

**THE MONITORING AND MITIGATION OF IMPACTS
TO PROTECTED SPECIES DURING DREDGING
AT KEY WEST, FLORIDA**

B+B DREDGING

Dredge Atchafalaya

Submitted To:

**B+B Dredging Company
451 Dinwiddie Street
Portsmouth, VA 23704**

Submitted By:

**Coastwise Consulting, Inc.
173 Virginia Avenue
Athens, GA 30601
706-543-6859**

INTRODUCTION

Coastwise Consulting, Incorporated (CCI) provided monitoring of protected species during dredging operations conducted by B+B Dredging in Key West, Florida. The most commonly encountered endangered or protected species in this area are the loggerhead sea turtle (*Caretta caretta*) and the West Indian manatee (*Trichechus manatus*). Several other species less likely to be encountered include the sea turtle species Kemp's ridley (*Lepidochelys kempi*), green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*) and leatherback (*Dermochelys coriacea*), as well as the small-tooth sawfish (*Pristis pectinata*).

Hopper dredging was closely monitored for indications that any of the listed species were impacted. Throughout the dredging operations, two endangered species observers, approved by the National Marine Fisheries Service, were aboard the dredge, and provided monitoring of impacts to endangered and protected species, particularly sea turtles and manatees.

The dredge *Atchafalaya* was on site at Key West from 04/22/07 – 08/08/07. During the course of this 109 day project, 225 loads were dredged and all loads were carefully monitored. No sea turtle takes were documented. No manatee or other marine mammal sightings occurred.

METHODS

A rigid turtle deflector wase installed on the draghead of *Atchafalaya* before work began. Inflow occurs on the *Atchafalaya* at the end of two pipes that empty into the forward and aft sections of the hopper. Landers at the ends of the discharge pipes are screened with steel bar-stock, welded in a grid pattern, with openings of approximately 4"x 4". Observers can safely and easily access the landers for cleaning and inspection.

Two observers, working in shifts, cleaned and inspected this screening, around-the-clock, in order to document any evidence of turtle take. The observer on duty thoroughly cleaned and inspected all screening at the end of each load. Before cleaning and inspecting the screens, the observer checked the dragheads and turtle deflectors. Load sheets were completed at the end of each load cycle, detailing everything found in the screening or the dragheads, as well as the condition of the screens and the deflectors. Also recorded was the start, end and pump times for each load, the specific location of the dredging area, the type of material being dredged, weather, tide and water temperature data (surface and mid-depth), and any other pertinent information.

Observers maintained a bridge watch for protected species and kept logbook of all sightings of turtles and marine mammals, especially manatees. Coastwise contracted sea turtle observers with manatee identification experience, and given the efficiency of screening apparatus on the dredges, the observers had no problem checking screening and providing an effective bridge watch for marine mammals. The bridge watch was instructed to note date, time, location, species, number of animals, distance and bearing from dredge, direction of travel and any other information available on all sightings.

RESULTS

The *Atchafalaya* was on site from 04/22/07 – 08/08/07 and during this time all 225 loads that were dredged were closely monitored. No sea turtle takes were documented. We are confident that this result accurately reflects the actual take level. The screening was well constructed and maintained and the B+B personnel on the *Atchafalaya* and shore-side engineers were always cooperative and proactive regarding the work of the observers.

No manatee or marine mammal sightings occurred during this contract by the observers.

Jacksonville District	Dredge	Year	Start	End	Surface Temp Range (° C)	Total Loads	Dredge Days		Comments
							Total	Turtle Takes	
Key West	<i>Atchafalaya</i>	2007	4/22/2007	8/7/2007	25 - 31.6 - 31.1	225	79	-	100% coverage. Dredge at dock 30 days total: 4/29, 5/1, 5/12, 5/21-28 (weather), 5/31-6/2, 6/8-21 (awaiting approval to continue), 7/9-10.

Dredge	Load	Start	End	Lat	Long	H2O	Species	Est SCL	Comments
--------	------	-------	-----	-----	------	-----	---------	---------	----------

No turtle takes were listed for this project.

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE <small>(Read instructions on the reverse side prior to initiating this form)</small>	DATE 08/29/2007	TRANSMITTAL NO. 01355-3
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------	----------------------------

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This section will be initiated by the contractor)

TO: West Palm Resident Office 4400 PGA Blvd, Suite 203 Palm Beach Gardens, FL 33410	FROM: B+B Dredging Company 451 Dinwiddle Street Portsmouth, VA 23704	CONTRACT NO. W912EP-06-C-0023 NA	CHECK ONE: <input checked="" type="checkbox"/> THIS IS A NEW TRANSMITTAL <input type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL
-------------------------------------------------------------------------------------------	----------------------------------------------------------------------------	-------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------

SPECIFICATION SEC. NO. (Cover only one section with each transmittal) 01355	PROJECT TITLE AND LOCATION 121755 Key West Harbor, 34-Foot Project Monroe County, Florida	CHECK ONE: THIS TRANSMITTAL IS FOR <input checked="" type="checkbox"/> FIO <input type="checkbox"/> GA <input type="checkbox"/> DA <input type="checkbox"/> CR
--------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------

ITEM NO.	DESCRIPTION OF ITEM SUBMITTED <small>(Type size, model number/etc.)</small>	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. <small>(See instruction no. 8)</small>	NO. OF COPIES	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE	VARIATION <small>(See Instruction No. 6)</small>	FOR CE USE CODE
				SPEC. PARA. NO.	DRAWING SHEET NO.			
a.	b.	c.	d.	e.	f.	g.	h.	i.
3	Logs/Final Summary Report	CLOSEOUT SUBMTL	6			A	N	

REMARKS	<p>I certify that the above submitted items have been reviewed in detail and are correct and in the strict conformance with the contract drawings and specifications except as otherwise stated.</p> <p style="text-align: right;"><i>Ch E B+B Dredging Tim Ekeren</i></p> <p style="text-align: right;"><small>NAME AND SIGNATURE OF CONTRACTOR</small></p>
---------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (List by item No.)	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE
----------------------------------------	--------------------------------------------------	------