

Exhibit 21

Geographic Response Plan Map: VI-2

64°45'0"W



Map Continued on VI-1

Map Continued on VI-3

64°45'0"W

Map Continued on VI-2S

<p>Environmentally Sensitive Areas</p> <p>Priority of Protection - Summer</p> <ul style="list-style-type: none"> ◆◆◆ A - Protect First - Highest Priority ◆◆ B - Protect after A Areas - Medium Priority ◆ C - Protect after B Areas - Lower Priority ▲ Natural Collection Areas ▲ Collection/Recovery Points — General Booming Strategy Length in Feet (S) Staging Areas (R) Oil Spill Risk Locations (E) Equipment Sites (⚡) Power Plants 	<ul style="list-style-type: none"> (🗿) Archaeological Site (🐦) Bird Sanctuary (🚤) Boat Ramp (🛥) Coast Guard (🌊) Coral Reef (🏠) Historical Site (🐬) Manatees (🌿) Mangrove (⚓) Marina (🐢) Pelican Nesting Area (☀️) Phosphorescent Bay (🐦) Sea Bird Nesting Area (🐢) Turtle Nesting (💧) Water Intake (🌳) Wildlife Refuge/Nature Reserve (🌳) National Park (🌿) NERR (🌿) Mangroves (●) Coral Reef (●●) Turtle Nesting 	<p>Acropora Priority Sites</p> <ul style="list-style-type: none"> Level A - Protect First Level B - Protect Second State Managed Areas Federal Managed Areas PR Municipalities/USVI Districts 	<p>US Coast Guard Sector San Juan</p> <p>Fish and Wildlife Research Institute</p>
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Miles

Name: ALTONA LAGOON (SCHOONER CHANNEL/ROUND REEF)

Site ID:

A504

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: DPNR Area of Particular Concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 45' 14.799" N

Longitude (DMS): 64° 41' 49.789"

County: St. Croix

Latitude (DD): 17.75411073

Longitude (DD): -64.69716353

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-G6

QUAD Name: Beaugard Bay

Managed Area (if applicable): Christiansted Waterfront Area of Particular Concern

General Location: East End

CONTACT INFORMATION

Contacts: V.I. DPNR - (340) 773-5774, (FAX) 773-9310; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Fine to medium grain sandy beach, sheltered mangroves line the channel leading into the shallow tidal lagoon, Red and Black mangroves and seagrass beds in the lagoon.**Habitat:** Fine to medium grain sandy beach, sheltered mangroves line the channel leading into the shallow tidal lagoon, Red and Black mangroves and seagrass beds in the lagoon, Essential Fish Habitat.**Wildlife:** Altona lagoon and salt pond bridge- Herons, Egrets, shorebirds, seabirds, waterfowl in lagoon and nearshore, Feeding Least Terns from Mar to Aug, nesting and feeding sea turtles and fishery area including shrimp nursery. In salt flats - Least Tern and Wilson's Plover, nesting Mar-Aug.**Threaten/Endangered Species:** Leatherback, Hawksbill, and Green sea turtles, Brown Pelicans, Peregrine Falcons, Least tern, Great-blue Heron, Great Egret, Snowy Egret, Black-crowned Night Heron, White-cheeked Pintail and Fisherman Bat. Elkhorn and Staghorn coral**Socio-Economic Resources:** Public use area

RESPONSE CONSIDERATIONS

Staging Area: Vehicle: Take East End Rd (Route 82) to Gallows Bay Rd to Altona Lagoon. Boat: Use fisherman's access ramp at the west end of the Lagoon for trailerable boats. Larger boats may use Gallows Bay Harbor Marina/Port Authority Dock.**Collection Points:****Area Access:** boat/vehicle**Spill Risk:****Response Resources:** Altona lagoon-a primary staging area for all Response Actions. Staging: The Western end of Altona Lagoon provides open space for staging equipment. Access east of Altona Lagoon through entrance of Buccaneer Hotel to Shoy's beach.

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):**Average Current (KTS):****Ease of Protection:****Min. Boom Length (FT):** 60**Boom Type:****Booming Method:** Protection/Exclusion**Protection Strategy:** Deploy 60 ft. of exclusion boom at the flow pipes under the bridge at the east end of the lagoon. Deploy wildlife control measures to protect birds. Contain and skim.

Name: PROTESTANT CAY

Site ID:

A505

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: Critical habitat, Area of particular concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 44' 57.767" N

Longitude (DMS): 64° 42' 21.743"

County: St. Croix

Latitude (DD): 17.74937980

Longitude (DD): -64.70603983

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F6

QUAD Name: Christiansted

Managed Area (if applicable): Christiansted Waterfront Area of Particular Concern

General Location: Christiansted

CONTACT INFORMATION

Contacts: V.I. DPNR - (340) 773-5774, (FAX) 773-9310; Hotel On The Cay - Manager - (340) 773-2035 or (340) 773-2591; V.I. State Historic Preservation Office (VISHPO) - Lorna Thomas - (340) 776-8605; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Fine to medium grained sandy beach

Habitat: Fine to medium grained sandy beach, coral reef and seagrass beds in bay.

Wildlife: Feeding seabirds, fishery, sea turtles, St. Croix Ground Lizard, coral

Threaten/Endangered Species: St. Croix Ground Lizard, Leatherback, Hawksbill and Green sea turtle and Brown Pelicans. This area is a critical habitat under the Endangered Species Act for St. Croix Ground Lizard.

Socio-Economic Resources: Historic graves near shoreline, tourist area, hotel and recreational beach.

RESPONSE CONSIDERATIONS

Staging Area: Boat: A small ferry boat runs from the waterfront NPS, CNHS. Two docks on cay. Staging: The western end of Altona Lagoon provides open space for staging equipment. NPS CNHS HQ.

Collection Points:**Area Access:** boat/vehicle**Spill Risk:**

Response Resources: The navigational aids marking the channel to V.I. WAPA are privately maintained. Use of the aids to anchor boom should be coordinated with V.I. WAPA, V.I. Ports Authority and the local harbor.

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):**Average Current (KTS):****Ease of Protection:****Min. Boom Length (FT):****Boom Type:****Booming Method:**

Protection Strategy: Consider diversion boom at Beauregard Bay, East Ft. Louis Augusta. The strategy for protecting Gallows Bay (C506) may protect Protestant Cay. Deploy diversion boom or containment boom around vessel.



Name: V.I. WATER AND POWER AUTH. DESALINIZATION WATER INTAKE

Site ID:

A508

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: DPNR Area of Particular Concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 44' 49.252" N

Longitude (DMS): 64° 42' 36.627"

County: St. Croix

Latitude (DD): 17.74701433

Longitude (DD): -64.71017422

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F6

QUAD Name: Christiansted

Managed Area (if applicable): Christiansted Waterfront Area of Particular Concern

General Location: Christiansted

CONTACT INFORMATION

Contacts: V.I. Water & Power Auth. - (340) 773-2250; V.I. DPNR - (340) 773-577, (FAX) 773-9310; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Water Intake

Habitat: Seagrass, coral

Wildlife: Turtle nesting and feeding, coral associated wildlife.

Threaten/Endangered Species: Brown Pelican, Green Sea Turtle, Hawksbill, Acropora

Socio-Economic Resources: Central Power Plant for the entire island and public water

RESPONSE CONSIDERATIONS

Staging Area: Vehicles & Boats: Vehicles and boats may access the area from Christiansted, or through the V.I. WAPA plant. Seaplane dock. National Park Service headquarters parking lot.

Collection Points:

Area Access: boat/vehicle

Spill Risk:

Response Resources: See V.I. WAPA oil spill plan

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):

Average Current (KTS):

Ease of Protection:

Min. Boom Length (FT): 50

Boom Type:

Booming Method: Protection/Exclusion

Protection Strategy: Deploy 50 ft. of boom across the water intake. Deploy a collection boom to the east of the channel and another from the spit at the western end of the power plant. Offshore containment booming and shimming.



Name: LONG REEF

Site ID:

A509

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: DPNR Area of Particular Concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 45' 35.148" N

Longitude (DMS): 64° 42' 36.015"

County: St. Croix

Latitude (DD): 17.75976321

Longitude (DD): -64.71000422

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-G6

QUAD Name: Beaugard Bay

Managed Area (if applicable): Christiansted Waterfront Area of Particular Concern

General Location: Sion Farm

CONTACT INFORMATION

Contacts: V.I. DPNR - (340) 773-5774, (FAX) 773-9310; TNC - La Grade Princess area; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Sandy beaches

Habitat: Coral reef, seagrass beds, sandy beaches.

Wildlife: Reef inhabitants, Acropora habitat, turtle nesting and feeding, feeding birds and fishing bait.

Threaten/Endangered Species: Brown Pelican, Hawksbill and Green sea turtle, and Acropora.

Socio-Economic Resources: Some recreational resorts, Sea plane ramp, condos, beaches, kitesurfing, kayaks. Little Princess - High probability of cultural resources - Contact SHPO

RESPONSE CONSIDERATIONS

Staging Area: Boat: Christiansted is the closest boat launching area. Seaplane ramp, Jones Maritime ramp. Small boat in at Palma at Pelican Cove, WAPA responding boat. Seaplane small responding boat on mooring (NRC) in C'sted

Collection Points:

Area Access: boat/vehicle

Spill Risk:

Response Resources: Strong longshore east to west current. Vehicle: various points in Grand, little Princess. See V.I. WAPA oil spill response plan.

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):

Average Current (KTS):

Ease of Protection:

Min. Boom Length (FT):

Boom Type:

Booming Method:

Protection Strategy: Nearshore protection strategies are not normally feasible in the reef area. Conduct offshore containment booming and skimming.



Name: SALT RIVER BAY (NATIONAL HISTORICAL PARK AND ECOLOGICAL PRESERVE) Site ID: A510

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: Salt River Bay National Park and Ecological Preserve, Area of Particular Concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 47' 14.764" N

Longitude (DMS): 64° 45' 18.414"

County: St. Croix

Latitude (DD): 17.78743432

Longitude (DD): -64.75511496

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-G7

QUAD Name: Baron Bluff

Managed Area (if applicable): Salt River Bay Marine Reserve and Wildlife Sanctuary

General Location: Sion Farm

CONTACT INFORMATION

Contacts: V.I. DPNR - Commissioner-(340) 774-3320; NPS; Salt River Bay NHP&EP; Christiansted; ST. Croix, USVI - Superintendent - (340) 773-1460 x 222/235 or Fax 719-1791 or Alt. 775-6238, V.I. State Historic Preservation Office - Lorna Thomas - (340) 776-8605; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Red and Black mangroves along the interior shoreline, cobble and sandy beaches

Habitat: Coral reefs at mouth of bay, Red and Black mangroves along the interior shoreline, cobble and sandy beaches. Acropora habitat.

Wildlife: Several species of water fowl; herons, egrets, Oystercatchers and Night Herons. Nesting Least Terns (March - August), Acropora.

Threaten/Endangered Species: Brown Pelicans, Leatherback, Hawksbill and Green sea turtles, Oystercatchers, Acropora

Socio-Economic Resources: Marina and popular recreational area, Natl Park Service ecological reserve + APC. Columbus landing/Prehistoric village. Critical Archaeological site. High probability of encountering prehistoric and historical resources in area. Contact SHPO + NPS.

RESPONSE CONSIDERATIONS

Staging Area: Vehicle: For Eastside access take Route 751 to Estate Judith's Fancy, then take the private road through the guard gate to the beach. For Westside access take Route 75 to 801 into Salt River Marina and/or Columbus landing site... See other response

Collection Points:

Area Access: boat/vehicle/helicopter

Spill Risk:

Response Resources: Boat: Vessels may access the area from Christiansted Marina, or through Salt River Bay Marina in Salt River Bay. Pier facilities at the Salt River Bay Marina are limited to a private dock. Trailerable boats from dirt ramp off of Rte. 80... See Protection

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):

Average Current (KTS):

Ease of Protection:

Min. Boom Length (FT): 6000

Boom Type:

Booming Method: Protection/Exclusion

Protection Strategy: Deploy protection booming as necessary. Deploy 6,000 ft. exclusion boom across the inner entrance of the lagoon (sea conditions permitting; else boom inner bays). Establish collection points at the beaches on either side of the entrance depending on sea conditions. There are boat moorings outside the reef that could be used with the aid of a diver as boom anchors. Deploy wildlife control measures to protect birds. Barrier to fringing mangroves. Consider use of WAPA boom. Boat Ramp at Salt River Marina. National Park Service visitor contact station, west side, above Salt River Bay parking area.



Name: MANNING BAY

Site ID:

A519

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: DPNR Area of Particular Concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 41' 33.630" N

Longitude (DMS): 64° 47' 13.869"

County: St. Croix

Latitude (DD): 17.69267503

Longitude (DD): -64.78718595

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F7

QUAD Name: Long Point

Managed Area (if applicable): Southshore Industrial Area Area of Particular Concern

General Location: Southcentral

CONTACT INFORMATION

Contacts: V.I. DPNR - Commissioner - (340) 690-0058-24/7 hr line; (340) 774-3320; V.I. Port Authority - John Payne - (340) 690-2049; (340) 778-3131; (340) 778-8599 , V.I. State Historic Preservation Office (SHPO) - Lorna Thomas-(340) 776-8605, (FAX) 775-5706; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Fine to coarse grained sandy beach, exposed and protected Mangroves

Habitat: Fine to coarse grained sandy beach, exposed and protected Mangroves, coral reef, deep reef and seagrass beds in the bay.

Wildlife: Nesting and feeding sea turtles, waterbirds, Herons, Egrets, Legrets, Brown Pelicans, shorebirds, Least Terns feeding and nesting from April to September and a fishery. Salt Ponds and Salt Flats.

Threaten/Endangered Species: Leatherback, Hawksbill and Green sea turtles, Brown Pelicans, Least Tern, Great-blue Heron, Great Egret, Snowy Egret, Black-crowned Night Heron, White checked Pintail and Fisherman Bat.

Socio-Economic Resources: Recreational beach. High probability of encountering prehistoric resources in the marked areas. Contact SHPO at the above number.

RESPONSE CONSIDERATIONS

Staging Area: Vehicle: Take the Airport Road (Rt. 64) to numerous dirt access roads, including the one to the sanitary landfill where the opening to the lagoon is located, and through the Flamboyant Race Track property. Cont. See Response

Collection Points:

Area Access: aircraft/boat/vehicle

Spill Risk:

Response Resources: Boat: The closest boat access is at Hovensa or the container port. Helicopter & Aircraft: Alexander Hamilton Airport is adjacent to the area. See the oil spill response plans for Hovensa (SJ018) and Renaissance Group (SJ023).

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):

Average Current (KTS):

Ease of Protection:

Min. Boom Length (FT): 100

Boom Type:

Booming Method: Protection/Exclusion

Protection Strategy: The beach is approximately 8,000 ft. long. Most of the mangroves are sheltered. If the stream is influenced by the tide construct a berm across its' mouth near the landfill, or deploy 100 ft. of exclusion boom. Consider diversion booming along the beach. Deploy wildlife control measures to protect birds.



Name: KRAUSE LAGOON/RENNAISSANCE CHANNEL/WETLAND

Site ID:

A520

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: DPNR Area of Particular Concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 41' 11.878" N

Longitude (DMS): 64° 46' 8.248" W

County: St. Croix

Latitude (DD): 17.68663280

Longitude (DD): -64.76895779

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F7

QUAD Name: Long Point

Managed Area (if applicable): Southshore Industrial Area Area of Particular Concern

General Location: Southcentral

CONTACT INFORMATION

Contacts: V.I. DPNR - (340) 690-0058; Virgin Islands Port Authority - John Payne - (340) 690-2049, (340) 778-3131, (340) 778-8599 (home); Hovensa -(340) 692- 3000; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Mangroves, fill and wetlands.

Habitat: Mangroves, fill and wetlands.

Wildlife: Red Mangroves. Herons and egrets. Green Sea turtles, Brown Pelicans.

Threaten/Endangered Species: Feeding and nesting Least Terns from April to September, Brown Pelicans and Willet. Brown Boobies, feeding green turtles.

Socio-Economic Resources: Commercial waterway, North of Road - wetland/salt pond adjacent to / between container port and Molasses Dock.

RESPONSE CONSIDERATIONS

Staging Area: Vehicle: Use Container Port Road to the port area, or to the molasses dock. A road also runs along the drainage ditch to the collection point. Boat: Large and small vessels may operate out of the adjacent facilities. Port facilities = secure staging

Collection Points:

Area Access: boat/vehicle

Spill Risk:

Response Resources: Dedicated response trailer for Ruth Island on Hovensa dock nine; First Priority seal-off lagoon channel entrance with boom, north of molasses dock staging area. Renaissance group response plan. VI Port Authority vessel on site.

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):

Average Current (KTS):

Ease of Protection:

Min. Boom Length (FT): 3000

Boom Type:

Booming Method: Deflection

Protection Strategy: Deploy 3,000 ft. of diversion boom along the beach to the collection point near the drainage ditch. Close off mouth of Krause Lagoon Channel with 700 ft. of boom. This is high priority. See Renaissance Group Response Plan. VI Port Authority vessel on site. Public boat ramp on Molasses Dock. Asphalt parking area.



Name: RUTH CAY

Site ID:

A521

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: DPNR Area of Particular Concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 40' 52.312" N

Longitude (DMS): 64° 46' 1.050" W

County: St. Croix

Latitude (DD): 17.68119776

Longitude (DD): -64.76695827

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F7

QUAD Name: Long Point

Managed Area (if applicable): Southshore Industrial Area Area of Particular Concern

General Location: Southcentral

CONTACT INFORMATION

Contacts: V.I. DPNR HQ - (340) 773-8310, (340) 772-7648, (FAX) 773-9310; DPNR/DFW - (340) 643-0800; DPNR/DFW- director- 775-6762; DPNR Fish and Wildlife-Judy Pierce (Chief of Wildlife)- (340) 777-5611; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Exposed mangroves, saltwater wetland, and coarse grain sand and rubble beaches.

Habitat: Exposed mangroves, saltwater wetland, and coarse grain sand and rubble beaches.

Wildlife: Nesting White-crowned Pigeons and nesting and feeding sea turtles, nesting Willets, White-checked Pintails, American Oyster Catcher. Nesting Least Terns (Apr. - Sept.). St. Croix Ground Lizard, coral

Threaten/Endangered Species: Sea Turtles, Brown Pelicans, St. Croix Ground Lizard, Willet, White-Cheeked Pintail, Great Egret, Little Blue Heron and over Winter Peregrine Falcon. Green & Hawksbill Sea turtles, Am. Oyster catchers, Wilson's Plover, Elkhorn Coral (Shallow)

Socio-Economic Resources: Surrounding coral reef habitat, predominantly S-SW

RESPONSE CONSIDERATIONS

Staging Area: Boat: Large and small vessels out of the adjacent facilities - MSRC, NRC, Hovensa. Staging: The port facilities in the area provide secure staging areas.

Collection Points:

Area Access: boat/vehicle

Spill Risk:

Response Resources: At Risk: Surrounding coral reef habitat, predominantly seagrass and sea weeds.

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):

Average Current (KTS):

Ease of Protection:

Min. Boom Length (FT): 2000

Boom Type:

Booming Method: Deflection

Protection Strategy: Deploy 4,000 ft. of diversion boom from the cay to protect the mangroves. Consider using offshore dispersants and the pre-application of a wetting agent on the mangroves. Deploy wildlife control measures to protect birds. See map for booming strategy. Close off opening between Ruta Cay and Renaissance property with 600 ft FT bloom. Hovensa resources deployed.



Name: KRAUSE LAGOON

Site ID:

A522

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: DPNR Area of Particular Concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 41' 52.785" N

Longitude (DMS): 64° 45' 46.148"

County: St. Croix

Latitude (DD): 17.69799573

Longitude (DD): -64.76281880

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F7

QUAD Name: Long Point

Managed Area (if applicable): Southshore Industrial Area Area of Particular Concern

General Location: Southcentral

CONTACT INFORMATION

Contacts: V.I. DPNR - 24 hr phone number- (340) 244-9066; V.I. DPNR - Commissioner - Robert Mathes - (340) 774-3320; Hovensa- (340) 692-3000; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Sheltered mangroves and fill.

Habitat: Sheltered mangroves and fill.

Wildlife: Herons, Egrets, Least Terns

Threaten/Endangered Species: Browns Pelicans, winter season Peregrine Falcons, Nesting Least Terns (Apr-Sept), White-Cheeked Pintails.

Socio-Economic Resources: Channel for commercial vessels.

RESPONSE CONSIDERATIONS

Staging Area: Boat: Vehicles and large and small vessels may use the old public molasses dock staging area. Staging: The port facilities in the area provide secure staging areas.

Collection Points:

Area Access: boat/vehicle

Spill Risk:

Response Resources: See the oil spill response plans for Hovensa (SJ018) and Renaissance Group (SJ023)

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):

Average Current (KTS):

Ease of Protection:

Min. Boom Length (FT): 1000

Boom Type:

Booming Method: Deflection

Protection Strategy: Deploy 1,000 ft. of diversion boom north of boat ramp at the old Molasses Dock (old) to west mouth of the channel to a collection point on the west side. Deploy wildlife control measures to protect birds. Boom inlets for mangroves.



Name: HOVENSA, L.L.C. OIL

Site ID:

A523

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: Commercial/Refinery

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 42' 10.267" N

Longitude (DMS): 64° 44' 34.436"

County: St. Croix

Latitude (DD): 17.70285198

Longitude (DD): -64.74289897

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F6

QUAD Name: Christiansted

Managed Area (if applicable): Southshore Industrial Area Area of Particular Concern

General Location: Southcentral

CONTACT INFORMATION

Contacts: V.I. DPNR - Hovensa- (340) 962-3000; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537;

RESOURCES AT RISK INFORMATION

Shoreline Type: Water intake to Hovensa desalinization plant and fire main system. Seawall and docks

Habitat: Deep water port

Wildlife: None reported.

Threaten/Endangered Species: None reported.

Socio-Economic Resources: None reported

RESPONSE CONSIDERATIONS

Staging Area: Vehicles & Boats: Vehicles and large and small vessels may use the adjacent facilities. Staging: The port facilities in the area provide secure staging areas.

Collection Points:

Area Access: boat/vehicle

Spill Risk:

Response Resources: See the oil spill response plan for Hovensa

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):

Average Current (KTS):

Ease of Protection:

Min. Boom Length (FT): 100

Boom Type:

Booming Method: Protection/Exclusion

Protection Strategy: Deploy 100 ft. of exclusion boom at the intake.



Name: LIMETREE BAY

Site ID:

A524

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: DPNR Area of Particular Concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 41' 30.001" N

Longitude (DMS): 64° 45' 0.000" W

County: St. Croix

Latitude (DD): 17.69166698

Longitude (DD): -64.75000001

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F7

QUAD Name: Long Point

Managed Area (if applicable): Southshore Industrial Area Area of Particular Concern

General Location: Southcentral

CONTACT INFORMATION

Contacts: V.I. DPNR - (340) 773-5774, (FAX) 773-9310; V.I. DPNR - Commissioner - (340) 774-3320; Hovensa - (340) 692-3000; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Commercial piers, bulkheads and riprap.

Habitat:

Wildlife: Nearby mangroves.

Threaten/Endangered Species: None reported.

Socio-Economic Resources: None reported

RESPONSE CONSIDERATIONS

Staging Area: Vehicles & Boats: Vehicles and large and small vessels may use the adjacent facilities. Staging: The port facilities in the area provide secure staging areas.

Collection Points:

Area Access: boat/vehicle

Spill Risk:

Response Resources: See the oil spill response plans for Hovensa (SJ018) and (SJ023)

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):

Average Current (KTS):

Ease of Protection:

Min. Boom Length (FT): 3000

Boom Type:

Booming Method: Containment/Deflection

Protection Strategy: Depending on the source of the spill, deploy 3,000 ft. of boom to contain oil between the piers, or divert it to the collection point near the mouth of Krause Lagoon.



Name: CANEGARDEN BAY BEACHES AND SALT POND

Site ID:

A525

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: DPNR Area of Particular Concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 42' 9.919" N

Longitude (DMS): 64° 44' 3.891" W

County: St. Croix

Latitude (DD): 17.70275522

Longitude (DD): -64.73441417

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F6

QUAD Name: Christiansted

Managed Area (if applicable): Southshore Industrial Area Area of Particular Concern

General Location: Southcentral

CONTACT INFORMATION

Contacts: Foundation of the University of the V.I. - Marcia Taylor (for salt pond); V.I. DPNR - Commissioner - (340) 774-3320, (FAX) 773-9310 ; Hovensa - main office - (340) 692-3000; V.I. State Historic Preservation Office (SHPO)- Lorna Thomas - (340) 776-8605; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Fine to medium grained sandy beach, salt pond and sheltered mangroves**Habitat:** Fine to medium grained sandy beach, salt pond, sheltered mangroves, coral reef, deep reef and seagrass beds in bay. Shallow seagrass, shallow patch reef.**Wildlife:** Nesting and feeding sea turtles, Black and White mangroves behind beach berm, Herons, Egrets, fishery and shorebirds. Breeding Least Terns from April to September**Threaten/Endangered Species:** Leatherback, Hawksbill and Green sea turtles, Brown Pelicans, feeding Least Terns from Apr- Sept, Great blue Heron, Great Egret, Snowy Egret, Black-crowned Night Heron, White-cheeked Pintail and Fisherman Bats.**Socio-Economic Resources:** Recreational beach. High probability of encountering prehistoric and historical resources in the majority of the Cane Garden Bay and Salt Pond areas. Contact SHPO at above number.

RESPONSE CONSIDERATIONS

Staging Area: Vehicle: Take Castle Coakly Road (Rt. 81) to Hope Road (Rt. 68), then onto the dirt access road next to Fig Tree Gut homes (in Hovensa property), or take Southshore Road (Rt. 62) to the church entrance road. Cont. See Response**Collection Points:****Area Access:** boat/vehicle**Spill Risk:****Response Resources:** Boat: Large and small vessels may operate out of the adjacent facilities, deploy boom from Hovensa. Staging: See the oil spill response plans for Hovensa (SJ018) and (SJ023)

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):**Average Current (KTS):****Ease of Protection:****Min. Boom Length (FT):** 1000**Boom Type:****Booming Method:** Containment**Protection Strategy:** Deploy 1,000 ft. of collection boom to protect the beach. If the salt pond is breached and subject to tidal influence construct a berm to protect the mangroves. Deploy wildlife control measures to protect birds. Recreational beach at risk.

Name: MANCHENIL BAY AND HALF PENNY BAY BEACHES

Site ID:

A526

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: DPNR

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 41' 56.663" N

Longitude (DMS): 64° 42' 24.396"

County: St. Croix

Latitude (DD): 17.69907305

Longitude (DD): -64.70677676

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F6

QUAD Name: Christiansted

Managed Area (if applicable):

General Location: Anna's Hope Village

CONTACT INFORMATION

Contacts: V.I. DPNR - Commissioner- (340) 774-3320; (FAX) 773-9310; V.I. State Historic Preservation Office (SHPO) - Lorna Thomas- (340) 776-8605, (FAX) 775-5706; Hovensa - (340) - 692-3000; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Fine to medium grained sandy beaches, sheltered mangroves behind Halfpen Beach and Saltwater marsh.

Habitat: Fine to medium grained sandy beaches, shallow coral reef, deep reef, shallow seagrass beds in bay, and sheltered mangroves behind Halfpen Beach. Saltwater marsh.

Wildlife: Nesting and feeding Leatherback, Hawksbill and Green sea turtles, fishery and feeding seabirds..

Threaten/Endangered Species: Leatherback, Hawksbill and Green sea turtles and Brown Pelicans.

Socio-Economic Resources: Recreational /swimming beaches. High probability of encountering paleontological and prehistoric resources in the marked areas. Contact SHPO at the above number.

RESPONSE CONSIDERATIONS

Staging Area: Vehicle: Take the access roads off of South Shore Road (Rt. 62). Take Granard Rd to Halfpenny Bay. Enter through two pink columns Boat: Large and small vessels may operate out of the adjacent facilities.

Collection Points:

Area Access: boat/vehicle

Spill Risk:

Response Resources: See the oil spill response plans for Hovensa (SJ018) and Renaissance (SJ023)

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):

Average Current (KTS):

Ease of Protection:

Min. Boom Length (FT):

Boom Type:

Booming Method: Deflection/Protection/Exclusion

Protection Strategy: Diversion booming should be considered when sea conditions permit. If mangroves are threatened as a result of marsh breaching construct an exclusion berm. If high sea condition, exclusion berm at Hay Penny wetlands inlet.



Name: NHS / CHRISTIANSTED HARBOR

Site ID:

B507

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description:

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 44' 48.543" N

Longitude (DMS): 64° 42' 8.104" W

County: St. Croix

Latitude (DD): 17.74681737

Longitude (DD): -64.70225124

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F6

QUAD Name: Christiansted

Managed Area (if applicable):

General Location: Christiansted

CONTACT INFORMATION

Contacts: V.I. DPNR - (340) 773-5774 or (FAX) 773-9310; National Park Service (C'Sted) - 2100 Church St #100, Christiansted, ST. Croix USVI 00820 - (340) 719-1719; Nat. Park Service- Zandy Staw-Chief Resource Mgmt - (340) 773-1460 x 235 or (340) 297-6922; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Piers, bulkhead and boardwalks for commercial and recreational vessels, cobble, reef and sandy beaches.**Habitat:** Piers, cobble, reef and sandy beaches.**Wildlife:** Sea birds and tarpon feeding area, seagrass and coral reef minimal.**Threaten/Endangered Species:** Hawksbill and Green sea turtles.**Socio-Economic Resources:** Fort Christiansvaern, Protestant Cay + submerged cultural resources in harbor. National historic site, recreational area, restaurants, small waterfront businesses, and designated anchorage.

RESPONSE CONSIDERATIONS

Staging Area: Vehicles & Boats: Vehicles and boats may access the area from Christiansted area. Staging: The western end of Altona Lagoon provides open space for staging equipment. NPS HQ potential command post for spill response.**Collection Points:** Corral and collect at King Christian bulkhead.**Area Access:** boat/vehicle/helicopter**Spill Risk:****Response Resources:** Navigational aids marking channel to V.I. WAPA facility are privately maintained. Use of the aids to anchor boom should be coordinated with VIWAPA and ports Authority.

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):**Average Current (KTS):****Ease of Protection:****Min. Boom Length (FT):****Boom Type:****Booming Method:****Protection Strategy:** If Christiansted waterfront is not protected by the protection strategy for Gallows Bay (See C506) it should be protected with exclusion booming along piers and in front of Fort Christiansvaern c'sted NHS. Exclusion booming in front of boardwalk and keep off rip-rap armoring. Use of the aids to anchor boom should be coordinated with V.I. WAPA. Also NPS parking for staging area + waterfront. CNHS - Staging + collection at bulkhead, triathlete ramp. The National Park Service has an HQ in Christiansted. VI Port Authority at Gallows Bay, C506. NRC 34' Response Boat in Christiansted Harbor (See VIWAPA)

Name: GALLOWS BAY (COMMERCIAL PORT)

Site ID:

C506

Protection Priority (Season): Spring: Summer: Fall: Winter:

Site Description: DPNR Area of Particular Concern

GEOSPATIAL INFORMATION

Latitude (DMS): 17° 44' 56.569" N

Longitude (DMS): 64° 42' 4.985" W

County: St. Croix

Latitude (DD): 17.74904690

Longitude (DD): -64.70138466

SCAT Division: St. Croix County Division 1

ESI Map: VI-2

ESI Name: CHRISTIANSTED, V.I.

NOAA Chart: 25641

CHART Name: VIRGIN ISLANDS-VIRGIN GORDA TO ST THOMAS AND ST CROIX

USGS Quad: 17064-F6

QUAD Name: Christiansted

Managed Area (if applicable): Christiansted Waterfront Area of Particular Concern

General Location: East End

CONTACT INFORMATION

Contacts: V.I. Port Authority - John Payne - (340) 690-2049, (340) 778-3131, (340) 778-8599; V.I. DPNR - (340) 773-5774, (FAX) 773-9310; St. Croix Marina - Larry Angus - (340) 773-0289; NOAA - Brad Benggio 206-849-9923; DOI - Greg Hogue 404-909-0537

RESOURCES AT RISK INFORMATION

Shoreline Type: Developed waterfront, riprap, seagrass.

Habitat: Developed waterfront, riprap, seagrass.

Wildlife: Seabirds, coral reef, seagrass, small game fishes, bait fish, sea turtles

Threaten/Endangered Species: Brown Pelican, Hawksbill and Green Sea turtles.

Socio-Economic Resources: Commercial Port and Marina

RESPONSE CONSIDERATIONS

Staging Area: Vehicles & Boats: Vehicles and boats may access the area from Christiansted and via the ferry boat service near the NPS CNHS. Aircraft: Seaplane ramp in Christiansted. Staging: The NPS CNHS HQ and waterfront provide open space + boat ramp.

Collection Points:

Area Access: aircraft/boat/vehicle

Spill Risk:

Response Resources: Navigational aids marking the channel to V.I. WAPA are privately maintained. Use of the aids to anchor boom should be coordinated with V.I. WAPA, V.I. Ports Authority and local harbor pilots. Numerous private boats could be used in oil spill response.

PROTECTION STRATEGY INFORMATION

Tidal Range (FT):

Average Current (KTS):

Ease of Protection:

Min. Boom Length (FT): 3600

Boom Type:

Booming Method: Deflection

Protection Strategy: Deploy 3,600 ft. of diversion boom across the bay from the shore just east of Mt. Welcome to north side of Protestant Cay (only in ideal conditions). Consider Boom around Protestant Cay to the near Kings Wharf and diversion boom at Beaugard bay. All weather and aircraft dependent.

