

APPENDIX D

ATTACHMENT 1 Environmental Coordination Documents

Rio Anton Ruiz 1135 Continuing Authorities Program (CAP) Project
in Humacao, Puerto Rico



US Army Corps of Engineers
JACKSONVILLE DISTRICT

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DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
701 SAN MARCO BOULEVARD
JACKSONVILLE, FLORIDA 32207-0019

REPLY TO
ATTENTION OF

CESAJ-PD-E (ER 200-2-2)

31 MAR 2017

MEMORANDUM FOR RECORD

SUBJECT: Coordination Act Report for the Rio Anton Ruiz 1135 Continuing Authorities Program (CAP) Project in the Humacao Natural Reserve in Humacao, Puerto Rico

1. **PURPOSE.** To document an informal understanding between the U.S. Army Corps of Engineers (Corps), Jacksonville District, and the U.S. Fish and Wildlife Service (Service), Caribbean Ecological Services Field Office.
2. **BACKGROUND.** The Corps completed construction of the Rio Anton Ruiz Flood Control Project, CAP Section 205 of the Flood Control Act of 1948, as amended, in 2001. The purpose of the 205 Flood Control Project was to reduce flood damages to the coastal communities of Punta Santiago, Verde Mar, and Villa Palmira, near Humacao, Puerto Rico. Historically, flooding occurred in these communities when runoff from the mountains within the watershed flowed into the Humacao Natural Reserve (HNR) lagoon system and the Pterocarpus forest before reaching the Caribbean Sea. The authorized flood control project protects those communities from flooding with a levee, interior drainage canal, and a diversion channel to the ocean. Since the completion of the authorized flood control project in 2001, the lagoon system and Pterocarpus forest ecosystem have been affected by high levels of salinity, resulting in changes to the biodiversity of the HNR lagoon system. Field observations indicate that a vast number of Pterocarpus trees on the north shore of the Rio Anton Ruiz exhibit signs of environmental stress such as wilting, loss of foliage, and dry bark. The purpose of the Rio Anton Ruiz Restoration Project is to preserve the Pterocarpus officinalis forest and the biodiversity of both the freshwater and saltwater fauna and flora in the HNR within the limited authority of the CAP 1135 Program.
3. In 2007, a series of temporary saltwater intrusion measures (SWIMs) were developed and constructed by the Corps under the authority of the original 205 Flood Control Project and funded 100% by the non-federal sponsor, Department of Natural and Environmental Resources (DNER). The intent of the SWIMs installation was to implement a temporary structure that could aid in determining if a permanent solution would be warranted. The salinity control target for the temporary SWIMs was a reduction in salinity concentrations from 35 parts per thousand (ppt) to below 10 ppt. DNER salinity monitoring stations within the HNR system were used to monitor the salinity levels upon completion of the temporary SWIMs. After the installation of the SWIMs, salinity data gathered at the monitoring stations indicated that the initial target

CESAJ-PD-E (ER 200-2-2)

SUBJECT: Coordination Act Report for the Rio Anton Ruiz 1135 Continuing Authorities Program (CAP) Project in the Humacao Natural Reserve in Humacao, Puerto Rico

salinities below 10 ppt had been met. At the end of 2008/beginning of 2009, the temporary SWIMs began losing their effectiveness and the salinity data exceeded 10 ppt.

4. **Tentatively Selected Plan (TSP)**. The Recommended Plan consists of constructing two sheetpile notched concrete cap weirs at the location of the temporary SWIM structures. By constructing both weirs, the entire HNR system will be protected from saltwater intrusion as a result of the diversion channel.

5. **Coordination**. The Fish and Wildlife Coordination Act (FWCA; 16 U.S.C. 661 et seq., March 10, 1934, as amended 1946, 1958, 1978, and 1995) requires Federal agencies to consult with the Service regarding the impacts to fish and wildlife resources and the proposed measures to mitigate these impacts. Additional coordination authorities exist through the review process of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321-4347, January 1, 1970, as amended 1975 and 1982) and the consultations required under the Endangered Species Act of 1973 (ESA; 7 U.S.C. 136, 16 U.S.C. 1531 et seq. December 28, 1973). The Service continues to coordinate and consult with the Corps through NEPA and the ESA in which impacts to fish and wildlife resources are adequately addressed via these two authorities. The Service will include comments relevant to FWCA in the Services response to the Corps' ESA coordination letter.

6. **Agreement**. The undersigned, Corps and the Service, agree to utilize the Rio Anton Ruiz 1135 CAP Project NEPA review and ESA consultation processes to complete coordination responsibilities under the FWCA. This agreement will avoid duplicate analysis and documentation as authorized under 40 CFR section 1500.4 (k), 1502.25, 1506.4, and is consistent with Presidential Executive Order for Improving Regulation and Regulatory Review, released January 18, 2011.

Edwin Muñiz
Field Supervisor
Caribbean Ecological Services Field Office



Gina Paduano Ralph, Ph.D.
Chief, Environmental Branch
Planning and Policy Division



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
701 SAN MARCO BOULEVARD
JACKSONVILLE, FLORIDA 32207-0019

REPLY TO
ATTENTION OF

Planning and Policy Division
Environmental Branch

MAR 07 2017

Mr. David Bernhart
Assistant Regional Administrator
Protected Resources Division
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701

Dear Mr. Bernhart,

In order to comply with Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), the U.S. Army Corps of Engineers (Corps), Jacksonville District, respectfully requests a letter of concurrence from the National Marine Fisheries Service (NMFS) on the Río Antón Ruiz Section 1135 Continuing Authorities Program (CAP) project. The Río Antón Ruiz Project is located in the Humacao Natural Reserve (HNR) in Humacao, Puerto Rico. The Recommended Plan consists of constructing two sheetpile notched concrete cap weirs at the location of the temporary saltwater intrusion measures (SWIM) structures. By constructing both weirs, the entire HNR system will be protected from saltwater intrusion as a result of the diversion channel constructed in 2001 under the Rio Antón Ruiz Flood Control Project, CAP Section 205 of the Flood Control Act of 1948, as amended.

Included with this letter is additional information describing the proposed action, the action area, listed species and/or designated critical habitat (DCH) that may be affected by the action, and an analysis of the potential routes of effect on any listed species or DCH. The Corps has determined that the proposed project may affect, but is not likely to adversely affect, the following federally-listed species:

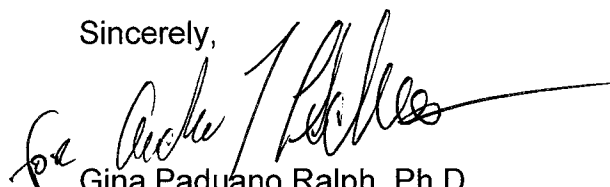
- Loggerhead Sea Turtle (*Caretta caretta*);
- Green Sea Turtle (*Chelonia mydas*);
- Hawksbill Sea Turtle (*Eretmochelys imbricata*);
- Leatherback Sea Turtle (*Dermochelys coriacea*).

The Corps has determined the proposed project will have no effect on the following federally-listed species:

- Pillar Coral (*Dendrogyra cylindrus*);
- Rough Cactus Coral (*Mycetophyllia ferox*);
- Lobed Star Coral (*Orbicella annularis*);
- Mountainous Star Coral (*Orbicella faveolata*);
- Boulder Star Coral (*Orbicella franksi*);
- Elkhorn Coral (*Acropora palmata*);
- Staghorn Coral (*Acropora cervicornis*).

The Corps is requesting concurrence with our determinations pursuant to Section 7 of the ESA of 1973, as amended (16 U.S.C. § 1536), and the consultation procedures at 50 C.F.R. Part 402. The Corps appreciates your cooperation in completing this informal Section 7 consultation by concurring with the Corps' effect determination(s) within 30 days of the receipt of this letter. If NMFS disagrees with the Corps' effect determination(s) and requests formal Section 7 consultation, please contact the below referenced contact to discuss suggested modifications to the action to avoid potential adverse effects and NMFS' additional information needs. The Corps will continue to coordinate with NMFS office via email to provide the requested information and, if warranted, a revised effects determination. If you have any questions, or need additional information, please contact Kristen Scheler by email at Kristen.L.Scheler@usace.army.mil or telephone 904-232-2918. Thank you for your assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Gina Paduano Ralph", with a long horizontal line extending to the right.

Gina Paduano Ralph, Ph.D.
Chief, Environmental Branch
Planning and Policy Division

Enclosure

Informal Section 7 Consultation for Rio Anton Ruiz Section 1135 Continuing Authorities Program (CAP) project

In order to comply with Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), the U.S. Army Corps of Engineers (Corps), Jacksonville District, respectfully requests a letter of concurrence within 30 days of the date of this letter from the National Marine Fisheries Service (NMFS) on the Rio Anton Ruiz section 1135 Continuing Authorities Program (CAP) project.

The Rio Anton Ruiz Project is located in the Humacao Natural Reserve (HNR) in Humacao, Puerto Rico. The Recommended Plan consists of constructing two sheetpile notched concrete cap weirs at the location of the temporary saltwater intrusion measures (SWIM) structures. By constructing both weirs, the entire HNR system will be protected from saltwater intrusion as a result of the diversion channel constructed in 2001 under the Rio Anton Ruiz Flood Control Project, CAP Section 205 of the Flood Control Act of 1948, as amended.

The Corps has determined that the proposed project will either have no effect or may affect, but is not likely to adversely affect, federally-listed species under NMFS purview, as described in Table 1. , We are therefore requesting NMFS concurrence with our determinations pursuant to Section 7 of the ESA of 1973, as amended (16 U.S.C. § 1536), and the consultation procedures at 50 C.F.R. Part 402.

Pursuant to our request for informal consultation, the Corps is providing the following information:

- A description of the action to be considered;
- A description of the action area;
- A description of any listed species or designated critical habitat (DCH) that may be affected by the action; and
- An analysis of the potential routes of effect on any listed species or DCH.

1. PROPOSED ACTION

a. Description of the proposed action:

The Recommended Plan consists of constructing two sheetpile notched concrete cap weirs at the location of the temporary SWIM structures (Figure 1). One location is within the Rio Anton Ruiz, just north of the confluence of the Rio Anton Ruiz and the diversion channel (Weir #1). The other location (Weir #2) is within the diversion channel, approximately ½ mile from the mouth of the diversion channel at the lagoon. By constructing both weirs, the entire HNR system will be protected from saltwater intrusion as a result of the diversion channel constructed in 2001 under the Rio Anton Ruiz Flood Control Project, CAP Section 205 of the Flood Control Act of 1948, as amended.



Figure 1. Action area and project location

During the design phase, additional soil borings and hydrographic/topographic survey will be collected for use in refined analysis of the riprap, sheetpile, and hydraulic designs. The sheetpile material should be investigated during final design, including the use of cold rolled steel or vinyl sheetpile sections, to possibly reduce costs.

The construction effort will take approximately 10 months to complete. Weir #1 will be approximately 180 linear feet. Weir #2 will be approximately 140 linear feet. Both weirs will have a notch that is 3 feet deep by 15 feet wide with a 2 feet by 1 foot concrete cap. The construction sequence for the project will start at Weir #1 and progress to Weir #2. Construction will include the installation of erosion and sediment control features including silt fence along the work perimeters and floating turbidity barriers within the Rio Anton Ruiz and diversion channels, upstream and downstream of the structure locations. The structures will be sheetpile driven from the bank of the diversion channel. Access for the project will be via the existing project limits, within the berms along the channel and adjacent to the levee. An existing disposal/borrow area will be used for the staging/stockpiling. All construction and maintenance access can use the existing project limits from the original 2001 Rio Anton Ruiz Flood Control Project, CAP Section 205 of the Flood Control Act of 1948, as amended, project boundary.

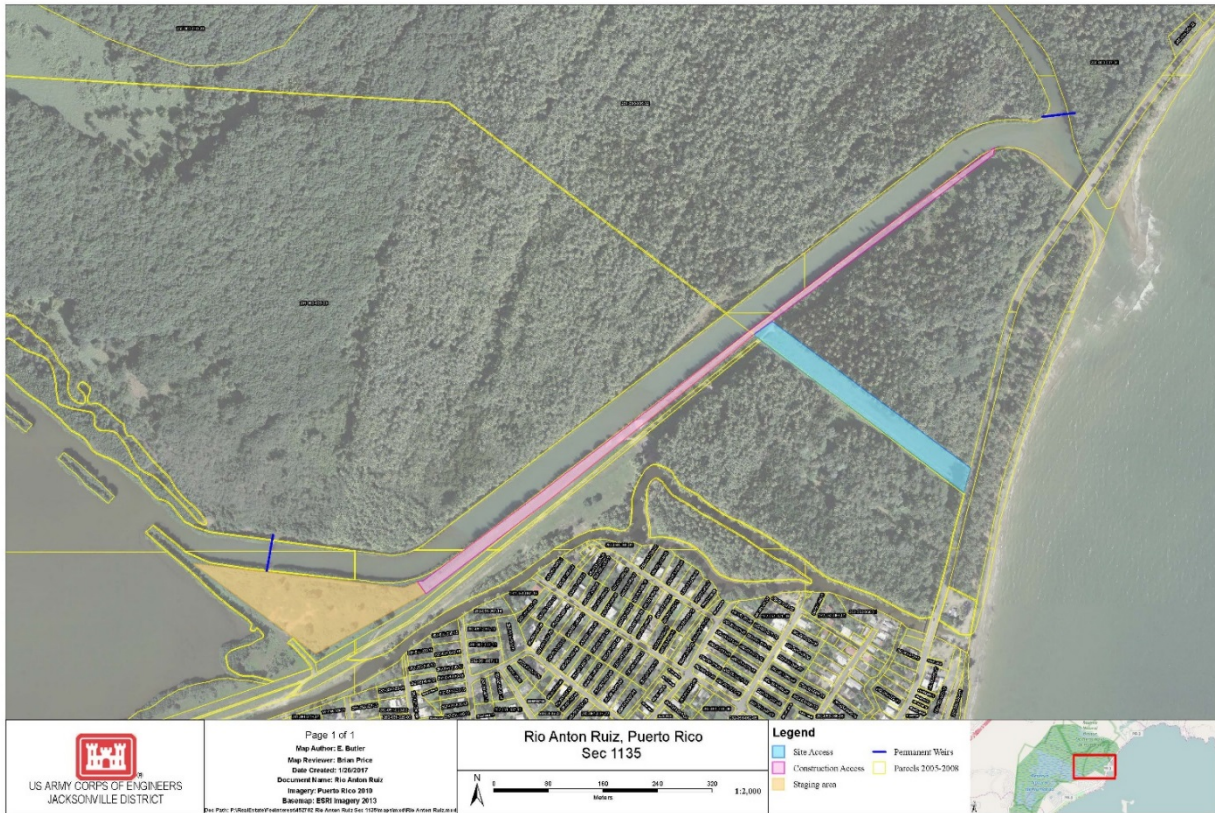


Figure 2. Project access and staging

b. Description of the project purpose:

The purpose of the Rio Anton Ruiz Restoration Project is to preserve the *Pterocarpus officinalis* forest and the biodiversity of both the freshwater and saltwater fauna and flora in the HNR within the limited authority of the CAP 1135 Program. In 2001, the Corps completed construction of the Rio Anton Ruiz Flood Control Project, CAP Section 205 of the Flood Control Act of 1948, as amended. The purpose of the 205 Flood Control Project was to reduce flood damages to the coastal communities of Punta Santiago, Verde Mar, and Villa Palmira, near Humacao, Puerto Rico. Historically, flooding occurred in these communities when runoff from the mountains within the watershed flowed into the HNR lagoon system and the *Pterocarpus* forest before reaching the Caribbean Sea. The authorized flood control project protects those communities from flooding with a levee, interior drainage canal, and a diversion channel to the ocean. Since the completion of the authorized flood control project in 2001, the lagoon system and *Pterocarpus* forest ecosystem have been affected by high levels of salinity, resulting in changes to the biodiversity of the HNR lagoon system. Field observations indicate that a vast number of *Pterocarpus* trees on the north shore of the Rio Anton Ruiz exhibit signs of environmental stress such as wilting, loss of foliage, and dry bark.

In 2007, a series of temporary SWIMs were developed and constructed in by the Corps under the authority of the original 205 flood control project and funded 100% by the non-federal sponsor, Department of Natural and Environmental Resources (DNER). The intent of the SWIMs installation was to implement a temporary structure that could aid in determining if a permanent solution would be warranted. The salinity control target for the temporary SWIMs was a reduction in salinity concentrations from 35 parts per thousand (ppt) to below 10 ppt. DNER salinity monitoring stations within the HNR system were used to monitor the salinity levels upon completion of the temporary SWIMs. After the installation of the SWIMs, salinity data gathered at the monitoring stations indicated that the initial target salinities below 10 ppt had been met. At

the end of 2008/beginning of 2009, the temporary SWIMs began losing their effectiveness and the salinity data exceeded 10 ppt.

c. Description of minimization measures:

Applicable standard protective measures will be taken during in-water construction activities to ensure the safety of sea turtles in the project vicinity. These measures are recommended by NMFS and are described in the 2006 Sea Turtle and Smalltooth Sawfish Construction Conditions (see Attachment 1).

2. ACTION AREA

Pursuant to 50 C.F.R. § 402.02, the term *action area* is defined as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action.” Accordingly, the action area typically includes the affected jurisdictional waters and other areas affected by the authorized work or structures within a reasonable distance.

For the purposes of this consultation, the action area includes the Rio Anton Ruiz, a lagoon system, and a *Pterocarpus* forest in the Humacao Natural Reserve (HNR). Six lagoons, encompassing approximately 615 acres (249 hectares), compose the system: Mandri 1, 2, and 3; Santa Teresa 1 and 2; and Palmas (Figure 1). Rio Anton Ruiz is located in the Municipality of Humacao on the southeast coast of Puerto Rico.

Degradation from the loss of freshwater habitat has likely caused a decline in the number of freshwater species present in the action area, which can impact life cycles, community structures, population densities, and the overall biodiversity of fauna located in the lagoon system. No corals, coral reefs, or hardbottoms are currently present in the project area.

3. AFFECTED SPECIES/HABITAT

Project activities have the potential to affect the listed species as shown in Table 1 below. Table 2 provides the species use of the action area.

Table 1: Species in the action area

Species	ESA Listing Status	Listing Rule/Date	Most Recent recovery plan date	USACE Effect Determination (Species)
Green sea turtle ¹	T	81 FR 20057/ April 6, 2016	October 1991	MANLAA
Leatherback sea turtle	E	35 FR 8491/ June 2, 1970	April 1992	MANLAA
Loggerhead sea turtle ²	T	76 FR 58868/ September 22, 2011	January 2009	MANLAA
Hawksbill sea turtle	E	35 FR 8491/ June 2, 1970	December 1993	MANLAA
Elkhorn coral	T	71 FR 26852/ May 9, 2006	March 2015	NE
Staghorn coral	T	71 FR 26852/ May 9, 2006	March 2015	NE
Boulder star coral	T	79 FR 53852/ September 10, 2014	N/A	NE
Mountainous star coral	T	79 FR 53852/ September 10, 2014	N/A	NE
Lobed star coral	T	79 FR 53852/ September 10, 2014	N/A	NE
Rough cactus coral	T	79 FR 53852/ September 10, 2014	N/A	NE
Pillar coral	T	79 FR 53852/ September 10, 2014	N/A	NE

Table 2: Species use of the Action Area

Species	Species Use of the Action Area and/or DCH Description
Green sea turtle	Foraging and transit, no DCH in action area
Leatherback sea turtle	Foraging and transit, no DCH in action area
Loggerhead sea turtle	Foraging and transit, no DCH in action area
Hawksbill sea turtle	Foraging and transit, no DCH in action area
Johnson's seagrass	Present in action area, not present in project area DCH present in action area, no DCH present in project footprint
Elkhorn coral	Present in the region, not present in the action area, no DCH in action area
Staghorn coral	Present in the region, not present in the action area, no DCH in action area
Boulder star coral	Present in the region, not present in the action area, no DCH in action area

¹ North Atlantic and South Atlantic DPS

² Northwest Atlantic Ocean DPS

Species	Species Use of the Action Area and/or DCH Description
Mountainous star coral	Present in the region, not present in the action area, no DCH in action area
Lobed star coral	Present in the region, not present in the action area, no DCH in action area
Rough cactus coral	Present in the region, not present in the action area, no DCH in action area
Pillar coral	Present in the region, not present in the action area, no DCH in action area

Sea Turtles

Multiple species of sea turtles have been sighted in the action area. Sea turtles may use the action area for transit. There is no sea turtle DCH located in the action area. While freshwater seagrasses are present, the increased salinity levels have likely reduced the available foraging habitat. Implementation of the proposed project may beneficially impact sea turtle foraging in the lagoon system. Sea turtle usage of the Rio Anton Ruiz may be temporarily interrupted due to potential avoidance of construction activities. These species are highly mobile and can easily avoid the area, therefore, impacts are not anticipated to be significant. Applicable standard protective measures will be taken during in-water construction activities to ensure the safety of any sea turtles in the project vicinity. These measures are recommended by NMFS and are described in the 2006 Sea Turtle and Smalltooth Sawfish Construction Conditions (see Attachment 1).

Federally Listed Corals

Although the seven federally-listed coral species are not present within the project footprint and are not likely present within the action area, the corals can be found in this region. Best Management Practices (BMPs) and methods to manage the placement of concrete caps and sheetpile driving will ensure minimized and controlled turbidity. Final details for BMPs and methods will be determined during the permitting and contracting process. The contractor will be given criteria to determine and achieve acceptable means and methods.

4. ROUTE(S) OF EFFECT TO SPECIES:

The structures will be sheetpile driven from the bank of the diversion channel. The sheetpile weirs will have a concrete cap. Depending on the tidal conditions, there may be the need to draw down the water level directly adjacent to the sheetpile in order to construct the concrete cap. Sheetpile or use of other means to create a small dewatering cell and then pumping directly back into the channel should be sufficient if the concrete cap is placed in sections. No diversion of water (diversion channel) is anticipated for any dewatering efforts. Temporary turbidity will occur as a result of sheetpile driving. Impacts will be temporary and localized, lasting only as long as construction takes place, approximately 10 months. Best Management Practices (BMPs) and methods to manage the placement of concrete caps and sheetpile driving will ensure minimized and controlled turbidity. Final details for BMPs and methods will be determined during the permitting and contracting process. The contractor will be given criteria to determine and achieve acceptable means and methods.

5. ROUTES OF EFFECT TO CRITICAL HABITAT

There is no DCH located in the action area. No potential routes of effect are anticipated to impact DCH outside of the action area.

6. DETERMINATION:

The Corps has concluded the project may affect, but is not likely to adversely affect the following federally-listed species:

- Loggerhead Sea Turtle (*Caretta caretta*);
- Green Sea Turtle (*Chelonia mydas*);
- Hawksbill Sea Turtle (*Eretmochelys imbricata*);
- Leatherback Sea Turtle (*Dermochelys coriacea*).

The Corps has determined that the project will have no effect on the following federally-listed species:

- Pillar Coral (*Dendrogyra cylindrus*);
- Rough Cactus Coral (*Mycetophyllia ferox*);
- Lobed Star Coral (*Orbicella annularis*);
- Mountainous Star Coral (*Orbicella faveolata*);
- Boulder Star Coral (*Orbicella franksi*);
- Elkhorn Coral (*Acropora palmata*);
- Staghorn Coral (*Acropora cervicornis*).

This analysis was prepared based on the best scientific and commercial data available.

Rio Anton Ruiz 1135 Continuing Authorities Program (CAP) Project

ATTACHMENT 1:

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006

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JACKSONVILLE DISTRICT CORPS OF ENGINEERS
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JACKSONVILLE, FLORIDA 32207-0019

MAR 07 2017

Planning and Policy Division
Environmental Branch

Mr. Edwin Muñiz
Field Supervisor
Caribbean Ecological Services Field Office
U.S. Fish and Wildlife Service
Road 301 Km 5.1
Boquerón, Puerto Rico 00622

Dear Mr. Muñiz:

In order to comply with Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), the U.S. Army Corps of Engineers (Corps), Jacksonville District, respectfully requests a letter of concurrence from the U.S. Fish and Wildlife Service (USFWS) on the Río Antón Ruiz Section 1135 Continuing Authorities Program (CAP) Project.

The Río Antón Ruiz Project is located in the Humacao Natural Reserve (HNR) in Humacao, Puerto Rico. The Recommended Plan consists of constructing two sheetpile notched concrete cap weirs at the location of the temporary saltwater intrusion measures (SWIM) structures. By constructing both weirs, the entire HNR system will be protected from saltwater intrusion as a result of the diversion channel constructed in 2001 under the Rio Antón Ruiz Flood Control Project, CAP Section 205 of the Flood Control Act of 1948, as amended.

The Corps has determined that the proposed project may affect, but is not likely to adversely affect, the Antillean manatee (*Trichechus manatus manatus*) and the Puerto Rican boa (*Epicrates inornatus*). Included with this letter is additional information describing the project background, project location and proposed action, listed species under USFWS jurisdiction, potential effects to listed species, and efforts to eliminate/avoid impacts.

The Corps respectfully requests that USFWS provide a letter of concurrence within 30 days of the receipt of this letter. If you have any questions, or need additional information, please contact Kristen Scheler by email Kristen.L.Scheler@usace.army.mil or telephone 904-232-2918. Thank you for your assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Gina Paduano Ralph", with a long horizontal flourish extending to the right.

for Gina Paduano Ralph, Ph.D.
Environmental Branch
Planning and Policy Division

Enclosure

Rio Anton Ruiz Section 1135 Continuing Authorities Program (CAP) project

In order to comply with Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), the U.S. Army Corps of Engineers (Corps), Jacksonville District, respectfully requests a letter of concurrence within 30 days of the date of this letter from the U.S. Fish and Wildlife Service (USFWS) on the Rio Anton Ruiz section 1135 Continuing Authorities Program (CAP) Project. The Corps has determined that the proposed project may affect, but is not likely to adversely affect the Antillean manatee (*Trichechus manatus manatus*) and the Puerto Rican boa (*Epicrates inornatus*).

Pursuant to our request, the Corps is providing the following information:

- Description of the Project Background;
- Description of the Project Location and Proposed Action;
- Listed Species Under USFWS Jurisdiction;
- Potential Effects to Listed Species and Efforts to Eliminate/Avoid Impacts;
- Effect Determination;

Description of the Project Background

The Corps completed construction of the Rio Anton Ruiz Flood Control Project, CAP Section 205 of the Flood Control Act of 1948, as amended, in 2001. The purpose of the 205 Flood Control Project was to reduce flood damages to the coastal communities of Punta Santiago, Verde Mar, and Villa Palmira, near Humacao, Puerto Rico. Historically, flooding occurred in these communities when runoff from the mountains within the watershed flowed into the Humacao Natural Reserve (HNR) lagoon system and the Pterocarpus forest before reaching the Caribbean Sea. The authorized flood control project protects those communities from flooding with a levee, interior drainage canal, and a diversion channel to the ocean. Since the completion of the authorized flood control project in 2001, the lagoon system and Pterocarpus forest ecosystem have been affected by high levels of salinity, resulting in changes to the biodiversity of the HNR lagoon system. Field observations indicate that a vast number of Pterocarpus trees on the north shore of the Rio Anton Ruiz exhibit signs of environmental stress such as wilting, loss of foliage, and dry bark. The purpose of the Rio Anton Ruiz Restoration Project is to preserve the *Pterocarpus officinalis* forest and the biodiversity of both the freshwater and saltwater fauna and flora in the HNR within the limited authority of the CAP 1135 Program.

In 2007, a series of temporary saltwater intrusion measures (SWIMs) were developed and constructed in by the Corps under the authority of the original 205 flood control project and funded 100% by the non-federal sponsor, Department of Natural and Environmental Resources (DNER). The intent of the SWIMs installation was to implement a temporary structure that could aid in determining if a permanent solution would be warranted. The salinity control target for the temporary SWIMs was a reduction in salinity concentrations from 35 ppt to below 10 ppt. DNER salinity monitoring stations within the HNR system were used to monitor the salinity levels upon completion of the temporary SWIMs. After the installation of the SWIMs, salinity data gathered at the monitoring stations indicated that the initial target salinities below 10 ppt had been met. At the end of 2008/beginning of 2009, the temporary SWIMs began losing their effectiveness and the salinity data exceeded 10 ppt.

Description of the Project Location and Proposed Action

The Rio Anton Ruiz Project is located in the HNR in Humacao, Puerto Rico. The Recommended Plan consists of constructing two sheetpile notched concrete cap weirs at the

location of the temporary SWIM structures. By constructing both weirs, the entire HNR system will be protected from saltwater intrusion as a result of the diversion channel.

Listed Species Under USFWS Jurisdiction

Listed species which may occur in the vicinity of the proposed work and are under the jurisdiction of the USFWS include the West Indian (Antillean) manatee (*Trichechus manatus*) - Endangered and the Puerto Rican boa (*Epicrates inornatus*) – Endangered.

Potential Effects to Listed Species and Efforts to Eliminate/Avoid Impacts

Antillean Manatee

Federal law, specifically the Marine Mammal Protection Act of 1972 (MMPA) and the 1973 ESA protects manatees. Critical habitat is defined under the ESA as specific areas within and/or outside a geographical area that are occupied by a species at the time of listing, that contain physical or biological features essential to the conservation of the species and therefore require special management considerations or protection for the benefit of the species. Although critical habitat for the Antillean manatee was described in 1976 in 50 CFR 17.95 for Florida, no areas in Puerto Rico were identified. In 2008, the UWFWS petitioned to revise critical habitat for the manatee. While a revision was warranted, it was precluded due to other priorities (USFWS 2016). Habitat requirements currently present in the Rio Anton Ruiz project area to sustain manatees' essential life history functions likely include:

- Shallow, secluded water areas for resting, mating, and calving
- Submerged, emergent, and floating vegetation for foraging
- Freshwater source for drinking (natural or artificial sources)

Construction of the two sheetpile notched concrete cap weirs will occur within areas where manatees may be present, however, the construction will occur at the same location of the temporary SWIM structures and the notch in the concrete cap will allow for the manatees to continue to travel through the area. The weirs will result in reduced salinity in the historically freshwater lagoons, which may be used by the manatees as a freshwater source. Applicable standard protective measures will be taken during in-water construction activities to ensure the safety of manatees that may be in the project vicinity (see Attachment 1).

Puerto Rican Boa

The Puerto Rican boa was listed as endangered in 1970. No areas have been specifically designated or identified as critical habitat for the Puerto Rican boa, however, the species is widespread in its distribution across the island. The Puerto Rican boa is found in a variety of habitats and is arboreal and terrestrial. It is abundant in protected and inaccessible areas of the island. According to a study in 2008 (Gould et al) focused on species distribution and habitat preference, the Puerto Rican boa predicted habitat model specifically includes *Pterocarpus* forest.

Construction of the two sheetpile notched concrete cap weirs will occur near areas where Puerto Rican boas may be present, however, the construction will occur at the same location of the temporary SWIM structures, which is subtidal and not likely used by the boas. The weirs will result in reduced salinity in the historically freshwater lagoons, which will enable recovery of the *Pterocarpus officinalis* forest, which may be used by the Puerto Rican boas.

Although specific standard protection measures have not been established for Puerto Rican boas, the following measures, pulled from the 2013 standard protection measures for the eastern indigo snake (USFWS 2013), should be taken to ensure minimization of impacts:

Pre-Construction Activities:

Prior to the onset of construction activities, educational posters will be displayed in the construction office and in strategic locations throughout the construction site, including along any proposed access roads. Posters must be clearly visible to all construction staff and should include the following information: species description, life history, protection under federal law, instructions for live and dead snake encounters, and telephone numbers of personnel to contact if a live or dead snake is encountered. The sponsor or a designated agent will conduct a meeting with construction staff to discuss identification of the snake, its protected status, what to do if a snake is observed within the project area, and applicable penalties that may be imposed if regulations are violated. An educational brochure including color photographs of the snake will be provided to the staff and the construction office will maintain additional copies.

Instructions for Encounters:

If a live Puerto Rican boa is encountered on the site, all activities should cease to allow the snake sufficient time to move away from the site without interference. Personnel must not attempt to touch or handle the snake due to the protected status. If possible, photographs should be taken for identification and documentation purposes. Location information, photographs, and condition of the snake should be provided by the Corps to the appropriate USFWS office.

If a dead Puerto Rican boa is encountered on the site, all activities should cease, and the applicant's designated agent and appropriate USFWS office should be immediately notified of the location information and condition of the snake. If possible, photographs should be taken for identification and documentation purposes. The snake should be thoroughly soaked in water and frozen. An appropriate wildlife agency will retrieve the dead snake.

Post-Construction Activities:

Regardless of whether Puerto Rican boas are observed during construction activities, a monitoring report should be submitted to the appropriate USFWS office within 60 days of project completion.

Effect Determination

The Corps determination is that the proposed action may affect, but is not likely to adversely affect, Antillean manatee and the Puerto Rican boa.

References:

- USFWS. (2016). "West Indian Manatee (*Trichechus manatus*)." Accessed February 2017. <https://www.fws.gov/southeast/wildlife/mammal/manatee/>
- USFWS. (2011). "Puerto Rican boa. (*Epicrates inornatus*)." Accessed December 2016. <https://www.fws.gov/southeast/5yearreviews/5yearreviews/puertoricanboa.pdf>
- USFWS. (2013). "Standard protection measures for the eastern indigo snake." Accessed March 2017. https://www.fws.gov/northflorida/indigosnakes/20130812_EIS%20Standard%20Protection%20Measures_final.pdf

Rio Anton Ruiz 1135 Continuing Authorities Program (CAP) Project

ATTACHMENT 1:

MANATEE STANDARD CONDITIONS FOR IN-WATER WORK (2011)

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.