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Breaux Act

Coastal Wetlands Planning, Protection and Restoration Act

Technical Committee Meeting

September 30, 2003

New Orleans, Louisiana

BREAUX ACT

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

Technical Committee Meeting

September 30, 2003, 9:30 a.m.
U.S. Army Corps of Engineers, Mississippi Valley Division, New Orleans District (CEMVN)
Division Assembly Room - A
7400 Leake Ave.
New Orleans, LA

1 **Decision: FY04 Planning Budget Approval (LeBlanc) 9:30 to 9:45 a.m.** The Planning and Evaluation Subcommittee will recommend a planning budget for the upcoming fiscal year. The Technical Committee will make a recommendation to the Task Force to approve the FY04 Planning Budget.

2 **Decision: Approval of Changes to the Standard Operating Procedures (SOP) (Saia) 9:45 to 9:55 a.m.** The Technical Committee will discuss and approve changes to the SOP.

3 **Decision: Request for Phase II Authorization for the East Sabine Lake Hydrologic Restoration Project Construction Unit 1 (CS-32) (Clark and Paul) 9:55 to 10:00 a.m.** The U.S. Fish and Wildlife Service, Natural Resource Conservation Service and the LA Department of Natural Resources are seeking Phase II approval for the East Sabine Lake Hydrologic Restoration Project Construction Unit 1 project. The project will benefit 393 acres over 20 years. Phase II costs for construction Unit 1 are $6,023,380. The Technical Committee is asked to recommend construction Unit 1 Phase II funding approval in the amount of $4,194,124 to the Task Force.

4 **Decision: Request for Phase II Authorization for the Little Lake Shoreline Protection and Marsh Creation Near Round Lake Project (BA-37) (Hartman) 10:00 to 10:05 a.m.** The National Marine Fisheries Service and the LA Department of Natural Resources are seeking Phase II approval for the Little Lake project. The project will benefit 713 acres over 20 years. Phase II costs for the project are $33,533,816. The Technical Committee is asked to recommend Phase II funding approval in the amount of $28,883,835 to the Task Force.

5 **Decision: Request for Phase I Approval for the Ft. Jackson Diversion Complex Project (Saia) 10:05 to 10:10 a.m.** The U.S. Army Corps of Engineers and the LA Department of Natural Resources are seeking Phase I approval for the Ft. Jackson Sediment Diversion complex project. The project will divert Mississippi River water and sediment to create wetlands and will benefit 8,321 acres over 20 years. Phase I costs for the project are $7,447,505. The Technical Committee is asked to recommend Phase I approval to the Task Force.

6 **Decision: Request for a Change of Scope for the Delta Building Diversion North of Fort St. Phillip Project (BS-10) (Saia) 10:10 to 10:15 a.m.** The U.S. Army Corps of Engineers is requesting approval of a change of scope for the Delta Building Diversion North of Fort St. Phillip Project, resulting from analysis of alternatives.

7 **Report: Streamlined PPL 14 Process (Clark) 10:15 to 10:20 a.m.** Mr. Clark will present the status of development of a streamlined PPL 14 process as being developed jointly by LA Department of Natural Resources and the Technical Committee.

8 **Report: Flexible Dustpan Dredge Demonstration Project (XMR-12b) (Saia) 10:20 to 10:30 a.m.** The U.S. Army Corps of Engineers will present the results of the Flexible Dustpan Dredge Demonstration Project.

9 **Report: Implementation Status of the CWPPRA Oyster Lease Acquisition Program (Shackelford and Hoffpauir) 10:30 to 10:50 a.m.** The LA Department of Natural Resources will present the status of the oyster lease acquisition program as adopted by the state in April, 2003 to address oyster lease real-estate issues pertaining to coastal restoration.

10 **Report: Annual Outreach Report (Bodin) 10:50 to 11:00 a.m.** Ms. Gabrielle Bodin will summarize the annual outreach report to be given at the November 12, Task Force Meeting.

11 **Announcement: PPL 13 Public Meetings (LeBlanc) 11:00 to 11:05 a.m.** Public meetings will be held in November to present the results of the PPL13 candidate project evaluations. The meetings are scheduled as follows:

November 19, 2003 7:00 p.m. Vermillion Parish Courthouse, Abbeville, LA
November 20, 2003 7:00 p.m. U.S. Army Corps of Engineers (DARM - A) New Orleans, LA

12 **Additional Agenda Items (Saia)**

13 **Date of Upcoming Task Force Meeting**
The fall Task Force meeting will be held November 12, 2003 at the LA Department of Wildlife and Fisheries. Agenda items and supporting documents for the meeting should be submitted by October 29**,** 2003.

Dates of Future Program Meetings

CHANGED	**November 12, 2003**	**9:30 a.m.**	**Task Force meeting**	**Baton Rouge**
	December 10, 2003	9:30 a.m.	Technical Committee	New Orleans
	January 28, 2004	9:30 a.m.	Task Force	New Orleans
	March 17, 2004	9:30 a.m.	Technical Committee	New Orleans
	April 14, 2004	9:30 a.m.	Task Force	Lafayette
	July 14, 2004	9:30 a.m.	Technical Committee	Baton Rouge
	August 18, 2004	9:30 a.m.	Task Force	New Orleans
	September 15, 2004	9:30 a.m.	Technical Committee	Baton Rouge
	October 13, 2004	9:30 a.m.	Task Force	Baton Rouge
	December 8, 2004	9:30 a.m.	Technical Committee	New Orleans
	January 26, 2005	9:30 a.m.	Task Force	New Orleans

FY04 Planning Budget Approval

P&E Recommendation to the Technical Committee on CWPPRA FY04 Planning Budget

	Item	Amount Submitted	EPA	LDNR	NRCS	NMFS	USACE	USFWS	Recommend to Tech Comm?	P&E Recommendation	FY04 Budget MINIMUM	FY04 Budget MAXIMUM
			Enter "Yes" or "No" below to recommend or not recommend									
1	"Core" budget amount (page 4/8)	$3,747,718	Yes	Yes	Yes	Yes	Yes	Yes	Yes	$3,747,718	$3,747,718	$3,747,718
	Supplemental Planning and Evaluation Tasks:											
2	SPE 14100 Academic Advisory Group	$100,000	Yes	Yes	Yes	Yes	Yes	Yes	Yes	need AAG budget and prospectus	$80,000	$99,000
3	SPE 14200 Maintenance of Web-Based Reports	$109,043	Yes	Yes	Yes	Yes	Yes	Yes	Yes	$109,043	$109,043	$109,043
4	SPE 14300 Establish linkage of CWPPRA to LCA	$200,000	Yes	Yes	Yes	Yes	Yes	Yes	Yes	$200,000	$200,000	$200,000
5	SPE 14400 Core GIS support for CWPPRA	$278,583	Yes	Yes	Yes	Yes	Yes	Yes	Yes	$278,583	$278,583	$278,583
6	SPE 14500 Oyster Lease Database Maintenance	$88,411	Yes	Yes	Yes	Yes	No	Yes	Yes	$88,411	$88,411	$88,411
7	SPE 14600 Oyster Lease Program Mgmt & Implementation	$74,472	Yes	Yes	Yes	Yes	No	Yes	Yes	$74,472	$74,472	$74,472
8	SPE 14700 Joint Training - Vegetative Plantings	$85,450	Yes	Yes	Yes	No	No	No	Tie	TC needs to break tie	$0	$85,450
9	SPE 14800 Terrebonne Basin Recording Station	$18,000	Yes	Yes	No	No	No	Yes	Tie	TC needs to break tie	$0	$18,000
10	SPE 14900 Update Land Loss Maps	$125,000	No	Yes	No	Yes	Yes	Yes	Yes	$62,500	$62,500	$62,500
									Outreach Amt		$506,250	$506,250
									TOTAL		$5,146,977	$5,269,427

FY04 Plus previous FY surplus	$5,454,973	$5,454,973
Remaining Planning "surplus"	$307,996	$185,546

Comments:

SPE 14100:

NMFS: AAG funding has not been adjusted in past several years to reflect reduced number of projects evaluated in PPL process; recommend reducing budget to $80,000

NRCS: Vote is contingent upon AAG not exceeding the current estimate of $100,000. We think they should give us their proposed budget.

USFWS: Recommend guidance from AAG here. Yes, the list is smaller, but their budget has not increased with inflation.

USACE: Agree with holding final decision on funding amount until budget is provided by AAG

SPE 14200:

NMFS: Fully fund if new work will not require outyear updating and funding.

USFWS: Martha Segura spoke with Scott Wilson and he indicated that there would be no additional outyear costs that would not already be covered by the normal web-based maintenance cost.

SPE 14400:

NMFS: Reduce by 15% (Per discussion with NMFS on 25 Sep 03, NMFS "okay" with 100% funding level).

USFWS: Recommend that DNR move their funds to another task to avoid confusion with USGS CORE GIS task.

USACE: Agree that LDNR should move $80K to another task or furnish prospectus for work to be done under this item.

SPE 14500:

NMFS: Fully fund but require joint DNR/DWF plan to develop leasing database.

USACE: Corps attorneys state that Federal money cannot be used to provide funding to state for this task. "Yes" vote to fund NWRC amount only.

SPE 14600:

NMFS: Fully fund one-year startup costs associated with program development.

USACE: Corps attorneys state that Federal money cannot be used to provide funding to state for this task, voted no.

SPE 14900:

NMFS: Provide CWPPRA funding for 50% total effort.

USACE: Corps agrees with providing reduced funds in amount of $62,500 for task.

	Item	**P&E RECOMMENDATION**
1	"Core" budget amount (page 4/8)	P&E recommends approval of "core" budget ($3,747,718). Includes $80K for LDNR moved from SPE 14400.
2	SPE 14100 Academic Advisory Group	P&E recommends approval of $99,000
3	SPE 14200 Maintenance of Web-Based Reports	P&E recommends approval of $109,043
4	SPE 14300 Establish linkage of CWPPRA to LCA	P&E recommends approval of $200,000
5	SPE 14400 Core GIS support for CWPPRA	P&E recommends approval of task at 100% level ($278,583)
6	SPE 14500 Oyster Lease Database Maintenance	P&E recommends approval of $88,411
7	SPE 14600 Oyster Lease Program Mgmt & Implementation	P&E recommends approval of $74,472
8	SPE 14700 Joint Training - Vegetative Plantings	P&E asks Technical Committee to break P&E tie
9	SPE 14800 Terrebonne Basin Recording Station	P&E asks Technical Committee to break P&E tie
10	SPE 14900 Update Land Loss Maps	P&E recommends approval of 50% level of effort ($62,500)

Coastal Wetlands Planning, Protection, and Restoration Act

25-Sep-03

Fiscal Year 2004 Planning Schedule and Budget

P&E Committee Recommendation,
Tech Committee Recommendation,
Approved by Task Force,

NOTE: Number shown in parentheses in line item tasks represents the number of meetings for that task.					CWPPRA COSTS												
						Dept. of Interior				State of Louisiana							
Task Category	Task No.	Task	Start Date	End Date	USACE	USFWS	NWRC	USGS Woods Hole	USGS BR	DNR	DWF	Gov. Ofc.	EPA	USDA	USDC	Other	Total
PPL 13 TASKS																	
PL	13100	Env/Eng/MonWG's evaluates all projects. Env/Eng/MonWG's refine goals and objectives of projects .	10/1/03	10/20/03	17,330	11,908	990			8,080		1,500	7,000	11,709	9,014		67,531
PL	13200	Envr and Eng WG's prioritization of PPL 13 projects	10/23/03	10/27/03	16,125	10,100				2,640	2,080	500	2,500	0	3,494		37,439
PL	13300	Prepare project information packages for P&E.	10/30/03	11/3/03	13,957	8,442				3,344			3,000	5,186	3,494		37,423
PL	13400	P&E holds 3 Public Hearings	11/6/03	11/10/03	28,052	6,633				5,888	2,080	1,000	3,000	9,334	3,494		59,481
PL	13500	TC Recommendation for Project Selection and Funding	11/24/03	11/29/03	10,354	7,386				2,272	1,560	1,500	1,600	4,032	2,778		31,482
PL	13600	TF Selection and Funding of the 13th PPL (1)	1/16/04	1/16/04	11,494	5,426				2,408	1,560	1,500	3,000	5,058	9,014		39,460
PL	13700	PPL 13 Report Development	1/11/04	7/31/04	45,418	2,110							1,001	5,649	1,340		55,518
PL	13800	Upward Submittal of the PPL 13 Report	8/1/04	8/1/04	7,967												7,967
PL	13900	Submission of the PPL 13 Report to Congress	8/2/04	9/30/04	1,825					632							2,457
				FY04 Subtotal PL 13 Tasks	152,522	52,005	990	0	0	25,264	7,280	6,000	21,101	40,968	32,628	0	338,758

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PPL 14 TASKS																	
PL	**14200**	**Development and Nomination of Projects**															
PL	14210	DNR/USGS prepares base maps of project areas, location of completed projects and projected loss by 2050. Develop a comprehensive coastal LA map showing all water resource and restoration projects (CWPPRA, state, WRDA projects, etc.) [NWRC budget included in Misc 13150]	11/1/03	1/31/04	7,536	0				6,784			1,000	5,343	4,387		25,050
PL	14220	Sponsoring agencies prepare fact sheets and maps prior to and following RPT nomination meetings.	3/31/04	6/30/04	33,790	30,449				11,536			53,000	32,530	34,581		195,886
PL	14230	RPT's meet to formulate and combine projects. Each region nominates no more than 3 projects (4 meetings) [18 nominees (2 per basin); 8 candidates; 4 approved projects]	5/1/04	5/31/04	22,798	13,264				3,696	4,160	2,500	22,560	9,863	9,859		88,700
PL	**14300**	**Ranking of Nominated Projects**															
PL	14310	Envir and Engr WG's to revise the Prioritization Criteria, WVA Models, etc (1 or 2 meetings).	10/1/03	9/30/04	13,403	7,537				3,072	2,080	1,000	7,000	8,889	4,387		47,368
PL	14320	Engr Work Group prepares preliminary fully funded cost ranges for projects	6/1/04	6/30/04	8,150	3,015				2,768			3,000	4,425	3,494		24,852
PL	14330	Environ/Engr Work Groups apply 2050 criteria to projects	7/1/04	7/31/04	6,321	7,695				2,064	2,080		3,000	4,121	5,990		31,271
PL	14340	P&E develops and distributes project matrix	7/1/04	7/31/04	5,360	2,792				1,600			2,640	3,521	3,494		19,407

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PL	**14400**	**Analysis of Candidates**															
PL	14410	Sponsoring agencies coordinate site visits for all projects	8/1/04	9/30/04	25,237	19,144				7,648	3,120		8,000	15,309	20,119		98,577
PL	14420	Engr/Environ Work Group refine project features and determine boundaries	8/1/04	9/30/04	18,783	15,153	3,560			6,816	2,080	500	6,000	15,175	11,086		79,153
PL	14430	Sponsoring agencies develop project information for WVA; develop designs and cost estimates	8/1/04	9/30/04	40,971	34,369	11,747			7,136			10,000	48,208	27,568		179,999
PL	14440	Environ/Engr Work Groups project evaluation of benefits (with Coast 2050 criteria, etc.)	8/1/04	9/30/04	18,258	28,490	3,560			6,216	2,080	1,000	6,000	23,423	12,753		101,780
PL	14450	Engr Work Group reviews/approves Ph 1 and Ph 2 cost estimates from evaluating agencies	8/1/04	9/30/04	35,458	4,221				6,336			3,000	20,653	8,464		78,132
PL	14460	Economic Work Group reviews cost estimates, adds monitoring, O&M, etc., and develops annualized costs	8/1/04	9/30/04	13,885	1,808				992			1,500	12,886	3,494		34,565
				FY04 Subtotal PPL 14 Tasks	249,950	167,937	18,867	0	0	66,664	15,600	5,000	126,700	204,346	149,676	0	1,004,740
Project and Program Management Tasks																	
PM	14100	Program Management--Coordination	10/1/03	9/30/04	318,266	85,262	9,400			81,620		55,000	152,000	94,813	99,786		896,147
PM	14110	Program Management--Correspondence	10/1/03	9/30/04	55,475	24,588	1,840			18,884			33,000	22,136	98,614		254,537
PM	14120	Prog Mgmt--Budget Development and Oversight	10/1/03	9/30/04	82,142	15,243	2,852			5,592		2,500	30,000	27,543	61,282		227,154
PM	14130	Program and Project Management--Financial Management of Non-Cash Flow Projects	10/1/03	9/30/04	48,480	11,607				1,792			5,312	9,668	8,028		84,887

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PM	14200	P&E Meetings (3 meetings preparation and attendance)	10/1/03	9/30/04	25,831	9,044	3,642			5,760	2,080	1,000	10,000	15,312	7,325		79,994
PM	14210	Tech Com Mtngs (6 mtngs; prep and attend)	10/1/03	9/30/04	78,540	29,696	5,202			14,640	6,240	3,500	15,000	21,846	15,025		189,689
PM	14220	Task Force mtngs (4 mtngs; prep and attend)	10/1/03	9/30/04	103,618	30,235	5,202			12,720	4,160	5,000	13,000	21,864	26,528		222,327
PM	14300	Prepare Evaluation Report (Report to Congress) NOTE: next update in FY06 budget	10/1/03	9/30/04													0
PM	14400	Agency Participation, Review 30% and 95% Design for Phase 1 Projects	10/1/03	9/30/04	18,591	11,457				4,416	2,400	500	23,800	12,007	15,028		88,199
PM	14410	Engineering & Environmental Working Groups revisions for Phase II funding of approved Phase I projects (Needed for adequate review of Phase I.) [Assume 8 projects requesting Ph II funding in FY04 (present schedule indicates 34 projects). Assume 3 will require Eng or Env WG review; 2 labor days for each. Agencies should not include their own projects; should be charged to project budgets.]	8/1/04	9/30/04	19,860	10,853				6,080			6,000	6,449	7,325		56,567
PM	14500	Helicopter Support: Helicopter usage for the PPL process.	10/1/03	9/30/04		19,084											19,084
PM	14600	Miscellaneous Technical Support	10/1/03	9/30/04	47,800	7,838				162,040		2,500	25,000	21,672	18,785		285,635
		FY04 Subtotal Project Management Tasks			798,603	254,907	28,138	0	0	313,544	14,880	70,000	313,112	253,310	357,726	0	2,404,220
		FY04 Total for PPL Tasks			**1,201,075**	**474,849**	**47,995**	**0**	**0**	**405,472**	**37,760**	**81,000**	**460,913**	**498,624**	**540,030**	**0**	**3,747,718**

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SUPPLEMENTAL PLANNING AND EVALUATION TASKS																	
SPE	14100	Academic Advisory Group [NOTE: MOA between sponsoring agency and LUMCON will be necessary to provide funding.] [Prospectus, page 8]	10/1/03	9/30/04													0
SPE	14200	Maintenance of web-based project reports and website project fact sheets. [Prospectus, page 9]	10/1/03	9/30/04	10,000	5,050	82,046			2,048			3,000	3,405	3,494		109,043
SPE	14300	Establish linkage of CWPPRA and 2050 study efforts. [Buy a seat at 2050 feasibility study table.]	10/1/03	9/30/04		50,000							50,000	50,000	50,000		200,000
SPE	14400	Core GIS Support for CWPPRA Task Force Planning Activities. (This task combines 3 tasks into this one item: Misc Tech Support, Desktop GIS System, and Comprehensive Coastal LA Map) [Prospectus, pg 10]	10/1/03	9/30/04			278,583										278,583
SPE	14500	Oyster Lease Database Maintenance and Analysis [NWRC prospectus, pg 11] [DNR Prospectus, pg 12]	10/1/03	9/30/04			67,703			20,708							88,411
SPE	14600	Oyster Lease Program Management and Implementation. [Tasks PL 14570 (Oyster Issues in Ph's 0 & 1 including development of regulations, etc), SPE 14650 (Development of Breaux Act oyster relocation plan), and Misc 14400 (Oyster Lease Database Maintenance & Analysis), would be combined into this task.] [DNR Prospectus, pg 13] [LDWF Prospectus, pg 14]								36,972	33,500		4,000				74,472
SPE	14700	Joint Training of CWPPRA Work Groups. NRCS would sponsor a 1 day vegetative plantings workshop to be held in Baton Rouge. [Prospectus, page 15]	10/1/03	9/30/04	4,413	4,070	2,486			4,512		100	8,000	58,569	3,300		85,450

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SPE	14800	Continue the operation of one key Terrebonne Basin continuous recording station from January 2004 to December 2004 so that it would collect data concurrently with that of another gage already funded by CWPPRA through December 2004. Understanding the hydrology of the southern tidal marshes adjacent to the Penchant Basin is critical to implementing larger strategies regarding the distribution of Atchafalaya River water in the Terrebonne Basin marshes. Data collected from these two stations will be used in the planning and evaluation of larger scale projects which will be needed in this area. [Prospectus, pg 16]	10/1/03	9/30/04					18,000								18,000
SPE	14900	Update Land Loss Maps ($250,000 total task; $125,000 FY04, $125,000 FY05) [Del Britsch] [Prospectus, page 17]			62,500												62,500
FY04 Total Supplemental Planning & Evaluation Tasks					**76,913**	**59,120**	**430,818**	**0**	**18,000**	**64,240**	**33,500**	**100**	**65,000**	**111,974**	**56,794**	**0**	**916,459**
FY04 Agency Tasks Grand Total					**1,277,988**	**533,969**	**478,813**	**0**	**18,000**	**469,712**	**71,260**	**81,100**	**525,913**	**610,598**	**596,824**	**0**	**4,664,177**

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Otrch	14100	Outreach - Committee Funding	10/1/03	9/30/04												364,250	364,250
Otrch	14200	Outreach - Agency	10/1/03	9/30/04	4,000	2,000	26,000			4,000		4,000	4,000	4,000	4,000		52,000
Otrch	14300	New Initiative - Science of Restoration Video/CD/Booklet	10/1/03	9/30/04			90,000										90,000
Otrch	14400	New Initiative -	10/1/03	9/30/04													0
Otrch	14500	New Initiative -	10/1/03	9/30/04													0
																	0
				FY04 Total Outreach	**4,000**	**2,000**	**116,000**	**0**	**0**	**4,000**	**0**	**4,000**	**4,000**	**4,000**	**4,000**	**364,250**	**506,250**
				Grand Total FY04	**1,281,988**	**535,969**	**594,813**	**0**	**18,000**	**473,712**	**71,260**	**85,100**	**529,913**	**614,598**	**600,824**	**364,250**	**5,170,427**

SCOPE OF SERVICES

University scientists assistance to the Louisiana Coastal Conservation and Restoration Task Force (PPL14)

Louisiana Universities Marine Consortium, Cocodrie, Louisiana

1. Project Management

The Project Manager for this project is Dr. Jenneke M. Visser, who will be subcontracted through Louisiana State University. The Project Manager's duties have been divided over the following subtasks:

1a. Day-to-day operation

The Project Manager will facilitate execution of the main contract; draft subcontracts to Louisiana universities for implementation by LUMCON Grants and Contracts personnel; approve all spending, including subcontract invoices; and act as a single point of contact for the Task Force, the Scientific Steering Committee, subcontractors, and the broader academic community.

1b. Participation in Task Force activities

The Project Manager will attend all Task Force, Technical Committee, and Planning and Evaluation Subcommittee meetings.

1c. Solicitation of Interest

A solicitation will be developed by the Project Manager and approved by the CWPPRA Academic Assistance Subcommittee. It will describe the types of activities in which university scientist participation is expected (Regional Planning Teams and Environmental Workgroup). The solicitation will describe the selection process, including the minimum selection criteria for each task, and contracting arrangement. To ensure that those from the university community involved in the CWPPRA process are active wetland scientists aware of contemporary research in their field, the Scientific Steering Committee has developed the following selection criteria. Selected scientists should have a Ph.D. or MSc. and five years of research experience in wetlands/river/coastal-related issues and at least one of the following:

- at least two peer-reviewed publications on wetlands/river/coastal-related issues within the last five years
- at least four presentations at national or international meetings on wetlands/river/coastal-related issues within the last five years
- current grants and/or contracts to conduct research on wetlands/river/coastal-related issues which have been awarded through a peer-review process

The solicitation will include an information sheet. This information sheet will be used to indicate the activities that a scientist wants to participate in and the nature of their availability. A two page CV for each interested scientist will be requested in the solicitation. The solicitation will be send to all scientists currently in the Academic

Assistance database, as well as heads of all biology, geology, and civil engineering departments at Louisiana state universities. A copy of the solicitation will also be provided to all members of the Planning and Evaluation Subcommittee and Technical Committee who may distribute it to any Louisiana state university scientists they wish to ensure are contacted. The deadline for response will be at least two weeks after mailing.

1d. Selection of participating scientists

The Project manager will conduct a preliminary screening of the responses to determine which respondents are currently available for consideration. The Scientific Steering Committee will evaluate which of the respondents meet the minimum selection criteria for each task. If sufficient qualified scientists can be identified, the Scientific Steering Committee will provide the Academic Assistance Subcommittee with a list for consideration which exceeds the number of scientists required by no more than 50%. The Academic Assistance Subcommittee will make the final selection of scientists.

2. Regional Planning Team Assistance

There are four regional planning teams (RPT). These RPTs select projects for nomination on the priority project list. One selected scientist, who has broad familiarity with the region, will be assigned to each RPT. RPT meetings will also be attended by the Project Manager to provide consistency in assistance to all four regions. The role of the selected ecologist and the Project Manager are to provide the RPTs with the scientific background for any planning activities within the region.

Appropriate Fields of Expertise: Wetland Ecology.

3. Environmental Work Group Assistance

Three scientists will be selected for this task. The role of the selected scientists is to provide advice and assistance to the Task Force personnel and become part of the Wetland Value Assessment (WVA) team. The WVA team will visit each site in the field. Task Force agencies will generally provide boat transportation to field sites. Aspects of the projects will be discussed in the field, and a formal WVA analysis will be conducted by the team after the field visits.

Appropriate Fields of Expertise: Wetland Ecology, Coastal Geomorphology, and Wetland Hydrology.

Budget

Project Management	38,000
Regional Planning Team Assistance	16,000
Environmental Workgroup Assistance	36,000
Subtotal	90,000
LUMCON overhead (10%)	9,000
Total	99,000

DRAFT

United States Department of the Interior
U.S. GEOLOGICAL SURVEY

National Wetlands Research Center

August 27, 2003

CWPPRA FY04 Planning Task: ***CWPPRA Web-Based Project Information System Maintenance and Mapping Internet Service Upgrade (Fact sheet Links projects)***

Background:

The CWPPRA is a large interagency program that depends on current and accurate information for project planning and public interaction. To assist in coordinating and compiling information, CWPPRA has developed a real-time, interactive, internet-based data management system. The system currently links together the CWPPRA general public fact sheet information, project manager's quarterly data, CWPPRA reports, and the CWPPRA financial system maintained by the COE.

The USGS is requesting funds to maintain the overall system, develop new automated programmatic fact sheet reports, and develop and integrate an Internet-based mapping service into the system.

The CWPPRA IMS is a web-based geographic information system that provides access to spatial datasets pertaining to Louisiana coastal restoration. The system will be designed to allow viewing, querying, and possibly some limited analysis of geographic information associated with the restoration effect. Because GIS on the Internet provides a much more dynamic tool than static map displays, web users can navigate around maps, overlay different layers, query databases, and print out maps all through an interactive mapping interface from their local computer. Datasets that will be available include current satellite imagery, project boundaries, aerial photographs, spatial monitoring datasets, land change data, and all other CWPPRA spatial products produced by NWRC.

Cost:

Microcomputer Database Expert (5 months w/ overhead)	$ 40,523
Spatial Database Expert (5 months w/ overhead)	$ 41,523
Total	$ 82,046

United States Department of the Interior
U.S. GEOLOGICAL SURVEY

National Wetlands Research Center

August 28, 2003

CWPPRA Reoccurring Planning Task: *Core GIS Support for CWPPRA Task Force Planning Activities – Continuation for FY04*

Description:

The NWRC has provided the Task Force with GIS planning support since 1992. The scope and complexity of this support has increased over the past 11 years and has resulted in the development of a comprehensive GIS that provides the Task Force with annual planning deliverables that include spatial data sets, spatial data analyses, maps, graphics, and technical support. Providing these products and services to the Task Force requires a standardized GIS data management environment and a good deal of coordination with Task Force members. The GIS products and technical services provided by the NWRC for CWPPRA Planning are, far the most part "reusable", designed to support multi-scale applications, and form the core of the GIS data sets used to support CWPPRA monitoring, land rights, and engineering activities. The system that we have today represents 10 years of the Task Force's investment in GIS technology, data development, and skilled staff. The NWRC successfully distributed and installed duplicates of CWPPRA Planning GIS data for in-house use by Task Force agencies with GIS capabilities in FY03. The existing GIS proved a critical resource for the LCA, providing timely spatial data development, analyses and products.

The NWRC requests reauthorization of the Core GIS Support Task for FY04. Oyster data base maintenance support and basic WVA Support will remain separate tasks.

Core NWRC GIS support for FY03

Task	Description	Cost
Misc 14200	Continuation of Core GIS Support for CWPPRA Task Force Planning Activities.	$278,583

Benefits:

- ➡ Identifies core CWPPRA Planning GIS support as one reoccurring item, rather than splitting support among various technology or map initiatives introduced on an annual basis.
- ➡ Insures continued spatial data maintenance, management, and coordination for Task Force.
- ➡ Insures incorporation of new spatial data sets and technologies for Task Force.
    - o Examples
        - ▪ LCA generated datasets are already being used for current PPL 13 planning
        - ▪ Develop new shoreline erosion measurement data sets using historic aerial photography.
        - ▪ Provide interactive GIS support at pertinent meetings.

Deliverables:

- ➡ Annual continued core CWPPRA Planning GIS support and products (data, technical support, data coordination, data distribution, and hard copy products) at present levels.

United States Department of the Interior
U.S. GEOLOGICAL SURVEY

National Wetlands Research Center

August 28, 2003

CWPPRA Reoccurring Planning Task: *Oyster Lease Database Maintenance and Analysis FY04*

Description:

The NWRC has provided the Task Force with Geographic Information System (GIS) planning support since 1992. The scope and complexity of this support has increased over the past 11 years and has resulted in the development of a comprehensive GIS that provides the Task Force with annual planning deliverables that include spatial data sets, spatial data analyses, maps, graphics, and technical support. One of the key spatial databases maintained by the NWRC is the coastal Louisiana oyster lease database. The Task Force and the Louisiana Dept. of Natural Resources (LDNR) use the oyster lease data to assess potential conflicts with proposed and existing restoration projects. The Louisiana Dept. of Wildlife and Fisheries (LDWF) is the source for the oyster lease data and maintains the data in an Intergraph DGN GIS format on a 7.5 minute USGS quadrangle base. The LDWF oyster lease GIS was designed to support an oyster lease survey operation and was not designed to support regional GIS analytical applications required by the Task Force and LA DNR. The USGS merges the individual LDWF DGN files together to create a seamless coast wide polygon oyster lease database for efficient analyses of potential restoration oyster lease issues. An oyster lease attribute table, maintained by LDWF, is attached to the spatial lease data to provide descriptive information for the leases such as lease expiration date and lease status.

The USGS acquires lease update information from LDWF and then modifies the oyster lease database to reflect lease boundary modifications, lease cancellations, lease expirations, and the addition of new leases. The LDWF oyster lease information is constantly updated, requiring that the USGS maintain and update the regional oyster lease data in a consistent manner to provide the Task Force and LA DNR with current lease information.

Oyster Lease Database Maintenance and Analysis for FY04

Task	Description	Cost
Misc 13400	Oyster Lease Database Maintenance and Analysis	$67,703

Benefits:

- ➡ Provides Task Force and LA DNR with a critical data set required for restoration project planning and construction.

Deliverables:

- ➡ Provide Task Force and LA DNR with a current coastal Louisiana oyster lease database for required restoration project screening.
- ➡ Update and maintain oyster lease database to reflect changes to the source LDWF oyster lease data on a regular basis.
- ➡ Provide planning related maps, graphics, and oyster lease analysis support to the Task Force and LA DNR as needed.

September 25, 2003

CWPPRA Reoccurring Planning Task: Oyster Lease Database Maintenance and Analysis FY04

Description:

LA DNR is the lead agency responsible for implementation of the CWPPRA Oyster Lease Acquisition Program, promulgated under Louisiana state law in April of 2003. As such DNR supplies GIS based oyster lease information and analysis to the Task force and its subcommittees, principally the Environmental and Engineering workgroups. This information is generally provided in the form of maps and spreadsheets. DNR provides this information during all phases of the project from nomination through construction. This task code is necessary in order for DNR to provide this service during the nomination and candidate phases of a project. Oyster lease analysis is especially critical during theses phases due to the dynamic nature of the project. Information provided to the Environmental and Engineering Workgroups under this task are critical to the initial cost estimates of the projects used during the selection phase.

Project specific oyster lease acquisition issues such as attendance at engineering and design meetings and generation of project specific reports will be billed to each project individually. However, during the WVA process there is no project to bill to, therefore this Task Code is necessary in order for DNR to meet its Phase 0 requirements under the current CWPPRA Standard Operating Procedures.

Task	**Description**	**Cost**
SPE14500	Oyster Lease Database Maintenance and Analysis	$20,708

Benefits

< Provides Task Force and all Federal and state partners with oyster lease information and analysis critical to the for project planning purposes during the WVA process

Deliverables

< Provide Task Force, its subcommittees, including the Environmental and Engineering Workgroups and other agencies with oyster lease information necessary for planning purposes

< Provide planning related maps and lease information, including oyster lease analysis support to the Task Force and its subcommittees

September 5, 2003

CWPPRA Reoccurring Planning Task: Oyster Lease Program Management and Implementation FY04

Description:

LA DNR is the lead agency responsible for implementation of the CWPPRA Oyster Lease Acquisition Program, promulgated under Louisiana state law in April of 2003. Prior to the implementation of this program, the state had no mechanism by which to deal with oyster lease issues as they related to CWPPRA projects. In order to implement this program LA DNR had to first develop the infrastructure, i.e. data collection and database creation. Department of Natural Resources, Coastal Restoration Division staff has worked with staff from the Department of Wildlife and Fisheries, the Department of Health and Hospitals and the USGS to create a comprehensive informational database to assist in the implementation of the recently adopted CWPPRA Oyster Lease Acquisition Program. The database includes leaseholder, productivity, transfer, sublease and auction information, as well as DHH closure zones. A second effort by the Department of Natural Resources, Louisiana State University, LSU-Seagrant and the Louisiana Oyster Task Force is aimed at collecting information related to the costs associated with oyster harvesting within the State. This is the first such study of its kind and will be critical in the implementation of the program.

Project specific oyster lease acquisition issues such as attendance at engineering and design meetings and generation of project specific reports will be billed to each project individually. This task code is for collection and maintenance of information necessary for implementation of the overall program.

Task	Description	Cost
SPE14600	Oyster Lease Program Management and Implementation	$36,972

Benefits

< Provides Task Force and all Federal and state partners with information critical to the implementation of the CWPPRA Oyster Lease Acquisition Program.

Deliverables

< Provide Task Force, its subcommittees and other agencies with oyster lease information necessary for planning purposes

< Update and maintain oyster lease database on a regular basis

25 September 2003

SPE 14600, CWPPRA Recurring Planning Task: Oyster Lease Program Management and Implementation FY '04

Description: Louisiana Department of Wildlife and Fisheries is the agency with the mandate to manage leasing of state waterbottoms for oyster cultivation. Following legislation in recent years that was written to allow state coastal restoration planners to recommend non-renewal or shorter lease terms for some leases, the Department has assigned staff to manage leases relative to the needs of coastal restoration. This includes: working with DNR staff on Restricted Area recommendations each year to produce a final recommendation, ensuring that every lease is correct (correct type of lease and term), developing legislation that furthers coastal restoration needs within the existing oyster leasing management framework, interfacing with industry to explain state policy, attending meetings, participating/recommending measures related to DNR's oyster lease acquisition program; working with state and federal agencies to coordinate activities and develop processes for facilitating restoration work.

Task	**Description**	**Cost**
SPE 14600	Oyster Lease Management and Implementation	$ 33500

Deliverables: Coordination with DNR staff on oyster lease management in coastal restoration planning areas; QC on leases to ensure that leases are granted per the agreed-upon recommendations; administrative work to improve restoration planners' ability to predict the time and cost of acquiring/ clearing oyster leases from restoration planning areas.

CWPPRA 04 PLANNING BUDGET

CWPPRA Planning Task (SPE 14900): Joint Training Proposal – Coastal Vegetative Restoration Workshop

DESCRIPTION:

Louisiana's coastal restoration program is driven by the critical need for evaluation, demonstration, and introduction of innovative techniques, best management practices, and decision-making tools to enhance and restore Louisiana's coastal habitats. As Louisiana embarks on one of the largest environmental engineering efforts in United States history we can no longer be haphazard in the selection of plant materials for planting marshes, but must develop a comprehensive, science-based, and integrated vegetative program that will accelerate and sustain the functional efficiency of created and restored marshes. To date, however, achieving functional equivalency with native marshes has been slowed by limitations in wetland plant sciences, and in methods to restore large areas of marsh.

Coastal wetland scientists can develop plant species and application technology to restore Louisiana's coast to a sustainable level. However, it will require implementing a long-term systematic program of restoration initiatives and enhancements, the use of leading-edge technologies, science, and tools that integrate the physical, ecological, and societal aspects of coastal habitat restoration.

To this end, the Natural Resources Conservations Service proposes organizing and conducting a two day coastal vegetative restoration workshop designed for CWPPRA Workgroup scientists and restoration practitioners from universities and state and federal agencies. The purpose of the workshop would be to advance our understanding of coastal marshes and the implications of planting strategies, ecotypic differentiation, and ecological performance. The workshop would provide a forum for wetland plant scientists from Louisiana and across the nation to explore advances in wetland plant technology, the role of superior plant varieties, and integration of plant materials strategies with engineering technology through all phases of project implementation. Most importantly, the workshop will facilitate in Louisiana's development of a comprehensive long-term program to address the vegetative restoration problems of wetland loss and ecosystem degradation along Louisiana's 19,000 square miles of coast. The workshop will consist of:

- Plenary talks providing information on the latest plant materials developments and current research;
- Panel discussions regarding problems and opportunities; and
- Work groups to highlight current standard application methodology and improve integration in project development processes.

TASK	DESCRIPTION	COST
SPE 14900	Joint Training – Coastal Vegetative Restoration Workshop	$85,450

CWPPRA FY04 Planning Budget Proposal

Task: Continued operation of one Terrebonne Basin monitoring gauge.
Continue operating one water level and salinity monitoring gauge (Bayou Decade at Lost Lake*) for 12 months, from January 2004 through December 2004, so that it would collect data concurrently with that of the Blowout Canal gauge (funded by CWPPRA through December 2004).

Estimated cost: $18,000

Bacground: The marshes in the Carencro Lake and Lost Lake areas of the Terrebonne Basin are located between the expansive freshwater flotant marshes of the Penchant Basin, and brackish marshes to the south. During high Atchafalaya River stages, high Penchant Basin water levels induce a continuous freshwater flow from the Penchant Basin to the southern tidal marshes. Under those conditions, freshwater flows dominate the Carencro Lake and Lost Lake areas. However, during low river stages, the area's hydrology is tidally dominated and brackish salinities often occur.

Because of the area's location adjacent to the Penchant Basin, opportunities exist to extend the Penchant Basin Plan concept to this area, and to implement the Coast 2050 Regional strategy number 4 ("enhance Atchafalaya influence to Terrebonne Basin marshes, excluding upper Penchant marshes"). This strategy has also become a primary strategy in the Louisiana Comprehensive Coastwide Ecosystem Restoration Study in Subprovince 3.

To implement the restoration strategy mentioned above, an understanding of the hydrology is critical. Particularly important is understanding the extent of saltwater penetration into the Penchant area during periods of low Atchafalaya River flow and/or low rainfall. This funding proposal was made specifically to address this opportunity/need. By monitoring salinities at both the Lost Lake gauge and the Blowout Canal gauge, we can assess the frequency and extent of saltwater intrusion events that would impact Penchant Basin marshes and design measures to discharge excess freshwater while protecting the Penchant marshes from saltwater impacts.

* The Lost Lake and Blowout Canal gauges were previously funded for a year of data through FY03 CWPPRA planning funds, but for various reasons, their installation and operation could not be made concurrent.

Updating Coastal Louisiana Land Loss Database and Maps
CWPPRA Budget Proposal FY 2004

Background

The Corps of Engineers land loss maps (Britsch and Dunbar 1996) help document erosion in the coastal plain from 1932 to 1990 over four separate time intervals (1932-58, 1958-74, 1974-83, and 1983-90). The mapping methodology has remained consistent for each interval and relies on interpretation of aerial photography taken during the fall/winter months. The data is maintained in a Geographic Information System for data manipulation and presentation. Mapping land loss during separate time periods assists in determining the spatial and temporal trends in land loss rates coastwide. These trends have also proved invaluable when attempting to determine the cause of specific areas of land loss along the coast.

Support for CWPPRA Planning

The Britsch and Dunbar land loss data set and maps are used on all CWPPRA projects during the annual priority project list planning process and the information is often used as the means to illustrate the need for specific projects. The Environmental Work Group uses the maps and data set to assist in determining project boundaries and in assessing the background land loss rates for candidate projects.

FY 2004/2005 Budget Request

The original map sets were published in 1996 by Britsch and Dunbar using support funds provided through CWPPRA (Britsch and Dunbar 1996). The Corps of Engineers is currently in the process of updating the land loss maps using 2001 photography. At the end of November 2003, the Corps of Engineers will have completed updates on 16 (most in the Pontchartrain Basin) of the 62 quadrangles covering the coastal area. These recent updates have been funded directly by projects and additional program funding is needed to complete the work. The Corps has developed a schedule to complete the updating of the remaining 46 quadrangles during FY 2004 and FY 2005. The total cost of this effort is $250,000 or $125,000 per year. The mapping sequence can be prioritized as needed.

Benefit to CWPPRA

The land loss data set and maps have proved to be valuable tools in planning and designing coastal projects. With this update to 2001 the Corps of Engineers will continue to provide recent land loss data consistent with data previously used to develop CWPPRA projects.

Contact

Del Britsch, U.S. Army Corps of Engineers, (504) 862-1022.

Coastal Wetlands Planning, Protection and Restoration Act

Fiscal Year 2004 Budget Summary
P&E Recommendation,
Tech Recommendation,
Task Force Approval,

	FY2000 Amount ($) [19]	FY2001 Amount ($)	FY2002 Amount ($)	FY2003 Amount ($)	FY2004 Amount ($)
General Planning & Program Participation [Supplemental Tasks Not Included]					
State of Louisiana					
DNR	647,680 [21]	455,770	414,856 [30,31]	430,640	405,472
Gov's Ofc	88,236	107,500	83,225	73,500	81,000
LDWF	19,000	19,000	65,000	71,529 [32]	37,760
Total State	754,916	582,270	563,081	575,669	524,232
EPA	463,236	471,038	433,735 [29]	458,934	460,913
Dept of the Interior					
USFWS	307,343	425,265	385,370 [29]	430,606	474,849
NWRC	116,460	174,153	188,242 [31]	26,905	47,995
USGS Reston	8,360				
USGS Baton Rouge	0	25,000			
USGS Woods Hole		39,000	25,000	5,000	
Natl Park Service	3,325				
Total Interior	435,488	663,418	598,612	462,511	522,844
Dept of Agriculture	480,675	488,843	392,395 [29]	452,564	498,624
Dept of Commerce	486,139	475,916	407,257 [29]	520,585	540,030
Dept of the Army	779,386	857,200	891,366	1,178,701	1,201,075
Agency Total	**3,399,840**	**3,538,685**	**3,286,446**	**3,648,964**	**3,747,718**
Feasibility Studies Funding					
Barrier Shoreline Study					
WAVCIS (DNR)					
Study of Chenier Plain					
Miss R Diversion Study	(600,000) [17]				
Total Feasibility Studies	**(600,000)**				
Complex Studies Funding					
Beneficial Use Sed Trap Below Venice (COE)	123,050				
Barataria Barrier Shoreline (NMFS)	301,800	30,000			
Diversion into Maurepas Swamp (EPA/COE)	525,000	133,000 [26]			
Holly Beach Segmented Breakwaters (DNR)	318,179				
Central & Eastern Terrebonne Basin Freshwater Delivery (USFWS)	244,000	230,000			
Delta Building Diversion Below Empire (COE)	345,050	20,000	46,700		
Total Complex Studies	**1,857,079**	**413,000**	**46,700**	**0**	**0**

Coastal Wetlands Planning, Protection and Restoration Act

Fiscal Year 2004 Budget Summary
P&E Recommendation,
Tech Recommendation,
Task Force Approval,

	FY2000 Amount ($) [19]	FY2001 Amount ($)	FY2002 Amount ($)	FY2003 Amount ($)	FY2004 Amount ($)
Outreach					
Outreach	415,000 [20]	508,000 [28]	521,500	506,500	506,250
Supplemental Tasks					
Academic Advisory Group	100,000	120,000	239,450 [30]	100,000	
Database & Web Page Link Maintenance			112,092	111,416	109,043
Linkage of CWPPRA & LCA			351,200	400,000	200,000
Core GIS Support for Planning Activities				265,298	278,583
Oyster Lease GIS Database-Maint & Anal	33,726	79,783	57,680	64,479	88,411
Oyster Lease Program Mgmt & Impl					74,472
Joint Training of Work Groups			103,678	97,988	85,450
Terrebonne Basin Recording Stations			100,256	92,000	18,000
Land Loss Maps (COE)		40,000			62,500
Landsat Satellite Imagery				42,500	
Digital Soil Survey (NRCS/NWRC)	40,000 [18]	45,000	50,047		
GIS Satellite Imagery			42,223		
Aerial Photography & CD Production			75,000		
Adaptive Management			453,319	108,076	
Development of Oyster Reloc Plan			32,465	47,758	
Dist & Maintain Desktop GIS System			124,500		
Eng/Env WG rev Ph 2 of apprv Ph 1 Prjs			40,580		
Evaluate & Assess Veg Plntgs Coastwide			88,466		
Monitoring - NOAA/CCAP[23]	66,500	35,000			
High Resolution Aerial Photography (NWRC)		220,000			
Coast-Wide Aerial Vegetation Svy		86,250 [27]			
Repro of Land Loss Causes Map					
Model flows Atch River Modeling	95,000				
MR-GO Evluation	25,000				
Monitoring - Academic Panel Evaluation	30,000 [22]				
Brown Marsh SE Flight (NWRC)	29,500 [24]				
Brown Marsh SW Flight (NWRC)	46,000 [25]				
COAST 2050 (DNR)					
Purchase 1700 Frames 1998 Photography (NWRC)					
CDROM Development (NWRC)					
DNR Video Repro					
Gov's Office Workshop					
GIWW Data collection					
Total Supplemental	**465,726**	**626,033**	**1,870,956**	**1,329,515**	**916,459**
Total Allocated	**5,537,645**	**5,085,718**	**5,725,602**	**5,484,979**	**5,170,427**
Unallocated Balance	(537,645)	(85,718)	(725,602)	(484,979)	(170,427)
Total Unallocated	1,751,271	1,665,553	939,951	454,973	284,546

Coastal Wetlands Planning, Protection and Restoration Act

Fiscal Year 2004 Budget Summary

P&E Recommendation,

Tech Recommendation,

Task Force Approval,

FY2000 Amount ($) [19]	FY2001 Amount ($)	FY2002 Amount ($)	FY2003 Amount ($)	FY2004 Amount ($)

Footnotes:

[1] amended 28 Feb 96

[2] $700 added for printing, 15 Mar 96 (TC)

[3] transfer $600k from '97 to '98

[4] transfer $204k from MRSNFR TO Barrier Shoreline Study

[5] increase of $15.1k approved on 24 Apr 97

[6] increase of $35k approved on 24 Apr 97

[7] increase of $40k approved on 26 Jul 97 from Corps Planning Funds

[8] Original $550 in Barrier Shoreline Included $200k to complete Phase 1 EIS, and $350k to develop Phase 2 feasibility scope.

[9] Assumes a total of $420,000 is removed from the Barrier Shoreline Study over 2 years from Phase 1 EIS

[10] Excludes $20k COE, $5k NRCS, $5k DNR, $2kUSFWS, and $16k NMFS moved to Coast 2050
during FY 97 for contracs & @$255k absorbed in agency FY 97 budgets for a total of $303,000.
to COAST2050 during FY 97 for contracts & @$255k absorbed in agency FY 97 budgets for a total of $303,000.

[11] Additional $55,343 approved by Task Force for video documenary.

[12] $29,765 transferred from DNR Coast 2050 to NWRC Coast 2050 for evaluation of Report.

[13] $100,000 approved for WAVCIS at 4 Aug 99 Task Force meeting. Part of Barrier Shoreline Study.

[14] Task Force approved 4 Aug 99.

[15] Task Force approved additional $50,000 at 4 Aug 99

[16] Carryover funds from previous FY's; this number is being researched at present.

[17] $600,000 given up by MRSNFR for FY 2000 budget.

[18] Toal cost is $228,970.

[19] Task Force approved FY 2000 Planning Budget 7 Oct 99 as follows:
(a) General Planning estimates for agencies approved.
(b) 75% of Outreach budget approved; Agency outreach funds removed from agency General Planning funds;
Outreach Committee given oversight of agency outreach funds.
(b) 50% of complex project estimates approved.

[20] Outreach: original approved budget was $375,000; revised budget $415,000.
(a) 15 Mar 2000, Technical Committee approved $8,000 increase Watermarks printing.
(b) 6 Jul 2000, Task Force approved up to $32,000 for Sidney Coffee's task of implementing national outreach effort.

[21] 5 Apr 2000, Task Force approved additional $67,183 for preparation of report to Congress.
$32,000 of this total given to NWRC for preparation of report.

[22] 6 Jul 00: Monitoring - Task Force approved $30,000 for Greg Steyer's academic panel evaluation of monitoring program.

[23] Definition: Monitoring (NWRC) - NOAA/CCAP (Coastwide Landcover [Habitat] Monitoring Program

[24] 29 Aug 00: Task Force fax vote approves $29,500 for NWRC for brown marsh southeastern flight

[25] 1 Sep 00: Task Force fax vote approves $46,000 for NWRC for brown marsh southwestern flight

[26] 10 Jan 2001: Task Force approves additional $113,000 for FY01.

[27] 30 May 01: Tech Comm approves 86,250 for Coast-Wide Aerial Vegetation Survey for LDNR; T.F. fax vote approves

[28] 7 Aug 2001: Task Force approves additional $63,000 in Outreach budget for Barataria Terrebonne
National Estuary Foundation Superbowl campaign proposal.

[29] 16 Jan 2002, Task Force approves $85,000 for each Federal agency (except COE) for participation in LCA/Coast 2050 studies and collocation.
Previous budget was $45,795, revised budget is $351,200, an increase of $305,405. This task is a supplemental activity in each agency's General Planning budget.

[30] 2 Apr 02: LADNR requested $64,000 be transferred from its General Planning budget to LUMCON for Academic Assistance on the Adaptive Management supplemental task.

[31] 1 May 02: LADNR requested $1,500 be transferred from their General Planning (activity ER 12010, Prepare Report to Congress)
and given to NWRC for creation of a web-ready version of the CWPPRA year 2000 Report to Congress for printing process.

[32] 16 Jan 2003: Task Force approves LDWF estimate that was not included in originally approved budget.

Coastal Wetlands Planning, Protection and Restoration Act

Fiscal Year 2004 Budget Summary
P&E Recommendation,
Tech Recommendation,
Task Force Approval,

	FY2000 Amount ($) [19]	FY2001 Amount ($)	FY2002 Amount ($)	FY2003 Amount ($)	FY2004 Amount ($)
Total Budget by Agency					
State of Louisiana					
DNR		546,020	523,679	515,680	473,712
Gov's Ofc		111,500	123,975	81,000	85,100
LDWF		19,000	70,000	71,529	71,260
Total State		676,520	717,654	668,209	630,072
EPA		608,038	595,110	601,934	529,913
Dept of the Interior					
USFWS		657,265	535,956	557,559	535,969
NWRC		579,936	666,988	517,379	594,813
USGS Reston					
USGS Baton Rouge		25,000	100,000	92,000	18,000
USGS Woods Hole		39,000	25,000	5,000	
Natl Park Service					
Total Interior		1,301,201	1,327,944	1,171,938	1,148,782
Dept of Agriculture		492,843	658,607	599,107	614,598
Dept of Commerce		509,916	631,765	647,305	600,824
Dept of the Army		961,200	1,072,572	1,241,986	1,281,988
Outreach Committee		416,000	393,500	454,500	364,250
Academic Advisory		120,000	239,450	100,000	
Other			89,000		
Agency Total		**5,085,718**	**5,725,602**	**5,484,979**	**5,170,427**

Coastal Wetlands Planning, Protection and Restoration Act

Fiscal Year 2004 Budget Refinement

Activity	P & E Initial Estimates 2-Sep-03 Amount ($) (1)	P & E First Revision 10-Sep-03 Amount ($) (2)	P & E Recommendation to Tech Comm Amount ($) (3)	Tech Comm Recommendation to Task Force Amount ($) (4)	Task Force Approves Amount ($) (5)
General Planning & Program Participation (does not include Supplemental Activites)					
State of Louisiana					
DNR	263,240	325,472	405,472		
Gov's Ofc		81,000	81,000		
LDWF	74,390	37,760	37,760		
Total State	337,630	444,232	524,232		-
EPA	477,494	460,913	460,913		
Dept of the Interior					
USFWS	482,947	474,849	474,849		
NWRC	47,011	47,995	47,995		
USGS Reston					
USGS-B.R.					
USGS-Woods Hole					
NPS					
Total Interior	529,958	522,844	522,844		-
Dept of Agriculture	470,636	498,624	498,624		
Dept of Commerce	520,986	540,030	540,030		
Dept of the Army	1,190,184	1,201,075	1,201,075		
Agency Total	**3,526,888**	**3,667,718**	**3,747,718**		
Supplemental Tasks					
Academic Advisory Group		100,000			
Maint of Web-Based Project Reports	117,858	109,043	109,043		
Linkage of CWPPRA and LCA	399,467	200,000	200,000		
Core GIS Support for Planning Activities	442,156	358,583	278,583		
Oyster Lease Database Maint & Analysis	67,703	88,411	88,411		
Oyster Lease Program Mgmt & Impl	57,680	74,472	74,472		
Joint Training	150,690	85,450	85,450		
Terr Basin Recording Stations	18,000	18,000	18,000		
Update Landloss Maps	125,000	125,000	62,500		
Oyster Relocation Plan	2,000				
Bob Morton Subsidence Investigation	35,445				
High Resolution Satellite	25,000				
Landsat Satellite Imagery	21,300				
Storm Recovery Procedures	76,360				
Subtotal Supplemental	**1,538,659**	**1,158,959**	**916,459**		

Coastal Wetlands Planning, Protection and Restoration Act
Fiscal Year 2004 Budget Refinement

Activity	P & E Initial Estimates 2-Sep-03 Amount ($) (1)	P & E First Revision 10-Sep-03 Amount ($) (2)	P & E Recommendation to Tech Comm Amount ($) (3)	Tech Comm Recommendation to Task Force Amount ($) (4)	Task Force Approves Amount ($) (5)
Outreach					
Outreach Committee	364,250	364,250	364,250		
Agency Participation: USACE	4,000	4,000	4,000		
Agency Participation: USFWS	2,000	2,000	2,000		
Agency Participation: NWRC					
Agency Participation: DNR	4,000	4,000	4,000		
Agency Participation: Ofc of Gov	4,000	4,000	4,000		
Agency Participation: EPA	4,000	4,000	4,000		
Agency Participation: NRCS	4,000	4,000	4,000		
Agency Participation: NMFS	4,000	4,000	4,000		
Agency Administration: NWRC	26,000	26,000	26,000		
Dedications Support (no helicopters)					
Helicopter Overflights for Special events (no dedications)					
Outreach Committee Operations Budget:					
Outreach Coordinator - Gabrielle Bodin					
Watermarks					
LaCoast Internet Home Page					
Outreach Assistant/Interpretive Specialist					
Printing, Video, & Graphics Support					
Conference/Exhibit Support					
Travel					
Product Reproduction					
Contractural Support for Outreach Dist					
Awareness Poster Development (COE)					
Broadcast Quality B-roll Aerial Video					
Project Sign Development (NRCS)					
Contract Writer (USGS)					
New Initiative-Science of Rest Video/CD	90,000	90,000	90,000		
New Initiative-					
New Initiative- and Values CD					
Subtotal - Outreach	**506,250**	**506,250**	**506,250**		
Total Allocated	**5,571,797**	**5,332,927**	**5,170,427**		
Unallocated Balance	(571,797)	(332,927)	(170,427)	5,000,000	5,000,000
Total Unallocated (Carryover = $454,973)	(116,824)	122,046	284,546	5,454,973	

Coastal Wetlands Planning, Protection and Restoration Act
Fiscal Year 2004 Budget Refinement

Activity	P & E Initial Estimates 2-Sep-03 Amount ($) (1)	P & E First Revision 10-Sep-03 Amount ($) (2)	P & E Recommendation to Tech Comm Amount ($) (3)	Tech Comm Recommendation to Task Force Amount ($) (4)	Task Force Approves Amount ($) (5)

NOTES:

DRAFT FY 2004 TOTAL OUTREACH BUDGET

Personnel

Agencies	Meeting	Review	Admin	Implementation
NMFS	2,000	2,000		4,000
NRCS	2,000	2,000		4,000
EPA	2,000	2,000		4,000
GOV	2,000	2,000		4,000
DNR	2,000	2,000		4,000
FWS	0	2,000		2,000
NWRC	2,000	0	24,000	26,000
COE	2,000	2,000		4,000
Total Agency Request				52,000
Dedications support (printing, photographs, etc., not helicopters) 2/yr				5,000
Operations Budget (from page 2)				364,250
Total CWPPRA Outreach Budget Request				421,250

FY 2004 PUBLIC OUTREACH COMMITTEE BUDGET

Operations	Proposed FY2004
Description	
Outreach Coordinator - Gabrielle Bodin	89,000
Watermarks Newletter Contract	45,000
LaCoast Internet Home Page	53,000
Outreach Assistant / Interpretive Specialist - Breaux Act Newsflash, event assistance, Distribution, Teacher Workshops, Administrative Support	55,000
Printing, Video, and Graphics Support	4,000
Conference /Exhibit Support - Display/Registration	6,000
Travel - National / Regional	13,000
CWPPRA Product Reproduction (video, CD-ROMS, fact sheets, slide shows, PowerPoint presentation, posters, brochures, etc)	25,000
Contractual Support for Outreach Distribution (student worker)	13,000
New Breaux Act Display	9,000
Wetland Loss Poster w/ BTNEP	9,000
Video News Releases (3)	5,400
Article Writing and Placement Service	9,350
Update USGS Landloss video	8,000
External Outreach Review	4,000
Contract Writer	16,500
Operations Budget	364,250

Approval of Changes to the Standard Operating Procedures (SOP)

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT (CWPPRA)

PROJECT STANDARD OPERATING PROCEDURES MANUAL

DRAFT
Revision 7.0

TABLE OF CONTENTS

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT
(CWPPRA)

PROJECT STANDARD OPERATING PROCEDURES MANUAL

1. **APPLICABILITY**. This manual is applicable to all Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Agencies and the Local Sponsor in the management of the CWPPRA projects. These standard procedures shall not supersede nor invalidate any rules or regulations internal to any Agency.

2. **REFERENCES**.

   a. Pub. L. 101-646, Coastal Wetlands Planning, Protection and Restoration Act, hereinafter referred to as the "CWPPRA."

   b. Pub. L. 91-646, Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended by Title IV of Pub. L. 100-1 7, the Surface Transportation and Uniform Relocation Assistance Act of 1987.

3. **PURPOSE**. The purpose of the SOP is to establish standard procedures among the separate Agencies and the Local Sponsor in the managing of CWPPRA projects.

4. **DEFINITIONS**.

   a. The definitions in Section 302 of the CWPPRA are incorporated herein by reference.

   b. The term “Agencies” shall mean the agencies listed in the CWPPRA that makeup the Louisiana Coastal Wetlands Conservation and Restoration Task Force, and the Louisiana Department of Natural Resources.

   c. The term “Federal Sponsor” shall mean the Federal Agency assigned to a CWPPRA project with responsibility to manage the implementation of the project.

   d. The term “Local Sponsor” shall mean the State of Louisiana, as represented by the Louisiana Department of Natural Resources (DNR) unless otherwise specified.

   e. The term “Technical Committee” shall mean the committee established by the Task Force to provide advice on biological, engineering, environmental, ecological, and other technical issues.

   f. The term “Planning and Evaluation Subcommittee” shall mean the working level committee established by the Technical Committee to form and oversee special technical workgroups to assist in developing policies and processes, and recommend procedures for formulating plans and projects to accomplish the goals and mandates of CWPPRA.

g. The term “Priority Project List (PPL)” shall mean the annual list of projects submitted by the Task Force to Congress in accordance with Sec. 303.(a) of the CWPPRA.

h. The term “total project cost” shall mean all Federal and non-Federal costs directly related to the implementation of the project, which may include but are not limited to engineering and design costs; lands, easements, servitudes, and rights-of-way costs; project construction costs; construction management costs; relocation costs; pre-construction, construction, and post-construction monitoring costs; operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) costs; supervision and administration costs; environmental compliance (cultural resources, NEPA, and HTRW); and other costs as otherwise provided for in the Cost Sharing Agreement.

i. The term “total project expenditures” shall mean the sum of all Federal expenditures for the project and all non-Federal expenditures for which the Federal Sponsor has granted credit.

j. The term “Cost Sharing Agreement” shall mean any Agency agreement entered into by the Federal Sponsor and the Local Sponsor for engineering and design, real estate activities, construction, monitoring, and OMRR&R of a project in accordance with Sec. 303. (f) of the CWPPRA.

k. The term “life of the project” shall mean 20 years from completion of construction of the project or functional portion of the project, unless otherwise stated in the Cost Sharing Agreement for the project.

l. The term “project funding categories” shall mean the six distinct project-funding areas:

(1) Engineering and Design (E&D)
(2) Real Estate
(3) Construction
(4) Monitoring
(5) Operation, maintenance, repair, replacement, and rehabilitation (OMRR&R)
(6) Corps of Engineers Program Management Costs

For cash flow-managed projects (See paragraph 4.r. below), the Real Estate and Monitoring project funding categories will be further sub-categorized as Phase 1 and Phase 2. E&D will be categorized as Phase 1 only while Construction and OMRR&R will be categorized as Phase 2 only.

m. The term “escrow account” shall mean the bank account established by the Local

Sponsor in accordance with the CWPPRA Escrow Agreement executed between the Corps of Engineers, the Local Sponsor, and the financial institution selected by the Local Sponsor to act as custodian for the escrow account.

n. The term "overgrazing" shall mean allowing cattle and other grazing animals to forage within the project lands, easements or rights-of-way to the detriment of the wetlands.

o. The term "State fiscal year" shall mean one fiscal year of the State of Louisiana, beginning July 1 and ending June 30 of the following calendar year.

p. The term "Federal fiscal year" shall mean one fiscal year of the Government, beginning October 1 and ending September 30 of the following calendar year.

q. The term "Conservation Plan" shall mean the Coastal Wetlands Conservation Plan prepared by the State of Louisiana in accordance with Section 304 of the CWPPRA.

r. The term "cash flow-managed projects" shall mean those projects which are approved and funded in two phases during the Task Force quarterly ~~semi-annual budgeting~~ meetings. Phase 1 will generally mean those pre-construction activities as defined in paragraph 4.s. below and Phase 2 will generally mean those activities approved by the Task Force as defined in paragraph 4.t. below. While the two phases will be fully funded when approved by the Task Force, long term Phase 2 OMRR&R and post-construction monitoring funds will only be made available on a yearly ~~an as-needed~~ basis (to be approved at January Task Force meetings) in three year increments. Cash flow-managed projects are generally those projects approved on PPLs 9 and later.

s. The term "Phase 1" shall include, but not be limited to, a determination of environmental benefits, any necessary hydrologic data collection and analysis, Pre-construction Biological Monitoring, Monitoring Plan Development, and Engineering and Design, and draft OMRR&R Plan (named the Projects Operations and Schedule Manual when referring to Corps projects) Development. Engineering and Design includes Engineering, Design, environmental compliance (cultural resources, NEPA, HTRW) and permitting, Project Management, and Real Estate requirements up to, but not including, the purchase of real estate.

t. The term "Phase 2" shall mean Construction (including Project Management, Contract Management, and Construction Supervision & Inspection), Post-construction Biological Monitoring (to include construction phase biological monitoring), OMRR&R, and the Purchase of Real Estate.

u. The term "quarterly ~~semi-annual budgeting~~ meetings" shall mean the quarterly ~~semi-annual budget~~ meetings ~~(typically in January and July)~~ at which the Task Force approves planning and ~~,~~ construction~~, monitoring, and OMRR&R~~ funding levels for the program.

5. **<u>GENERAL</u>**.

a. RESPONSIBILITIES

(1) <u>Federal Sponsor</u>:

(a) Assure that funds spent on a project are spent in accordance with the project's Cost Sharing Agreement and the CWPPRA.

(b) Perform any audits of the Local Sponsor's credits for the project as required by the project's Cost Sharing Agreement and the individual agency's regulations.

(c) No later than September 30 of each year, the Federal Sponsor shall provide the Local Sponsor with an annual statement of prior State fiscal year expenditures in a format agreeable to the Local and Federal Sponsor.

(d) Each quarter, Federal Sponsors will review funds within each approved project under their purview and determine whether funds may be returned to the Task Force. Funds may be returned to the Task Force by the simple deobligation process covered in paragraph 6.p. below. Federal Sponsors should provide the status of potential obligations in the "Remarks" section of the program summary database.

(2) <u>Local Sponsor</u>:

(a) Provide the necessary funds as required by the project's Cost Sharing Agreement.

(b) Perform any work-in-kind required by the Cost Sharing Agreement.

(c) Furnish the Federal Sponsor with the documentation required to support any work-in-kind credit requests.

(d) Unless otherwise specified, all correspondence to the Local Sponsor shall be addressed to:

Administrator
Coastal Restoration Division
Louisiana Department of Natural Resource
P.O. Box 44027
Baton Rouge, LA 70804-4027

(3) Corps of Engineers (as funds administrator):

(a) For the purposes of funds control, and at the request of the Task Force, the Corps of Engineers will act as bookkeeper, administrator, and disburser of all Federal and non-Federal funds. All correspondence from the Agencies and the Local Sponsor to the Corps of Engineers regarding funding requests and the status of funding requests shall be addressed to:

U.S. Army Corps of Engineers
ATTN: CEMVN-PM-C
P.O. Box 60267
New Orleans, LA 70160-0267

(b) Use Corps of Engineers financial accounting procedures.

(c) Manage the funds for the project.

(d) Disburse project funds as requested by the Federal Sponsor.

(e) Regularly report to the Agencies and the Local Sponsor on the status of the project accounts.

(f) By August 31 of each year, furnish each Federal Sponsor a report on project expenditures for the last State fiscal year.

(g) By the 20th of the month following the end of a fiscal quarter, the Corps of Engineers will prepare and furnish all the Agencies and the Local Sponsor a report on the status of funding and cost sharing for each of their projects. The most current version of this report will be posted by the Corps on the internet. *(www.lacoast.gov)*

(h) Provide program management duties, e.g. PPL reports, minutes of meetings, distribution of planning documents, etc.

b. COST SHARING

(1) Pre-State Conservation Plan: As provided in Section 303(f) of the CWPPRA, prior to the approval of the State Conservation Plan, the Federal share of the total project cost shall be 75% and the non-Federal share of the total project cost shall be 25%.

(2) Post-State Conservation Plan[1]

(a) General: As provided for the Louisiana Coastal Wetlands Conservation Plan, effective December 1, 1997, cost sharing is revised for unexpended funds from 75% Federal and 25% non-Federal to 85% Federal and 15% non-Federal for all future Priority List projects and Priority Lists 1 through 4 projects. For Priority Lists 5 and 6 projects, cost sharing is reduced from 75% Federal and 25% non-Federal to 90% Federal and 10% non-Federal.

(b) Definitions[2]: The term "total project expenditures", as stated in paragraph 4.i., shall mean the sum of all Federal expenditures for the project and all non-Federal expenditures for which the Federal Sponsor has granted credit. An expenditure is a disbursement of funds for charges incurred for goods and services.

(c) Implementation: All expenditures that were incurred through November 30, 1997 (invoices that were submitted to CEMVN-PM-C and all funds disbursed by check), will be considered part of the original cost sharing percentages. These expenditures will be subtracted from the approved current estimates and cost shared at 75% Federal and 25% non-Federal. The remaining funds expended beginning December 1, 1997 will be considered part of the revised cost sharing provisions.

(d) Cost Sharing Agreements: Future cost sharing agreements will reflect the new cost sharing percentages and existing cost sharing agreements will be amended to reflect the new cost sharing percentages.

(e) Database: As stated in paragraph 5.a.(3)(a), the Corps of Engineers will act as bookkeeper, administrator, and disburser of all Federal and non-Federal funds. A database is in place at present to record all estimates, obligations, and expenditures. Federal Sponsors will keep the Corps of Engineers informed of current approved project estimates and schedules in order to have the latest information in the database.

c. MANAGEMENT OF FUNDS

(1) Escrow Agreement:

(a) There will be only one escrow account established for all CWPPRA

[1]Formally approved at the January 16, 1998 Task Force meeting.

[2]At the December 16, 1997 Joint Meeting of the P&E Subcommittee and the Technical Committee the term "expenditure" was further clarified as being on a cash basis. For example, work-in-kind (WIK) and costs paid would be considered expenditures. However, costs submitted would not be considered an expenditure.

projects. The Corps, the Local Sponsor and the financial institution chosen by the Local Sponsor shall execute the basic escrow account agreement in a form agreeable to all parties.

(b) Within the one escrow account, the Corps of Engineers shall maintain separate sub-accounts (one for each project covered by the escrow agreement) and allocate project funds only to the extent that funds are available in the project sub-account. Non-government escrow shall be in the project sub-accounts.

(c) Upon execution of the Escrow Agreement, and in accordance with the Cost Sharing Agreement, the Local Sponsor shall deposit in the escrow account established for the CWPPRA projects an amount equal to the difference between 25 percent (15 percent after the Conservation Plan is approved except 5th and 6th list projects for which the percentage is 10 percent) of the total project expenditures to date and the amount of expenditures by the Local Sponsor for which the Federal Sponsor has granted credit. In addition, the Local Sponsor shall also deposit 25 percent (15 percent after the Conservation Plan is approved except 5th and 6th list projects for which the percentage is 10 percent) of the estimated total project costs for the remainder of the State fiscal year less any anticipated expenditures by the Local Sponsor.

(d) In accordance with Section 303(f)(3) of the CWPPRA the Local Sponsor shall provide a minimum of 5% of the total project cost in cash. In order to properly account for these funds, the Local Sponsor shall deposit into the escrow account at least 5% of the estimated expenditures for the following State fiscal year. For projects where the Local Sponsor is the construction agency, the 5% escrow requirement is waived. However, in those cases, the Local Sponsor must provide a letter indicating that they are the primary construction agency and that the required cash contribution is provided through their award and management of the construction contract.

(2) Work-in-Kind: Credit for work-in-kind or other activities performed by the Local Sponsor will be granted as follows:

(a) By September 1 of each year the Local Sponsor shall submit to the Federal Sponsor a statement of expenditures in a format agreeable to the Federal Sponsor. It is the Federal Sponsor's responsibility to assure that the amount of credit given is in accordance with the Cost Sharing Agreement and applicable regulations and that audits, if required, are performed.

(b) After review and approval, but no later than 90 days after receipt of the statement of expenditures from the Local Sponsor, the Federal Sponsor shall forward to the Corps of Engineers, New Orleans District, ATTN.: CEMVN-PM-C, with copy to the Local Sponsor, a request that credit be given the Local Sponsor for the work performed. This statement shall indicate the amount of credit to be granted to the Local Sponsor, by project funding category, and the period covered.

(c) The Corps of Engineers will give credit to the Local Sponsor on the project in the amount stated and inform both the Local Sponsor and the Federal Sponsor of the current status of funding and cost sharing for the project.

(3) Funding Adjustments: Whenever the Corps of Engineers determines that:

(a) The Local Sponsor's share of the project cost to date, including cash and credits granted under paragraph 5.c.(2)(b), is less than the required 25 percent (15 percent after the Conservation Plan is approved except 5th and 6th list projects for which the percentage is 10 percent) of the total project cost to date; and/or

(b) The Local Sponsor has paid, in cash, less than the required 5 percent of the total project cost to date; and

(c) Insufficient funds for the project are on deposit in the escrow account to cover the deficit; then the Corps of Engineers will inform both the Local Sponsor and the Federal Sponsor of the deficiency and request that the Local Sponsor deposit into the escrow account the necessary funds or, if allowed, furnish the Federal Sponsor sufficient proof of additional credits in the amount necessary to maintain the required cost sharing percentage.

(4) Transfer of Funds Between Projects: The Local Sponsor may request the transfer of excess project funds in its escrow account from one project to another provided that:

(a) The Corps of Engineers agrees, in writing, that the funds are excess to the project; and,

(b) The Federal Sponsor of the project losing the funds agrees, in writing, to release the funds; and,

(c) The Federal Sponsor of the project gaining the funds agrees, in writing, to the funds transfer.

d. PROJECT COST LIMITS

(1) Non-Cash Flow Projects: The total project cost may exceed the original PPL

estimate by 25% without the Federal Sponsor formally requesting a cost increase from the Task Force. If the estimated total project cost exceeds the original PPL estimate by more than 25%, the Federal Sponsor, with the concurrence of the Local Sponsor, may request approval from the Task Force for additional funds as indicated in paragraph 6.e.(2). If the increase is approved by the Task Force, no additional increase shall be allowed without the explicit approval of the Task Force. An increase of more than 25% for an individual funding category, except for monitoring as stated in 5.d(3), does not require specific Task Force approval unless the increase causes the total project cost to exceed the original PPL estimate by more than 25%.

(2) Cash-Flow Projects:

a. PHASE 1: The Phase 1 cost may exceed the original PPL Phase 1 estimate by 25% without the Federal Sponsor formally requesting a cost increase from the Task Force. If the estimated total cost of Phase 1 exceeds the original PPL Phase 1 estimate by more than 25%, the Federal Sponsor, with the concurrence of the Local Sponsor, may request approval from the Task Force for additional Phase 1 funds as indicated in paragraph 6.e.(2). If the increase is approved by the Task Force, no additional increase shall be allowed without the explicit approval of the Task Force. An increase of more than 25% for an individual funding category, except for monitoring as stated in 5.d(3), does not require specific Task Force approval unless the increase causes the total project cost to exceed the original PPL estimate by more than 25%.

b. PHASE 2: The Phase 2 cost may exceed the Phase 2 estimate developed during Phase 1 by 25% without the Federal Sponsor formally requesting a cost increase from the Task Force. If the estimated total cost of Phase 2 exceeds the Phase 2 estimate developed during Phase 1 by more than 25%, the Federal Sponsor, with the concurrence of the Local Sponsor, may request approval from the Task Force for additional Phase 2 funds as indicated in paragraph 6.e.(2). If the increase is approved by the Task Force, no additional increase shall be allowed without the explicit approval of the Task Force. An increase of more than 25% for an individual funding category, except for monitoring as stated in 5.d(3), does not require specific Task Force approval unless the increase causes the total project cost to exceed the original PPL estimate by more than 25%.

(3) Exceptions: For those monitoring and OMRR&R category estimates that were formally reviewed and approved by the Task Force on 23Jul98 and 20Jan99, respectively, increases in those categories above the approved estimates shall be requested by the Federal Sponsor, with the concurrence of the Local

Sponsor, from the Task Force. These requests may occur at any Task Force meeting. Additionally, the monitoring category is capped for all projects at 100% of the original estimate approved by the Task Force and may not exceed this amount without the explicit approval of the Task Force.

e. DISPUTES: Neither the Corps of Engineers, as funds administrator, nor any Federal Sponsor shall be a party to any disputes that may arise between another Federal Sponsor and the Local Sponsor under a project Cost Sharing Agreement.

6. **PROCEDURES.**

a. PROJECT PLANNING AND SELECTION:

(1) CWPPRA Committees: Following is a description of duties of the primary organizations formed under CWPPRA to manage the program:

(a) Coastal Wetlands Conservation and Restoration Task Force: Typically referred to as the "Task Force" (TF), it is comprised of one member each, respectively, from five Federal Agencies and the State of Louisiana. The Federal Agencies of CWPPRA include: the U. S. Fish & Wildlife Service (USFWS) of the Department of Interior, the Natural Resources Conservation Service (NRCS) of the U. S. Department of Agriculture (USDA), the National Marine Fisheries Service of the Department of Commerce (USDC), the U. S. Environmental Protection Agency (USEPA), and the U. S. Army Corps of Engineers (USACE). The Governor's Office of the State of Louisiana represents the state on the TF. The TF provides guidance and direction to subordinate organizations of the program through the Technical Committee (TC), which reports to the TF. The TF is charged by the Act to make final decisions concerning issues, policies, and procedures necessary to execute the Program and its projects. The TF makes directives for action to the TC, and the TF makes decisions in consideration of TC recommendations. The District Commander of the USACE, New Orleans District (NOD), is the Chairman of the TF. The TF Chairman leads the TF and sets the agenda for action of the TF to execute the Program and projects. At the direction of the Chairman of the TF, the NOD: (1) provides administration, management, and oversight of the Planning and Construction Programs, and acts as accountant, budgeter, administrator, and disburser of all Federal and non-Federal funds under the Act, (2) acts as the official manager of financial data and most information relating to the CWPPRA Program and projects.

The State of Louisiana is a full voting member of the Task Force except for selection of the Priority Project List [Section 303(a)(2) of the CWPPRA], as stipulated in President Bush's November 29, 1990, signing statement of the CWPPRA. In addition, the State of Louisiana may not serve as a "lead" Task Force member for design and construction of wetlands projects on the priority project list.

(b) Technical Committee: The Technical Committee (TC) is established by the TF to provide advice and recommendations for execution of the Program and projects from a number of technical perspectives, which include: engineering, environmental, economic, real estate, construction, operation and maintenance, and monitoring. The TC provides guidance and direction to subordinate organizations of the program through the Planning & Evaluation Subcommittee (P&E), which reports to the TC. The TC is charged by the TF to consider and shape decisions and proposed actions of the P&E, regarding its position on issues, policy, and procedures towards execution of the Program and projects. The TC makes directives for action to the P&E, and the TC makes decisions in consideration of P&E recommendations. The TC approves changes to this SOP. In the event that such changes would reflect policy-level changes, then these changes must first be approved by the Task Force. Additionally, the TC appoints the chairs of the various workgroups that report to the TC. The State of Louisiana is represented on the TC by DNR. The Chair's seat of the TC resides with the USACE, NOD. The TC Chairman leads the TC and sets the agenda for action of the TC to make recommendations to the TF for executing the Program and projects. At the direction of the Chairman of the TF, the Chairman of the TC guides the management and administrative work charged to the TF Chairman.

(c) Planning and Evaluation Subcommittee: The Planning and Evaluation Subcommittee (P&E) is the working level committee established by the TC to form and oversee special technical workgroups to assist in developing policies and processes, and recommend procedures for formulating plans and projects to accomplish the goals and mandates of CWPPRA. The seat of the Chairman of the P&E resides with the USACE, NOD. The P&E Chairman leads the P&E and sets the agenda for action of the P&E to make recommendations to the TC for executing the Program and projects. At the direction of the Chairman of the TC, the Chairman of the P&E executes the management and administrative work directives of the TC and TF Chairs.

(d) Environmental Workgroup: The Environmental Workgroup (EnvWG), under the guidance and direction of the P&E, reviews candidate projects to: (1) suggest any recommended measures and features that should be considered during engineering and design for the achievement and/or enhancement of wetland benefits, and (2) determine the estimated annualized wetland benefits (Average Annual Habitat Units) of those projects.

(e) Engineering Workgroup: The Engineering Workgroup (EngWG), under the guidance and direction of the P&E, provides engineering standards, quality control/assurance, and support, for the review and comment of the cost estimates for: engineering, environmental compliance (cultural resources, NEPA, and HTRW), economic, real estate, construction, construction supervision and inspection, project management, operation and maintenance, and monitoring, of candidate and demonstration projects considered for development, selection, and funding under the Act.

(f) Economic Workgroup: The Economic Workgroup (EcoWG), under the guidance and direction of the P&E, reviews and evaluates candidate projects that have been completely developed, for the purpose of assigning the fully funded first cost of projects, based on the estimated 20-year stream of project costs.

(2) Quarterly ~~Semi-Annual Budgeting~~ Meetings: Each year the Task Force shall have four ~~two~~ meetings (referred to below as the quarterly ~~semi-annual budgeting~~ meetings) at which a Phase 2 construction funding list is selected. At the January quarterly ~~semi-annual budgeting~~ meeting, the Task Force will also select ~~both~~ demonstration projects, ~~and~~ projects for Phase 1 funding on the annual priority project list, and will approve monitoring and O&M funding as recommended by the Technical Committee. Demonstration projects are considered non-cash-flow managed projects. The Task Force will review the process each year to determine the effect on the overall program and may decide at any time to modify the process. The current process for selection of the annual priority list projects is included as Appendix A. Beginning with PPL13, and then on all subsequent priority lists, candidate projects will be assigned a ~~prioritization ranking score~~ Prioritization Criteria ranking score as part of the Phase 0 analysis. The Planning and Evaluation Subcommittee will provide a quarterly ~~semi-annual~~ report on the total funds associated with all phases of approved projects versus the estimated total funding available through the current authorization and estimate at what point these two values would be approximately equal.

(3) Planning:

(a) Each year, no more than $5.0 million will be set aside from out of the total available annual program allocation for planning, in accordance with Section 306 (a) (1) of PL 101-646. These funds shall remain available for budgeting and reprogramming during any fiscal year after the funds are set aside. At the quarterly ~~semi-annual budgeting~~ meetings, the Task Force shall review unallocated funds from previous years and may program some or all of these funds in addition to the $5.0 million for the current year. Nevertheless, in no case will more than $5.0 million be set aside annually for planning from the total available annual program allocation. Generally, the planning process shall include the nomination, development and evaluation of proposed projects by the Engineering, Environmental and Economic workgroups.

(b) During the evaluation of Priority Project List Candidate projects, Federal Sponsors will provide cost estimates and spending schedules for each project to the Planning and Evaluation Subcommittee prior to project ranking[3]. Spending schedules will be developed through the end of the project life. The cost estimates and schedules will be comprised of the following subcategories:

Subcategory A. **Phase 1 Engineering and Design** (includes Engineering and Design, Phase 1 Real Estate Requirements[4], environmental compliance (cultural resources, NEPA compliance and HTRW) and Permitting, Project Management, and draft OMRR&R Plan (named the Projects Operations and Schedule Manual when referring to Corps projects) Development)

Subcategory B. **Phase 1 Pre-construction Biological Monitoring** (includes Monitoring Plan Development)

Subcategory C. **Phase 2 Construction** (includes Phase 2 Real Estate Requirements (including oyster leases), Project Management, Contract Management, and Construction Supervision and Inspection)

Subcategory D. **Phase 2 Post-Construction Biological Monitoring** (includes Construction-Phase Biological Monitoring)

Subcategory E. **Phase 2 OMRR&R**

(c) The Engineering Work Group and Monitoring Work Group will review these estimates for consistency among projects. The Planning and Evaluation Subcommittee will provide a table of these subcategories along with the results of the Environmental Work Group's evaluation to the Technical Committee.

(d) The Technical Committee will review these results along with the project budget requirements and schedules. The Technical Committee will

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3 Note the previously designated complex projects from PPL 9 are considered candidate projects and may be evaluated in accordance with this paragraph and paragraphs 6.a.(3)(c) and (d). Complex projects would then compete at a quarterly ~~semi-annual~~ budgeting meeting for Phase 1 authorization.

4 Includes Real Estate requirements up to but not including the purchase of Real Estate.

determine a recommended cutoff point, based on project cost effectiveness and other criteria to recommend to the Task Force.

(4) Annual Priority List:

(a) The CWPPRA project approval and budgeting process is to be accomplished in two phases as described below. Approval and budgeting of Phase 1 would not guarantee approval and budgeting of Phase 2, which would involve competition among successful projects from Phase 1. At the January quarterly ~~semi-annual budgeting~~ meeting, the Task Force will select projects for Phase 1 funding on the annual Priority Project List. In the first year, projects will generally receive budget approval for Subcategories A and B, even though these activities may take 2 to 3 years. During the second and third year the project may not need additional funding (unless Subcategories A and B require additional funds or the project is ready to begin construction). Priority Project Lists for subsequent years will also follow this procedure.

(b) The Corps will provide a status report and update at each Task Force meeting on the six funding subcategories to include expenditures, obligations, and disbursements.

b. COST SHARING AGREEMENTS:

(1) For non-cash flow-managed projects, prior to requesting permission from the Task Force to proceed with construction of the project, the Federal Sponsor and the Local Sponsor shall negotiate and execute the necessary Cost Sharing Agreement using their own internal procedures. For cash flow-managed projects, a Cost Sharing Agreement will be negotiated and executed as soon as possible after Phase 1 approval by the Task Force.

(2) Normal Cost Sharing Agreement processing is as follows:

(a) Federal Sponsor, if applicable, forwards draft Cost Sharing Agreement to the Local Sponsor. For cooperative agreements, the Local Sponsor will initiate the agreement.

(b) After review and negotiations, the Local Sponsor, upon approval by the State of Louisiana Office of Contractual Review, signs the Cost Sharing Agreement and forwards document(s) to the Federal Sponsor.

(c) The Federal Sponsor signs and executes the document(s) and forwards copies to the Local Sponsor and forwards a copy to the Corps of Engineers, New Orleans District, ATTN: CEMVN-PM-C, for Task Force records and to aid in managing funds disbursement.

c. ESCROW ACCOUNT AMENDMENT:

(1) Once the Cost Sharing Agreement is executed, the Federal Sponsor shall request from the Corps of Engineers, New Orleans District ATTN: CEMVN-PM-C, that an amendment to the escrow agreement be executed.

(2) The Corps of Engineers shall forward to the Local Sponsor, in triplicate, the amendment for the escrow agreement.

(3) After execution by the Local Sponsor and the financial institution, the Local Sponsor shall forward all copies of the amendment to the Corps of Engineers.

(4) After execution by the Corps of Engineers of the escrow agreement amendment, an original copy of each shall be forwarded to the Local Sponsor and the financial institution. A copy of the Escrow Agreement Amendment shall be forwarded to the appropriate Federal Sponsor.

(5) The escrow agreement shall be amended, as required, to incorporate new projects as Cost Sharing Agreements are executed.

(6) The Local Sponsor is required to furnish an estimate of work-in-kind credits for the next State fiscal year of projects for which the corresponding Federal Sponsor or Corps has requested such information.

d. PRE-CONSTRUCTION FUNDS DISBURSEMENT:

(1) Upon approval of a Priority List by the Task Force, the Corps of Engineers will set up the necessary accounts for each project-funding category or subcategory and reserve funds in the amount estimated in the Priority List report.

(2) Within 30 days after receipt of a request for initial funds from the Federal Sponsor, the Corps of Engineers will prepare a Military Interdepartmental Purchase Request (DD Form 448), hereinafter referred to as MIPR, obligating funds up to a maximum of 85% of the PPL estimate for those pre-construction activities for which funds are being requested (except 5th and 6th list projects, where the maximum is 90%), to each Federal Sponsor in accordance with their request and subject to the availability of funds.

e. PRELIMINARY ENGINEERING AND DESIGN:

(1) Workplan Review : Federal Sponsors shall develop a plan of work for accomplishing Phase 1. This plan shall include, but not be limited to: a detailed task list, time line with specific milestones, and budget which breaks out specific tasks

such as geo-technical evaluations, hydrological investigations, modeling, environmental compliance (cultural resources, NEPA, and HTRW), Ecological Review (See Appendix B), surveying, and so forth. The plans shall be developed within 3 months of Phase 1 approval and shall be reviewed by the P&E Subcommittee.

(2) <u>30% Design Review:</u> In order to resolve problems and anticipate cost growth at the earliest possible point, design reviews shall be performed at the following milestone point: Upon completion of surveys, borings, the draft Ecological Review (See Appendix B) for cash flow-managed projects, and land ownership investigation, and based on preliminary designs, the Federal Sponsor shall prepare a revised project cost estimate and hold a "30% Design Review Conference" with the Local Sponsor to obtain their concurrence to proceed with design. However, if the Local Sponsor has responsibility for the design of the project, then the Local Sponsor shall prepare a revised project cost estimate and both Local and Federal Sponsors shall hold a "30% Design Review Conference" to obtain concurrence to proceed with design. The other Agencies shall be notified by the Federal Sponsor of the date, time and place of the conference and invited to attend. Any supporting data shall be forwarded to the other Agencies for their review, with receipt two weeks prior to the conference. In addition, prior to the 30% design review, the Local Sponsor shall prepare and provide to the Federal Sponsor, a map indicating any oyster leases potentially impacted by the proposed project and prepare data sheet listing, by lease number: acreage, lessee, and other pertinent data.

This review will verify the viability of the project and whether or not the Federal and Local Sponsors agree to proceed with the project. This review must indicate the project is viable before there are expenditures of additional Phase 1 funds.

After the conference, the Federal Sponsor shall forward a letter (or e-mail) to the Technical Committee with a copy to the Planning and Evaluation Subcommittee along with the revised estimate, a description of project revisions from the previously authorized project and a statement of concurrence from the Local Sponsor, informing them of the agreement to proceed with the project. The Technical Committee may make a recommendation on whether or not to proceed with the project.

Technical Committee
c/o U.S. Army Corps of Engineers, New Orleans District
ATTN: CEMVN-PM-C
P.O. Box 60267
New Orleans, LA 70160-0267

Planning and Evaluation Subcommittee
c/o U.S. Army Corps of Engineers, New Orleans District
ATTN: CEMVN-PM-C

P.O. Box 60267
New Orleans, LA 70160-0267

For cash flow-managed projects, if the estimate indicates that the Phase 1 cost will exceed 125% of the original approved amount, the Federal Sponsor may, with local sponsor concurrence, request approval from the Task Force for additional funds to continue at a quarterly ~~semi-annual budgeting~~ meeting. For non-cash flow-managed projects, if the revised estimate indicates that the total project cost will exceed 125% of the original PPL estimate, the Federal Sponsor shall request approval from the Task Force, at any Task Force meeting, to proceed with the project.

In some cases, the Task Force may require an additional formal review, involving all the Agencies, of the project design at an intermediate level to ensure that optimum benefits to wetlands and associated fish and wildlife resources are achieved. In those cases the Federal Sponsor shall be responsible for coordinating the review with the other Agencies and the Local Sponsor.

(3) Changes in Project Scope: If a project undergoes a major change in scope or a change in scope resulting in a variance of 25 percent from the original approved design, in either: (1) the total project cost, (2) the number of acres benefited, or (3) the ratio of the total project cost to the number of acres benefited, the Federal or Local Sponsor will submit a report to the Technical Committee explaining the reason(s) for the scope change, the impact on cost and benefits, and a statement from the Local Sponsor endorsing the change. The Technical Committee will review the report and recommend to the Task Force approval or rejection of the change.

f. PRE-CONSTRUCTION MONITORING: For monitoring plan development and by the preliminary 30% design review, the Federal Sponsor shall provide at a minimum project-specific goals and strategies that the Local Sponsor will use to prepare a monitoring plan and a budget. The monitoring plan and budget must be submitted to the Technical Committee for review and subsequent approval by the Task Force.

g. REAL ESTATE:

(1) General

(a) Each Federal or Local Sponsor shall follow the real estate procedures in use by that agency.

(b) During preliminary engineering and design, the Federal or Local Sponsor shall identify all real estate potentially impacted by the project.

(c) After determining the property rights required, the Federal or Local Sponsor shall obtain an estimated value of the real estate interest to determine the value of the lands, easements, and rights-of-way to be acquired.

(d) For cash flow-managed projects, real estate purchase will take place only during Phase 2.

(e) For cash flow-managed projects, between the 30% and 95% design reviews, the Local Sponsor will have any potentially impacted oyster leases appraised and will forward to the Federal Sponsor the projected acquisition costs, as well as the supporting documentation for these cost projections except for legally proprietary information. In the case of non-cash-flow projects, this information will be provided prior to soliciting construction approval from the Task Force.

(2) Section 303(e) Approval:

(a) In accordance with Section 303(e) of the CWPPRA, the Federal Sponsor shall, prior to acquiring any lands, easements or rights-of way for a CWPPRA project, obtain Secretary of the Army, or his designee, approval that the "project is subject to such terms and conditions as necessary to ensure that the wetlands restored, enhanced or managed through that project will be administered for the long-term conservation of such lands and waters and dependent fish and wildlife populations."

(b) In order to obtain approval in accordance with paragraph 6.g.(2)(a), the Federal Sponsor shall furnish the Corps of Engineers the following information before requesting approval to proceed to construction for non-cash flow-managed projects or before requesting approval to proceed with Phase 2 for cash flow-managed projects:

i. Plan showing project limits and type of land rights required.

ii. Language of land rights.

iii. Certification that land acquisition is in accordance with all applicable Federal and State laws and regulations.

iv. Statement that all standard real estate practices will be followed in acquiring land rights.

v. Overgrazing determination:

- Statement as to whether overgrazing in the project area is a problem and whether easements restricting grazing are required.

- The Corps of Engineers, in the review of the determination, may request concurrence from the Natural Resource Conservation Service as to the need for any grazing restricting easements.

(c) All requests for Section 303(e) approval shall be sent to:

U.S. Army Corps of Engineers
ATTN: CEMVN-RE-L
P.O. Box 60267
New Orleans, LA 70160-0267

(3) Real Estate for Non-Cash-Flow Managed Projects: Federal Sponsors shall ensure that real estate acquisition of easements requiring a significant expenditure of funds and pre-construction monitoring are not begun until the Engineering and Design is substantially completed and there is a reasonably high level of certainty that the project will proceed to the next phase.

(4) Real Estate for Cash-Flow Managed Projects: The purchasing of real estate shall not occur until Phase 2. Preliminary real estate investigations, including preliminary ownership determination, should be initiated early in the project design activities.

h. FINAL DESIGN :

(1) 95% Design Review: At the final 95% design review between the Federal Sponsor and the Local Sponsor, the Local Sponsor and the Federal Sponsor shall review and mutually agree to the revised estimates of costs, environmental benefits, constructibility, and a draft OMRR&R Plan (named the Projects Operations and Schedule Manual when referring to Corps projects) ~~and the project's revised prioritization ranking score~~. All projects will be assigned an updated Prioritization Criteria ranking score as part of the 95% design review. The Federal Sponsor shall forward a set of Plans and Specifications to the other Agencies and the Local Sponsor for their review and comment, for receipt at least two weeks prior to design review meeting, along with a description of how the project differs in cost, features, and environmental benefits of the 30% design phase. However, if the Local Sponsor has responsibility for the design of the project, then the Local Sponsor shall forward to the other Agencies and the Federal Sponsor a set of Plans and Specifications for their review and comments, for receipt at least two weeks prior to design review meeting.

(2) Changes in Project Scope: Changes in project scope will be addressed as stated in paragraph 6.e.(2).

i. CONSTRUCTION APPROVAL FOR NON-CASH-FLOW MANAGED PROJECTS
For non-cash flow-managed projects, prior to advertising for bids for the first construction contract, the Federal Sponsor shall request permission from the Task Force, at any Task Force meeting or by fax vote, to proceed to construction. The request shall be addressed to the:

Planning and Evaluation Subcommittee
c/o U.S. Army Corps of Engineers, New Orleans District
ATTN: CEMVN-PM-C
P.O. Box 60267
New Orleans, LA 70160-0267

The request to proceed to construction will include at a minimum:

(1) Description of the project to include an easily reproducible PPL/Fact Sheet scale map which clearly depicts the current project boundary and project features, detailed description of project features/elements, updated assessment of benefits, and an updated fact sheet suitable for inclusion in the formal PPL documentation. In cases of substantial modifications/scope changes to original conceptual design or costs, describe the specific changes both qualitatively and quantitatively.

(2) Section 303(e) Certification from the Corps of Engineers.

(3) Overgrazing determination statement.

(4) The current estimated total project cost, including inflation through the life of the project.

(5) A statement that the Cost Sharing Agreement between the Federal Sponsor and the Local Sponsor has been executed.

(6) A statement that:

(a) all NEPA, environmental, and cultural requirements, have been complied with; and,

(b) a hazardous, toxic, and radiological waste (HTRW) assessment, if required, has been performed[5].

[5]Note: Agencies are cautioned to review the requirements for the "innocent landowner defense" under CERCLA, 42 U.S.C. 9601(35)(B), in cases involving the discovery of HTRW on lands, easements, servitudes and/or rights-of-way acquired for

(7) An estimate of project expenditures by State fiscal year and further subdivided by project funding category.

j. PHASE 2 APPROVAL FOR CASH-FLOW MANAGED PROJECTS: For cash flow-managed projects, at the end of Phase 1 the Federal Sponsor may request permission from the Task Force to proceed to Phase 2. Permission to proceed to Phase 2 implies permission to proceed to construction. The request to proceed to Phase 2 will be in accordance with Appendix C – Information Required in Phase 2 Authorization Requests.

(1) Phase 2 approval and funding requests will usually be evaluated at the quarterly ~~semi-annual budgeting~~ meetings, in accordance with Section 6.a.(2). Federal Sponsors should provide a list of projects eligible for Phase 2 approval. Projects shall not be eligible for Phase 2 approval and funding until the requirements listed in Appendix C are satisfied. Approval to proceed to Phase 2 implies permission to proceed to construction. Due to limited funding, approval and budgeting of Phase 2 would involve competition among successful projects from Phase 1.

(2) At the time that a Federal Sponsor requests Phase 2 approval, the Federal Sponsor shall provide an estimate of the project based on the 5 subcategories along with a spending schedule. The Task Force shall approve the total funds necessary for Phase 2 implementation, but shall only allot funds on an as needed basis and will therefore generally fund the entire amount of Subcategory C (Construction) and the first 3 years of both Subcategory D (Post-Construction Monitoring) and Subcategory E (OMRR&R) upon Phase 2 approval.

At subsequent January Task Force ~~semi-annual budgeting~~ meetings, the Federal Sponsor and the Local Sponsor should request approval to maintain 3 years of Subcategory D and E funding for each approved project; however, any additional funding (after the initial 3-year funding) shall not be allotted until project construction is completed. Individual project requests will be grouped with other requests and submitted for approval. Requests should be consistent with the previously approved budget for the project, unless additional information can be provided to justify the need for additional funds. When the request is more than the amount in the approved project's budget, the Technical Committee should review each specific request to determine if the amount should be approved. This programming procedure will ensure that, at any one time, an approved project has sufficient funds for about 3 years of Subcategories D and E.

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a project.

(3) Subsequent to the quarterly ~~semi-annual budgeting~~ meetings, Federal Sponsors may make a request to the committees at any time for additional funding that is needed for the current fiscal year when there is evidence that the project is progressing faster than expected, as long as those funds are utilized for the current phase of the project. Federal Sponsors shall specify under which subcategory additional funding is being requested.

(4) If construction award has not occurred within 2 years of Phase 2 approval, the Phase 2 funds will be placed on a revocation list for consideration by the Task Force at the next Task Force meeting. Requests to restore these funds may be considered at subsequent quarterly ~~semi-annual budgeting~~ meetings.

k. CONSTRUCTION FUNDS DISBURSEMENTS:

(1) Upon approval to begin Engineering and Design (E&D) by the Task Force, the Corps of Engineers will issue to the Federal Sponsor a MIPR in the amount requested to cover up to a maximum of 75% of the E&D phase (85 percent after the Conservation Plan is approved except 5th and 6th list projects for which the percentage is 90 percent), as described in paragraph 6.d.(2).

(2) Upon approval to begin construction for non-cash flow-managed projects or upon approval to begin Phase 2 for cash flow-managed projects by the Task Force and deposit by the Local Sponsor of the required funds into the escrow account, the Federal Sponsor shall request that the Corps of Engineers issue a MIPR in the amount sufficient to cover the total construction and related costs of the project.

(3) In those cases where the Local Sponsor's annual work-in-kind plus cash contribution exceeds the project expenditures required cost sharing percentage, and at the request of the Federal Sponsor, the Corps of Engineers will disburse funds directly to the Local Sponsor to bring the project expenditures to the required cost sharing. The Federal Sponsor must approve the "work-in-kind" exceedance in advance.

(4) Annually, agencies shall review all projects approved for funding in Phases 1 or 2, identify excess funds in those phases, and make a recommendation to the Task Force as to how much of these funds to return at that time. Returned funds shall be available for reprogramming. At the quarterly ~~semi-annual budgeting~~ meetings, the Task Force may also consider reprogramming excess funds that have not yet been returned to the Task Force. Agencies may return funds by returning a MIPR to the Corps of Engineers with a request to deobligate funds.

l. PROJECT BID OVERRUNS - Pre-award (Amended by Task Force on 21 Oct. 98):

(1) Statement of Problem: Occasionally bids on CWPPRA projects may exceed the project cost limits. When bids exceed the project cost limits, the options are:

(a) Option 1): allow the acceptance period to expire and abandon the project

(b) Option 2): reject all bids, reduce the scope of the project and re-advertise

(c) Option 3): request additional funding from the Task Force and award the contract

(2) Discussion:

(a) Option 1): is not an acceptable option if the project is needed.

(b) Option 2): may be required if the bids are obviously so far over the available funding that the Task Force would not consider additional funding requests.

(c) Option 3): the most desirable option if the overrun is not excessive enough to be considered under Option 2) as a candidate for rejection, scope reduction and re-advertisement.

If option 2 or 3 is selected, the resulting cost effectiveness should be evaluated for substantial increases in cost/habitat unit (i.e. 25% above original). This will require a review of the change in benefits by the Environmental Work Group and approval by the Planning and Evaluation Subcommittee. Provisions in bidding procedures by the State of Louisiana allow for acceptance of a bid within a 30-calendar day window after the offer is made. Provisions in bidding procedures by the Natural Resources Conservation Service, under the Federal Acquisition Regulations (FAR) allow for acceptance of a bid within a 60-calendar day window after the offer is made. Provisions in bidding procedures by the Corps of Engineers, under the Federal Acquisition Regulations (FAR), mandate acceptance of a <u>construction</u> bid within a 30 calendar day window after the offer is made, unless the bidder grants an extension in 30 day increments.

(3) Required Procedure:

(a) The final engineers cost estimate must have been reviewed and updated within 90 days prior to advertisement.

(b) If the final estimate, prior to advertising, equals or slightly exceeds the project cost limits, the bid package should contain a base bid, and additive or deductive alternatives that would allow the project to be awarded within the project cost limits. The base bid with additive or deductive alternates provides additional flexibility if the base bid is lower than anticipated.

(c) If the final estimate is within the available funds (authorized amount) prior to bidding and the base bid without alternates approach was used but the bid exceeded the project cost limits, the Federal Sponsor, with the concurrence of the Local Sponsor, will notify each of the agencies on the Task Force of their intention to request additional funds within 15 days of receipt of bids. The Federal Sponsor should also provide the other members of the Task Force bid data and any information that supports the request for additional funds at the same time.

(d) If the final estimate is within the available funds (authorized amount) prior to bidding and the base bid with alternates approach was used but the bid exceeded the project cost limits, the Federal Sponsor, with the concurrence of the Local Sponsor, would apply deductive alternates to get the project within available funds. In no case should the Federal Sponsor implement, without Task Force approval and Local Sponsor concurrence, a deductive alternative that would reduce the original project's cost-effectiveness by more than 25%; this will require prior consultation with the Planning and Evaluation Subcommittee and the appropriate work groups. If after taking deductive alternatives the base bid still exceeds the project cost limits, the Federal Sponsor, with the concurrence of the Local Sponsor, will notify each of the agencies on the Task Force of their intention to request additional funds within 15 days of receipt of bids. The Federal Sponsor should also provide the other members of the Task Force bid data and any information that supports the request for additional funds at the same time.

(4) Mandates:

(a) The State of Louisiana must agree to cost share in the additional funds requested prior to bid acceptance.

(b) If a project has already received approval for a cost increase above project cost limits then it must stay within the budgeted amount for construction.

m. MONITORING:

(1) The Monitoring Plan and OMRR&R Plan (named the Projects Operations and Schedule Manual when referring to Corps projects) shall be developed in conjunction with the engineering and design to ensure that the plan will be completed prior to the Task Force granting approval for construction in accordance with paragraph 6.i. and j.

(2) Project monitoring shall be accomplished following the monitoring plan developed for the project by the Technical Advisory Group and as specified in the Cost Sharing Agreement. Funding for the monitoring activities shall be as required in paragraphs 5.c.(2), 6.a.(4)(a), 6.j.(2), and 6.k.

(3) Federal Sponsors shall maintain oversight over the Local Sponsor's expenditure of Post-Construction Biological Monitoring funds. The Local Sponsor shall submit invoices, requests for work-in-kind credits, etc., to the Federal Sponsor for its review. Subsequent to its review and approval of the expenditures, and within 90 days of receipt from the Local Sponsor, the Federal Sponsor shall forward the appropriate documentation to the Corps for payment.

(4) Monitoring contingency funds are available for both project-specific and programmatic activities as outlined in "Monitoring Contingency Fund - Standard Operating Procedure" dated December 8, 1999. The P&E Subcommittee has authority to approve or disapprove requests submitted by the Louisiana Department of Natural Resources Monitoring Program Manager.

n. OMRR&R: Project OMRR&R shall be as specified in the project's Cost Sharing Agreement. Funding for OMRR&R activities shall be as required in paragraphs 5.c.(2), 6.j.(2), and 6.k.

(1) Federal Sponsors shall maintain oversight over the Local Sponsor's expenditure of OMRR&R funds. The Local Sponsor shall submit invoices, requests for work-in-kind credits, etc., to the Federal Sponsor for its review. Subsequent to its review and approval of the expenditures, and within 90 days of receipt from the Local Sponsor, the Federal Sponsor shall forward the appropriate documentation to the Corps for payment.

(2) From time to time there will be projects that have completed construction, but that need modification to ensure their success, cover a design deficiency, or to handle some critical unanticipated requirement. Federal Sponsors may make a request through the Technical Committee to the Task Force for funding of such modifications. ~~In its recommendation to the Task Force, the Technical Committee will make a determination whether the funds are needed to meet a time critical requirement or whether funding could be postponed for consideration during the semi-annual budgeting meetings.~~

o. PROJECT CLOSEOUT:

(1) The Local Sponsor and the Federal Sponsor shall keep books, records, documents, and other evidence pertaining to costs and expenses incurred by the project to the extent and in such detail as will properly reflect total project costs. The Local Sponsor and Federal Sponsor shall maintain such books, records, documents and other evidence for a minimum of three (3) years after completion of construction, operation, maintenance, repair, replacement, rehabilitation, and monitoring of the project and resolution of all relevant claims arising therefrom, and shall make available at their offices at reasonable times, such books, records, documents, and other evidence for inspection and audit by authorized representatives of the Local Sponsor and Federal Sponsor.

(2) Upon completion of all work and certification by the Federal Sponsor of the final accounting on the project, the Corps of Engineers shall release any excess project funds from the escrow account and/or reimburse the Local Sponsor for any overpayment of their cost sharing requirements, provided funds are available, in accordance with the provisions of the applicable Cost Sharing Agreement and the Escrow Agreement.

(3) If the Corps of Engineers advances funds to a Federal Sponsor for a project, any excess funds identified at the completion of the project shall be returned to the Corps of Engineers for credit to the CWPPRA accounts.

(4) Any excess funds in an escrow account shall be returned to the Local Sponsor, or at its option, transferred to another project in accordance with paragraph 5.c.(4).

p. PROJECT DEAUTHORIZATION: (amended by Task Force on June 21, 1995)

(1) When the Federal Sponsor and the Local Sponsor agree that it is necessary to deauthorize a project prior to construction, they shall submit a letter to the Technical Committee explaining the reasons for requesting the deauthorization and requesting approval by the Task Force.

(2) If agreement between the Federal Sponsor and the Local Sponsor is not reached, either party may then appeal directly to the Technical Committee. The Technical Committee will forward to the Task Force a recommendation concerning deauthorization of the project. Nothing herein shall preclude the Federal Sponsor or the Local Sponsor from bringing a request for deauthorization to the Task Force irrespective of the recommendation of the Technical Committee.

(3) Upon submittal of a request for deauthorization to the Technical Committee, all parties shall suspend all future obligations and expenditures as soon as practicable, until the issue is resolved.

(4) Upon receiving preliminary approval from the Task Force to deauthorize a project, the Chairman of the Technical Committee shall send notice to Louisiana Congressional delegation, the State House and Senate Natural Resources Committee chairs, the State Senator (s) and State Representative (s) in whose district the project falls, senior parish officials in the parish (es) where the project is located, any landowners whose property would be directly affected by the project, and any interested parties, requesting their comments and advising them that, at the next Task Force meeting, a final decision on deauthorization will be made.

(5) When the Task Force determines that a project should be abandoned or no longer pursued because of economic or other reasons, all expenditures shall cease immediately or as soon as practicable. Congress and the State House and Senate Natural Resources Committee chairs will be informed of the decision.

(6) Once a project is deauthorized by the Task Force, it shall be categorized as "deauthorized" and closed-out as required by paragraph 6.o.

q. STANDARD OPERATING PROCEDURES AMENDMENTS AND TRACKING :

An official, current version of these Standard Operating Procedures shall be maintained by the COE NOD as part of their support of the Technical Committee. This document shall be available on the internet, and shall be appended with sufficient documentation so that the origin and approval of amendments can be traced. Approval will involve, at a minimum, formal acceptance by the Technical Committee at a regularly scheduled meeting. If the changes involve policy-level decisions, then any such changes must also be ratified by the Task Force. Amendments to the SOP are tracked in Appendix E.

Enclosures:

Appendix A - Priority 13 Selection Process
Appendix B - Ecological Review
Appendix C - Information Required in Phase 2 Authorization Requests
Appendix D - Calendar of Required Activities
Appendix E - Tracking of Changes

APPENDIX A

PRIORITY LIST 13 SELECTION PROCESS

Coastal Wetlands Planning, Protection and Restoration Act
Guidelines for Development of the 13th Priority Project List
FINAL, 6 Feb 03

I. Development of Supporting Information

A. COE staff prepares spreadsheets indicating status of all restoration projects (CWPPRA PL 1-12; Coast 2050 Feasibility Study, Corps of Engineers Continuing Authorities 1135, 204, 206; and State only projects). Also, indicate net acres at the end of 20 years for each CWPPRA project.

B. DNR/USGS staff prepares basin maps indicating:

1) Boundaries of the following projects types (PL 1-12; Coast 2050 Feasibility Study, COE 1135, 204, 206; and State only).
2) locations of completed projects,
3) projected land loss by 2050 with freshwater diversions at Caernarvon and Davis Pond plus PL 1-6) (Suhayda).

II. Identification of Areas of Need and Project Nominations

A. The four Regional Planning Teams meet, examine basin maps, discuss areas of need and Coast 2050 strategies, and choose no more than two projects per basin. A total of up to 18 projects could be nominated. Selection of the two projects nominated per basin will be by consensus, if possible. If voting is required, each officially designated parish representative in the basin will have one vote and each federal agency and DNR will have one vote.

B. The nominated projects will be indicated on a map and paired with Coast 2050 strategies. A lead Federal agency will be designated to assist LDNR and local governments in preparing preliminary project support information (fact sheet, maps, and potential designs and benefits). The Regional Planning Team Leaders transmit this information to the P&E subcommittee, Technical Committee and members of the Regional Planning Teams.

III. <u>Preliminary Assessment of Nominated Projects</u>

A. Agencies, parishes, landowners, and other individuals informally confer to develop projects. Nominated projects should be developed to support one or more Coast 2050 strategies. The goals of each project should be consistent with those of Coast 2050.

B. Each sponsor of a project proposed for nomination will prepare a brief project description (no more than one page plus a map) that discusses possible features and the Coast 2050 Criteria.

C. Engineering Work Group meets to estimate preliminary fully funded cost ranges for each project, based on engineering judgment.

D. Environmental and Engineering Work Groups apply Coast 2050 Criteria to each project to achieve a consensus description for each project.

E. P&E Subcommittee prepares matrix of cost estimates and Coast 2050 Criteria descriptions and furnishes to Technical Committee and State Wetlands Authority (SWA).

IV. Selection of Phase 0 Candidate Projects

A. Technical Committee meets to consider the project costs, Coast 2050 Criteria, and potential wetland benefits of the nominees. Technical Committee will select eight candidate projects for detailed assessment by the Environmental, Engineering, and Economic work groups.

B. Technical Committee assigns one project to each agency to develop preliminary Wetland Value Assessment data and engineering cost estimates for Phase 0 as described below.

V. Phase 0 Analysis of Candidate Projects

A. Sponsoring agency coordinates site visits for each project. Visit is vital so each agency can see the conditions in the area and estimate the project area boundary.

B. Environmental and Engineering Work Groups and academic advisors meet to refine project features and develop boundaries based on site visits.

C. Sponsoring agency develops Project Information Sheets on assigned projects, using formats developed by applicable work groups. Prepares preliminary draft Wetland Value Assessment Project Information Sheet. Makes Phase 1 engineering and design cost estimates and Phase 2 construction cost estimates.

D. Environmental and Engineering Work Groups evaluate all projects using the WVA and design/cost reviews. Revisit goals in light of additional data. Also determine risk/uncertainty and longevity/sustainability. All projects will be assigned a ~~prioritization score~~ Prioritization Criteria ranking score by the Workgroups, using the currently approved prioritization criteria.

E. Engineering Work Group reviews and approves agency Phase 1 and 2 cost estimates.

F. Economics Work Group reviews cost estimates and develops annualized costs.

G. Corps of Engineers staff prepares information package for Technical Committee and State Wetlands Authority. Packages consist of:

1) updated Project Information Sheets;

2) a matrix for each region that lists projects, fully funded cost, average annual cost, Wetland Value Assessment results in net acres and Average Annual Habitat Units

(AAHU's), cost effectiveness (average annual cost/AAHU), risk/uncertainty, ~~and~~ longevity/sustainability, and a consensus Prioritization Criteria ranking score;

3) qualitative discussion of supporting partnerships and public support; and

4) oyster lease impact areas delineated for the State's Restricted Area Map (this map should also be provided to DNR).

H. Technical Committee hosts two public hearings to present information from G above and allow public comment.

VI. Selection of 13th Priority Project List

A. Technical Committee meets and considers matrix, Project Information Sheets, and pubic comments. The Technical Committee will recommend up to four projects for selection to the 13th PPL.

B. The CWPPRA Task Force will review the TC recommendations and determine which projects will receive Phase 1 funding for the 13th PPL.

C. State Wetlands Authority reviews projects on the 13th Priority List and consider for Phase I approval and inclusion in the upcoming Coastal Wetlands Conservation and Restoration Plan.

13th Priority List Project Development Schedule

January 22, 2003	Distribute public announcement of PPL13 process and schedule
February 17, 2003	President's Day Holiday
February 19, 2003	Region IV Planning Team meeting (Rockefeller)
February 20, 2003	Region III Planning Team meeting (Morgan City)
February 26, 2003	Region II Planning Team meeting (NOD)
February 27, 2003	Region I Planning Team meeting (NOD)
February 21 – March 14	Agencies prepare fact sheets for RPT nominated projects
March 4, 2003	Mardi Gras
March 18, 2003	Engineering work group prepares preliminary cost estimates for nominated projects (DNR)
March 19, 2003	Env/Eng work groups jointly apply Coast 2050 criteria (DNR)
March 20, 2003	P&E Subcommittee prepares matrix of nominated projects showing initial cost estimates and Coast 2050 descriptions (narratives) (DNR)
March 26, 2003	Tech Comm meets to select PPL13 candidate projects (NOD)
April 16, 2003 NOTE DATE CHANGE	Spring Task Force meeting (Lafayette)
May/June	Candidate project site visits
June/July/August/September	Env/Eng work group project evaluations
July 16, 2003	Technical Committee meeting (Baton Rouge)
August 14, 2003	Task Force meeting (New Orleans)
September 17, 2003	Technical Committee meeting (Baton Rouge)
October 16, 2003	Task Force meeting (Baton Rouge) – announce public meetings
November 19, 2003	PPL13 Public Meeting (Abbeville)
November 20, 2003	PPL13 Public Meeting (New Orleans)
December 10, 2003	Technical Committee meeting (New Orleans)
January 28, 2004 NOTE DATE CORRECTION	Task Force meeting to select PPL 13

APPENDIX B
ECOLOGICAL REVIEW

Project Ecological Review **(revised 2/23/01)**

The transition to a planning-phase/phase-one/phase-two approach was done to ensure a higher standard of project development and evaluation prior to the decision to commit construction dollars. It is essential that proposed projects have been well designed and evaluated and can demonstrate a high probability of successfully achieving the purpose as assigned by Congress in CWPPRA, i.e. "...significantly contribute to the long-term restoration or protection of the physical, chemical and biological integrity of the coastal wetlands in the State of Louisiana…" While there exists clear guidance as to how <u>planning efforts</u> develop proposed projects prior to Phase One, there is little in the way of a clear rationale for how a proposed project's biotic benefits will be assessed during Phase One. The following approach will allow for a consistent, clear, and logical assessment. The goal, strategy and goal-strategy relationship should have been worked out prior to Phase One. They are listed again in this Phase One process in order to ensure that these vital links between planning and Phase One are stated in a consistent manner and readily available to those responsible for Phase One project E&D and evaluation. The Project Feature Evaluation and Assessment of Goal Attainability would be Phase One activities - these are being done to varying degrees already; however, not on a consistent, standardized basis.

Ecological Review

<u>Phase 0 activities</u>:

A **Goal statement.** What is (are) the main biotic goal(s) of the proposed project?
State the biotic response desired from the project, *e.g. restore intermediate marsh acreage, increase marsh sustainability, reduce loss rates, increase productivity and or biodiversity, restore barrier island plant communities, etc.* The goal should be determined in the planning phase (pre-Phase One).

B **Strategy statement.** What is (are) the strategy(ies) for achieving the goal stated in "A"?
Describe the physical factors that will cause the desired biotic responses, *e.g. periodically expose water bottoms, reduce water and/or salinity levels, create sheet-flow over the marsh in designated areas, use rock rip-rap along the canal bank to reduce erosion rates, reintroduce alluvial sediments, create a barrier island platform that after settlement will support the desired habitat, etc.* The strategy(ies) should be determined in the planning phase.

C **Strategy-goal relationship.** How will the strategy(ies) achieve the goal(s)?
Describe how the physical factors affected by the project will cause the desired

biotic response, *e.g. by reducing the average salinities and tidal amplitudes the marsh loss rate will be reduced in this predominantly intermediate marsh, by reducing edge erosion the marsh will be protected, by creating a stable platform from dredged material a barrier island plant community can be reestablished.* The strategy-goal relationship should be defined in the planning phase.

<u>Phase 1 activities</u>:

D **Project Feature evaluation.** Do quantitative, engineering evaluations of specific project features such as weirs, culverts, siphons, etc. support the contention that the intended strategy will be achieved? If so, to what degree?

Quantitatively evaluate the project features and an evaluate them in terms of the desired physical causal factors, *e.g. compute how many cfs of river water the culverts will discharge into the project area, and how much sediment will be associated with it over the course of an average twelve-month period, quantify average water level or salinity reduction, etc.* If there are more than one design alternative, this step should be performed on each alternative. This evaluation would be conducted during the initial E&D of Phase One with the results being reviewed during the 30% design conference.

E **Assessment of goal attainability.** Does the relative degree of the project's physical effects, as determined in step "D", support the contention that the project will achieve the desired biotic goal(s) stated in "A"?

Assess the degree to which the project features would cause the stated biological goal: based on expert judgment, assisted with appropriate statistical and other computational tools, such as computer models, and a review of monitoring data and other scientific information. This would also be the appropriate time to identify and assess the potential risks associated with the project. Again, if more than one design alternatives are involved, step "E" should be performed on each alternative. Steps "D" and "E" may be used in an iterative fashion, such that if designs do not support biological goal attainment other designs could be developed and reassessed. This step evaluates the desired project biotic response based on the level of physical changes induced by the project, *e.g. determine the results are associated with projects that have caused similar hydrological responses in similar marsh settings, evaluate the evidence that supports the contention that a barrier island platform with the predicted after-settlement profile and grain-size composition will sustain the desired plant community, etc.* This evaluation would be conducted during the initial E&D of Phase One with the results being reviewed during the 30% design conference.

APPENDIX C
INFORMATION REQUIRED IN PHASE 2 AUTHORIZATION REQUESTS

1. Description of Phase One Project

Describe the candidate project as selected for Phase One authorization, including PPL/Fact Sheet scale map depicting the project boundary and project features, written description of the conceptual features of the project as authorized for Phase One, a summary of the benefits attributed to the Phase One project (e.g., goals/strategies, WVA results and acreage projections) and project budget information as estimated at Phase One authorization (e.g., anticipated costs of construction, O&M, monitoring, etc.).

2. Overview of Phase One Tasks, Process and Issues

Brief description of Phase One analyses and tasks (engineering, land rights, environmental compliance (cultural resources, NEPA, and HTRW), etc.), including significant problems encountered or remaining issues.

3. Description of the Phase Two Candidate Project

- Easily reproducible, PPL/Fact Sheet scale map which clearly depicts the current project boundary and project features, suitable for inclusion in the formal PPL documentation.
- Detailed description of project features/elements, updated assessment of benefits, current cost estimates, and updated Fact Sheet suitable for inclusion in the formal PPL documentation. In cases of substantial modifications to original conceptual design or costs, describe the specific changes both qualitatively and quantitatively.

4. Checklist of Phase Two requirements:

A. List of Project Goals and Strategies.

B. A Statement that the Cost Sharing Agreement between the Lead Agency and the Local Sponsor has been executed for Phase I.

C. Notification from the State or the Corps that landrights will be finalized in a short period of time after Phase 2 approval.

D. A favorable Preliminary Design Review (30% Design Level). The Preliminary Design shall include completion of surveys, borings, geotechnical investigations, data analysis review, hydrologic data collection and analysis, modeling (if necessary), and development of preliminary designs.

E. Final Project Design Review (95% Design Level). Upon completion of a favorable review of the preliminary design, the Project plans and specifications shall be developed and formalized to incorporate elements from the Preliminary Design and the Preliminary Design Review.

F. A draft of the Environmental Assessment of the Project, as required under the National Environmental Policy Act must be submitted thirty days before the request for Phase 2 approval.

G. A written summary of the findings of the Ecological Review (See Appendix B).

H. Application for and/or issuance of the public notices for permits. If a permit has not been received by the agency, a notice from the Corps of when the permit may be issued.

I. A hazardous, toxic and radiological waste (HTRW) assessment, if required, has been prepared.

J. Section 303(e) approval from the Corps.

K. Overgrazing determination from the NRCS (if necessary).

L. Revised cost estimate of Phase 2 activities, based on the revised Project design.

Funding/Budget information:

1.) - Specific Phase Two funding request (updated construction cost estimate, three years of monitoring and O&M, etc.)

2.) - Fully funded, 20-year cost projection with anticipated schedule of expenditures

M. Estimate of project expenditures by state fiscal year subdivided by funding category.

N. A revised Wetland Value Assessment must be prepared if, during the review of the preliminary NEPA documentation, three of the Task Force agencies determine that a significant change in project scope occurred.

O. A breakdown of the Prioritization Criteria ranking score, finalized and agreed-upon by all agencies during the 95% design review.

~~O.~~ P. Agencies should submit a spreadsheet with the categorical breakdown for Phase 2, as outlined below:

REQUEST FOR PHASE II APPROVAL

PROJECT: ______________________________

PPL: ______________________ **Project No.** ______________

Agency: ______________________

Phase I Approval Date: ______________________

Phase II Anticipated Approval Date: ______________________

	Original Baseline Phase I (100% Level) 1/	Original Baseline Phase II (100% Level) 2/	Recommended Baseline Phase II (100% Level) 3/	Recommended Baseline Phase II Incr 1 (100% Level) 4/
Engr & Des				
Lands				
Fed S&A				
LDNR S&A				
COE Proj Mgmt				
Ph II Const Phase				
Ph II Long Term				
Const Contract				
Const S&I				
Contingency				
Monitoring				
Ph II Const Phase				
Ph II Long Term				
O&M				
Total	-	-	-	-
Total Project		-	-	-

Prepared By: ______________________ **Date Prepared:** ______________

NOTES:

1/ Original Baseline Phase I: The project estimate at the time Phase I is approved by Task Force.

2/ Original Baseline Phase II: The Phase II estimate reflected at the time Phase I is approved.

3/ Recommended Baseline Phase II (100%): The total Phase II estimate at the 100% level developed during Phase I, and presented at the time Phase II approval is requested.

4/ Recommended Baseline Phase II Increment 1 (100%): The funding estimate (at the 100% level) requested at the time Phase II approval is requested. Increment 1 estimate includes Phase II Lands, Phase II Fed S&A, Phase II LDNR S&A, Phase II Corps Proj Mgmt, Phase II Construction Costs, Phase II S&I, Phase II Contingency, Phase II Monitoring, 3 years of Long Term Monitoring, 3 years of Long Term O&M, and 3 years of Long Term Corps PM.

APPENDIX D
CALENDAR OF REQUIRED ACTIVITIES

Jan 1	Agencies return updated copy of Project Status Report to Corps of Engineers.
Jan 15	Agencies send quarterly Project Fact Sheet to Local Sponsor.
Jan 20	Corps of Engineers sends report on financial status of Projects to Agencies and Local Sponsor.
Mar 10	Corps of Engineers sends copy of Project Status report to Agencies for updating.
Apr 1	Agencies return updated copy of Project Status Report to Corps of Engineers.
Apr 15	Agencies send quarterly Project Fact Sheet to Local Sponsor.
Apr 20	Corps of Engineers sends report on financial status of Projects to Agencies and Local Sponsor.
~~Jun 1~~	~~The Local Sponsor furnishes the Agencies an estimate of work-in-kind credits and expenditures for the next State fiscal year.~~
Jun 10	Corps of Engineers sends copy of Project Status report to Agencies for updating.
Jun 15	Corps of Engineers informs Local Sponsor of funds required to be placed in escrow account for each Project by July 1.
Jul 1	Agencies return updated copy of Project Status Report to Corps of Engineers.
Jul 1	State fiscal year starts. Local Sponsor receives funds. Funds placed in escrow account.
Jul 15	Agencies send quarterly Project Fact Sheet to Local Sponsor,
Jul 20	Corps of Engineers sends report on financial status of Projects Agencies and Local Sponsor.
Aug 31	The Corps of Engineers and the Local Sponsor forwards the Agency a tabulation of actual project expenditures for the last State fiscal year.
Sep 10	Corps of Engineers sends copy of Project Status report to Agency for

updating.

Sep 30	Agencies forward to the Local Sponsor a report on all project expenditures for the last State fiscal year.
Oct 1	Agencies return updated copy of Project Status Report to Corps Engineers.
Oct 1	Federal fiscal year starts. Federal funds received.
Oct 15	Agencies send quarterly Project Fact Sheet to Local Sponsor.
Oct 20	Corps of Engineers sends report on financial status of Projects Agencies and Local Sponsor
Nov 1	For budgetary purposes, the Agencies furnish the Local Sponsor estimate of funds required for next State fiscal year.
Nov 30	Priority List submitted to HQUSACE or ASA (CW).
Dec 10	Corps of Engineers sends copy of Project Status report to Agency for updating.
Dec 31	Corps of Engineers furnishes MIPR to Agencies for Preliminary Engineering and Design

APPENDIX E
TRACKING OF CHANGES

Revisions 1-5 of this document were maintained in a "draft" format that utilized redline and strikeout text in an attempt to track changes. Because of the extensive changes that had been made throughout the years, this "draft" format made it very difficult to follow the intent of the procedures. Beginning with Revision 6 (15 Apr 03), the document will be maintained in a "clean" format. This appendix was added in Revision 7 to track the origin and approval of amendments made to the document in all future revisions of the SOP.

The table below outlines all amendments to the SOP, beginning in Revision 7.

#	First Appears in Revision #	Requested Change/Reason for Requested Change	Amendment Requested by?	When Amended Language Approved Was Approved	Approval Date
1	7	All instances where the words "OMRR&R Plan" occur, replace with "Project Operations & Schedule Manual" when referencing the Corps of Engineers. Change was requested to satisfy the requirements of Corps' attorneys. The name change is only applicable to the Corps.	Proposed by LDNR, Dr. Bill Good.	Technical Committee, at regularly scheduled meeting (Agenda Item #8).	16 Jul 03
2	7	During the 15 Apr 03 meeting to modify the SOP, it was agreed that the Corps would provide suggested language in order to clarify the funding cap for cash flow and non-cash flow projects. The Corps-suggested revisions to all of Section 5.d. were incorporated into the SOP.	Requested by USACE, Ms. Gay Browning, as a clarification of the baseline estimate. At the 10 Dec 02 Technical Committee meeting, the Engineering Workgroup was tasked with looking at this issue and developing a proposal for consideration by the Technical Committee. At the 26 Mar 03 Technical Committee meeting (Agenda Item F), the Technical Committee accepted the Engineering Workgroup recommendation that the most current Phase II estimate should be used as the baseline estimate and that there was no basis for changing the currently-allowable 25% cap above the baseline	Technical Committee, at regularly scheduled meeting (Agenda Item #8).	16 Jul 03

			estimate.		
3	7	Incorporation of language to allow Phase II authorizations at any regular quarterly Task Force meeting into the SOP.	Originally proposed by USFWS, Mr. Darryl Clark. Approved by the Technical Committee at the 16 Jul 03 meeting (Agenda Item #8), for recommendation to the Task Force.	Task Force, at a regularly scheduled meeting (Agenda Item #4)	14 Aug 03
4	7	Incorporation of language into the SOP regarding updates to the Prioritization Criteria scoring of un-constructed projects at the 95% design review. Incorporation of language into the SOP regarding prioritization of candidate projects as part of the Phase 0 analysis.	Originally proposed by the Engineering/ Environmental Workgroups. Approved by the Technical Committee at the 16 Jul 03 meeting (Agenda Item #1), for recommendation to the Task Force.	Task Force, at a regularly scheduled meeting (Agenda Item #5)	14 Aug 03
5	7	Incorporation of language into the SOP outlining the process for requesting approval for OM&M funding beyond the first three years.	Originally proposed by the USACE, Ms. Julie Z. LeBlanc, in order clarify the procedure for the monitoring funding request under consideration at the 14 Aug 03 Task Force meeting. Approved by the Technical Committee via email vote on 13 Aug 03 (LDNR abstaining), for recommendation to the Task Force.	Task Force, at a regularly scheduled meeting (Agenda Item #5)	14 Aug 03

Request for Phase II Authorization for the East Sabine Lake Hydrologic Restoration Project Construction Unit 1 (CS-32)

September 23, 2003

Ms. Julie LeBlanc, P.E.
Planning and Evaluation Subcommittee
Louisiana Coastal Wetlands Conservation and Restoration Task Force
c/o Army Corps of Engineers
Post Office Box 60267, Attn: CEMVN-PM-C
New Orleans, Louisiana 70160-0267

Dear Ms. LeBlanc:

The U.S. Fish and Wildlife Service (FWS), together with the Natural Resources Conservation Service and the Louisiana Department of Natural Resources, hereby requests Phase II approval to begin construction of the East Sabine Lake Hydrologic Restoration Project's Construction Unit 1. On January 10, 2001, this project was authorized under the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) as part of Priority Project List 10, by the Louisiana Coastal Wetlands Conservation and Restoration Task Force (Task Force).

This request and required enclosures are submitted in accordance with the provisions of CWPPRA Project Standard Operating Procedures Manual. The East Sabine Project has received favorable 30 percent and 95 percent Design Reviews on March 25, 2003, and July 8, 2003, respectively, and is to our knowledge, without controversy. We anticipate favorable National Environmental Policy Act reviews within 45 days.

The project area is located in Cameron Parish, approximately 14 miles east of Port Arthur, Texas. The proposed project would protect and restore marshes along the eastern shoreline of Sabine Lake, in the western portion of the Sabine National Wildlife Refuge, and on private lands north of Pines Ridge. The original project included two construction units; Construction Unit 1 consists of shoreline stabilization, Sabine Lake shoreline and interior marsh restoration, and installation of three smaller water control structures. Construction Unit 2 consists of installing four large water control structures (on Right Prong Black Bayou, Greens Bayou, Three Bayous, and Willow Bayou).

The Environmental Work Group determined that the original project components would result in a net increase of 393 acres of fresh, intermediate and brackish marsh as the result of reduced erosion and marsh establishment over the 20-year project life. The project has been revised to increase the linear footage of Sabine Lake hard shoreline stabilization (from 1,500 to 3,000 linear feet), to change the proposed Bridge Bayou Structure from two 36-inch-diameter culverts to three 24-inch-diameter culverts, and to enlarge terrace crowns from 4-feet-wide to 15-feet-wide.

The original Construction Unit 1 project budget that was submitted for Phase I funding approval at the 100 percent funding level is as follows:

Original Phase I Estimate	
Estimated Engineering and Design	$ 338,434
Estimated Easements and Land Rights	$ 52,958
Estimated Pre-Construction Monitoring	$ 59,916
Estimated Federal Super. & Admin.	$ 48,103
Estimated DNR Super. & Admin.	$ 47,993
Corps Project Management	$ 1,705
Total Estimated Phase I Costs	$ 549,109
Original Phase II Estimate	
Estimated Construction	$ 2,690,878
Contingency	$ 672,720
Estimated Supervision and Inspection	$ 96,333
Estimated Land Rights Coordination	$ 0
Estimated FWS Super. & Admin.	$ 57,316
Estimated DNR Super. & Admin.	$ 57,185
Corps Project Management	$ 23,877
Estimated Monitoring Costs	$ 635,268
Estimated Operation and Maintenance	$ 667,884
Total Estimated Phase II Costs	$ 4,901,461
Total Fully Funded CU 1 Phase I & II Cost	$ 5,450,570
Total Fully Funded Cost (125%)	$ 6,813,213

During Phase I, the FWS, NRCS, and the Louisiana Department of Natural Resources (DNR), decided to construct the project in two construction units to avoid delays associated with completing the extensive hydrodynamic modeling effort required to design the above-described Construction Unit 2 features. Geotechnical and survey information from the Sabine Lake and Greens Lake portions of the project area indicates that soil conditions and water depths are favorable for construction of the Construction Unit 1 project features as planned.

Construction Unit 1 - Project Features

The revised Construction Unit 1 features include: 1) installation of a 40-feet-wide rock weir at Pines Ridge Bayou; 2) installation of an active water control structure consisting of three 24-inch-diameter culverts with stoplogs and flapgates at the existing cattle walkway plug on Bridge Bayou; 3) installation of a rock plug, with a crown elevation set at 2.0 feet above marsh elevation at the levee break at the southeastern portion of Section 16 and the Starks South Canal; 4) excavation of a 6.0-foot-deep by 70-to-80-foot-wide access channel adjacent to the foreshore dike described below and use of that material to restore approximately 3.4 acres of marsh between the rock foreshore dike and the existing shoreline; 5) construction of 3,000 linear feet of armored rock foreshore dike in Sabine Lake, north of Willow Bayou; 6) planting approximately 58,000 linear feet of smooth cordgrass along the Sabine Lake eastern shore from near Johnston's Bayou to near the Sabine River; and, 7) construction and initial vegetative plantings of approximately 150,000 to 200,000 linear feet of "duck wing" earthen terraces in the Greens Lake area on the Sabine NWR.

Revised Project Costs and Expenditures

The following revised Phase II Construction Unit 1 cost estimate (at the 100 percent level) is 22.8 percent greater than the original estimate of $4,901,461:

Phase II	
Estimated Construction Costs	$ 3,063,633
Estimated Contingency	$ 765,908
Estimated Supervision and Inspection	$ 109,678
Estimated Land Rights Coordination	$ 0
Federal Administration	$ 57,316
DNR Administration	$ 57,185
Corps Project Management	$ 23,174
Estimated Monitoring	$ 958,076
Estimated Operation & Maint.	$ 988,410
Estimated Phase II Total	$ 6,023,380
Total Fully Funded Revised Cost	$ 6,023,380
Total Fully Funded Cost (125%)	$ 7,529,225

The completed checklist of Phase II requirements is also enclosed in support of this request. Should you have any questions concerning the above information, please contact Darryl Clark

(337/291-3111) or Martha Segura (337/291-3110) of this office.

Sincerely,

Russell C. Watson
Acting Supervisor
Louisiana Field Office

Enclosures

cc: John Saia, COE, New Orleans, LA
Bill Good, DNR/CRD, Baton Rouge, LA
Phil Pittman, DNR/CRD, Baton Rouge, LA
Troy Hill, EPA, Dallas, TX
Wes McQuiddy, EPA, Dallas, TX
Jeanene Peckham, EPA, Baton Rouge, LA
Britt Paul, NRCS, Alexandria, LA
John Jurgensen, Marty Floyd, NRCS, Alexandria, LA
Richard Hartman, NMFS, Baton Rouge, LA
Rachel Sweeney, NMFS, Baton Rouge, LA
Ralph Libersat, DNR/CRD, Baton Rouge, LA
Terry Delaine, Sabine NWR, Hackberry, LA
Martha Segura, FWS, Lafayette, LA

Checklist of Phase II Request Requirements
East Sabine Lake Hydrologic Restoration Construction Unit 1 Project (CS-32)

A. Project Goals and Strategies

The project goals and objectives will be achieved by the Unit 1 project features described below:

1. Slightly reduce excessive elevated salinities within a small portion of project area (Double Island Gully, Pines Ridge, and Greens Lake).

2. Slightly reduce water level variability within a small portion of project area (Double Island Gully and Pines Ridge).

3. Reduce the erosion rate along the Sabine Lake shoreline by 50 % from Johnsons Bayou to a point north of Pines Ridge.

4. Stop erosion of the Sabine Lake shoreline from the mouth of Willow Bayou to a point approximately 1,500 feet to the north.

5. Create/restore 68 acres of marsh in shallow, open-water areas by the end of the 20-year project life.

6. Increase fisheries and estuarine organism access to the western portion of Sabine NWR.

Objectives/Strategies

- Reduction in salinity and water level variability achieved through the construction of a rock weir in Pines Ridge Bayou at the intersection of an east-west oil and gas canal.

- Reduction in salinity and water level variability achieved through the construction of a rock plug at the Double Island Gully levee break in the southeastern portion of Section 16 and Starks South Canal.

- Reduction in Sabine Lake shoreline erosion achieved through planting smooth cordgrass (*Spartina alterniflora*) from Johnson s Bayou to a point north of Pines Ridge (approximately 58,000 linear feet).

- Stop Sabine Lake shoreline erosion via construction of a foreshore rock dike from the mouth of Willow Bayou to a point approximately 1,500 feet to the north.

- Creation of 106 to 141 acres of marsh and reduction of area salinity through construction of approximately 150,000 to 200,000 linear feet of vegetated earthen terraces in the Greens lake area.

- Fisheries and estuarine organism access to the western portion of Sabine NWR and restoration of Bridge Bayou s hydrologic integrity achieved through the construction of three 24-inch-diameter culverts with stop logs and flapgates at the intersection of Bridge Bayou and the cattle walkway.

Table 1. Comparison of Original and Revised Project Features (or Strategies)

Strategies/Features	Original Project	Current Revised Project
A. Sabine Lake Shoreline Protection	1.) Construct a 1,500-foot-long foreshore dike	1a.) Construct a 3,000-foot-long foreshore dike 1b.) Construct a 3,000-foot by 40- to 50-foot-wide marsh creation using access channel spoil
B. Greens Lake Area Terraces	2) Construct 150,000 linear-feet of vegetated earthen terraces with 4-foot-wide crowns and 22 foot-wide bases (2:1 side slopes).	2.) Construct 150,000to 200,000 linear-feet of vegetated earthen terraces with 15 foot-wide crowns and 40 foot-wide bases (3:! or 4:1 side slopes).
C. Water Control Structures	3) Construct a plug or a weir at Pines Ridge Bayou, install two 36 inch-diameter flapgated culverts at Bridge Bayou, either a plug or a weir at the Section 16 levee break, maintain the cattle walkway barrier, and a plug in Gray's Ditch.	3.) Construct a weir 1.0 foot below average water level at Pines Ridge Bayou, three 24-inch-diameter flapgated culverts at Bridge Bayou, and a plug at the Section 16 levee break. The Gray's Ditch plug and cattle walkway maintenance were deleted.

B. A Statement that the Cost-Sharing Agreement Between the Lead Agency and Local Sponsor has been Executed for Phase I

A Cost Share Agreement between LDNR and FWS was executed on July 17, 2001.

C. Notification from the State or the Corps that Land Rights will be Finalized in a Short Period of Time after Phase II Approval

The FWS received notification from the Louisiana Department of Natural Resources on April 14, 2003, transmitting draft temporary easement, servitude and rights-of-way agreements for CWPPRA Section 303(e) purposes. The DNR has acquired landrights from the major landowners, the Sabine NWR (Special Use Permit), the State Land Office (Grant of Particular Use), and Raleigh Newman. Landrights are currently being negotiated with the Stream Family Partnership, J. G. Gray Estate, and the North American Land Company. Landrights will be finalized prior to construction.

D. A Favorable Preliminary Design Review (30 Percent Design Level)

A 30 Percent Design Meeting was held on March 25, 2003, and resulted in favorable reviews of the project design. FWS, NRCS, and LDNR agreed to proceed with the project. No major design issues were identified.

E. A Favorable Final Project Design Review (95 Percent Design Level)

A favorable 95 Percent Design Meeting was held on July 8, 2003. No major design issues were identified.

F. A Draft of the Environmental Assessment for the Project, as Required under the National Environmental Policy Act, must be Submitted 30 days Before the Request for Phase II Approval

The FWS submitted a draft Environmental Assessment for agency and interested party review on September 18, 2003. That review is expected to be completed in October 2003. Additional copies of the draft will be available prior to the September 30, 2003, Technical Committee meeting.

G. A Written Summary of the Finding of the Ecological Review

The draft Ecological Review was completed in March 2003. That document concluded that the goals of the project are attainable with the proposed design, and recommended that the project be constructed according to that design. A revised draft Ecological Review was distributed at the July 8, 2003, 95 Percent Design Meeting.

H. Application for and/or Issuance of the Public Notices for Permits

Applications for the Corps of Engineers permit and the Louisiana Coastal Resources Program consistency determination were submitted on September 11, 2003. A DEQ Water Quality Certification Request was submitted on September 12, 2003.

I. A Statement that a Hazardous, Toxic and Radiological Waste (HTRW) Assessment has been Prepared, if Required

Based on an initial review, there is no apparent need for an HTRW assessment for this project. The Service's Environmental Contaminants Specialist screened existing information for oil wells, hazardous waste pits, abandoned barges and pipeline crossings in the project area. No apparent contaminants hazards were indentified in the project area. Only a few oil wells are in the near vicinity, and no NPL sites are known to exist near the project location. Our contaminants screening report is available upon request.

J. Section 303(e) Approval from the Corps

The FWS believes that the project is consistent with the requirements of Section 303(e) of CWPPRA. Over 90 percent of the project area is located on the Sabine NWR which was established for the long-term protection, maintenance, and conservation of Federal-trust fish and wildlife resources. A request for Section 303(e) approval was submitted to the Corps on August 27, 2003.

K. Overgrazing Determination from the NRCS

The Service received a positive overgrazing determination from the NRCS on August 25, 2003.

L. Revised Project Cost Estimate

The revised total 100% budget for Phase II is $6,023,380. This amount represents an increase of 22.8 percent ($1,121,919) over the original Phase II cost estimate ($4,901,461)

M. Estimate of Project Expenditures by State Fiscal Year Subdivided by Funding Category

Table 2. East Sabine Lake Hydrologic Restoration Construction Unit 1 Project (CS-32) Estimate of Project expenditures by State Fiscal year.

July 2003 to June 30, 2004

Budget Category	Amount
Accrued costs to June 30, 2003	$40,536.64
Budget from July 2003 to June 2004	
Salary	12,000
Travel	510
Equipment Usage	500
Biological Monitoring	18,000
Landrights	5,000
GIS	5,000
Total Projected to June 2004	**$41,010**
Total Including Prior Costs	**$81,546.64**

N. A Revised Wetland Value Assessment must be Prepared if, During the Review of the Preliminary NEPA Documentation, Three of the Task Force Agencies Determine that a Significant Change in the Project Scope Occurred

A revised Construction Unit 1 WVA has been submitted to the Environmental Work Group that included the revised Construction Unit 1 features. The scope of the project has changed to separate Construction Units 1 and 2. The original Unit 1 components have been revised to: 1) lengthen the Sabine Lake shoreline foreshore dike (from 1,500 feet to 3,000 feet long); 2) restore marsh between the dike and the shoreline; 3) change the Bridge Bayou structure from two, 36 inch-diameter culverts to three, 24 inch-diameter culverts; 4) widen the 150,000 linear-feet of vegetated earthen terraces (from 4-feet-wide to 15 feet-wide crowns), and delete the Bridge Bayou cattle walkway maintenance and the Gray's Ditch plug.

The Construction Unit 1 benefits are expected to increase slightly with the current project design compared to those presented in the original October 2000 WVA; a total of 106 to 141 acres of marsh will be restored and 140 acres of marsh will be protected. The overall benefits would equal 246 to 281 acres (281 acres if 200,000 linear feet of terraces are constructed) protected and restored over the 20-year project life.

Table 3. Comparison of the original and current project benefits.

Project Component	Original Benefits	Current Project Benefits
East Sabine Lake Shoreline	56,580 ft vegetation= 130 ac 1,500 ft rock = 9 ac **Subtotal= 139 acres protected**	140 wetland acres protected 3.4 acres marsh creation **Subtotal = 143 wetland acres protected or restored**
Greens Lake Area Terraces	150,000 feet X 32 feet wide footprint = 110 acres restored **Subtotal = 110 acres restored**	103 to 138 acres marsh creation **Subtotal = 103 to 138 wetland acres restored**
Total Protected	**139 acres**	**140 wetland acres**
Total Created/Restored	**110 acres**	**106 to 141 wetland acres**
Total Benefits	**249 acres protected and restored**	**246 to 281 acres protected and restored**

Draft Revised Prioritization Criteria Scoring

The original Prioritization score for the entire project (i.e., both CU 1 and 2) was 46.1. A draft Prioritization score developed for Construction Unit 1 also yielded a draft score of 46.1 points. We are awaiting net acreage figures from a revised WVA to be used to finalize Prioritization score.

	Draft Score (CU1 Only)	**Original Score** CU1 and CU2)
I.. Cost Effectiveness (x 2)	7.5	5
II. Area of Need (x 1.5)	3	3
III. Implementability (x 1.5)	10	10
IV. Certainty of Benefits	5.61	5.61
V. Sustainability	1	1
VI. Increasing Riverine input saltwater limiting	5	10
VII. Increased Sediment Input	0	0
VIII. Maintain or Establish Landscape Features	0	0
Total Score	46.1	46.1

Phase II Request

Based on the above information, the FWS, NRCS, and DNR hereby request CWPPRA Task Force Phase II funding approval for the East Sabine Lake Hydrologic Restoration Construction Unit 1 Project (CS-23) in the amount of **$4,194,124**. That amount includes $3,063,633 for construction; $109,678 for supervision and inspection; $765,908 for contingencies; $57,316 for administration by the Federal sponsors and $57,185 for State administration; $124,728 for monitoring (3 years); $13,267 for operations and maintenance (3 years); and $2,409 for Corps project management.

REQUEST FOR PHASE II APPROVAL

PROJECT: East Sabine Lake Hydrologic Restoration Project Construction Unit 1

PPL: 10 **Project No.** 1011 (CS-32)

Agency: U. S. Fish and Wildlife Service, Natural Resources Conservation Service, LDNR

Phase I Approval Date: 10-Jan-01

Phase II Anticipated Approval Date: 12-Nov-03

	CU 1 Original Baseline Phase I (100% Level) 1/	CU 1 Original Baseline Phase II (100% Level) 2/	CU 1 Recommended Baseline Phase II (100% Level) 3/	CU 1 Recommended Baseline Phase II Incr 1 (100% Level) 4/
Engr & Des	338,434	-		
Lands	52,958	-		
Fed S&A	48,103	57,316	57,316	57,316
LDNR S&A	47,993	57,185	57,185	57,185
COE Proj Mgmt	1,705			
Ph II Const Phase		6,066	1,839	2,409
Ph II Long Term		17,811	21,335	
Const Contract		2,690,878	3,063,633	3,063,633
Const S&I		96,333	109,678	109,678
Contingency		672,720	765,908	765,908
Monitoring	59,916		958,076	124,728
Ph II Const Phase		132,838		
Ph II Long Term		502,430		
O&M		667,884	988,410	13,267
Total	**549,109**	**4,901,461**	**6,023,380**	**4,194,124**
Total Project		**5,450,570**	**6,572,489**	**4,743,233**

Prepared By Darryl Clark, USFWS; George Townsley, Bill Waits, Ronnie Faulkner, NRCS **Date Prepared:** 9/16/2003

NOTES:

1/ Original Baseline Phase I: The project estimate at the time Phase I is approved by Task Force.

2/ Original Baseline Phase II: The Phase II estimate reflected at the time Phase I is approved.

3/ Recommended Baseline Phase II (100%): The total Phase II estimate at the 100% level developed during Phase I, and presented at the time Phase II approval is requested.

4/ Recommended Baseline Phase II Increment 1 (100%): The funding estimate (at the 100% level) requested at the time Phase II approval is requested. Increment 1 estimate includes Phase II Lands, Phase II Fed S&A, Phase II LDNR S&A, Phase II Corps Proj Mgmt, Phase II Construction Costs, Phase II S&I, Phase II Contingency, Phase II Monitoring, 3 years of Long Term Monitoring, 3 years of Long Term O&M, and 3 years of Long Term Corps PM.

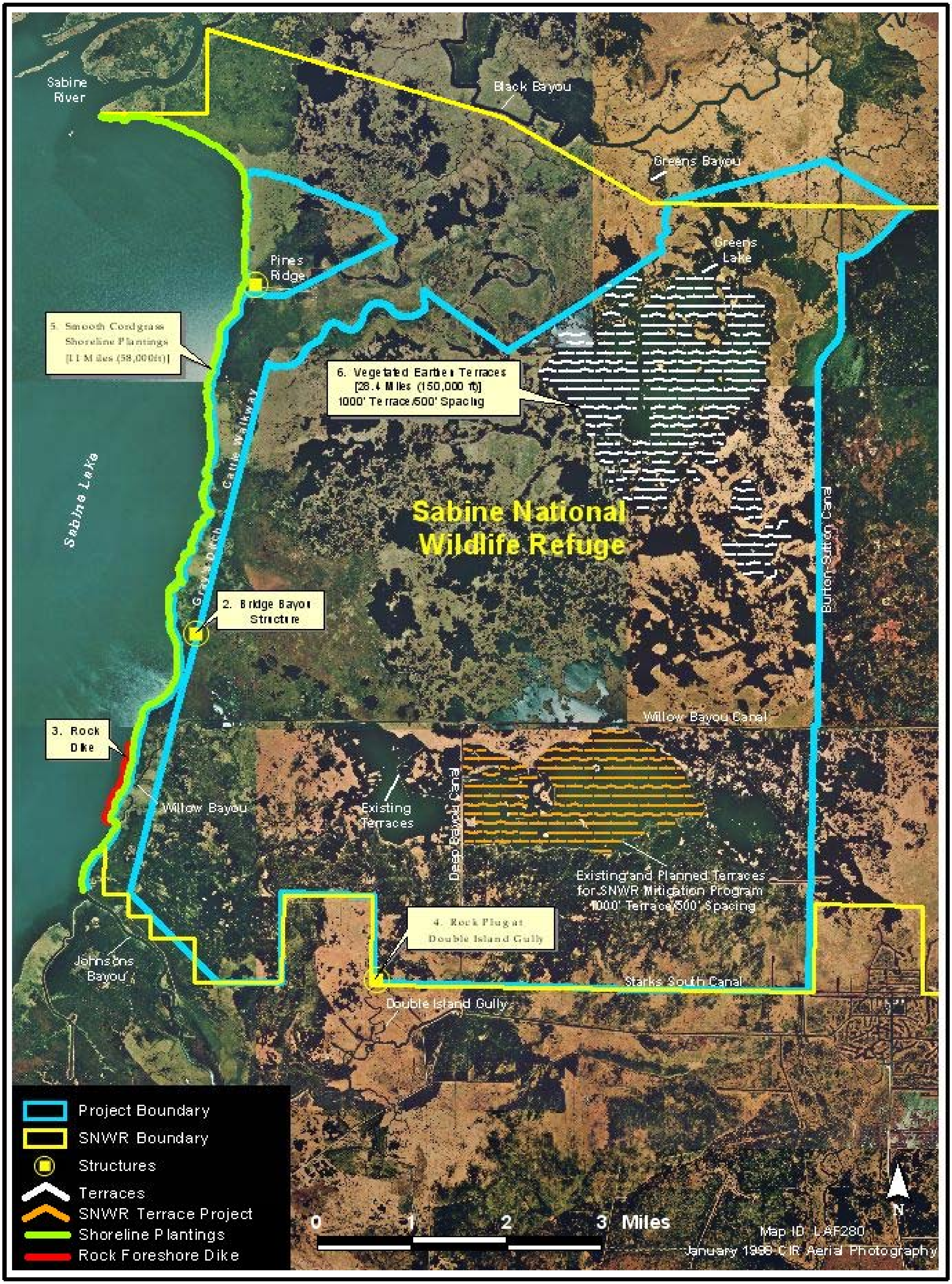


Figure 2. General Features of the East Sabine Hydrologic Restoration Project

Request for Phase II Authorization for the Little Lake Shoreline Protection and Marsh Creation near Round Lake Project (BA-37)

September 22, 2003

Mr. John Saia, Chairman
CWPPRA Technical Committee
c/o U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160-0267

Dear Mr. Saia:

The National Marine Fisheries Service (NMFS) hereby requests approval to begin construction of the Little Lake Shoreline Protection and Marsh Creation near Round Lake Project (BA-37). This project was authorized in January 2002 by the Louisiana Coastal Wetlands Conservation and Restoration Task Force (Task Force) under the authority of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA). This request is submitted in accordance with the CWPPRA Project Standard Operating Procedures Manual.

Phase I Project Description

This project is located in Lafourche Parish along the southwest shoreline of Little Lake. The purpose of this project is to stabilize the rapidly eroding Little Lake shoreline and to reinforce the lake rim and interior marsh. The project includes dedicated dredging to create 551 acres of marsh, nourish 406 acres of existing broken marsh, and construction of a 25,000 linear foot foreshore rock dike (Figure 1). The benefits attributed by the Environmental Workgroup to those features were a net increase of 713 acres of marsh at the end of the 20 year project life. This project scored a 56.25 during the recent prioritization process conducted by the Environmental and Engineering Work Groups. The total project budget, as determined by the Engineering and Economic Work Groups during Phase 0, is as follows:

Phase I

Estimated Engineering and Design	$ 1,650,197
Estimated Easements and Land Rights	$ 63,837
Estimated Pre-Construction Monitoring	$ 23,816
Estimated NMFS S&A	$ 474,349
Estimated DNR S&A	$ 425,583

Corps Project Management	$ 1,755
Total Estimated Phase I	$ 2,639,536
Phase II	
Estimated Construction	$22,355,334
Contingency	$ 5,588,834
Estimated Supervision and Inspection	$ 396,028
Estimated Land Rights Coordination	$ 0
Estimated NMFS S&A	$ 501,600
Estimated DNR S&A	$ 450,032
Construction Corps Management	$ 1,892
Longterm Corps Project Management	$ 22,000
Construction Phase Monitoring	$ 13,223
Longterm Monitoring Costs	$ 165,200
Estimated O & M	$ 5,041,200
Total Estimated Phase II	$34,535,343
Total Fully Funded Cost	$37,174,900
Total Fully Funded Cost (125%)	$46,468,625

Overview of Phase I Tasks, Process and Issues

During the development of this project, the state contracted T. Baker Smith and Sons to conduct bathymetric, topographic, and magnetometer surveys of the project area. Existing marsh elevation in NAVD 88 was determined using standard procedures in three different locations within the marsh creation site. Previous geotechnical data collected under the COAST 2050 Marsh Creation study provided preliminary soils information for this project. A more comprehensive geotechnical analysis of the borrow area, marsh creation site, and shoreline protection components was conducted by Eustis Engineering, Inc. **Although the results of this report support the use of rock along the shoreline, alternatives for rock and light weight aggregate alternatives will be permitted and bids will be evaluated for cost effectiveness.**

This project will be one of the first CWPPRA applications of marsh nourishment. Studies have indicated that applying a thin layer of sediments to subsiding marsh actually increases plant productivity and marsh sustainability. The intent of this project is to apply approximately six inches of sediment onto **approximately 406 acres of existing broken and subsided marsh**. This will bring the marsh creation site up to more optimal elevations, taking into account long term subsidence, sea level rise, and settlement. This feature of the project should provide a valuable opportunity to monitor the effect of marsh nourishment and provide useful data for the CWPPRA program.

There were minimal land rights issues involved with this project. **All landowner easements have been secured.** Several pipelines run through Little Lake including the Tennessee and Superior Pipelines and the Endymion pipeline currently in construction. Servitudes and easements with these owners were executed and continued coordination is occurring throughout the finalization of permit drawings and design plans. An agreement was reached with Superior Pipeline canal owners to tie in with their shoreline stabilization feature, which will provide continuous shoreline protection along the western boundary of this project. Other features such as well heads and one minor cultural resource site will be avoided. As of 2001, several oyster leases existed in Little Lake; however, they were purchased by the state in 2002 under the Davis Pond Oyster Lease Relocation Program.

Description of the Phase II Project

Project features include construction of 25,000 linear feet of shoreline protection, 551 acres of marsh creation, and nourishment of 406 acres of broken marsh. The marsh creation will be constructed via hydraulic dredge located in Little Lake and pumped to a maximum target elevation of +2.1 ft NAVD including a tolerance of +0.3 ft NAVD. The dredged effluent will be contained by existing marsh and landforms such as spoil banks with the exception of the southern boundary which is open water. A +3.5 ft NAVD earthen dike will be constructed along this area to contain the marsh platform. This containment dike is scheduled to be degraded during the planting phase of the project once the platform has de-watered. Approximately 50,000 multi-stem *Spartina alterniflora* will be planted along the perimeter of the project area to provide added substrate stabilization. Due to the size of the platform, plantings will be conducted in areas not likely to naturally re-vegetate. The remainder of the platform, if after one year has not begun to vegetate, may be aerially seeded.

The rock dike will include approximately 25,000 linear feet of rock along roughly the -2 ft NAVD contour. The top of the dikes will be at +2.5 feet NAVD and have a crown width of approximately 3.5 feet. The lakeward toe of the dike will be a minimum of 40 feet from the flotation area. Fish access routes will be constructed approximately every 1,000 ft to allow for organism ingress and egress. Rock for construction of the dike will be in the 250-pound class.

Project Costs and Expenditures

Below are the estimated Phase II costs of the project at the 100 percent funding level. The project team held the 95% design review meeting on September 11, 2003. Construction costs are expected to decrease from the original budget. **Budget decreases were realized by scaling back the size of the rock dike and following a depth contour closer to the shoreline. The cross section of the rock decreased at this contour, which resulted in significant volume savings.** Furthermore, approximately $1,500,000 remains in the Phase 1 budget, which is expected to be available for construction. Presently, the estimated budget is as follows:

Phase II	
Estimated Construction Costs	$25,014,657
Estimated Contingency (15%)	$ 3,752,199
Phase I E&D funding Construction	($ 1,500,000)
Land Rights Coordination	$ 0
Supervision and Inspection	$ 561,000
NMFS Administration	$ 501,600
DNR Administration	$ 400,000
Construction Corps Management	$ 1,892
Longterm Corps Project Management	$ 22,000
Construction Phase Monitoring	$ 13,223
Longterm Monitoring	$ 165,200
Total Estimated O & M	$ 4,602,045
Total Estimated Phase II Total	$33,533,816
2003 Funding Request:	
Estimated Construction Costs	$25,014,657
Estimated Contingency (15%)	$ 3,752,199
Phase I E&D funding Construction	($ 1,500,000)
Supervision and Inspection	$ 561,000
NMFS Administration	$ 501,600
DNR Administration	$ 400,000
Construction Corps Management	$ 1,892
3 Years Corps Management	$ 2,481
3 Years O&M	$ 115,320
Construction Phase Monitoring	$ 13,223
3 Years Monitoring	$ 21,463
Total 2003 Funding Request:	$28,883,835

Funding Schedule:

Construction is tentatively scheduled to commence early 2004 and proceed for approximately 2 years. The construction, contingency, S&I, and bulk of the administrative costs are expected to be spent during FY 03-04 and 04-05.

The checklist of Phase II requirements is enclosed with this letter. Should you have any further questions, please contact Cheryl Brodnax at (225) 578-7923 or Greg Grandy with LA DNR at (225) 342-6412.

Sincerely,

Erik Zobrist, PhD
Program Officer
Silver Spring, MD

Enclosures

cc: Julie LeBlanc, COE, New Orleans, LA
Bill Good, DNR/CRD, Baton Rouge, LA
Phil Pittman, DNR/CRD, Baton Rouge, LA
Troy Hill, EPA, Dallas, TX
Wes McQuiddy, EPA, Dallas, TX
Jeanene Peckham, EPA, Baton Rouge, LA
Bruce Lehto, NRCS, Alexandria, LA
Britt Paul, NRCS, Alexandria, LA
Richard Hartman, NMFS, Baton Rouge, LA
Rachel Sweeney, NMFS, Baton Rouge, LA
Gerry Bodin, USFWS, Lafayette, LA
Darryl Clark, USFWS, Lafayette, LA
Greg Grandy, DNR/CRD, Baton Rouge, LA

Checklist of Phase II Request Requirements
Little Lake Shoreline Protection and Marsh Creation Near Round Lake (BA-37)

A. A list of project goals and strategies.

The goal of the project is to stabilize the Little Lake area and interior marsh via the creation of 551 acres of marsh, nourishment of 406 acres of existing marsh, and construction of approximately 25,000 linear feet of rock along the lake shoreline.

B. A statement that the Cost Sharing Agreement between the lead agency and local sponsor has been executed for Phase I.

A cooperative agreement was executed between LDNR and NMFS on July 1, 2002.

C. Notification from the State or the Corps that land rights will be finalized in a short period of time after Phase II approval.

NMFS has received notification from the State that landrights has been completed for this project.

D. A favorable Preliminary Design Review (30 Percent Design Level).

A 30 Percent Design Meeting was held on May 27, 2003, and resulted in favorable reviews of the project design. NMFS and LDNR agreed to proceed with the project. No major design issues were identified; however, comments from review agencies have been incorporated into revised design plans and were discussed at the 95% design review.

E. A favorable Final Project Design Review (95 Percent Design Level).

A 95 Percent Design Meeting was held September 11, 2003, and resulted in favorable review of the project.

F. A draft of the Environmental Assessment for the project, as required under the National Environmental Policy Act, must be submitted 30 days before the request for Phase II approval.

The draft Environmental Assessment for this project has been completed and was distributed for interagency review on June 27, 2003.

G. A written summary of the finding of the Ecological Review.

The draft Ecological Review was submitted for comment in May 2002. The final report was distributed September 11, 2003. The ER determined that the project would likely meet its stated goals.

H. Application for and/or issuance of the public notices for permits.

The federal and state permit package was submitted the week of September 22, 2003. A public meeting was held with the Lafourche Parish CZM on June 17, 2003. The committee was favorable for project construction. In addition, a pre permit application meeting was held on May 27, 2003. Participants submitted comments which have been incorporated into revised design plans. The participants were favorable of the project.

I. A statement that a hazardous, toxic and radiological waste (HTRW) assessment has been prepared, if required.

As part of the COAST 2050 draft EIS for the marsh creation and barrier shoreline project, an HTRW was done for the area and based on that report which covered our project area, no further investigations were warranted.

J. Section 303(e) approval from the Corps.

The project is consistent with the requirements of Section 303(e) of CWPPRA. The lands to be benefitted will be administered for the long-term conservation of fish and wildlife populations. A request for Section 303(e) approval was approved by the Corps on June 11, 2003.

K. Overgrazing determination from the NRCS.

An overgrazing determination was received from the NRCS on August 21, 2002. The NRCS determined that there is no livestock grazing in the project area, nor do they see a potential for grazing once the project is installed.

L. Revised Project cost estimate.

The revised total budget for Phase II is $33,533,816, which is within 100% of the original total estimated budget.

M. Estimate of project expenditures by state fiscal year subdivided by funding category.

(Pursuant to the most recent project expenditure report provided by LA DNR)

Accrued costs as of June 30, 2002	$ 2,029.99
Project Budget 7/1/2002 - 6/30/2003	
Salary	$40,000.00
Travel	$ 800.00
Equipment	$ 1,000.00
Biological Monitoring	$ 2,151.00
Contractual	
1. Landrights	$ 5,000.00
2. Survey	$50,000.00
3. Geotech	$50,000.00
Total Contractual	$105,000.00
Other:	
1. GIS	$ 2,500.00
Project Total	$151,451.00

N. A revised Wetland Value Assessment must be prepared if, during the review of the preliminary NEPA documentation, three of the Task Force agencies determine that a significant change in the project scope occurred.

The scope of the project has not changed. All project features and related benefits of the project as listed in the original WVA remain the same.

O. Categorical Breakdown of Phase II Funding:

REQUEST FOR PHASE II APPROVAL

PROJECT:	Little Lake		
PPL:	PPL-11	Project No.	BA-37
Agency:	NMFS		

Phase I Approval Date:	January 2002
Phase II Anticipated Approval Date:	November 2003

		Original Baseline Phase I (100% Level) 1/	Original Baseline Phase II (100% Level) 2/	Recommended Baseline Phase II (100% Level) 3/	Recommended Baseline Phase II Incr 1 (100% Level) 4/
Engr & Des		$1,650,197.00			
Lands		$63,837.00			
Fed S&A		$474,349.00	$501,600.00	$501,600.00	$501,600.00
LDNR S&A		$425,583.00	$450,032.00	$400,000.00	$400,000.00
COE Proj Mgmt		$1,755.00			
	Ph II Const Phase		$1,892.00	$1,892.00	$1,892.00
	Ph II Long Term		$22,000.00	$22,000.00	$2,481.00
Const Contract			$22,355,334.00	$25,014,657.00	$25,014,657.00
Const S&I			$396,028.00	$561,000.00	$561,000.00
Contingency			$5,588,834.00	$3,752,199.00	$3,752,199.00
Monitoring		$23,816.00			
	Ph II Const Phase		$13,223.00	$13,223.00	$13,223.00
	Ph II Long Term		$165,200.00	$165,200.00	$21,463.00
O&M			$5,041,200.00	$4,602,045.00	$115,320.00
				($1,500,000.00)	($1,500,000.00)
Total		$2,639,536.00	$34,535,343.00	$33,533,816.00	$28,883,835.00
Total Project			$37,174,900.00	$36,173,352.00	$31,523,371.00

Prepared By:	Cheryl	Date Prepared:	9/22/03

NOTES:

1/ Original Baseline Phase I: The project estimate at the time Phase I is approved by Task Force.

2/ Original Baseline Phase II: The Phase II estimate reflected at the time Phase I is approved.

3/ Recommended Baseline Phase II (100%): The total Phase II estimate at the 100% level developed during Phase I, and presented at the time Phase II approval is requested.

4/ Recommended Baseline Phase II Increment 1 (100%): The funding estimate (at the 100% level) requested at the time Phase II approval is requested. Increment 1 estimate includes Phase II Lands, Phase II Fed S&A, Phase II LDNR S&A, Phase II Corps Proj Mgmt, Phase II Construction Costs, Phase II S&I, Phase II Contingency, Phase II Monitoring, 3 years of Long Term Monitoring, 3 years of Long Term O&M, and 3 years of Long Term Corps PM.

Anticipated O&M Expenditures Per Year:

Year	Cost	Activity
1	$53,540	Annual inspection, surveys
2	$5,197	Annual inspection
3	$56,583	Annual inspection, surveys
4	$5,535	Annual inspection
5	$60,730	Annual inspection, surveys
6	$5,895	Annual inspection
7	$83,091	Sign repair and annual inspection
8	$6,278	Annual inspection
9	$6,478	Annual inspection
10	$71,085	Annual inspection, surveys
11	$6,901	Annual inspection
12	$7,121	Annual inspection
13	$7,349	Annual inspection
14	$7,059	Annual inspection
15	$4,176,149	Rock lift, sign repair, annual inspection, surveys
16	$8,077	Annual inspection
17	$8,336	Annual inspection
18	$8,602	Annual inspection
19	$8,877	Annual inspection
20	$9,162	Annual inspection

Total Budget: $4,602,045

Anticipated Monitoring Expenditures Per Year:

There will be no project specific annualized costs due to this project being fully encompassed under CRMS.

BA-37
Little Lake Shoreline Protection/ Dedicated Dredging Near Round Lake

Request for Phase I Approval for the Ft. Jackson Diversion Complex Project

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF:

CEMVN-PM-C (1110-2-1150a) 29 September 2003

MEMORANDUM FOR Mr. John Saia, Chairman, CWPPRA Technical Committee

SUBJECT: Request for Phase I Authorization for Ft Jackson Sediment Diversion (MR-13)

1. As directed by the Breaux Act Task Force, the Corps of Engineers and Louisiana Department of Natural Resources have completed a complex study report for a river diversion to be located between Empire and Venice in Plaquemines Parish, Louisiana. We hereby provide the complex study report and request approval for Phase I tasks on the subject project.

2. The following information summarizes the complex study report:

   a. A detailed study has been completed reviewing the possibility of diverting Mississippi River water and sediments to restore wetlands in Plaquemines Parish west of the river. The study analyzed locations, sizes, designs, benefits, and impacts of a river diversion in this area. A preferred alternative is recommended that would construct a 15,000 cubic feet per second diversion at river mile 18 Above Head of Passes at Fort Jackson, Louisiana. The project is estimated to benefit 8,321 acres of wetlands over 20 years.

   b. The fully funded cost of the project is estimated at $108,800,000. This estimate includes engineering and design, environmental compliance, real estate, and operations and maintenance costs. Of particular note is the estimated $52,000,000 cost assigned to the project to acquire oyster leases in the project area. This oyster lease cost estimate is based upon an old formula and does not utilize the recently adopted State of Louisiana oyster lease acquisition policy. Use of that method could reduce oyster lease related costs to $15,000,000 (bringing the total project cost to approximately $72,000,000).

   c. A draft prioritization score of 73.5 was calculated for the recommended alternative. This score falls in the top three projects reviewed by the CWPPRA program.

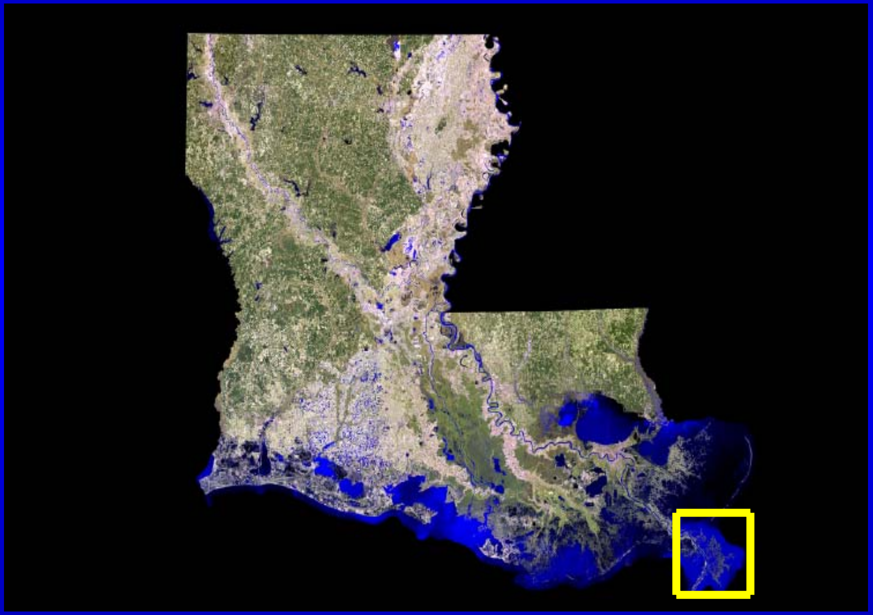
   d. The study partners recommend that Phase I funds in the amount of $7,447,505 be authorized to develop the recommended alternative. Phase I tasks include engineering and design, environmental compliance, and real estate planning.

3. If you have any questions regarding this study, please call Mr. Gregory Miller at 862-2310.

JULIE Z. LEBLANC
Senior Project Manager
Coastal Restoration Branch

Fort Jackson Sediment Diversion Complex Study

Overview of Presentation



I. Description of Complex Study efforts

II. Project Recommendation

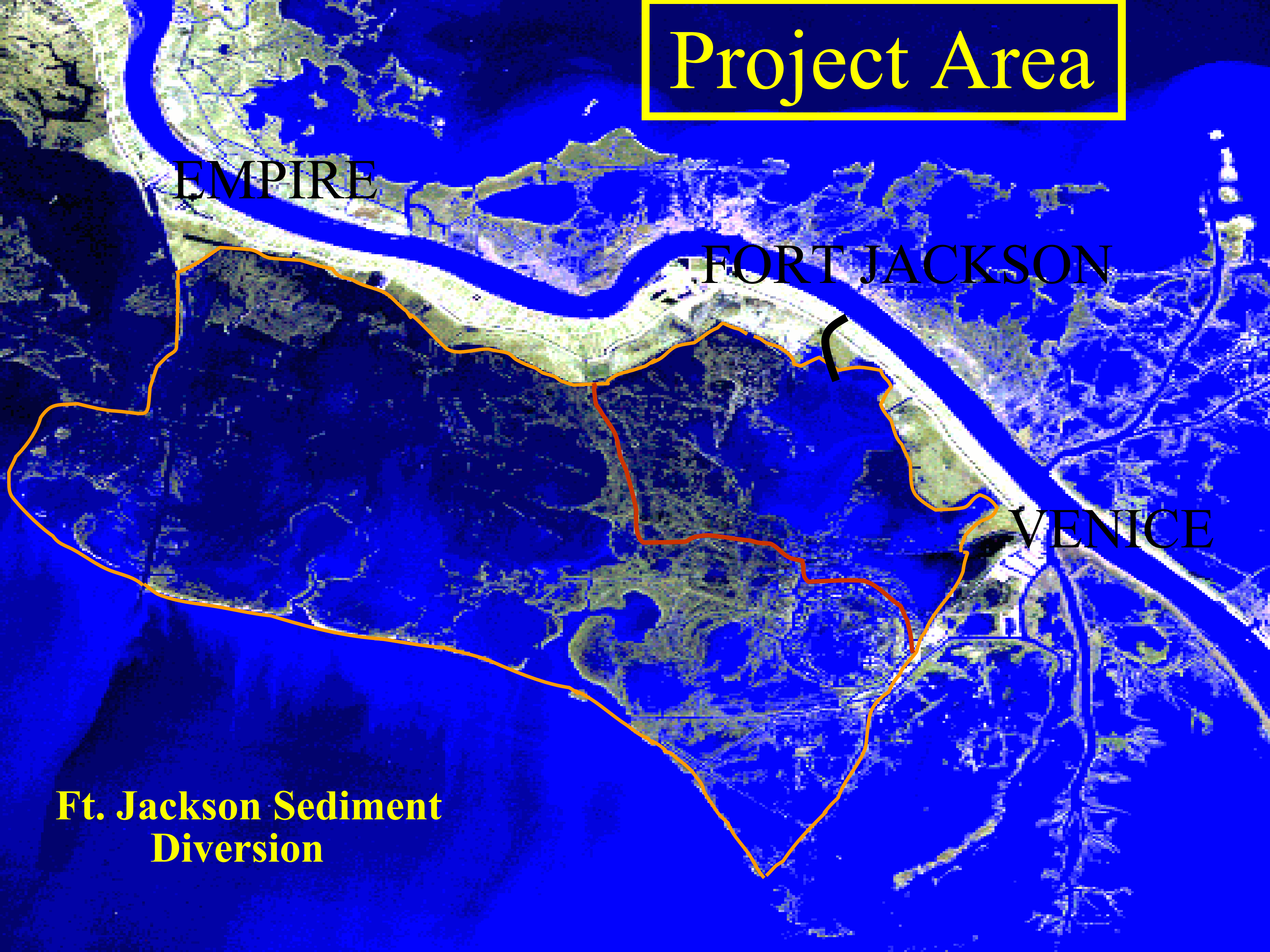
III. Issues

Complex Project Study Background

- Study authorized by Task Force at start of PPL9 planning efforts in 1999
- Original study called “Diversion below Empire”
- Study supports Coast 2050 call for larger ecosystem-oriented projects
- Continues recommendations of MRSNFR Report

Study Effort

- Four alternatives reviewed
  - 10,000 cfs
  - 10,000 cfs with outfall management
  - 15,000 cfs with outfall mangement
  - Dedicated dredging for marsh creation
- Hydraulic computer models run
- Land building and benefits calculated
- Engineering & Design investigations
- Costs estimated


Project Area
EMPIRE
FORT JACKSON
VENICE
Ft. Jackson Sediment
Diversion

Recommended Project

- 15,000 cfs
- Sediment diversion
- Site near Fort Jackson at RM 18 AHP
- Further investigate outfall management options

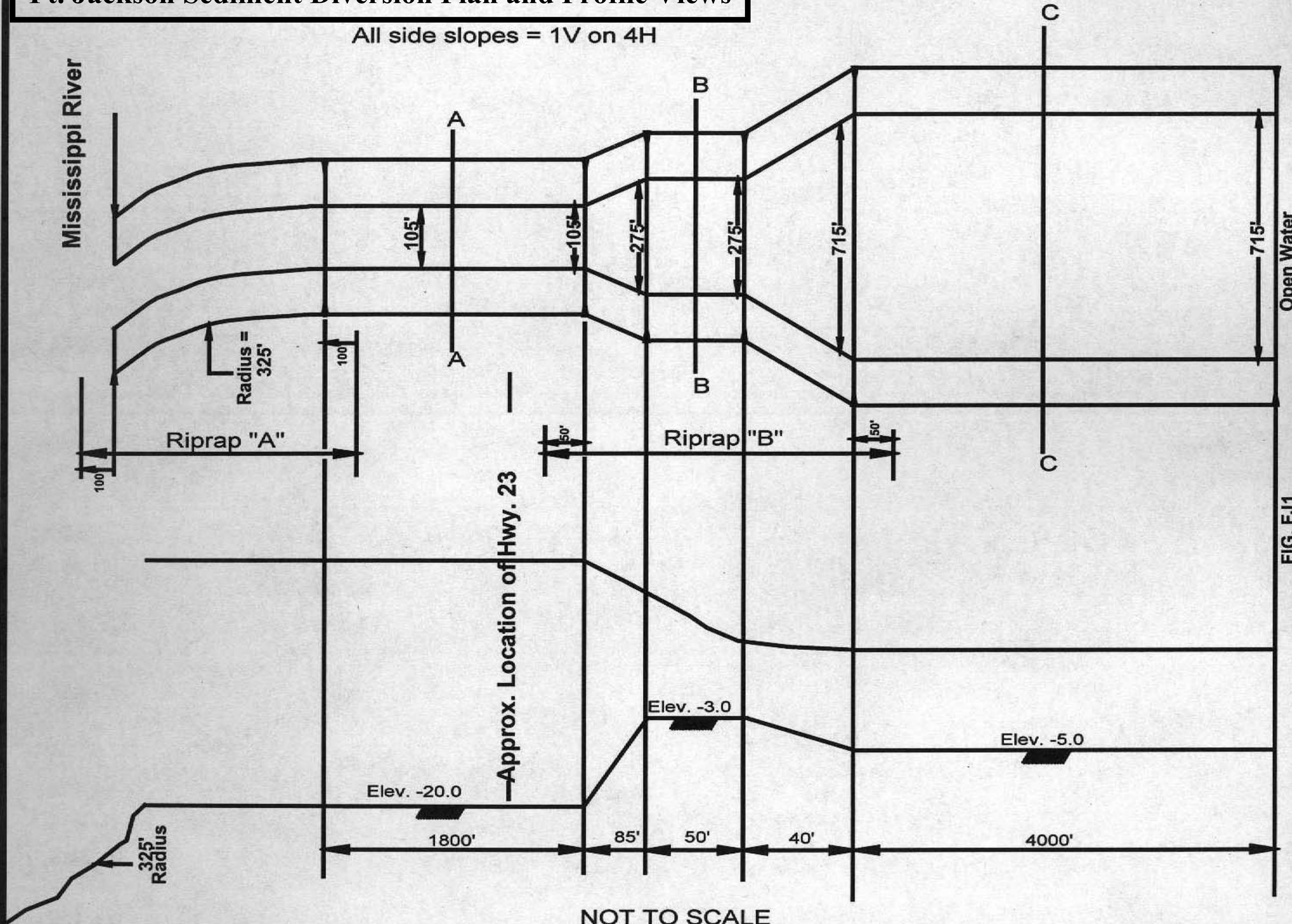

FLOW
Ft. Jackson Sediment Diversion
Guide levees
Channel cut
Low rise Bridge
Outfall Control weir

Engineering & Design Cost Estimates

• E&D (Phase I)	$7.5 million
• Real Estate	$54 million
• Construction	$35 million
• O&M	$6.2 million

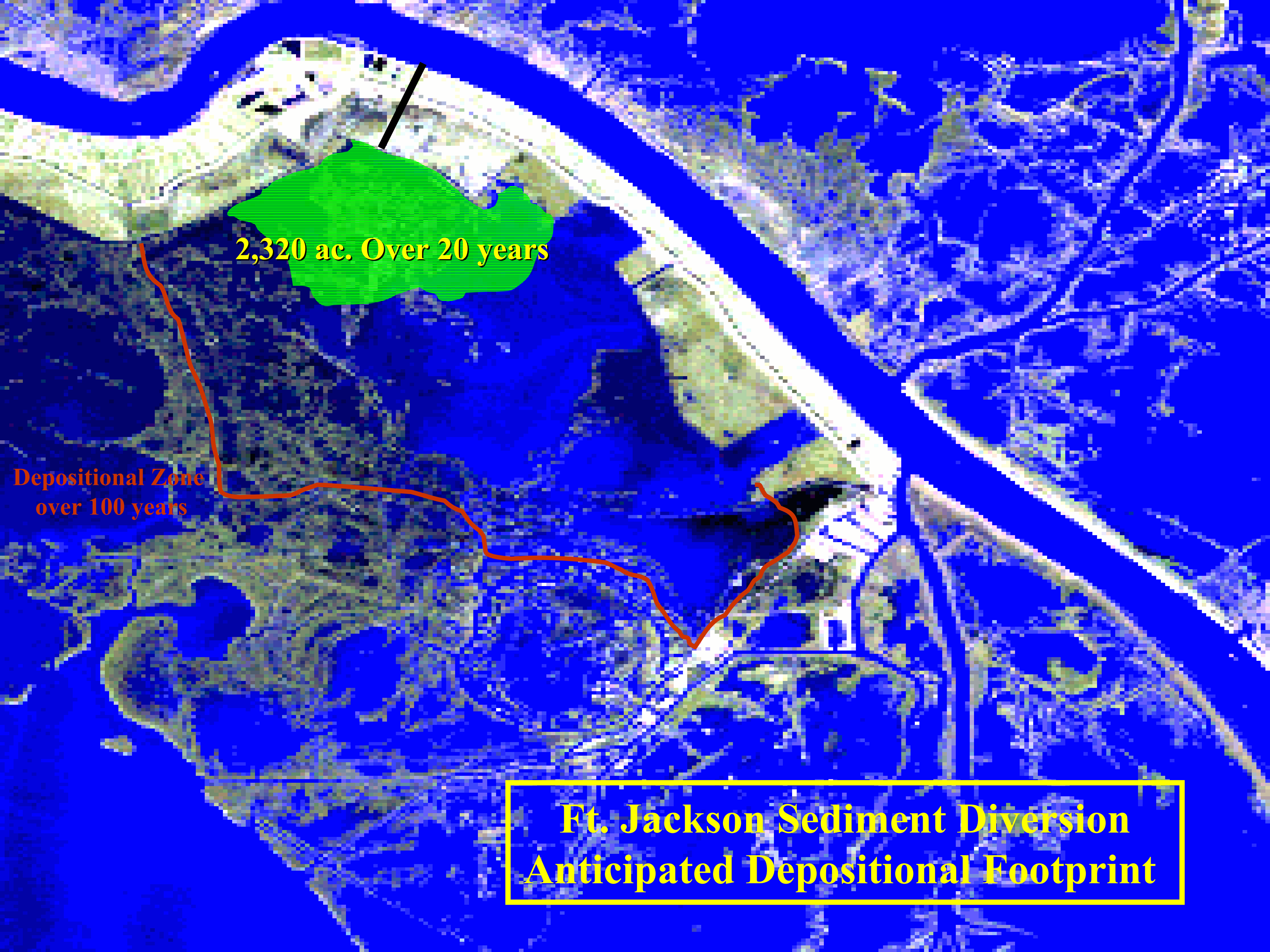
- TOTAL FULLY FUNDED $108,800,000

Ft. Jackson Sediment Diversion Plan and Profile Views



Environmental Benefits

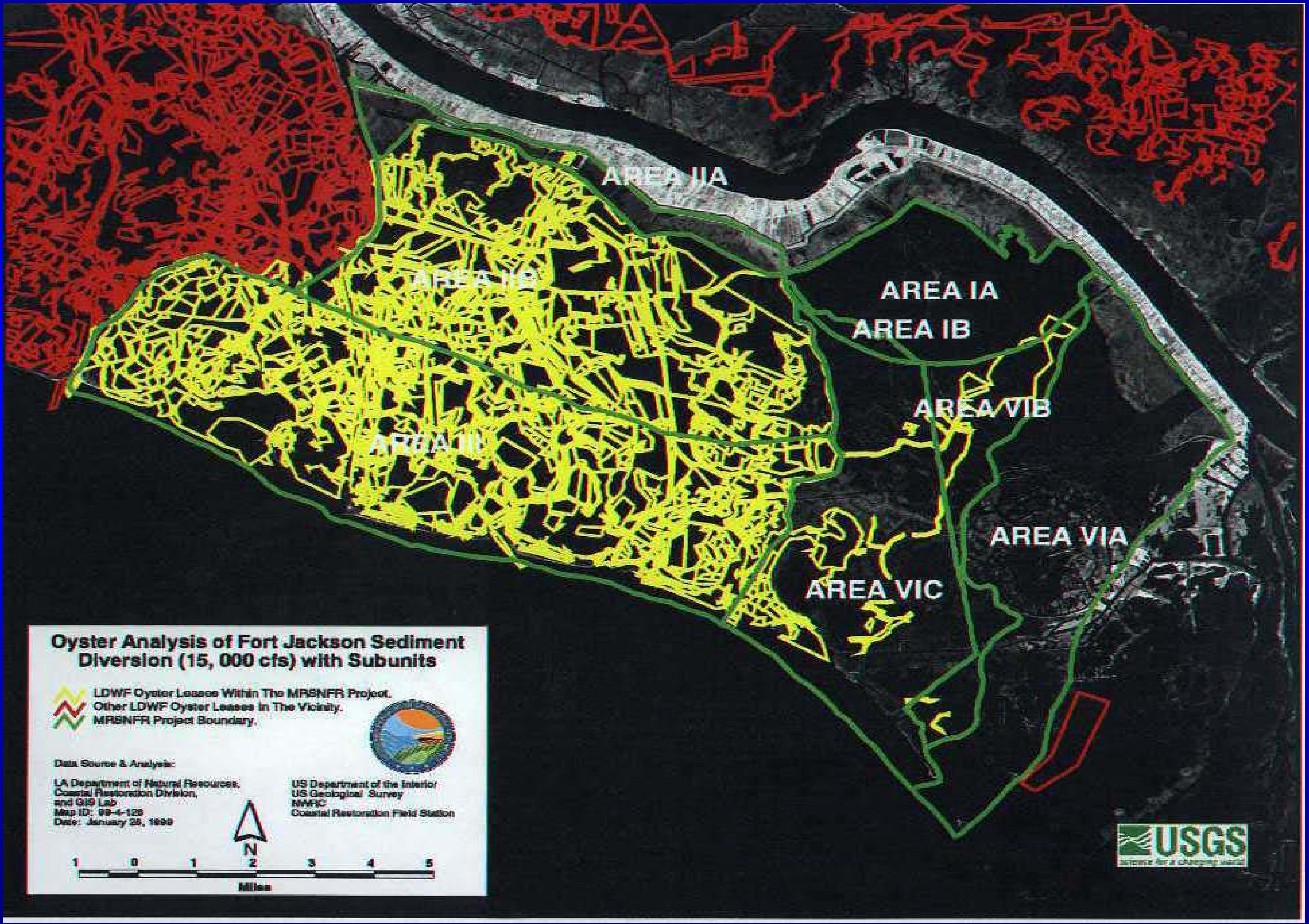
- 8,321 acres benefited over twenty years
- Land loss rates reduced 90% in area
- 2,320 acres of new wetlands created
- Forms a marsh buffer between Gulf of Mexico and lower Plaquemines Parish hurricane levee system


2,320 ac. Over 20 years
Depositional Zone
over 100 years
Ft. Jackson Sediment Diversion
Anticipated Depositional Footprint

Major Project Issues

- Oyster lease impacts
- Infrastructure relocations

Oyster Leases In Project Area



Oyster Lease Costs

- 33,998 acres of leases (881 individual leases)
- Two oyster lease acquisition cost estimates developed
  - Davis Pond cost of ~$500 per acre ($15 million total)
  - Old CWPPRA Engineering Work Group method ($52 million)
- Full impact assessments not conducted
- Additional outfall management features not fully investigated

Infrastructure Relocations

Conclusions

- Fort Jackson site maximizes sediment diversion potential because of proximity to trailing river point bar and location along an inside bend in the river
- 15,000 cfs alternative recommended to maximize land building
- Cost savings possible with further design and review of oyster lease impacts
  - use of new state oyster policy
  - outfall management measures
- Phase I design task budget is $7.4 million

The full study report is available online at the LACOAST.GOV website

PRIORITIZATION FACT SHEET

Ft. Jackson Sediment Diversion (MR-13)

Project Name and Number

This project is being evaluated under a complex study initiated in 1999 and is a candidate for selection on the 13th priority project list. The original complex study was called "Diversion Below Empire". The project development team has renamed the project "Fort Jackson Sediment Diversion" to reflect the location of the preferred alternative.

Goals

Through deposition of sediments and reduction of marsh loss, create/preserve 8,321 acres of marsh at the end of 20 years compared to without project conditions.

Proposed Solution

A 15,000 cfs controlled sediment diversion near mile 18 AHP on the right descending bank of the Mississippi River is proposed. This site was chosen because it is at the trailing end of a point bar where sediment capture would be maximized. The conveyance channel would be approximately 120 feet wide and 20 feet deep and slope up to the existing bottom depth of the receiving area (-3 ft). Several facilities would require relocation to construct the project including LA Highway 23 (new low-level bridge) and local power and utility lines. Operations and maintenance actions will include structure and channel maintenance, outfall management and structure operation.

Proposed Prioritization Criteria Scores and Justification

<u>I. Cost Effectiveness (cost/net acre)</u>

The total fully funded project cost estimate is $108,800,000. The project will create-protect-restore 8,321 acres at TY20. The cost per net acre is $13,075. ($108,800,000 ÷ 8,321 acres = $13,075/acre)

Based upon these numbers, the project should receive 10 points for this criterion.

<u>II. Area of Need, High Loss Area</u>

- Area A has a loss rate of 1.3% and accounts for 8% of the project area (i.e., 6,728 acres out of the 81,488 total project acres). Based upon the prioritization criteria, this loss rate is considered medium and would receive a score of 7 points.

- Area B has a loss rate of 6.44% and accounts for 56% of the project area (i.e., 45,789 acres out of the 81,488 total project acres). Based upon the prioritization criteria, this loss rate is considered high and would receive a score of 10 points.

- Area C has a loss rate of 4.872% and accounts for 15% of the project area (i.e., 12,265 acres out of the 81,488 total project acres). Based upon the prioritization criteria, this loss rate is considered high and would receive a score of 10 points.

- Area D has a loss rate of 3.086% and accounts for 21% of the project area (i.e., 16,706 acres out of the 81,488 total project acres). Based upon the prioritization criteria, this loss rate is considered high and would receive a score of 10 points.

*Based upon these numbers, the project should receive 5 points for this criterion. This score was calculated as follows (.08 * 7) + (.56 * 10) + (.15 * 10) + (.21 * 10)= 9.76.*

III. Implementability

There are several major factors that must be addressed in designing and constructing this project including infrastructure relocations (highways and utilities), oyster lease impacts, and high total cost. Adequate funds are provided in the cost estimate for each of the major relocations and for acquisition of affected oyster leases.

Based upon this information, the project has two issues affecting implementability and should receive 4 points for this criterion.

IV. Certainty of Benefits

This project proposes a river diversion in the deltaic plain.

Based upon the proposed plan and location, the project should receive 9 points for this criterion.

V. Sustainability of Benefits

This project proposes to employ a controlled sediment diversion to restore wetlands. As such, benefits are expected to end at TY 20 because the diversion control structure will be locked closed at the end of the CWPPRA defined project life. The FWOP land loss rates should be applied because of these factors. The FWOP land loss rate is 6.44% per year.

Based upon the prioritization criteria, the project should receive 1 point for this criterion.

VI. HGM Riverine Input (Increasing riverine input in the deltaic plain or freshwater input and saltwater penetration limiting in the Chenier plain)

This project will significantly increase riverine input into the benefited wetlands through the diversion of 15,000 cfs of Mississippi River water.

Based upon the volume of water to be diverted, the project should receive 10 points for this criterion.

VII. HGM Sediment Input (Increased sediment input)

This project will significantly increase sediment input into the benefited wetlands through the diversion of 15,000 cfs of Mississippi River water.

Based upon the proposed restoration plan, the project should receive 10 points for this criterion.

<u>VIII. HGM Structure and Function (Maintaining landscape features critical to a sustainable ecosystem structure and function)</u>

The diversion of freshwater and sediments into Yellow Cotton Bay and Hospital Bay is expected to recreate natural landscape features found throughout the deltaic plain. These features will include riverbank ridges, emergent marsh, mudflats, and outer barrier shorelines characterized by sand beaches. In addition, it is expected that the project will enhance the integrity of the deltaic system through the restoration and protection of these integrated ecosystem components.

Based upon the restoration technique, the project should receive 10 points for this criterion.

<u>Weighted Prioritization Score</u>

(10*2.0)+(5*1.5)+ (4*1.5)+ (9*1.0)+ (1*1.0)+ (10*1.0)+ (10*1.0)+ (10*1.0) = 73.5 points

Preparers of Fact Sheet

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Complex Project Study Report

Fort Jackson Diversion

(Diversion Below Empire)
Plaquemines Parish, Louisiana

September 2003

New Orleans District
U.S. Army Corps of Engineers

Department of Natural Resources
State of Louisiana

Executive Summary

In 1932, the area bounded by the Mississippi River, Bayou Grand Liard, Pass Tante Phine, and the Gulf of Mexico, consisted of complexes of inland bays surrounded by thousands of acres of healthy marsh. The area between the hurricane protection levee and the Gulf of Mexico is now an estuarine system in collapse. By 1990, nearly 70 percent of the area marsh had disappeared leaving one large expanse of open water extending from the hurricane protection levees near the river to the gulf and from Empire southeasterly to the Grand Liard ridge. East of the ridge, Yellow Cotton and Hospital Bays have increased in size fivefold with only limited amounts of broken marsh interspersed between the bays and gulf.

A number of contributing factors have been identified in the loss of coastal habitats in this area. These include natural forces such as subsidence, storms, faulting, herbivory, and sea level rise. Human modifications of the environment including leveeing the Mississippi River, borrow pit construction, oil and gas exploration and production activities, and the construction of navigation channels, further contributed to the losses. However, the primary cause of the overall system collapse has been the construction of levees along the Mississippi River preventing overbank flooding and associated inputs of freshwater, nutrients, and sediments that support healthy marshes and estuaries.

Various solutions have been proposed and studied to reverse the catastrophic loss of coastal habitats in the area. These include small-scale projects proposed and constructed by local and state government agencies, limited private land protection efforts, project-specific proposals, and large-scale engineering feasibility studies. Two major reports, the Coast 2050 Plan and the Mississippi River Sediment, Nutrient, and Freshwater Redistribution Study, called for a major diversion near Fort Jackson to restore the area. In 1999, the Louisiana Coastal Wetlands Conservation and Restoration Act Task Force targeted the area for restoration action and tasked the U.S. Army Corps of Engineers and the Louisiana Department of Natural Resources with conducting a complex study of a potential delta-building diversion to be located on the west bank of the river between the communities of Empire and Venice, Louisiana. A project study team was assembled and the team developed a study plan to assess and design a diversion. The study plan was reviewed and revised by the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Technical Committee in light of budget concerns about the scope of the work plan. After revising the study plan, the team's effort focused on alternatives development, hydrologic modeling to assess the alternatives, development of preliminary designs, estimating project costs, identifying environmental benefits, identifying land rights requirements, and producing a detailed work plan for conducting Phase I project tasks.

The study team recommends pursuing Phase I engineering and design, environmental impact assessment, and real estate tasks for a 15,000 cfs diversion at Fort Jackson, Louisiana. The project would divert river water and sediments into Hospital and Yellow Cotton Bays to restore wetlands and improve estuarine habitat conditions. Natural delta building processes would create, protect, and restore 8,321 acres of marsh in the Grand Liard and Bastian Bay mapping units. Phase I project tasks would cost $7.4 million, and real estate, construction, operation and maintenance, and monitoring during Phase II would cost $101.4 million. Both phases have a combined fully funded cost estimate of $108.8 million (includes $52 million for oyster leases).

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Description of Problem

In 1932, the area bounded by the Mississippi River, Bayou Grand Liard, Pass Tante Phine, and the Gulf of Mexico, consisted of complexes of large inland bays surrounded by tens of thousands of acres of healthy marsh. The area between the hurricane protection levee and the Gulf of Mexico is now a system in collapse. By 1990, nearly 70 percent of the marsh had disappeared leaving one huge bay extending from the hurricane protection levees near the river to the Gulf of Mexico and from Empire southeasterly to the Grand Liard ridge. East of the Grand Liard ridge, Yellow Cotton and Hospital Bays have increased in size fivefold with only limited amounts of broken marsh interspersed between the bays and the gulf.

The project area lost over 38,000 acres of marsh between 1932 and 1990. A number of contributing factors have been identified in the loss of coastal habitats in this area. These include natural factors such as subsidence, storms, subsurface faulting, herbivory, and sea level rise; and human modifications of the environment such as leveeing the Mississippi River, oil and gas exploration and production activities, and the construction of navigation channels. A primary cause of the overall system collapse has been the construction of levees along the Mississippi River preventing overbank flooding and the resulting annual inputs of freshwater, nutrients, and sediment that support marshes and estuaries. The prevention of overbank flooding exacerbates the high rates of natural subsidence in the area and prevents remaining marshes from maintaining intertidal elevations required for healthy marsh productivity.

Since the 1950s, a dramatic shift in habitat types has occurred across the project area trending toward increasingly higher salinity regimes. Marshes west of the Grand Liard Ridge are saline while intermediate, brackish and saline marshes lie to the east of the ridge. Limited beds of submerged aquatic vegetation are found along fringes of the large bays and in protected areas of the wetland fringes. Wind erosion has increased as large expanses of open water have formed across the area. In addition, extensive canal dredging has further disrupted natural hydrologic patterns and salinity gradients resulting in more wetlands losses (LCWCRTF 2000).

Although, specific studies have not been completed to document direct linkages between habitat losses and wildlife and fisheries population declines in the area, anecdotal observations point to concerns about this potential link. Some wildlife species, such as seabirds, wading birds, shorebirds, puddle ducks, diving ducks, and furbearers, have shown a decreasing trend in this rapidly eroding area. Over the last 20-years, the estuarine dependent assemblage (red and black drum, spotted seatrout, Gulf menhaden, southern flounder, white and brown shrimp, and blue crab) and the estuarine resident assemblage (American oyster) have shown decreasing trends. Only the marine assemblage (Spanish mackerel) has increased (LCWCRTF 2000).

In the project area, more than 12,000 acres of additional marsh is projected to be lost over the next 20 years under current conditions and land loss trends. Under these conditions, further decreasing trends in wildlife and estuarine fisheries populations are anticipated. Other concerns associated with projected losses of coastal wetlands include increased storm surge pressure on hurricane protection levees, local salt water intrusion impacts to communities located inside of the hurricane protection levees, and exposure of inland coastal oil and gas facilities to higher wave energies.

Plan Formulation

A significant amount of reconnaissance study and additional project development work for a freshwater diversion between Empire and Venice was conducted as part of the Mississippi River Sediment, Nutrient, and Freshwater Redistribution (MRSNFR) Study (LCWCRTF 2000). The team working on this CWPPRA complex study borrowed heavily from the MRSNFR work and began all of the study tasks in furtherance of the MRSNFR conclusions and recommendations. Specifically, the MRSNFR report recommended that a 15,000 cfs diversion project at Fort Jackson, Louisiana, be further developed. The primary reasons for recommending a Fort Jackson diversion are to take advantage of a location on the downstream inside of a bendway in close proximity to a river point bar, the relatively small amount of local development, and the short distance between the river and the hurricane protection levees.

The team scoped additional alternatives for comparison purposes in this complex study. Each alternative was developed to test certain factors and/or scales identified as potentially significant by the study team. Each of the alternatives selected for evaluation in this study is described in detail below and shown in Figure 1 of Appendix 5.

<u>Alternative 1 – a 10,000 cfs freshwater diversion at Fort Jackson</u>.

A 10,000 cubic feet per second (cfs) diversion at Fort Jackson from the Mississippi River that would deliver water and sediments into Hospital and Yellow Cotton Bays. This diversion design would allow the target flow volume at the 70% exceedance stage in the river. This alternative would require the construction of a 6,200-foot rock-lined diversion channel from the river to the marsh area adjacent to the hurricane protection levee and emptying into shallow open water. Additional construction requirements for this alternative would include the construction of parallel flood protection levees along the diversion channel connecting the mainline Mississippi River levee to hurricane protection levees, a new low-level bridge to carry Louisiana Highway 23 traffic over the channel, an emergency diversion closure structure, and a moderate amount of local utilities relocations.

<u>Alternative 2 - a 10,000 cfs freshwater diversion at Fort Jackson with outfall management</u>.

A 10,000 cfs diversion at Fort Jackson from the Mississippi River that would deliver water and sediments into Hospital and Yellow Cotton Bays with outfall management measures consisting of a sheet pile wall along the east bank of Bayou Grand Liard. Under this alternative, all of the design features are the same as alternative number one with the addition of outfall management measures along Bayou Grand Liard. A sheetpile wall closure along Bayou Grand Liard was included to test the possibility of managing the diversion outfall to limit flow distribution east of the Grand Liard ridge.

<u>Alternative 3 - a 15,000 cfs freshwater diversion at Fort Jackson with outfall management</u>.

A 15,000 cfs diversion at Fort Jackson from the Mississippi River that would deliver water and sediments into Hospital and Yellow Cotton Bays with outfall management measures consisting of a sheet pile wall along the east bank of Bayou Grand Liard. This diversion design would allow the target flow volume at the 70% exceedance stage in the river. This alternative would require the construction of a 6,300-foot rock-lined diversion channel from the river to the marsh area adjacent to the hurricane protection levee and emptying into shallow open water. All of the additional construction requirements for this alternative are the same as those developed for alternative number one, plus the same outfall management feature included in alternative number two. This alternative was developed to test the MRSNFR recommended plan for a Fort Jackson diversion and to further investigate the design requirements and benefits of managing the diversion outfall.

Alternative 4 – a 500-acre dedicated dredging project at Fort Jackson.

A dedicated dredging alternative to create marsh was developed to gage costs and benefits of mechanical construction of wetlands versus the diversion alternatives. Under this scenario, sediment would be hydraulically dredged from the Mississippi River and pumped into shallow open water areas in Hospital and Yellow Cotton Bays to create marsh. This alternative was scaled to equal the projected land creation cost ranges for each diversion alternative to focus on a cost comparison between the two restoration techniques. General assumptions regarding water depths, borrow areas, material characteristics, pumping distances and costs were made to calculate the marsh creation costs and benefits during this phase of project development and analysis.

Additional Alternatives Identified and Screened.

A suite of additional alternatives was identified and initially screened out of further development and analysis for various reasons. These alternatives included larger volume diversions at Fort Jackson, diversions at locations upriver and downriver from Fort Jackson, and a series of smaller diversions in the complex study area. The proposed larger diversion alternatives were screened out based upon some of the MRSNFR analytical work and the potential for adverse shoaling affects in the Mississippi River. All of the remaining diversion alternatives were screened out because of other ongoing project development and studies at those sites, higher impacts to local communities, and/or greater potential infrastructure impacts and relocation costs associated with multiple smaller diversion sites.

Alternatives Analysis

The study team conducted preliminary analyses of engineering, environmental, and real estate components of each alternative. The alternatives development and analytic efforts were intended to produce supporting information to allow the team to assess the costs, benefits, and impacts of each alternative at a level of detail that would allow for comparative assessments and the determination of a preferred alternative. The results of the assessments of each project element (engineering, environmental, and land rights) for each alternative are detailed in this section.

Engineering Analysis

Information for this report supplements the engineering data for the Fort Jackson sediment diversion contained in the Engineering Appendix of the MRSNFR report (LCWCRTF 2000). Included are the results of environmental data collection, additional hydraulic modeling, preliminary hydraulic and structural design of a structure for opening and closing the diversion, and relocation studies for facilities within the channel alignment and receiving area.

The engineering assessment of each alternative involved development and execution of a hydraulic model to assess the freshwater distribution and salinity impacts of the alternatives. Additional environmental engineering assessments developed a projected land creation figure over twenty years of operation for each alternative. A set of preliminary designs and engineering drawings were developed for each alternative.

Hydraulic Modeling. A TABS-MD hydrodynamic and salinity model was created to simulate existing conditions in the Fort Jackson receiving area (see Figure 1 in Appendix 5). Two stage and conductivity recording gages were deployed from November 2001 to March 2002, one in Bay Carrion Crow and the other north of Bay Coquette, which is closer to the Gulf of Mexico. Data from these stations were used in verifying the model. Input into the model included tide data recorded at Southwest Pass and freshwater inflow data from Tiger Pass. After the existing conditions model was verified, the alternative conditions were simulated. Alternative 1 consisted of putting a 10,000 cfs diversion from the Mississippi River that ends in the area just east of Bay Carrion Crow. This alternative raised the average stage of the system by about 0.25 feet and immediately began freshening the area around Buras 1, the reference gage in the receiving area. Buras 2, the gage near the Gulf of Mexico, gradually freshened, but it is closer to the Gulf and may be more susceptible to tide fluctuations. Alternatives 2 and 3 consisted of building a sheet pile wall along Bayou Grand Liard in an effort to limit flow west of the bayou. Alternative 2 involved a 10,000 cfs diversion and Alternative 3 involved a 15,000 cfs diversion. Both of these alternatives had the same effects at Buras 1, but the gradual freshening at Buras 2 took a little longer. Still, within days, the area west of Bayou Grand Liard was also freshened under both Alternative 2 and Alternative 3. Further environmental analysis will be needed to better determine the effects on the oyster beds, but the model results clearly show that the diversion alternatives would affect salinity in the entire area with or without the outfall management features that were assessed.

Preliminary Designs. Design details were developed for each alternative and preliminary cost estimates were prepared to assist in calculating cost-benefit information. A number of common design elements related to maintaining existing flood protection levels, requirements for channel construction, and affected facilities requiring relocation, were identified between the three diversion alternatives.

Project features include an armored diversion channel, levee protection parallel to the channel, a low-level bridge to accommodate Louisiana Highway 23 (LA Hwy 23), and a control structure immediately downstream of the bridge (see engineering drawings in Appendix 4). (Note: survey elevations used in this report are in NGVD27 because preliminary designs completed for the MRSNFR Study utilized this datum. Future CWPPRA Phase I designs will be completed using NAVD88, which is now utilized by the New Orleans District and Louisiana Department of Natural Resources for all design efforts.)

Diversion Channel. Preliminary channel designs were developed for the 10,000 and 15,000 Cubic Feet per Second (cfs) diversion target sizes at the 70 percent exceedance stage in the river as follows:

> 10,000 cfs design. The proposed plan for the Fort Jackson 10,000 cfs diversion (located on the right descending bank near Mississippi River mile 18 Above Head of Passes) consists of dredging approximately 6,200 feet of channel from the Mississippi River to open water in the target outfall area. The proposed project would involve cutting a channel through the mainline Mississippi River levee for approximately 2,195 feet to the back hurricane protection levee. The channel would then proceed through this levee and travel an additional 4,000 feet through the marsh to open water in the target receiving area. The entrance channel will curve from the river with a radius of three times the channel bottom width. The channel will be riprapped from the Mississippi River to 160 feet downstream of the end of the curved section to hold the curve in place and prevent excess scour. The inflow portion of the channel is designed with an invert of -15.0 feet NGVD. The channel transitions to an armored weir section with a crest elevation of - 3.0 feet NGVD and then transitions again to an invert of -5.0 feet NGVD in the outflow portion of the channel. The bottom width of the channel widens at each of the transitions as well, beginning at 95 feet in width in the inflow section, expanding to 185 feet at the weir, and increasing to 480 feet in the outflow section. As with the other diversion alternatives, most of the earthen material resulting from channel excavation will be used to fill existing borrow pits in the proposed channel area created for the construction of parallel flood protection levees/floodwalls and for bridge approaches. Material remaining after these purposes will be beneficially used in the outfall area to create marsh.
>
> 15,000 cfs design. The proposed plan for the Fort Jackson 15,000 cfs diversion (located on the right descending bank near Mississippi River mile 18 Above Head of Passes) consists of dredging approximately 6,300 feet of channel from the Mississippi River to open water in the target outfall area. The proposed project would involve cutting a channel through the mainline Mississippi River levee for approximately 2,300 feet to the back hurricane protection levee. The channel would then proceed through this levee and travel an additional 4,000 feet through the marsh to open water in the target receiving area. The entrance channel will curve from the river with a radius of three times the channel bottom width. The channel will be riprapped from the Mississippi River to 160 feet downstream of the end of the curved section to hold the curve in place and prevent excess scour. The inflow portion of the channel is designed with an invert of -20.0 feet NGVD. The channel transitions to an armored weir section with a crest elevation of -3.0 feet NGVD and then transitions again to an invert of -5.0 feet NGVD in the outflow portion of the channel. The bottom width of the channel widens at each of the transitions as well, beginning at 105 feet in width in the inflow section, expanding to 275 feet at the weir, and increasing to 715 feet in the outflow section. Most of the earthen material resulting from channel excavation will be used to fill existing borrow pits in the proposed channel area created for the

construction of parallel flood protection levees/floodwalls and for bridge approaches. Material remaining after these purposes will be beneficially used in the outfall area to create marsh.

Levees and Floodwalls. The project will include a parallel flood protection system consisting of sheetpile I-walls. This option was selected over various other levee protection systems (see ANNEX 2 - MRSNFR report) because it is the least costly and will require the least real estate acquisition. The proposed I-walls will be uncapped cantilever sheetpile walls extending approximately 2,150 feet along each side of the inflow channel, i.e., total length of wall is 4,300 feet. Preliminary designs call for the walls to be constructed from SPZ 22 steel sheet piling extending from a tip elevation of -7.3 feet NGVD, which provides a proper seepage cutoff, up to the design elevation of +16.0 feet NGVD. The uncapped sheetpile will be protected from corrosion with coal tar epoxy paint.

Control Structure. A control structure is proposed to provide capability to shut the diversion in times of emergency or during low river stages to prevent backflow. Operating criteria currently do not include the option to control diversion capacity through manipulative operation of the structure. Based on preliminary hydraulic design for a 15,000 cfs diversion, the structure will consist of a 40-foot by 123-foot reinforced concrete monolith with five bays 21-feet wide by 36-feet high per bay, separated by 3-foot walls. Sill elevation will be -20.0 feet NGVD. There will be five 18-foot by 22-foot steel bulkheads for emergency closure or dewatering. A gantry crane will be provided on the gate monolith for lifting or installing the bulkheads. The diversion structure will be a pile-founded structure using 14-inch by 14-inch pre-stressed concrete piles. T-wall monoliths with a pedestrian walkway will be located on the west side of the diversion structure and tied into the west guide levee. Combined T-walls and I-walls will be located at the east side of the diversion structure and tied into the east guide levee. The T-walls will be pile-founded structures and the I-walls will be concrete capped sheet pile walls.

Relocation Requirements.

Roads and Highways. Existing LA Hwy 23 is a four-lane, primary, concrete highway. A new low-level bridge required for the diversion will be a four lane divided roadway with median and will have an approximate elevated span length of 1,568 feet with intermediated supports across the entire span. The approach will have nine spans of 60 feet per span at each end and 8 spans of 61 feet per span between the guide levees across the diversion channel. The super structure will consist of reinforced concrete slab with barriers on each side of the road and will be supported by Type III pre-stressed concrete highway girders. The sub-structure will consist of a reinforced concrete cap supported by multiple pre-stressed concrete cylinder piles. A temporary four-lane divided detour road on grade will be provided during the construction of the diversion structure, levee and bridge. In addition to LA Hwy 23, existing River Road will require relocation. This road is a local, two lane, asphalt parish road. To accommodate the diversion, River Road will be terminated at the new diversion channel levees on both sides. On the north (New Orleans) side of the new diversion channel, a new two-lane, asphalt road will be built between River Road and LA Hwy 23. On the south side of the new diversion channel, traffic will be rerouted to an existing road running between River Road and LA Hwy 23. Signs will be placed at the appropriate intersections to notify drivers of the new route.

Pipelines and Utilities. Several small diameter pipelines and utilities cross the location of the proposed diversion channel and will require relocation. The pipeline and utilities are basically limited to those adjacent to LA Hwy 23 and River Road. Pipelines consist of potable water, sewer and gas lines. Utilities consist of overhead and underground electric, phone, and cable television lines.

Land Building Estimates. Two different methods of estimating land creation rates have been used in evaluating previous proposals for a freshwater and sediment diversion in this area. During CWPPRA evaluations comparisons to historic crevasses were used to estimate annual land creation rates. In the MRSNFR study, a stage duration curve was developed for the Mississippi River at the Fort Jackson diversion site. The later method is considered more precise and is currently being used in other diversion studies and the Louisiana Coastal Area effort.

In the MRSNFR analysis, the diversion opening was designed and a curve plotting Mississippi River stage versus flow through the opening was prepared. The average measured sediment load on the Lower Mississippi River for the last 10 years was used to compute the average concentration of 254 ppm. It was assumed that the concentration in the diversion was equal to the concentration in the river. A sediment load, in tons per day, was computed and these were summed to get an annual amount of sediment diverted for each discharge alternative (10,000 cfs and 15,000 cfs). The estimated tons of diverted sediment per year were converted to cubic yards per year. It was assumed that 50% of the diverted sediment would be retained in the receiving area and a consolidation and compaction rate of 50% was applied. The remaining volume of sediment was divided by four feet (the estimated average depth in the outfall area plus one foot) to determine an area of marsh accreted per year for each alternative.

These calculations project acres of marsh that would be created over twenty years at the 10,000 cfs discharge level and at the 15,000 cfs discharge level. This information was used during environmental benefits assessments. The study team concluded that project benefits would be generated well beyond the 20-year CWPPRA life of the project and could reasonably be expected to last 50-years or longer with appropriate operations and maintenance efforts.

Environmental Benefits Analysis of Alternatives.

Several Wetland Value Assessment (WVA) modeling efforts have been conducted for various sized river diversions near Fort Jackson. These include proposed candidate projects evaluated for CWPPRA Priority Project List 6 and Priority Project List 8 and two alternatives assessed as part of the MRSNFR study. Differences in the AAHU estimates between the two analyses (i.e., CWPPRA and MRSNFR) and the two alternative diversion velocities (i.e., 10,000 cfs and 15,000 cfs) are directly attributable to differences in the assumptions used in each analytic effort.

The WVA analyses conducted for CWPPRA reviewed a 10,000 cfs diversion project. The CWPPRA review estimated benefits of 13,007 acres of wetlands created, restored or protected, and 4,010 Average Annual Habitat Units (AAHUs) generated over a twenty-year project life (LCWCRTF 1999). We note that the land creation estimate for this analysis did not utilize the sediment concentration method that has been adopted for more recent diversion studies.

Another WVA modeling effort was conducted on two proposed Fort Jackson diversions (a 10,000 cfs alternative and a 15,000 cfs alternative) during the MRSNFR study effort. For the 15,000 cfs alternative, the MRSNFR-sponsored WVA estimated benefits of 8,321 acres created, restored, or protected and 2,826 Average Annual Habitat Units (AAHUs) generated over a twenty-year project life (LCWCRTF 2000).

A number of common conclusions can be drawn from the WVAs conducted. In the area affected by the diversion, more than 12,000 acres of marsh would be lost over the next 20 years if no restoration actions are taken. If a freshwater and sediment diversion is built at Fort Jackson, land loss rates will be reduced and a minimum of 1,449 acres to 2,320 acres of new marsh would be created. Construction of a larger discharge volume diversion would allow for the creation of more new marsh. There would be a minimum net gain of more than 8,300 acres of marsh over the without project condition with the construction of either proposed diversion discharge volume. Habitat evaluation analysis indicated that the project alternatives would have a significant adverse impact on spotted seatrout. However, the diversion would have a significant positive impact on alligators. There would be moderate beneficial effects on furbearers and dabbling ducks. Salinity would drop dramatically with the project, with ranges falling from 15-20 ppt to 1-7 ppt.

A habitat evaluation analysis was not completed on oysters, but estimated changes in salinity indicate that there would be potentially extreme impacts to oysters in several project sub-areas, no impacts in areas that are currently fresh/intermediate habitats, and positive effects on leases on the western side of the project area with higher average salinity. The extreme impacts would be located primarily in the northwestern portion of the project area (see Figure 2 in Appendix 2 and specifically subareas 1, 4A, 4B, and 4C) and could possibly be isolated from diversion effects with additional design features along the Bayou Grand Liard ridge or with the development of diversion control and operating plans.

Land Rights Requirements Analysis.

Based upon the results of the hydraulic modeling and the similar footprints and relocation requirements of each diversion alternative, the real estate team members determined that land rights requirements would be similar for each alternative. For planning purposes the team assumed that all 36,163 acres of waterbottoms leased for oyster production would be impacted and an estimated oyster lease relocation cost was developed for all of the leased acres in the project area using the CWPPRA Engineering Work Group protocols. This estimate is a "worst-case" conservative approach to these land rights issues and should be viewed in light of recent efforts by the State of Louisiana and CWPPRA program to develop oyster lease acquisition policies. Also, it should be noted that the MRSNFR study team determined that negative impacts to oyster leases would occur only in subareas 1, 4A, 4B, and 4C. In total, these areas contain 3,522 acres of oyster leases. Further analysis of oyster lease impacts in coordination with project engineers, oyster biologists, and the local sponsor is strongly recommended and would result in a more thorough impact assessment and potentially lower associated acquisition or relocation costs.

Preferred Alternative Selection

The study team analyzed several alternatives for a river diversion on the right descending bank of the Mississippi River between the communities of Empire and Venice, Louisiana, and one alternative for wetland building using dredged material mined from the Mississippi River. The alternatives reviewed included a 10,000 cfs diversion, a 10,000 cfs diversion with outfall management features, a 15,000 cfs diversion with outfall management features, and a dedicated dredging option to create new wetlands. An analysis of the alternatives provides the following comparative assessments. However, it is important to recognize that direct comparisons and ranking of alternatives based upon number of acres benefited and costs are not appropriate because of differences in the assumptions made to generate that information for each alternative.

Alternative #1. Based upon the WVA analyses conducted for CWPPRA, this 10,000 cfs discharge alternative would create, protect, and restore 13,007 acres of marsh over twenty years. This alternative is projected to have a significant impact on salinity regimes within the project areas. As explained in a previous section, the preferred method of calculating land-building estimates (i.e., stage duration curves) was not used for this evaluation. Using that method and the resulting acreage would produce a lower total net benefit acreage for this diversion flow rate alternative.

Alternative #2. Based upon the WVA analyses conducted for CWPPRA, this 10,000 cfs discharge alternative would create, protect, and restore 13,007 acres of marsh over twenty years. As modeled, this alternative includes outfall management features but is still projected to have a significant impact on salinity regimes within the project areas. Again, as explained in a previous section, the preferred method of calculating land-building estimates (i.e., stage duration curves) was not used for this evaluation. Using method and the resulting acreage would produce a lower total net benefit acreage for this diversion flow rate alternative.

Alternative #3. The 15,000 cfs discharge would create, protect, and restore 8,321 acres of marsh over twenty years. As modeled, this alternative is projected to have a significant impact on salinity regimes within the project area despite the inclusion of outfall management features.

Alternative #4. A dedicated dredging alternative would create 500 acres of marsh during construction. However, this alternative would have no impact on project area salinity regimes, subsidence rates, or other marsh health factors, and the created marsh would begin to deteriorate at reduced land loss rates after construction. As a result, the amount of AAHUs produced by this alternative would be significantly less than the diversion alternatives.

Table 1: Summary Comparison of Alternatives

Alternative	Diversion Flow	Outfall Management	Net Acres Benefited[1]	Average Annual Habitat Units[2]	Estimated Planning and Construction Costs[3]
#1	10,000 cfs	No	13,007	4,010	$44.4 million
#2	10,000 cfs	Yes	13,007	4,010	$44.4 million[4]
#3	15,000 cfs	Yes	8,321	2,826	$41.9 million[4]
#4	N/A	N/A	260	117	$52.4 million

[1] Net benefit acres are the total acres remaining in the project area after twenty years under the future with project condition. Different assumptions were made during the alternative assessments and account for the differences in net benefit acres between the project alternatives.

[2] Average Annual Habitat Units are computed using the wetland valuation assessment model. The habitat units represent values for fish and wildlife resources derived from suitability indexes for various species that utilize coastal wetlands. Different assumptions were made during the alternative assessments and account for the differences in Average Annual Habitat Units between the project alternatives.

[3] Estimates include engineering and design, real estate planning, environmental compliance, and construction costs. The estimates in this table do not include operations and maintenance and monitoring costs and have not been inflated to show fully funded costs. A fully funded cost estimate was developed for the selected preferred alternative and is provided in Appendix 3.

[4] A cost estimate for the outfall management feature of alternatives #2 and #3 was not fully developed because the model results indicated that the feature would be ineffective.

Hydraulic modeling of the proposed alternatives indicated that outfall management, consisting of a sheetpile wall along the Bayou Grand Liard ridge, would not limit the salinity reduction impacts to oyster beds located west of the ridge. Nonetheless, the study team's assessment concluded that siting a major land-building diversion at Fort Jackson would allow for maximum advantage in capturing and diverting sediments because of the sites proximity to a river point bar and shallow estuarine bays in conjunction with its location along an inside bend of the river. In addition, the team concluded that further investigation of outfall management measures or development of discharge control mechanisms could produce a project alternative with fewer potential impacts to oyster habitat. However, these measures may not produce overall cost savings over the alternatives reviewed in this study because the measures could require higher construction, operation, and maintenance costs. A preferred alternative was selected based upon maximizing the land building potential of the alternatives, the environmental benefits that would be produced, and the estimated project costs.

This study recommends pursuing full development of Phase I engineering and design, environmental impact assessment, and real estate tasks for a 15,000 cfs sediment diversion at Fort Jackson, Louisiana. The project would divert river water and sediments into Yellow Cotton and Hospital Bays to restore coastal wetlands and improve estuarine habitat conditions. The primary receiving and benefit area falls within the Grand Liard mapping unit of the Coast 2050

Plan. Significant secondary benefits and impacts would be realized in the Bastian Bay mapping unit and the team has identified two additional project development concepts involving outfall management that could limit impacts to high value commercial shellfish reefs. These additional measures, either limiting or managing flow across the Bayou Grand Liard ridge or developing a diversion operation and control plan, should be further investigated during Phase I activities.

Land Rights Assessment

A preliminary assessment of the real estate interests that would be required to design, construct and maintain the project was conducted. The proposed diversion channel entrance and structure would be constructed through the right descending bank of the Mississippi River at approximately mile 18 Above Head of Passes. The diversion control structure would be built southwest of the channel entrance immediately downstream of a new low-level Louisiana Highway 23 bridge. The diversion channel would be 6,300 feet long (2,300 feet from the river to the back hurricane protection levee and an additional 4,000 feet through the marsh to open water). Construction of the channel will require removal of levee sections along the Mississippi River and the back hurricane protection alignment. Parallel sections of levee and floodwall would be constructed to maintain existing flood protection levels. A new low-level bridge would be required to carry the existing Louisiana Highway 23 over the proposed diversion channel. A temporary road would be required to reroute Louisiana Highway 23 traffic during construction of the channel and the bridge.

The outfall area of the proposed diversion covers approximately 81,488 acres and this area would require flow and deposition easements from private interests or other permissions from public entities. In addition, approximately 33,998 acres of oyster leases are located in the outfall area. A full assessment of the potential impacts to these areas is proposed in Phase I; however, for planning purposes the team assumed that all of the leased acres would be impacted and an estimated oyster lease relocation cost was developed for all of the leased acres in the project area. The estimated relocation/acquisition costs for all of the oyster leases in the project area is approximately $52 million but would likely be significantly less because the actual adversely affected acreage is smaller (3,522) acres.

Real estate planning costs (approximately $1.9 million, see Appendix 3), including securing rights of entry to collect engineering and design data and to develop a real estate implementation and acquisition plan, are considered low given the magnitude of the land loss problem and the large project area. However, real estate costs associated with construction and operation of the project are anticipated to be significant because of the facilities relocations costs and potential impacts to oyster leases in portions of the project area. A number of potential cost saving opportunities have been identified and will be explored during detailed project development in Phase I.

Cost Estimate

A detailed total first cost estimate has been developed for the preferred alternative – a 15,000 cfs sediment diversion at Fort Jackson. The cost estimate is based upon the preliminary design details and assessment of the other task requirements that would be required to fully develop plans and specifications, to complete environmental benefits assessments and compliance reports, and to plan for project land rights needs. Phase I project tasks would cost $7.4 million, and construction, operation and maintenance, and monitoring during Phase II would cost $101.4 million. Both phases have a combined fully funded cost estimate of $108.8 million (includes $52 million for oyster leases). A summary of the total fully funded cost estimate is provided in Appendix 3.

Public Meeting

A meeting was held on September 1, 1999, to solicit public input on the diversion and a proposed sediment trap in the river. Participants included Plaquemines Parish citizens, government leaders, the shipping industry, commercial and recreational fishermen, the Louisiana Department of Natural Resources, CWPPRA agencies, and others. Citizens spoke in favor of saving the coast but raised concerns about who would own the land created and compensation for oyster lease damages. It should be noted that the public meeting focused on two projects, 1) the sediment trap and 2) a river diversion between Empire and Venice, and both of the issues of concern that arose applied mainly to the diversion project.

It is important to point out that this meeting was held more than four years ago and that public opinion has shifted significantly since that time to recognize the need to use the river to restore the coast. Outreach and planning efforts including Coast 2050, the annual CWPPRA priority list process, and the Louisiana Coastal Area (LCA) Comprehensive Study have included meetings in Plaquemines Parish that have discussed the siting of freshwater diversions. Further development of a diversion at Fort Jackson would require public scoping meetings, full environmental compliance under the National Environmental Policy Act, and vetting through the CWPPRA Task Force's public meeting and decision-making process.

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APPENDIX 1

Project Fact Sheet

FACT SHEET

Fort Jackson Sediment Diversion (MR-14)

Plaquemines Parish, Louisiana

Lead Agencies: U.S. Army Corps of Engineers and LA Department of Natural Resources

Project Location: The diversion site is located in Plaquemines Parish, Louisiana, on the west bank of the Mississippi River at Mile 18 Above Head of Passes (AHP), and would divert water and sediments into Hospital and Yellow Cotton Bays, on the west side of the River.

Problem: In 1932, the project area consisted of complexes of large inland bays surrounded by thousands of acres of healthy marsh. The area between the hurricane protection levee and the Gulf of Mexico is now a system in collapse. By 1990, nearly 70 percent of the marsh had disappeared leaving one huge bay extending from the hurricane levees near the river to the gulf and from Empire to the Grand Liard ridge. East of the ridge, Yellow Cotton and Hospital Bays have increased in size fivefold with only limited amounts of broken marsh interspersed between the bays and gulf.

Project Purpose: The project objective is to restore emergent vegetated wetlands. Plans call for constructing a 15,000 cfs diversion at the 70 percent exceedance stage in the river. Diverting riverine sediments and fresh water will create, nourish, and maintain 8,321 acres of fresh to intermediate marsh over the 20-year project life. Significant land creation and maintenance benefits are likely to continue for 50 years and longer.

Project Features: Construct an armored conveyance channel to divert water and sediments from the River into adjacent bays and wetlands. Siting of the diversion channel has been optimized to capture sediments from the trailing end of a river point bar located near the Fort Jackson bend. The channel will include parallel floodwalls to maintain the current level of hurricane and river flood protection in the area. Additional features include a low-level bridge to accommodate traffic on LA Highway 23 over the channel and an emergency closure structure to allow control of the diversion during accidents on the river such as oil or chemical spills.

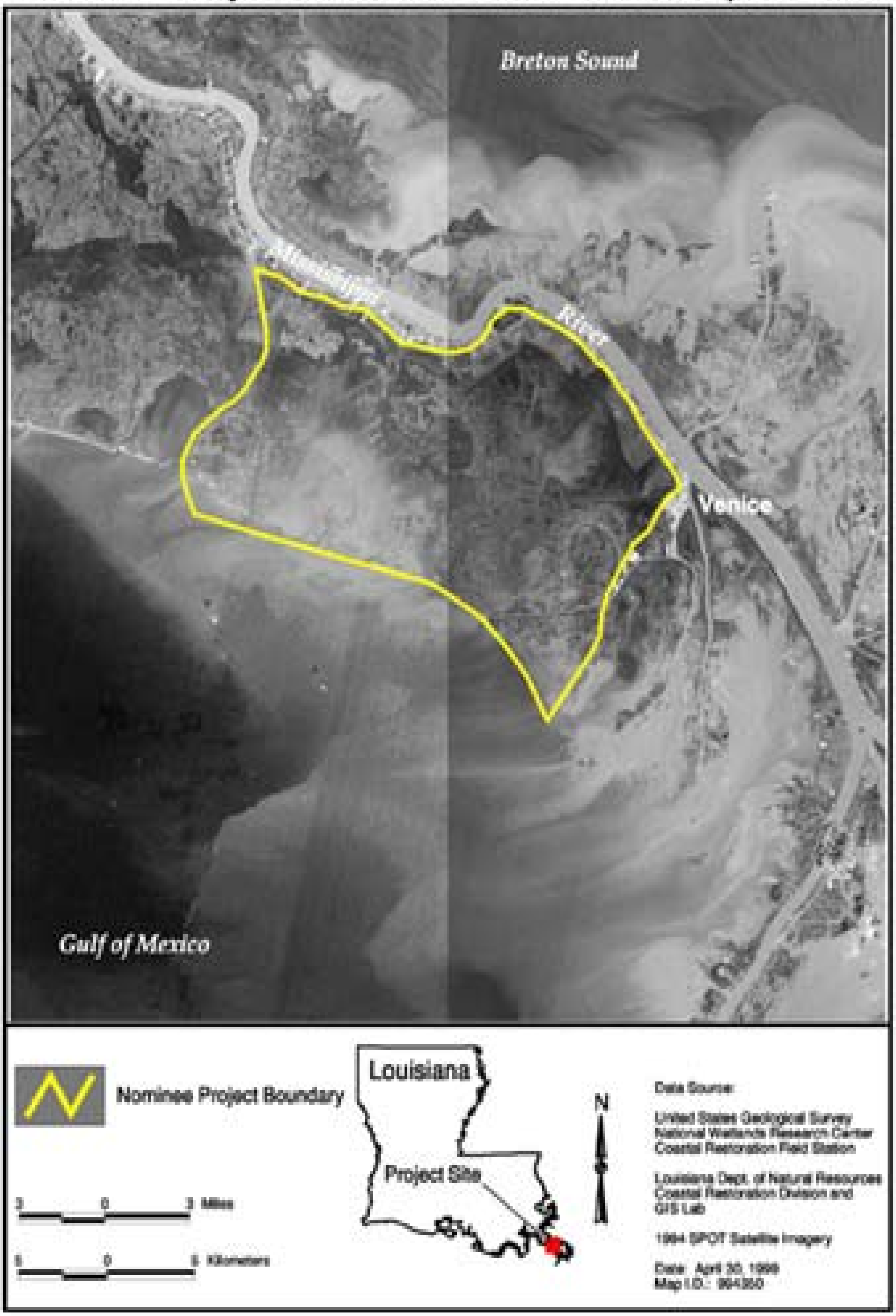
Project Costs: The estimated project cost, including real estate, environmental, engineering and design, relocations, construction, monitoring, and O&M expenses, is $108.8 million (includes $52 million for oyster leases).

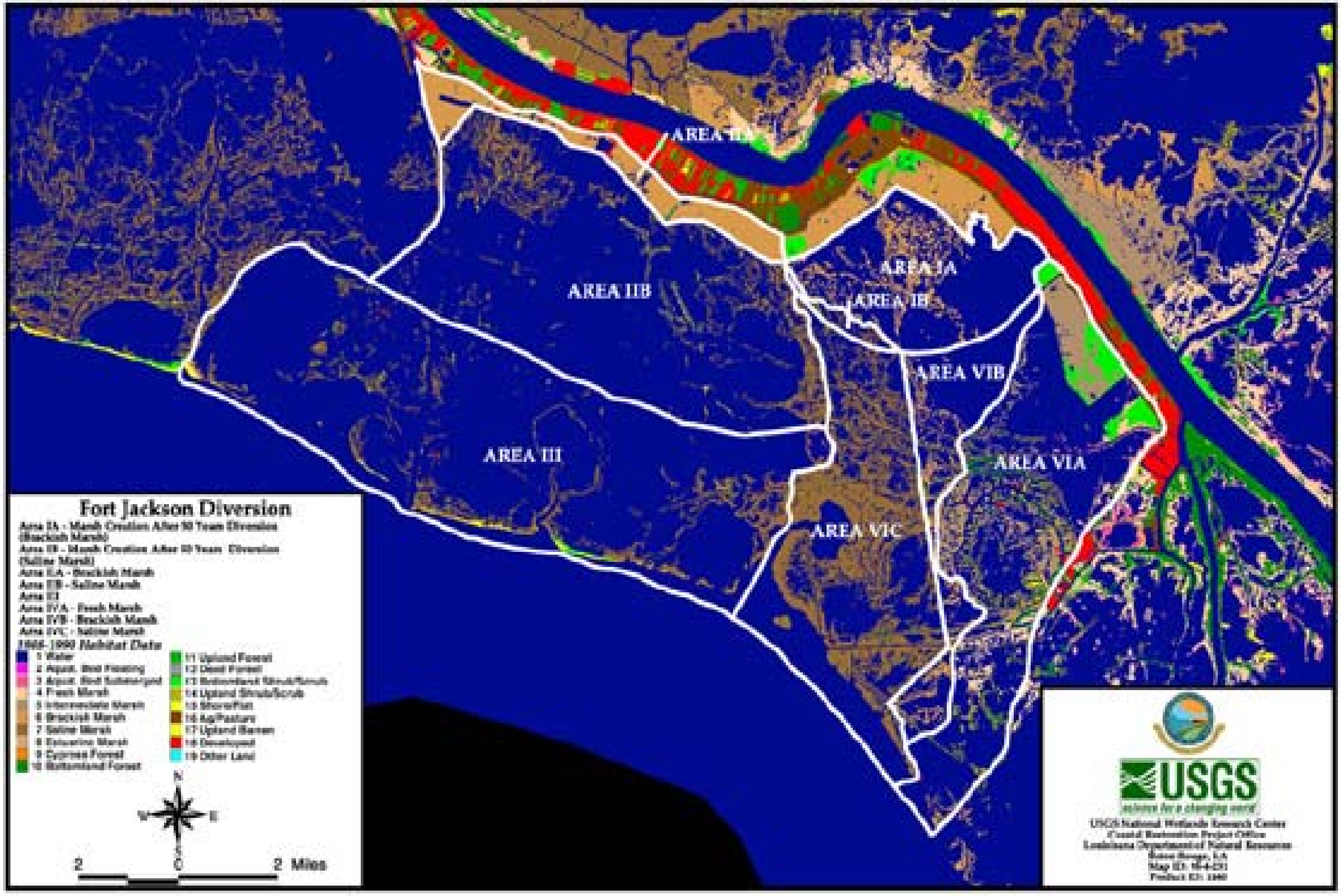
Information: Information on this project may be obtained by contacting Gregory Miller at 504-862-2310 or Gregory.B.Miller@mvn02.usace.army.mil.

APPENDIX 2

Project Maps

CWPPRA PPL-9 Project Nominee: River Diversion Between Triumph and Venice





AREA IIA
AREA IIB
AREA IA
AREA IB
AREA VIB
AREA III
AREA VIA
AREA VIC
Fort Jackson Diversion
1 Water
2 Aquat. Bed Floating
3 Aquat. Bed Submerged
4 Fresh Marsh
5 Intermediate Marsh
6 Brackish Marsh
7 Saline Marsh
8 Estuarine Marsh
9 Cypress Forest
10 Bottomland Forest
11 Upland Forest
12 Dead Forest
13 Bottomland Shrub/Scrub
14 Upland Shrub/Scrub
15 Shore/Flat
16 Ag/Pasture
17 Upland Barren
18 Developed
19 Other Land
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USGS
USGS National Wetlands Research Center
Coastal Restoration Project Office
Louisiana Department of Natural Resources
Baton Rouge, LA

APPENDIX 3

Engineering Work Group Cost Estimate

Coastal Wetlands Conservation and Restoration Plan

Project Priority List 13

Fort Jackson Sediment Diversion

Project Construction Years:	6	Total Project Years	26
Interest Rate	5.875%	Amortization Factor	0.08630
Fully Funded First Costs	$104,670,100	Total Fully Funded Costs	$108,857,300

Annual Charges	Present Worth	Average Annual
First Costs	$117,107,959	$10,106,643
Monitoring	$0	$0
O & M Costs	$1,710,664	$147,634
Other Costs	$7,706	$665
Total	$118,826,300	$10,254,900
Average Annual Habitat Units	2,826	
Cost Per Habitat Unit	$42,048	#DIV/0!
Total Net Acres	8,321	143

Coastal Wetlands Conservation and Restoration Plan

Fort Jackson Sediment Diversion

Project Costs 3

Year		Fiscal Year	E&D	Land Rights	Federal S&A	LDNR S&A	Corps Proj. Man.	Monitoring	S&I	Contingency	Construction Costs	Total First Cost
Phase I												
8	Compound	2004	$1,047,750	$486,250	$173,750	$100,000	$665	$0	-	$0		$1,808,415
7	Compound	2005	$1,397,000	$648,333	$231,667	$133,333	$665	$0	-	$0		$2,410,998
6	Compound	2006	$1,397,000	$648,333	$231,667	$133,333	$665	$0	-	$0		$2,410,998
5	Compound	2007	$349,250	$162,083	$57,917	$33,333	$665	$0	-	$0		$603,248
		TOTAL	$4,191,000	$1,945,000	$695,000	$400,000	$2,660	$0	$0	$0	$0	$7,233,660
Phase II												
4	Compound	2007	-	$50,297,200	$196,541	$43,243	$0	$0	$103,676	$750,405	$3,001,622	$54,392,686
3	Compound	2008	-	-	$589,622	$129,730	$665	-	$311,027	$2,251,216	$9,004,865	$12,287,124
2	Compound	2009	-	-	$589,622	$129,730	$665	-	$311,027	$2,251,216	$9,004,865	$12,287,124
1	Compound	2010	-	-	$442,216	$97,297	$665	-	$233,270	$1,688,412	$6,753,649	$9,215,510
		TOTAL	$0	$50,297,200	$1,818,000	$400,000	$1,995	$0	$959,000	$6,941,250	$27,765,000	$88,182,445
Total First Costs			$4,191,000	$52,242,200	$2,513,000	$800,000	$4,655	$0	$959,000	$6,941,250	$27,765,000	$95,416,105

Year		FY	Monitoring	O&M	Corps PM	Other
1	Discount	2011	$0	$14,700	$665	-
2	Discount	2012	$0	$14,700	$665	-
3	Discount	2013	$0	$14,700	$665	-
4	Discount	2014	$0	$14,700	$665	-
5	Discount	2015	$0	$14,700	$665	-
6	Discount	2016	$0	$14,700	$665	-
7	Discount	2017	$0	$1,389,700	$665	-
8	Discount	2018	$0	$14,700	$665	-
9	Discount	2019	$0	$14,700	$665	-
10	Discount	2020	$0	$14,700	$665	-
11	Discount	2021	$0	$14,700	$665	-
12	Discount	2022	$0	$14,700	$665	-
13	Discount	2023	$0	$14,700	$665	-
14	Discount	2024	$0	$1,389,700	$665	-
15	Discount	2025	$0	$14,700	$665	-
16	Discount	2026	$0	$14,700	$665	-
17	Discount	2027	$0	$14,700	$665	-
18	Discount	2028	$0	$14,700	$665	-
19	Discount	2029	$0	$14,700	$665	-
20	Discount	2030	$0	$14,700	$665	-
		Total	$0	$3,044,000	$13,300	$0

Coastal Wetlands Conservation and Restoration Plan

Fort Jackson Sediment Diversion

Present Valued Costs Total Discounted Costs $118,826,328 Amortized Costs $10,254,942

Year		Fiscal Year	E&D	Land Rights	Federal S&A	LDNR S&A	Corps Proj. Man.	Monitoring	S&I	Contingency	Construction Costs	Total First Cost
Phase I												
8	1.579	2004	$1,654,265	$767,727	$274,329	$157,887	$1,050	$0	$0	$0	$0	$2,855,259
7	1.491	2005	$2,083,293	$966,835	$345,476	$198,835	$992	$0	$0	$0	$0	$3,595,430
6	1.409	2006	$1,967,691	$913,185	$326,305	$187,802	$937	$0	$0	$0	$0	$3,395,920
5	1.330	2007	$464,626	$215,628	$77,050	$44,345	$885	$0	$0	$0	$0	$802,534
		Total	$6,169,875	$2,863,376	$1,023,160	$588,869	$3,863	$0	$0	$0	$0	$10,649,143
Phase II												
4	1.257	2007	$0	$63,200,062	$246,960	$54,337	$0	$0	$130,272	$942,909	$3,771,635	$68,346,173
3	1.187	2008	$0	$0	$699,767	$153,964	$789	$0	$369,129	$2,671,760	$10,687,041	$14,582,451
2	1.121	2009	$0	$0	$660,937	$145,421	$745	$0	$348,646	$2,523,504	$10,094,017	$13,773,271
1	1.059	2010	$0	$0	$468,196	$103,014	$704	$0	$246,975	$1,787,606	$7,150,426	$9,756,921
		Total	$0	$63,200,062	$2,075,861	$456,735	$2,239	$0	$1,095,022	$7,925,780	$31,703,119	$106,458,816
Total First Cost			$6,169,875	$66,063,437	$3,099,021	$1,045,604	$6,102	$0	$1,095,022	$7,925,780	$31,703,119	$117,107,959

Year		FY	Monitoring	O&M	Corps PM	Other
-1	0.945	2011	$0	$13,884	$628	
-2	0.892	2012	$0	$13,114	$593	
-3	0.843	2013	$0	$12,386	$560	
-4	0.796	2014	$0	$11,699	$529	
-5	0.752	2015	$0	$11,050	$500	
-6	0.710	2016	$0	$10,437	$472	
-7	0.671	2017	$0	$931,895	$446	
-8	0.633	2018	$0	$9,310	$421	
-9	0.598	2019	$0	$8,794	$398	
-10	0.565	2020	$0	$8,306	$376	
-11	0.534	2021	$0	$7,845	$355	
-12	0.504	2022	$0	$7,410	$335	
-13	0.476	2023	$0	$6,998	$317	
-14	0.450	2024	$0	$624,904	$299	
-15	0.425	2025	$0	$6,243	$282	
-16	0.401	2026	$0	$5,897	$267	
-17	0.379	2027	$0	$5,570	$252	
-18	0.358	2028	$0	$5,261	$238	
-19	0.338	2029	$0	$4,969	$225	
-20	0.319	2030	$0	$4,693	$212	
		Total	$0	$1,710,664	$7,706	$0

Coastal Wetlands Conservation and Restoration Plan

Fort Jackson Sediment Diversion

Fully Funded Costs Total Fully Funded Costs $108,857,300 Amortized Costs $9,394,595

Year		Fiscal Year	E&D	Land Rights	Federal S&A	LDNR S&A	Corps Proj. Man.	Monitoring	S&I	Contingency	Construction Costs	Total First Cost
Phase I												
8	1.013	2004	$1,061,371	$492,571	$176,009	$101,300	$674	$0	$0	$0	$0	$1,831,924
7	1.026	2005	$1,433,558	$665,300	$237,729	$136,823	$682	$0	$0	$0	$0	$2,474,092
6	1.040	2006	$1,452,194	$673,948	$240,820	$138,601	$691	$0	$0	$0	$0	$2,506,255
5	1.053	2007	$367,768	$170,677	$60,988	$35,101	$700	$0	$0	$0	$0	$635,234
		TOTAL	$4,314,891	$2,002,497	$715,545	$411,825	$2,748	$0	$0	$0	$0	$7,447,505
Phase II												
4	1.053	2007	$0	$52,964,099	$206,962	$45,536	$0	$0	$109,173	$790,194	$3,160,776	$57,276,740
3	1.163	2008	$0	$0	$685,762	$150,883	$773	$0	$361,741	$2,618,287	$10,473,147	$14,290,593
2	1.184	2009	$0	$0	$698,106	$153,599	$787	$0	$368,253	$2,665,416	$10,661,664	$14,547,824
1	1.205	2010	$0	$0	$533,004	$117,273	$802	$0	$281,161	$2,035,045	$8,140,180	$11,107,464
		TOTAL	$0	$52,964,099	$2,123,833	$467,290	$2,362	$0	$1,120,328	$8,108,942	$32,435,767	$97,222,621
Total Cost			$4,314,900	$54,966,600	$2,839,400	$879,100	$5,100	$0	$1,120,300	$8,108,900	$32,435,800	$104,670,100

Year		FY	Monitoring	O&M	Corps PM	Other		
-1	1.1534	2011	$0	$16,955	$767		1.109	1.1534
-2	1.1742	2012	$0	$17,260	$781			$1
-3	1.1953	2013	$0	$17,571	$795			
-4	1.2168	2014	$0	$17,887	$809			
-5	1.2387	2015	$0	$18,209	$824			
-6	1.2610	2016	$0	$18,537	$839			
-7	1.2837	2017	$0	$1,783,980	$854			
-8	1.3068	2018	$0	$19,210	$869			
-9	1.3303	2019	$0	$19,556	$885			
-10	1.3543	2020	$0	$19,908	$901			
-11	1.3787	2021	$0	$20,266	$917			
-12	1.4035	2022	$0	$20,631	$933			
-13	1.4287	2023	$0	$21,003	$950			
-14	1.4545	2024	$0	$2,021,270	$967			
-15	1.4806	2025	$0	$21,765	$985			
-16	1.5073	2026	$0	$22,157	$1,002			
-17	1.5344	2027	$0	$22,556	$1,020			
-18	1.5620	2028	$0	$22,962	$1,039			
-19	1.5902	2029	$0	$23,375	$1,057			
-20	1.6188	2030	$0	$23,796	$1,076			
		Total	$0	$4,168,900	$18,300	$0		

E&D and Construction Data

ESTIMATED CONSTRUCTION COST	**27,765,000**
ESTIMATED CONSTRUCTION + 25% CONTINGENCY	**34,706,000**

TOTAL ESTIMATED PROJECT COSTS

PHASE I

Federal Costs			
Engineering and Design			$4,191,000
Engineering		$2,571,000	
Geotechnical Investigation		$200,000	
Hydrologic Modeling		$500,000	
Data Collection		$200,000	
Cultural Resources		$229,000	
HTRW		$85,000	
NEPA Compliance		$406,200	
Supervision and Administration			$695,000
State Costs			
Supervision and Administration			$400,000
Easements and Land Rights			$1,945,000
Monitoring			$0
Monitoring Plan Developmer	$0		
Monitoring Protocal Cost *	$0		
Total Phase I Cost Estimate			**$7,231,000**

* *Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.*

PHASE II

Federal Costs					
Estimated Construction Cost +25% Contingency					$34,706,000
Lands or Oyster Issues	33,998	lease acres	$0	per acre	$50,297,200
Supervision and Inspectic	1095	days @	876	per day	$959,000
Supervision and Administration					$1,818,000
State Costs					
Supervision and Administration					$400,000
Total Phase II Cost Estimate					**$88,180,000**

TOTAL ESTIMATED PROJECT FIRST COST	**95,411,000**

O&M Data

Annual Costs

Annual Inspections	$4,700
Annual Cost for Operations	$5,000
Preventive Maintenance	$5,000

Specific Intermittent Costs:

Construction Items							**Year 3**	**Year 7**	**Year 14**	**Year 15**
Mob & Demob							$0	$50,000	$50,000	$0
Outfall Canal Dredging							$0	$1,050,000	$0	$0
Outfall Canal Dredging							$0	$0	$1,050,000	$0
0							$0	$0	$0	$0
0							$0	$0	$0	$0
0							$0	$0	$0	$0
0							$0	$0	$0	$0
					Subtotal		$0	$1,100,000	$1,100,000	$0
					Subtotal w/ 25% contin.		**$0**	$1,375,000	$1,375,000	$0
Engineer, Design & Administrative Costs										
Engineering and Design Cost							$0	$96,000	$96,000	$0
Administrative Cost							$0	$27,500	$27,500	$0
Eng Survey	5	days	@	$1,460	per day		$0	$7,300	$7,300	$0
Construction	60	days	@	$876	per day		$0	$52,560	$52,560	$0
					Subtotal		**$0**	**$183,000**	**$183,000**	**$0**
Federal S&A							$0	$27,500	$27,500	$0
						Total	**$0**	**$1,585,500**	**$1,585,500**	**$0**

Annual Project Costs:

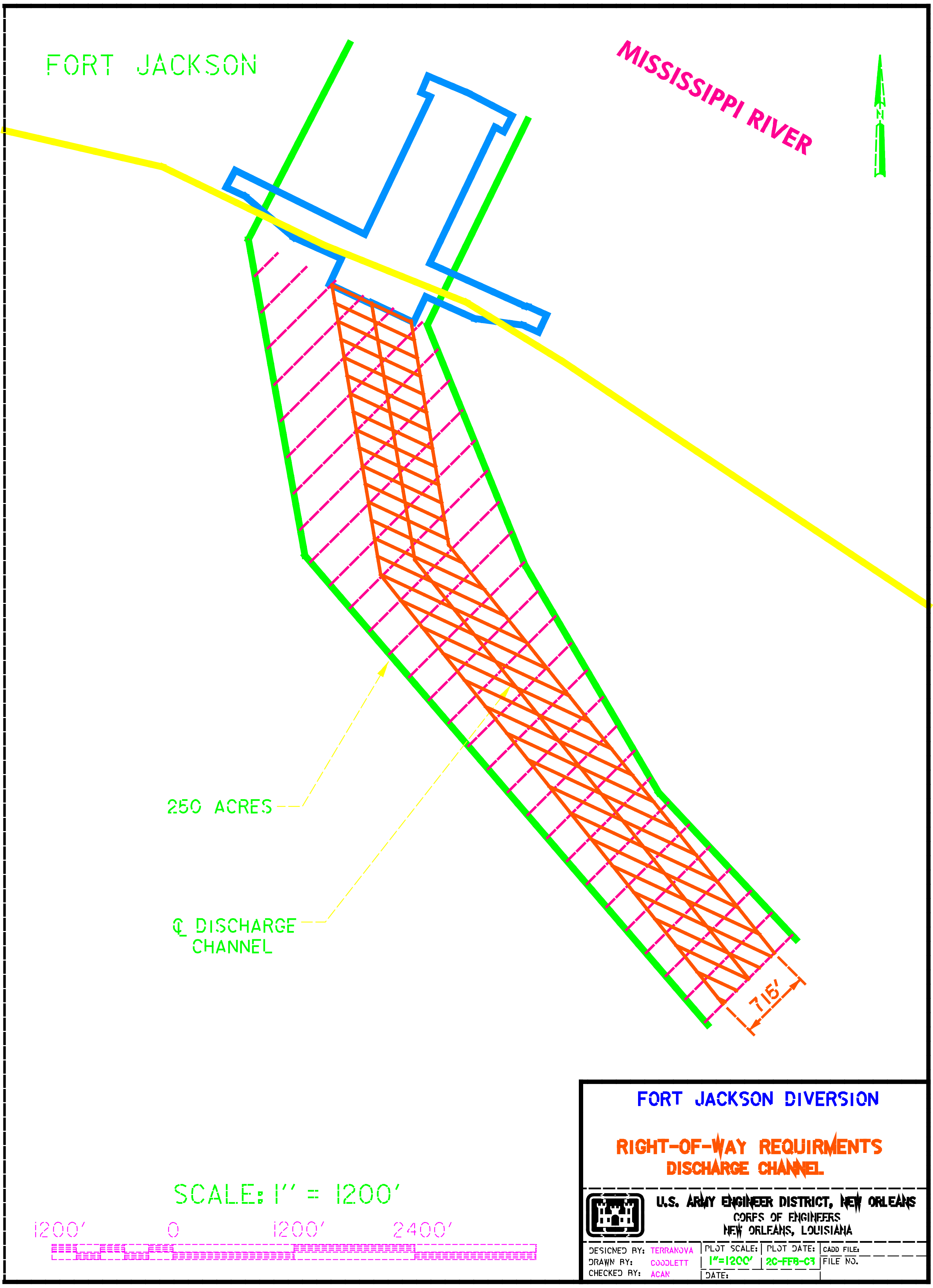
Corps Administration	$665
Monitoring	$0

Construction Schedule:

		2004	2005	2006	2007	2008	2009	2010	Total
Plan & Design Start	January-04	9	12	12	3	0	0	0	36
Plan & Design End	January-07								
Const. Start	June-07								
Const. End	June-10	0	0	0	4	12	12	9	37

APPENDIX 4

Engineering Drawings



FORT JACKSON DIVERSION

RIGHT-OF-WAY REQUIRMENTS
DISCHARGE CHANNEL

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

DESIGNED BY:	TERRANOVA	PLOT SCALE: 1"=1200'	PLOT DATE: 20-FEB-03	CADD FILE:
DRAWN BY:	COODLETT			FILE NO.
CHECKED BY:	ACAN	DATE:		

PLATE 1

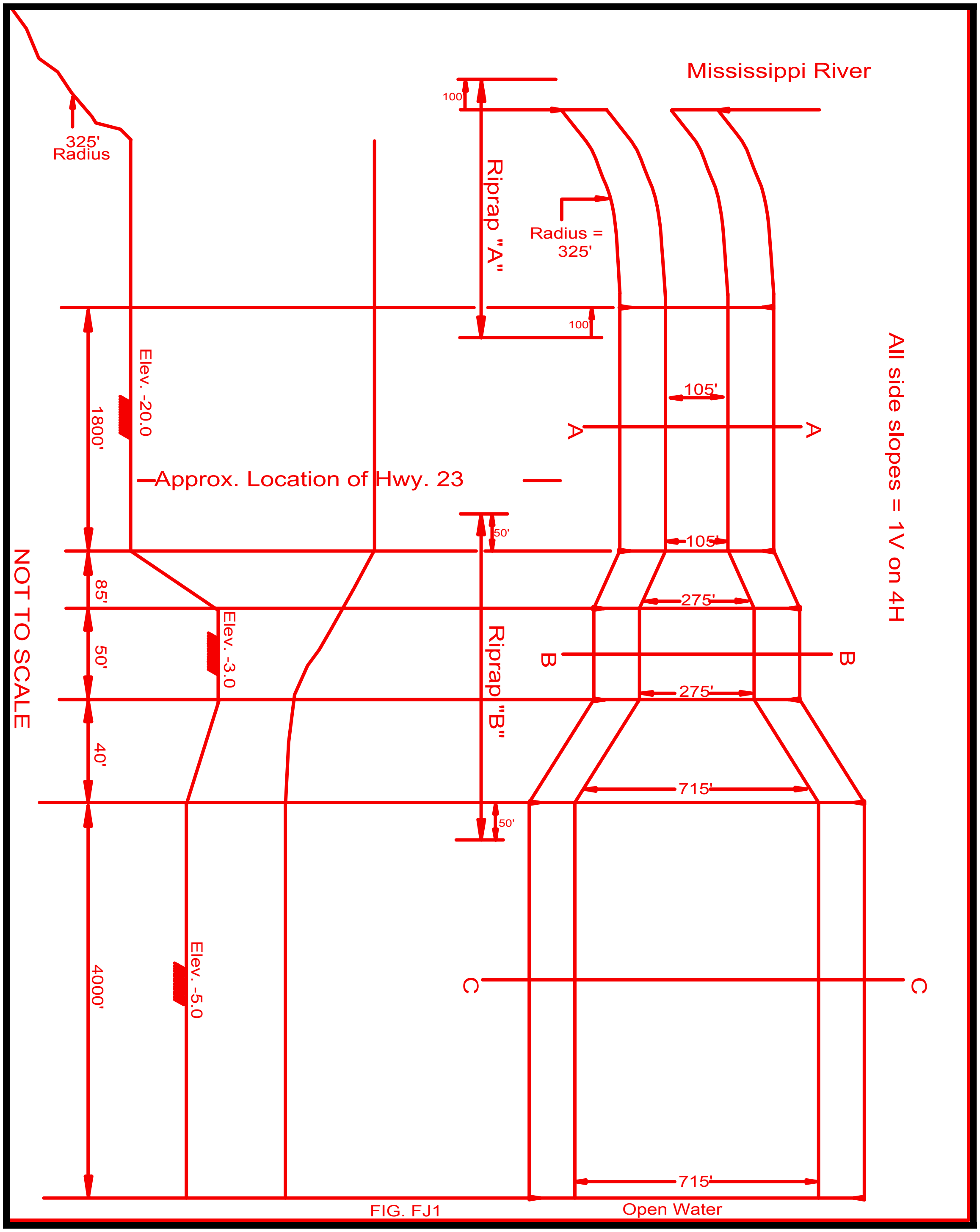
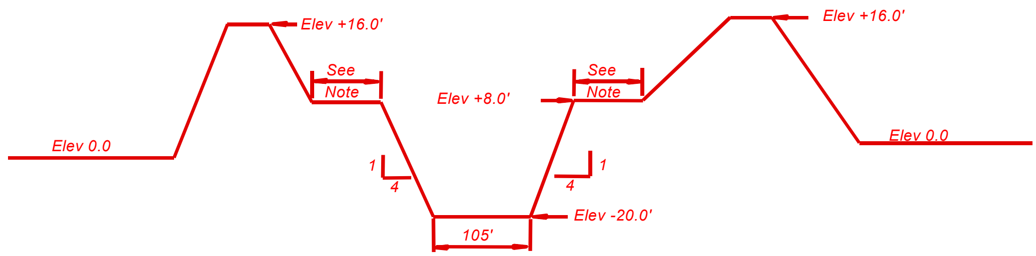


Figure 1
Channel Design, Invert, and Flowline
Fort Jackson Sediment Diversion, 15,000 CFS Option

Section A-A

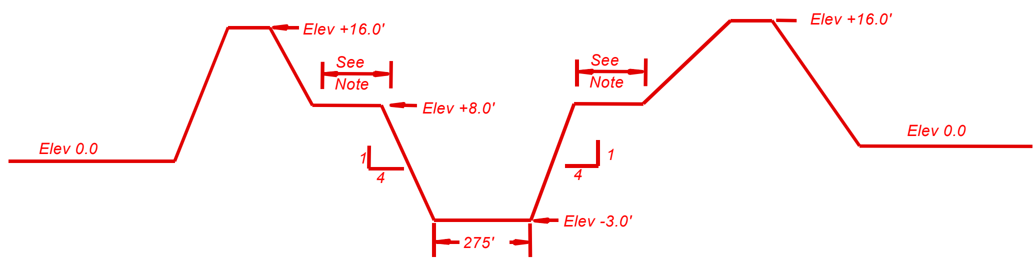


Note:

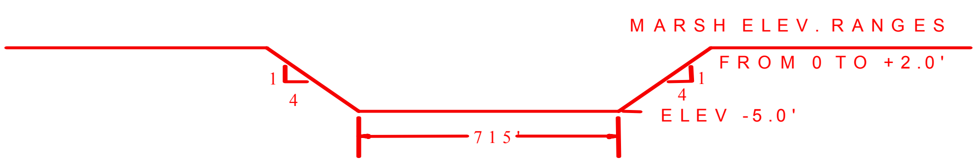
Berm widths to be determined by other offices such as F&M.

Berms are not required for Hydraulics, If berms are eliminated, then continue channel side slopes up to top of levee -16.0'

Section B-B



Section C-C



Riprap 'A'
ENTRANCE CHANNEL

8_s = 155 lbs/ft

12" Layer (Dry Placement)
18" Layer (Wet Placement)

% LIGHTER BY WT.	WT.	(LBS)
100	90	40
50	40	20
1	20	5

'Riprap B'
WEIR SECTION

8_s = 155 lbs/ft^3

36" Layer (Dry Placement)
54" Layer (Wet Placement)

% LIGHTER BY WT.	WT.	(LBS)
100	2200	00
50	930	440
15	460	130

Figure 2
Channel Design Cross-sections
Fort Jackson Sediment Diversion, 15,000 CFS Option

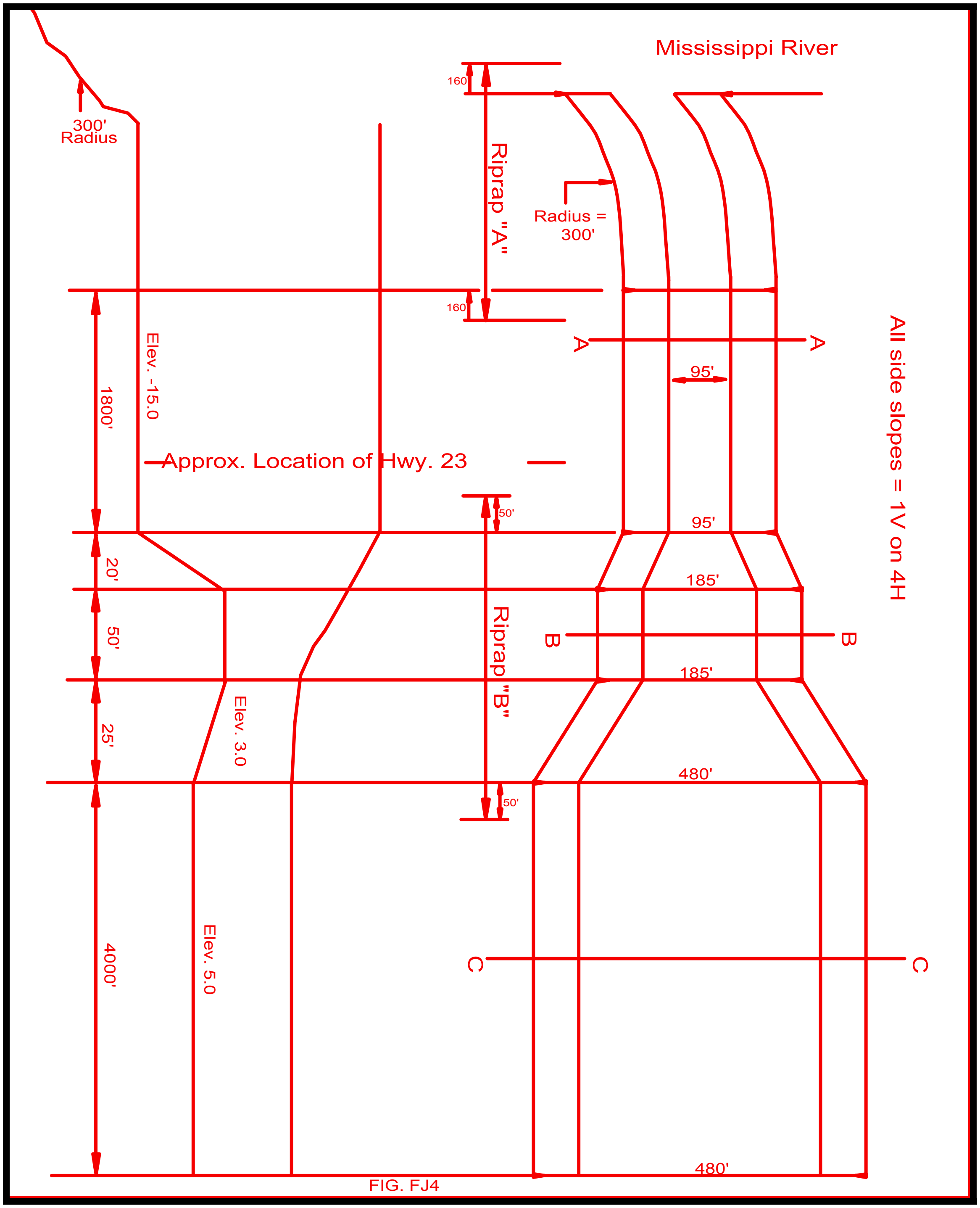


Figure 3
Channel Design, Invert, and Flowline
Fort Jackson Sediment Diversion, 10,000 CFS Option

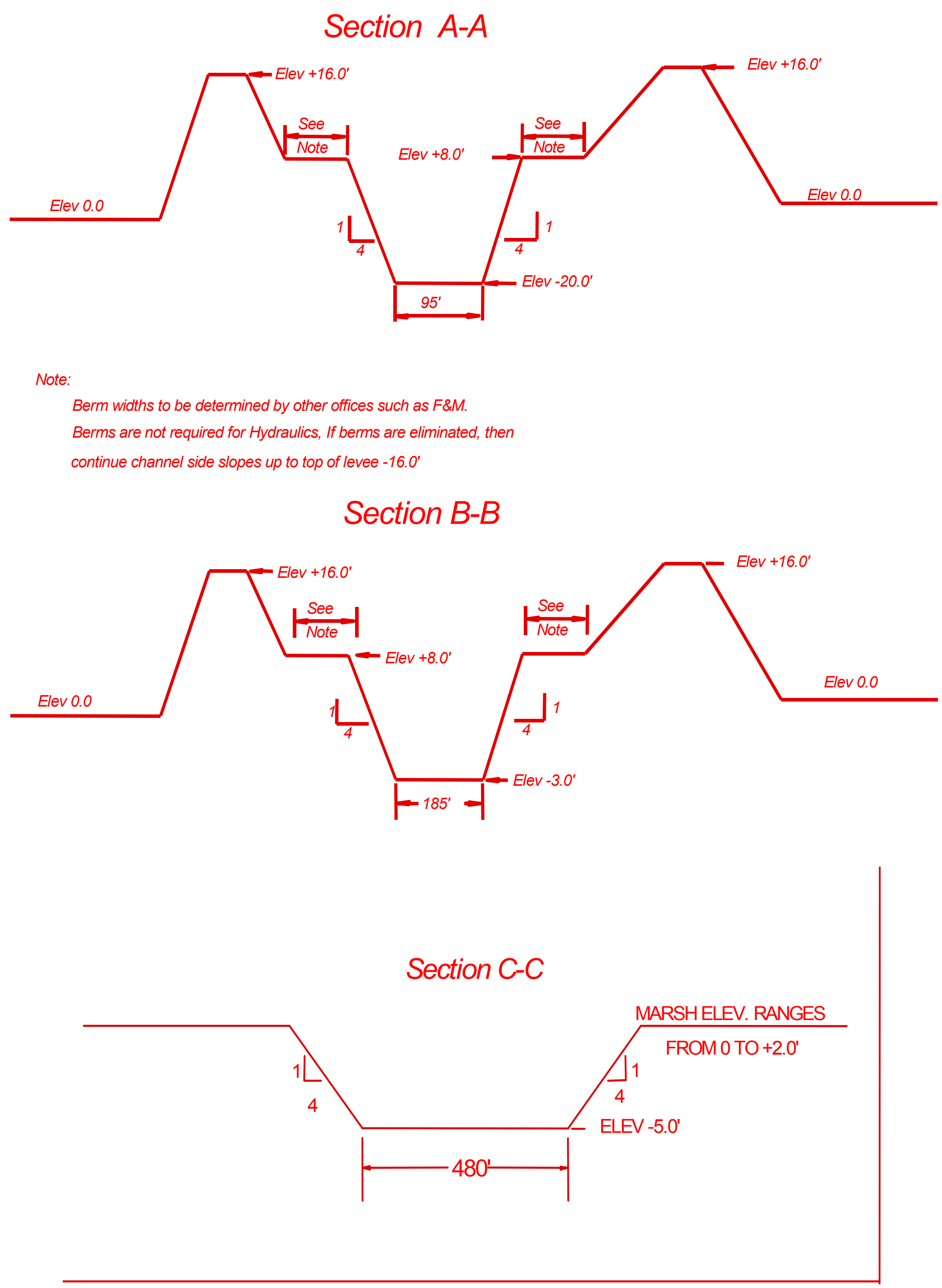
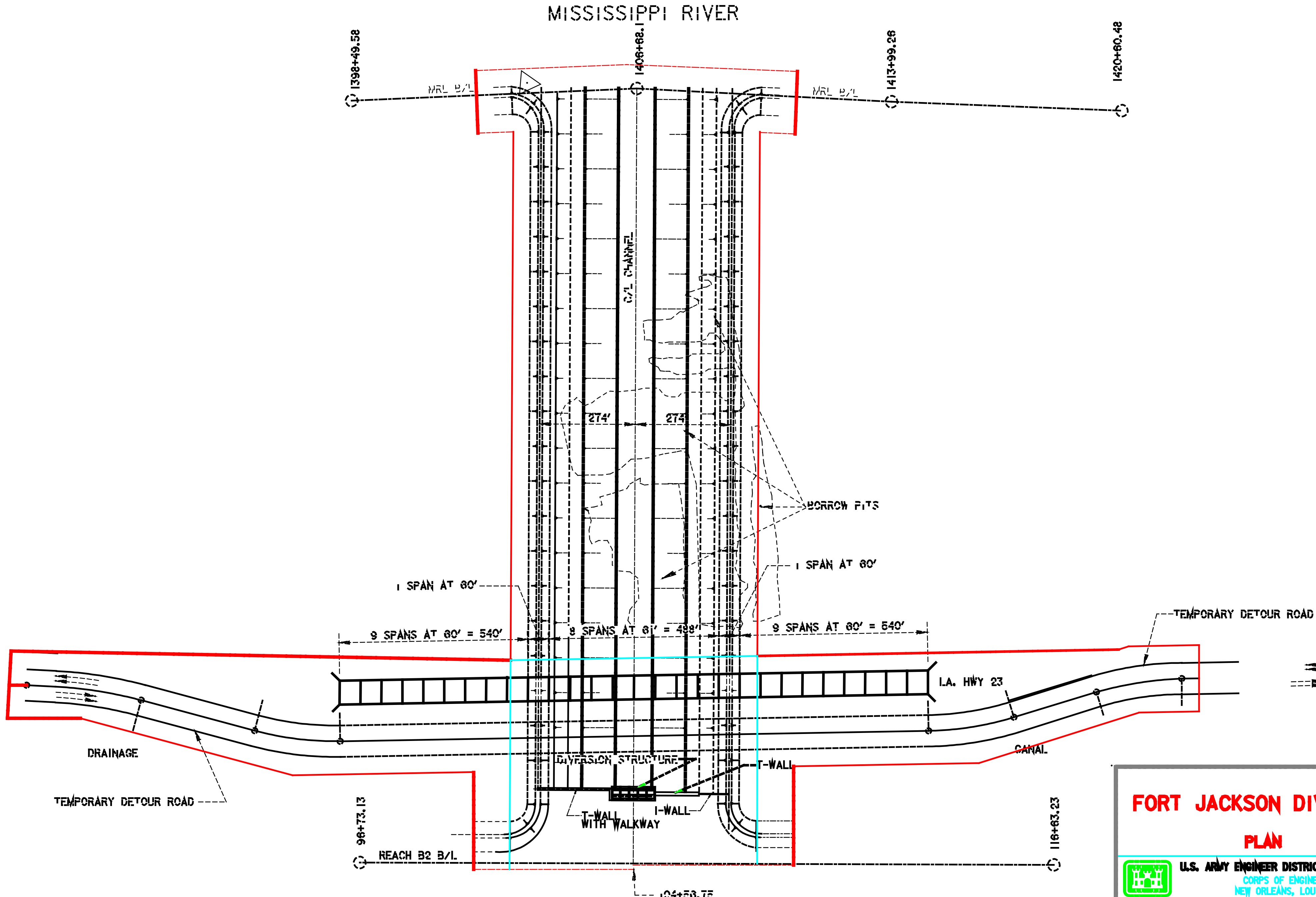


Figure 4
Channel Design Cross-sections
Fort Jackson Sediment Diversion, 10,000 CFS Option



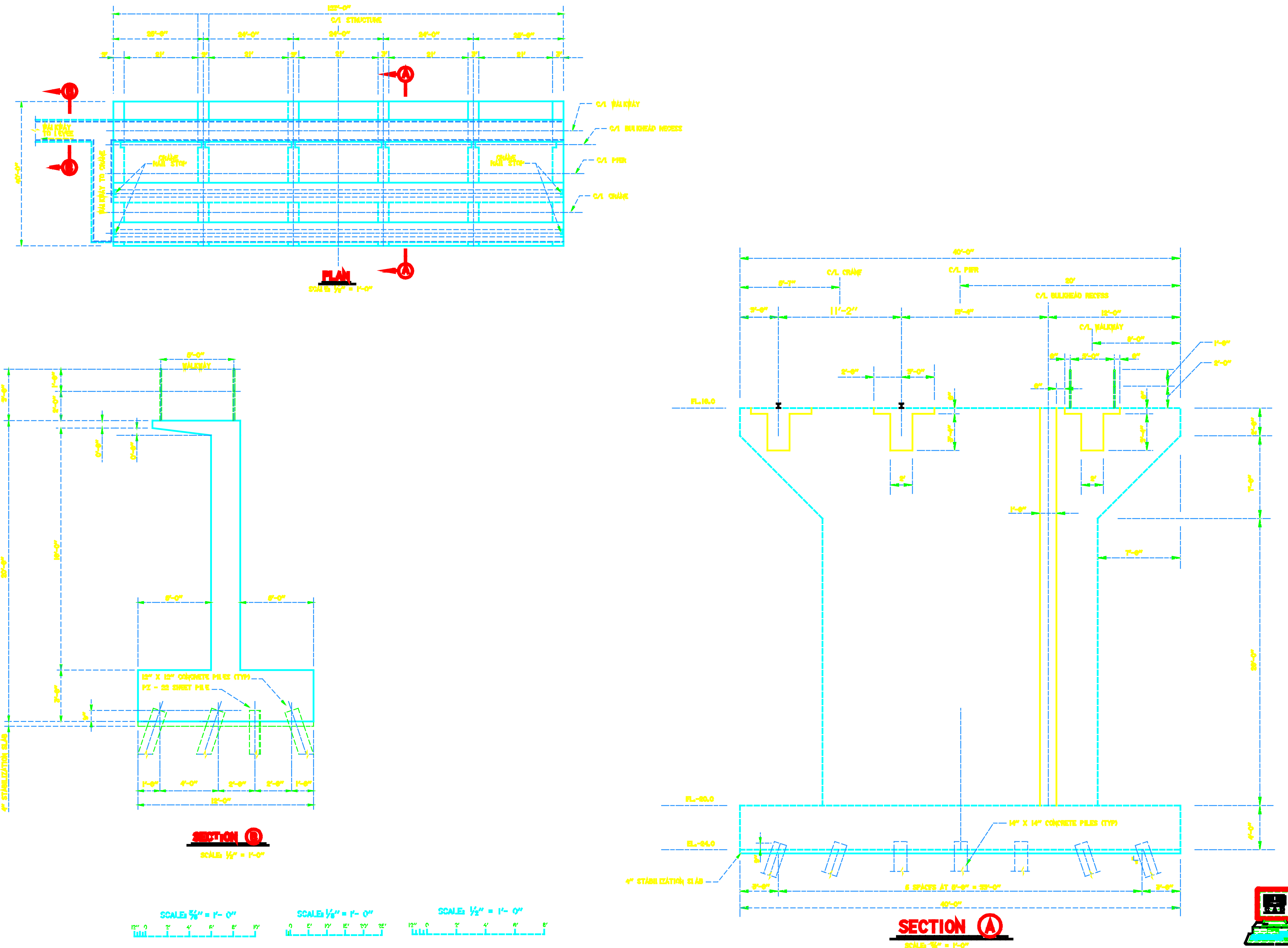
FORT JACKSON DIVERSION

PLAN

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

DESIGNED BY:
DRAWN BY:
CHECKED BY:
PLOT SCALE:
PLOT DATE: 2/10/03
DATE:
CADD FILE:
FILE NO.

PLATE 2



DATUM: NGVD

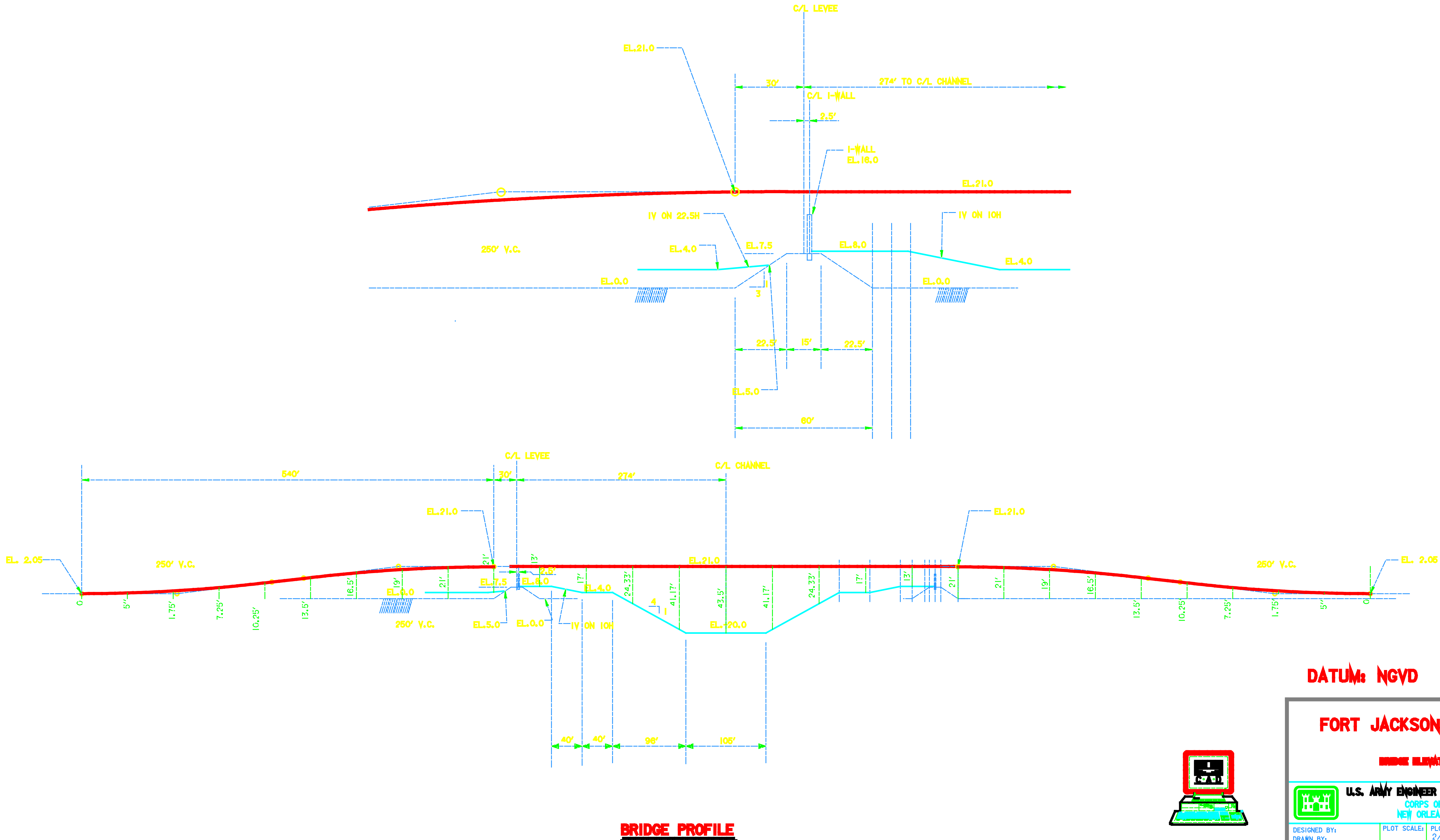
FORT JACKSON DIVERSION

CLOSURE STRUCTURE DETAIL

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

DESIGNED BY: DRAWN BY: CHECKED BY:	PLOT SCALE:	PLOT DATE:	CADD FILE: FILE NO.
	DATE:		

PLATE 4



DATUM: NGVD

FORT JACKSON DIVERSION

BRIDGE ELEVATION

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

DESIGNED BY:	PLOT SCALE:	PLOT DATE: 2/10/03	CADD FILE: f01.dgn
DRAWN BY:			FILE NO.
CHECKED BY:	DATE:		

PLATE 3

APPENDIX 5

Hydraulic Modeling Report

FORT JACKSON FRESHWATER DIVERSION
Hydraulic Modeling Report

INTRODUCTION

The work detailed in this report was done under the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA). The scope of work for this project included building a TABS-MD model illustrating existing conditions, applying alternative conditions, and evaluating those results. The model boundary area is the area surrounded by Fontanelle Bayou Canal, the Mississippi River, Red Pass, Pass Tante Phine, and the Gulf of Mexico.

Questions that this model would expect to answer when evaluated by environmental experts are:

1. Will the proposed freshwater diversion adversely affect the oyster producing areas west of Bayou Grand Liard?

2. If the diversion reduces oysters by over freshening, will a sheet pile wall along the east bank of Bayou Grand Liard prevent the over freshening?

3. Will the proposed project be effective in increasing the amount of freshwater introduced into Yellow Cotton and Hospital Bays significantly enough to stimulate marsh rebuilding?

EXISTING CONDITIONS

The project boundary encompasses an area of marsh that has experienced widespread conversion to open water over the last four decades. Much of this marsh loss is due to salinity intrusion into the basin. This intrusion is a partly a result of the construction of numerous oilfield canals within the basin, rising sea levels, and land subsidence.

A year 2000 aerial photograph was used as the background on which the geometry of this model was based. Figure 1 shows the photograph and areas that are mentioned in this report are depicted.

The existing conditions model is meant to represent (to a certain degree) the average conditions in the system. Since the system is largely a tide driven system, the boundary conditions are composed of the tide on the Gulf boundary and a mock freshwater input on the east side to represent water that comes from the Mississippi River through Tiger Pass (this pass carries ten percent of the water volume that reaches Venice, LA). Tiger Pass splits into two channels with fifty percent assumed to flow into Pass Tante Phine and the other 50 % continuing through Tiger Pass. The 50% flowing into Pass Tante Phine was assumed to work its way into the Fort Jackson project system. The time that was chosen for the model run was from November 24, 2001 to December 10, 2001.

METHOD

As is customary with model studies, a numerical model of the existing conditions within the system was constructed. The model is a 2-dimensional depth averaged finite element model. The model chosen for this effort was the TABS-MD package of models, or just TABS for short. The modules used for this study include GFGEN (geometry file generator), RMA2 (hydrodynamics), and RMA4 (constituent transport). After the geometry was built, GFGEN was run to change the data into binary data so it can be used by RMA2. Hydrodynamic runs were made using RMA2. Different parameters were tweaked to get the model running within the set tolerance limits. The solution file created in RMA2 was then used to run the RMA4 constituent transport model. This model was then verified to data collected in the system. Once the model was found to be verified, the model was re-run again, except that the geometry was modified to show the with-project conditions. These with-project models were then compared with the existing conditions models to determine the effects of the project. Once these effects were determined, they were evaluated.

Verification is perhaps the most important step in constructing a hydrodynamic model. Verification is the process of running the model using measured boundary conditions and comparing the results of the model from the areas of concern to measured data in the same area. The purpose of doing this was to insure that the model accurately represents the natural system. Verification is usually done as a two-step process, using two independent data sets. The first step ran the model using tide simulation data created for Southwest Pass. Various parameters were adjusted until the model adequately represented the natural system. Whether or not the model adequately represents the natural system is a judgment call of the modeling team. This judgment is based upon a comparison of the model results to measured data at the same location from the same time period modeled. Two recording stage and salinity gages were set out for 6 months. One is located north of Bay Coquette and the other in north Hospital Bay/west Bay Carrion Crow. There were several parameters within the model that can be adjusted so that it adequately represents the system. These parameters included eddy viscosity or Peclet Number (usually one or the other), the Manning's n value (a channel roughness coefficient), and marsh porosity values for wetting and drying by marsh porosity, but the geometry of the model accounts for about 60% of achieving the correct simulation of the system. To check that the model adequately represented the system, the measured values were compared to the model results. The model was calibrated for hydrodynamics and salinity. The hydrodynamic results drive the salinity model. The results were satisfactory, and the model was considered verified. During this whole process, it must be understood that the model will not perfectly duplicate the results of the natural system as the model is only a numerical representation of the system to be used to assess impacts of changes and to aid in the decision making process. The goal is to accurately represent the processes, not perfect duplication of that system.

Since neither precipitation nor wind data was recorded or modeled, the period selected for verification was that of least rainfall days using precipitation reports from Buras, Louisiana, and wind data from New Orleans International Airport through NOAA's Climatic Data Center. Factors affecting model verification include problems with boundary conditions, geometry, roughness, eddy viscosity, and the wrong choice of models. The geometry is very complex for this model, so the calculations in running TABS takes a longer time than if it were a smaller mesh or less complicated system.

In this project, the results are for four models. These include:

1. Existing conditions

2. Alternative 1—10,000 cfs of flow in the diversion channel

3. Alternative 2—10,000 cfs of flow in the diversion channel plus a sheet pile wall at Bayou Grand Liard

4. Alternative 3—15,000 cfs of flow in the diversion channel plus a sheet pile wall at Bayou Grand Liard

Model verification was done at two places. **Buras 1** (north Hospital Bay/west Bay Carrion) and **Buras 2** (north Bay Coquette, near the Gulf of Mexico).

RESULTS

The results of the modeling effort are shown in the figures below. Figures 2 and 3 show the hydrodynamic results from the existing model. Figures 4 through 9 show the hydrodynamic results from the alternative runs.

On November 30th, a 0.40 inch rainfall was recorded at the Buras Station and 0.86 inches recorded at the LSU Citrus Research Station. On November 27th, a cold front came through the area. This resulted in higher wind speeds and higher stages. On November 27th and 28th, the resultant wind speed at the airport was 11.1 and 13.9 miles per hour, respectively, when the average for that month was 2.6 mph. The recorded data shows an increase in the stage for both gages from the 27th through the 29th. The other days show that the model tends to have an average of about 0.5 foot higher stage than the actual data. Buras 2 almost exactly replicates the tide input. This is expected because there is not much of a "buffer" zone between the gage and the Gulf of Mexico. There is a slight time lag, which is also expected, because there is some distance between the Gulf and the gage. With this difference, the model is considered verified and the difference should be taken into consideration when analyzing the alternatives.

In alternative 1, the additional flow of 10,000 cfs into the system raised the average stage at both gages. At Buras 1, the maximum rise was approximately 0.35 ft, with an average of about 0.14 ft. At Buras 2, the maximum rise was approximately 0.98 ft, with an average of about 0.20 ft.

In alternative 2, the same flow of 10,000 cfs with Bayou Grand Liard's right bank (looking upstream) raised to an elevation of 5 ft resulted in a higher stage elevation at Buras 1 (about 0.10 ft), but at Buras 2, the stage elevation was almost back to existing conditions. The average change was 0.007 ft, with a maximum change of 0.018 ft.

Alternative 3 is a diversion flow of 15,000 cfs with the same elevation at Bayou Grand Liard. The additional flow in this alternative raised the stage of Buras 1 an average of 0.08 ft, with a max of 0.19 ft. At Buras 2, the average change was 0.01 ft, with a maximum of 0.035 ft, above the existing conditions.

The salinity results at the gages predicted by the model were somewhat lower than expected. Figures 12 and 13 show results for existing conditions. In gage 1, there was not much amplitude in the results curve. The results show that the gage readings are a bit lower than the model for the first part of the period and they are a little higher for the second part of the period. The difference between the averages of the salinities for Buras 1 is 0.125 parts per thousand (ppt). That difference would probably be significantly smaller but for the rain event. For Buras 2, the average difference between the salinities is 2.655 ppt. The gage readings are generally higher than the model readings.

For alternatives 1 and 2, a shortened period of simulation time was used. There is sufficient data in the alternative 3 run to make a reasonable assumption of where the trend line for alternatives 1 and 2 will lead. Figures 14 through 19 show the salinity results for the alternatives. All three alternatives show a significant freshening of the system at the Buras 1 gage. The effect is almost the same at all three gages. The Buras 1 gage is located in the receiving area of the diversion channel. At Buras 2, the differences in the alternatives are more pronounced. There is a more gradual freshening of the area, which is heavily influenced by the tide. It lessens as the tide gets higher and is fresher when the tide is lower. There is about a 1 ppt difference between alternatives 1 and 2, so the sheet pile wall makes a little difference. When the 15,000 cfs alternative is considered, though, it's about 4 ppt fresher than the 10,000 cfs with sheet pile alternative. Figures 20 and 21 compare all three alternatives with the existing conditions model.

Figures 22 through 33 show areas of interest for the projects. The plots show water surface elevation (WSEL), salinity, and velocity at certain points. These points include:

1) The top of Bayou Grand Liard

2) A point in Bayou Grand Liard, about a quarter of the way up from the northernmost pipeline canal, between the pipeline canal and the top, this point is called Chicharas

3) Another point in Grand Liard, at the intersection of the second pipeline canal and Grand Liard, between Chicharas Bay and Bay Jacques, this point is called Jacques

4) The fourth point is in Spanish Pass, at an intersection just north of the Wagon Wheel, this point is called Spanish.

CONCLUSION

The models show a significant freshening in the areas both east and west of Bayou Grand Liard for all alternatives. If the local sponsor and the CWPPRA work groups determine that the freshening is too much to support the oyster producing areas, then a smaller capacity diversion could be designed. In the alternatives that had the sheet pile wall on Bayou Grand Liard, the channel openings were left open. This slightly delayed the complete freshening of the system, but it was eventually freshened. Consideration might be given to an additional option of closing off all the openings that allow water to pass through Grand Liard, which may protect the oyster farms in Chicharas Bay and areas west and north of it. Further design efforts should include additional modeling to verify the effects of various alternatives and configurations.

In general, the area is shallow and the amount of freshwater coming through the diversion seems to overwhelm the entire system. The model was run for two weeks and in that short time span the system was freshened. Whether or not marsh rebuilding can be stimulated in the system, is dependent on the velocities and the quantity and quality of available sediment. The velocities in the entire system are pretty low and most of the area is shallow, which are baseline conditions that would favor land-building given the right amount of freshwater and sediment introduced into the system. According to the MRSNFR study of 1996, for a 15,000 cfs diversion, "The area of affected salinity for the project encompasses approximately 82,000 acres. The expected yield of newly created wetlands is 11,600 acres." Sediment modeling may be encompassed in future design and feasibility work to update this. The project alternatives have the potential to introduce enough water and sediment to stimulate marsh re-growth. Alternative 3, the 15,000 cfs option without the sheetpile wall seems to be the best option because it gives very slight differences in the results than Alternative 2, which has the sheetpile wall added (see Figures 20 and 21).

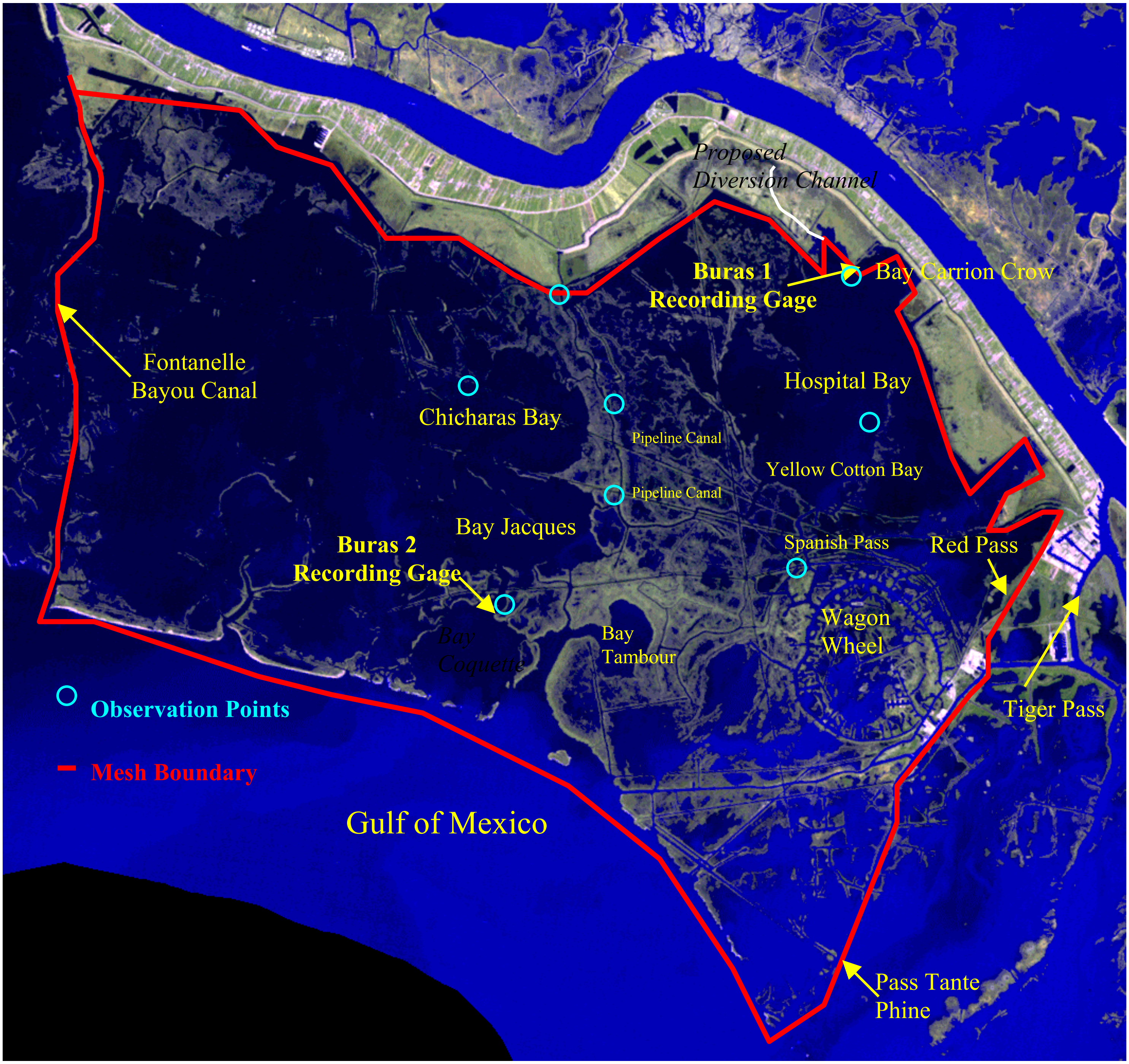


Figure 1: Map of Modeling Area

FIGURE 2

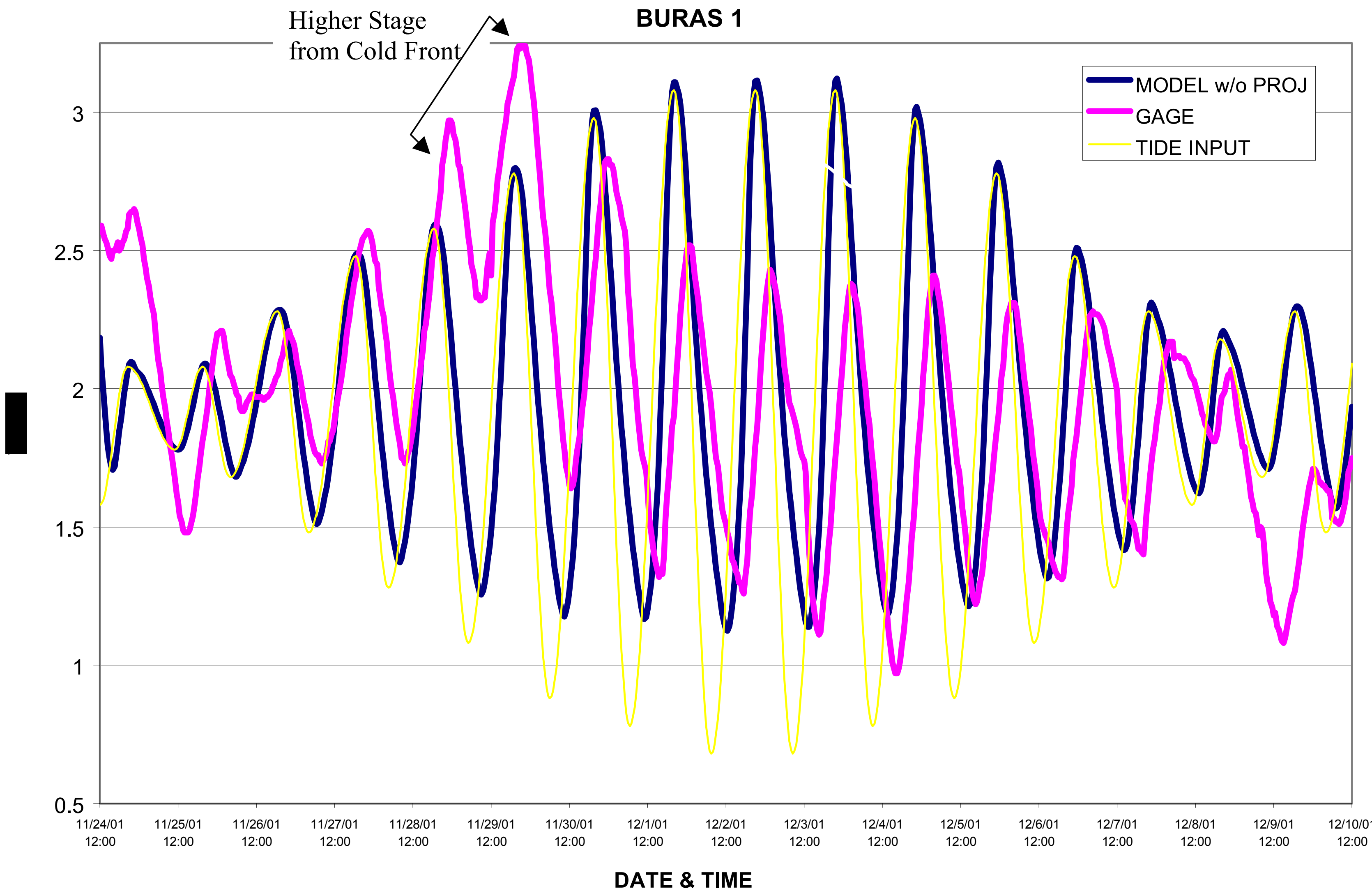

BURAS 1
Higher Stage
from Cold Front
MODEL w/o PROJ
GAGE
TIDE INPUT
[redacted]
3
2.5
2
1.5
1
0.5
11/24/01 12:00
11/25/01 12:00
11/26/01 12:00
11/27/01 12:00
11/28/01 12:00
11/29/01 12:00
11/30/01 12:00
12/1/01 12:00
12/2/01 12:00
12/3/01 12:00
12/4/01 12:00
12/5/01 12:00
12/6/01 12:00
12/7/01 12:00
12/8/01 12:00
12/9/01 12:00
12/10/01 12:00
DATE & TIME

FIGURE 3

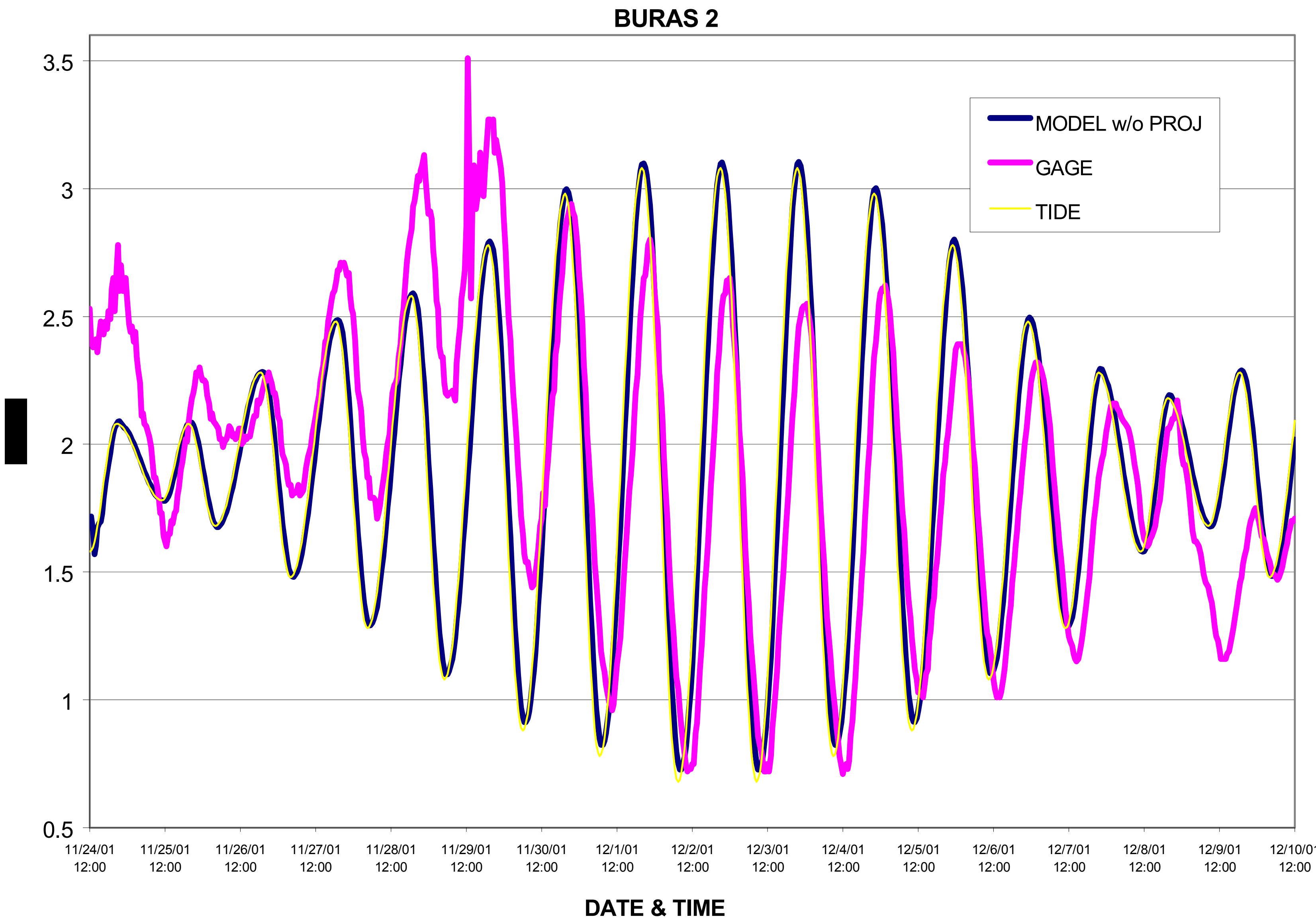
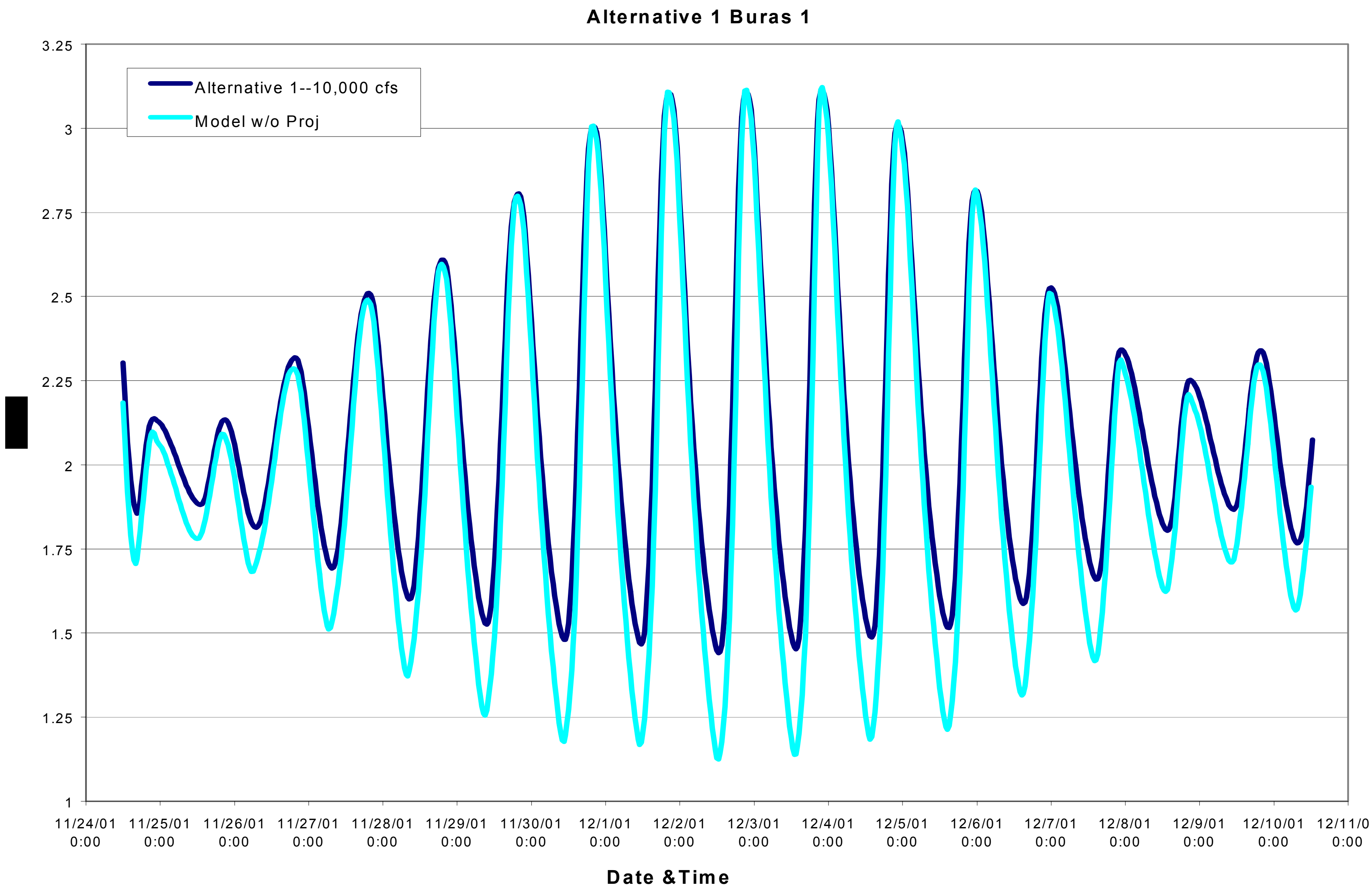

BURAS 2
MODEL w/o PROJ
GAGE
TIDE
[redacted]
3.5
3
2.5
2
1.5
1
0.5
11/24/01 12:00
11/25/01 12:00
11/26/01 12:00
11/27/01 12:00
11/28/01 12:00
11/29/01 12:00
11/30/01 12:00
12/1/01 12:00
12/2/01 12:00
12/3/01 12:00
12/4/01 12:00
12/5/01 12:00
12/6/01 12:00
12/7/01 12:00
12/8/01 12:00
12/9/01 12:00
12/10/01 12:00
DATE & TIME

FIGURE 4



Alternative 1 Buras 1
Alternative 1--10,000 cfs
Model w/o Proj
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date &Time

FIGURE 5

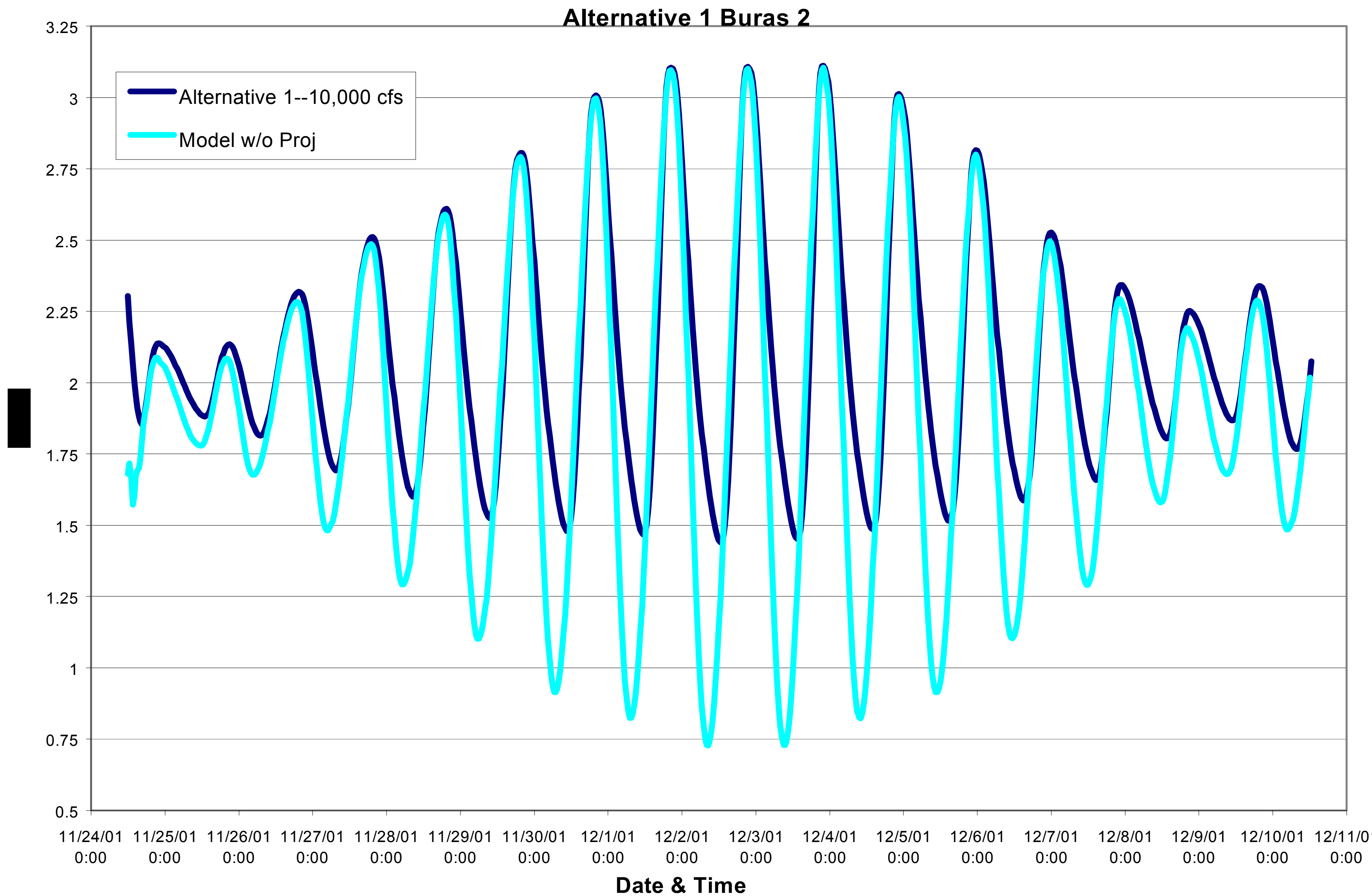

Alternative 1 Buras 2
Alternative 1--10,000 cfs
Model w/o Proj
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
0.75
0.5
[redacted]
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time

FIGURE 6

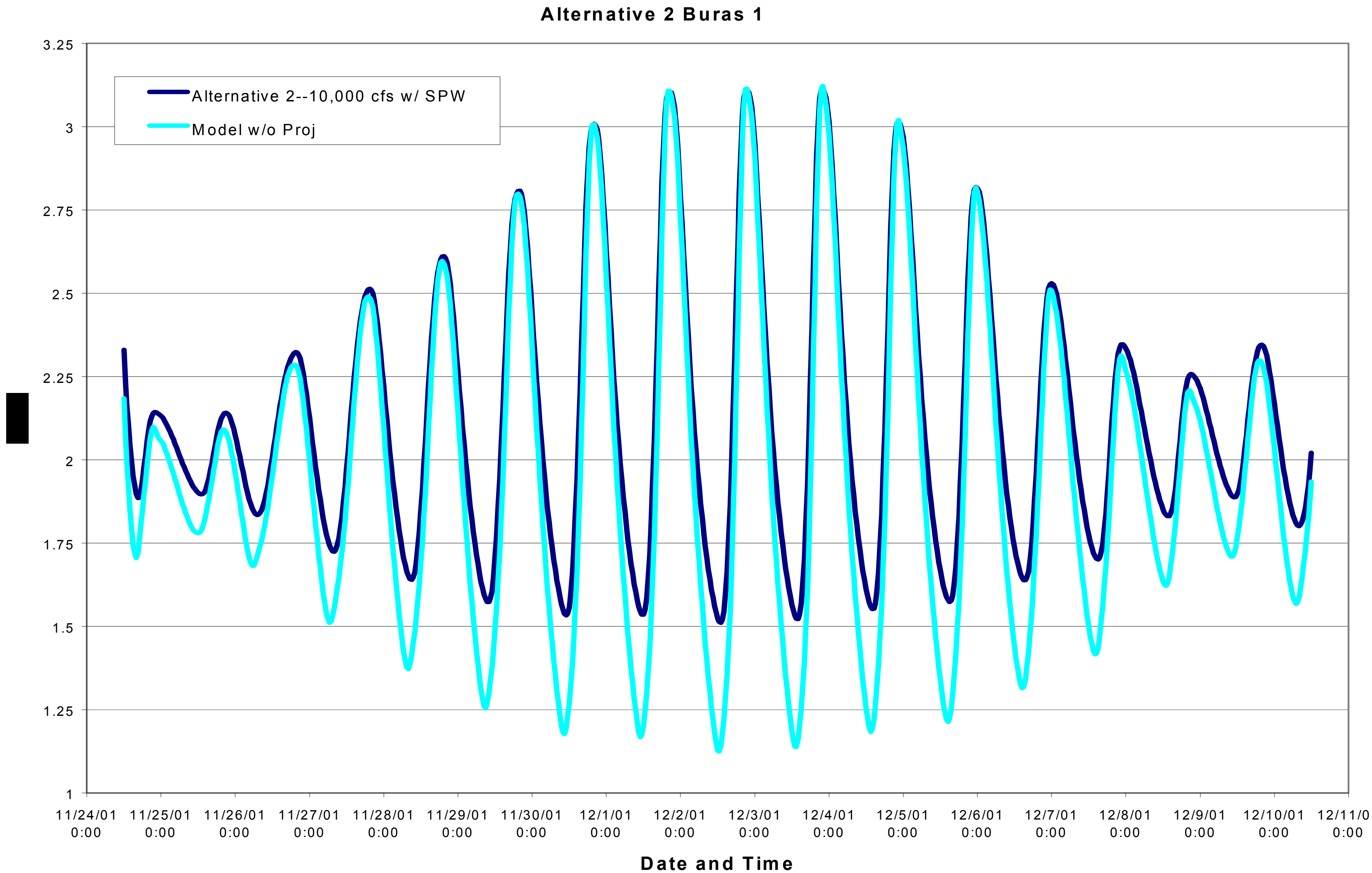
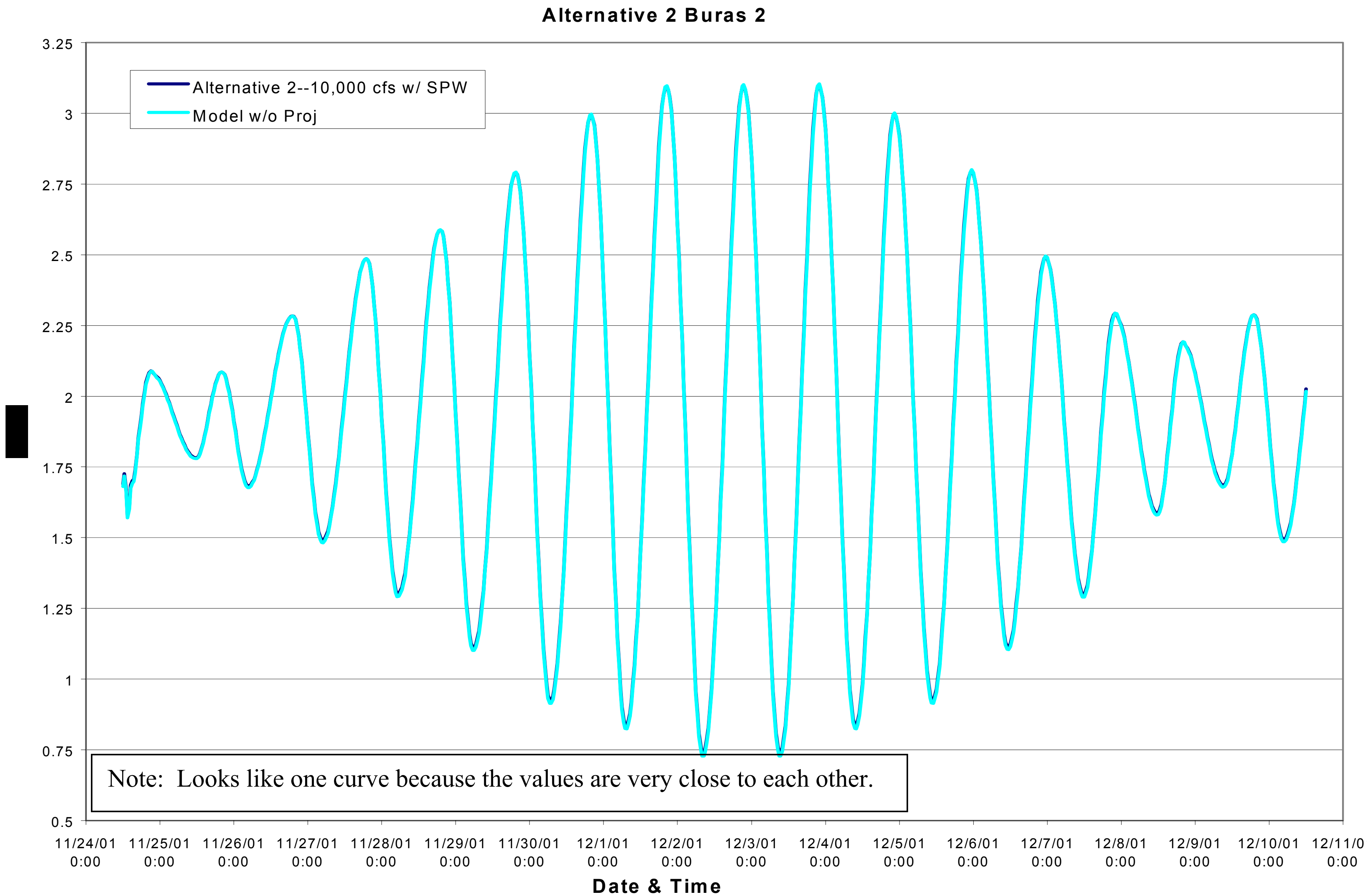

Alternative 2 Buras 1
Alternative 2--10,000 cfs w/ SPW
Model w/o Proj
[redacted]
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date and Time

FIGURE 7



Alternative 2 Buras 2
Alternative 2--10,000 cfs w/ SPW
Model w/o Proj
[redacted]
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
0.75
0.5
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time
Note: Looks like one curve because the values are very close to each other.

FIGURE 8

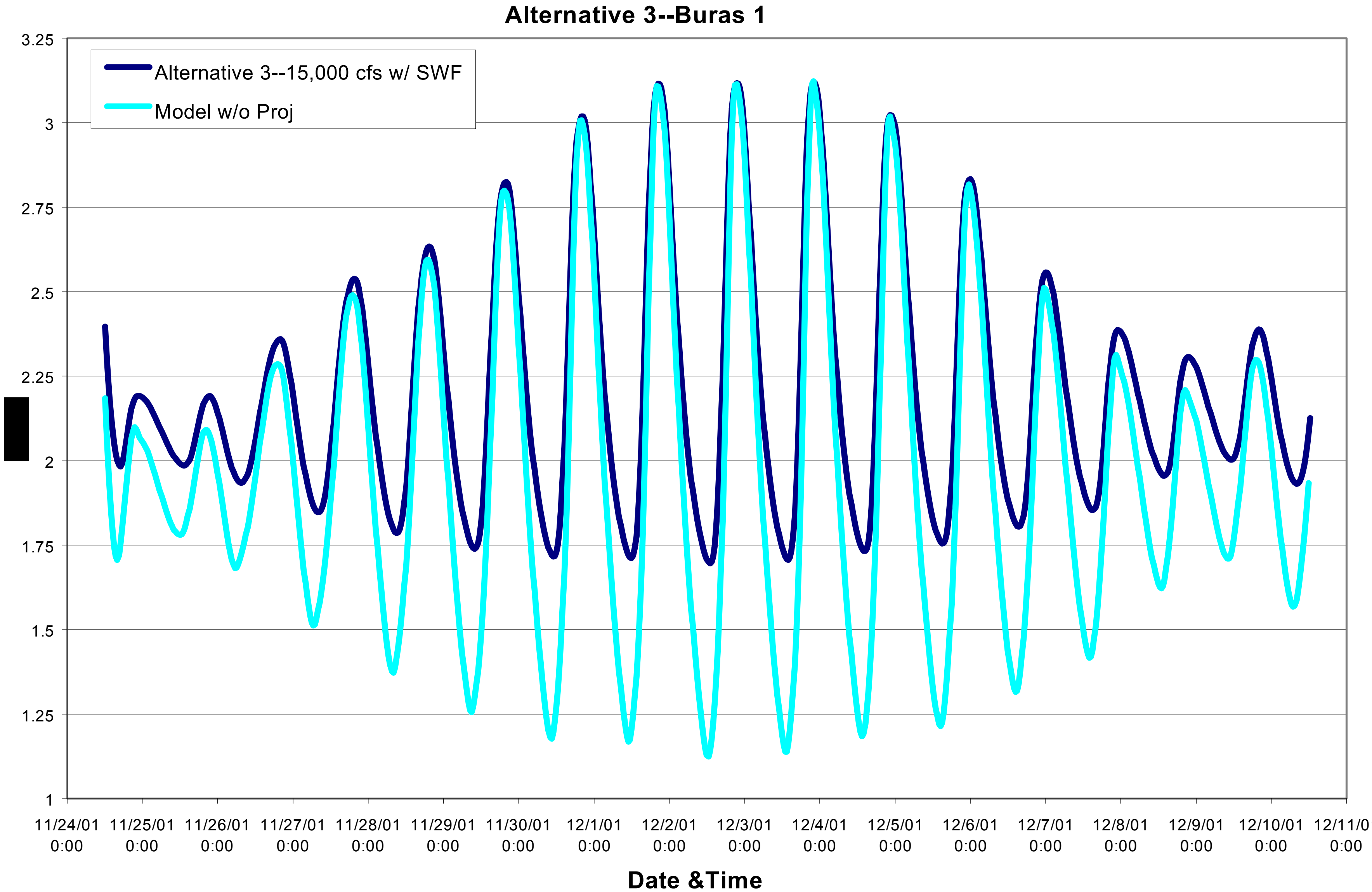
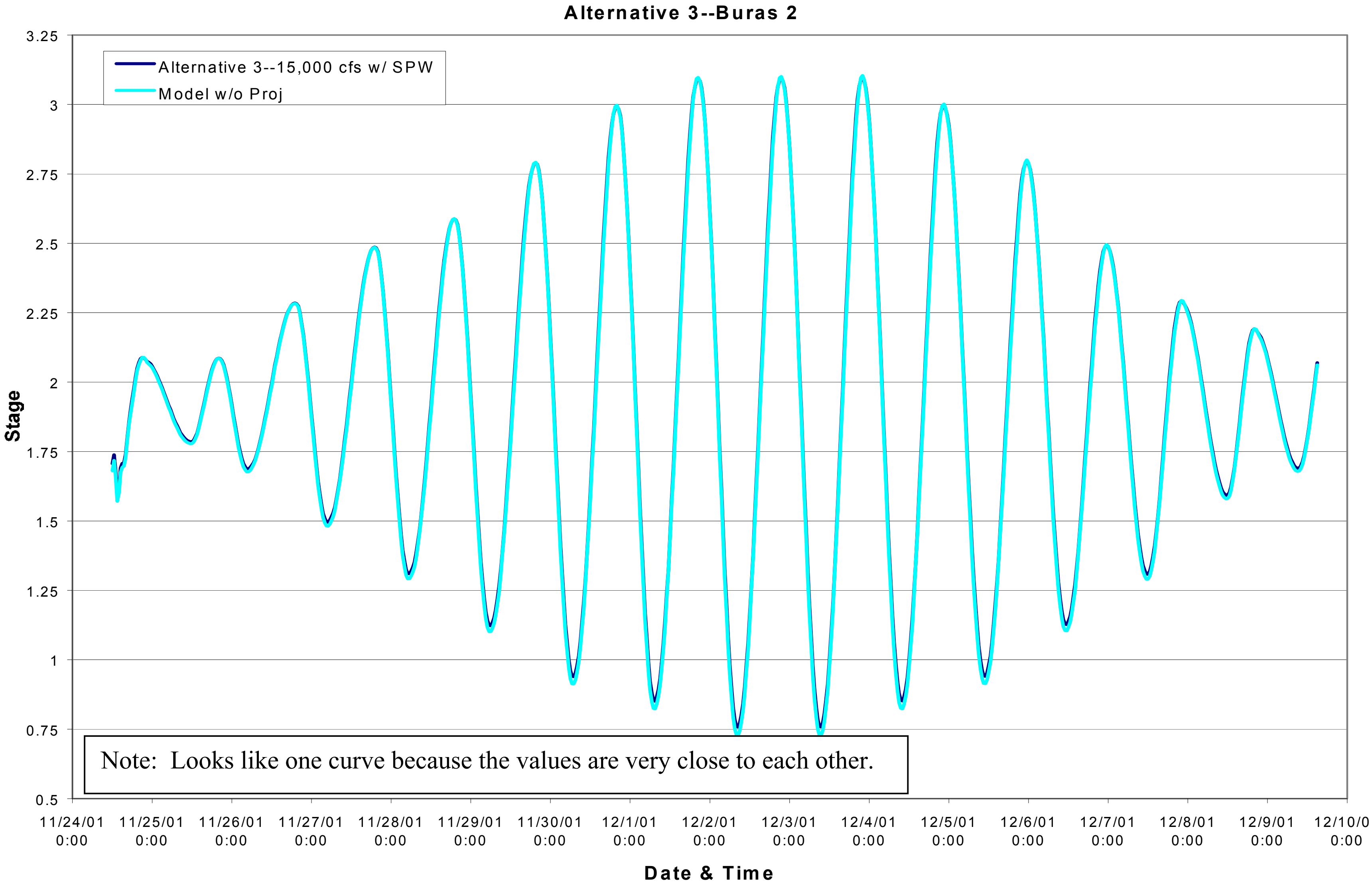

Alternative 3--Buras 1
Alternative 3--15,000 cfs w/ SWF
Model w/o Proj
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
[redacted]
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date &Time

FIGURE 9


Alternative 3--Buras 2
Alternative 3--15,000 cfs w/ SPW
Model w/o Proj
Stage
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
0.75
0.5
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
Date & Time
Note: Looks like one curve because the values are very close to each other.

Figures 10 and 11 show a comparison of the hydrodynamics of the alternatives at each gage.

FIGURE 10

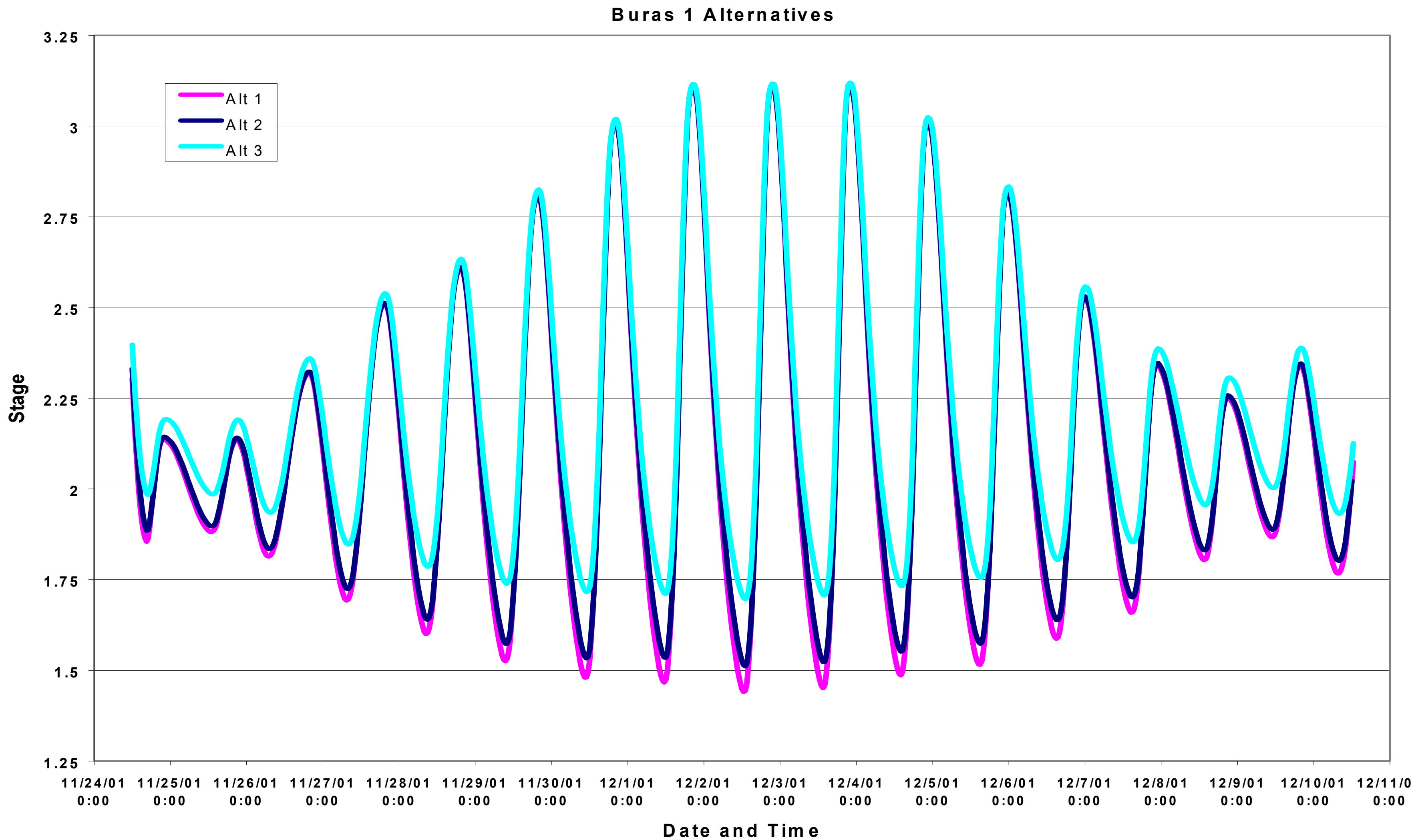
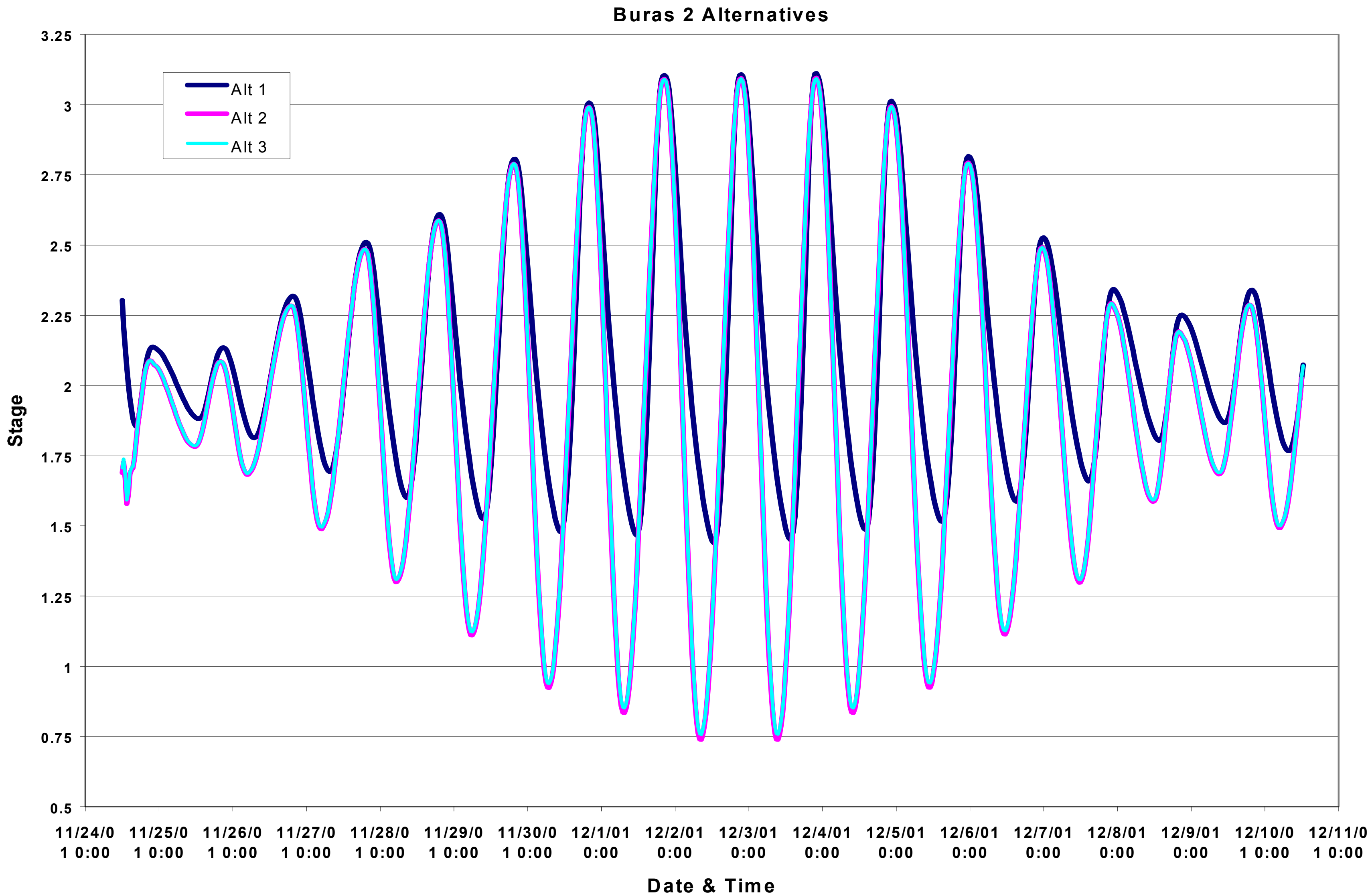
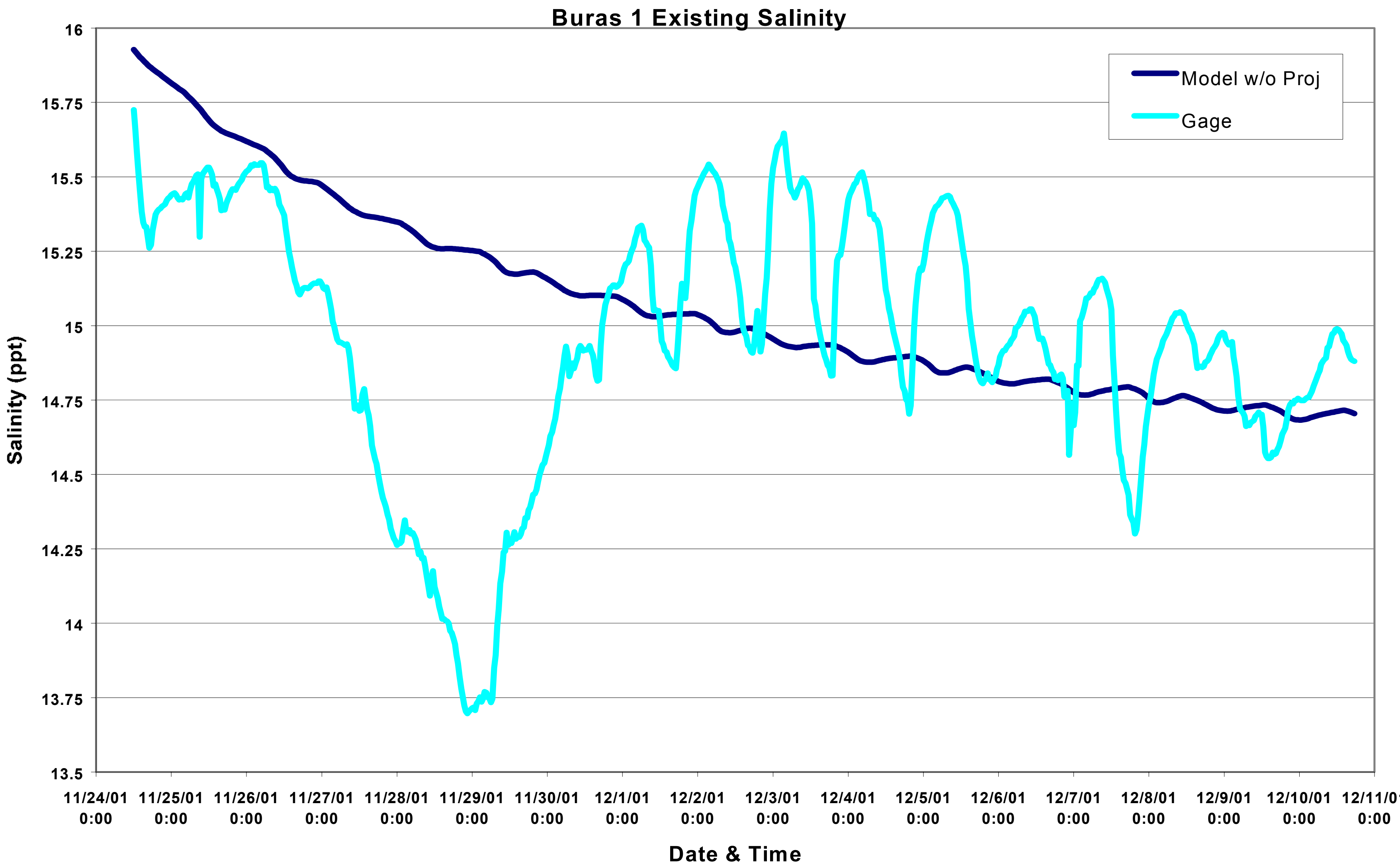


FIGURE 11



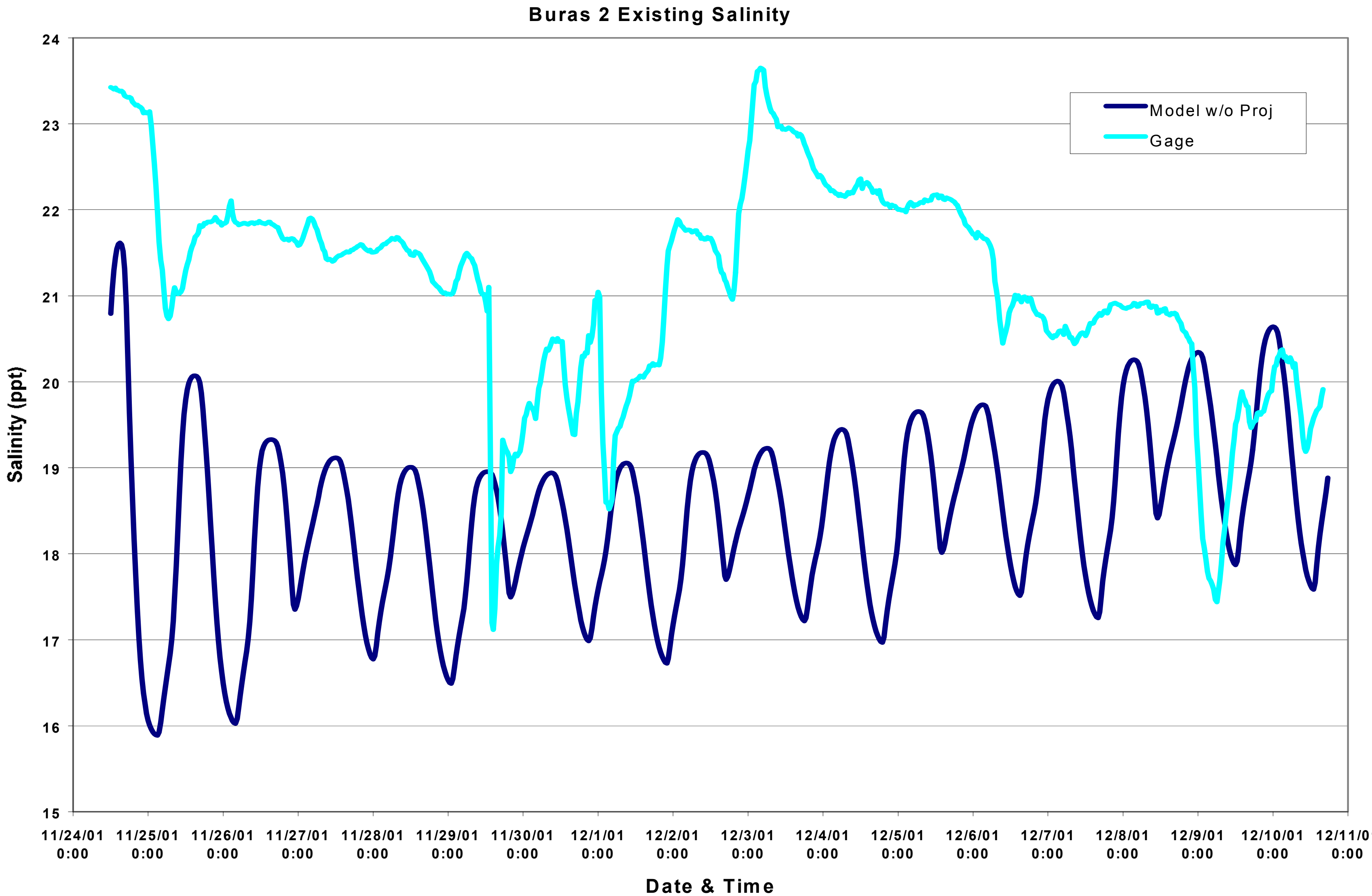
Buras 2 Alternatives
Alt 1
Alt 2
Alt 3
Stage
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
0.75
0.5
11/24/0 1 0:00
11/25/0 1 0:00
11/26/0 1 0:00
11/27/0 1 0:00
11/28/0 1 0:00
11/29/0 1 0:00
11/30/0 1 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/0 1 0:00
12/11/0 1 0:00
Date & Time

FIGURE 12



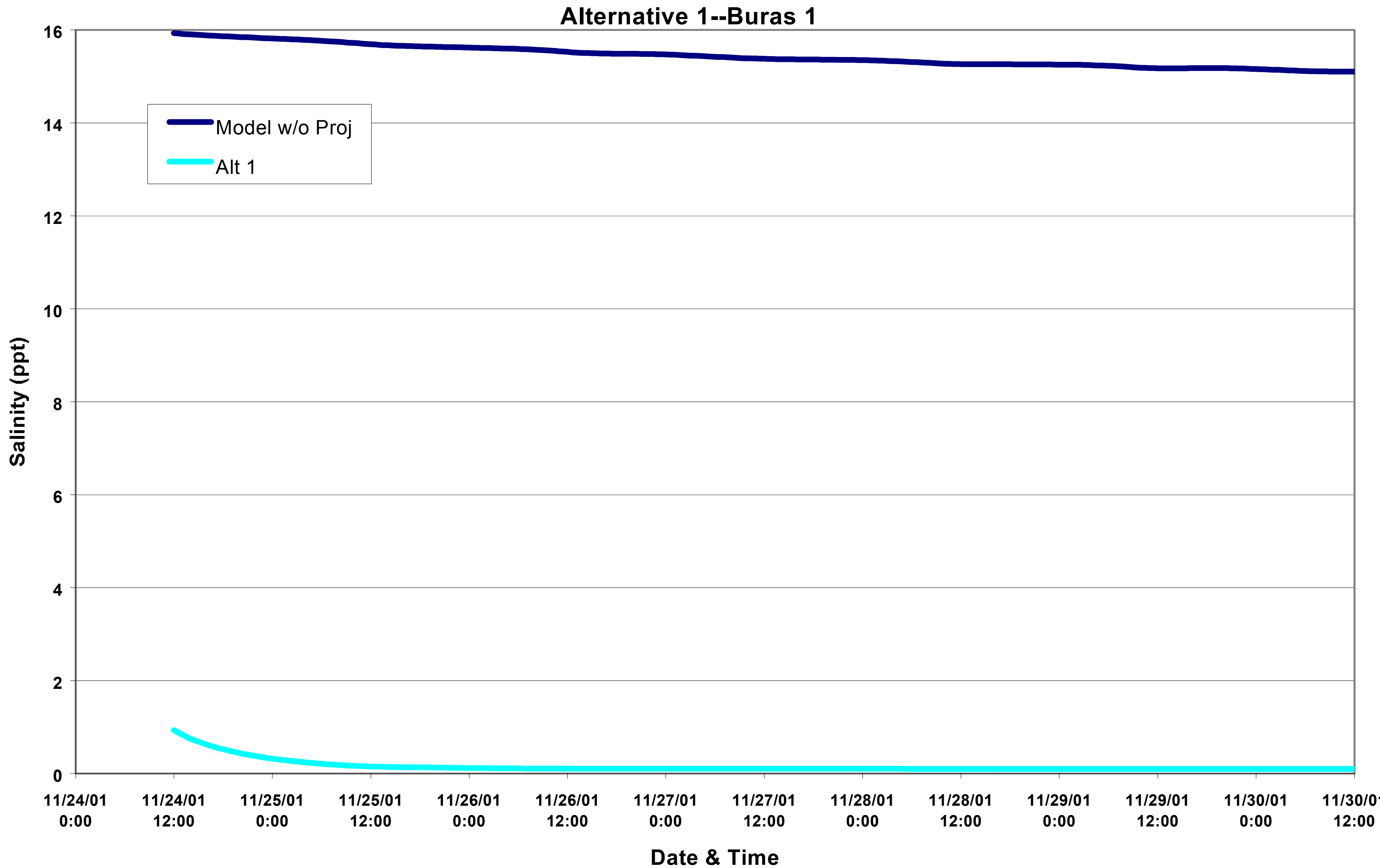
Buras 1 Existing Salinity
Model w/o Proj
Gage
Salinity (ppt)
16
15.75
15.5
15.25
15
14.75
14.5
14.25
14
13.75
13.5
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time

FIGURE 13



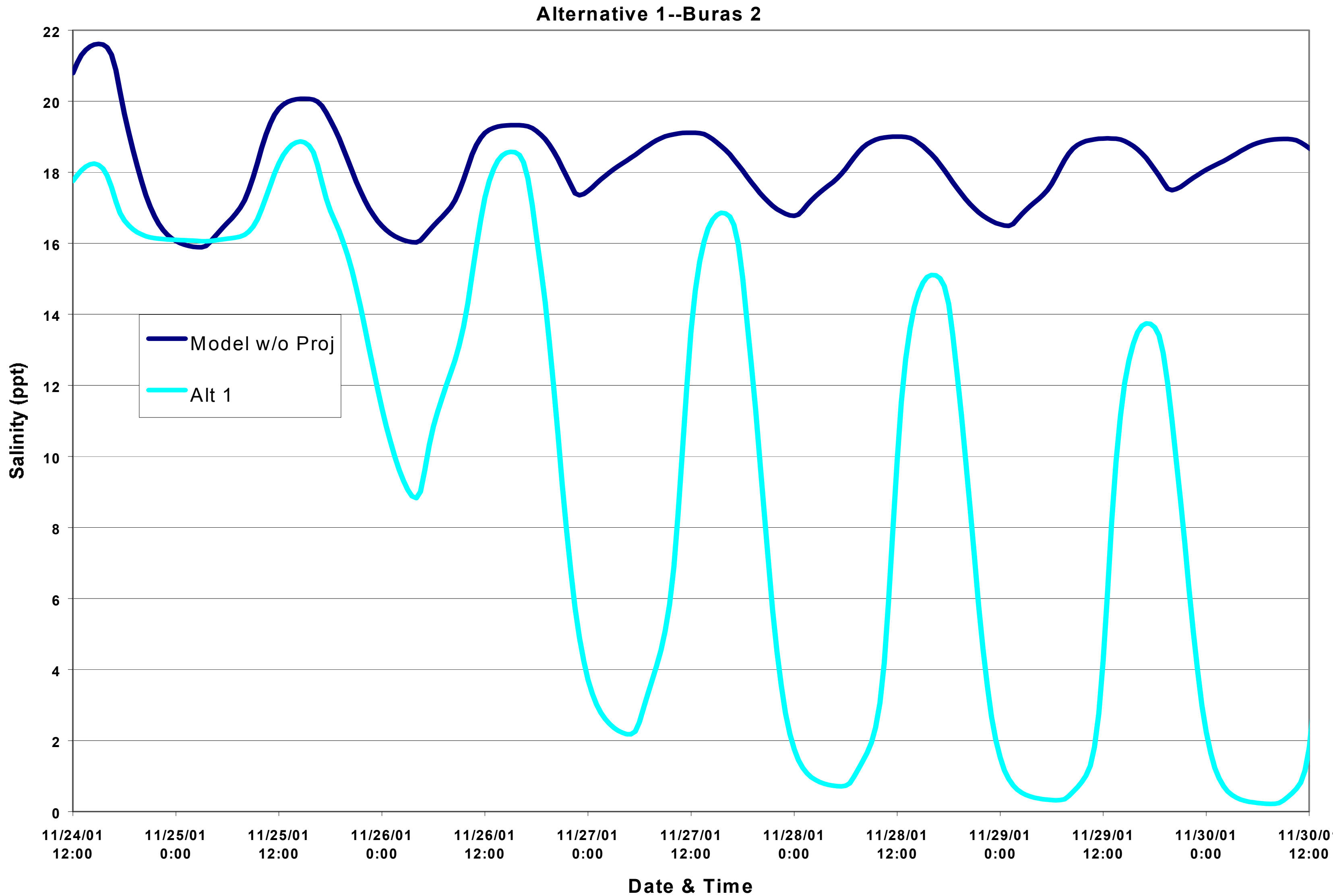
Buras 2 Existing Salinity
Model w/o Proj
Gage
24
23
22
21
20
19
18
17
16
15
Salinity (ppt)
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time

FIGURE 14



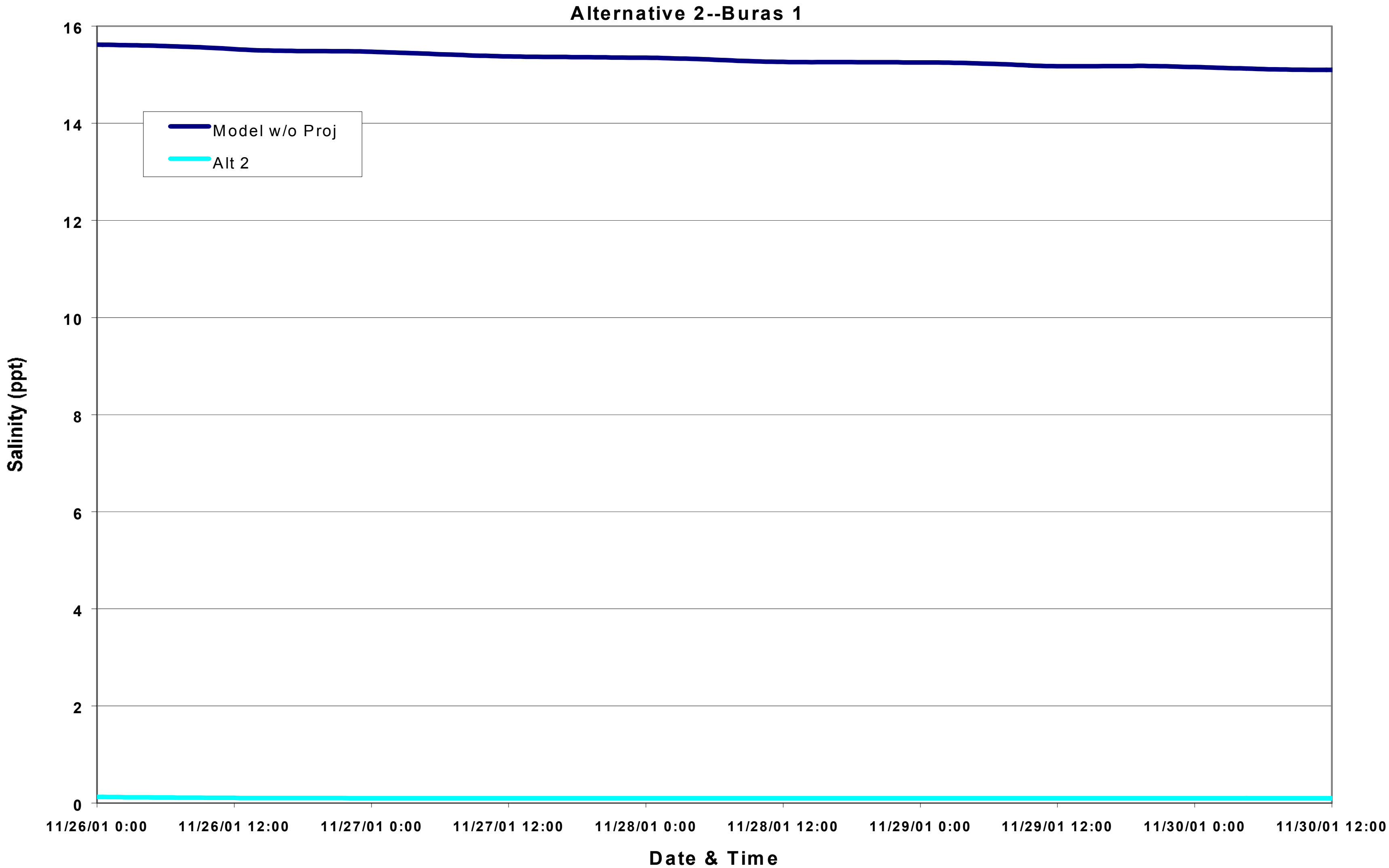
Alternative 1--Buras 1
Salinity (ppt)
16
14
12
10
8
6
4
2
0
Model w/o Proj
Alt 1
11/24/01 0:00
11/24/01 12:00
11/25/01 0:00
11/25/01 12:00
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
Date & Time

FIGURE 15



Alternative 1--Buras 2
Salinity (ppt)
22
20
18
16
14
12
10
8
6
4
2
0
Model w/o Proj
Alt 1
11/24/01 12:00
11/25/01 0:00
11/25/01 12:00
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
Date & Time

FIGURE 16



Alternative 2--Buras 1
Model w/o Proj
Alt 2
Salinity (ppt)
16
14
12
10
8
6
4
2
0
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
Date & Time

FIGURE 17

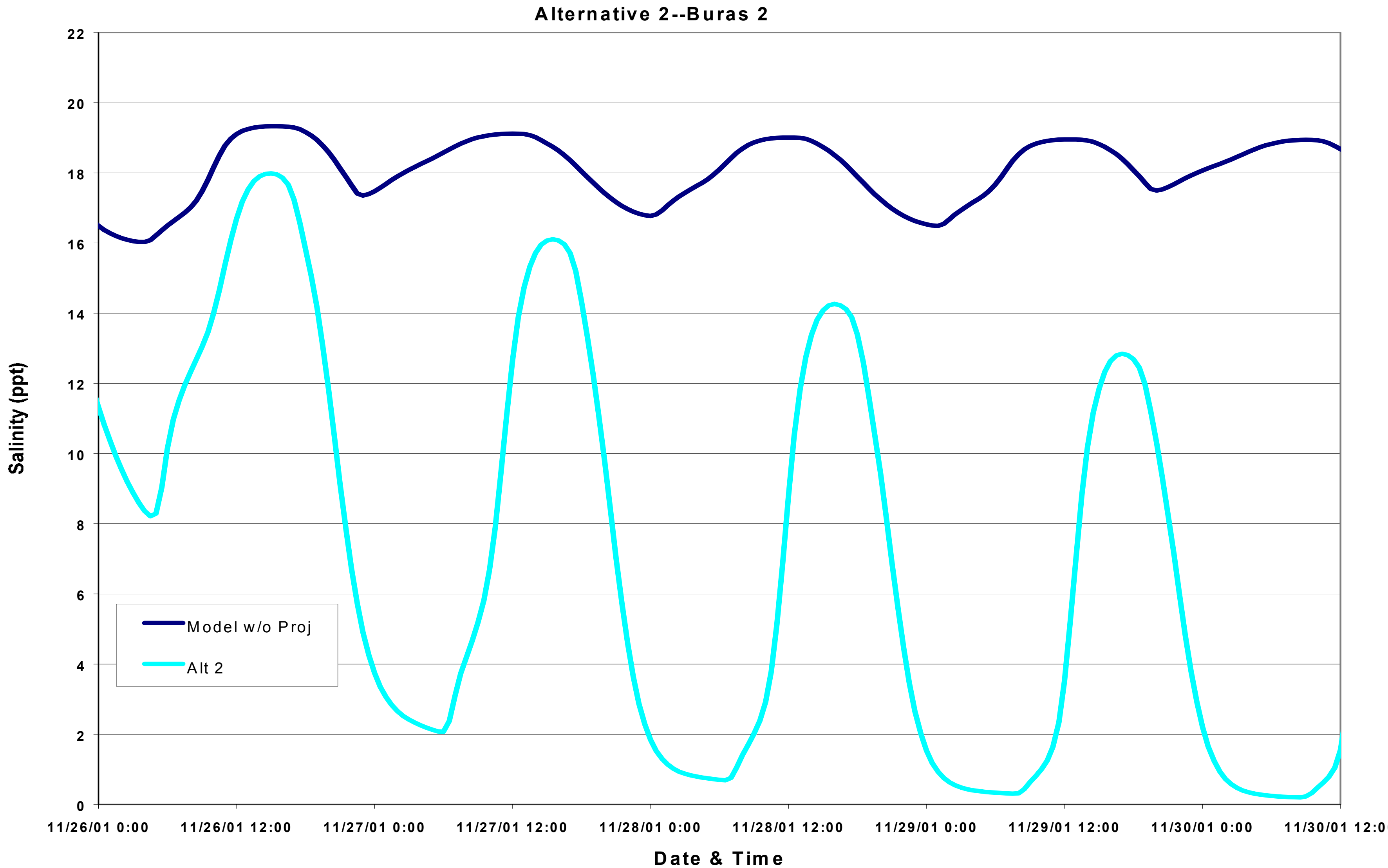
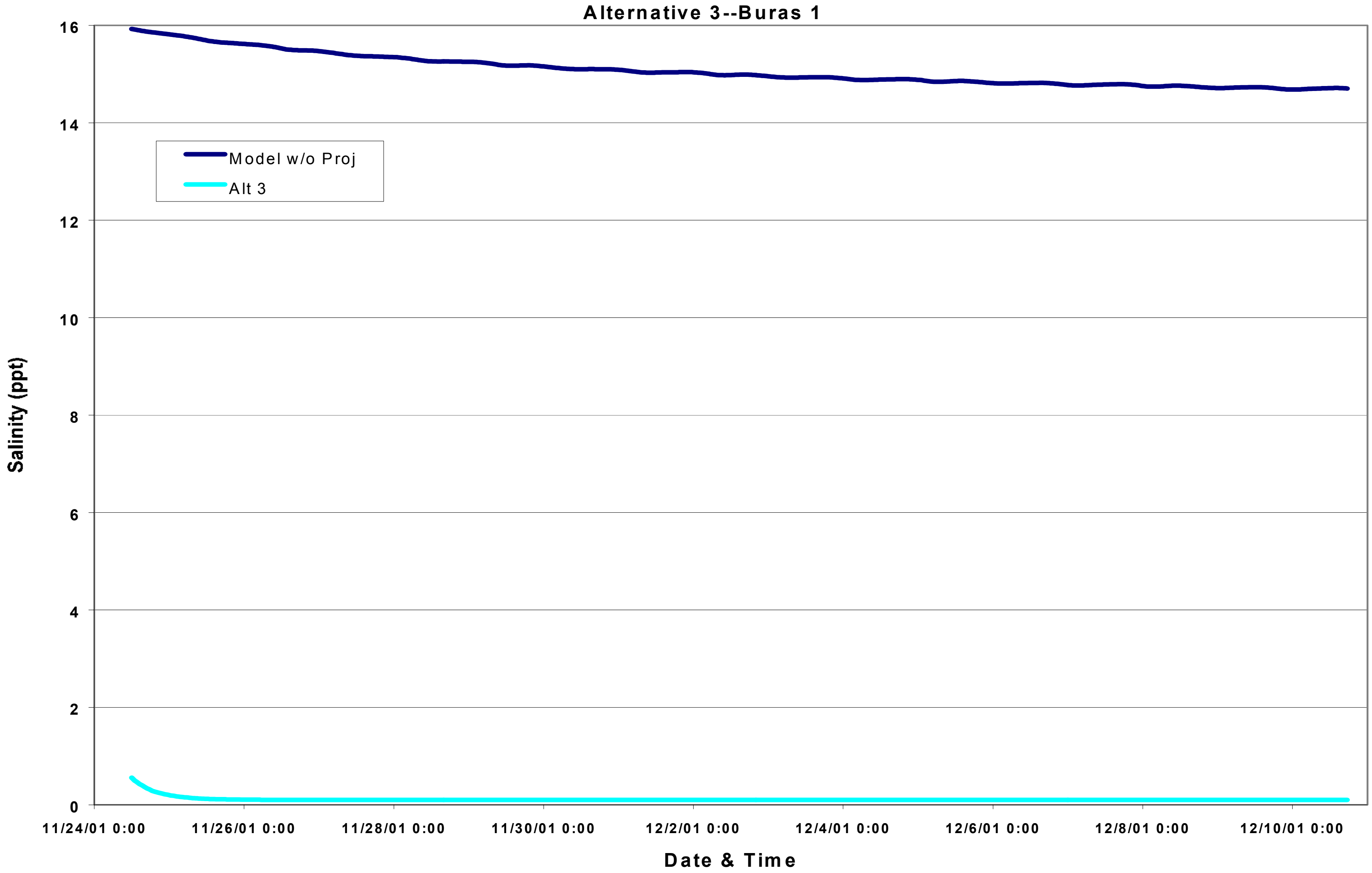
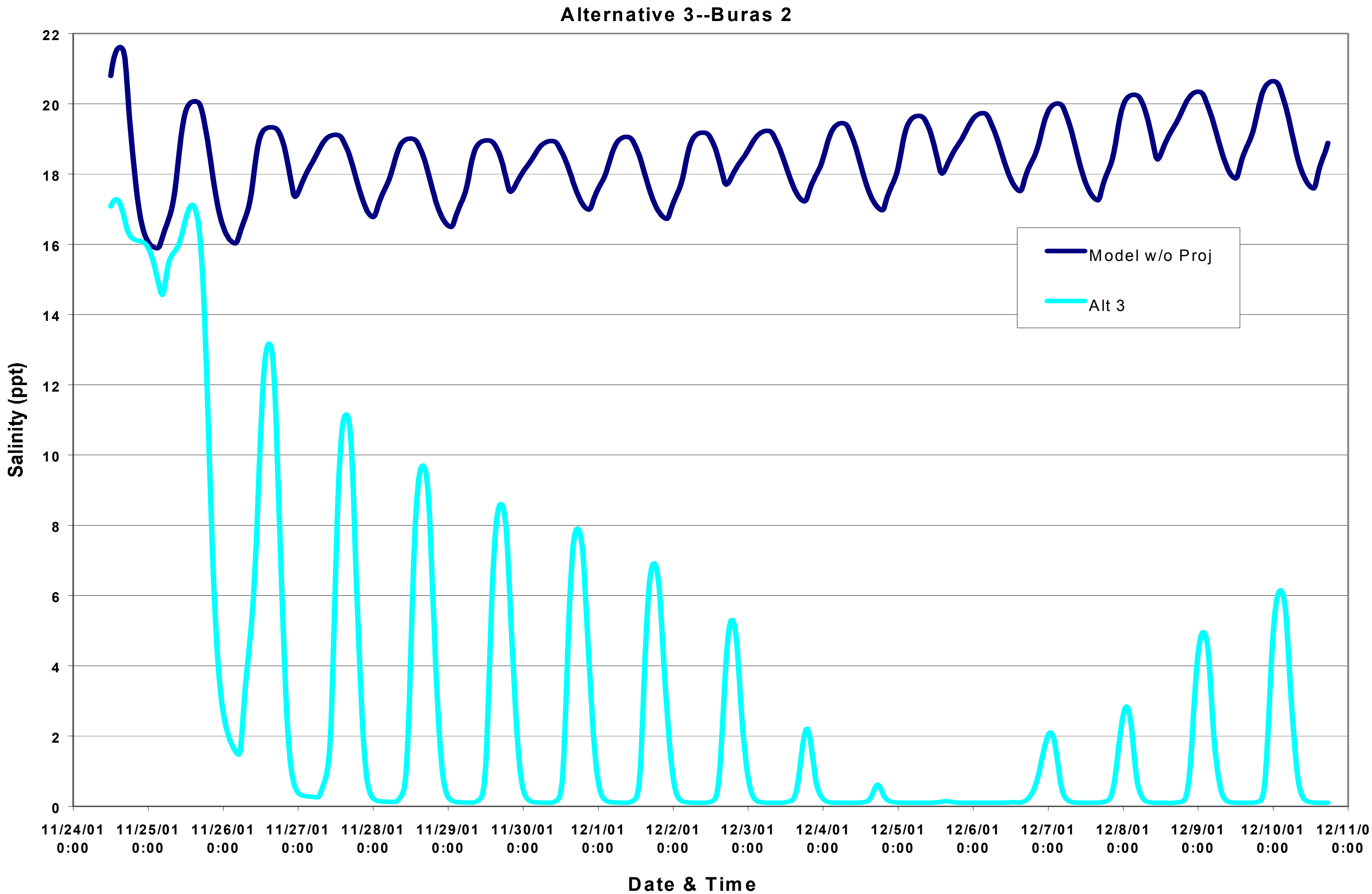

Alternative 2--Buras 2
Salinity (ppt)
22
20
18
16
14
12
10
8
6
4
2
0
Model w/o Proj
Alt 2
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
Date & Time

FIGURE 18



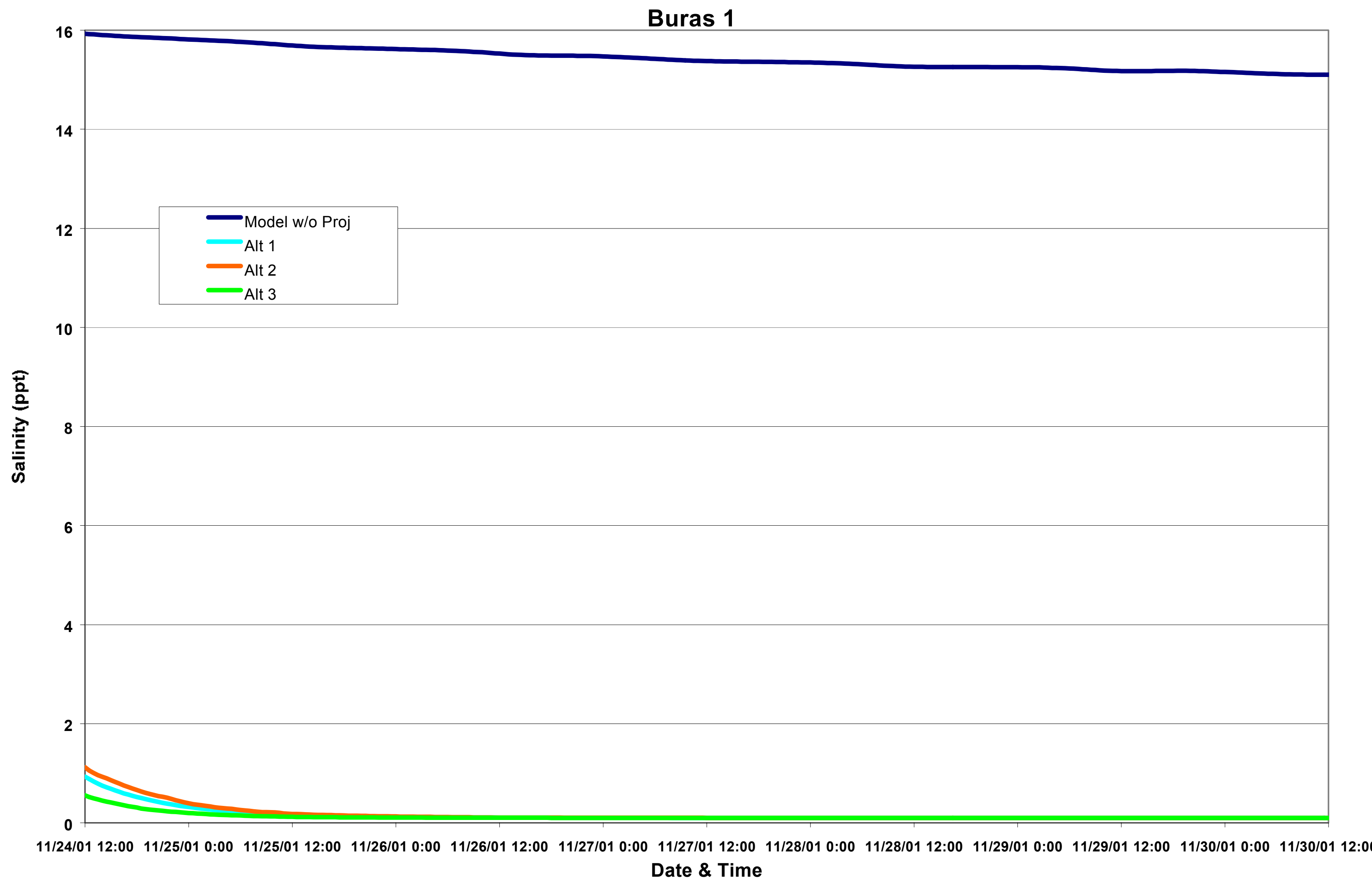
Alternative 3--Buras 1
Salinity (ppt)
16
14
12
10
8
6
4
2
0
Model w/o Proj
Alt 3
11/24/01 0:00
11/26/01 0:00
11/28/01 0:00
11/30/01 0:00
12/2/01 0:00
12/4/01 0:00
12/6/01 0:00
12/8/01 0:00
12/10/01 0:00
Date & Time

FIGURE 19



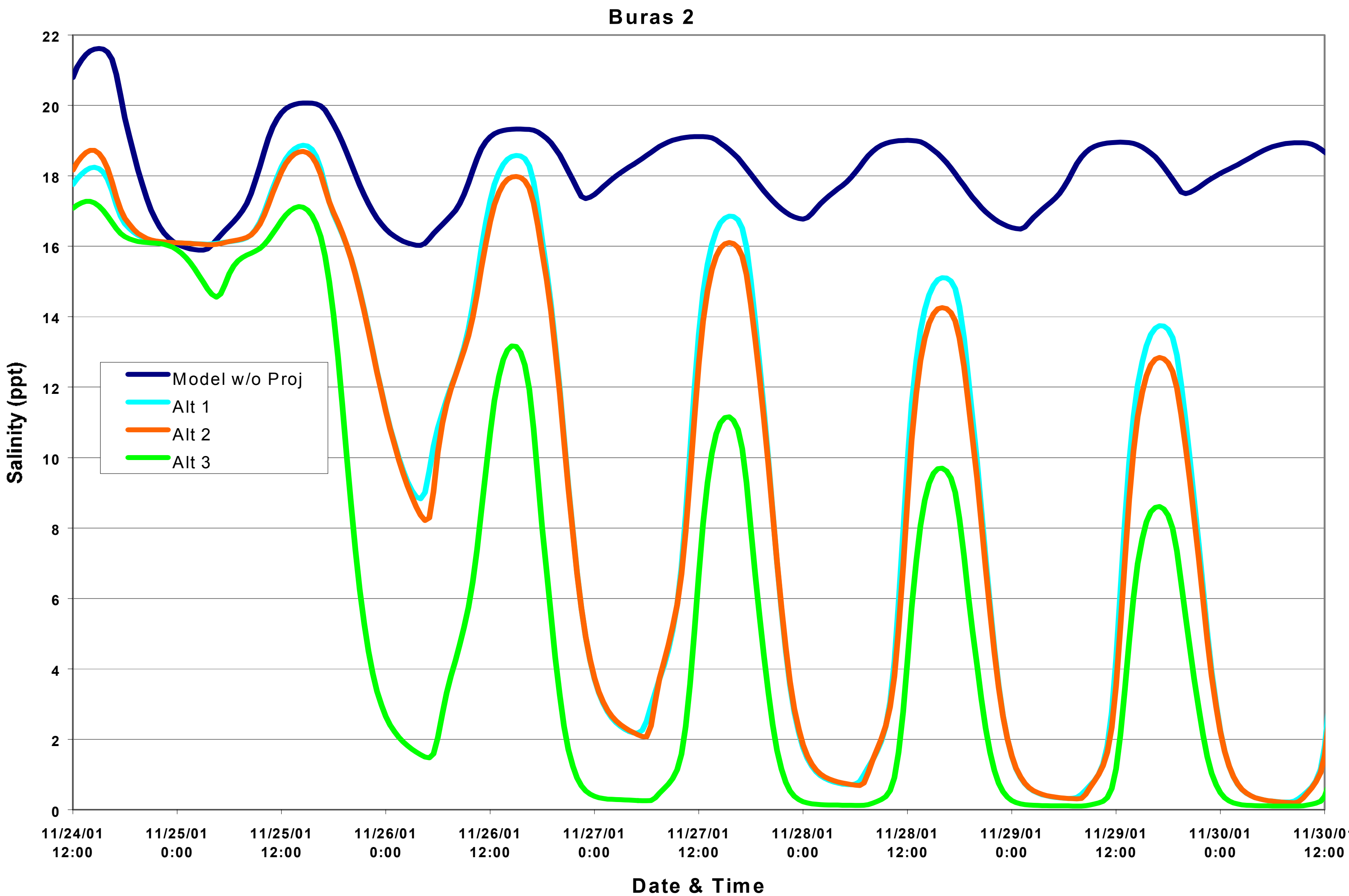
Alternative 3--Buras 2
Salinity (ppt)
22
20
18
16
14
12
10
8
6
4
2
0
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time
Model w/o Proj
Alt 3

FIGURE 20



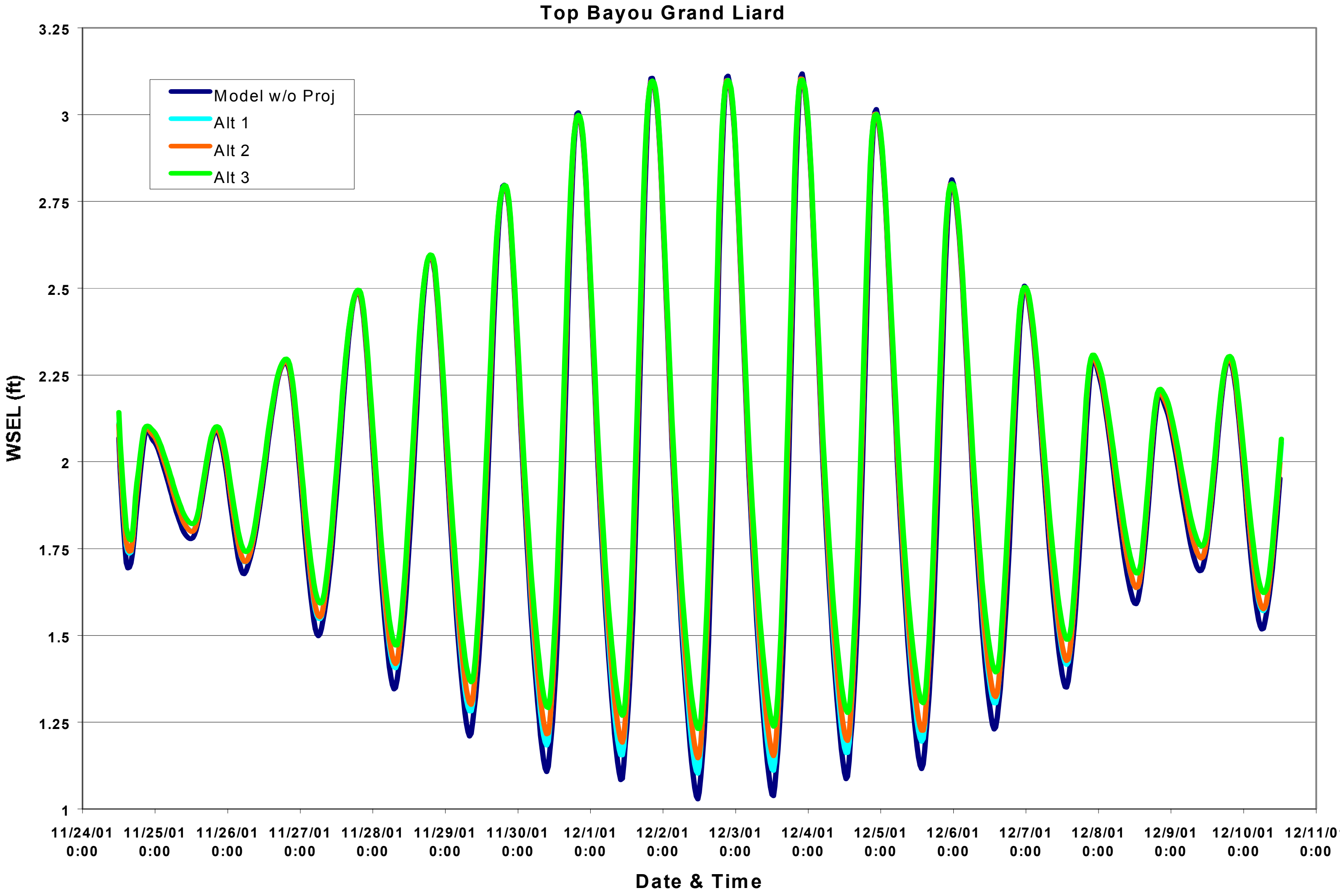
Buras 1
16
14
12
10
8
6
4
2
0
Salinity (ppt)
Model w/o Proj
Alt 1
Alt 2
Alt 3
11/24/01 12:00
11/25/01 0:00
11/25/01 12:00
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
Date & Time

FIGURE 21



Buras 2
22
20
18
16
14
12
10
8
6
4
2
0
Salinity (ppt)
Model w/o Proj
Alt 1
Alt 2
Alt 3
11/24/01 12:00
11/25/01 0:00
11/25/01 12:00
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
Date & Time

FIGURE 22



Top Bayou Grand Liard
Model w/o Proj
Alt 1
Alt 2
Alt 3
WSEL (ft)
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time

FIGURE 23

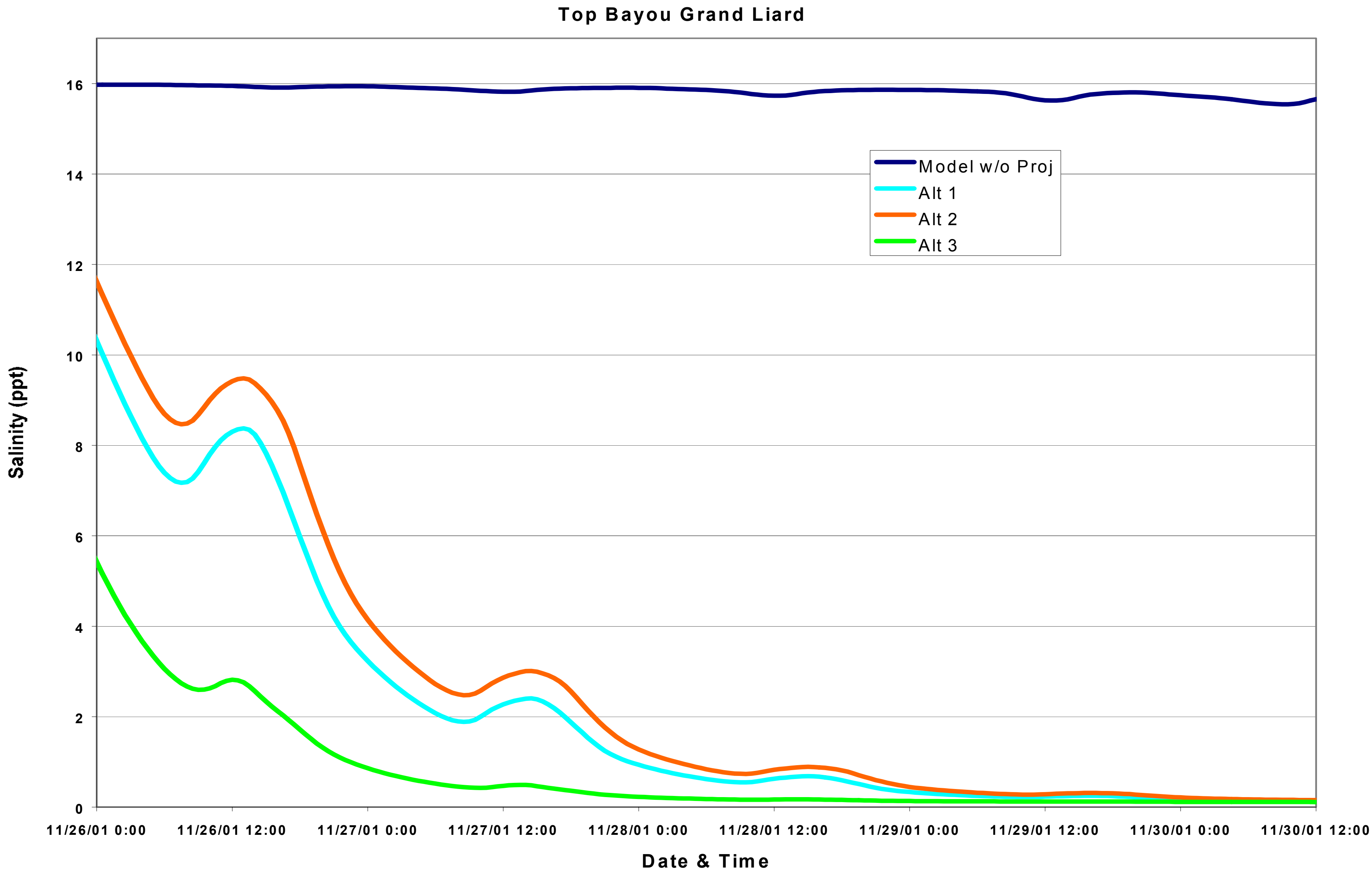

Top Bayou Grand Liard
Model w/o Proj
Alt 1
Alt 2
Alt 3
Salinity (ppt)
16
14
12
10
8
6
4
2
0
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
Date & Time

FIGURE 24

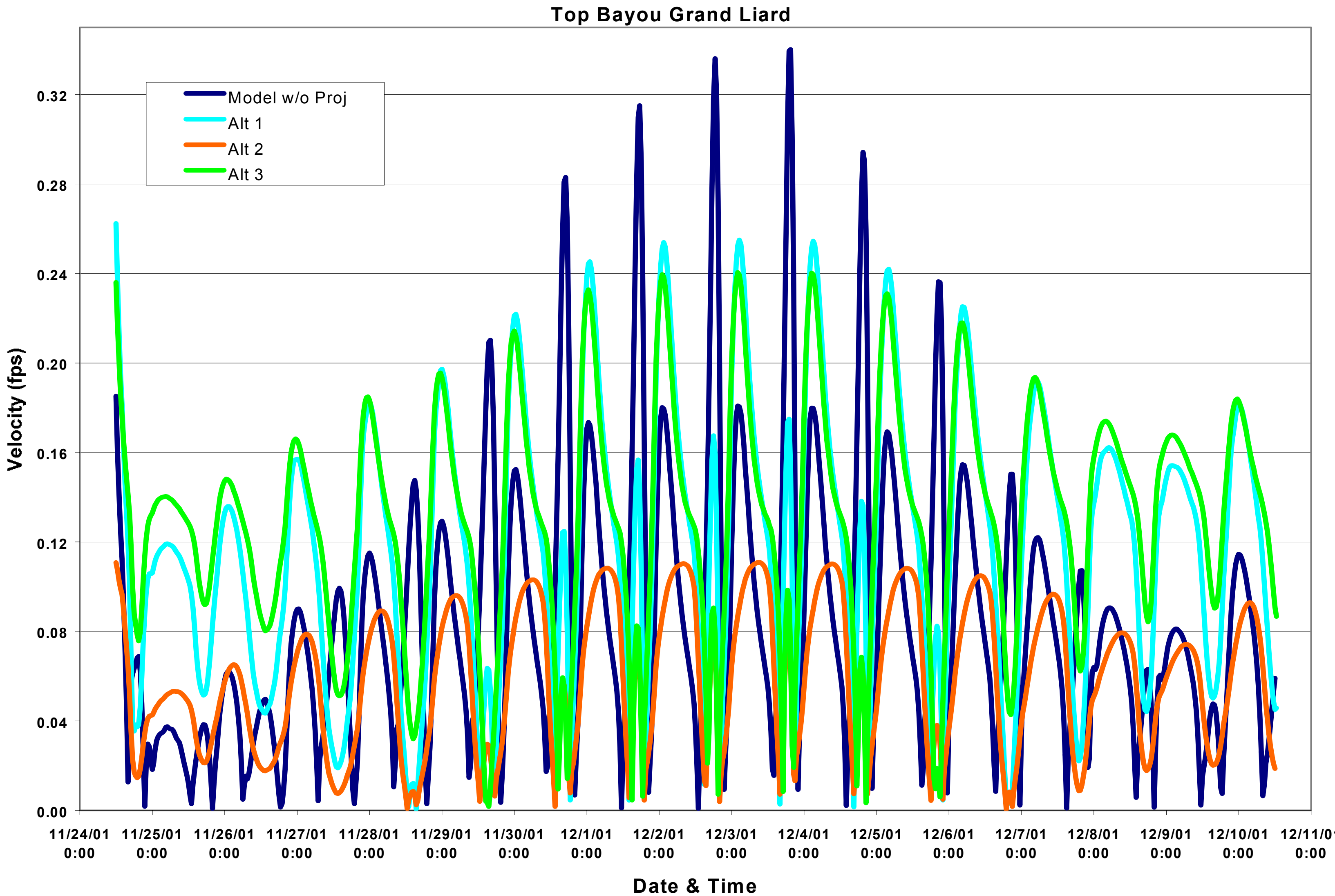
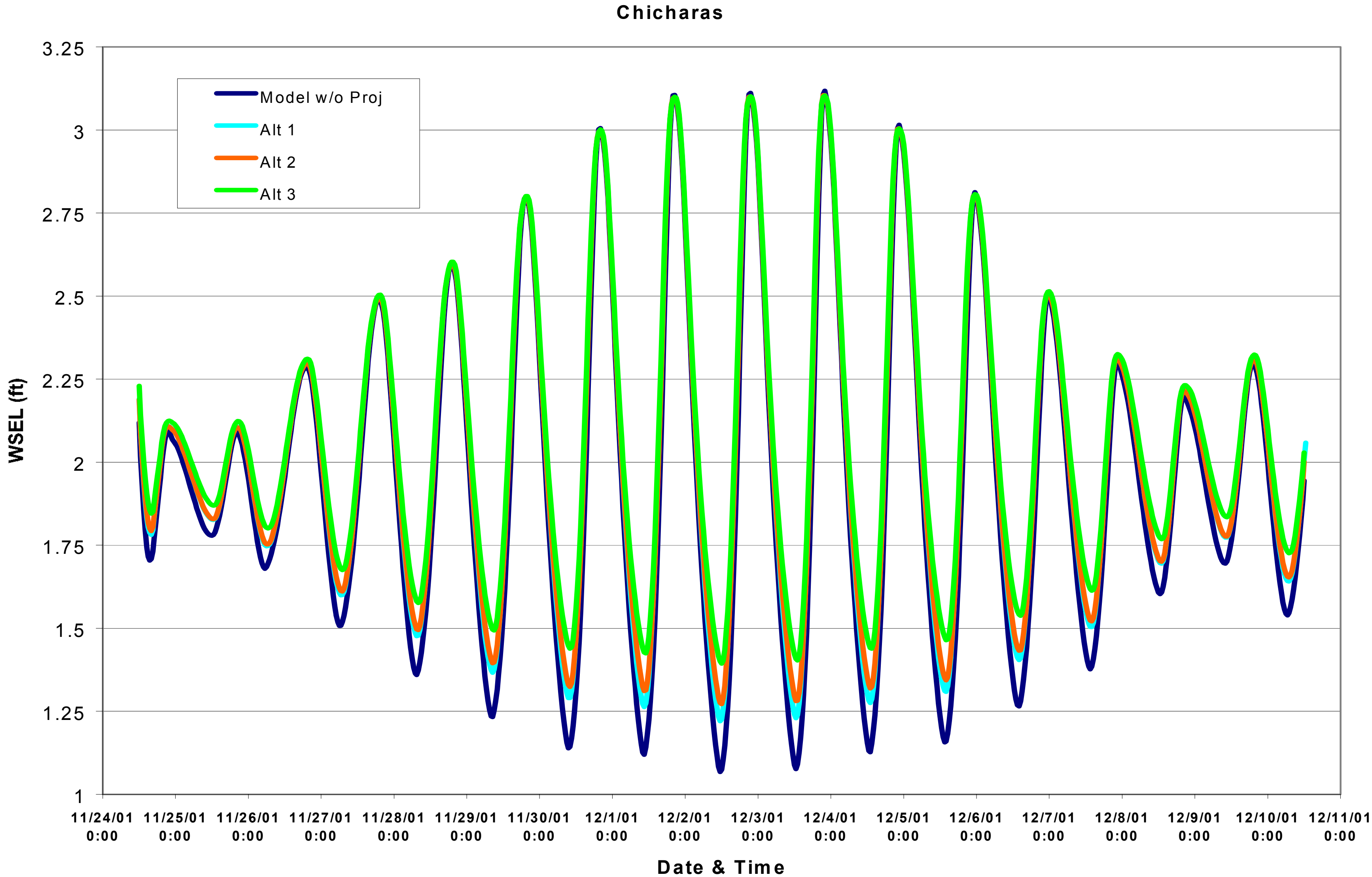

Top Bayou Grand Liard
Model w/o Proj
Alt 1
Alt 2
Alt 3
Velocity (fps)
0.32
0.28
0.24
0.20
0.16
0.12
0.08
0.04
0.00
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time

FIGURE 25



Chicharas
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
WSEL (ft)
Model w/o Proj
Alt 1
Alt 2
Alt 3
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time

FIGURE 26

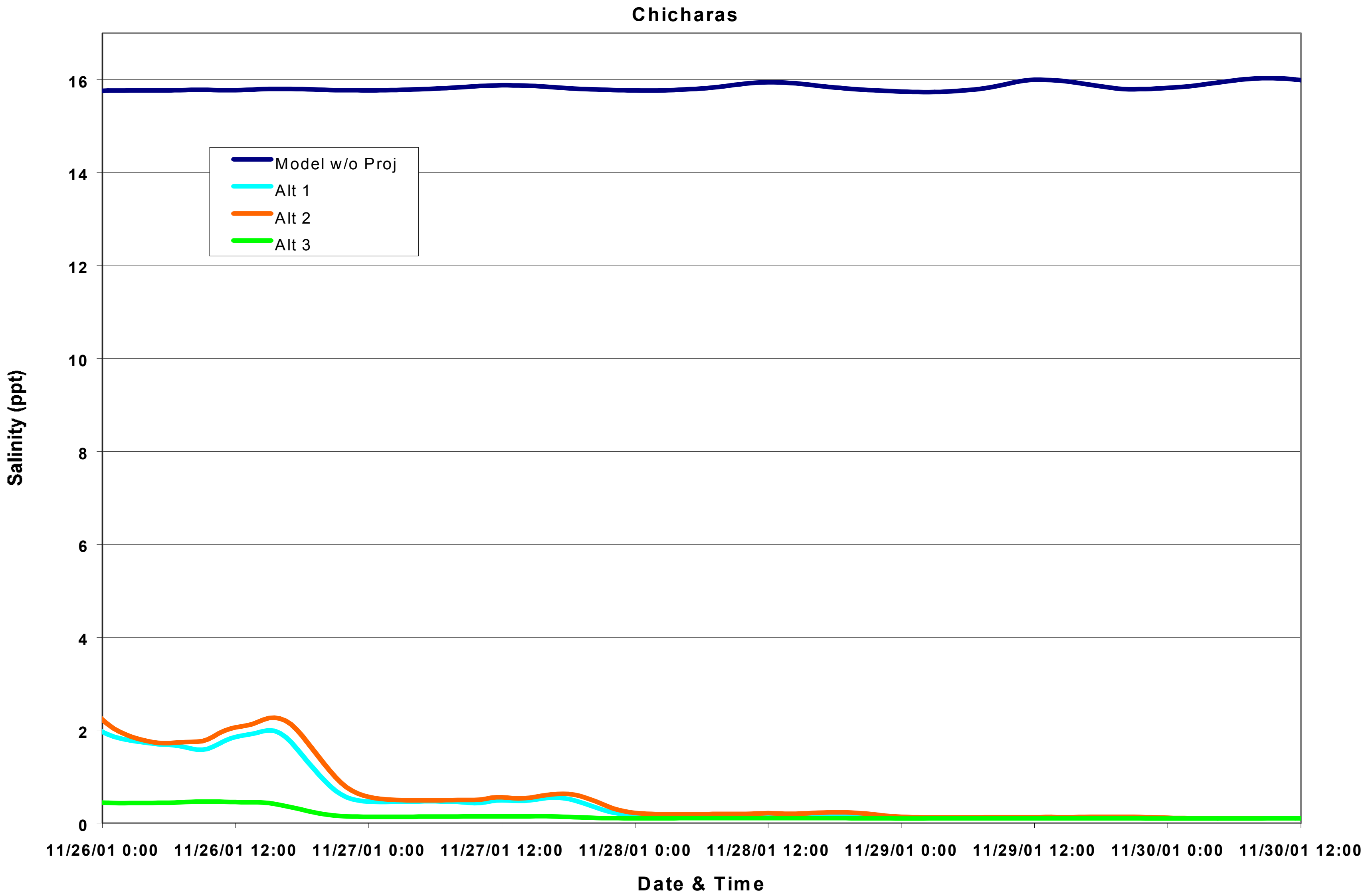

Chicharas
Model w/o Proj
Alt 1
Alt 2
Alt 3
Salinity (ppt)
16
14
12
10
8
6
4
2
0
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
Date & Time

FIGURE 27

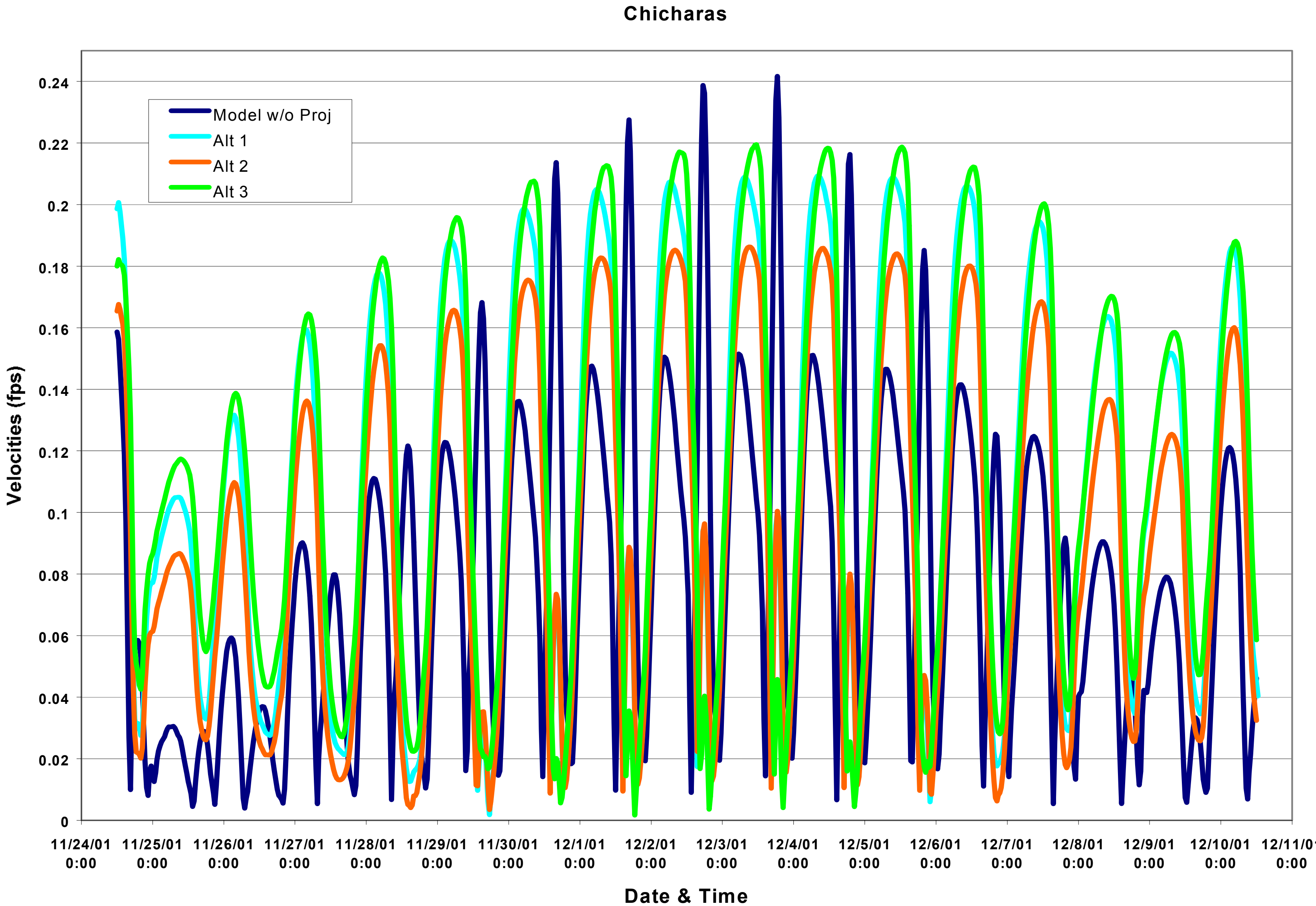

Chicharas
Model w/o Proj
Alt 1
Alt 2
Alt 3
Velocities (fps)
0.24
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time

FIGURE 28

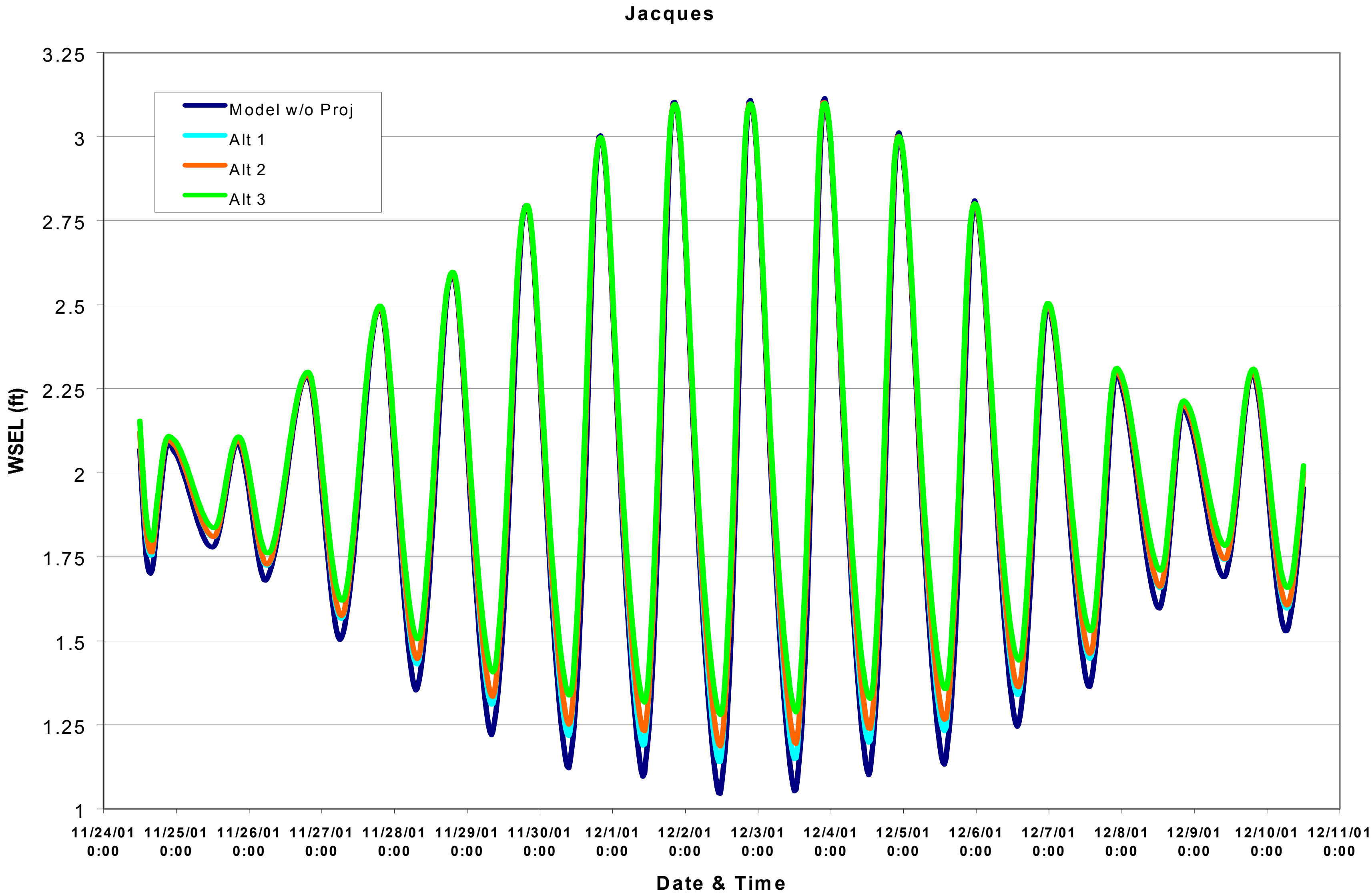

Jacques
Model w/o Proj
Alt 1
Alt 2
Alt 3
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
WSEL (ft)
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time

FIGURE 29

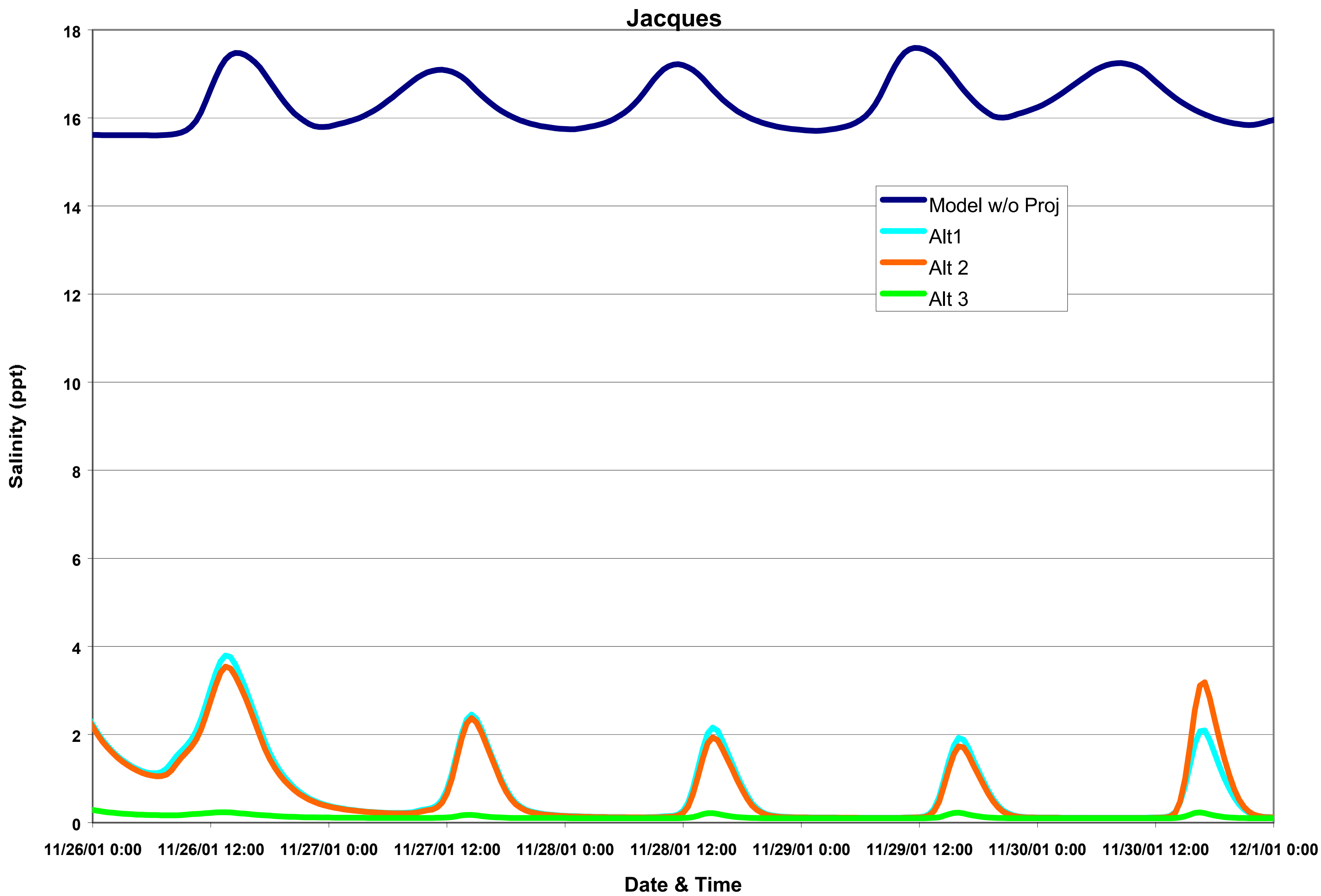

Jacques
18
16
14
12
10
8
6
4
2
0
Salinity (ppt)
Model w/o Proj
Alt1
Alt 2
Alt 3
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
12/1/01 0:00
Date & Time

FIGURE 30

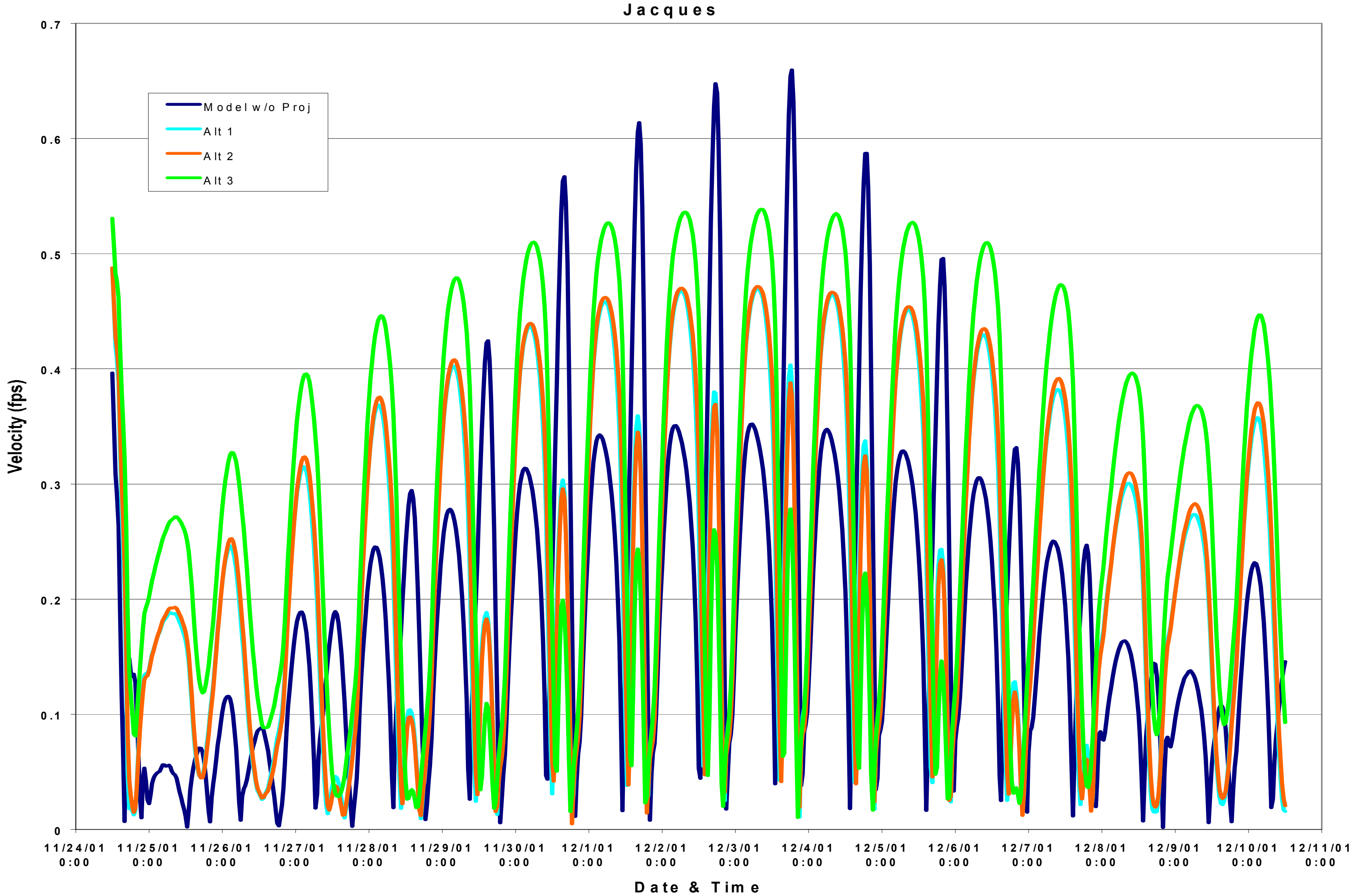
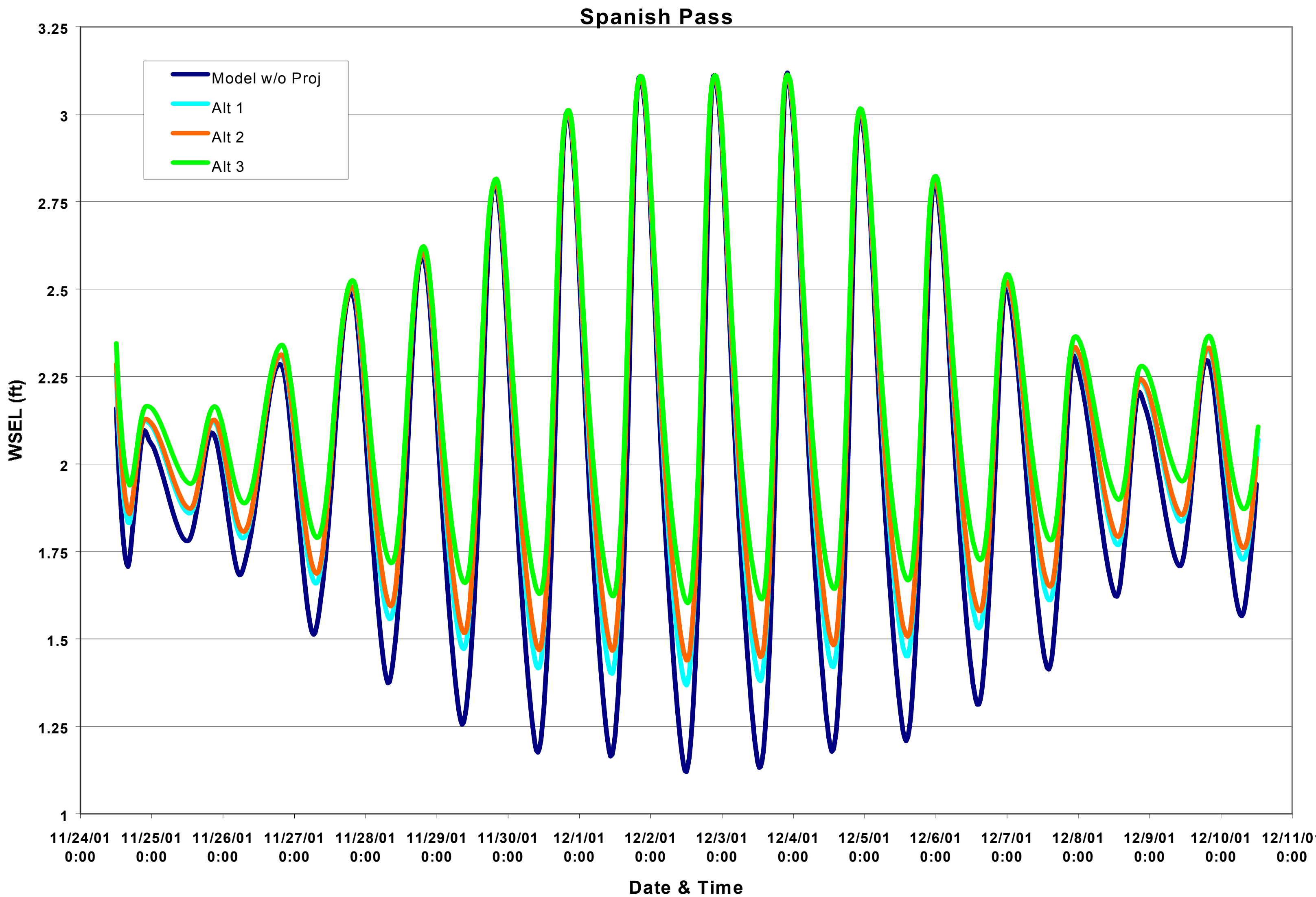
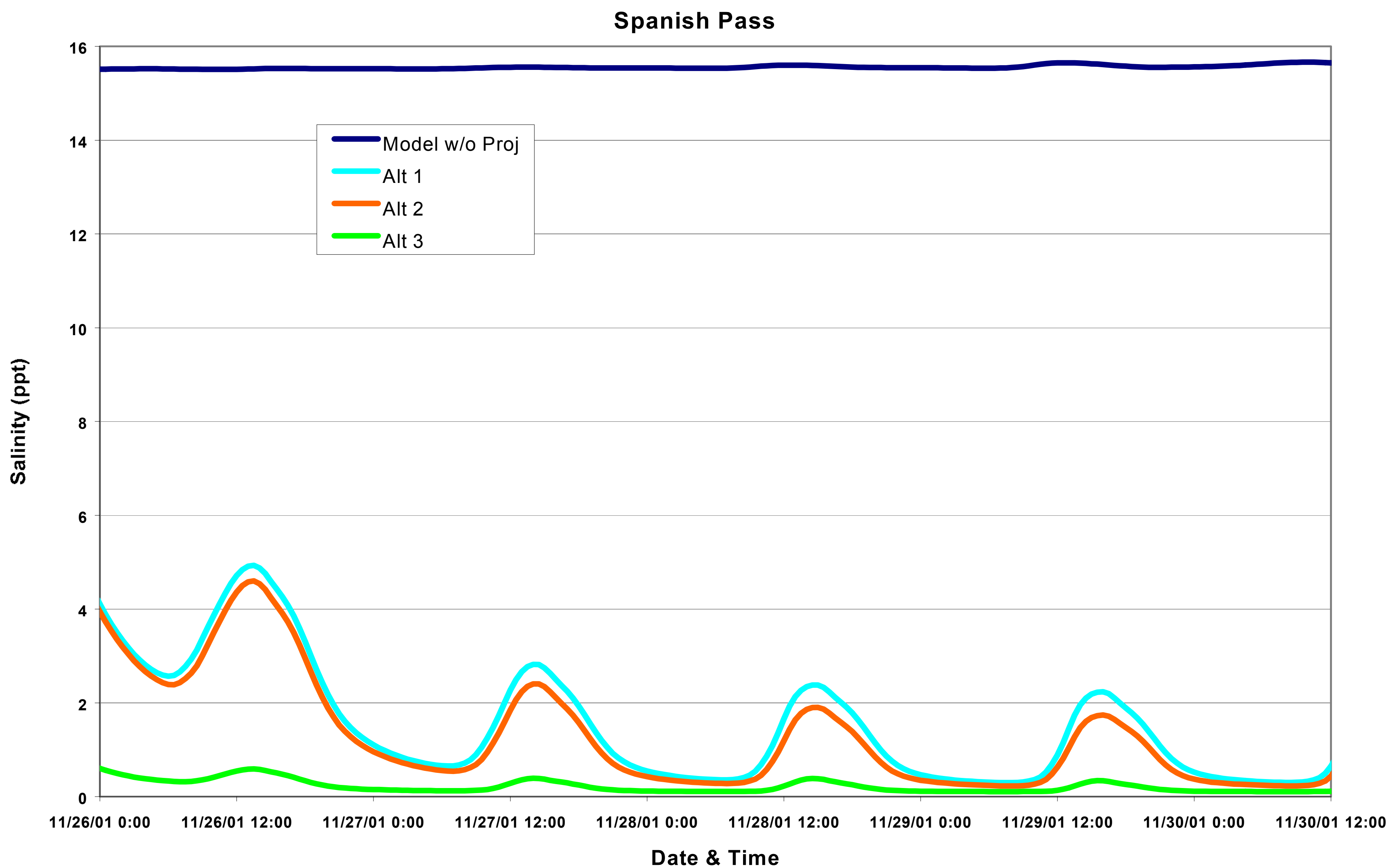

Jacques
Velocity (fps)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Model w/o Proj
Alt 1
Alt 2
Alt 3
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time

FIGURE 31



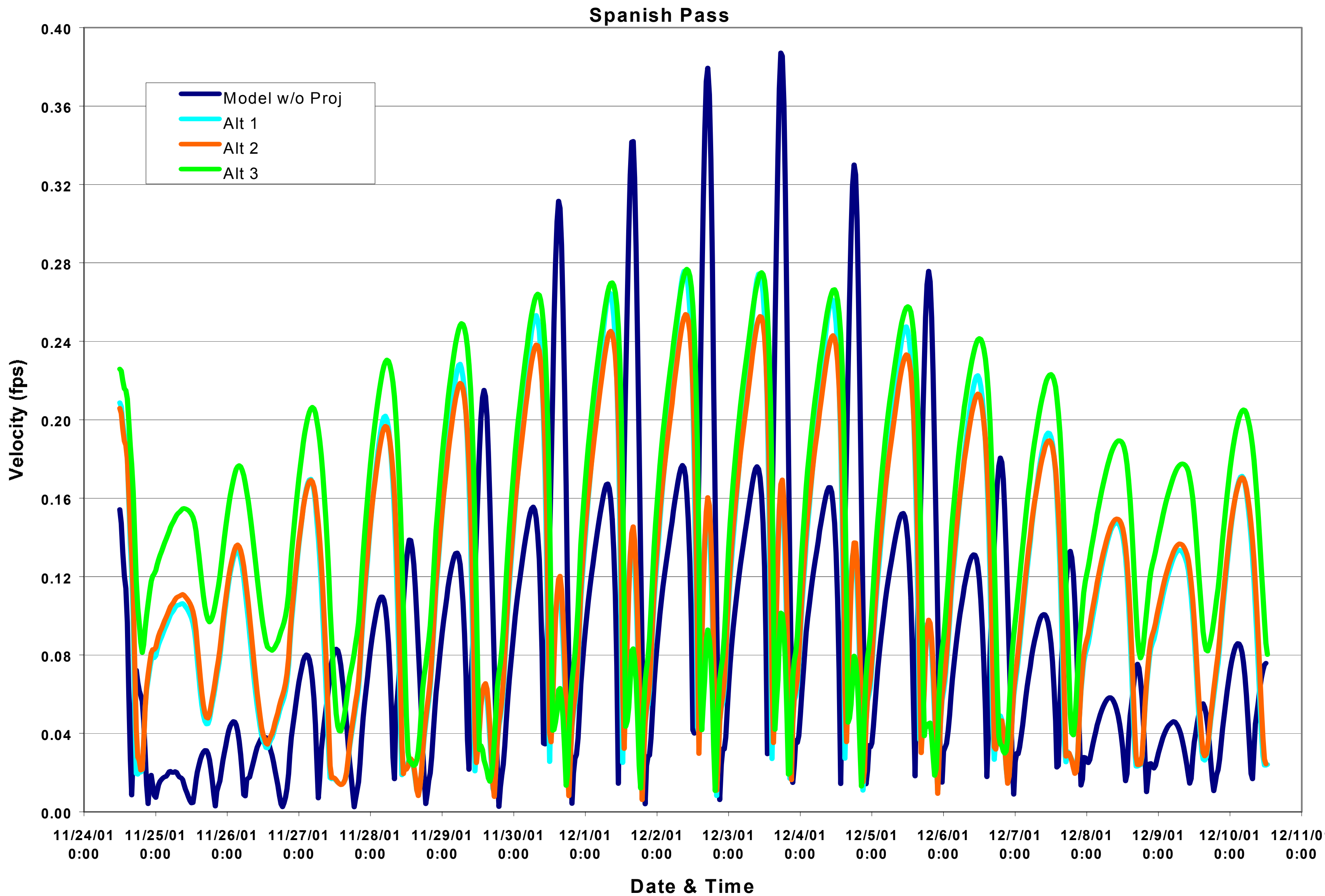
Spanish Pass
Model w/o Proj
Alt 1
Alt 2
Alt 3
WSEL (ft)
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time

FIGURE 32



Spanish Pass
16
14
12
10
8
6
4
2
0
Salinity (ppt)
Model w/o Proj
Alt 1
Alt 2
Alt 3
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
Date & Time

FIGURE 33


Spanish Pass
Model w/o Proj
Alt 1
Alt 2
Alt 3
Velocity (fps)
0.40
0.36
0.32
0.28
0.24
0.20
0.16
0.12
0.08
0.04
0.00
11/24/01 0:00
11/25/01 0:00
11/26/01 0:00
11/27/01 0:00
11/28/01 0:00
11/29/01 0:00
11/30/01 0:00
12/1/01 0:00
12/2/01 0:00
12/3/01 0:00
12/4/01 0:00
12/5/01 0:00
12/6/01 0:00
12/7/01 0:00
12/8/01 0:00
12/9/01 0:00
12/10/01 0:00
12/11/01 0:00
Date & Time

Figures 34 and 35 show a point in Chicharas Bay, called Oyster. Stage and salinity are shown.

FIGURE 34

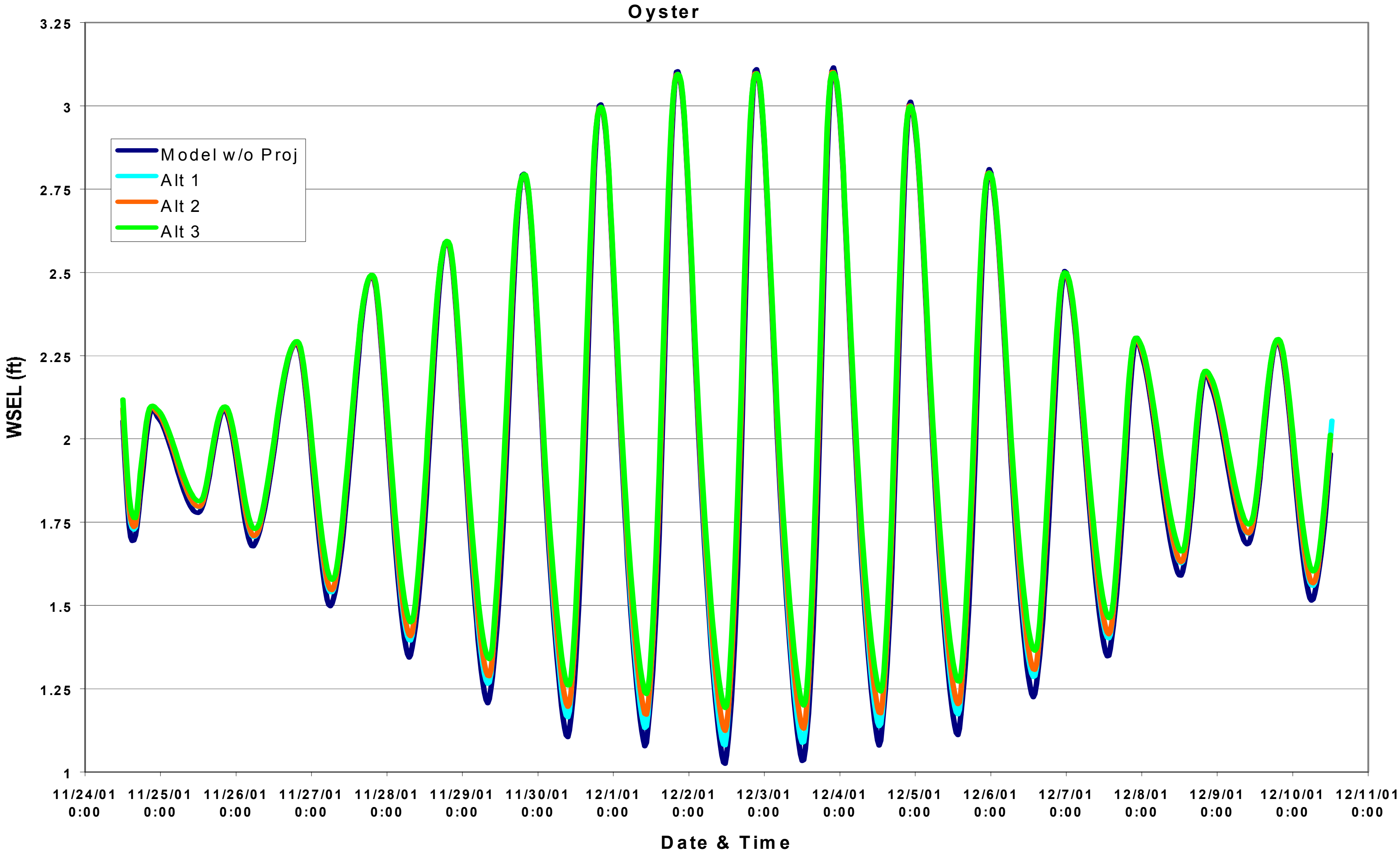
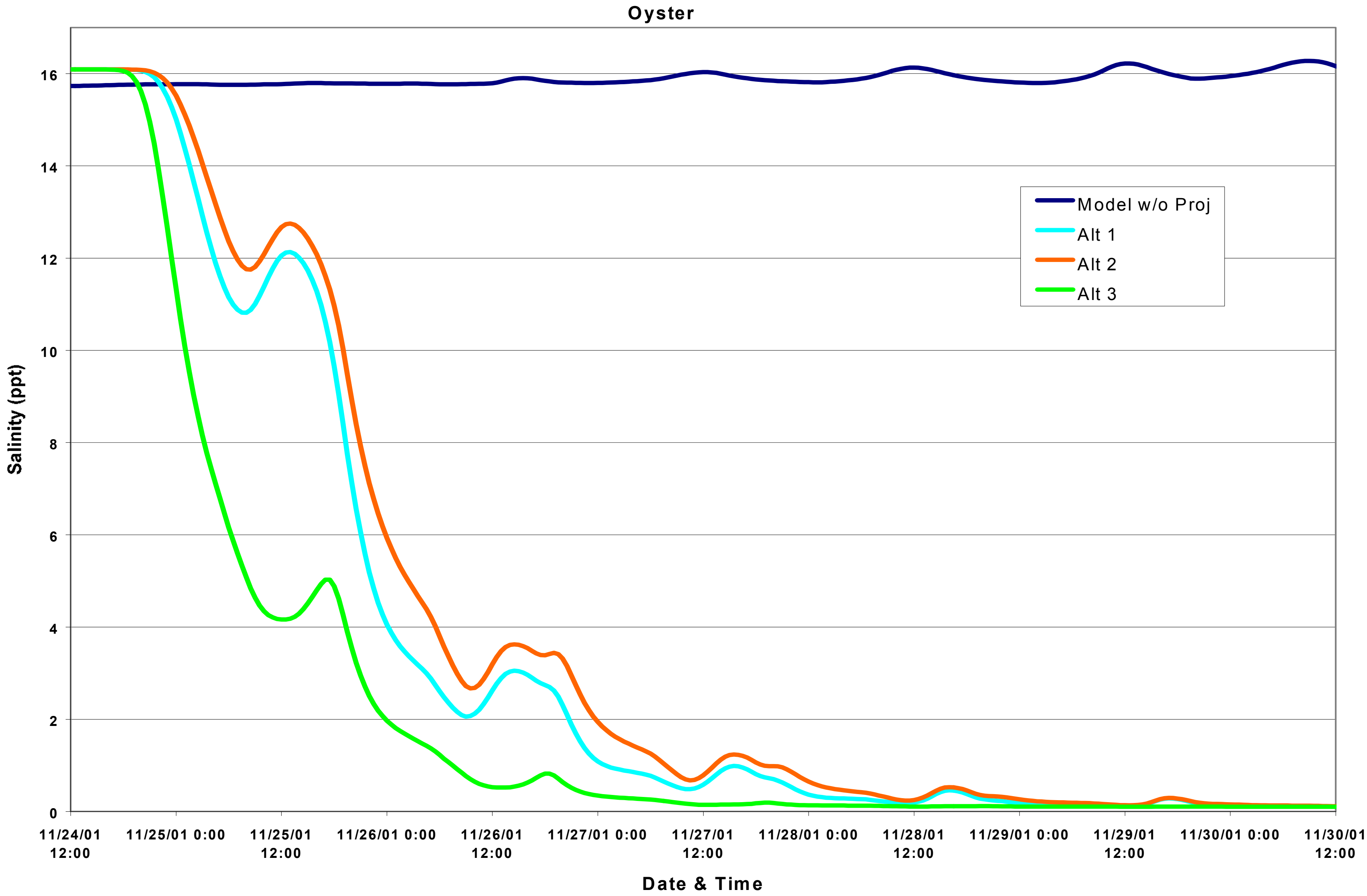


FIGURE 35


Oyster
Salinity (ppt)
0
2
4
6
8
10
12
14
16
11/24/01 12:00
11/25/01 0:00
11/25/01 12:00
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
Date & Time
Model w/o Proj
Alt 1
Alt 2
Alt 3

Figures 36 and 37 show a point in the middle of Hospital Bay. Stage and Salinity are shown.

FIGURE 36

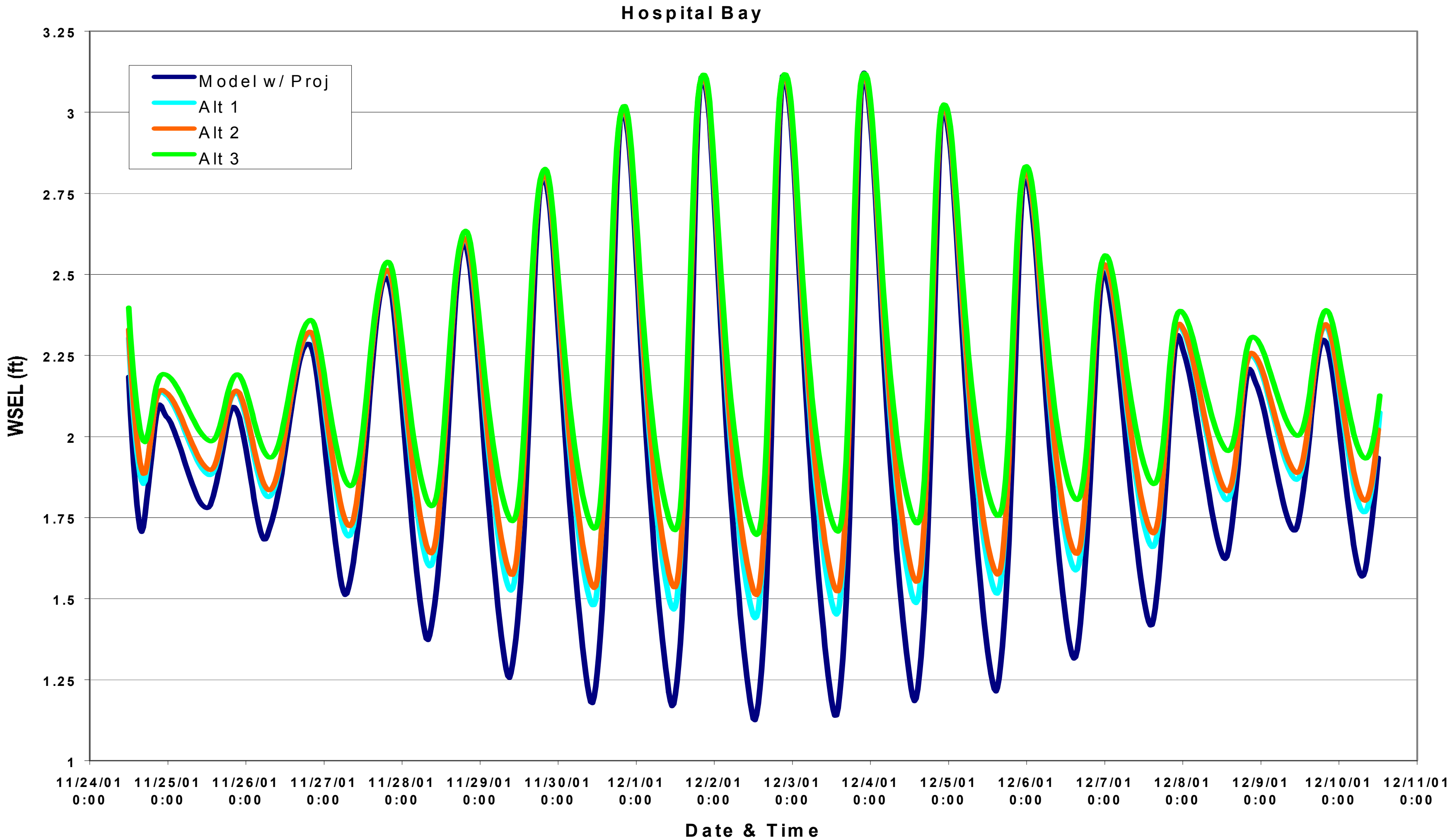
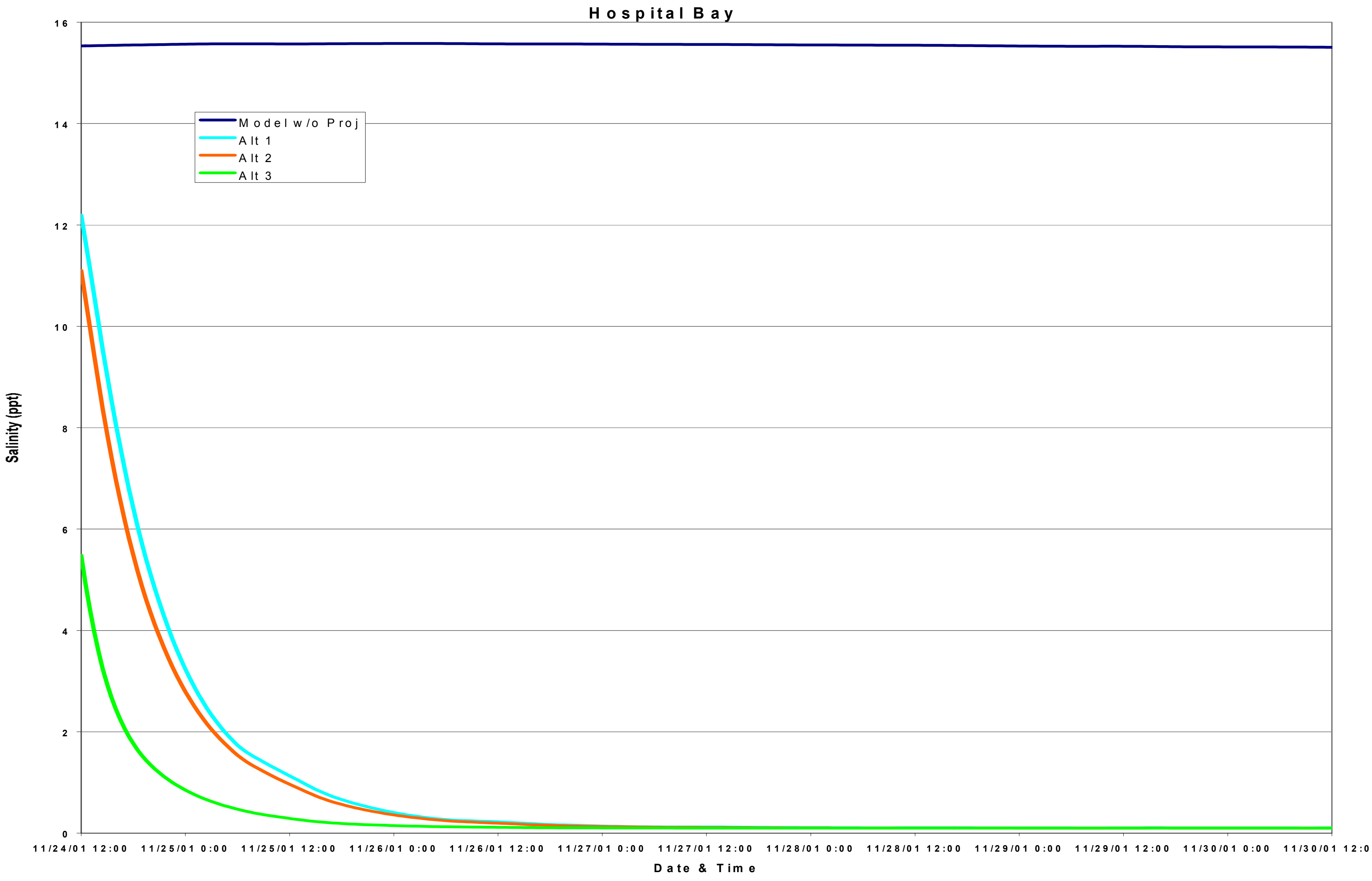
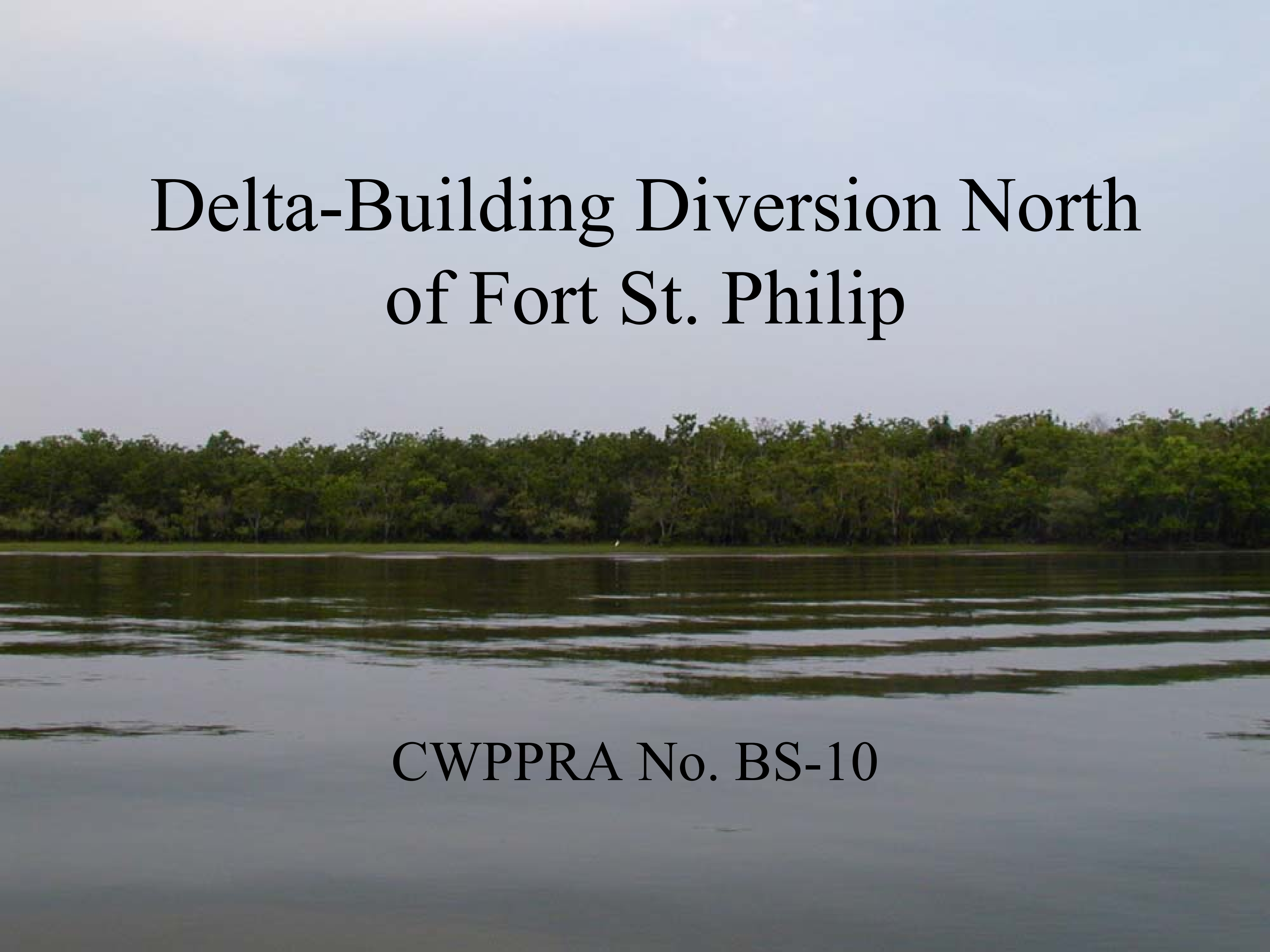


FIGURE 37


Hospital Bay
Salinity (ppt)
16
14
12
10
8
6
4
2
0
Model w/o Proj
Alt 1
Alt 2
Alt 3
11/24/01 12:00
11/25/01 0:00
11/25/01 12:00
11/26/01 0:00
11/26/01 12:00
11/27/01 0:00
11/27/01 12:00
11/28/01 0:00
11/28/01 12:00
11/29/01 0:00
11/29/01 12:00
11/30/01 0:00
11/30/01 12:00
Date & Time

Request for a Change of Scope for the Delta Building Diversion North of Fort St. Phillip Project (BS-10)


Delta-Building Diversion North
of Fort St. Philip
CWPPRA No. BS-10

North of Fort St. Philip
(original design)

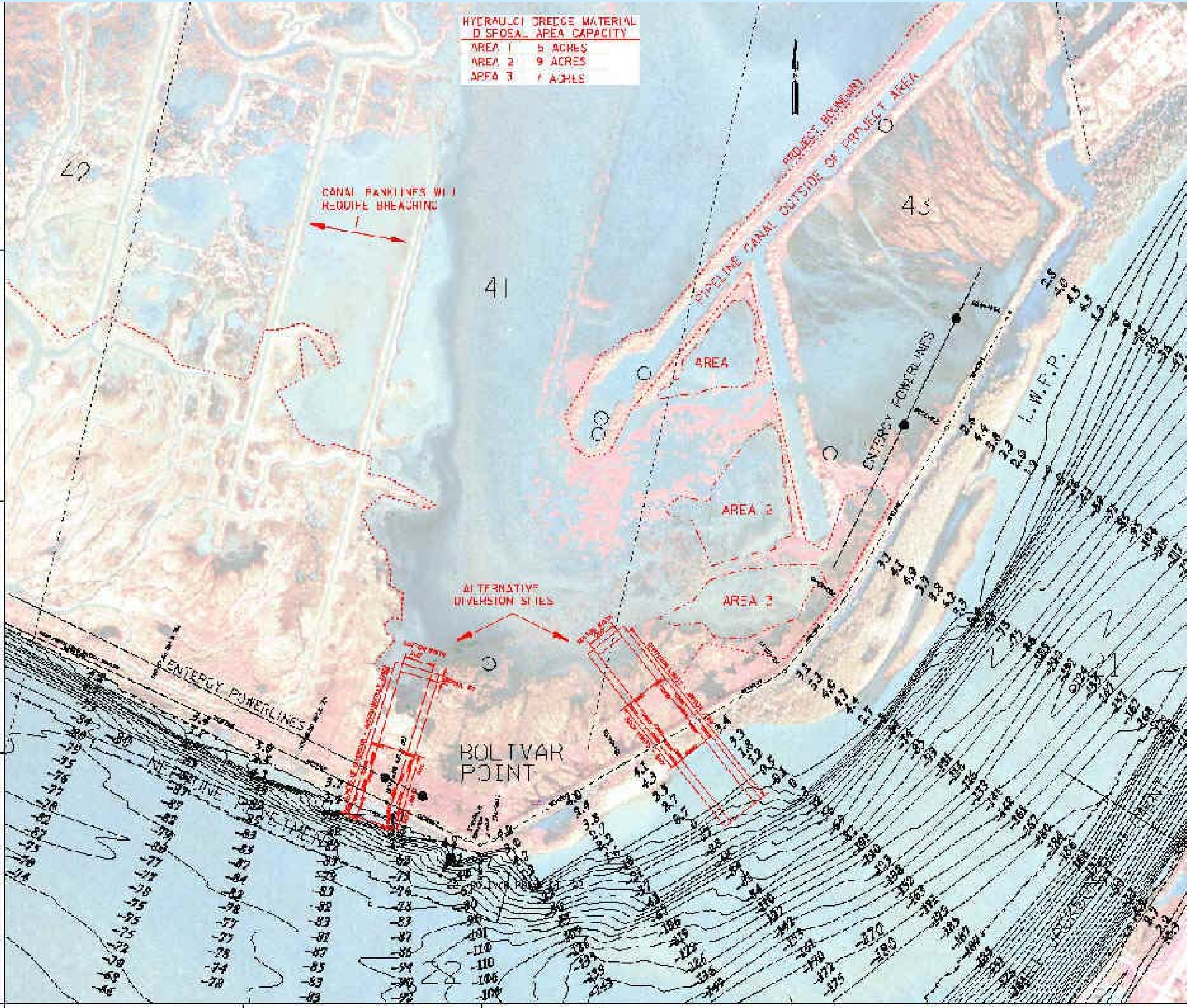
- Sediment diversion channel that diverts water from the Mississippi to Bay Denesse
- ~ 400 acres restored with dredge material
- ~ 2000 acres over project life

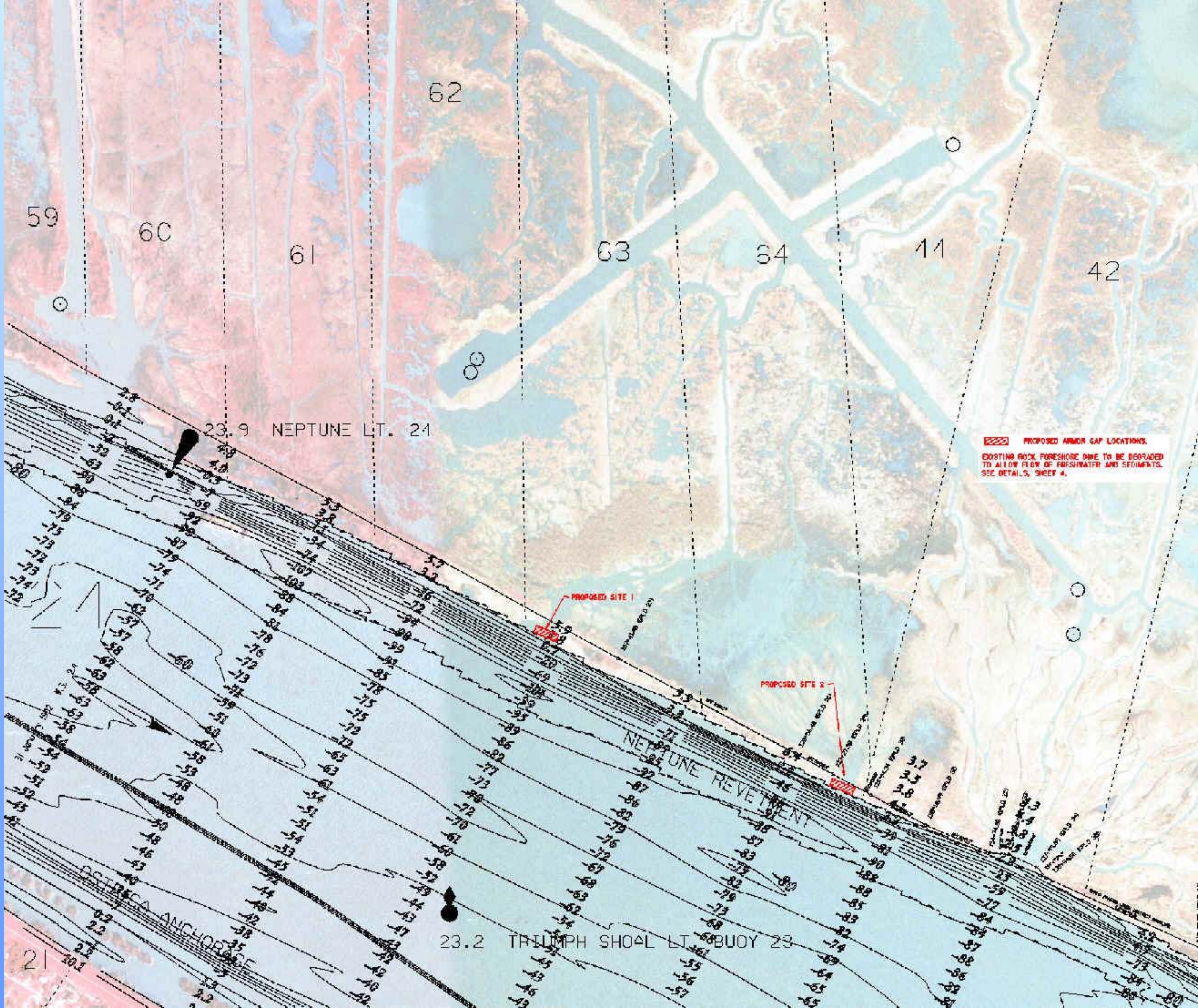
Why Change the Project?

- Would deposit sediment into a natural water body, Bay Denesse
- Several oyster leases, primarily in Bay Denesse would be impacted
- Hydrologic concern diverting 10,000-15,000 cfs
  – Historic site of Fort St. Philip
- Initial surveys shows that the area is accreting
- Prefer a self-sustaining project

North of Fort St. Philip
New Design

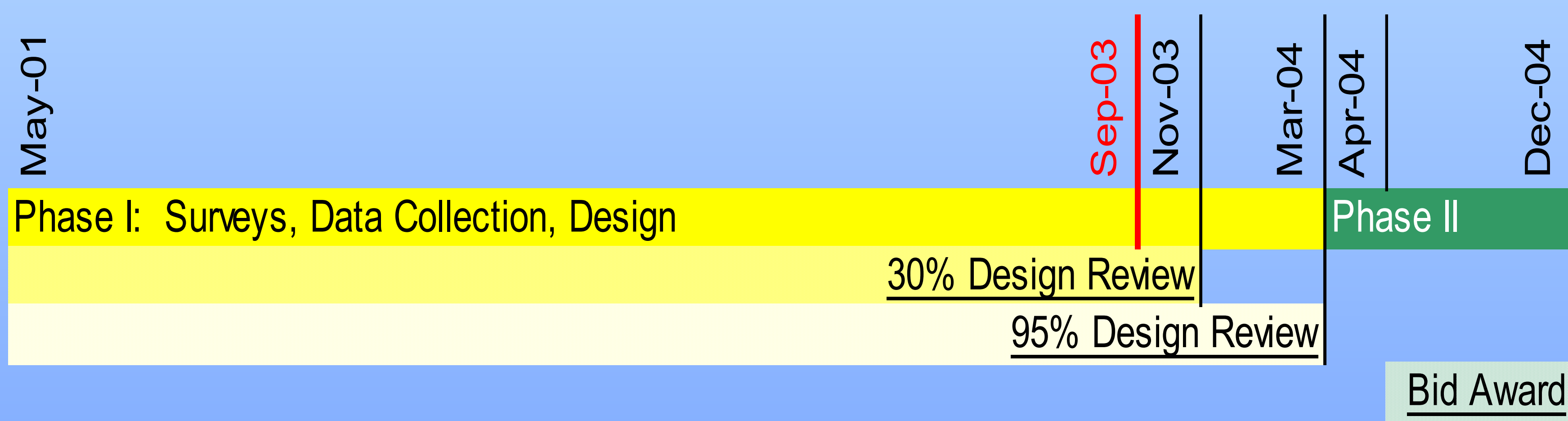
- Two channel armor gaps along left descending bank of Mississippi
- Reduced diversion channel (350’) farther downstream would divert ~2,500 cfs
- ~ 40 acres marsh created from dredging the diversion channel
- ~ 425 acres over project life
- Prioritization criteria would not change and cost effectiveness would increase


HYDRAULIC DREDGE MATERIAL
DISPOSAL AREA CAPACITY
AREA 1 5 ACRES
AREA 2 9 ACRES
AREA 3
CANAL BANKLINES WILL REQUIRE BREACHING
41
43
PIPELINE CANAL OUTSIDE OF PROJECT AREA
PROJECT BOUNDARY
AREA
AREA 2
AREA 3
ENTERGY POWERLINES
ALTERNATIVE DIVERSION SITES
ENTERGY POWERLINES
BOLIVAR POINT
L.W.F.P.



62
59
60
61
63
64
41
42
23.9 NEPTUNE LT. 24
PROPOSED ARMOR GAP LOCATIONS.
EXISTING ROCK FORESHORE DIKE TO BE DEGRADED TO ALLOW FLOW OF FRESHWATER AND SEDIMENTS. SEE DETAILS, SHEET 4.
PROPOSED SITE 1
PROPOSED SITE 2
NEPTUNE REVETMENT
23.2 TRIUMPH SHOAL LT. BUOY 23
21

Time line


May-01
Sep-03
Nov-03
Mar-04
Apr-04
Dec-04
Phase I: Surveys, Data Collection, Design
Phase II
30% Design Review
95% Design Review
Bid Award

Potential Problems

- Oyster leases - three (48 acres total) in the area, which may not be productive
- Real Estate: Multiple land owners along river bank
- Oil & gas access channels and pipelines
- Powerline relocation

Streamlined PPL 14 Process

Friday, August 29, 2003

LA DNR (Dr. Bill Good) Initial Proposal

DRAFT

IMPLEMENTATION OF COAST 2050 PLAN
PRIORITY LIST 14 SELECTION PROCESS

1. Initial Nomination and Description of up to Nine Projects

Regional Planning Teams (RPT), nominate, in a formal and consistent manner, *no more than one project* per hydrologic basin. Each nomination must be accompanied by a map and general information about the project. The intent is to identify the most urgently needed project by basin that would be consistent with the Coast 2050 Plan and appropriate for Breaux Act funding. Decisions will be made by consensus if possible. If voting is required because consensus is not possible, then each officially designated parish representative in the region will have one vote and each federal agency representative and DNR will have one vote. **by mid-Feb**

USGS/DNR prepares a map of the project. Based on the best existing information, the Engineering and Environmental Workgroups describe: a) the physical elements of the project, b) estimated costs of construction, OM&M, and c) the expected ecological outputs. **by mid-March**

2. Initial Screening to Two-to-Four Projects

At a full inter-agency, public forum, the P&E Committee reviews and selects from two-to-four nominated projects, coastwide, for further (Phase 0) evaluation; and determines what initial evaluation criteria and other information is to be assembled for each project. Environmental and Engineering Workgroups develop briefing packets for each project, based on directions from the P&E Committee. **by mid-April**

3. Preliminary Design and Ecological Report

Technical Committee selects a limited group to conduct an on-site field trip. This group prepares a field trip report. TC also specifies information required in the preliminary design reports and ecological evaluation reports. A preliminary design report is prepared for each project <u>by NRCS, COE, or DNR</u>. An ecological evaluation report is prepared for each project <u>by EPA, NMFS, USFWS, or DNR</u>. Field trip reports and preliminary design and ecological evaluation reports are compiled and provided to the Technical Committee and State Wetlands Authority. P&E hold a Public Hearing in Baton Rouge or Lafayette to present project information and to allow public comment. **by August**

4. Selection and Analysis of Projects as Phase 0 Candidates for PPL 14

Technical Committee, at a public meeting, discusses information provided in #3, above, and selects three projects or fewer to recommend to the Task Force for Phase 1 analysis. **Sept. meeting**

5. Final Selection for Phase 1 Analysis

CWPPRA Task Force reviews information provided and considers public comments. Makes a decision on Phase 1 approvals. **by October Task Force meeting**

U.S.FWS (Darryl Clark) response & proposal
Coastal Wetlands Planning, Protection and Restoration Act
Guidelines for Development of the 14th Priority Project List
DRAFT, 18 Sept 2003

I. Development of Supporting Information

A. COE staff prepares spreadsheets indicating status of all restoration projects (CWPPRA PL 1-13; Coast 2050 Feasibility Study, Corps of Engineers Continuing Authorities 1135, 204, 206; and State only projects). Also, indicate net acres at the end of 20 years for each CWPPRA project.

B. DNR/USGS staff prepares basin maps indicating:
1) Boundaries of the following projects types (PL 1-13; Coast 2050 Feasibility Study, COE 1135, 204, 206; and State only).
2) locations of completed projects,
3) projected land loss by 2050 with freshwater diversions at Caernarvon and Davis Pond plus PL 1-6) (Suhayda).

II. Identification of Areas of Need and Project Nominations

A. The four Regional Planning Teams meet, examine basin maps, discuss areas of need and Coast 2050 strategies, and choose no more than one project per basin, except that two projects may be selected from Terrebonne and Barataria basins because of the high loss rates in those basins. A total of up to 11 projects could be nominated. Selection of the projects nominated per basin will be by consensus, if possible. If voting is required, each officially designated parish representative in the basin will have one vote and each federal agency and DNR will have one vote.

B. The nominated projects will be indicated on a map and paired with Coast 2050 strategies. A lead Federal agency will be designated to assist LDNR and local governments in preparing preliminary project support information (fact sheet, maps, and potential designs and benefits). The Regional Planning Team Leaders transmit this information to the P&E subcommittee, Technical Committee and members of the Regional Planning Teams.

III. Preliminary Assessment of Nominated Projects

A. Agencies, parishes, landowners, and other individuals informally confer to develop projects. Nominated projects should be developed to support one or more Coast 2050 strategies. The goals of each project should be consistent with those of Coast 2050.

B. Each sponsor of a project proposed for nomination will prepare a brief Project description (no more than one page plus a map) that discusses possible features and the Coast 2050 Criteria.

C. Engineering Work Group meets to estimate preliminary fully funded cost ranges for each project, based on engineering judgment.

D. Environmental and Engineering Work Groups apply Coast 2050 Criteria to each project to achieve a consensus description for each project.

E. P&E Subcommittee prepares matrix of cost estimates and Coast 2050 Criteria descriptions and furnishes to Technical Committee and State Wetlands Authority (SWA).

IV. Selection of Phase 0 Candidate Projects

A. Technical Committee meets to consider the project costs, Coast 2050 Criteria, and potential wetland benefits of the nominees. Technical Committee will select six candidate projects for detailed assessment by the Environmental, Engineering, and Economic work groups.

B. Technical Committee assigns one project to each agency to develop preliminary Wetland Value Assessment data and engineering cost estimates for Phase 0 as described below.

V. Phase 0 Analysis of Candidate Projects

A. Sponsoring agency coordinates site visits for each project. Visit is vital so each agency can see the conditions in the area and estimate the project area boundary. Field trip participation should be limited to two representatives from each agency.

B. Environmental and Engineering Work Groups and academic advisors meet to refine project features and develop boundaries based on site visits.

C. Sponsoring agency develops Project Information Sheets on assigned projects, using formats developed by applicable work groups; prepares preliminary draft Wetland Value Assessment Project Information Sheet; and makes Phase 1 engineering and design cost estimates and Phase 2 construction cost estimates.

D. Environmental and Engineering Work Groups evaluate all projects using the WVA and design/cost reviews; revisit goals in light of additional data; and determine risk/uncertainty and longevity/sustainability.

E. Engineering Work Group reviews and approves agency Phase 1 and 2 cost estimates.

F. Economics Work Group reviews cost estimates and develops annualized costs.

G. Environmental and Engineering Work Groups apply the Prioritization Criteria and develop prioritization scores for each candidate project.

H. Corps of Engineers staff prepares information package for Technical Committee and State Wetlands Authority. Packages consist of:

1) updated Project Information Sheets;

2) a matrix for each region that lists projects, fully funded cost, average annual cost, Wetland Value Assessment results in net acres and Average Annual Habitat Units (AAHU's), cost effectiveness (average annual cost/AAHU), prioritization score, risk/uncertainty, and longevity/sustainability;

3) qualitative discussion of supporting partnerships and public support; and

4) oyster lease impact areas delineated for the State's Restricted Area Map (this map should also be provided to DNR).

I. Technical Committee hosts two public hearings to present information from G above and allow public comment.

VI. Selection of 14th Priority Project List

A. Technical Committee meets and considers matrix, Project Information Sheets, and pubic comments. The Technical Committee will recommend up to four projects for selection to the 14th PPL.

B. The CWPPRA Task Force will review the TC recommendations and determine which projects will receive Phase 1 funding for the 14th PPL.

C. State Wetlands Authority reviews projects on the 14th Priority List and consider for Phase I approval and inclusion in the upcoming Coastal Wetlands Conservation and Restoration Plan.

14th Priority List Project Development Schedule

January 22, 2003	Distribute public announcement of PPL13 process and schedule
February 17, 2003	President's Day Holiday
February 19, 2003	Region IV Planning Team meeting (Rockefeller)
February 20, 2003	Region III Planning Team meeting (Morgan City)
February 26, 2003	Region II Planning Team meeting (NOD)
February 27, 2003	Region I Planning Team meeting (NOD)
February 21 – March 14	Agencies prepare fact sheets for RPT nominated projects
March 4, 2003	Mardi Gras
March 18, 2003	Engineering work group prepares preliminary cost estimates for nominated projects (DNR)
March 19, 2003	Env/Eng work groups jointly apply Coast 2050 criteria (DNR)
March 20, 2003	P&E Subcommittee prepares matrix of nominated projects showing initial cost estimates and Coast 2050 descriptions (narratives) (DNR)
March 26, 2003	Tech Comm meets to select PPL13 candidate projects (NOD)
April 16, 2003 NOTE DATE CHANGE	Spring Task Force meeting (Lafayette)
May/June	Candidate project site visits
June/July/August/September	Env/Eng work group project evaluations
July 16, 2003	Technical Committee meeting (Baton Rouge)
August 14, 2003	Task Force meeting (New Orleans)
September 17, 2003	Technical Committee meeting (Baton Rouge)
October 16, 2003	Task Force meeting (Baton Rouge) – announce public meetings
November 19, 2003	PPL13 Public Meeting (Abbeville)
November 20, 2003	PPL13 Public Meeting (New Orleans)
December 10, 2003	Technical Committee meeting (New Orleans)
January 28, 2004 NOTE DATE CORRECTION	Task Force meeting to select PPL 13

14th Priority List Project Development Schedule

January 22, 2003	Distribute public announcement of PPL13 process and schedule
February 17, 2003	President's Day Holiday
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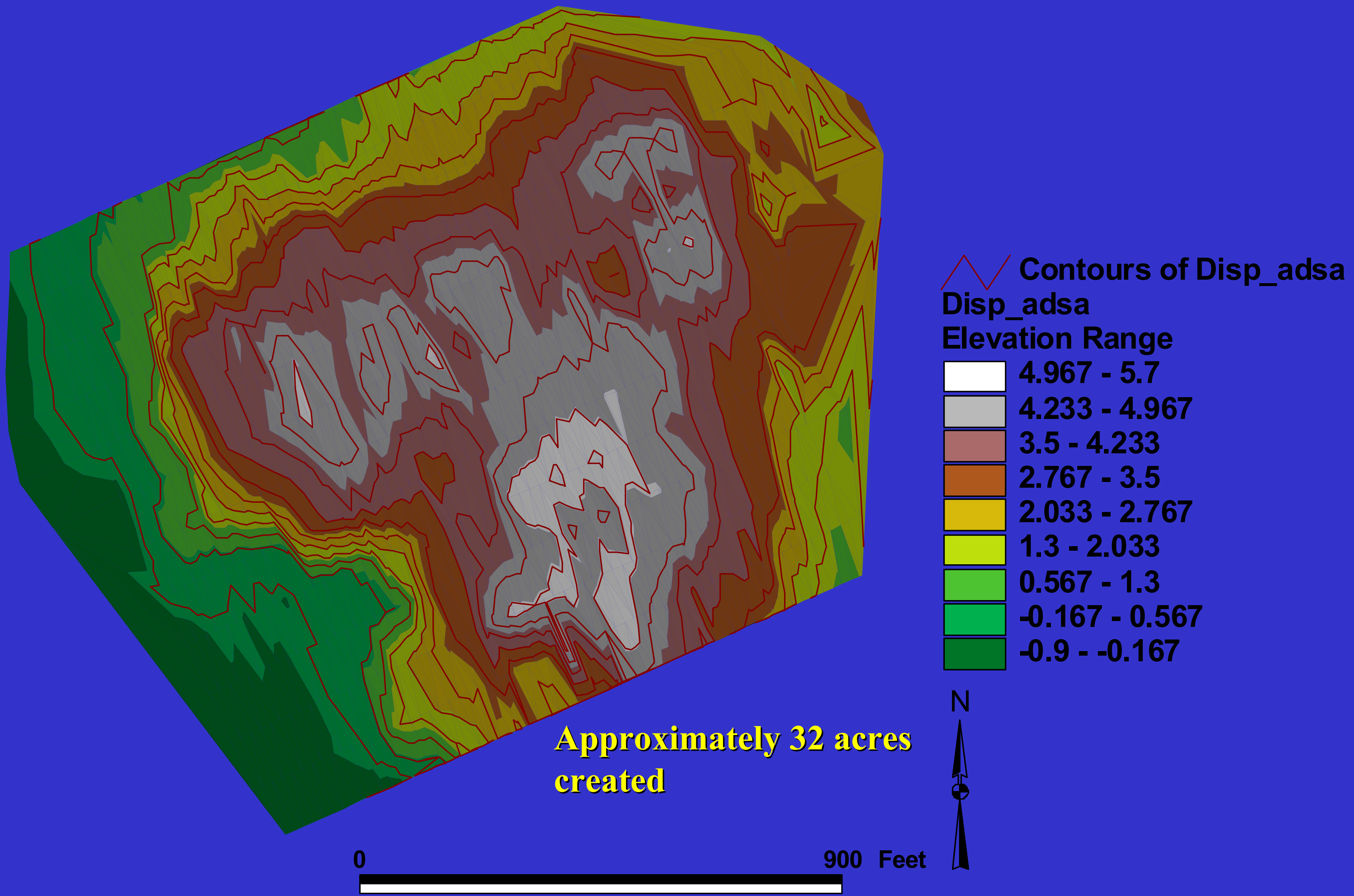
January 28, 2004 NOTE DATE CORRECTION	Task Force meeting to select PPL 13

Flexible Dustpan Dredge Demo (XMR-12b) Project

CWPPRA
Flexible Dustpan Dredge Demonstration Project

After Dredging Survey of Placement Site Elevations



Approximately 32 acres created

Production

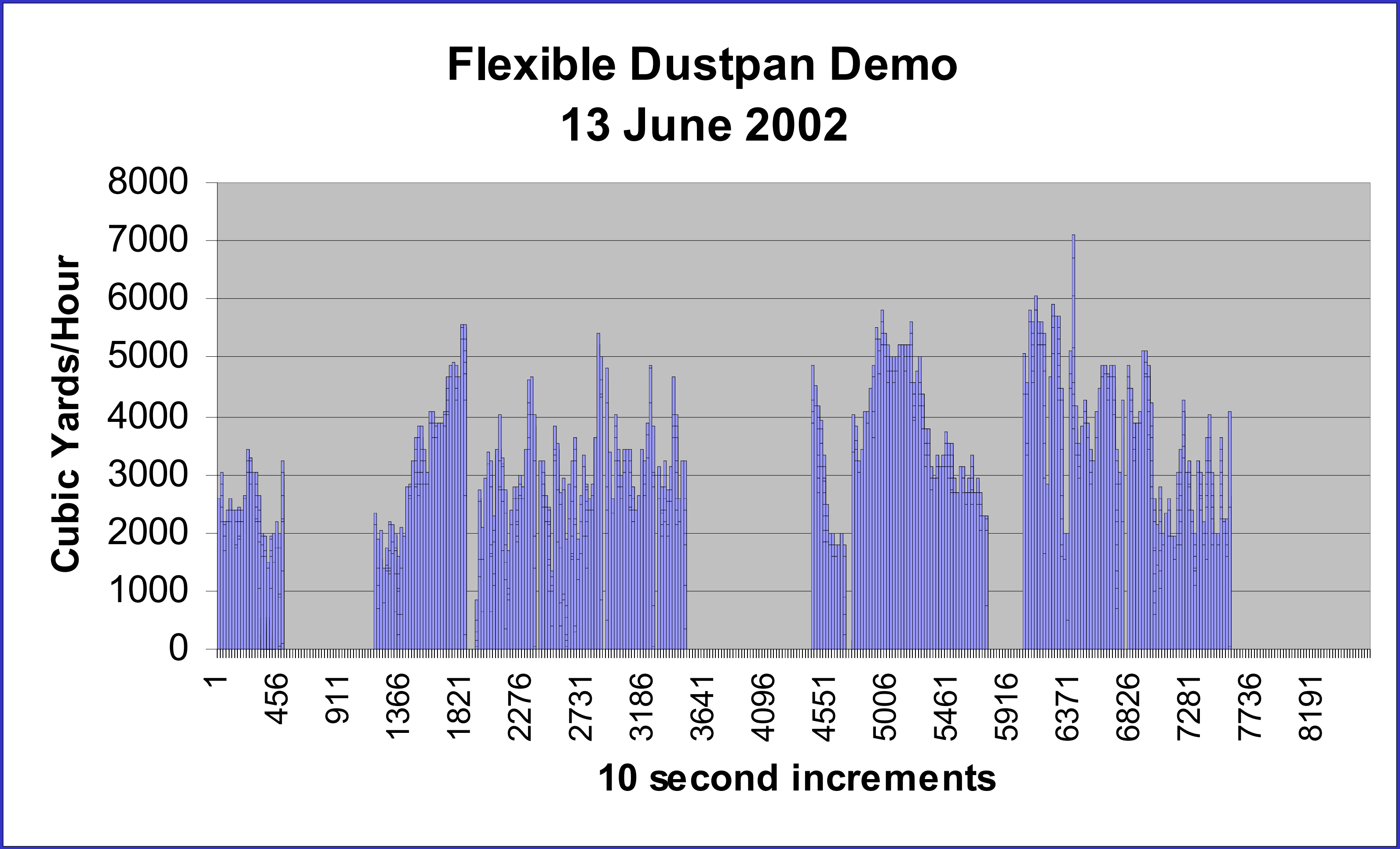
Average production rate - 1,157 yd^3/hr, 27,768 yd^3/day

Maximum production rate – 4,559 yd^3/hr

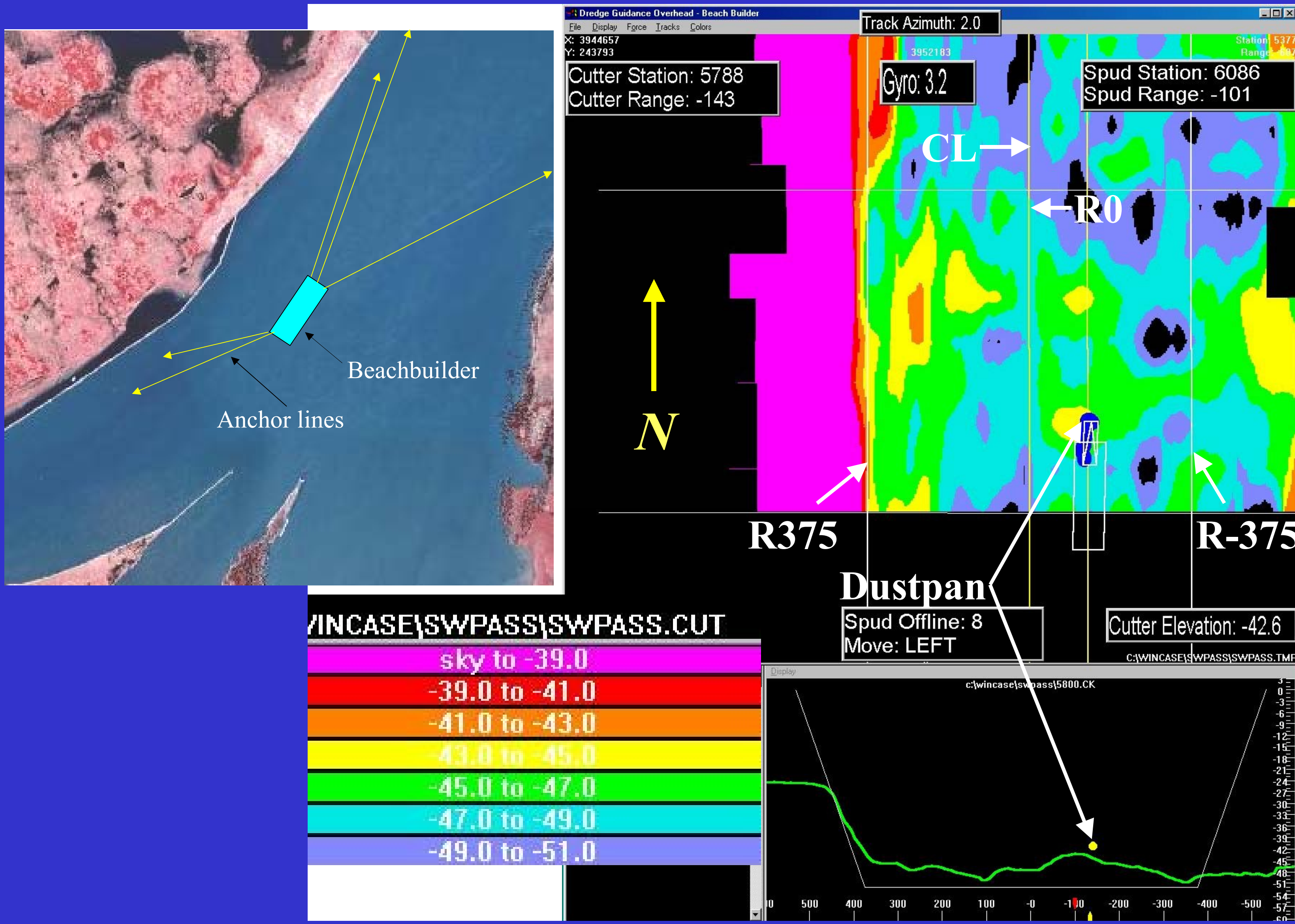
Total production time – 192 hrs

Reset time after moving for traffic – 5 to 20 min

Time series plot of *Beachbuilder*'s production day 13 June, 2002



Beachbuilder Anchor Lines and Positioning System



Comparison to Previous Maintenance Dredging Capabilities

	+	-	=
Past experience with dredge type			X
Utility of dredge type and size across projects	X		
Dredge mobility in working between dredging assignments		X	
Dredging mobility in sailing between dredging regions		X	
Method and mode of materials placement	X		
Minimum-acceptable dredging rate per day			X
Capability for yielding to vessel passage			X
Challenging sea conditions			X

Conclusions

Project Objectives Met:

- Safe navigation and dredging operations demonstrated
- Survey of Associated Branch Pilots indicated general agreement on operational safety
- 222,000 yd^3 placed in designated marsh creation site
- 10,820 feet maximum pumping distance
- Able to move across navigation channel and avoid traffic (11 min transit)
- Met or exceeded all operational characteristic except mobility

Operational Issues:

- Flexible dustpan configuration most effective working the right descending bank
- Spot shoaling not effectively handled with single discharge line
- Anchor lines prevent alternate means of dredging spot shoaling

FINAL DRAFT

DEMONSTRATION PROJECT
ON
DREDGING AND MARSH DEVELOPMENT
USING A FLEXIBLE-DISCHARGE DUSTPAN DREDGE AT
HEAD OF PASSES/SOUTHWEST PASS
MISSISSIPPI RIVER

September 2003

Prepared By:

US Army Corps of Engineers Engineer Research and Development Center,
OA Systems Corporation (OAS)
New Orleans District
and
Louisiana Department of Natural Resources

TABLE OF CONTENTS

CHAPTER 1 PURPOSE

The purpose of this report is to present the demonstration results of the dustpan dredge "Beachbuilder" using a flexible discharge at the Head of Passes/Southwest Pass on the Mississippi River (Figure 1) in June 2002. The report details and discusses the project activities, operational characteristics of the *Beachbuilder*, and feasibility of using a flexible discharge dustpan dredge to augment the hydraulic dredging capabilities of the U.S. Army Corps of Engineers (USACE) on the Mississippi and other rivers. The goal of the report is to use the project results to identify potential opportunities for reducing overall costs for channel maintenance and increasing beneficial use of dredged materials during dredging Corps navigation projects.

CHAPTER 2 INTRODUCTION

The navigation channel of the Mississippi River in the vicinity of the Head of Passes (HOP) is an area where significant dynamic shoaling occurs (Figure 1). From mile 4.0 above HOP to mile 1.0 below HOP, the annual dredging volume averages 17,700,000 cubic yards (yd^3). At HOP, the increased cross sectional area provided by Pass A Loutre and South Pass result in lower currents which allows much of the river's sediment load to be deposited. During the traditional high-water period in the spring, the shoaling in this area occurs rapidly and can represent a hazard to deep-draft vessel traffic. The shoaling must be removed rapidly to maintain adequate channel depth. Currently, dredging of the channel at HOP is conducted using hopper dredges, primarily due to their mobility. Hydraulic dredges with rigid-pipe discharge lines, such as cutterhead dredges, are considered a safety hazard in this area due to their inability to rapidly move out of the way of vessel traffic. Unfortunately, hopper dredges simply move the dredged material out of the channel and redeposit it in open water disposal sites at the heads of Pass A Loutre and South Pass. There are two disadvantages to this technique. First, the disposal sites periodically become so filled with material that the hoppers cannot bottom dump dredged material at the sites. The dredged material must be handled again at additional cost to provide sites for hopper disposal. Second, there is no beneficial use of the dredged material. Hopper dredges can use direct pump-out to place material beneficially in adjacent shallow open water areas for marsh restoration, but this is considered costly and has never been done before at the HOP. Furthermore, during the periods of rapid shoaling when as many as four hopper dredges are needed to maintain authorized project depths, taking a hopper out of service to pump-out for marsh restoration would/could compromise the navigation channel.

Dustpan dredges equipped with a flexible-discharge floating hose and sufficient pumping capacity potentially have the mobility required for safe passage of vessel traffic and can economically pump dredged material the distances required for placement in a beneficial use scenario such as marsh construction. The use of a flexible-discharge dustpan dredge at the HOP has been proposed in the past ("Assessment of Coastwide Louisiana Maintenance Dredging Capabilities under the Federal Standard", 1998), but effective operation under the vessel traffic and high current conditions typically found at the HOP in the spring had not been proven and was of concern. As a result, the USACE New Orleans District, the agency responsible for navigation channel maintenance in this section of the Mississippi River, determined that an operational research demonstration project was required in the HOP area along Southwest Pass to verify the effectiveness of a flexible-discharge dustpan dredge in safely conducting dredging operations and in placing the dredge material for the beneficial use of marsh creation.

The U.S. Army Engineers Research and Development Center (ERDC) has responsibility under the Innovative Technologies (IT) Focus Area of the Dredging Operation and Environmental Research (DOER) Program to identify and evaluate innovative dredging and dredged material management technologies. Under this program, ERDC works with USACE Division and District Offices to plan, conduct, and evaluate field demonstrations of high potential technologies. During FY01, the Lower Mississippi River Division (MVD) and the New Orleans District (MVN) tasked the DOER IT Program to partner in the demonstration and evaluation of use of a flexible-discharge dustpan dredge in the HOP area. Jointly, the USACE agencies developed a scope of work (SOW) and specifications for the demonstration project. The Louisiana Department of Natural Resources (LDNR) teamed with the USACE in planning and sponsoring the demonstration project. The LDNR provided a major portion of project funding under the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) (http://www.cfda.gov/public/viewprog.asp?progid=448). CWPPRA was designed to produce restoration projects that create, restore, protect and enhance coastal wetlands in Louisiana. The MVN Operations Division and the DOER Program provided additional funding.

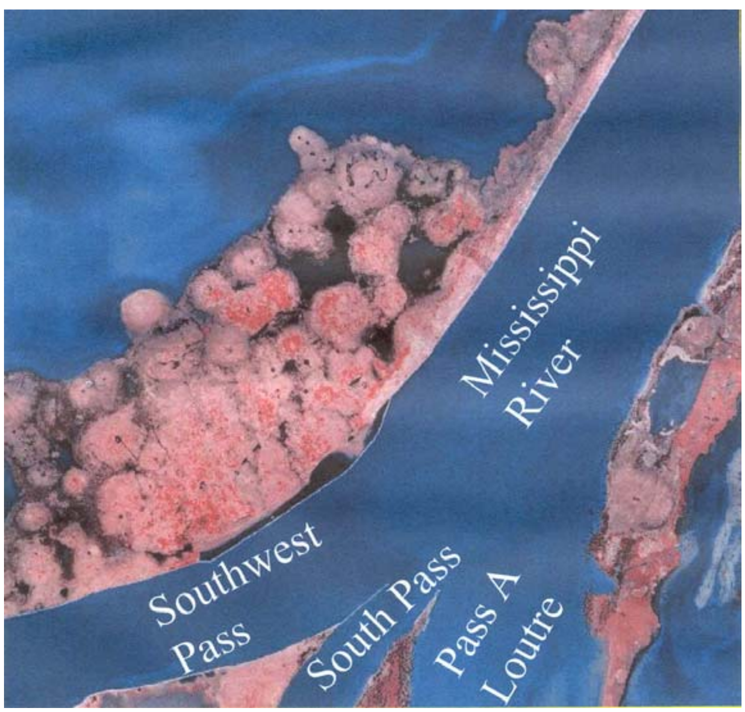


Figure 1. Head of Passes

The proposed project was considered an innovative application of existing technology. It was decided that the demonstration should be conducted at the head of Southwest Pass under as typical river and navigation conditions as possible during spring when high water resulted in the greatest current velocities. This site and time period would present the most difficult conditions to typically be encountered in this area of the Mississippi River. There is a bend in the channel at the head of Southwest Pass forcing vessel traffic to "crab" across the channel to make the turn, thus requiring more of the channel width. Shoals build up rapidly in this area and significant sediment is deposited along the inside of the bend. High current velocities put a strain on anchors, cables, push boats, and discharge lines.

The objectives developed for the demonstration project were to:

- Demonstrate safe navigation and dredging operations of the flexible-discharge dustpan dredge on the Mississippi River in the HOP area.
- Demonstrate sufficient production capability to dredge and place material in a designated marsh construction site.

The first objective was of primary importance, and if it could not be met, the project was to be terminated. The dustpan dredge had to be able to work safely and effectively with no disruption or interference with, or hazard to, normal vessel traffic. The second objective included collection of sufficient data to support determination of the cost effectiveness of the technology. The State of Louisiana prefers the beneficial use of dredged material to restore wetlands over open water disposal of the material.

The SOW detailed a number of project requirements to be met during the demonstration. The requirements are as follows:

- Dredge to a minimum depth of 60 feet below the water surface resulting in a minimum channel depth of –51 feet Mean Low Gulf (MLG).
- Pump the dredged material up to a total distance of 15,000 feet.
- Utilize total length of flexible floating pipe during dredging and moving up and down, and across the channel.
- Achieve competitive dredging production rates with stoppages required for normal vessel traffic passage.
- Maneuver into desired dredge cut both horizontally and vertically across the total channel width.
- Maneuver dredge safely to allow for normal vessel traffic passage.
- Establish discharge pipeline across dike, adjacent pasture, and existing wetlands to designated placement point(s) with minimum possible impact on existing marsh.
- Install and operate discharge pipeline with minimal leaks in existing marsh.
- Secure discharge pipeline in current using anchor system.
- Operate and safely maneuver discharge pipeline in the Mississippi River under typical conditions to allow for passage of both shallow-draft and deep-draft vessels.
- Pump and place dredged material so as to create a suitable marsh area with minimal impact to existing marsh.

It was determined that these requirements were key to determining the success of the demonstration and for future implementation of the technology in the maintenance dredging program in this area.

Dredging activities were to be conducted in the spring of 2002 to coincide with the normal period of high water on the Mississippi. The dredge was to operate over a continuous five-day period, 24 hours per day, with an option for up to three additional days of dredging based on the success of the project and time required to meet the project requirements. The first 24-hour period of operation was to consist of equipment mobility demonstration and equipment checkout.

ERDC requested that OA Systems Corporation (OAS) provide support in developing the project and conducting the field activities by means of their task order contract with ERDC. Based on the SOW, OAS determined that the *Beachbuilder* was the only U.S. owned dustpan dredge with the capabilities to meet the pumping requirements, and negotiated a rental agreement with Weeks Marine, Inc., for use of the *Beachbuilder* in the demonstration project. Several meetings and numerous telephone conferences were conducted including MVD, MVN, ERDC, OAS, Weeks Marine, and the Associated Branch Pilots (Bar Pilots) from the Port of New Orleans personnel, to define and concur on proposed field activities. It was suggested and agreed that River Pilot Association pilots would be hired to man the *Beachbuilder* pilot house on a 24 hour basis to monitor vessel traffic and keep the leverman appraised of vessel traffic movement. OAS and Weeks Marine prepared a proposal for the demonstration project. A delivery order was issued to OAS in March 2002 to begin the project.

A meeting was held at the MVN office on 8 March 2002 with MVN, ERDC, OAS and Weeks Marine personnel in attendance. Final technical details of the project were discussed and directions given as required on right-of-way, dredging reaches, anchor lines, pipeline placement, safety requirements, visitors, operations data, surveying, and assignment of MVN Area Office inspectors. The site activities were originally scheduled for late April or early May 2002. The project was delayed due to resolution of funding issues, repair and maintenance on the *Beachbuilder*, and availability of the floating hose, which was being used on another project. Weeks Marine installed new bow winches and high strength wire rope on the *Beachbuilder* in preparation for the demonstration project.

Weeks Marine started mobilizing equipment to the project site during the last week of May 2002. A project kick-off meeting was held at the Venice Area Sub Office at 1000 hours on 3 June 2002 including MVN, OAS and Weeks Marine personnel. Project activities, schedule, and safety issues were discussed. Recent surveys of the project area conducted by MVN were presented. Based on the shoaling detailed in the survey results, three channel reaches were identified and prioritized for dredging operations (Figure 2). Prioritization was based on physical location of the reach and minimizing the requirement for movement of the submerged line. The northern most reach at the head of the bend in the channel at the HOP was identified for initiation of the equipment mobility demonstration. Vessel traffic in this area generally steered in a straight line prior to initiating a turn through the bend, and thus, was deemed somewhat safer with respect to vessel traffic flow and proximity of the vessel traffic to the *Beachbuilder* while dredging in the channel. Once demonstrated to all concerned parties that the *Beachbuilder* could safely maneuver back and forth across the channel, it was to move down river and work in a reach located in the bend where greater shoaling generally occurs. At the conclusion of the meeting, Weeks Marine was directed to initiate site activities in preparation for dredging.

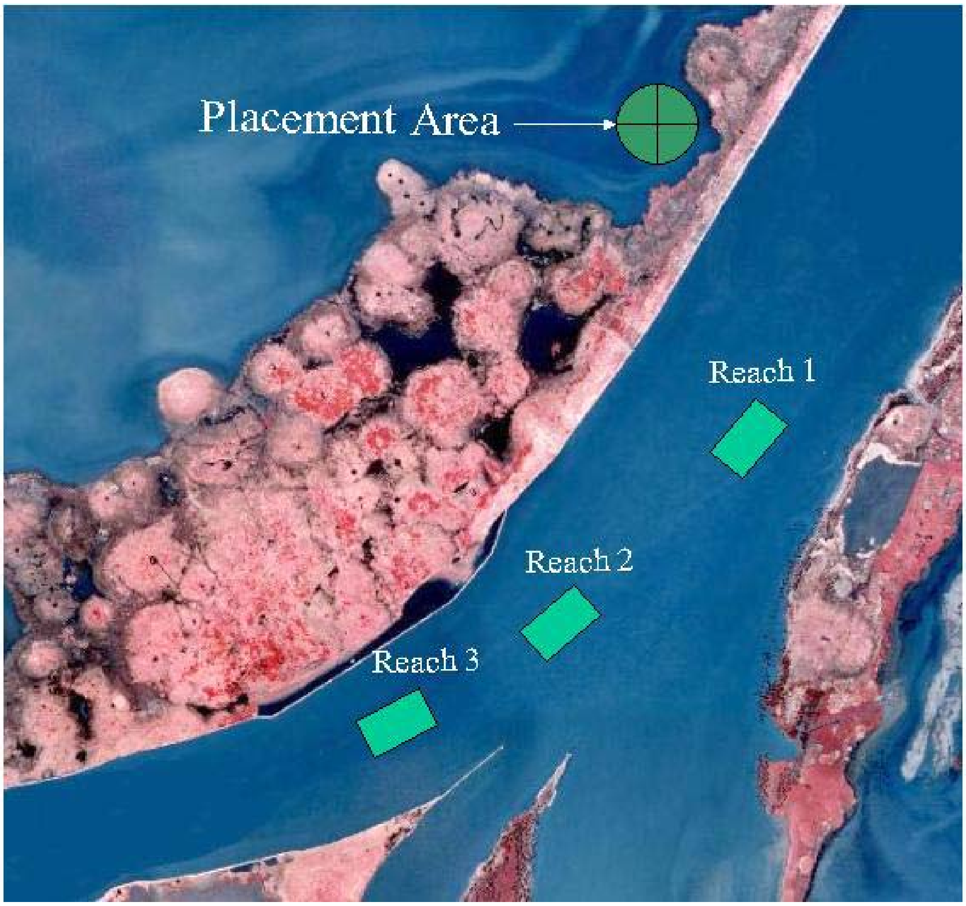


Figure 2. Flexible-dustpan demonstration dredging reaches and dredged material placement area

CHAPTER 3 PROJECT DESCRIPTION

Site Location

The dustpan dredge demonstration project was conducted at the HOP on the Mississippi River (Figure 1). MVN established the dredging limits for the demonstration project between Mile 1.0 above HOP and Mile –0.5 below HOP (Figure 2). Mile 1.0 is located approximately one mile down river from Pilottown. This area includes the bend where the navigation channel enters Southwest Pass. The project channel width in this area is 750 feet with a design depth of –45 feet MLG. The project area was divided into three dredging reaches. Reach 1 extended from Station 3+00 to 18+00 (Range 26 to Range 21); Reach 2 extended from Station 42+00 to 61+00 (Range 15 to Range 10); and, Reach 3 extended from Station 69+00 to 84+00 (Range 8 to Range 4). As noted above, Reach 1 was selected as the starting location for demonstration of equipment mobility since it was located upstream of the bend. The project plan specified working Reach 1, Reach 2, and Reach 3 in sequence to minimize downtime for moving the hard point and adding submerged line.

The placement area for the dredged material where the marsh was to be constructed was located on the west side of the River at Mile 1.6 above HOP (see Figure 2). The area was in open water immediately west of the dike/adjacent pasture uplands, and existing wetlands. The distance across the upland and wetlands to reach this area was relatively small, minimizing the amount of discharge pipe required to reach the placement area. MVN requested that a minimal amount of open water be left between the wetlands and placed dredged material.

Site Conditions

During the demonstration project, the Mississippi River was at above average high stages due to heavy rains on the Ohio River Valley in late Spring 2002. The maximum measured current during the project was approximately 7 feet per second. The high sediment load resulted in the continuous deposition of large amounts of sediment at the HOP causing rapid formation of shoals. Four hopper dredges were working continuously in this area to remove shoals before they could impact navigation. Shoal thickness was greatest on the inside of the bend. Survey results from 5 June 2002 indicated approximate maximum shoal thicknesses of 6 feet in Reach 1, and 20 feet in Reaches 2 and 3 (see Figure 3).

The water depth in the placement area ranged from 4 to 6 feet. The dike, adjacent pasture uplands, and wetlands separating the River and the placement area was approximately 900 feet wide consisting of a rock face adjacent to the River and the remainder a sandy soil with a maximum elevation approximately 2 to 3 feet above the River surface. The soil portion of the pasture was vegetated with short grass, small bushes, and marsh grass adjacent to the open water on the west side. River vessel traffic during the demonstration project was typical according to the River Pilots. Vessel traffic averaged 20 to 25 deep-draft vessels per 24-hour period.

LEGEND
HEAD
OF
PASSES
EAST HEADLAND DIKE
LOUTRE
SOUTH
PASS
PASSES OF THE MISSISSIPPI RIVER
HYDROGRAPHIC SURVEY
MISSISSIPPI RIVER
05 JUN 2002
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS

Figure 3 Bathymetry of dredging reached at HOP, 5 June, 2002

The vessel traffic was not evenly spaced. Several times during the project, two deep-draft vessels passed abreast in the area of the channel where the Beachbuilder was working (Photo 1, Appendix A). There were periods of up to 3 hours with no deep-draft vessel traffic. The deep-draft vessel traffic tended to navigate toward the outside of the bend, or Left Descending Bank (LDB) side of the channel, while making their turn into or out of Southwest Pass. Due to the cross currents caused by flows into Pass A Loutre and South Pass, the pilots on the outbound deep draft vessels tend to swing the vessels' bows more toward the Right Descending Bank (RDB) side (thereby occupying more of the channel cross section while crabbing around the bend) to compensate for the ships' tendency to be pulled toward the LDB side of the channel (see illustration in Figure 4).

Figure 4. Down-stream-bound vessel "crabbing" around HOP

Shallow-draft vessel traffic consisted of tugs, shrimp boats, work boats, fishing boats, and pleasure boats. This vessel traffic moved unimpeded both in and out of the channel during dredging operations. Outside the channel, shallow-draft vessel traffic moved across the submerged line on the west side of the channel. No count of shallow-draft vessel traffic was maintained during the project.

Environmental conditions during the demonstration project were typical for the season. Daytime temperatures ranged from the upper 80's to lower 90's. Periodic thundershowers were prevalent in the afternoons. Winds were generally light to moderate with gusts associated with thundershowers.

Project Equipment

The dustpan dredge *Beachbuilder* used for the demonstration project is a non-self-propelled dredge. The dredge hull is approximately 300 feet long and 75 feet wide (see Photo 2). The maximum draft of the dredge is approximately 8.5 feet. The maximum dredging depth of the Beachbuilder is approximately 70 feet. The dustpan head is 40 feet wide (see Photo 3). The ladder on the *Beachbuilder* is equipped with a submerged pump that transfers the sediment from the head to twin pumps on deck (see Photos 4 and 5). Total pumping capability is approximately 9,0000 hp (two 3,600 hp dredge pumps and a 1,800 hp ladder pump). Dredge (hull) pump discharge diameters are 30 inches. The Beachbuilder was designed to conduct beach nourishment projects where long-distance pumping is required.

The *Beachbuilder* normally operates using wire rope to advance into a cut. The dredge is equipped with 6 winches (3 forward and 3 aft) that pull against 11,000 lb Stephris anchors to affect movement (see Photo 6). Due to the strong current and requirement for rapid movement, a tug was connected to the stern to help propel the dredge (see Photo 7). During the project, it was determined that with the aid of the tug, the dredge could be advanced using only two forward winches. Also during the project, a second tug was connected to the starboard side of the dredge to aid in movement of the dredge into and out of the channel (see Photo 8).

The *Beachbuilder* is equipped with a large engine room housing the pump engines and electrical generator, an equipment control room, a small galley, two small offices, an electrical room, and a pilot house. There are no crews quarters on the dredge. The pilot house contains the leverman station (see Photo 9) and computer monitors showing equipment gauges, dredge position relative to the work area, and dustpan head elevation (see Photo 10). Project hydrographic survey data are uploaded to a proprietary computer program that develops an area contour plot. The contour plot is integrated with a navigation program that includes real-time Differential Global Positioning System (DGPS) signal input and outputs a visual image of the dredge location with respect to the channel limits and elevation contours, all of which are displayed on a computer monitor. A continually updated image of the dredge track is also displayed. The dustpan head elevation (corrected for the river stage) and position is shown relative to the channel profile. This system provides the leverman a real-time display of dredge location and dustpan head elevation relative to the required area of operation. The survey data and resultant contour plot are updated at least once a day.

The discharge pipe on the *Beachbuilder* was attached to flexible floating hose manufactured by Veldstein (see Photo 11) that allowed the dredge to move across and up and down the channel. The floating hose was made up of 30-foot sections for a total length of 1,420 feet (see Photo 12). This length of pipeline allowed the dredge to move across the full width of the channel and up and down the channel approximately 1,500 feet. Each section has an inside diameter of 30 inches (750 mm) and a bladder on the outside with sufficient buoyancy to float the hose when filled with dredged material. An anchor barge (or skidder) and a small tow were used to hold the floating hose in position to reduce the stress on the hose connections due to the strong current (see Photo 13). The floating hose was connected to a "hard point." The "hard point" is an anchored floating adapter used to connect the floating hose to the submerged line. The "hard point" was anchored by a 10,000 lb Danforth anchor and was moved and re-anchored as required to allow the dredge to work in specific reaches. In moving the "hard point", steel pipe was added or subtracted to reach the new anchor point.

The steel pipe ran submerged on the bottom of the River (called submerged line) from the "hard point" to the dike. The total length of submerged line ranged from 4,320 to 7,920 feet during the project based on the "hard point" location. The shore line steel pipe ran across the dike, pasture, and existing wetlands into the designated placement area.. As the placed dredged material built up above the surface of the water in the marsh area, additional shore line was added to extend the placement further into the designated placement area (see Photo 14). Two hydraulic backhoes mounted on swamp tracks (swamp buggies) were used to move the pipe and build temporary dikes to direct discharge flow (see Photo 15).

A variety of support equipment was used during the demonstration project. The tug *Delta Eagle* (3,000 hp; see Photo 16) was originally connected to the stern of the Beachbuilder as a push boat. Due to the swift current and problems with the anchors slipping, the *Delta Eagle* was replaced by the *Delta Pacer* (4,200 hp; see Photo 17). The *Delta Eagle* was then connected to the starboard side of the Beachbuilder to help maneuver the dredge in and out of the channel. The *Delta Eagle* was later replaced with the *Matthew* (3,000 hp; see Photo 18), a Weeks Marine tug. Two smaller tugs, the *Delta Fox* (900 hp; see Photo 19) and *Delta Robin* (600 hp; see Photo 20) were used to move several support barges including one equipped with a 55 ton capacity crane (Weeks 553) used to lift pipe (see Photo 21); and a small A-frame barge (or stiff-leg derrick) used to move anchors and the "hard point" (see Photo 22). The tugs were also used to hold the floating hose in position. A small tug, the *Marie* (300 hp; see Photo 23) was used to ferry personnel and help move the small barges.

Additional equipment included a quarters barge for Weeks Marine personnel equipped with a galley where meals were prepared (see Photo 24). The quarters barge was anchored in South Pass just below the HOP. Two 42-foot crew boats, the *Cheyenne* and the *Flying Cloud*, were used to transport Corps, OAS, and Weeks Marine personnel along with visitors between Venice, the Beachbuilder, the dike near the placement area, and the quarters boat. The survey boat used by Weeks Marine was the *Sabine*.

Project Operations

3 and 4 June 2002

As previously noted, Weeks Marine initiated mobilization activities during the last week of May 2002. Mobilization activities continued after the kick-off meeting on 3 June. Before-dredging (BD) surveys of the three River channel reaches and the placement areas in the marsh were conducted. On 3 and 4 June, Weeks personnel completed laying the submerged line and extended the shore line across the dike, pasture, and existing wetlands and into the designated placement area.

5 June 2002

On 5 June, Weeks personnel set the “hard point” to work in Reach 1 and connected the floating hose to the “hard point” (see Photo 25) and the Beachbuilder discharge line. Water was pumped through the floating hose, submerged line, and shore line pipe to the placement area to test pumps and piping connections. Weeks personnel, accompanied by a MVN inspector, surveyed and confirmed the submerged line elevations.

During the afternoon, the wire cable was extended and the anchors set. The winches could spool approximately 2,500 ft of 1.5 inch thick wire rope, but no more than 2.200 ft were unspooled during the demonstration. Initially, three anchors were set upstream of the dredge, two on the RDB side of the channel and one on the LDB side across the channel. Two anchors were set downstream of the dredge on the RDB side of the channel (Figure 5). As a result, only one wire cable stretched across the channel. Each cable was tensioned to test the corresponding anchor set. The Beachbuilder winches automatically advance at an adjustable pre-set tension. Several of the anchors did not hold when tension was applied to the associated cable. The leverman continued testing the anchor holding capacity until a suitable combination of cable tension (approximately 1,200 pounds per square inch) and power from the push tug was determined to allow forward movement of the dredge. Once all equipment was deemed operational, the mobility demonstration was initiated at 21:45 hours on 5 June in Reach 1.

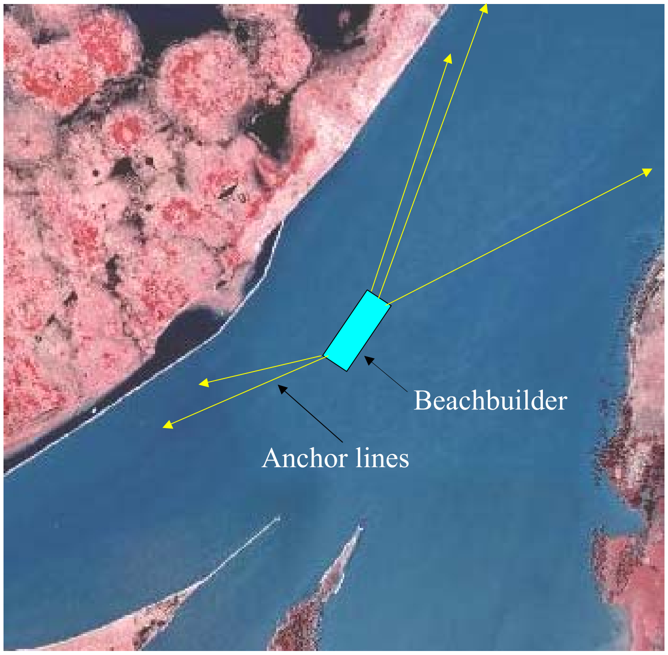


Figure 5. Initial *Beachbuilder* anchor deployment configuration

The *Beachbuilder* was moved out into the channel near the centerline (CL) and back to the RDB side of the channel with no problems. The USACE, Mississippi River Bar Pilot, and contractors all agreed that the dustpan's maneuverability with the flexible floating hose was deemed adequate to proceed with the demonstration and actual dredging started at 2235 along the RDB side toe of the channel in Reach 1. After 25 minutes pumping, instrumentation indicated possible plugging of a portion of the dustpan. The dustpan was raised for inspection and two pans were found to be plugged with stiff clay. The clay was removed using pry bars and a high-pressure water hose. Dredging resumed after a down time of 2 hours 15 minutes.

6 June 2002

Operations continued during the early morning of 6 June with shut downs occurring to allow for vessel traffic passage. The *Beachbuilder* made several 750-foot channel parallel cuts on the RDB side of the channel. A 750-foot cut was the optimal length based on the available wire cable spooled on the winches. The upstream anchors had to be reset several times because they were dragging downstream. The dredge was shut down for 20 minutes to add one section of shore line in the placement area.

During the morning of 6 June, a meeting was held with Weeks and OAS personnel to discuss the anchor movement problem. Weeks personnel suggested that a larger tug with more horsepower would provide additional propulsion capability to the dredge thus reducing the strain on the anchors. The anchors would be used for steering and the tug would provide the main thrust for moving forward into a cut. It was agreed to mobilize a larger tug, the *Delta Pacer*, and move the *Delta Eagle* to the starboard side of the dredge near the bow to increase the cross-channel maneuverability of the dredge. With the new tug arrangement, the center forward and two aft anchors could be eliminated. This would provide much better maneuverability and a faster response time in moving across the channel. The *Delta Pacer* arrived at the project site in the late afternoon on 6 June and replaced the *Delta Eagle*.

On the afternoon of 6 June, the full channel width maneuverability demonstration was conducted. The Beachbuilder was moved to the LDB side of the channel in Reach 1 stretching the floating hose across the channel. Pumping was initiated on a cut adjacent to the LDB side channel toe. At 16:40 hours, a simulated vessel traffic approach was announced. Pumping was ceased, the ladder raised, and the *Beachbuilder* began moving to the RDB side of the channel. The Beachbuilder was clear of the channel at 1651 hours, a total of 11 minutes.

During this period, the MVN notified the USACE, OAS, and Weeks Marine personnel aboard the Beachbuilder that a shoal was building rapidly just upstream of Reach 1. The MVN decided to mobilize a hopper dredge to this area and requested that the *Beachbuilder* cease operations in Reach 1 because the hopper dredge required portions of Reach 1 for access to the shoaled area. At 1651 dredging was ceased, the Beachbuilder moved further to the RDB side of the channel All anchors were retrieved and plans were made to move the *Beachbuilder* to Reach 2. Weeks Marine personnel started work on breaking the submerged line and moving the "hard point" to Reach 2. Operations were terminated at dusk due to potential safety issues. Total downtime for 6 June was 17 hours 35 minutes.

7 June 2002
Work on adding additional submerged line and moving the "hard point" resumed at daylight on 7 June. Sections of steel pipe were added and submerged on the RDB side of the channel extending the discharge line to the selected location for the "hard point" in Reach 2. Operations were terminated at dusk on 7 June (resulting in a total down time of 24 hours) and resumed at daylight on 8 June.

8 June 2002
Weeks Marine personnel completed setting the "hard point" at mid-morning on 8 June. The floating hose was connected to the "hard point" and two upstream anchors were set, one on each side of the channel. Water was pumped through the discharge line to test equipment and pipeline integrity.

Dredging was initiated in Reach 2 at 1230 hours on 8 June. The *Beachbuilder* was configured with the *Delta Pacer* as the push boat and the *Delta Eagle* on the starboard side. The dredge made adjacent 750-foot long cuts in Reach 2 south of the "hard point" working across the channel from the RDB side of the channel to the LDB side. Dredging continued on a 24-hour basis. The total downtime for 8 June was 14 hours 5 minutes. In addition to the time required to reset the hard point, the main engine shut down 8 times for a total down time of 50 minutes and dredging was stopped to add a length of shore line (35 minutes).

Vessel traffic passage was accomplished by dropping the starboard bow cable, the one across the channel, as the vessel traffic approached, and picking the cable back up after the vessel traffic cleared. By free-spooling the winch, the cable dropped to the bottom of the channel and went slack within 5 seconds. With the additional power from the *Delta Pacer*, the *Beachbuilder* was able to continue dredging with the starboard bow cable slack for vessel traffic passage. After consultation with various River Pilots, it was decided that the *Beachbuilder* could safely dredge during the passage of vessel traffic without moving if the *Beachbuilder* was dredging in the RDB half of the channel and the vessel traffic could pass in the LDB half of the channel. The *Beachbuilder* would cease operations and move back to the RDB side if it were dredging in the LDB half of the channel, two vessels were passing each other in the channel, or if the river pilot in command of the vessel requested additional clearance. This policy was successfully practiced during the remainder of the demonstration project.

In addition to the vessel traffic moving up and down the River, up to four hopper dredges were working in the HOP area during the dustpan demonstration project. They worked both immediately upstream and downstream of the area being dredged by the *Beachbuilder*. They discharged at the head of Pass A Loutre. No interference between the two operations were noted other than the requested shift from Reach 1 on 6 June noted above.

9 June 2002
Dredging operations continued on 9 June. A malfunctioning sensor resulted in main engine shut down 5 times for a total down time of 50 minutes during the early morning hours. This problem was resolved by 1200 hours.

Additional down time resulted from adding shore pipe (2 hours 25 minutes lost time),and cleaning out pans clogged with clay (2 hours 5 minutes lost time). Day to day hydrographic surveys showed that the channel bottom shifted so rapidly that accurate production rates are hard to determine and that the surveyed placement area volume would provide the most accurate measure of dredge production. Total lost time for 9 Jun was 8 hours 30 minutes. The sensor for the velocity meter malfunctioned and was replaced. The average cut face ranged from 5 to 6 feet thick on 9 June 2002.

10 June 2002
On 10 June, the *Beachbuilder* continued dredging operations in Reach 2. In the morning, the dredge was tracked into the RDB side toe of the channel resulting in the plugging of the port side of the dustpan head with heavy clay. After dark the dredge operated on the RDB side of the channel to optimize safe operating conditions. Down time totaled 8 hours and 40 minutes, including adding 7 lengths of shore line (3 hours and 40 minutes), ship vessel traffic (1 hour 20 minutes), moving anchors (55 minutes), cleaning clay out of pans (1 hr 20 minutes), and repositioning the dredge 8 times (50 minutes). Two deep-draft vessels passed abreast of the work area at 1740 hours. The cut-face thickness ranged from 2 to 6 feet.

11 June 2002
On 11 June, the Beachbuilder continued dredging operations in Reach 2. Shoaled areas across the channel width identified from surveys conducted on 10 June were dredged making short, parallel advances from RDB side to LDB side across the areas. Cut-face thicknesses ranged from 4 to 10 feet. After dark the dredge was operated further on RDB side of the channel to optimize safe operating conditions. Total down time during this day was 7 hours 20 minutes, which included repositioning dredge 9 times (1 hour 50 minutes), adding shore pipe (4 hours 15 minutes), and cleaning out a massive log from ladder pump (20 minutes). Two deep-draft vessel passed abreast of the work area at 0530 hours.

12 June 2002
The Beachbuilder continued dredging operations in Reach 2 upstream of the "hard point" on 12 June. The central section of the dustpan head was found to be plugged with several logs when checked at 0730 hours. The logs were finally extracted with a chain and hoist and operations continued. Dredging was generally conducted in the RDB half of the channel with cut-face thicknesses ranging from 2 to 8 feet. Operations were interrupted for anchor movement, addition of shore line at the placement area, and vessel traffic passage. . Down time totaled 5 hours 30 minutes, including repositioning dredge 9 times (1 hour 10 minutes), raising and adding shore line (1 hour 35 minutes), and cleaning the clay and timber from 2 center pans (2 hours 45 minutes).

13 June 2002
The last day of dredging operations was 13 June. The Beachbuilder worked in Reach 2 upstream of the "hard point". Cut-face thicknesses ranged from 5 to 9 feet. Down time for the day totaled 6 hours 15 minutes, including cleaning clay from pan (2 hours), repositioning dredge 5 times for a total of 50 minutes, time to un-snag anchor wire from floating hose (1 hour 20 minutes), and vessel traffic (35 minutes). During a late afternoon inspection of the placement area, USACE and OAS personnel discovered several Least Tern and American Avocet nests containing eggs. The nests had been constructed some distance from the active placement point and were not being disturbed. Dredging operations were terminated at 2100 hours on 13 June when the contract dredging period was completed.

Weeks Marine immediately initiated project demobilization. Anchors were removed. The submerged line was recovered and the shore line across the dike and in the placement area was removed. The two marsh-buggies initiated final grading of the placement area. On 14 June, operations in the placement area were terminated at the request of the MVN due to the numerous bird nests discovered in the area. There was concern that the operations would destroy some of the eggs.

The dike right-of-way area was regraded and the rock dike repaired. After-dredging surveys of the work areas in the River channel and the placement area in the marsh were conducted. All vessels, equipment, and personnel were demobilized from the site.

CHAPTER 4 DATA COLLECTION PROGRAM

The data collection program was designed to provide information for evaluating this dredging methodology's ability to meet the two primary objectives developed for the demonstration project:

- Demonstrate safe navigation and dredging operations of the flexible-discharge dustpan dredge on the Mississippi River in the HOP area.
- Demonstrate sufficient production capability to dredge and place material in a designated marsh construction site.

The various onboard-dredge, dredging prism, and placement area parameters monitored during the demonstration are listed in Table 1. In addition to these types of data, pilots of the Associated Branch Pilots (Bar Pilots) of the Port of New Orleans who stood watch on the *Beachbuilder* during the demonstration were asked their opinion about the navigation safety aspects of operating this type of dredge on the river, and the Associated Branch Pilots participated in a survey (sample survey in Appendix B).

Table 1. Data Collection Parameters Collected

Onboard *Beachbuilder*	Dredging Prism	Placement Area
1) Date, Time 2) Slurry pipeline velocity 3) x,y,z, positioning of dustpan 4) Pump vacuum 5) Discharge pressure 6) Production rate 7) Slurry density 8) USACE daily logs 9) Daily dredging report 10) Form 4267 Daily Report	1) River stage 2) River surface currents 3) Hydrographic surveys 4) Sediment samples	1) Hydrographic surveys

OnBoard *Beachbuilder* Data

The onboard dredge data listed in Table 1 were collected and analyzed primarily to determine this dredging methodology's operating characteristics. Quantification of these operating characteristics is useful for evaluating how well: 1) the project met the stated objectives, 2) and the dredge met the project requirements listed in Chapter 1.

The slurry density and pipeline velocity, production rate, x, y, z, positioning of dustpan, pump vacuum and discharge pressure, and date and time parameters were sampled every 10 seconds. Prior to the demonstration, the contractor was already using these parameters for dredge operation optimization (described in Chapter 3). Minor software modifications by the contractor merged these parameters into a common data stream and they were provided to the USACE in a single, comma delimited data string for analyses. The header for this data string consists of the following parameters and engineering units:

Date, time, pump vacuum (inches of mercury), pump 1 discharge pressure (psig), pump 2 discharge pressure (psig), slurry specific gravity, slurry velocity (ft/s), production rate yd^3/hr), dustpan easting (ft), dustpan northing (ft), dustpan elevation (in ft referenced to MLG), and river stage (ft). Horizontal position (x,y coordinates) of the dustpan was determined by a Differential Global Positioning System (DGPS) and reported in State Plane Coordinates. The z coordinate, was calculated by measuring the dustpan depth relative to water level, then correcting that value with the river stage referenced to Mean

Low Gulf (MLG). Dustpan depth relative to water surface was calculated by measuring the ladder angle with an inclinometer and, by working through geometric relations between the measured inclination angle and ladder geometries, produced a depth value. This value was then corrected for draft and reported a depth relative to water surface. This relative water depth was adjusted to MLG datum by river stage values that were manually entered from readings taken from the MVN river stage board at Pilot Town.

The slurry density was measured by a nuclear density meter (Photo 26) and pipeline velocity by a electromagnetic flow meter. The instantaneous production rate (reported in yd^3/hr) was calculated for each sample from the slurry density and velocity values. Pump vacuum and discharge pressures were measured by pressure transducers mounted on the pipeline. Date and time values were taken from the data collection computer clock set to the local time zone. The leverman logs and daily observation logs were manually recorded by USACE and contractor personnel in the leverman's room

Dredging Prism Data

The dredging prism data listed in Table 1 were collected to reference the dustpan digging elevation and hydrographic surveys to MLG and define hydrodynamic conditions in which the dredging was conducted (respectively river stage and current measurements), determine sediment type and grain size in Reaches 1 and 2 (sediment samples), and to determine production rates and identify shoaling (before dredge (BD) and after dredge (AD) hydrographic surveys).

River Stage Data

As previously mentioned, river stage values were manually entered from readings taken from the MVN river stage board at Pilot Town. Dredging activities were in the spring of 2002 to coincide with the normal period of high water on the Mississippi. The stage hydrograph in Figure 6 from MVN's Venice LA. Station 01480 (located at Mississippi River at Mile 10.7 referenced to NVGD) shows the river high/low stage cycles over last 9 years (maximum allowable number of years to plot by the analysis routine). In Figure 7, the expanded plot of the Venice Station river stages (from January through July) it can be seen that the highest river stage attained during the demonstration (3-13 June 2002) was 4.95 ft NGVD. This is the highest river stage recorded since 20 January, 1983, when a river stage of 5.15 ft was measured. While not as high as the record maximum river stage measured at 9.11 ft from a watermark left by the hurricane of 17 August, 1969, the maximum river stage measured during the demonstration confirms that the dredge was indeed tested in high water!

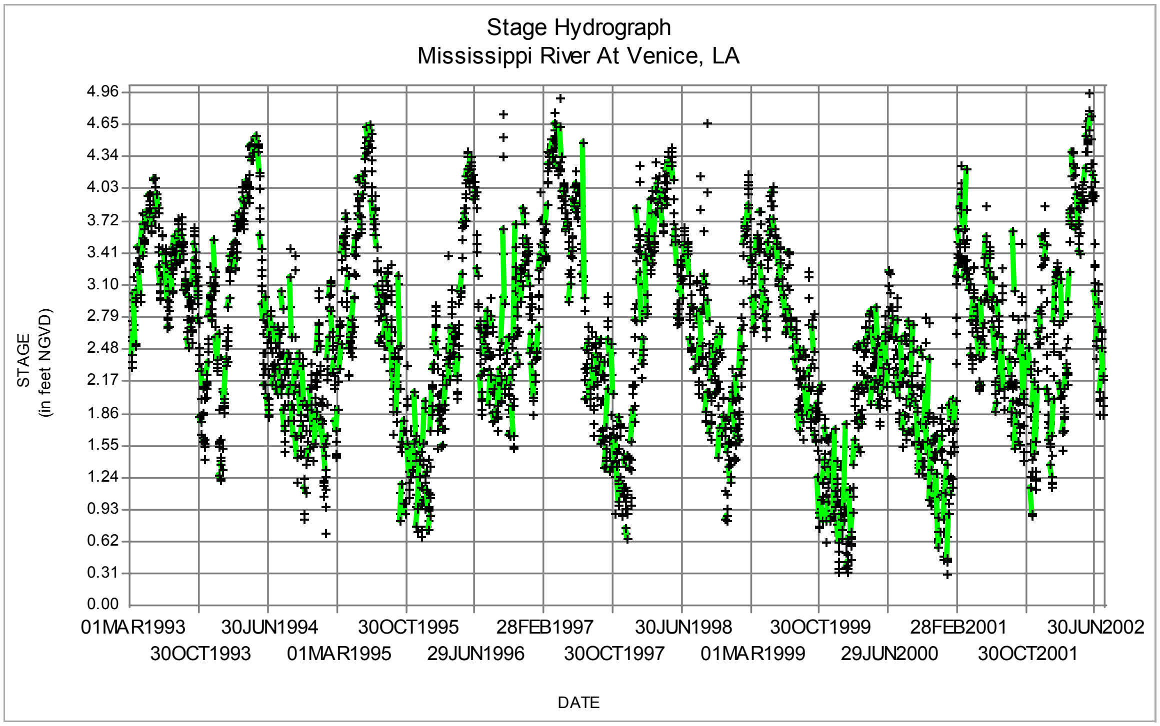


Figure 6. Venice Station stage hydrograph (March 1993 thru July 2001)

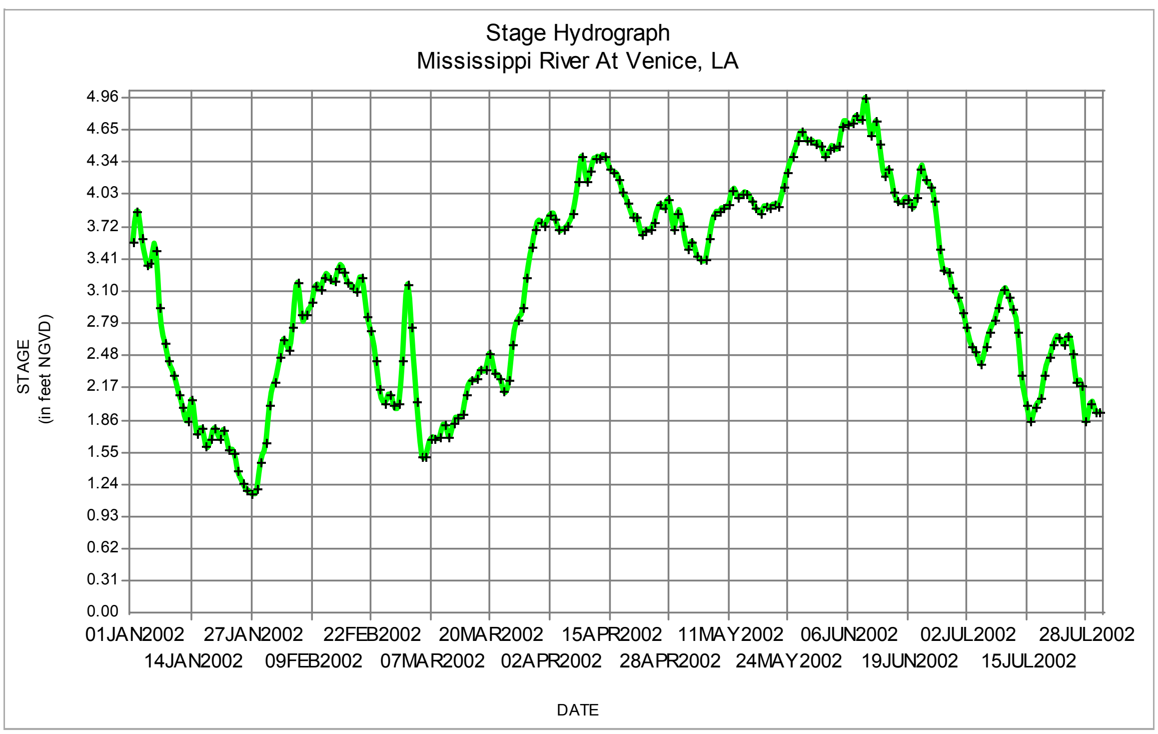


Figure 7. Venice Station stage hydrograph (January 2002 thru July 2002)

River Current Data.

The river surface currents were measured by a FP201 Global Flow Probe, manufactured by Global Water (Photo 27). The Flow Probe is an impellor current meter that measures average water velocity. Due to the limited scope of the current meter, measurements were all taken near the surface at a water depth of approximately 3 ft. The Flow Probe uses true velocity averaging at a sampling frequency of 1 Hertz to calculate the average velocity over the time interval that the impellor is in the water, and also measures and records the maximum (or burst) velocity sampled at 1 Hertz. The probe was deployed from the bow of the survey vessel while tied up alongside the anchor points, and later in the demonstration off the dustpan gantry at the bow of the *Beachbuilder* (while stationary) from various locations in the channel (Photo 28). The current measurement positions and velocities are presented in Table 2.

Table 2. Current Measurements and Locations

DATE	TIME	VELOCITY MAX ft/s	VELOCITY Avg ft/s	EASTING	NORTHING	River Stage MLG	Comments
June 5	13:00	7.0	6.1			5.0	
June 6							
June 7							
June 8	8:50		3.0			5.4	
	17:00		4.2			5.6	
June 9	08:00	3.9	3.0			5.5	
	15:39	5.1	3.9	243276	3944105	5.5	Taken from stationary dredge/survey configuration from centerline of channel prism #2
June 10	10:35	5.0	3.5	243921	3944055	5.9	Centerline (CL) of channel off gantry
	10:25	4.0	3.4	243925	3943751	5.9	Range 300 of stbd bow (approx due west from CL reading off gantry
	14:45	6.1	5.3	244185	3943971	5.5	Range 88, station 49+97
June	07:20	3.5	2.7	244730	3943227	5.5	Off gantry

11							
	16:41	6.3	5.3	243435	3944100	5.3	Off gantry
June 12	07:45	2.8	2.4	243257	3943883	5.3	Off gantry
June 13	06:45	3.7	3.1	243528	3943775	5.4	Off gantry

Hydrographic Survey Data

BD, during dredging, and AD hydrographic surveys of the dredge site were conducted by MVN and the contractor's survey crews using DGPS and echo sounders at 200 Khz (as per standard MVN survey specifications). Data were furnished to the USACE in a structured ASCII format on magnetic media.

Sediment Sample Data

Sediment samples were collected by a drag bucket sampler from the approximate center of each dredging reach as per MVN specifications. BD sample 1 from Reach 1 (BD01) was collected 5 June 2003 from the centerline Station 9+00 at –48 ft MLG (x = 3,943,667 y = 248,228). BD sample 2 from Reach 2 (BD02) was also collected on 5 June 2003 from Station 51+50 at –47 MLG (x = 3,944,058 y = 244,041). Both BD01 and BD02 were classified as a silty sand (AASHTO) with median grain sizes of 0.0752 mm and 0.157 mm respectively. The AD sample 1 from Reach 1 (AD01) was collected 8 June 2003 from the centerline Station 9+00 at –50 ft MLG (x = 3,943,674 y = 248,213). AD sample 2 from Reach 2 (AD02) was collected on 14 June 2003 from Station 51+50 (x = 3,944,060 y = 244,041) (no depth recorded). AD01 and AD02 were also classified as silty sand with median grain sizes of 0.108 mm and 0.100 mm respectively.

Placement Area Data

BD and AD placement site surveys were conducted by the contractor's survey crew and inspected by MVN, using airboats, mobile DGPS for horizontal positioning, and spirit leveling for vertical control. Cross-sections were extended over the anticipated limits of material placement at 100 ft intervals centered on the discharge location. All cross-sections were tied normal to the baseline with readings taken at least every 20 feet along the cross-section and adjusted to the nearest 0.1-foot. Data were furnished to the USACE in a structured ASCII format on magnetic media.

CHAPTER 5 DREDGING OPERATIONAL CHARACTERISTICS ANALYSES

This chapter presents the dredge operational characteristics analyses. These analyses were conducted to determine the *Beachbuilder's* ability to dredge and place material in a designated marsh construction site, and to provide MVN with production information to base cost estimates upon to evaluate the feasibility of using this dredging method at the HOP and other sections on the Mississippi River. These analyses are presented to address the following aspects:

Dredge Maneuvering Characteristics:

1. The actual time interval for moving the hard point.

2. The actual time intervals for handling anchors.

3. The amount of delay when dredging is halted for vessel passage broken down into different locations (i.e., RDB or LDB halves of the channel) and different-sized vessels.

4. The amount of time to back down and reposition for each cut.

5. Cross-channel maneuvering capabilities (lateral maneuvering speed)

6. Results of pilot survey regarding dustpan use in navigation channel.

Dredge Production Characteristics:

1. Individual advance rates per cut and average for entire project.

2. Average bank height for each advance.

3. Production and production rate for each advance.

4. Average production rates.

5. Estimation of high and low range of average production rates.

6. Present select time series plots of production.

Dredge Maneuvering Characteristics

The dredge maneuvering characteristics were determined by calculating the respective characteristic components from data reduced from the contractor's daily dredge report and daily submittals on Engineer Form 4267 "Report of Operations – Pipeline, Dipper, or Bucket Dredges," supplemental notes taken by USACE and contractor personnel, and from the time series data of the dredge or dustpan x, y, z position and slurry density and velocity. Some minor time discrepancies were noted between these different data sources. These discrepancies are due primarily to different personnel manually logging the entries at different times.

Relocating the Hard Point

The time interval for moving the hard point from reach 1 to reach 2 that consisted of adding 3,600 ft of submerged line, was 43 hrs and 45 minutes (time from dredge shutdown at 1645 on 6 June to startup at 1230 on 8 June). To determine a "typical" time interval that could be used for future project planning and estimating, this interval should be adjusted by evaluating the effects of two factors, 1) work was suspended during the hours of darkness due to crew safety concerns of this first- time demonstration, and 2) the move was made before it was planned because of the request to relocate the dredge due to the rapidly developing shoal (described in Chapter 3). Once experience is gained on operating at night and a safety hazard risk analysis is performed, the night-time operating restriction may be lifted. The amount of time that work was not conducted (due to darkness) on moving the hard point consisted of 5 hours 18 minutes on June 6, 10 hours on June 7, and 5 hours 45 minutes on June 8, all for a total of 21 hours 3 minutes. The subtraction of the night-time hours from the total interval leaves 22 hours 42 minutes that work was done to float the submerged line (fill with air), disassemble, and add sections, and move the hard point. This time could have further been reduced if the contractor had planned for the move by having the additional pipe connected and standing by. The contractor estimated that had the move been planned with the additional submerged pipe and handling equipment standing by, the total time to move the fixed point would have taken approximately 12 hours

Anchor Handling.

The anchors were handled for three basic reasons during the demonstration; 1) to initially set them in reach 1, 2) reposition anchors that were dragged during the tension-setting tests and during dredging, and 3) to reposition the anchors in reach 2, etc. There was one instance where the cross channel anchor outside the LDB channel toe was impeding a hopper dredge placing material into the disposal site in Pass A Loutre and the anchor was promptly repositioned. The anchor handling times depended on the availability of the tugs, where the anchors were being moved from and to, vessel traffic impacting the cross channel anchor handling, and (where precise anchor positioning was required i.e., ensuring the anchor was placed outside the channel) availability of the survey vessel. Seven anchor handling events were logged ranging in duration from 10 to 50 minutes. Statistics from this sample population are an average time of 30 minutes, median time of 30 minutes, and a mode of 20 minutes. There was one anchor handling event that was not included in the sample population. On 13 June the dredge was being repositioned when the partially-lowered dustpan became snagged on the starboard bow anchor wire and it took 1 hour 20 minutes to clear. This solitary event was excluded due to its non-representative nature compared to the other anchor handling events. During the entire demonstration time span of 192 hours, time logged for handling anchors (4 hours 50 minutes) was 2.5% of that total. During the last 5 demonstration days (after relocating to reach 2) when dredging operations were more routine, the anchor handling time (2 hours 5 minutes) consisted of 1.8% of the total 117 hours available.

Passing Vessel Delays

The dredging delay durations caused by passing vessels depended on the passing vessel types, sizes, numbers, directions being traveled, and location of the dredge in channel. During the first couple of days, the passing vessel/*Beachbuilder* response operating procedures were evolving as experience was gained. During these days the dredge was primarily working on the RDB side of the channel and was stopping and moving for any significant-sized vessel traffic.

Because of the positioning system of Center Line (CL) stationing and ranges was used in the daily dredge reports to report dredge positions, most future dredge position descriptions in this report will be also be described in these terms (e.g. Station 18+50, Range 255). Stationing follows the channel centerline alignment. Ranges, or offset coordinates, are lateral distances from the centerline alignment of the channel and carry plus/minus coordinate values. MVN ranges (or offsets) are positive to the right of the channel CL (and negative to the left of CL) looking toward increasing stationing (or downstream). For example, with the 700 ft wide channel at HOP a range of 0 (R 0) will lay right on the channel CL, R 375 is on the RDB side toe of the channel, and a R –375 lies on the LDB channel toe (see Figure 8).

On 8 June the dredge was operating around R 335, or close to RDB toe of the channel. For the deeper draft vessels passing, with the concurrence of both pilots (on the dredge and passing vessel), the dredge would just drop the cross channel wire to the bottom and continue dredging as the vessel passed by. For shallower draft vessels (approximately 15 ft and less) the *Beachbuilder* Pilot would usually ask the passing vessel to steer to the negative range side of the channel (LDB side) and the cross channel anchor wire would not be slackened as the vessel passed over it.

On 9 June the dredge started to work on the channel CL (R0). Some of the short vessel traffic delays reported (5 to 10 minutes) were times when the dredge was unable to move (not dredging, but just to position itself) by reducing tension on the cross channel wire due to passing deep draft vessels. After starting to dredge on Sta 60+00 R 0 at 13:55, the dredge continued till 1524 (total dredging time of 1 hour 29 minutes) when it was moved to Sta 53+00 R 365 because of vessel traffic. After consultation with the Pilot who estimated when the next deep draft vessel would pass, it was decided to continue dredging at Sta 52+30 R 365 to be able to optimize dredging time as opposed to having a short time to dredge before the next deep draft vessel passed. At 1600, after the deep draft vessel passed, the dredge was moved back out to Sta 53+00 R 0, where it dredged till 1640 (total dredging time of 40 minutes) when it was moved again back to Sta 52+80 R365 for the next deep draft vessel passing.

On June 10 the dredge was moved back to Sta 53+02 R 0 at 1136 and dredged till 13:22 (total dredging time 1 hour 46 minutes) when it was moved for passing vessel traffic back to 52+80 R 285. At 1622 the Beachbuilder moved over to Sta 51+45 R –373 and dredged till 1656 (total dredging time of 34 minutes) when it stopped on Sta 48+75 R-378, then relocated to Sta 51+89 R 125 and continued dredging on the positive range side for the rest of the day.

After the most recent hydrographic survey was loaded into the Beachbuilder's dredge monitoring system on June 11, it was decided that the priority dredging locations in reach 2 would be the "high (shoal) spots" located on the negative range side during the day. This tactic was based on the experience from the previous day that longer continuous advances on the negative range side of the channel were not possible with the volume of deep draft vessels passing. The screen shot of the dredge monitoring system with updated bathymetry is shown in Figure 8. These "high spots" were dredged in following sequence.

1. The dredge worked 39 minutes (Sta 58+50 R-130 to Sta 57+85 R-140) (Figure 8 shows the dredge working on this high spot), then moved to Sta 59+45 R 140 (with 5 minutes transit time) due to two oncoming deep draft vessels for a vessel delay induced dredge transit time of 11 minute. The Beachbuilder was back dredging when the cross channel wire was dropped twice for the 39.3 ft and 23.4 ft draft vessels without interruption to dredging. It advanced to Sta 51+90 R 140 when it was relocated to dredge another high spot (with a 5 minute transit time).

2. The *Beachbuilder* was able to work/dredge 52 minutes (Sta 58+25 R-140 to Sta 54+65 R-140) when oncoming vessel traffic once again required a dredge repositioning to Sta 55+20 R 140 (10 minute transit). There it dredged for 40 minutes while three deep draft vessels passed over the cross channel anchor lying on the bottom without interrupting dredging at the repositioned location.

3. After the deep draft vessels passed, the dredge was relocated to Sta 58+25 R-140 (5 minutes transit time) and dredged to Sta 54+64 R –140 for 55 minutes before again being moved for oncoming vessel traffic. The *Beachbuilder* set back to Sta 55+20 R 140 (for a 5 minute transit time) and dredged to Sta 51+90 R 140 for 35 minutes until the deep draft ship passed.

4. The dredge was repositioned to Sta 60+00 R-95 with a 5 minute transit time, plus 5 minute delay waiting on one of the hopper dredges to move. There it dredged for 1 hour 25 minutes to Sta 52+00 R-125 till another oncoming passing vessel required repositioning to Sta 60+00 R-55 (with a 15 minute transit time).

5. Once on station, it advanced to Sta 52+25 R-55, dredging for 1 hour 45 minutes when oncoming vessel traffic required repositioning again and the cycle repeated again.

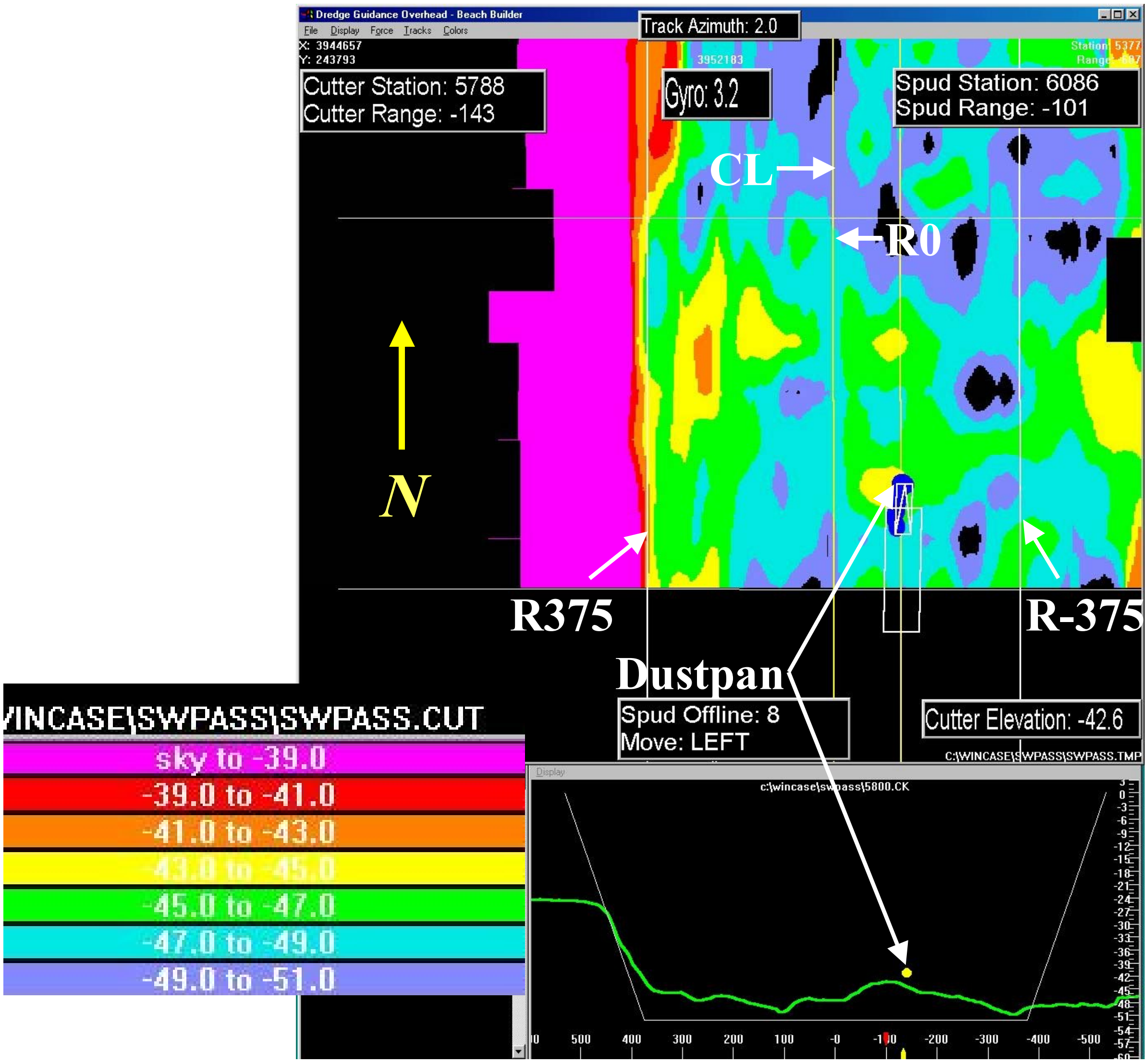


Figure 8. Weeks Marine dredge positioning system (with ranges, CL and dustpan positions annotated)

This cycle was basically repeated on 12 June when the dredge worked on the minus range side. During 13 June, the dredge stayed in the positive range channel side to optimize dredge production in the thicker face on that side without the numerous resetting delays. The dredging sequence for 11 June was listed in detail to illustrate the following points:

1. With any dredging position with an approximate range R > +100 ft, the deep draft vessels could pass with no interruption to dredging because just the cross channel wire was dropped as the vessels passed over. As the vessel passed there was no significant decrease in production noted on the density meter during the time the wire was dropped (usually 2-4 minutes long for one passing vessel). The length of time required to release tension on the cross channel wire and drop it to the bottom was less than 5 seconds.

2. Given the volume of deep draft vessels passing during the demonstration (in six days 143 vessels with drafts greater than 20 ft passed) the *Beachbuilder* could not dredge in the negative range (LDB) side of the channel for a continuous interval longer that 1 hour 45 minutes. The number of deep draft vessels passing during the demonstration was estimated to be slightly below average (as per communication with Captain Michael Lorino, President of the Mississippi River Bar Pilots Association).

3. When moved for passing vessels, the dredge was usually relocated to enable it to keep dredging with as little down time as possible rather that standing by for vessel traffic. The decision to relocate to dredge another position was influenced not only by the number of deep draft vessels, but the times that they passed also. If just one vessel was going to pass, the dredge could move aside, then immediately reoccupy the same digging position, but if several vessels were going to pass within a short time, then the dredge would start digging in a new location.

During 11 June when the *Beachbuilder* was dredging the high spots in the negative ranges (total time of 10 hours 20 minutes), 55 minutes were used to reposition the dredge 6 times (average of 9.2 minutes per move), and 5 minutes of down time was due to a delay from hopper dredge maneuvering. This resulted in a vessel delay percentage of approximately 9%.

During the total demonstration duration (192 hours) a total of 8 hours was logged as delay due to vessel traffic (4.2% of the total). During the last 5 demonstration days (after relocating to reach 2) when dredging operations were more routine, the logged vessel delay time (2 hours 29 minutes) consisted of 2.1% of the total 117 hours available

Time required to back down and reposition (reset) for each cut.

The amounts of time and distances traveled to back down and reposition the dredge for successive cuts were calculated from the resets identified in the daily dredge logs by station and range. These resets' start and stop positions, linear distances, respective times, and transit speeds are shown in Table 3 (calculated on an Excel spreadsheet). Entries that included additional tasks completed along with the reset (i.e., add pipe, clean dustpan, etc.) were excluded from these calculations due to the intent to calculate an average transit speed based purely on reset time. Reset speeds ranged from 9 ft/min to 198 ft/min. The average reset speed for 37 resets was 74 ft/min, with a median of 55.5 ft/min. The total time required to conduct these maneuvers was 5 hours and 20 minutes. One reason for the wide range of speeds is that on some of the setbacks the floating hose required more repositioning by the tugs than on others. Three additional resets and respective times were identified from the daily dredge report 4267 that included additional tasks i.e., adding shore pipe that brought the total time for resets to 7 hours 10 minutes.

Table 3. Reset times and transit speeds of *Beachbuilder*

From		To				
Sta	Range	Sta	Range	Linear Dist ft	Time min	Speed ft/min
1430	495	1850	255	484	10	48
1270	255	1850	345	587	15	39
5720	355	5940	286	231	15	15
5250	285	6000	135	765	5	153
5250	135	6000	15	760	5	152
5190	365	5300	0	381	10	38
4875	0	5300	415	594	5	119
3250	285	5220	95	1979	10	198
4990	95	5370	375	472	5	94
5150	375	5180	-135	511	10	51
5150	375	5180	135	242	10	24
4765	135	4980	95	219	5	44
4765	95	5050	15	296	5	59
4830	15	5275	175	473	5	95
4760	175	5275	135	517	5	103
4765	215	5250	255	487	10	49
4840	295	5370	340	532	20	27
5785	-140	5945	140	322	5	64
5510	145	5825	-140	425	10	42
5465	-140	5520	140	285	5	57
5190	140	6000	-95	843	5	169
5200	-125	6000	-55	803	15	54
5225	-55	5935	175	746	10	75
5240	175	5920	215	681	15	45
5575	215	6050	-15	528	10	53
5440	-15	5580	215	269	5	54
5240	215	5450	-15	311	5	62
5240	-14	5450	-135	242	5	48
5135	-135	5900	-135	765	10	77
5400	95	5975	55	576	5	115
5330	55	6000	-215	722	10	72
5330	-215	6045	-295	719	5	144
5240	335	6015	265	778	10	78
5220	295	6000	295	780	5	156
5660	295	6000	255	342	10	34
4665	335	5150	175	511	15	34
4880	175	4920	255	89	10	9
				Average Velocity =		74 ft/min

Cross-channel maneuvering capabilities

The ability of the dredge to move (laterally) across the channel is a major element in analyzing this type of dredge's operational feasibility regarding navigation safety. Table 4 lists 14 individual lateral moves made by the *Beachbuilder* during the demonstration. These lateral moves are described by respective date, start and stop times and positions, calculated linear distance traveled by the dredge, move time, and transit speed. The time used to calculate transit velocity does not include the additional time required to pull the dustpan out of material to enable the dredge to move without damaging the ladder. The dustpan "pull out" times were calculated from the time series data. When dredging in thinner faces the dustpan could be pulled up to a depth where the dredge could start moving in approximately 0.5 minutes, whereas when dredging in the thicker faces (greater than 10 ft), it required approximately 1.5 minutes or more to clear the material. With a minimum transit speed of 38 ft/min and maximum of 143 ft/min, the average lateral transit speed for all 14 moves was 65 ft/min. The time variations were a primarily a function of the ease (or difficulty) of the correct positioning of the floating hose, and total distance traveled by the dredge. The fastest speeds on 10 and 12 June (117 and 143 ft/min respectively) were logged later in the demonstration after experience had been gained in executing this maneuver and when the dredge was moved from one extreme side of the centerline to the other. Given the channel width of 750 ft, at the average speed (65 ft/min) it would take 11.5 minutes for the dredge to cross from toe to toe. Using the two maximum rates of lateral speed logged (117 ft/min and 143 ft/min), it would only take 6.4 minutes and 5.2 minutes for the *Beachbuilder* to completely cross the channel.

Results of Associated Branch Pilot survey regarding dustpan use in navigation channel.

Ten pilots responded to the survey sent to the Associated Branch Pilots of New Orleans. Of these ten, two had only heard about the demonstration and offered no opinion on the demonstration. Another one had heard about the demonstration and piloted a vessel past the *Beachbuilder* as it operated and would agree that a dustpan dredge (like the *Beachbuilder* used in the demonstration) with propulsion and flexible discharge would present an acceptable risk to navigation if the dredge worked on just one side, or half, of the channel at a time (not have the flexible discharge extended across the entire channel width). Two others who piloted vessels past the dredge during the demonstration agreed and strongly agreed that a dredge like the *Beachbuilder* presented an acceptable risk to navigation at the HOP without any operational modifications. The remaining five pilots who responded to the survey had both stood a watch on the dredge, and piloted a vessel past her during the demonstration. Of these five, one strongly agreed and three agreed that the *Beachbuilder* presented an acceptable risk to navigation at the HOP without any operational modifications. The remaining pilot would strongly agree that the *Beachbuilder* presented an acceptable risk to navigation at the HOP if it was restricted to dredging only the RDB side in the reach from one mile Above Head of Passes (AHP) to one mile Below Head of Passes (BHP). The reason behind this restriction was that if a (especially outbound) vessel lost propulsion power, the current flowing into Pass A Loutre would cause the vessel to move toward the LDB side and become a hazard to a dredge working there if it could not move out of the way. Other pilots who stood a watch on the *Beachbuilder* and were verbally-interviewed also expressed this concern.

Table 4. Cross-channel maneuvering capabilities.

	Time		From		To					Raise
							Linear Dist	Time	Speed	Dustpan
Date	Start	Stop	Easting	Northing	Easting	Northing	ft	min	ft/min	min
6/6/2002	16:20:08	16:35:01	3943808	247532.4	3944079	248039.9	575	14.88	39	
6/9/2002	15:34:02	15:41:03	3944041	243941.3	3943686	243956.1	355	7.01	51	
6/9/2002	16:03:47	16:08:18	3943699	243986.9	3944018	243879	337	4.57	74	0.5
6/10/2002	9:08:44	9:15:05	3944062	243990.7	3943769	244044.3	298	5.35	56	
6/10/2002	9:40:30	9:44:51	3943812	244062.8	3944062	243915.5	291	4.35	67	
6/10/2002	10:24:09	10:32:51	3943760	244015.6	3944078	243921.4	332	8.70	38	
6/10/2002	11:11:39	11:22:01	3944064	243914.3	3943701	244092.8	404	10.36	39	1.5
6/10/2002	11:28:02	11:33:33	3943770	244045.1	3944063	243910.8	322	5.51	58	
6/10/2002	16:57:30	17:02:21	3944425	244310.2	3943949	244002	567	4.85	117	0.5
6/10/2002	17:22:04	17:24:55	3943931	244129.5	3943789	244179.6	15	2.84	53	0.83
6/10/2002	17:26:05	17:28:46	3943819	244146.1	3943932	244120.4	116	2.68	43	
6/10/2002	17:34:37	17:38:27	3943927	244155.6	3943696	244172.8	232	3.83	61	0.83
6/11/2002	15:47:50	15:51:30	3944180	243723.6	3943921	243646.3	271	3.66	74	0.66
6/12/2002	15:18:33	15:21:44	3944253	243855	3943934	243610.8	402	2.80	143	0.83
							Average lateral move velocity		**65**	**ft/min**

Dredge Production Characteristics

The dredge production characteristics were analyzed by reducing the data from the contractor's daily dredge report and daily submittals on Engineer Form 4267, supplemental notes taken by USACE and contractor personnel, the time series data of the dustpan's x, y, z position, slurry density and velocity, and calculated production rate in yd^3/hr, and bathymetry taken by daily hydrographic survey. Production characteristics calculated include advance rates, approximate bank heights, and various types of production rates.

Individual advance rates per cut and average for entire project

The individual advance rates were calculated on an Excel spreadsheet using the start and stop times and positions from dredge advances that did not experience significant delays. The total time, linear distance traveled (calculated from start and stop coordinates), and advance speed of each individual advance is listed in Table 5. These advances were calculated during times of relatively uninterrupted dredging intervals to determine advance rates without delays (i.e., adding shore line, cleaning pump, etc.). Because of the experimental nature of this project, advance distances ranged from 17 ft to 773 ft in length. A minimum advance rate of 0.9 ft/min and maximum rate of 15.1 ft/min (the advance on 6 June at 1633 is deemed too short and early in the demonstration to be counted) were logged during the demonstration with an average advance rate (based on 68 advances) for the entire demonstration of 5.8 ft/min. The average advance rate of the *Beachbuilder* while at reach 1 from start of dredging to stop including all delays (i.e., anchor handling, vessel delay, etc.) was 1.6 ft/min. This value was based on the dredge's total advance distance (taken from the daily dredge report due to incomplete dredge time series data from June 5 and 6) of 1,715 ft during 18 hours 17 minutes. The average advance rate of *Beachbuilder* at reach 2 was 2.9 ft/min based on an advance distance (calculated from the dredge time series data) of 22,271 ft over 128.5 hours. The average advance rate during the entire demonstration was 2.1 ft/min (23,984 ft of advance over 192 hours). This rate compares fairly well with the average advance rate of 2.4 ft/min in the final daily dredge log calculated from manually-entered values.

Average bank height for each advance

Assuming a constant relative density of sand in the dredging prisms, the advance rate is primarily determined by thickness of the face. An estimated *approximate* face thickness is also included for each advance in Table 5. These thicknesses were estimated by personnel on the dredge during demonstration and by review of hydrographic surveys, but the dynamic complex shoaling nature of HOP and the inability to accurately measure an average thickness for an entire advance, makes these very rough estimates. The bank heights dredged during the demonstration ranged from 2 ft to 20 ft with the higher face predominantly laying on the RDB side of the channel (see Figure 8). As expected, when some of the thicker faces were being dredged, the slower advance rates were encountered, but with the inaccuracies inherent in estimating average bank height with the methods used, this relationship was not constant throughout the demonstration with the heights estimated in Table 5.

Production and production rate for each advance.

Calculation of the production and average production rate of each advance was based on the calculated yd^3/hr parameter in the time series provided by the contractor. Data collection problems were experienced at the beginning of the demonstration that precluded dredge data from being recorded until 6 June at 1140, after that the demonstration was recorded in its entirety. This lapse in data collection covered a pumping time duration of 5 hours and 31 minutes when comparing the (time series) calculated dredging time to the values reported on the daily dredge report and Form 4267 that were entered manually. The yd^3/hr parameter value, recorded every 10 seconds, was multiplied times the sampling interval to determine the cubic yardage dredged for that time interval. The totalized production for the entire demonstration tabulated by this method was 264,718 yd^3. The dynamic shoaling nature at HOP resulted in questionable results from production numbers derived from the channel hydrographic surveys, so the measured volume of material placed in the marsh was used as the most correct volume attainable. The original gross volume in the final Form 4267 reported was 248,500 yd^3, but the credited volume determined by the placement area surveys was 177,663 yd^3. Assuming a 20% loss in fines in runoff, this volume was adjusted up to a gross volume of 222,079 yd^3. The volume of material dredged during the data collection lapse of 5.51 hours on the first two days of the demonstration was (after accounting for the over-reporting gross volumes reported in Form 4267) estimated to be 14,000 yd^3. In order to calibrate the totalized volume calculated with the time series data, the adjusted gross volume of 222,079 yd^3 was reduced by 14,000 yd^3 to 208,079 yd^3 and the 10 second yd^3/hr parameter adjusted accordingly so the totalized time series calculated volume equaled 208,068 yd^3 as shown in Table 5. The calibrated production values per advance are also listed in Table 5. The production rate per advance was calculated by dividing the volume dredged per advance by the total advance time. The highest production rate obtained during the demonstration was 4,559 yd^3/hr while advancing 719 ft, and the average production rate from all the advances in Table 5 was 2,346 yd^3/hr.

Average production rates.

The average production rate of the entire demonstration between the beginning and end of dredging (192 hours) to move 222,079 yd^3 was 1,157 yd^3/hr or 27,768 yd^3/day. The average production rate per each reach (with delays incorporated) was calculated by totalizing the (time series calculated) volumes and dividing by the total time spent at each reach. The *Beachbuilder* spent a total of 17.75 hours (between start and stop of dredging) at reach 1 dredging 16,524 yd^3 (14,000 yd^3 estimated from Form 4267 plus 2,524 yd^3 calculated from time series data) for an average production rate of 931 yd^3/hr. A total of 128.5 hours was spent at reach 2 dredging 205,544 yd^3 for an average production rate of 1,606 yd^3/hr (or 38,390 yd^3/day). The average production rate per pumping hour was 2,346 yd^3/hr.

Estimation of high and low range of average production rates.

An estimation of high and low production rates of the *Beachbuilder* will be broken down into two estimated production rates that the dredge could achieve while working in the two halves of the channel (LDB and RDB sides) pumping the same distance as the demonstration (10,820 ft). This estimate will also be based on the assumption that the dredge remains at one reach (does not include relocating the hard point). The impact on pumping time by relocating the hard point is further discussed in chapter 7. As described above, the dredge can work almost completely uninterrupted in the RDB side of the channel. On the last day of the demonstration (13 June) *Beachbuilder* worked the RDB side to establish a production rate for the dredge just working on this side of the channel with limited vessel traffic delays. From 0537 to 2101, in 10 advances the dredge moved 28,153 yd^3 in 15.4 hours working between Ranges 175 to 335 in face thicknesses estimated from 3 to 15 ft with an average production rate of 1,828 yd^3/hr. The maximum production rate per advance of 4045 yd^3/hr in 463 ft advance was also achieved during this interval.

For the dredge's low estimated production rate while working on the LDB side of the channel, the duration *Beachbuilder* worked on the negative range side of the channel on 11 June (as described in detail above) to dredge the "high spots" is used as a limiting factor. While relocating to accommodate passing deep draft vessels, yet still dredging the LDB side of the channel, the *Beachbuilder* could not stay in the negative range (LDB) side of the channel for a continuous interval longer that 1.75 hours. Assuming that the dredge could stay on that side of the channel for 1.75 hours then would be forced to relocate to the RDB side (assume 7 minutes), wait for vessel traffic (assume 5 minutes), then re-establish location in the LBD side again (again 7 minutes), the total amount of time just to move and wait for vessel traffic over 24 hours would be 3.41 hours. Taking the average production rate of *Beachbuilder* in reach 2 (1,606 yd^3/hr or 38,544 yd^3/day) as a first approximation of a "standard production rate", the daily production of a dredge working in the LDB side be reduced by the time required to keep moving for passing vessels. So instead of 38,544 yd^3/day, the dredge would move only 33,067 yd^3/day, or have an hourly production rate of 1,377 yd^3/hr.

Time series plots of production

Below are two examples of the Beachbuilder's time series production data. Figure 9 illustrates a 486 ft advance made on 11 June, 2002, with an average production rate of 2,411 yd^3/hr, which is fairly representative of the average production rate from all the advances in Table 3 at 2,346 yd^3/hr. The y-axis scale is in cubic yards per the dredge's advance every 10 seconds. Figure 10 shows the *Beachbuilder's* daily production on 13 June, 2002, with the y-axis scale in cubic yards per hour, that was calculated and reported in (the x-axis) 10 second increments

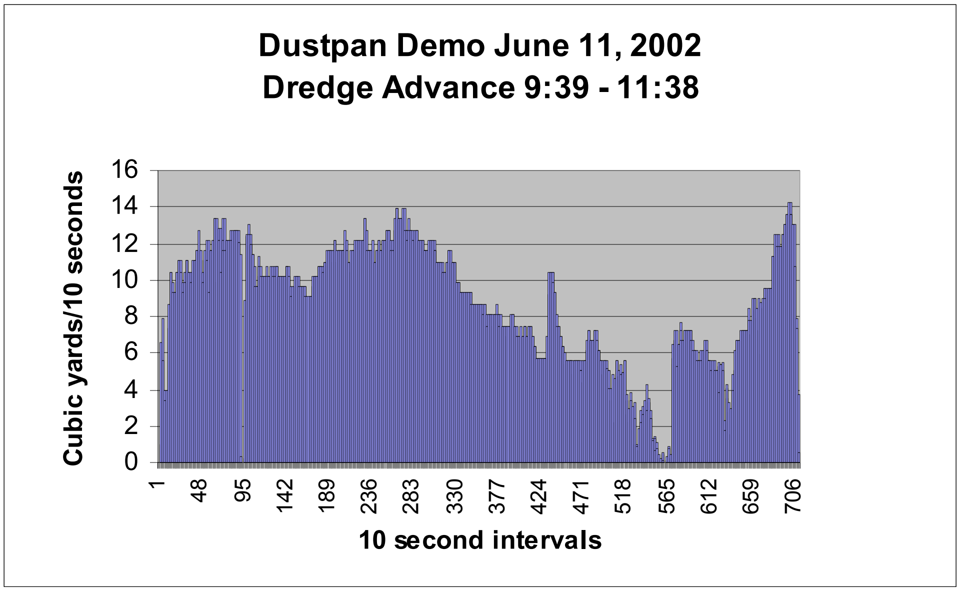


Figure 9. Example of a time series plot from in a *Beachbuilder* advance

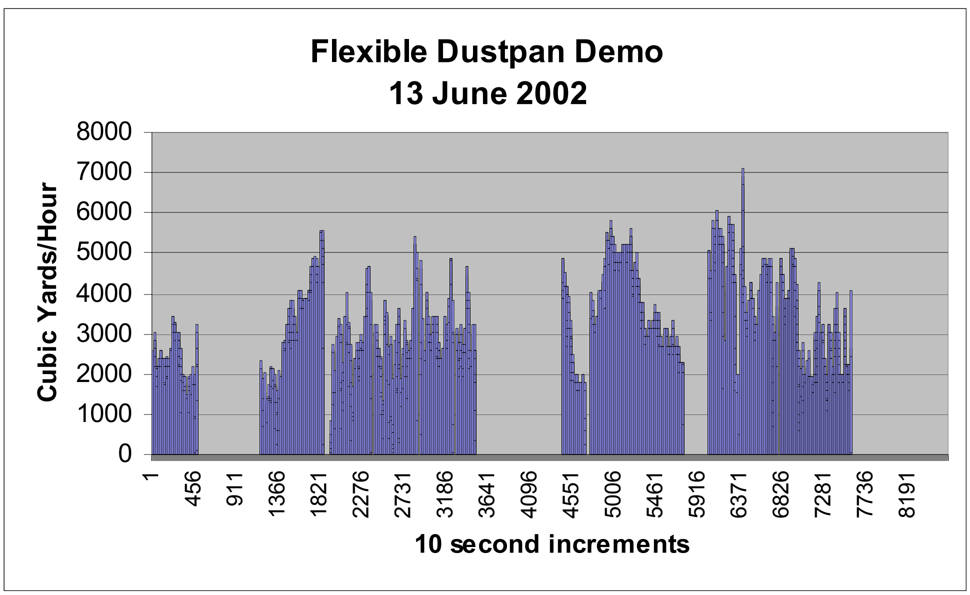


Figure 10. Example of a time series plot of *Beachbuilder*'s production day 13 June, 2002

Table 5. Beachbuilder Advance Rates and Production

	Time		From		To		Linear Dist	Time	Speed	Production	Production	Face
Date	Start	Stop	Easting	Northing	Easting	Northing	ft	Min	ft/min	yd3	yd3/hr	ft
6/6/2002	12:21:43	12:56:49	3943731	247434.8	3943604	247792.7	380	35.09	10.8	1339	2290	4
6/6/2002	13:11:41	13:47:48	3943600	247793.6	3943522	247975.3	198	36.00	5.5	955	1592	4
6/6/2002	16:33:01	16:40:12	3944092	248016.6	3943976	248106.9	147	7.50	19.6	230	1842	4
6/8/2002	12:30:18	14:39:41	3943669	243231.5	3943690	243371.1	141	129.60	1.1	4556	2109	17
6/8/2002	14:49:33	18:45:13	3943685	243379.4	3943701	243609.5	231	235.20	1.0	6815	1738	5
6/8/2002	18:51:44	19:38:53	3943707	243609.8	3943706	243651.6	42	46.80	0.9	1395	1789	2
6/8/2002	19:49:05	20:21:00	3943716	243658.8	3943717	243686.4	28	31.80	0.9	1018	1921	4
6/8/2002	20:57:36	2:08:27	3943707	243696.4	3943721	243961.6	266	309.80	0.9	10109	1958	17
6/9/2002	2:52:06	5:50:17	3943702	243281.6	3943720	243973.9	693	177.80	3.9	8882	2997	12
6/9/2002	6:20:53	7:53:39	3943749	243297.8	3943767	243478.2	181	92.80	2.0	967	625	11
6/9/2002	9:58:55	12:26:28	3943747	243267.2	3943770	243948.9	682	94.00	7.3	3417	2181	12
6/9/2002	14:03:27	15:34:32	3943973	243229	3944018	243936.2	709	91.20	7.8	4115	2708	5
6/9/2002	15:43:14	16:04:27	3943689	243965.3	3943704	243972.8	17	21.20	0.8	1073	3036	20
6/9/2002	16:09:58	16:43:03	3944050	243898.1	3944036	244124	226	32.60	6.9	1207	2221	4
6/9/2002	17:08:38	19:11:10	3943668	243257.4	3943698	243790.6	534	121.80	4.4	6821	3360	4
6/9/2002	19:43:56	21:41:44	3943675	243718.9	3943722	244068.8	353	118.20	3.0	5580	2832	20
6/9/2002	22:43:37	0:32:45	3943667	243796.3	3943714	244076.9	284	109.20	2.6	5103	2804	20
6/10/2002	0:58:10	1:15:42	3943711	244089.8	3943710	244113.9	24	18.00	1.3	410	1365	19
6/10/2002	3:14:26	8:44:49	3943683	243760.3	3943709	244378.6	619	331.20	1.9	18199	3297	20
6/10/2002	11:38:24	12:26:43	3944059	243895	3944057	244315.9	421	49.20	8.6	2233	2723	3
6/10/2002	12:35:44	13:21:32	3944016	243989.2	3943996	244293.5	305	46.00	6.6	1967	2566	6
6/10/2002	14:06:31	14:13:42	3944334	243880	3944334	243933.2	53	8.00	6.7	225	1686	3.5
6/10/2002	14:21:03	14:57:29	3943960	243976.5	3943989	244181.4	207	36.00	5.7	1739	2898	3.5
6/10/2002	15:01:00	15:28:14	3944412	243791.4	3944432	244015.7	225	27.00	8.3	1093	2430	2
6/10/2002	16:22:45	16:57:50	3944422	244036.2	3944388	244308.7	275	35.00	7.8	1078	1847	5
6/10/2002	17:04:52	17:21:54	3943930	244003.6	3943934	244128.8	125	17.00	7.4	784	2766	6
6/10/2002	17:29:16	17:35:07	3943933	244103.3	3943901	244166.1	71	6.00	11.8	266	2657	4
6/10/2002	17:39:18	17:47:09	3943688	244173.9	3943680	244193.9	22	8.00	2.7	478	3584	7
6/10/2002	17:57:41	18:55:11	3943929	244157.8	3943934	244414.3	257	57.00	4.5	2601	2738	6
6/10/2002	18:59:21	19:24:46	3943973	244211	3943964	244421.9	211	26.00	8.1	978	2256	5

6/10/2002	19:29:26	19:44:09	3944012	244115.2	3944023	244341.6	227	15.00	15.1	600	2399	4
6/10/2002	19:50:30	19:56:51	3943884	243913.7	3943880	243932.1	19	6.50	2.9	181	1669	5
6/10/2002	20:27:37	22:26:47	3943889	243945.4	3943901	244438.3	493	119.00	4.1	4872	2456	3
6/10/2002	22:33:38	22:45:00	3943920	243900.3	3943906	243980.8	82	11.00	7.4	539	2941	3
6/10/2002	22:51:21	1:09:04	3943847	243932.3	3943850	244393.2	461	138.00	3.3	4204	1828	5
6/11/2002	1:17:36	5:06:34	3943798	243943	3943808	244410	467	228.00	2.0	6768	1781	7
6/11/2002	5:38:01	7:36:51	3943757	243895.4	3943776	244363.1	468	121.00	3.9	4329	2146	8
6/11/2002	9:39:46	11:38:05	3943709	243832.7	3943766	244315.6	486	118.80	4.1	4774	2411	15
6/11/2002	13:00:32	13:21:25	3944160	243296.2	3944173	243401.8	106	21.00	5.1	861	2459	8
6/11/2002	13:48:31	14:41:09	3943894	243257	3943910	243661.8	405	51.80	7.8	2302	2667	5.5
6/11/2002	14:50:01	15:48:00	3944188	243360.3	3944175	243722.4	362	58.00	6.2	2633	2724	6
6/11/2002	15:52:41	16:27:37	3943906	243647.6	3943908	244010.7	363	35.20	10.3	1653	2818	4
6/11/2002	16:35:58	18:03:42	3944139	243182.3	3944141	243887.2	705	88.00	8.0	3973	2709	8.5
6/11/2002	18:13:24	20:00:12	3944086	243212.9	3944094	243932	719	107.00	6.7	8130	4559	4.5
6/11/2002	22:00:55	1:00:35	3943862	243269.9	3943857	243942.9	673	178.80	3.8	5266	1767	7
6/12/2002	1:16:48	1:54:04	3943827	243285.5	3943827	243487.3	202	38.00	5.3	1270	2006	3
6/12/2002	2:11:57	2:55:24	3943826	243498.5	3943820	243608	110	43.00	2.6	962	1342	6
6/12/2002	3:05:06	4:20:08	3944037	243155.8	3944053	243753.9	598	75.00	8.0	3360	2688	4
6/12/2002	4:26:49	5:37:40	3943831	243641.5	3943842	243950.8	309	70.80	4.4	2375	2012	5
6/12/2002	5:41:41	6:02:54	3944031	243744.6	3944060	243948.2	206	21.00	9.8	1086	3104	4
6/12/2002	6:06:45	6:41:40	3944179	243712.9	3944195	244048.6	336	35.00	9.6	1705	2923	4
6/12/2002	6:51:42	6:57:43	3943941	243240.2	3943950	243246.3	11	6.00	1.8	145	1454	3
6/12/2002	10:22:14	12:08:11	3943932	243196.7	3943962	243964.6	768	105.00	7.3	3929	2245	3
6/12/2002	12:15:42	13:23:53	3943975	243217.3	3943990	243787.8	571	68.00	8.4	2544	2245	3
6/12/2002	13:31:55	15:17:23	3944247	243196.3	3944273	243838.8	643	105.20	6.1	3486	1988	4
6/12/2002	16:11:23	17:19:34	3944317	243138.1	3944340	243478.2	341	69.20	4.9	2045	1773	4
6/12/2002	19:13:47	1:19:27	3943664	243211.5	3943691	243968.5	757	365.20	2.1	6003	986	7.5
6/13/2002	3:16:20	5:09:09	3943700	243187.2	3943726	243959.6	773	112.80	6.9	4138	2201	10
6/13/2002	5:22:32	5:35:14	3943735	243202.1	3943713	243266.2	68	12.00	5.6	151	755	8
6/13/2002	5:37:24	6:34:23	3943732	243261.1	3943720	243665.8	405	56.80	7.1	1675	1769	7
6/13/2002	6:42:35	7:56:57	3943774	243515.2	3943800	243976.9	462	74.00	6.2	1933	1567	8
6/13/2002	8:03:08	9:01:37	3943748	243526.8	3943769	243989	463	59.00	7.8	3978	4045	6
6/13/2002	9:08:39	9:43:44	3943775	243208.8	3943787	243544.6	336	35.00	9.6	1145	1963	5
6/13/2002	12:21:26	13:00:43	3943725	244041.1	3943737	244301.7	261	40.00	6.5	1229	1844	9

6/13/2002	13:11:14	15:58:11	3943708	244316.6	3943747	244533.2	220	167.20	1.3	8060	2892	15
6/13/2002	16:46:11	17:12:56	3943887	244061.8	3943892	244437.6	376	27.20	13.8	1622	3579	6
6/13/2002	17:16:27	17:35:20	3943711	244434.6	3943743	244490.7	65	19.00	3.4	1113	3515	7
6/13/2002	17:42:11	18:48:52	3943908	244278.9	3943912	244719.8	441	67.00	6.6	3156	2826	3
6/13/2002	18:54:23	21:01:35	3943810	244291.3	3943809	244602.6	311	127.00	2.5	4242	2004	8
							22,994	5,450	5.8	208,068	2,346	7.3
							Sum Total Advance	**Sum Total Time**	**Average Speed**	**Total Volume**	**Average Production**	**Average Height**

CHAPTER 6 BENEFICIAL USE ANALYSIS

The dredged material from the flexible-discharge dustpan dredge demonstration was used beneficially for wetlands restoration. It was pumped upstream, over the dike, adjacent pasture, and existing marshland, and placed in an area designated by MVN (Figure 2). The Right-of-Way (ROW) across the dike, adjacent pasture, and existing marshland consisted of a 100 ft-wide corridor (Photo 15). As the placed dredged material built up above the surface of the water in the marsh area, additional shore line was added to extend the placement further into the marsh (see Photo 14). Two hydraulic backhoes (swamp buggies) mounted on swamp tracks were used to move the pipe and build temporary dikes to direct discharge flow (see Photo 15). Other than the temporary dikes, no other containment structures were used in the placement process.

Photographs of the BD and AD placement site are shown in Photos 29 and 30 respectively. BD and AD placement site surveys were conducted by the contractor's survey crew and inspected by MVN, using airboats, mobile DGPS for horizontal positioning, and spirit leveling for vertical control . The results from these surveys are plotted on Figures 11 and 12 (BD and AD surveys respectively). The difference plot between the BD and AD surveys is shown in Figure 13. The dredged material deposit's footprint covers an area of approximately 20 acres. From the surveys, the contractor calculated a deposition volume of 177,663 yd^3. Assuming a 20% loss in fines in runoff, this volume was adjusted up to a gross volume of 222,079 yd^3. Contract specifications required that no dredged material exceed a vertical placement height of +3.5 ft MLG, but Figure 13 (referenced to the MLG datum) indicates elevations that exceed +3.5 ft. This resulted from an inspection on 13 June of the placement area, when USACE and OAS personnel discovered several Least Tern and American Avocet nests containing eggs (Photo 31). The nests had been constructed some distance from the active placement point and were not being disturbed but MVN decided to terminate the grading operations, along with the dredging operations, at 2100 hours on 13 June to preclude any damage to the nests. This rapid colonization by the Least Terns and American Avocets, as well as other species, is an aspect that should be considered for future dredging projects of a similar nature.

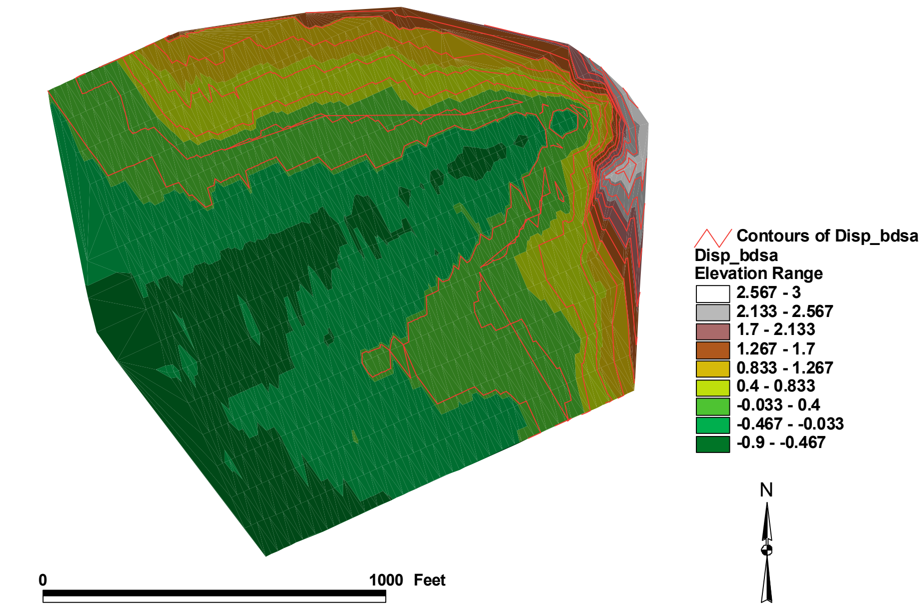


Figure 11. BD survey of placement site elevations

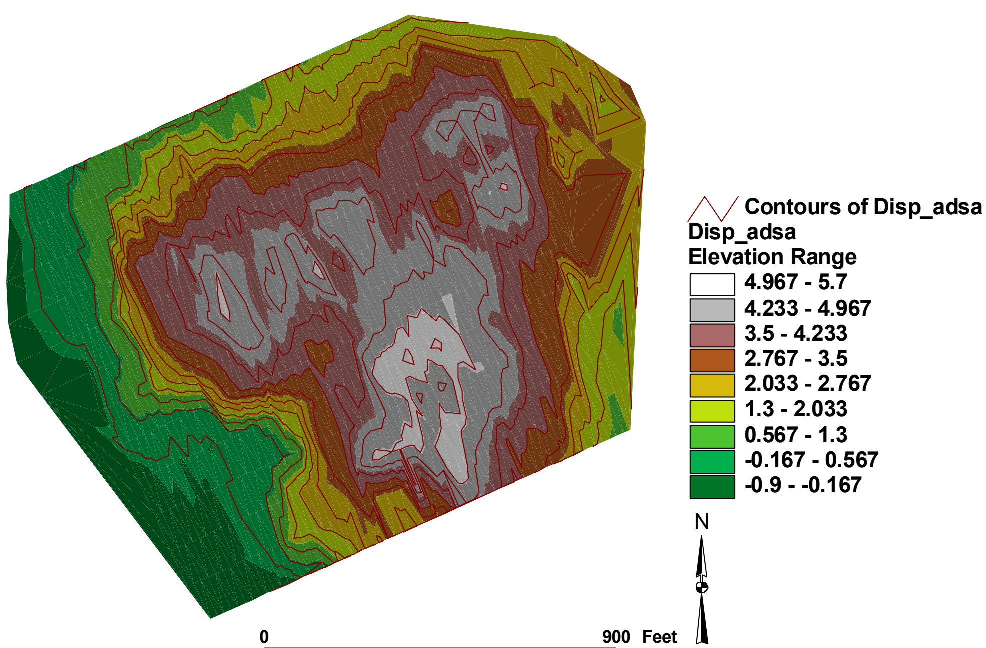


Figure 12. AD survey of placement site elevations

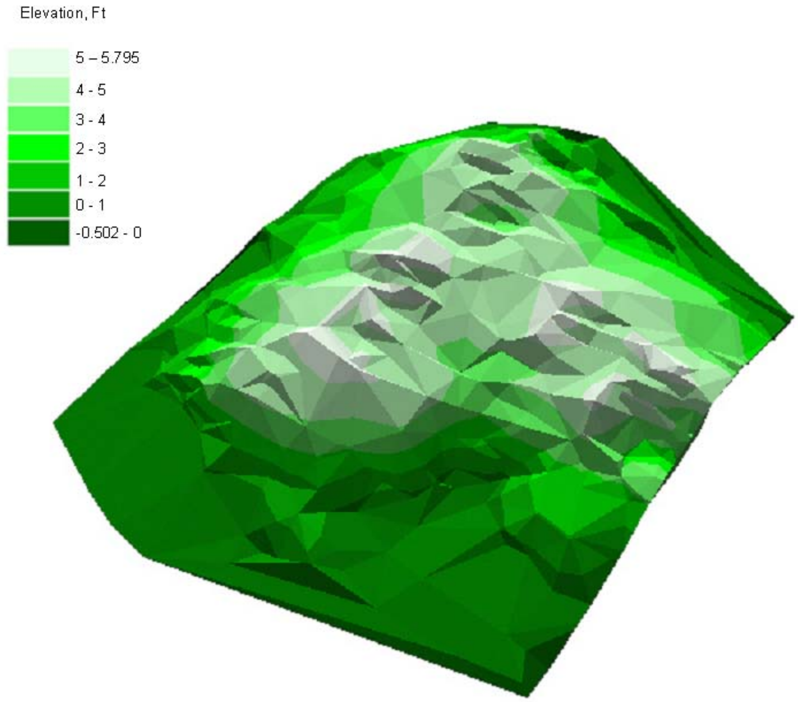


Figure 13. Difference plot between AD and BD (elevation) surveys

CHAPTER 7 FEASIBILITY ANALYSES

Potential Project Applicability

The feasibility of using this dredging methodology at HOP depends on numerous technical, economical, and social aspects. The feasibility analysis in this report primarily addresses technical aspects as outlined in "Assessment of Coastwide Louisiana Maintenance Dredging Capabilities under the Federal Standard," (MVN, December 1998), along with navigational safety aspects of this method.

The June 2002 flexible-dustpan dredging demonstration project illustrated that the *Beachbuilder* or a similar dustpan dredge can work safely at the HOP and move large volumes of dredged material out of the channel for the beneficial use of marsh creation/restoration. The dredged material can be transferred long distances by pipeline over the existing dike, pastureland, and wetlands and directly discharged into shallow open water areas without need for re-handling or construction of disposal facilities. A dustpan dredge would prove most efficient at the HOP working on the RDB side of the channel (inside of the bend) where the thickness of the sediment tends to be the greatest and the dredge can operate almost continuously while allowing passage of most deep-draft vessel traffic. Working the RDB side also removes the dredge from the potential hazard of a passing vessel loosing power and grounding on the LDB side from the set caused by current flow into Pass A Loutre.

The flexible discharge floating hose allows the dredge to move across the total width of the channel but limits its movement up and down the channel (based on the total length of the floating hose). Movement beyond this range requires interruption of dredging operations while the “hard point” is moved and submerged line is added or removed (if only one hard point and submerged line is used as in this demonstration). As a result, the dustpan\ discharge line configuration, as used in this demonstration, is most efficient where continuous large face-thicknesses of sediment are available and minimal movement of the “hard point” is required. The dustpan would not be as efficient in addressing spot shoaling over long distances up and down the channel requiring frequent movement of the “hard point” and associated pipeline. Such conditions would be more efficiently addressed using hopper dredges. The demonstration project also illustrated that a flexible-discharge dustpan and hopper dredges can work safely together in the same channel reach.

The flexible-discharge dustpan could effectively work in other reaches of the Mississippi River and in other navigation channels in either an overboard or long distance discharge configuration. Depending on site-specific conditions, two discharge pipeline configurations might be possible. In the long distance discharge configuration as used in the demonstration, the dustpan could work across the total width of the channel discharging to one side across the dike. In this configuration, dredging would be interrupted periodically for vessel traffic passage as the dredge would have to move when working across the channel centerline. As an alternative, the dustpan could work one-half of the channel at a time discharging to that side across the dike. In this configuration, vessel traffic could pass in the other half of the channel resulting in fewer interruptions.

In addition to channel maintenance dredging, the flexible-dustpan dredge would be effective for use in special dredging projects. In free-flowing relatively non-cohesive material, this type of dredge could be used to construct, then maintain, sediment traps. Sediment traps are being considered for use in trapping and storing sediment above critical areas in navigation channels where shoaling occurs rapidly and can impact vessel traffic. They are also being considered for use at the confluence of channels and downstream of critical shoaling areas. In these cases, shoals that develop at the confluence of navigation channels or in other critical areas can be managed by moving the sediment into the traps using technologies such as the Water Injection Dredge (WID) or SILT Wing excavator. This provides for emergency shoal management involving small volumes of sediment without the high costs associated with mobilization of traditional dredging equipment. The traps are excavated when filled, often in association with other maintenance dredging projects or during non-peak dredging periods such that unit dredging costs are lower.

If the flexible-dustpan dredge has a hull and winch anchoring system similar to the *Beachbuilder,* then maintenance and specific beneficial use dredging in more exposed (i.e., near coastal) projects will be possible. The *Beachbuilder* was designed for offshore beach renourshment projects on the east coast. Its high freeboard and six-point anchor/winching system allow it operate in approximately 7 ft high waves and ride out 10 ft high waves (as per Weeks

Marine personnel). With this open-water operating capability, select projects involving relatively free-flowing sediments from the more exposed sites could be dredged by the flexible-dustpan dredge.

Comparison to Previous Maintenance Dredging Capabilities Assessment

In December 1998, the MVN published a document titled "Assessment of Coastwide Louisiana Maintenance Dredging Capabilities under the Federal Standard." In this document, MVN assessed the need and economic feasibility of adding maintenance hydraulic dredging capability in the District. The assessment also identified opportunities for providing cost reduction in channel maintenance and enhancing the level of beneficial use of dredge material. The assessment concluded that a large dustpan dredge (30 to 38 inch discharge) with a flexible discharge would best provide the capabilities needed and achieve cost savings. Such a dredge would also provide environmental benefits associated with the creation of wetlands from dredged material not otherwise being beneficially used.

Eight evaluation factors were used in assessing various dredge types for required maintenance dredging capabilities. These factors are presented below along with corresponding information and results obtained from the *Beachbuilder* demonstration.

a. Past experience with dredge type. Values in the assessment were assigned based on the level of historical experience with the various dredge plants. The MVN has past experience with dustpan dredges. The flexible-dustpan demonstration project using the *Beachbuilder* provided MVN personnel with additional experience and baseline production and maneuverability data on the capabilities of a dustpan with a flexible discharge and extensive pumping resources.

b. Utility of dredge type and size across projects. Under this factor, the dredge is required to provide both overboard placement and long distance pumping capabilities with ease in switching between modes. The overboard discharge pumping distance requirement was 3,000 feet and the long distance pumping requirement was 15,000 feet through combined floating, submerged, and shore line. The *Beachbuilder* did conduct long distance pumping through 1,420 feet of 30-inch diameter flexible floating line and up to 7,900 feet of 30-inch diameter steel pipe (submerged and shore line). This was accomplished using the ladder pump and only one of the two deck pumps. Weeks Marine personnel stated that with the second pump in operation, the *Beachbuilder* would be able to meet the 15,000-foot pumping requirement plus another 5,000 ft or so (the ultimate line length would depend on the sand coarseness). Switching between modes could be easily accomplished. For the shorter 3,000 ft overboard placement option, the pipeline configuration might be changed. Both the long and short pumping options would use the flexible floating hose, but for the shorter run, instead of using submerged line connected after the hard point, pontoon-mounted floating (steel) line could be used. This floating line could in turn be connected to a spill barge anchored with spuds or anchor/haul wires.

c. Dredge mobility in working between dredging assignments. This factor requires the dredge be capable of quickly moving between dredging assignments (generally less than 6 hours). The limiting factor in moving the *Beachbuilder*, given the type of contract and demonstration project it was used in, was found to be relocation of the hard point by extending the submerged line. The contractor estimates that with sufficient plant and pipe standing by, the 3,600 ft extension of submerged line and relocation of the hard point would have been be completed in 12 hours instead of 22.7 hours. Weeks Marine personnel also estimate that a (planned) shorter extension (1,000 to 2,000 ft) would take 4 to 6 hours to complete, and that a longer run (around 6,000 ft) would take about the same 12 hours to do as the 3,600 ft run because of the mechanics of how the extension is accomplished. The ability to move a flexible-dustpan between dredging assignments is, in part, a function of the type of dredging contract used. For the demonstration at HOP, only one hard point/submerged line/shore line was used as specified in the contract. In a (volume) unit price contract, it is conceivable that the contractor might elect to construct more than one hard point/submerged line/shore line set up so when the dredge is done at one location, it could immediately disconnect the floating hose from that hard point and move to the next assignment. Once there, the floating hose would be connected to the other hard point and allow the dredge to maximize its effective dredging time. Given the dynamic shoaling at the HOP at high river stages, payment for this scenario would probably be based on volume measured at the placement site. But this very shoaling also makes it hard to plan on where the dredging will be required, so the rental contract is used to provide the flexibility necessary to address spot shoals. As part of the contract specification, the USACE could require the additional pipeline components to be in place to enable a flexible-dustpan to relocate and dredge hot spots within given areas that would be previously identified. An economic analysis based on project-specific conditions (separation distances between assignments and required line lengths, if multiple shore lines or a single one would be required, etc.) would indicate if this approach would be feasible to enable the (15,000 ft option) flexible-dustpan to have the required degree of mobility between dredging assignments. When pumping through the 3,000 ft long pipeline for overboard placement projects, the use of pontoon-supported floating line would improve the dredge's ability to move between assignments due to the higher degree of "portability" of the entire pipeline. Or, similar to the 15,000 ft pumping configuration described above, separate hard point/submerged line or pontoon floating line assemblies might be prepared and waiting for the dredge in different areas.

d. Dredging mobility in sailing between dredging regions. This factor requires the dredge be capable of quickly moving between dredging regions (generally less than 24 hours). These regions include in the Mississippi River the HOP and Upper Southwest Pass, Deep Draft Crossings from Baton Rouge to New Orleans, and Lower Jetty and Bar Channels; the Mississippi River-gulf Outlet Bar Channel; and the Calcasieu River Bar Channel. As discussed above, for the 15,000 ft pumping capability, the limiting factor in moving the *Beachbuilder* would be the movement of the submerged line and placement of the shore line. The pipeline construction would be required prior to arrival of the dredge. For the 3,000 ft pumping capability, the portability of taking the same pontoon-mounted floating line with the dredge may achieve the required mobility, or having a different short line already assembled and waiting in the area may be an option.

e. Method and mode of materials placement. Under this factor, the dredging plant should be versatile enough to perform in both open water and shore placement modes of placement. As discussed above, the *Beachbuilder* demonstrated a capability to conduct shore placement in a long pumping distance mode. Open water placement was not demonstrated but could be easily accomplished. If the flexible-dustpan dredge has a hull and winch anchoring similar to the

Beachbuilder, then maintenance dredging in more exposed (i.e., near coastal) projects will be possible. The *Beachbuilder* was designed for offshore beach renourshment projects on the east coast. Its high freeboard and six-point anchor/winching system allow it operate in approximately 7 ft high waves and ride out 10 ft high waves (as per Weeks Marine personnel).

f. Minimum-acceptable dredging rate per day. The controlling minimum dredging rates under this factor for overboard and long distance pumping are 78,000 and 24,000 cubic yards per day, respectively. With respect to long distance pumping, the *Beachbuilder* achieved an average production rate of 27, 768 yd^3/day pumping 222,079 yd^3 in 192 hours. The overboard pumping configuration was not tested during the demonstration.

g. Capability for yielding to vessel passage. The time projected for dredge yield to passing vessels under this factor is 15 to 30 minutes. The HOP project demonstrated that dredge downtime for vessel traffic is primarily a function of dredge position in the channel. The *Beachbuilder* was able to continue dredging in the portion of the channel adjacent to the "hard point" and submerged line with no downtime during passage of a single vessel by dropping the cross-channel cable and raising it after vessel passage. Forward movement into the cut was maintained during this period by the push tug. When dredging on the far side of the channel, the *Beachbuilder* required approximately 11 minutes to clear the channel from one toeline to the other. This transit time would be reduced the closer the dredge was working to the channel centerline (less distance to travel), and/or if only one deep draft vessel was passing because the dredge would not have to cross the entire channel to let the vessel pass. Total downtime for vessel traffic may be minimized if discharge areas are available on both sides of the channel. In the vicinity of Pass a Loutre, a discharge pipeline on the LDB side may not be an option due to its use as a hopper dredge disposal site and the potential hazard of a vessel grounding there.

h. Challenging sea conditions. A wave height up to 10 feet was identified in the assessment factor. Such wave height was not encountered during the demonstration project. The *Beachbuilder* has reportedly encountered similar seas in beach nourishment projects typically conducted along the east coast. As previously noted, the *Beachbuilder* was reported as being able to dredge in waves up to 7 ft high, and "ride out" 10 ft high seas.

In comparing the operational characteristics demonstrated by the *Beachbuilder* in the HOP demonstration project to the criteria used in the assessment, the *Beachbuilder* was found to meet or exceed the criteria under which it tested with the conditional exception of mobility between assignments and regions as discussed above. The *Beachbuilder*, if available, or a similar dredge could meet these MVN requirements for a dustpan dredge to add to maintenance capability in the District.

CHAPTER 8 CONCLUSIONS AND RECOMMENDATIONS

The flexible-discharge dustpan dredge demonstration project conducted in the HOP area on the Mississippi River was successful. The objectives of the project were met. The *Beachbuilder* demonstrated safe navigation and dredging operations. The consensus of USACE personnel, contractors, and the Bar Pilots was that the dredging operation was safe with respect to vessel traffic moving up and down the River. The *Beachbuilder* dredged approximately 222,000 yd^3 of sediment and placed it in the designated marsh construction site. The project requirements were met although the maximum pumping distance was 10,820 ft with additional pipe available for the job, but it was not required. The dredged material was pumped the total distance using the ladder pump and only one of the two deck pumps. As a result, it is assumed that a total pumping distance of 15,000 feet could be achieved. The flexible floating hose worked well with no leaks or breaks.

The *Beachbuilder* demonstrated the capability to cease dredging and move from one side of the channel to the other in approximately 11 minutes when required. A continuous dredging capability was demonstrated when the *Beachbuilder* was operating in the RDB half of the channel. Single deep draft vessel traffic safely passed in the LDB half of the channel by the *Beachbuilder* dropping its cross-channel anchor wire and picking it back up after the vessel traffic cleared. Forward movement into the cut was maintained by the push tug. Travel back into the RDB side of the channel due to vessel traffic was conducted if dredging operations were ongoing in the LDB half of the channel, two vessels passed each other in the channel abreast of the dredging area, or if the river pilot in command of the vessel requested additional clearance.

The average production rate of the entire demonstration between the beginning and end of dredging (192 hours) to move 222,079 yd^3 was 1,157 yd^3/hr or 27,768 yd^3/day. The average production rate of the dredge while advancing was 2,346 yd^3/hr, with a maximum rate achieved of 4,559 yd^3/hr. The dredge achieved an average speed of 74 ft/min to back down and reset for each cut, and had an average advance speed of 2.1 ft/min.

A flexible-discharge dustpan dredge would prove most efficient at the HOP working on the RDB side of the channel (inside of the bend) where the thickness of the sediment tends to be greater and the dredge could operate almost continuously while allowing passage of most deep-draft vessels. Working the RDB side also removes the dredge from the potential hazard of a passing vessel loosing power and grounding on the LDB side from the set caused by current flow into Pass A Loutre.

With the use of just one hard point/discharge pipeline, spot shoaling would be more efficiently accomplished using hopper dredges (the use of multiple hard point/discharge lines was not investigated during the demonstration). A flexible-discharge dustpan dredge could effectively dredge in other reaches of the Mississippi River and in other navigation discharge configurations. In addition to maintenance dredging, the flexible-discharge dustpan dredge would be effective for use in special dredging projects (with free-flowing relatively non-cohesive material) such as construction and maintenance of sediment traps.

The operational characteristics of the *Beachbuilder* during the demonstration project were compared to the criteria in the 1998 publication titled "Assessment of Coastwide Louisiana Maintenance Dredging Capabilities under the Federal Standard." The *Beachbuilder* operational characteristics were found to meet or exceed the criteria under which it tested with the conditional exception of mobility between assignments and regions as discussed above. The *Beachbuilder* or a similar dredge could meet the MVN requirements for a dustpan dredge to add to maintenance capability in the District.

Suggested Improvements

Areas were identified where changes or improvements could improve the efficiency of the flexible-discharge dustpan dredge operation. These recommendations include both operational as well as equipment-related aspects for future flexible-discharge dustpan operations at the HOP or in other regions and applications.

The use of a Mississippi River Bar Pilot onboard the dredge to coordinate vessel traffic allowed the leverman to concentrate more fully on maximizing dredge production (with no in-hull propulsion the *Beachbuilder* did not require a licensed master onboard). This practice, or the use of some other licensed personnel onboard the dredge (at least for a limited period of time) in future projects would provide the same production and safety benefits.

Modification of the dustpan head to minimize plugging of the pans with clay and debris and make clean out easier. Downtime associated with clearing the pans could be reduced resulting in increased daily production rates.

Modifying or replacing the anchors used in the demonstration to minimize anchor slippage would improve production in future projects. Such slippage results in a requirement for more frequent resetting of the anchors mandating dredging downtime. Minimizing this downtime would result in increased daily production rates.

The *Beachbuilder* used tugs for propulsion during the demonstration. If it or another flexible-dustpan dredge were to be used repeatedly on a project with these types of requirements, then the use of sufficiently-sized Z-drives (on a barge for the *Beachbuilder* or as used in conventional dustpans) would enhance maneuverability and production.

The 2,500 ft-long anchor wire lengths used during the demonstration could be lengthened or pendants used to optimize the anchoring geometry outside of the channel.

The *Beachbuilder* has a floating hose connection point on its port mid-ship side due to the reversing tide (current) conditions it usually works in on the east coast. It would be advantageous for a flexible-dustpan dredge working in the river to have a stern connection point to allow the floating hose play out downstream in the current to minimize bending stresses and improve maneuverability.

An installation of a “Y” and associated valves in the shore line would eliminate dredging downtime associated with adding additional pipe in the placement area. This modification would result in increased production rates.

REFERENCES

US Army Corps of Engineers New Orleans District (1998) “Assessment of coastwide Louisiana maintenance dredging under the Federal Standard,” New Orleans District, 9 December 1998

Implementation Status of the CWPPRA Oyster Lease Acquisition Program

Oyster Lease Acquisition Program Outline

6/12/03; revised 6/27/0; revised 8/7/03; revised 9/15/03; revised 9/19/03

1. Identification of oyster leases impacted by project.

During the Nomination Phase: initial analysis of potential oyster leases

$ Ecosystem Planning and Management (EPMS) staff will **identify any leases** falling within the projected impact area

$ The **Restricted Area Map (RAM)** is updated with the nominee projected impact area. The RAM automatically flags all expiring leases within a project area for reconsideration of the renewal application. Upon the recommendation of DNR, expiring leases in a restricted area are subject to four (4) renewal options: full renewal for 15 years, non-renewal, bob-tail for a specified length of time, and operational leases. **DNR can make recommendations concerning these expiring leases as soon as a candidate project is nominated.**

2. During Phase 0 - WVA Process

$ WVA boundary and potential project feature locations determined by Environmental Work Group

$ EPMS prepares a map, including lease polygons, lease acreage and expiration dates for discussion

$ EPMS provides the following to Environmental and Engineering work groups:

- the number of leases affected
- the total acreage anticipated to be impacted
- a rough cost estimate for lease acquisition (approximately $15,000 per project to conduct oyster survey and approximately $500 per lease for appraisal to be included in the Phase 1 budget under landrights; estimate of anticipated acquisition costs to be construction line item). NOTE: No expenditure for acquisition of oyster leases will occur until Phase 2.

3. Phase 1 - Engineering and Design to 30%

$ **At the 30% design meeting**, EPMS, DNR's Oyster Expert, and Project Manager will **conduct a new review of anticipated oyster impact areas,** including borrow areas, access routes for preferred alternative

$ Project Manager, through EPMS, requests USGS **add project features, WVA boundary, and oyster impact areas to the RAM**.

4. Phase 1 - Engineering and Design to 30%

$ **After 30% design review,** Project Manager requests that EPMS order **oyster lease survey** by DNR's Oyster Expert.

$ DNR prepares **checklist** to include:

1. *Nomination Phase activity*
2. *Phase 0 activity*
3. *Phase I: evaluation of lease impacts at 30% design*
4. *Phase 1: update RAM*

5. *Project Manager orders oyster lease survey*

6. *Land Section tasks landman with title work*
7. *initial program participation letter to record leaseholders*
8. *yes/no response by leaseholder*
9. *oyster lease survey completion*
10. *LS tasks appraiser; supplies biology report, supplemental information, title work as available*
11. *documentation of title reports and any necessary title curative actions*
12. *date of affidavit completion*
13. *appraisal completion and valuation/just compensation amount*
14. *date just compensation letter sent to leaseholder*
15. *documentation of leaseholder response to letter*
16. *documentation of Secretary's response to any counter-offer*
17. *documentation of negotiation results*
18. *preparation of purchase agreement and release*
19. *date ordered check in amount of purchase agreement price*
20. *date purchase agreement and release sent or presented to leaseholders*
21. *date purchase agreement and release returned fully executed*
22. *date purchase agreement and release recorded*
23. *date certified duplicates provided to leaseholders; photocopies to DWF, EPMS, Land Section, federal sponsor*

$ EPMS prepares **initial program participation letter** and sends to leaseholder of record (see Attachment A); leaseholder has 14 days to respond.

$ EPMS will make **additional contact** to any leaseholders who fail to respond.

$ **Leaseholder participation shall be sought** throughout the design process; should any one leaseholder refuse to participate, actions will continue on all other leases unless otherwise directed by the Secretary

$ DNR's Oyster Expert performs survey and **submits findings report** to EPMS.

$ EPMS prepares supplemental information packet for appraiser.

$ CRD Land Specialist tasks **land services contractor with title search** as outlined on Attachment B; land services contractor provides the title report to CRD Land Specialist, as well as completed Affidavit of Ownership for each lease.

$ EPMS and CRD Land Specialist task appraiser, and provide oyster lease survey, supplemental information packet, and title information to the **appraiser** for valuation determination (see form tasking memorandum, Attachment C).

$ **Appraiser submits valuation determination** to CRD Land Specialist, with copy to EPMS.

$ **On U. S. Army Corps of Engineers (USACE) sponsored projects,** Land Specialist will provide a copy of oyster lease appraisals to USACE Chief, Appraisal Branch for review.

$ CRD Land Specialist tasks **land services contractor with any title curative** work on leases with transfers, mortgages, liens, etc.

5. Negotiations

$ **EPMS prepares just compensation letter** to all oyster lease holder(s) of record and sends it by registered mail (see Attachment D).

$ Lease holder must respond to the Secretary in writing within **30 days with any**

information he believes justifies recalculation of the valuation

- $ **Secretary must respond in writing within 30 days** either affirming original valuation or accepting leaseholder's modified valuation, or providing a counter-offer; this will be the **final offer of total compensation**; an offer and/or acceptance may be withdrawn by either party at any time prior to closing.
- $ In cases where a lease is owned by more than one person, the Secretary's letter should indicate that **if there is less than 100% participation** from the oyster leaseholders, then the agreements will not be executed.
- $ Should DNR and the lease holder **fail to agree on compensation**, the Secretary may choose to submit said lease to the **USACE for possible federal expropriation**.
- $ Should only a **portion of a lease** be required for project purposes, EPMS will coordinate and record a resurvey of the lease at DNR's expense.
- $ Total **budget for lease acquisitions** will be submitted to state and federal project managers at 95% design review meeting for inclusion in the Phase 2 Budget Request.

<u>6. Phase 2 Budget Reques</u>

PM submits Phase 2 budget request at any CWPPRA Task Force Meeting

<u>7. Phase 2 - Construction</u>: Clearing the leases through purchase agreement and release

- $ **CRD Land Specialist prepares final purchase agreement with leaseholder and the State of Louisiana, which includes receipt, release, indemnity and hold harmless agreement** in favor of:1) the United States of America, including 2) the U.S. Army Corps of Engineers, and 3) the lead agency, and 4) the State of Louisiana, including 5) the Louisiana Department of Natural Resources and 6) the Louisiana Department of Wildlife and Fisheries**, indicating that full and fair compensation has been made** in **complete satisfaction of all claims** against the State and the United States of America, **related to past, present, or future damages to the affected lease**, and related losses and expenses, **including all claims in tort, contract, or inverse condemnation** and/or under any other applicable theory of recovery, including, but not limited to, 28 U.S.C. (1497).
- $ **EPMS orders check** in amount of final agreed-upon purchase price

<u>8. Execution of Documents</u>

- $ **CRD Land Specialist or designated representative (i.e. land services contractor) presents purchase agreement and release** to leaseholder and any person holding a property interest (et al) in an affected lease **(only one check will be issued)**
- $ **Leaseholder (et al) executes (witness & notarize) the purchase agreement and release** and returns to CRD Land Specialist or representative.
- $ CRD Land Specialist has DNR Secretary execute agreements

<u>9. Recordation and Distribution of Documents</u>

- $ CRD Land Specialist has **purchase agreement and release recorded** in parish of lease location

- $ CRD Land Specialist sends **certified duplicate agreements** and releases to leaseholder and/or photocopies thereof to EPMS, DWF, Land Section, and federal sponsor

<u>10.</u> **<u>Completion Notification Procedures</u>**

- $ EPMS **completes checklist of all leases cleared** in project area
- $ EPMS sends **oyster lease acquisition completion memo** to Project Manager and Land Specialist (information will be included in total landrights certification letter to federal sponsor and final landrights completion memo and wrap-up meeting).
- $ **If project changes during construction which creates impacts on additional oyster leases, EPMS and Land Section staff repeats steps (i.e. new biological survey, appraisal, title search, title curative, document preparation, negotiation, etc.) to clear such leases for construction**.

<u>11.</u> **<u>DNR EPMS and Project Files Completion Process</u>**

- $ EPMS files must be updated with final oyster lease acquisition information
- $ PM updates project files with oyster lease acquisition information

F:\USERS\LAND\Oyster Lease Acquisition Program\oyster lease acquisition outline.doc

Additional attachments will distributed at the Technical Committee meeting.

<u>Attachment B</u>

Date

To: Harold J. Anderson, Inc.
2200 Pakenham Drive
Chalmette, LA 70043
Chalmette office 504-276-5858 FAX 504-276-8566
DNR Contract No. 2503-03-10

From: Land Specialist's Name
CRD Land Specialist 3

Re: Project Name and Number
XXXX Parish, Louisiana

Task 1 Deliverables – Title Reports and Owner Affidavits on the following oyster leases within the project area:

- Oyster lease #
- Oyster lease #
- Etc.

Description of exactly what is needed: Prepare a title report on each of the referenced oyster leases outlined as follows: SEQ CHAPTER \h \r 1

1. Identify registered/documented holder of record at:
   a. LDWF Survey Office
   b. Parish Courthouse where oyster lease is located
2. Prepare leaseholder Affidavits.
3. Determine existence of
   a. unrecorded letters
   b. identify all counter-letters or side agreements, sublessees, if any
   c. identify "sharecroping" arrangements if they exist
4. Determine whether any mortgages/loans are in existence related to:
   a. Federal or state agencies
   b. Banks or other commercial entities; or
   c. Private Lenders
5. Obtain complete names, addresses (both P. O. Box and street address where applicable), telephone numbers and relationship to registered or documented leaseholder for each person having an interest in each lease, and their percentage of interest wherever possible.

Any curative work on the leases will be assigned after DNR examines the Title Reports and Owner Affidavits

Start date:

Due date of deliverable:

Comments: If you have questions, please call me at 225-342-9420 or toll free at 888-459-6107.

Attachment C

Date

To: Appraiser Name
Appraiser
City, ST, Zip Code
Phone number
DNR Contract No. 2503-03-46 (Stegall) or 47 (Derbes)

From: Land Specialist's Name
CRD Land Specialist 3

Re: Project Name and Number
XXXX Parish, Louisiana

Task 1 Deliverables – SEQ CHAPTER \h \r 1Three (3) copies of a Complete Appraisal and Summary Report on the values of the Oyster Leases listed below. All reports must conform with and are subject to the requirements of the Uniform Standards of Professional Appraisal Practice.

- Oyster lease #
- Oyster lease #
- Etc.

Description of exactly what is needed: Prepare an appraisal of each oyster lease assigned. The appraisals should adhere to SEQ CHAPTER \h \r 1the **SEQ CHAPTER \h \r 1CWPPRA OYSTER REGULATIONS Subchapter C. CWPPRA Oyster Lease Acquisition Program, §879. Appraisal**, which have been provided to you. In addition, the appraisals should also adhere to the SEQ CHAPTER \h \r 1Uniform Standards of Professional Appraisal Practice.

Information provided by DNR: Oyster Lease Survey, Supplemental Information Packet, Title Information

Start date:

Due date of deliverable: Three weeks from start date, or as soon as practicable.

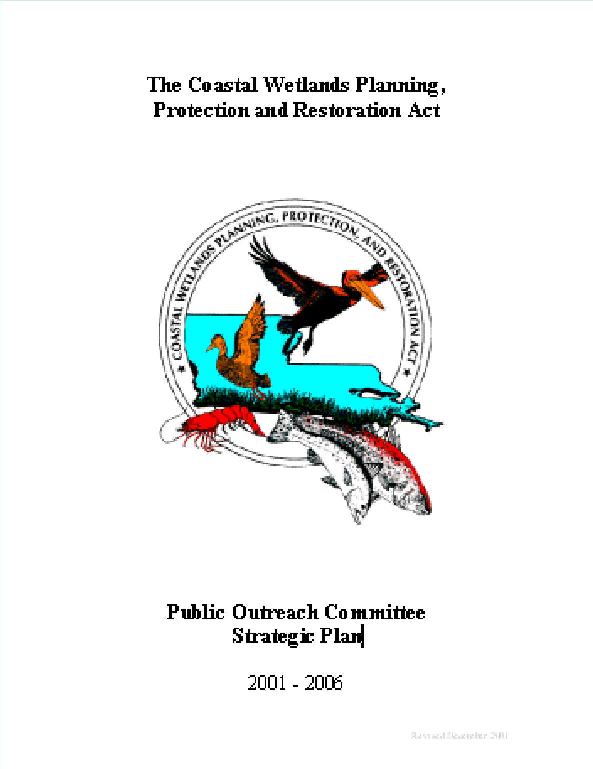
Comments: If you have questions, please call me at 225-342-9420 or toll free at 888-459-6107.

Annual Outreach Report

Coastal Wetlands Planning, Protection and Restoration Act
Public Outreach Committee

Annual Report
October 2002 - September 2003

Strategic Plan


The Coastal Wetlands Planning, Protection and Restoration Act

Public Outreach Committee
Strategic Plan

2001 - 2006

Audiences

- Executive Awareness
- National Awareness
- Local Awareness
- Industry Awareness

“To foster a comprehensive awareness of the crisis that LA’s coastal wetlands are facing and their importance to the Nation, and to inspire support by stakeholders, community leaders, policymakers, and the public for the conservation and restoration of those wetlands.”

2002 CWPPRA Project Dedication Ceremony

- Avery Island, LA

    December 14, 2002

- 6 projects (NRCS, USACE, NMFS, EPA)
- Attendance: over 140
- Statewide media coverage

2003 Southwest LA CWPPRA Project Dedication

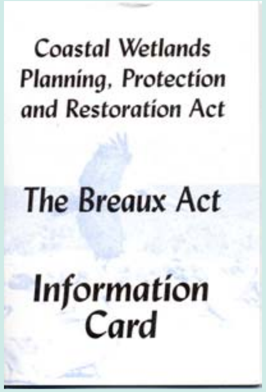
- **Mecom Ranch - Holly Beach, LA**

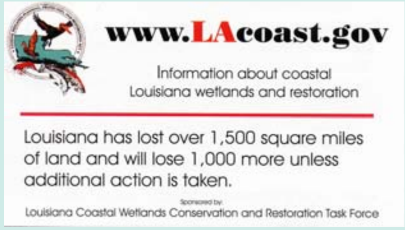
  August 15, 2003

- **U.S. Senator John Breaux - Master of Ceremonies**
- **5 projects (NRCS, NMFS, FWS)**
- **Attendance: over 150**
- **Statewide media coverage**

Projects

- Breaux Act Newsflash
- LaCoast Web site
- WaterMarks
- Web site cards
- CWPPRA Project Fact Sheets
- Breaux Act Information Cards



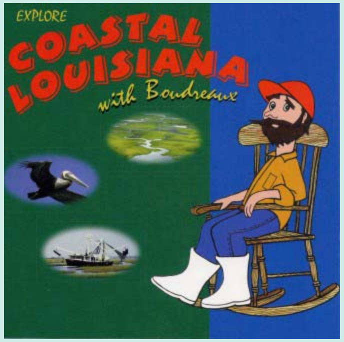


Projects (con't.)

Interpretive Topic Series Fact Sheets

- "'Closing' The Mississippi River Gulf Outlet: Environmental and Economic Considerations"
- "Fisheries Implications of Freshwater Re-Introductions"
- "Mississippi River Water Quality: Implications for Coastal Restoration"
- Coastal Louisiana and South Florida: A Comparative Wetland Inventory
- Stewardship Incentives for Louisiana's Coastal Landowners

Projects (con't.)



- Video News Release Campaign
- CWPPRA Brochure
- CWPPRA Poster
- "Explore Coastal Louisiana" CD-ROM
- Project Information Management System (PIMS)

Media

- Print coverage since 10/02: 86 articles mentioning CWPPRA/CWPPRA Projects

- Press releases by staff since 10/02: 89

Media - Nutria!

New York Times

- November 20, 2002
- “National Briefing/South: Louisiana: Die, Varmint”

New York Times

- December 23, 2002
- “In Louisiana, a Bounty on Varmints’ Tails”

CNN, Associated Press

Media

- **Gannett News series, “Losing Ground”**
- ***Ducks Unlimited***
- ***Delta Sierran***

Media

Society of Environmental Journalists Annual Meeting

- Attendees of wetland-related tours and presentations provided with media kits
- CWPPRA exhibit

Coverage:

- Baltimore Sun
- Tallahassee Democrat
- Atlanta Journal Constitution
- Associated Press

Conference & Event Participation

- Louisiana Science Teachers Association Annual Conference
- Louisiana Association of Computer Using Educators
- Louisiana Environmental Education Symposium
- Association of American Geographers Annual Meeting
- National Association of Government Communicators
- Inaugural National Conference on Coastal and Estuarine Habitat Restoration
- Oceanology International 2003 Conference
- Society of Wetland Scientists Annual Meeting
- Environmental Research Consortium of Louisiana

Educational Workshops

FY 2003

- 17 Workshops
- 421 Educators

Total since July 1999

- 108 Workshops
- 2492 Educators

Photo by Freddie Herpin

Gabrielle Bodin, left, National Wetlands Research Center interpretive specialist, shows off a promotional Louisiana Coastal Wetlands poster to St. Landry Parish Gifted Program teachers Wednesday afternoon. A seminar to instruct teachers of gifted students about coastal erosion was held at the St. Landry Parish Pupil Appraisal Center. Attending the seminar were Coopey McDaniel, Karen Ryder, Kay Mott, Julia Duplechain, Dianne DeJean, Melba Stelly, Bernadette Mills, Teres Johnson, Darrell Smith and Joyce Dupre.

Teachers return to class to learn about La. wetlands

By STEPHANIE KIRK
Staff Writer

Teres Johnson joined other teachers in the St. Landry Parish gifted student program to learn the importance of the Louisiana wetlands Wednesday.

"Wetlands provide many functions vital to Louisiana ecologically, economically and culturally," said U.S. Geological Survey National Wetlands Research Center Interpretive Specialist Gabrielle Boudreaux Bodin.

Johnson was among nine parish teachers who attended a workshop with Bodin at the Pupil Appraisal Center. The workshop is designed to teach the value of the state's wetlands or land containing soil moisture.

"I didn't know, every 90 minutes we are losing a football field of land," Johnson said after she was pretested on wetland facts at the workshop.

The test consisted of 20 questions about wetlands in Louisiana. Louisiana ranks first in the nation for its loss of wetlands.

The NWRC, in conjunction with various state and federal agencies, has developed several multimedia educational materials focusing on wetlands in Louisiana.

Teachers like Johnson provide 75 minutes a day of teaching, two days a week to gifted students in the parish.

"This semester we are teaching a unit on wetlands and ecology to students in grades seven through 12," said Karen Ryder, program coordinator.

The workshop is sponsored by the Breaux Act and the NWRC. The Breaux Act or Coastal Wetland Planning Protection and Restoration Act of 1990 was developed by Senators John Breaux and J. Bennett Johnson.

The teachers are expected to take what they learn at the workshop back to the classroom.

"We are teaching them about the wetland functions, values, loss and restoration efforts," said Bodin.

Ryder said students are being taught about the importance of the wetlands because they are the future and will be in charge of preserving the wetlands in years to come.

Upcoming/Continuing Projects

- West Bay Project Dedication
- Project and Program Fact Sheets
- Project Signs
- Upcoming Conferences
- *WaterMarks*
- Coordinate with partner agencies on outreach endeavors

COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

Announcement: PPL 13 Public Meetings

Coastal Wetlands Planning, Protection and Restoration Act
13th Priority Project List Public Meetings

Two public meetings will be held to present the results of candidate projects under review and consideration for the 13th Priority Project List of the Coastal Wetlands Planning, Protection and Restoration Act. Members of the public are invited to attend and provide comments on each of the candidate projects.

After the public meetings to present the evaluation results, the Technical Committee will meet in December to recommend projects for selection to the 13th list. In January 2004, the Breaux Act Task Force will select the 13th Priority Project List.

November 19, 2003
Abbeville, Louisiana
Vermilion Parish Police Jury
Courthouse Building, Courtroom 1
2nd Floor

November 20, 2003
New Orleans, Louisiana
U.S. Army Corps of Engineers
New Orleans District
District Assembly Room-A

<u>Agenda</u>

7:00 p.m. - 7:15 p.m.	Introductions and Meeting Overview
7:15 p.m. – 7:45 p.m.	Presentation of PPL13 Candidates
7:45 p.m. - 8:15 p.m.	Public Comment on Projects
8:15 p.m.	Adjourn

Additional Agenda Items

Sabine Refuge Marsh Creation Project

CWPPRA Technical Committee Meeting
September 30, 2003

Presented by:

Chris Monnerjahn
Project Manager, USACE

Sabine Refuge Marsh Creation Project Background

- **Approved by the CWPPRA Task Force in January 1999 as part of PPL 8**
- **Project consists of creating 5 marsh creation sites on the Sabine National Wildlife Refuge.**
- **Dredge material comes from the annual maintenance dredging of the Calcasieu River Ship Channel.**
- **The COE Ops Div. pays for dredging the Calcasieu River and CWPPRA only pays for the extra cost of pumping to the Sabine Refuge.**

Sabine Refuge Marsh Creation Project Background (continued)

- **The entire project creates 1,120 acres for $XM.**
- **When the project was approved in Jan 1999, the TF only funded approximately 60% of the total project cost because of a CWPPRA funding crunch at the time. (Oak River and Lake Portage were also funded in this manner at the time.) Of the originally approved $10.1M, only $5.9M has been funded.**

Sabine Refuge Marsh Creation Project Cycle 1

- **In Jan 2001 the Task Force gave construction approval to Cycle 1.**
- **Construction of Cycle 1 was completed in January 2002.**
- **Cycle 1 involved the creation of approximately 200 acres of marsh at the cost of $3.4 M**

Sabine Refuge Marsh Creation Project Cycle 1

Sabine Refuge Marsh Creation Project Cycle 1

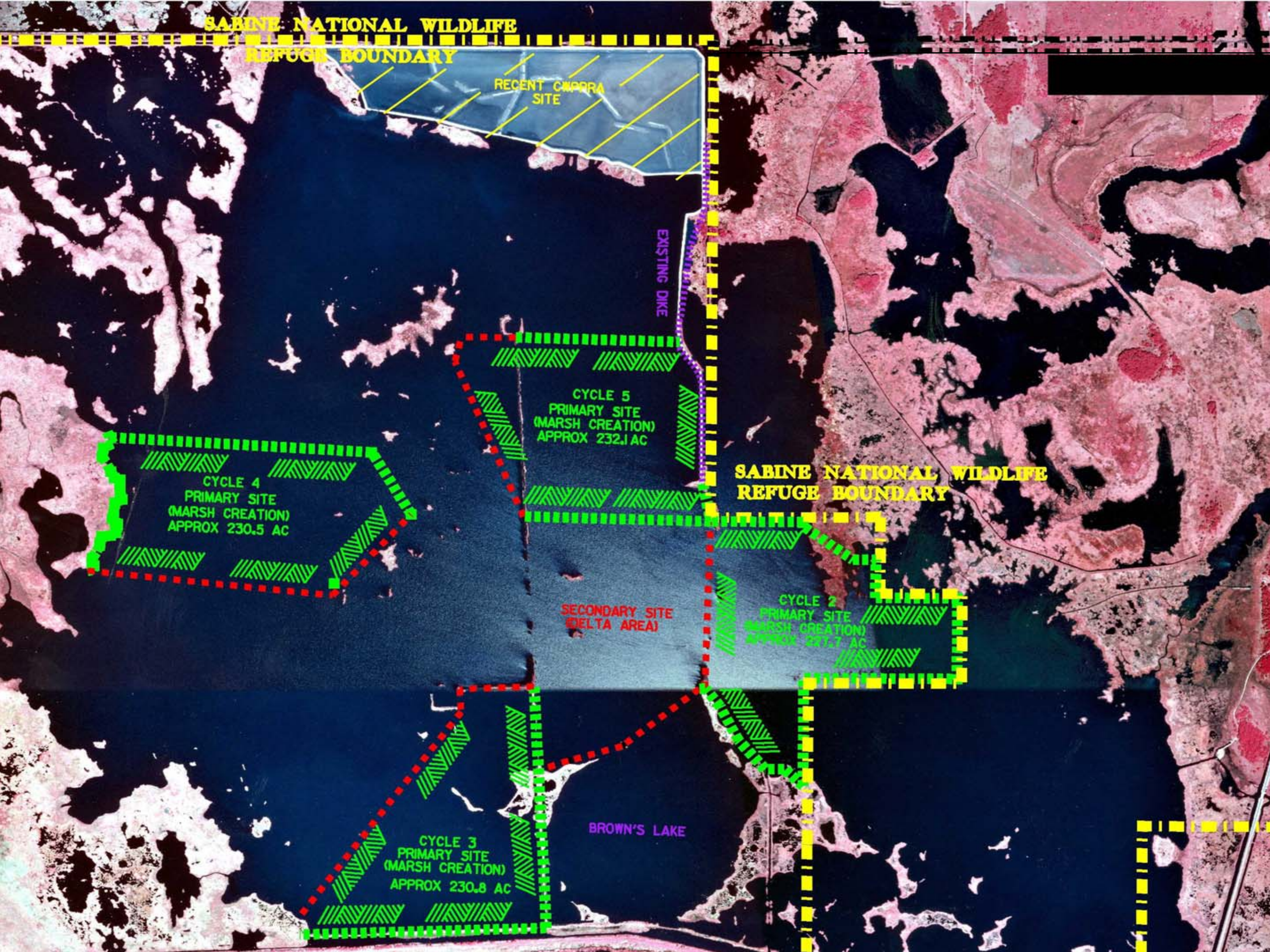
Sabine Refuge Marsh Creation Project Cycle 1

Sabine Refuge Marsh Creation Project
Cycles 2-5

- **USACE, USFWS, & DNR will be seeking construction approval for Cycles 2-5.**
- **USACE, USFWS, & DNR will be seeking the remaining funds previously approved.**
- **Cycles 2-5 will construct 920 acres of marsh at the cost of $???M.**
- **Construction Costs, Benefits & Schedules by Cycle:**

Cycle	Costs	Benefits	Construction Start
Cycle 2	$?M	230 acres	March 2005
Cycle 3	$?M	230 acres	March 2006
Cycle 4	$?M	230 acres	March 2007
Cycle 5	$?M	230 acres	March 2008

Sabine Refuge Marsh Creation Project
Location of Future Cycles



SABINE NATIONAL WILDLIFE
REFUGE BOUNDARY
RECENT CWPPRA
SITE
EXISTING DIKE
CYCLE 5
PRIMARY SITE
(MARSH CREATION)
APPROX 232.1 AC
CYCLE 4
PRIMARY SITE
(MARSH CREATION)
APPROX 230.5 AC
SABINE NATIONAL WILDLIFE
REFUGE BOUNDARY
SECONDARY SITE
(DELTA AREA)
CYCLE 2
PRIMARY SITE
(MARSH CREATION)
APPROX 227.7 AC
BROWN'S LAKE
CYCLE 3
PRIMARY SITE
(MARSH CREATION)
APPROX 230.8 AC

Sabine Refuge Marsh Creation Project
Cycles 2-5

Why are we seeking construction approval <u>NOW</u> for <u>all</u> cycles?

1. We are ready to begin to acquire RE for the permanent pipeline easement for the dredge pipe corridor. In order to begin negotiations, the COE must have construction approval to do so.

2. With the location of this pipeline corridor we can obtain dredge material and construct a cycle every year. With construction approval, an EA and a CSA already in place, we can maintain the momentum of constructing marsh every year.

Date of Upcoming Task Force Meeting

Breaux Act

Coastal Wetlands Planning, Protection and Restoration Act

Task Force Meeting

The CWPPRA Task Force will meet at 9:30 a.m. on November 12, 2003, at the following location:

Louisiana Department of Wildlife and Fisheries Building - Louisiana Room
2000 Quail Drive
Baton Rouge, La.

Attached is a tentative agenda for the Task Force.

Task Force

Chair	Col. Peter Rowan	U.S. Army Corps of Engineers
	Mr. Sam Hamilton	U.S. Fish and Wildlife Service
	Ms. Karen Gautreaux	Governor's Office of Coastal Activities
	Mr. Rollie Schmitten	National Marine Fisheries Service
	Mr. Miguel Flores	Environmental Protection Agency
	Mr. Donald Gohmert	Natural Resources Conservation Service

More information regarding CWPPRA activities may be found at the following site:

www.lacoast.gov/cwppra/

or

www.mvn.usace.army.mil/pd/cwppra_mission.htm

If you have any questions, please call Ms.Julie LeBlanc, at (504) 862-1597.

Julie LeBlanc - Chairperson
Planning and Evaluation Subcommittee