Attachment D-10

Agency Letters

United States Department of the Interior
FISH AND WILDLIFE SERVICE

Texas Coastal Ecological Services Field Office
17629 El Camino Real, Suite 211
Houston, Texas 77058
281/286-8282 / (FAX) 281/488-5882

May 08, 2019

Douglas C. Sims, PMP, RPA
Regional Planning and Environmental Center
U.S. Army Corps of Engineers
819 Taylor Street, Rm 3A12
Ft. Worth, TX 76102

Dear Mr. Sims,

Thank you for your April 23, 2019 letter requesting consultation under the Coastal Barrier Resources Act (CBRA) for actions affecting Units T05/T05P andT07/T07P of the Coastal Barrier Resources System (System).

Our comments are made pursuant to Section 6 of the CBRA, which requires federal agencies to consult with the Secretary of the Interior before making federal expenditures or financial assistance available within the System. The Secretary has delegated his consultation responsibility to the U.S. Fish and Wildlife Service (Service). The Service's response to a consultation request is in the form of an opinion only. The federal agency retains the responsibility for complying with the provisions of the CRBA.

Your consultation request is for the proposed modification of the Brazos River Floodgates (Brazoria County, TX) and the Colorado River Locks (Matagorda County, TX) to alleviate navigational difficulties, delays, and accidents. The proposed project actions are fully described in the Interagency CBRA Consultations Template (attached).

In your request, you indicate that the proposed project qualifies as a general exemption under 16 U.S.C. 3505(a)2 since the expenditure is for:

- The maintenance or construction of improvements of existing Federal navigation channels (including the Intracoastal Waterway) and related structures (such as jetties), including the disposal of dredge materials related to such maintenance or construction. A Federal navigation channel or a related structure is an existing channel or structure, respectively, if it was authorized before the date of which the relevant System unit, or portion of the System Unit, was included within the CBRS.

The Service has thoroughly reviewed this project, specifically the portion of the project that lies within Units T05/T05P of the System. Based on the information provided, it is our opinion that the proposed modification of the Brazos River Floodgates does qualify for federal funding as an exemption under 16 U.S.C. 3505(a)2 of the CRBA. No determination was made for the Colorado River Locks portion of the project, as it is located outside of the Matagorda Peninsula Unit (Unit T07/T07P) by approximately 0.5 miles. Should the project expand into the unit during construction or at a later date, the Service will review it at that time.

If you have any questions, or if we can be of further assistance, please contact Denise Ruffino at 281-212-1514.

Sincerely,

Charles Ardizzone
Field Supervisor
Texas Coastal Ecological Services Field Office

U.S. Fish and Wildlife Service Response

Below is the Service's response to USACE's request for a consultation under the CBRA for the Gulf Intracoastal Waterway, Brazos River Floodgates Project. This response represents the Service's opinion. **The final decision regarding the expenditure of funds for this action or project rests with the Federal funding agency.** The Corps has fulfilled its obligation to consult with the Service under the CBRA for this particular action or project within the CBRS. Please note that any new commitment of Federal funds associated with this action or project, or change in the project design and/or scope, is subject to the CBRA's consultation requirement.

The Service has reviewed the information provided by USACE and believes the referenced action/project is:

- ☐ Not located within a System Unit of the CBRS and the CBRA does not apply (except with respect to the restrictions on Federal flood insurance)
- ☒ Located within a System Unit of the CBRS and meets the exception(s) to the CBRA selected above
- ☐ Located within a System Unit of the CBRS and meets different exception(s) than the one(s) selected above (see additional information/comments below)
- ☐ Located within a System Unit of the CBRS and does not meet an exception to the CBRA (see additional information/comments below)
- ☐ Due to many competing priorities, the Service is unable to provide an opinion on the applicability of the CBRA's exceptions to this action/project at this time. The *AGENCY NAME* may elect to proceed with the action/project if it has determined that the action/project is allowable under the CBRA. Please note that any new commitment of Federal funds associated with this action/project or a related future project is subject to the CBRA's consultation requirement.

Additional Information/Comments
Include any additional information/comments.

If you have any questions, please contact Denise Ruffino, Fish and Wildlife Biologist, at 281-212-1514 or at denise_ruffino@fws.gov.

This response does not constitute consultation for any project pursuant to section 7 of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) or comments afforded by the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq.*); nor does it preclude comment on any forthcoming environmental documents pursuant to the National Environmental Policy Act (83 Stat. 852; 42 U.S.C. 4321 *et seq.*).

Charles Ardizzone, Field Supervisor
USFWS - TX Coastal Ecological Services Field Office

9 May 2019
Date

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1229
GALVESTON, TEXAS 77553-1229

April 23, 2019

Mr. Charles Ardizzone
U.S. Fish and Wildlife Service
Texas Coastal Ecological Services
17629 El Camino Real
Houston, TX 77058

Dear Mr. Ardizzone,

The U.S. Army Corps of Engineers, Galveston District (USACE) requests a consultation with the U.S. Fish and Wildlife Service (Service) under the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 *et seq.*) for the proposed Gulf Intracoastal Waterway (GIWW), Brazos River Floodgates (BRFG) and Colorado River Locks (CRL), Texas Project. The lead agency for this proposed action is the USACE.

Project Location

Based on the Coastal Barrier Resources System (CBRS) mapper, the project encompasses two locations on the GIWW along the Texas Coast. The BRFG is located about 7 miles southwest of Freeport, Texas, at the crossings of the Brazos River and the GIWW in Brazoria County, and is partially within the Brazos River Complex (Unit T05/T05P) of the CBRS.

The CRL are located in Matagorda, Texas, at the intersection of the Colorado River and the GIWW in Matagorda County. The CRL is located approximately 0.5 mile north of the Matagorda Peninsula Unit (Unit T07/T07P) of the CBRS.

Figures 1 and 2 (**attached**) show the overall project location and locations of the BRFG and CRL in relation to the CBRS boundary. **Figures 3 and 4** (**attached**) show the CBRS units that are located in the BRFG and CRL vicinities, respectively.

Description of the Proposed Action or Project

The GIWW is a Federal shallow-draft navigation project with an authorized channel that is 125 feet wide and typically about 12 feet deep. The BRFG and CRL currently consist of 75-foot wide gated structures that were originally built in the 1940s to control flows and silt into the GIWW. The CRL facility was converted to locks in the 1950s. The narrow gate openings and crossing geometry at the two facilities create hazardous cross currents and eddies that cause vessels to impact with the structures (allisions). The 75-foot opening at each project also requires tows that are assembled into configurations of two barges wide to break down to a single-wide configuration for shuttling across the river and then, once through the structures, to reassemble together into their original tow configuration (tripping). Shutdown of operations

during high river periods and accident repairs cause significant economic impacts to the navigation industry. Lastly, the aging/outdated infrastructure at the BRFG and CRL facilities leads to structural, electrical, and mechanical maintenance issues.

The Recommended Plan will modify the BRFG and CRL to alleviate navigational difficulties, delays, and accidents. At the BRFG, the Recommended Plan involves removal of the existing 75-foot gates on both sides of the Brazos River crossing; construction of a new 125-foot sector gate structure on the east side of the river, approximately 300 feet south of the existing alignment and set back approximately 1,000 feet from the Brazos River; and construction of a minimum 125-foot open channel on the west side of the river with a bottom depth of -12 feet NAVD88. Portions of the proposed work and infrastructure at the BRFG will be within CBRA Units T05 and T05P, as shown in **Figure 5 (attached)**.

At the CRL, the Recommended Plan involves the removal of the existing 75-foot lock structures on both sides of the Colorado River crossing and construction of a new 125-foot sector gate structure on the east and west sides of the river, approximately 260 feet south of the existing alignment and set approximately mid-way between the existing lock gates. None of the proposed work or infrastructure will be within CBRA units (**Figure 4**).

Applicable Exception(s) under 16 U.S.C. 3505(a)
Identify the appropriate exception(s) for the action or project under the CBRA (16 U.S.C. 3505(a)).

General Exceptions

☐ 16 U.S.C. 3505(a)(1): Any use or facility necessary for the exploration, extraction, or transportation of energy resources which can be carried out only on, in, or adjacent to a coastal water area because the use or facility requires access to the coastal water body.

☒ 16 U.S.C. 3505(a)(2): The **maintenance or construction of improvements of existing Federal navigation channels (including the Intracoastal Waterway) and related structures** (such as jetties), including the disposal of dredge materials related to such maintenance or construction. A Federal navigation channel or a related structure is an existing channel or structure, respectively, if it was authorized before the date on which the relevant System unit or portion of the System Unit was included within the CBRS.

☐ 16 U.S.C. 3505(a)(3): The maintenance, replacement, reconstruction, or repair, but not the expansion, of publicly owned or publicly operated roads, structures, or facilities that are essential links in a larger network or system.

☐ 16 U.S.C. 3505(a)(4): Military activities essential to national security.

☐ 16 U.S.C. 3505(a)(5): The construction, operation, maintenance, and rehabilitation of Coast Guard facilities and access thereto.

Specific Exceptions
(These exceptions must also be consistent with all three purposes of the CBRA [see "Justification" section below]).

- ☐ 16 U.S.C. 3505(a)(6)(A): Projects for the study, management, protection, and enhancement of fish and wildlife resources and habitats, including acquisition of fish and wildlife habitats, and related lands, stabilization projects for fish and wildlife habitats, and recreational projects.

- ☐ 16 U.S.C. 3505(a)(6)(B): Establishment, operation, and maintenance of air and water navigation aids and devices, and for access thereto.

- ☐ 16 U.S.C. 3505(a)(6)(C): Projects under the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601-4 through 11) and the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.).

- ☐ 16 U.S.C. 3505(a)(6)(D): Scientific research, including aeronautical, atmospheric, space, geologic, marine, fish and wildlife, and other research, development, and applications.

- ☐ 16 U.S.C. 3505(a)(6)(E): Assistance for emergency actions essential to the saving of lives and the protection of property and the public health and safety, if such actions are performed pursuant to sections 5170a, 5170b, and 5192 of title 42 and are limited to actions that are necessary to alleviate the emergency.

- ☐ 16 U.S.C. 3505(a)(6)(F): Maintenance, replacement, reconstruction, or repair, but not the expansion (except with respect to United States route 1 in the Florida Keys), of publicly owned or publicly operated roads, structures, and facilities.

- ☐ 16 U.S.C. 3505(a)(6)(G): Nonstructural projects for shoreline stabilization that are designed to mimic, enhance, or restore a natural stabilization system.

Justification for Exception(s)

The BRFG and CRL are existing structures located along the GIWW, a Federal navigation channel, and all work would be associated with the construction of improvements to the existing GIWW and related structures. The proposed action would not change development rates or patterns or induce growth on barrier islands. In addition, the proposed action would be undertaken in a manner consistent with the goals and priorities of the Texas Coastal Management Program, which was developed in compliance with the Coastal Zone Management Act of 1972.

Should the Service non-concur or fail to concur due to resource constraints the issue must be referred through the USACE Vertical Team (VT) to the Headquarters for guidance prior to any work proceeding in the affected CBRS Unit.

Contact Information

Douglas C. Sims, PMP, RPA
Regional Planning and Environmental Center
U.S. Army Corps of Engineers
819 Taylor Street, Room 3A12
Fort Worth, TX 76102
817-886-1853
Douglas.C.Sims@usace.army.mil

Douglas C. Sims, PMP, RPA
Chief, Environmental Branch
Regional Planning and Environmental Center

DATE

4/23/19

Attachments – Figures 1 through 5

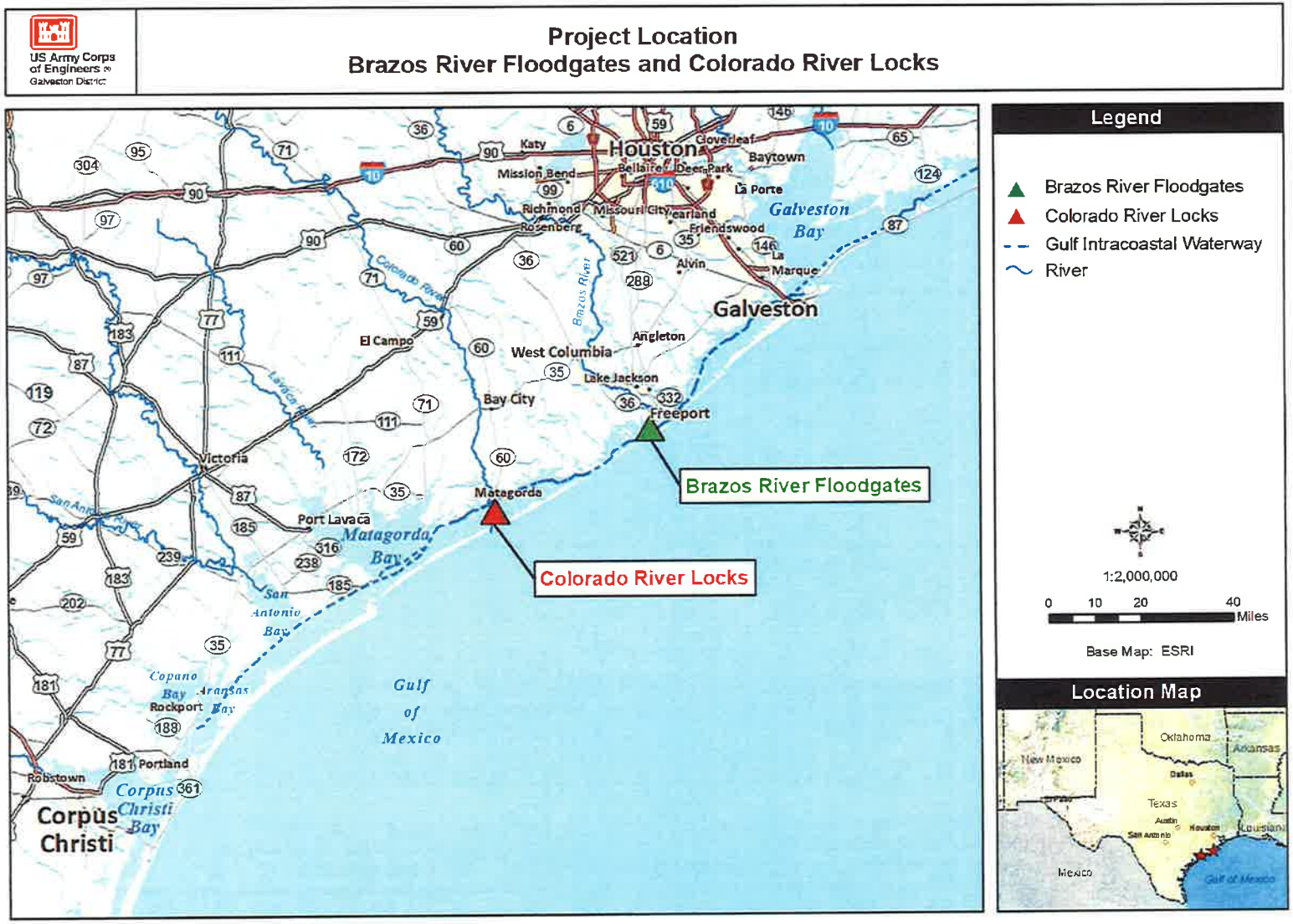

Figure 1 – Project Location

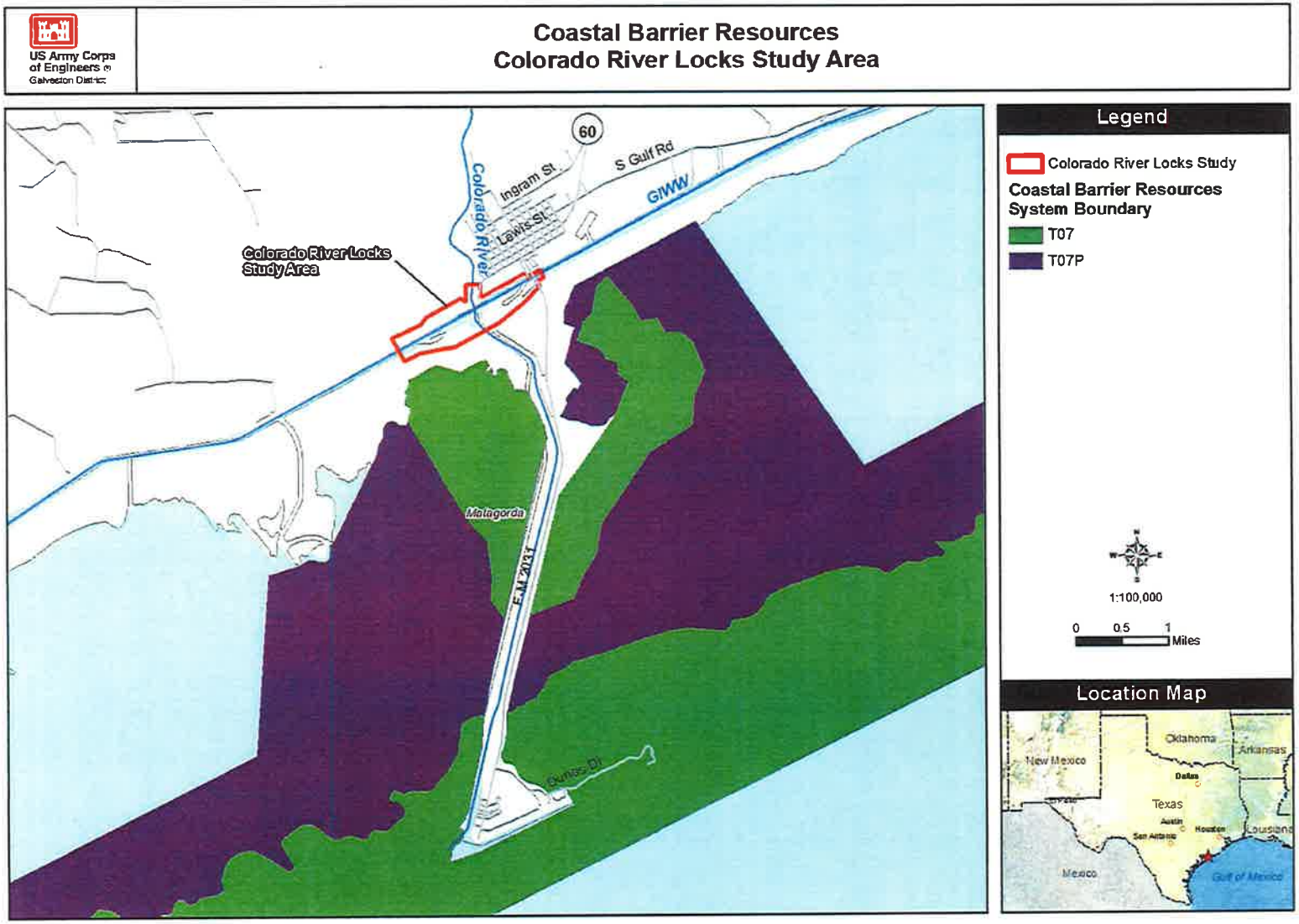

Figure 4 – CBRS Units in CRL Vicinity

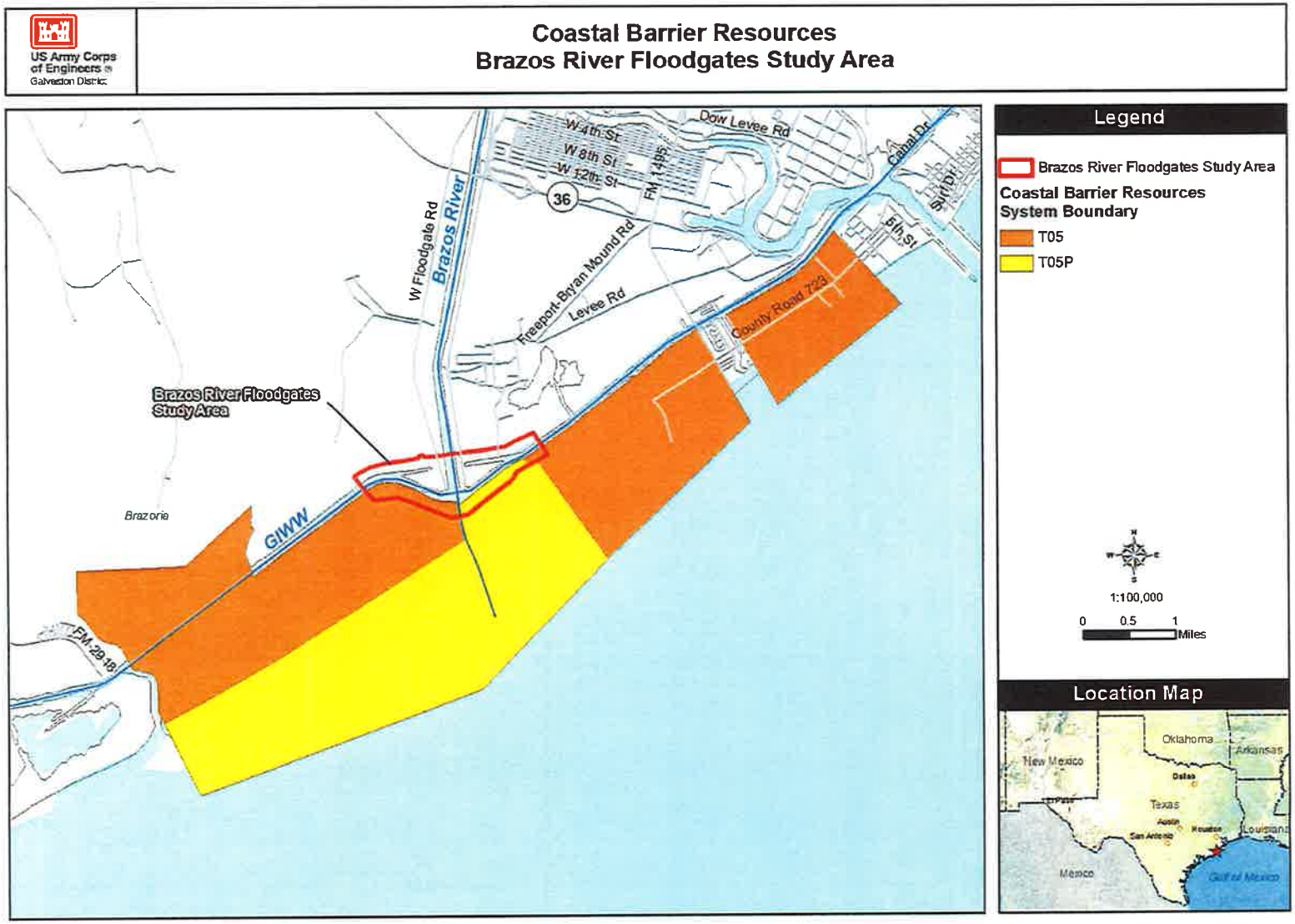

Figure 3 – CBRS Units in BRFG Vicinity

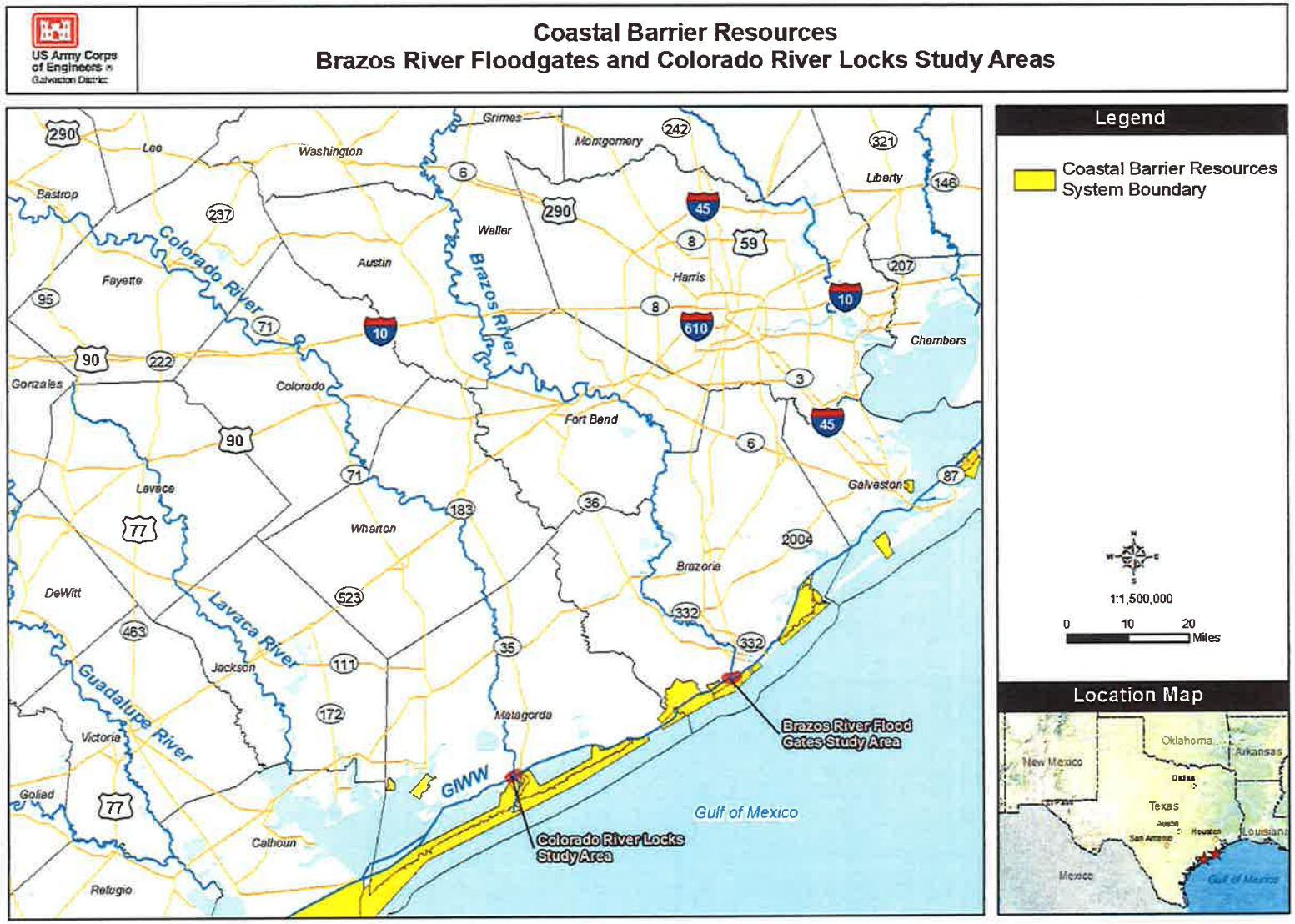

Figure 2 – Project Locations in Relation to CBRS Boundary

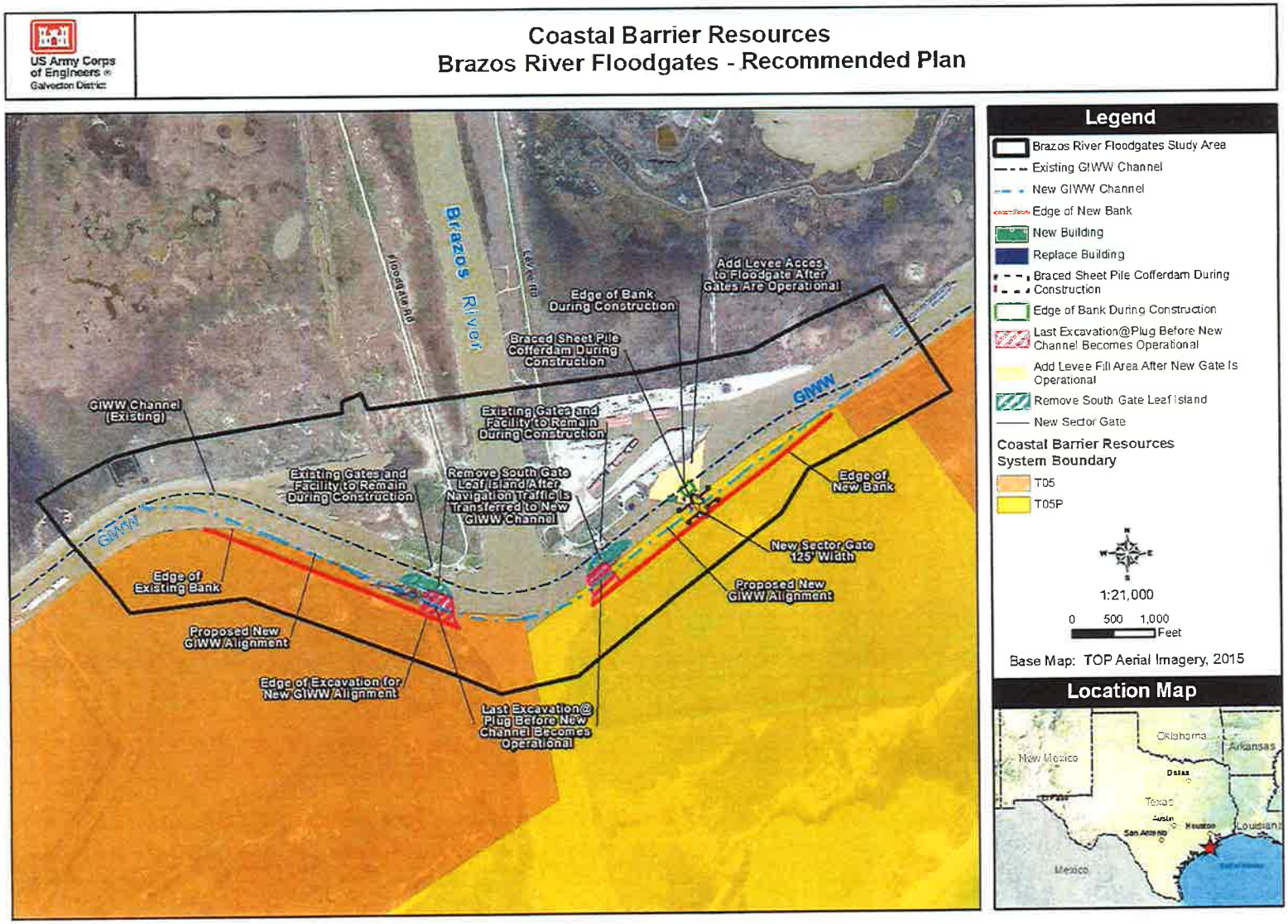

Figure 5 – Proposed Work within CBRS Units at the BRFG

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

04/10/2019

F/SER31:DMB
SERO-2018-00101, SER-2018-19729

Chief, Environmental Compliance Branch
Regional Planning and Environmental Center
Galveston District Corps of Engineers
Department of the Army
PO Box 1229
Galveston, Texas 77553-1229

Dear Douglas Sims:

This letter responds to your request for consultation with us, the National Marine Fisheries Service (NMFS), pursuant to Section 7 of the Endangered Species Act (ESA) for the following action.

Applicant	ECO Number	Project Type
United States Army Corps of Engineers (USACE)	SERO-2018-00101, SER-2018-19729	Modification of the Brazos River Floodgates (BRFG) and Colorado River Locks (CRL)

Consultation History
We received your letter requesting consultation on December 11, 2018. We requested additional information on December 19, 2018. We received a final response on December 20, 2018. NMFS initiated consultation on December 20, 2018, but consultation was held in abeyance for 38 days due to a lapse in appropriations and resulting partial government shutdown. Consultation resumed on January 28, 2019. This project was originally assigned a tracking number (SER-2018-19737) in our now obsolete tracking system. The project has been assigned a tracking number in our new NMFS Environmental Consultation Organizer (ECO), SERO-2018-00101. Please refer to this number in any future inquiries regarding this project.

Project Location

Location		Latitude/Longitude*
Brazos River, Brazoria County, Texas	East Gate	28.896956°N, 95.391370°W
	West Gate	28.896319°N, 95.388152°W
Colorado River, Matagorda County, Texas	East Lock (inside)	28.684951°N, 95.969634°W
	East Lock (outside)	28.683394°N, 95.973108°W
	West Lock (inside)	28.678586°N, 95.983351°W
	West Lock (outside)	28.680179°N, 95.979915°W

*North American Datum 1983

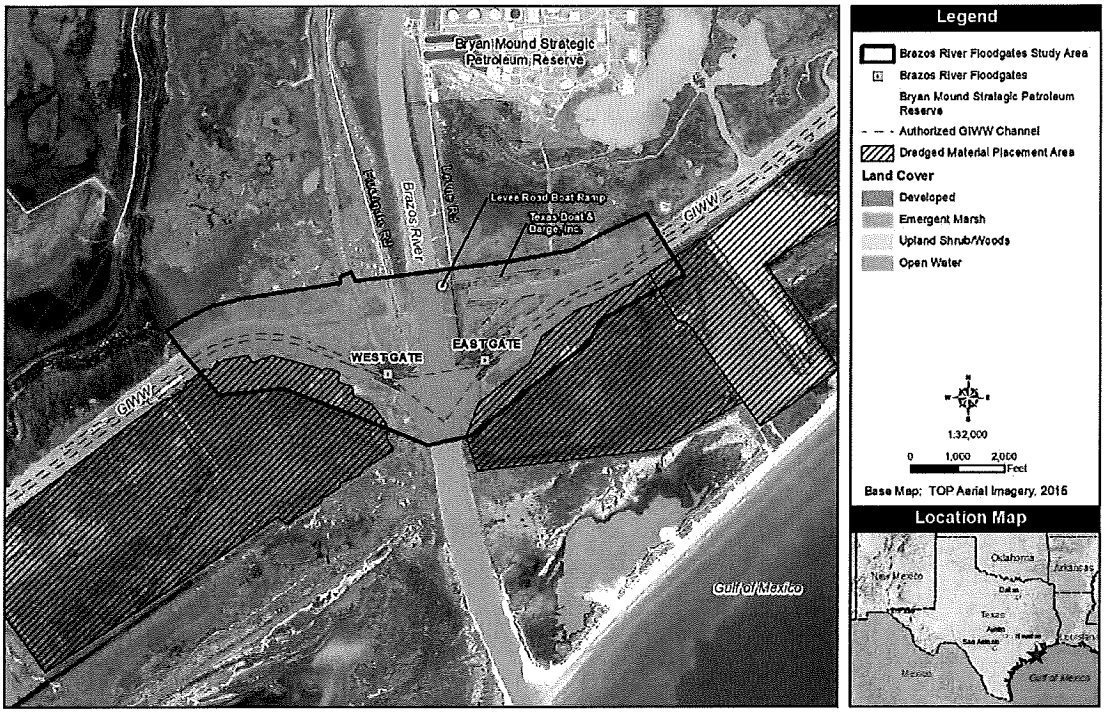

Figure 1. Land use and land cover at the Brazos River Floodgates (Image supplied by USACE)

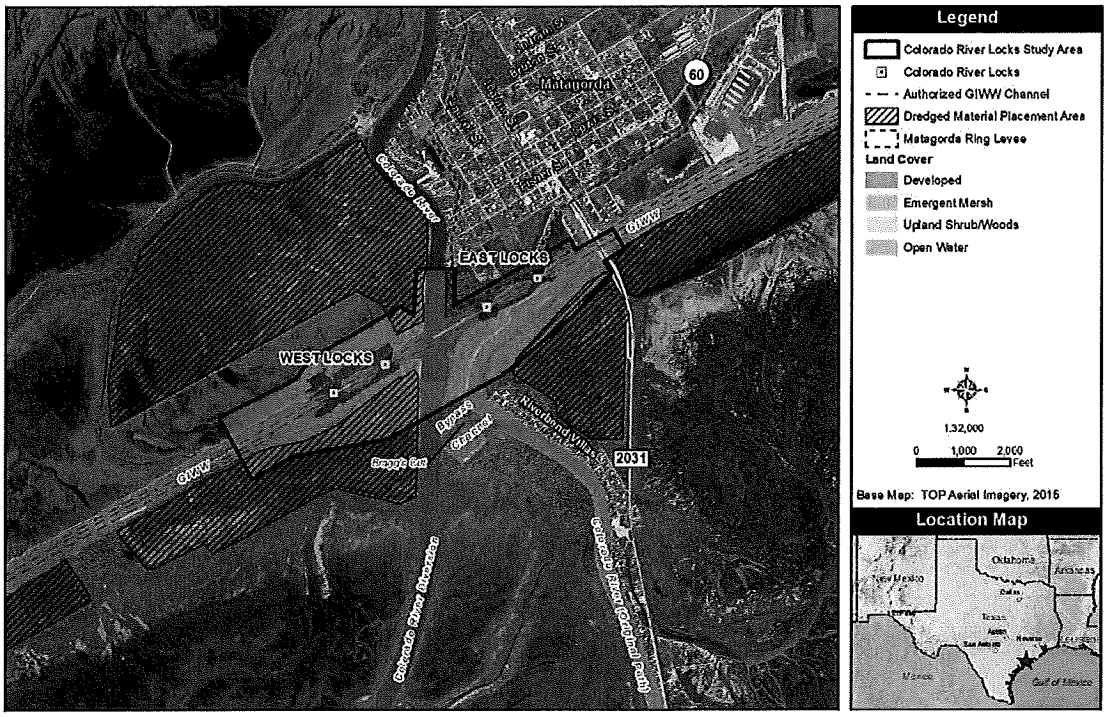

Figure 2. Land use and land cover at the Colorado River Locks (Image supplied by USACE)

Existing Site Conditions

The BRFG project site encompasses roughly 600 acres (ac) and extends 1 mile (mi) east and west of the Brazos River crossing and up to 0.5 mi north and south of the river crossing. The

CRL project site encompasses roughly 400 ac and extends 1 mi east and west of the Colorado River crossing and up to 0.25 mi north and south of the river crossing. The BRFG and CRL project sites are largely undeveloped, with open water, emergent marsh, and upland shrub/woods being the major land cover types (Figures 1 and 2). Some livestock grazing occurs within these areas. Commercial navigation is a major land use in both study areas, represented by the Gulf Intracoastal Waterway (GIWW), BRFG and CRL facilities and access roads, and existing dredged material placement areas (DMPAs) along the GIWW. Developed areas in the BRFG project site include Texas Boat and Barge, Inc., which is a barge storage, cleaning, maintenance, and repair facility located adjacent to the east floodgate. The U.S. Department of Energy's Bryan Mound Strategic Petroleum Reserve, which is one of two Federal strategic petroleum reserve sites in Texas, is located about 1 mi north of the east floodgate (Figure 1). The area surrounding the project sites is also relatively undeveloped, although the City of Freeport, Brazoria County, Texas, lies northeast of the BRFG facility, and the town of Matagorda, Matagorda County, Texas, lies northeast of the CRL facility. Much of the surrounding undeveloped areas contain coastal bays and marshes, with upland coastal prairie and some cropland occurring further inland. The Justin Hurst Wildlife Management Area (WMA) is located less than 1 mi north and San Bernard National Wildlife Refuge (NWR) is located approximately 3 mi west of the BRFG. The Mad Island WMA is located about 1.5 mi west of the CRL.

The BRFG and CRL are two existing lock-type structures on the GIWW located about 40 mi apart on the upper to mid-Texas coast. They were initially installed in the early 1940s to prevent heavy sediment loads in the Brazos and Colorado Rivers from entering the GIWW. The structures are over 60 years old and were installed at a time when most tug boats pulled barges behind them, rather than using the modern pushing method. At each facility, the gate openings are 75-feet (ft)-wide, which is narrower than the 125-ft-wide GIWW navigation channel. To move wider tows through the BRFG and CRL, vessel operators must park the tows, break the barges apart, move them through the locks in smaller sets or individually, and reconnect the tows on the other side. This process, known as "tripping," is inefficient and causes delays that result in substantial costs to the towing industry each year.[1] In addition to the narrow gates, high flows in the Brazos and Colorado Rivers make navigation through the BRFG and CRL structures more difficult and result in temporary navigation restrictions and/or closures imposed by the USACE and United States Coast Guard (USGC). These restrictions and closures result in additional delays and economic impact to the towing industry.

Project Description

At the BRFG, the proposed plan is to remove the existing gates on both sides of the river crossing, construct a 125-ft-wide open channel (no gate structure) on the west side of the river, and construct a new 125-ft-wide sector gate structure on the east side of the river. The centerline of the GIWW through the BRFG area would be shifted 300 ft south of the existing centerline, allowing the existing floodgates to remain in operation until the new channel and west floodgate are completed. The open channel on the west side of the river will have a bottom width of 125 ft and bottom depth of -12 ft NAVD88. The new 125-ft-wide sector gate on the east side of the river will be set back approximately 1,300 ft from the existing gate structure, providing increased safety and efficient vessel operation through the crossing. Construction of the open channel and new sector gate at the BRFG will take approximately 2 years to complete, if adequate funding is provided. All work will

[1] Texas Department of Transportation (TxDOT). 2013. Texas Department of Transportation, Gulf Intracoastal Waterway. Legislative Report – 83rd Legislature. <https://static.tti.tamu.edu/tti.tamu.edu/documents/ TTI-2013-12.pdf>

be conducted during daylight hours only. Assuming 1 contract, the general construction sequence will include the following:

- Dredge the new channel alignment on the west and east sides of the river, leaving a plug at the existing floodgates to maintain separation between the new channel and the river,
- Construct the new gate structure, guidewalls, and end cells on the east side of the river (Table 1),
- Excavate the plugs at the river, and complete dredging of the new channel,
- Transfer navigation traffic to the new GIWW channel and gate structure,
- Decommission existing floodgates, demolish the southern gate leaf on both sides of the river, and build levee access to the new gate structure, and
- Complete final site work, including grading, parking, and support buildings.

All dredging in the BRFG plan will be completed using mechanical dredges and hydraulic cutter-head suction dredges. No blasting or Sounds Navigation and Ranging (SONAR) is anticipated during construction or demolition.

Table 1. Anticipated pile driving activities associated with the proposed BRFG plan

Project Component	Pile type(s)	Number of Piles
Gate Structure Foundation	24-inch (in) steel pipe	246
Guidewalls	12 to 14-in wood pile	96
End Cells	18-in steel pipe	120
	20-in PS-31 sheet pile	930 linear feet (lin ft)

All piles in the BRFG plan will be installed from a barge using a vibratory hammer or cushioned impact hammer with a wood block in less than 5 meters of water.

At the CRL, the proposed plan is to decommission all four existing gate structures and construct a new 125-ft-wide sector gate structure on the east and west sides of the river. The centerline of the GIWW through the CRL area would be shifted 260 ft south of the existing centerline, allowing the existing lock structures to remain in operation until the new channel and gates are completed. The new channel will have a bottom width of 125 ft and bottom depth of -12 ft NAVD88. Construction of the new CRL facility will take approximately 2 years to complete, if adequate funding is provided. All work will be conducted during daylight hours only. Assuming 1 contract, the general construction sequence will include the following:

- Dredge the new channel alignment on the west and east sides of the river, leaving a plug to maintain separation between the new channel and the river,
- Construct the new gate structures, guidewalls, and end cells on each side of the river (Table 2),
- Excavate the plugs at the river, and complete dredging of the new channel,
- Transfer navigation traffic to the new GIWW channel and gate structures,
- Decommission the existing lock facilities, demolish the southern gate leaf at each gate, and build levee access to the new gate structures, and
- Complete final site work, including grading, parking, and support buildings.

All dredging in the CRL plan will be completed using mechanical dredges and hydraulic cutter-head suction dredges. No blasting or Sounds Navigation and Ranging (SONAR) is anticipated during construction or demolition.

The new CRL gate structures will be the same general dimensions as the new BRFG gate structure, so pile driving activities associated with the proposed CRL plan are expected to be double the anticipated pile driving at the BRFG.

Table 2. Anticipated pile driving activities associated with the proposed CRL plan

Project Component	Pile type(s)	Number of Piles
West Gate Structure		
Gate Structure Foundation	24-inch (in) steel pipe	246
Guidewalls	12 to 14-in wood pile	96
End Cells	18-in steel pipe	120
	20-in PS-31 sheet pile	930 lin ft
East Gate Structure		
Gate Structure Foundation	24-inch (in) steel pipe	246
Guidewalls	12 to 14-in wood pile	96
Endcells	18-in steel pipe	120
	20-in PS-31 sheet pile	930 lin ft
Flow Separator	22-in PZ-22 sheet pile	500 lin ft

All piles in the BRFG plan will be installed from a barge using a vibratory hammer or cushioned impact hammer with a wood block in less than 5 meters of water.

The BRFG plan will affect 94.4 ac of open water habitat and the CRL plan will affect 61.0 ac of open water habitat. The USACE and Texas Department of Transportation (TxDOT) state that most impacts to open water are temporary construction impacts and, although some open water would be filled to construct the proposed new gate structures and levee access, the project will result in a net increase in open water at both facilities due to excavation of the new GIWW alignment and removal of existing gate structures.

Construction Conditions
USACE and TxDOT propose several measures to avoid injurious noise effects to sea turtles from the installation of piles:

- Implement a "soft start" for up to 20 minutes to allow sea turtles to leave the project vicinity before sound pressure increases above injury thresholds, and
- Use a vibratory hammer or cushioned impact hammer to reduce noise levels.

The applicant has agreed to adhere to NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*,[2] including the use of turbidity curtains. The applicant will also install silt fences to reduce suspended solids from potential land runoff.

[2] NMFS. 2006. Sea Turtle and Smalltooth Sawfish Construction Conditions revised March 23, 2006. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, Protected Resources Division, Saint Petersburg, Florida.
http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/sea_turtle_and_smalltooth_sawfish_construction_conditions_3-23-06.pdf.

Table 3. Effects Determination(s) for Species the Action Agency or NMFS Believes May Be Affected by the Proposed Action

Species	ESA Listing Status	Action Agency Effect Determination	NMFS Effect Determination
Sea Turtles			
Green (North Atlantic distinct population segment [DPS])	T	NLAA	NLAA
Green (South Atlantic DPS)	T	NLAA	NLAA
Kemp's ridley	E	NLAA	NLAA
Loggerhead (Northwest Atlantic DPS)	T	NLAA	NLAA
Hawksbill	E	NLAA	NLAA
E = endangered; T = threatened; NLAA = may affect, not likely to adversely affect			

Critical Habitat
The project is not located in designated critical habitat, and there are no potential routes of effect to any designated critical habitat.

Analysis of Potential Routes of Effects to Species
Effects to sea turtle species include the potential for injury from construction equipment or materials. This effect is discountable because we believe these species have the ability to move away from the project site if disturbed. The applicants' implementation of NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions* will further reduce the risk by requiring all construction workers to watch for sea turtles and smalltooth sawfish. Operation of any mechanical construction equipment will cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities will not resume until the protected species has departed the project area of its own volition.

Sea turtle species may be physically injured if struck or entrained during dredging. We believe this is highly unlikely and therefore discountable. Because these species are highly mobile, we expect them to move away from the dredging activities if disturbed. Additionally, NMFS has previously determined in dredging Biological Opinions that, while ocean-going hopper-type dredges may lethally entrain sea turtles, non-hopper type dredging methods, such as the mechanical or hydraulic cutter-head suction dredging methods proposed in this project, are slower and extremely unlikely to adversely affect these species.[3]

The action areas contain habitat that may be used by sea turtle species. Sea turtles may be affected by their inability to access the action area to their avoidance of construction activities and physical exclusion from the project areas due to blockage by turbidity curtains. We believe habitat displacement effects to sea turtle species will be insignificant, given the abundance of habitat outside of the action area along the upper to mid-Texas coast.

[3] NMFS. 2007. Revision 2 to the National Marine Fisheries Service (NMFS) November 19, 2003, Gulf of Mexico regional biological opinion (GRBO) to the U.S. Army Corps of Engineers (COE) on hopper dredging of navigation channels and borrow areas in the U.S. Gulf of Mexico. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, Protected Resources Division, St. Petersburg, Florida.

Noise created by pile driving activities can physically injure animals or change animal behavior in the affected areas. Injurious effects can occur in 2 ways. First, immediate adverse effects can occur to listed species if a single noise event exceeds the threshold for direct physical injury. Second, effects can result from prolonged exposure to noise levels that exceed the daily cumulative exposure threshold for the animals, and these can constitute adverse effects if animals are exposed to the noise levels for sufficient periods. Behavioral effects can be adverse if such effects interfere with animals migrating, feeding, resting, or reproducing, for example. Our evaluation of effects to listed species as a result of noise created by construction activities is based on the analysis prepared in support of the Biological Opinion for SAJ-82 and using data found in Caltrans (2015).[4][5] The noise analysis in this consultation evaluates effects to ESA-listed sea turtle species identified above as potentially affected by construction-related effects. The noise effects thresholds described below are summarized in Table 4.

Table 4. Summary of Pile Driving Effects to ESA-listed Sea Turtles for the BRFG and CRL plans[6]

Pile Size & Type	Installation Method	Number of Piles/Day	Duration	Radius of Single Strike Injury Threshold	Radius of 24-Hour Cumulative Effects Injury Threshold	Radius of Behavioral Effects Threshold
12 to 14-in wood pile	Impact hammer	10[7]	--	--	30 ft	151 ft
	Vibratory hammer	10	--	--	--	16 ft
18-in steel pipe[8][9]	Impact hammer with wood cushion block[10]	5	326 strikes/pile[11]	8 ft	16 ft	38 ft
	Vibratory hammer	5	8,640 seconds (sec)/pile[12]	--	5 ft	328 ft

[4] NMFS. Biological Opinion on Regional General Permit SAJ-82 (SAJ-2007-01590), Florida Keys, Monroe County, Florida. June 10, 2014.

[5] California Department of Transportation. 2015. Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish. California Department of Transportation, Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise Paleontology Office, Sacramento, CA.

[6] Distances are rounded up or down to the whole foot.

[7] While the applicant has stated that 5 piles will be installed per day, SAJ-82 assumes 10 piles per day for its noise analysis.

[8] We used the impact hammer installation of a 20-in steel pipe pile as a surrogate for an 18-in steel pipe pile because that was closest noise data available.

[9] We used the vibratory hammer installation of a 36-in steel pipe pile as a surrogate for an 18-in steel pipe pile because that was the closest data available.

[10] The use of a wood block cushion while impact hammer driving reduces underwater noise by 11-26 dB (ICF Jones & Stokes 2009). To be conservative, we used an 11 dB reduction in our model.

[11] We used the number of strikes per pile for a 24-in steel pipe pile in silty sand with a hard clay layer using a hammer with an energy rating of 60,000 ft-pounds (WSDOT 2017).

[12] Assuming 12 hours of daylight only operations, each pile would take a maximum of 8,640 seconds to install (43,200 seconds per 12-hour workday divided by 5 piles).

Pile Size & Type	Installation Method	Number of Piles/Day	Duration	Radius of Single Strike Injury Threshold	Radius of 24-Hour Cumulative Effects Injury Threshold	Radius of Behavioral Effects Threshold
24-in steel pipe[13]	Impact hammer with wood cushion block	5	326 strikes/pile	4 ft	21 ft	52 ft
	Vibratory hammer	5	8,640 sec/pile	--	5 ft	328 ft
20-in PS-31 sheet pile[14]	Impact hammer with wood cushion block	5	326 strikes/pile	5 ft	29 ft	61 ft
	Vibratory hammer	5	8,640 sec/pile	--	< 1 ft	33 ft
22-in PZ-22 sheet pile[15]	Impact hammer with wood block cushion	5	326 strikes/pile	5 ft	29 ft	61 ft
	Vibratory hammer	5	8,640 sec/pile	--	< 1 ft	33 ft

The largest area of a single-strike injury effects is 8 ft, resulting from the installation of 18-in steel pipe using an impact hammer with a wood cushion block. Given the level of activity in and around the pile driving location, the 20 minute "soft start" requirement at the beginning of each pile driving session, and the mobility of sea turtle species, we expect any sea turtle in the area to move away from these types of disturbances before the maximum sound pressure is reached. Further, the radius of that area is smaller than the 50-ft radius that will be visually monitored for listed species. Construction personnel will cease construction activities if an animal is sighted per NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions.* Thus, we believe the likelihood of any injurious cSEL effects is discountable. An animal's movement away from the injurious impact zone is a behavioral response, with the same effects discussed below.

The largest area of a cumulative injury effects is 30 ft, resulting from the installation of 12 to 14-in wood piles using an impact hammer. Due to the mobility of sea turtles species, we expect them to move away from noise disturbances. Because we anticipate the animal will move away, we believe that an animal's suffering physical injury from noise is extremely unlikely to occur. Even in the unlikely event an animal does not vacate the daily cumulative injurious impact zone, the radius of that area is smaller than the 50-ft radius that will be visually monitored for listed species. Construction personnel will cease construction activities if an animal is sighted per NMFS's *Sea*

[13] We used the vibratory hammer installation of a 36-in steel pipe pile as a surrogate for a 24-in steel pipe pile because that was the closest data available.
[14] We used a 24-in AZ sheet pile as a surrogate for a 20-in PS-31 sheet pile because that was closest noise data available.
[15] We used a 24-in AZ sheet pile as a surrogate for a 22-in PZ-22 sheet pile because that was closest noise data available.

Turtle and Smalltooth Sawfish Construction Conditions. Thus, we believe the likelihood of any injurious cSEL effects is discountable. An animal's movement away from the injurious impact zone is a behavioral response, with the same effects discussed below.

The largest area of behavioral effects is 328 ft, resulting from the installation of 18-in or 24-in steel pipe using a vibratory hammer. Due to the mobility of sea turtles and ESA-listed fish species, we expect them to move away from noise disturbances. Because there is similar habitat nearby, we believe behavioral effects will be insignificant. If an individual chooses to remain within the behavioral response zone, it could be exposed to behavioral noise impacts during pile installation. Since installation will occur only during the day, these species will be able to resume normal activities during quiet periods between pile installations and at night. Therefore, we anticipate any behavioral effects will be insignificant.

Conclusion

Because all potential project effects to listed species were found to be discountable, insignificant, or beneficial, we conclude that the proposed action is not likely to adversely affect listed species under NMFS's purview. This concludes your consultation responsibilities under the ESA for species under NMFS's purview. Consultation must be reinitiated if a take occurs or new information reveals effects of the action not previously considered, or if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action. NMFS's findings on the project's potential effects are based on the project description in this response. Any changes to the proposed action may negate the findings of this consultation and may require reinitiation of consultation with NMFS.

We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions on this consultation, please contact Dana M. Bethea, Consultation Biologist, at (727) 209-5974, or by email at Dana.Bethea@noaa.gov.

Sincerely,

SHOTTS.KELLY.M.1365865457

Digitally signed by SHOTTS.KELLY.M.1365865457
Date: 2019.04.10 10:57:30 -04'00'

for David Bernhart
Assistant Regional Administrator
for Protected Resources

File: 1514-22.f.8

TEXAS GENERAL LAND OFFICE
GEORGE P. BUSH, COMMISSIONER

May 31, 2019

US Army Corps of Engineers
Environmental Compliance Branch
Regional Planning and Environmental Center
819 Taylor St, Room 3A12
Fort Worth, TX 76102
ATTN: Daniel Allen

Re: Brazos River Floodgates and Colorado River Locks Feasibility Study
Texas CMP#: 19-1233-F2

Dear Applicant:

Based on information provided to the Texas Coastal Management Program (TCMP) on the above project, it has been determined that it will likely not have adverse impacts on coastal natural resource areas (CNRAs) in the coastal zone and is consistent with the goals and policies of the TCMP. However, siting and construction should avoid and minimize impacts to CNRAs. If a U. S. Army Corps of Engineers permit is required, it will be subject to consistency review under the Texas Coastal Management Program.

Please forward this letter to applicable parties. If you have any questions or concerns, please contact me at (409) 741-4057 or at federal.consistency@glo.texas.gov.

Sincerely,

Allison Buchtien
Federal Consistency - Coastal Resources
Texas General Land Office

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 3, 2019

District Engineer
Galveston District
U.S. Army Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Attention: Mr. Danny Allen

Re: Gulf Intracoastal Waterway: Brazos River Floodgates and Colorado River Locks Systems Draft Integrated Feasibility Report and Environmental Impact Statement

Dear Mr. Allen:

This letter supersedes our previous letter dated May 21, 2019. The description of the proposed project impacts and mitigation have been corrected.

This letter is in response to the draft Record of Decision (ROD) received May 9, 2019, for the Notice of Availability, dated February 20, 2018, and the Draft Report, dated February 19, 2018. The United States Army Corps of Engineers (USACE), in cooperation with the Texas Department of Transportation (TxDOT) Maritime Division, is conducting the Gulf Intracoastal Waterway (GIWW), Brazos River Floodgates and Colorado River Locks Systems Feasibility Study to determine the feasibility of modifying the Brazos River Floodgates (BRFG) and Colorado River Locks (CRL) to reduce navigation impacts and costly waterborne traffic delays that are a result of aging infrastructure and inadequate channel dimensions.

As part of the Feasibility Study, the USACE has prepared a Draft Integrated Feasibility Report and Environmental Impact Statement (DIFR-EIS). At the BRFG facility, the Recommended Plan would remove the existing 75-foot-wide east and west floodgates, construct new 125-foot-wide floodgates on the east side of the Brazos River, and construct new wing walls and guide walls for the east floodgates. The new east floodgates would be on the existing GIWW alignment and set back from the Brazos River compared to the existing floodgates to provide a longer approach channel. The Recommended Plan would include an open channel west of the river; therefore, no new floodgates would be constructed west of the river. At the CRL, the Recommended Plan would remove the existing riverside (inner) gates east and west of the Colorado River and rehabilitate the existing GIWW-side (outer) 75-foot-wide gates.

The Texas Commission on Environmental Quality (TCEQ) has reviewed the Notice of Availability, the Draft Report, and related application information along with the ROD. On behalf of the Executive Director and based on our evaluation of the information contained in these documents, the TCEQ certifies that there is reasonable assurance that the project will be conducted in a way that will not violate water quality standards.

The recommended plan will result in unavoidable adverse impacts including the loss of 14.5 acres of estuarine marsh (intertidal marsh and high marsh). Habitat Evaluation Procedures (HEP) models were used to evaluate wetland impacts in terms of average annual habitat units (AAHUs) and to develop an appropriate compensatory mitigation plan. The wetland impacts result in a loss of 12.1 AAHUs.

To fully compensate for these unavoidable adverse impacts, the U.S. Army Corps of Engineers will create 14.9 acres of estuarine marsh, which will provide 12.1 AAHUs. A detailed description of the mitigation plan is presented in Appendix D-8 of the DIFR-EIS.

The TCEQ has reviewed this proposed action for consistency with the Texas Coastal Management Program (CMP) goals and policies in accordance with the CMP regulations (Title 31, Texas Administrative Code (TAC), Section (§)505.30) and has determined that the action is consistent with the applicable CMP goals and policies.

This certification was reviewed for consistency with the CMP's development in critical areas policy (31 TAC §501.23) and dredging and dredged material disposal and placement policy (31 TAC §501.25). This certification complies with the CMP goals (31 TAC §501.12(1, 2, 3, 5)) applicable to these policies.

No review of property rights, location of property lines, nor the distinction between public and private ownership has been made, and this certification may not be used in any way with regard to questions of ownership.

Please direct requests for additional information or future coordination efforts for this project to Mr. C. Brad Caston of the Water Quality Division MC-150, P.O. Box 13087 Austin, Texas 78711-3087. Mr. Caston may also be contacted by e-mail at *Charles.Caston@tceq.texas.gov* or by phone at (512) 239-4711.

Sincerely,

for David W. Galindo, Director
Water Quality Division
Texas Commission on Environmental Quality

cc: Douglas Sims, Chief Environmental Compliance Branch at 819 Taylor Street, Room 3A12 Fort Worth, Texas 76102
Ms. Allison Buchtien via e-mail at Federal.Consistency@GLO.TEXAS.GOV

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Texas Coastal Ecological Services Field Office
17629 El Camino Real, Suite 211
Houston, Texas 77058
281/286-8282 / (FAX) 281/488-5882

In Reply Refer To:
FWS/R2/ETTX00
-2019-I-0550

December 21, 2018

Amanda McGuire
Acting Chief, Environmental Compliance Branch
Galveston District, Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Dear Ms. McGuire:

Thank you for your letter dated October 2, 2018, requesting U.S. Fish and Wildlife Service (Service) concurrence with your may affect, not likely to adversely affect determination pursuant to Section 7 of the Endangered Species Act of 1973 (Act) for the Brazos River Floodgate and Colorado River Lock project. Based on the Biological Assessment (BA) submitted with your request, the Service understands that the purpose of the project is to widen the locks to accommodate wider barge tows while allowing more manageable flows thus reducing navigation restrictions and/or closures. The project is located at the Brazos River and Colorado River intersections with the Gulf Intracoastal Waterway in Brazoria and Matagorda Counties, Texas. The following Service comments and recommendations are provided in accordance with the Act (16 U.S.C. 1531 et seq.).

Threatened and Endangered Species

The U.S. Army Corps of Engineers, Galveston District (Corps) made may affect, but not likely to adversely affect determinations for the Piping plover *Charadrius melodus*, Rufa red knot *Calidris canutus rufa*, Whooping crane *Grus americana*, Green sea turtle *Chelonia mydas*, Hawksbill sea turtle *Eretmochelys imbricata*, Kemp's ridley sea turtle *Lepidochelys kempii*, and Loggerhead sea turtle *Caretta caretta.* Based on the Service's review of the BA, it does not appear that the Corps provided enough information and/or conservation measures to support the assertion that the effects of the action on federally listed species are insignificant or discountable. Therefore, the Service is requesting additional information, including specific conservation measures that would reduce the effects of this project to insignificant or discountable levels, thereby, supporting a may affect not likely to adversely affect determination.

Please note that a Memorandum of Understanding (MOU) was signed on July 18, 1977 acknowledging joint administration of the Act by the Service and the National Marine Fisheries Service (NMFS) in regard to marine turtles. The MOU outlines jurisdiction for sea turtles under

the Act and states" The Service shall have sole jurisdiction over sea turtles, including parts or products, when on land and National Marine Fisheries Service (NMFS) shall have sole jurisdiction over sea turtles, including parts or products when in the marine environment" (NMFS and Service 1977). Therefore, the Service recommends that the Corps initiate any consultation procedures with NMFS, pursuant to Section 7 of the Act, for actions that have the potential to affect sea turtles within the marine environment. The Service will be responsible for consultations pursuant to Section 7 of the Act for nesting sea turtles.

Critical Habitat

Based on the BA, the Corps determined that the proposed project would not adversely modify piping plover critical habitat (critical habitat unit TX-32). In addition, the BA appears to indicate that the sediment budget resulting from this project would result in a 1% or 328,000 cubic yard average annual reduction in sediment deposition in the Brazos Delta portion of the Gulf of Mexico. The Corps further explains that the reduction could have minor effects on beach-shaping and associated biological processes that contribute to the productivity of the critical habitat. Lastly, the Corps also states that the 1% reduction in sediment is not expected to cause significant and detrimental changes to the sediment input and, therefore, is not expected to destroy or adversely modify the critical habitat.

The Service is not able to locate any data in the BA that supports the Corps rationale that the 1% reduction is not expected to cause significant and detrimental changes adversely modifying piping plover critical habitat. Therefore, the Service requests that the Corps provide adequate information/data to support claims that the proposed project would not adversely modify critical habitat.

Thank you for your coordination with the Service on this project. If you have questions or need additional information regarding these comments, please contact Donna Anderson, staff biologist, at 281/212-1505.

Sincerely,

Charles Ardizzone
Project Leader