losses to marshes and benthic resources.	Generally the same as the Preferred Alternative because there would be no significant difference in salinity impacts. New work and maintenance material quantities are expected to be higher than the Preferred Alternative but no change in the size of the Neches River BU Feature would be expected.	About the same as Alternative E	Small, one-time impact to benthic habitat with construction of new or expanded turning and anchorage basins.

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ALTERNATIVES	Maintain existing 40-foot-deep by 800-foot-wide by 22-mile-long Sabine Bank and Outer Bar Channels, transitioning to 500 feet wide in the Sabine Pass Jetty Channel, and 400-x-40-foot-deep channel to Beaumont	45-Foot Channel to Beaumont with an 8-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins.	46-Foot Channel to Beaumont with a 9.7-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	47-Foot Channel to Beaumont with a 11.4-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	48-Foot Channel to Beaumont with a 13.2-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	49-Foot Channel to Beaumont with a 14.8-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	50-Foot Channel to Beaumont with a 16.5-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	Up to eight Neches River Turning and Anchorage Basins
Habitat Effects, cont'd								
Marine Aquatic Habitat	Water column turbidity and nutrient release associated with periodic, ongoing maintenance dredging and placement would continue, although significant impacts would not be anticipated.	Shorter Entrance Channel Extension would result in fewer short-term impacts to benthic organisms than the Preferred Alternative. Reasonable and prudent measures to avoid impacts to sea turtles would be the same for all alternatives.	About the same as Alternative A	About the same as Preferred Alternative	Short-term impacts to benthic organisms are expected with creation of 4 new ODMDSs. Dredging impacts to bottom-feeding and pelagic organisms such as sea turtles may occur with hopper dredging, but reasonable and prudent measures to avoid impacts would be instituted with an avoidance plan.	Longer Entrance Channel Extension would result in greater short-term impacts to benthic organisms than the Preferred Alternative. Reasonable and prudent measures to avoid impacts to sea turtles would be the same for all alternatives.	About the same as Alternative E	Not Applicable
Terrestrial Wildlife Habitat	Ongoing maintenance dredging, including placement, would not result in additional impacts to terrestrial wildlife habitats (upland grasslands and coastal prairies, and upland, nonwetland riparian woodlands and forests).	All other alternatives would use the same upland PAs as the Preferred Alternative	All other alternatives would use the same upland PAs as the Preferred Alternative.	All other alternatives would use the same upland PAs as the Preferred Alternative.	No impact to Louisiana swamp and small productivity impact to 804 acres of Texas swamp. DMMP Neches River restoration would offset all impacts in Texas and results in excess of 843 Average Annual Habitat Units (AAHUs). Two upland areas are being converted to new PA cells. One 187-acre upland area would be converted to new PA cell 24A. Most of the area is an upland ridge covered primarily by tallow woods; however, 86 acres are fresh marsh. Another 71 acres of disturbed, low-quality scrub habitat would be converted to new PA cell 18A. Productivity impacts of this conversion are fully offset by productivity benefits of the Neches River BU Feature.	All other alternatives would use the same upland PAs as the Preferred Alternative.	All other alternatives would use the same upland PAs as the Preferred Alternative.	No incremental impacts to terrestrial wildlife habitat from turning/anchorage basins.
Essential Fish Habitat (EFH)								
	Ongoing maintenance dredging, including placement, would not result in additional permanent impacts to EFH; temporary impacts due to sedimentation, turbidity, and nutrient release are temporary and episodic.	About the same as Preferred Alternative	About the same as Preferred Alternative	About the same as Preferred Alternative	Turbidity would be temporary; localized impact during dredging and ODMDS material placement; benthos would be affected until natural recovery occurs. The DMMP and mitigation measures propose 13,053 acres EFH emergent marsh (approximately 75%) and open shallow water (approximately 25%).	About the same as Preferred Alternative	About the same as Preferred Alternative	None
Endangered and Threatened (E&T) Species								
E&T Vertebrates	Ongoing maintenance dredging, including placement, may result in sedimentation and alter hydrology; potential impacts to sea turtles are covered by the Gulf Regional Biological Opinion for USACE's maintenance dredging activities.	Same as the preferred alternative for piping plover and its critical habitat. Small reductions in potential impacts to sea turtles due to reduced dredging time as compared to the Preferred Alternative.	About the same as Alternative A	About the same as Alternative A	Proposed beach nourishment at Louisiana Point would occur along 3 miles of piping plover critical habitat; however, positive effects for the plover are anticipated (may affect, but not likely to adversely affect). A Biological Opinion from USFWS has concurred with this assessment. New work dredging (construction) is likely to adversely affect but not likely to jeopardize the continued existence of loggerhead, Kemp's ridley, and green sea turtles. In a draft Biological Opinion, NMFS anticipates an incidental take of 4 sea turtles and has identified reasonable and prudent measures to be taken to minimize effects during construction. Potential impacts to sea turtles from maintenance dredging are covered by the Gulf Regional Biological Opinion for USACE's dredging activities.	About the same as Alternative A	About the same as Alternative A	None
E&T Invertebrates	None	None	None	None	None	None	None	None
E&T Plants	None	None	None	None	None	None	None	None

Table 2.3-1
SNWW Alternatives Comparison Table
Screened Alternatives Analysis Matrix - Potential Impacts to Evaluation Criteria

<i>Note</i> Column Letter is for reference in this table ONLY	No-Action Alternative	Alternative A	Alternative B	Alternative C	Alternative D (Preferred Alternative)	Alternative E	Alternative F	Alternative G
ALTERNATIVES	Maintain existing 40-foot-deep by 800-foot-wide by 22-mile-long Sabine Bank and Outer Bar Channels, transitioning to 500 feet wide in the Sabine Pass Jetty Channel, and 400-x-40-foot-deep channel to Beaumont	45-Foot Channel to Beaumont with an 8-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins.	46-Foot Channel to Beaumont with a 9.7-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	47-Foot Channel to Beaumont with a 11.4-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	48-Foot Channel to Beaumont with a 13.2-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	49-Foot Channel to Beaumont with a 14.8-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	50-Foot Channel to Beaumont with a 16.5-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	Up to eight Neches River Turning and Anchorage Basins
Cultural Resources								
Terrestrial Archeological Sites	Under the No-Action Alternative, archeological sites located in eroding marsh areas would increasingly be exposed to the erosive effects of wind and tidal action. Archeological sites along the SNWW navigation channel would continue to be exposed to the erosive forces of boat wakes; this would increase in the future as vessel trips rise to support projected imports under the current lightering requirements.	About the same as Preferred Alternative	About the same as Preferred Alternative	About the same as Preferred Alternative	Archeological site impacts in and around margins of DMMP BU features and Mitigation Measures would be avoided to the greatest extent possible. No unavoidable impacts have been identified. The restoration of eroding marsh areas will stabilize landforms, create stable marsh buffers, and prevent further erosion of sites. Future vessel trips and erosive boat wakes are expected to be reduced relative to the No-Action Alternative.	About the same as Preferred Alternative	About the same as Preferred Alternative	None
Historic Structures	No impacts to historic structures are expected to occur with the No-Action Alternative.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative	The alternative will not affect the Sabine Pass Lighthouse, Rainbow Bridge, or any known historic structures.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative
Shipwrecks	Maintenance dredging would continue with the potential to affect unidentified shipwrecks along the margins of the SNWW.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative	The Alternative would not affect the USS <i>Clifton</i> wreck site. Additional investigations would be conducted to determine if unknown shipwrecks eligible for the National Register of Historic Places would be adversely affected. If adverse effects to eligible shipwrecks are identified, they will be addressed in accordance with requirements of the Historic Properties Programmatic Agreement.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative
Socioeconomics								
Land Use; Population; Community Values, Housing, Infrastructure and Services	Residential and industrial development would continue on its slow to moderate path. Community facilities, services, and housing would not increase due to low population trends. Land use plans and development would continue to follow neighboring cities' patterns. Some industrial sites along the ship channel are expanding, and some new facilities are being constructed.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative	The Preferred Alternative would likely promote the development of some industrial sites along the ship channel, but population growth is not expected to change much from present. The Preferred Alternative would not divide, isolate, or separate residents from community facilities.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative
Recreation; Aesthetics	Recreational fishing and wildlife watching would remain as the major activity for recreation in the SNWW. Under the No-Action Alternative, 2,853 acres of marsh land, 871 acres of shallow-water habitat, and 6 miles of shoreline would not be restored. The marsh degradation process would proceed unchecked, eventually adversely affecting recreational fishing. The No-Action Alternative would not affect scenic and aesthetic values.	Similar to Preferred Alternative	Similar to Preferred Alternative	Similar to Preferred Alternative	Under the Preferred Alternative, 2,853 acres of marsh land, 871 acres of shallow water habitat, and 6 miles of shoreline would be restored, which would provide more fishing and wildlife watching for this area, thus enhancing the life for recreational use and improving some natural aesthetic values.	Similar to Preferred Alternative	Similar to Preferred Alternative	Same as Preferred Alternative
Environmental Justice (EJ)	The No-Action Alternative action would not impact minority or low-income persons.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative	Populations includes 59.6% white persons, 26.7% black or African Americans, and 9.6% Hispanic or Latino persons. Therefore, the Preferred Alternative would not be located within a minority area. The median household income for the study area population is \$28,884, which is above the Department of Health and Human Services 2006 poverty guideline of \$20,000 for family of four; therefore, the Preferred Alternative would not be located in low-income area. No adverse or disproportionately high impacts on minority or low-income persons is anticipated from the Preferred Alternative.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative

Table 2.3-1
SNWW Alternatives Comparison Table
Screened Alternatives Analysis Matrix - Potential Impacts to Evaluation Criteria

<i>Note</i> <i>Column Letter is for reference</i> <i>in this table ONLY</i>	No-Action Alternative	Alternative A	Alternative B	Alternative C	Alternative D (Preferred Alternative)	Alternative E	Alternative F	Alternative G
ALTERNATIVES	Maintain existing 40-foot-deep by 800-foot-wide by 22-mile-long Sabine Bank and Outer Bar Channels, transitioning to 500 feet wide in the Sabine Pass Jetty Channel, and 400-x-40-foot-deep channel to Beaumont	45-Foot Channel to Beaumont with an 8-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins.	46-Foot Channel to Beaumont with a 9.7-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	47-Foot Channel to Beaumont with a 11.4-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	48-Foot Channel to Beaumont with a 13.2-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	49-Foot Channel to Beaumont with a 14.8-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	50-Foot Channel to Beaumont with a 16.5-mile by 700-foot-wide extension of the Entrance Channel, and deepening and widening of Taylor Bayou Channels and Basins	Up to eight Neches River Turning and Anchorage Basins
Socioeconomics, cont'd								
Direct wages and salaries; Employment	In 2004, the ports created \$877.7 million in direct wages and salaries; 83,692 jobs in Texas and Louisiana at private and public marine terminals along SNWW; 14,987 jobs directly related to activities along the SNWW; 13,628 induced jobs from local purchases from SNWW workers; 55,077 indirect jobs.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative	The Preferred Alternative would likely promote the development of industrial sites along the ship channel and a steady historical trend towards increased reliance on these industries; the positive economic effects to the study area economy would be moderate at the least and substantial at best.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative
Local and Federal Tax Revenues	Local tax revenues: \$426.5 million in 2004 generated by activity at marine terminals. Federal revenues: \$853 million in 2004 generated by activity at marine terminals.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative	The increase in the tax base as a result of the Preferred Alternative would be fairly slow and consistent with historical growth trends.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative
Safety								
	The probability of accidents would increase under the No-Action Alternative as vessel trips rise to support projected imports under the current lightering requirements and as new LNG plants become operational.	Same as Preferred Alternative	Same as Preferred Alternative	Same as Preferred Alternative	Vessel traffic is expected to increase; however, these increases would be lower because of the deeper channel allowing more deep-draft cargo to be carried with fewer vessel trips. As a result, the probability of accidents would decrease relative to the No-Action Alternative.	Same as Preferred Alternative	Same as Preferred Alternative	The addition of turning/anchorage basins on the Neches River Channel under this Alternative provides areas adjacent to the navigation channel where deep-draft vessels can safely wait their turn to dock. More ships can safely use the waterway as compared to the No-Action Alternative.
Commercial Navigation								
	Vessel trips would increase, adding to shipping delays, congestion, and cost. LNG vessels began using the lower waterway in 2008, adding to channel congestion and delays. Average annual benefits of the No-Action Alternative are \$5,471.	Some deep-draft vessels would be able to enter the SNWW more fully loaded, reducing the overall number of vessel trips. Average annual benefits of this alternative are \$84,917, and the benefit to cost ratio is 1.1.	Some deep-draft vessels would be able to enter the SNWW more fully loaded, reducing the overall number of vessel trips. Average annual benefits of this alternative are \$97,117, and the benefit to cost ratio is 1.2.	Some deep-draft vessels would be able to enter the SNWW more fully loaded, reducing the overall number of vessel trips. Average annual benefits of this alternative are \$105,540, and the benefit to cost ratio is 1.2.	Some deep-draft vessels would be able to enter the SNWW more fully loaded, reducing the overall number of vessel trips. Average annual benefits of this alternative are \$116,334, and the benefit to cost ratio is 1.2.	Some deep-draft vessels would be able to enter the SNWW more fully loaded, reducing the overall number of vessel trips. Average annual benefits of this alternative are \$124,164, and the benefit to cost ratio is 1.2.	Some deep-draft vessels would be able to enter the SNWW more fully loaded, reducing the overall number of vessel trips. Average annual benefits of this alternative are \$128,736, and the benefit to cost ratio is 1.2.	The addition of turning/anchorage basins on the Neches River Channel allows more ships to reduce vessel delays as compared to the No-Action Alternative. Average annual benefits are \$1,312.