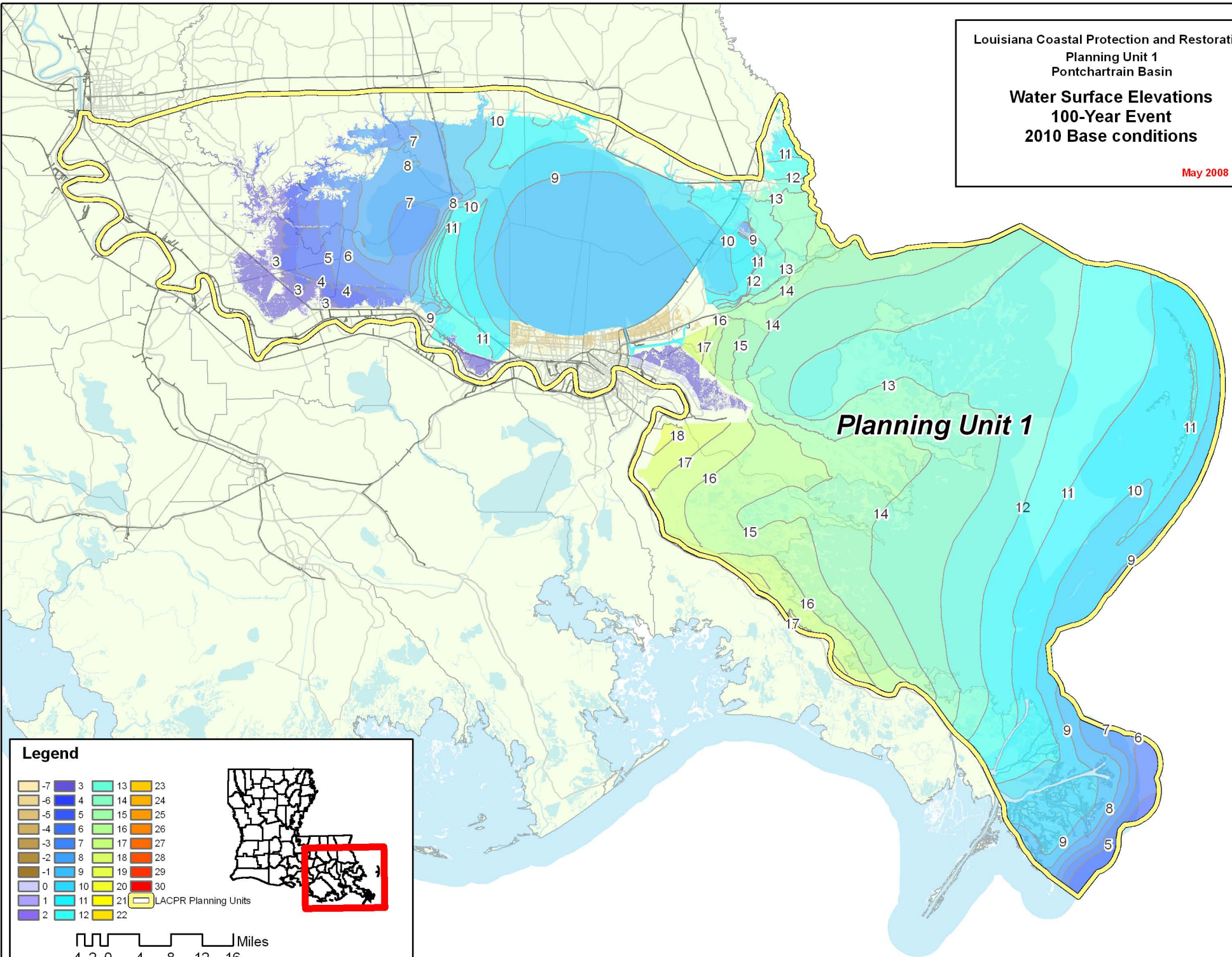


**LOUISIANA COASTAL PROTECTION AND RESTORATION FINAL TECHNICAL REPORT  
EVALUATION RESULTS APPENDIX**

# Planning Unit 1

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Surface Elevations  
 100-Year Event  
 2010 Base conditions**  
 May 2008



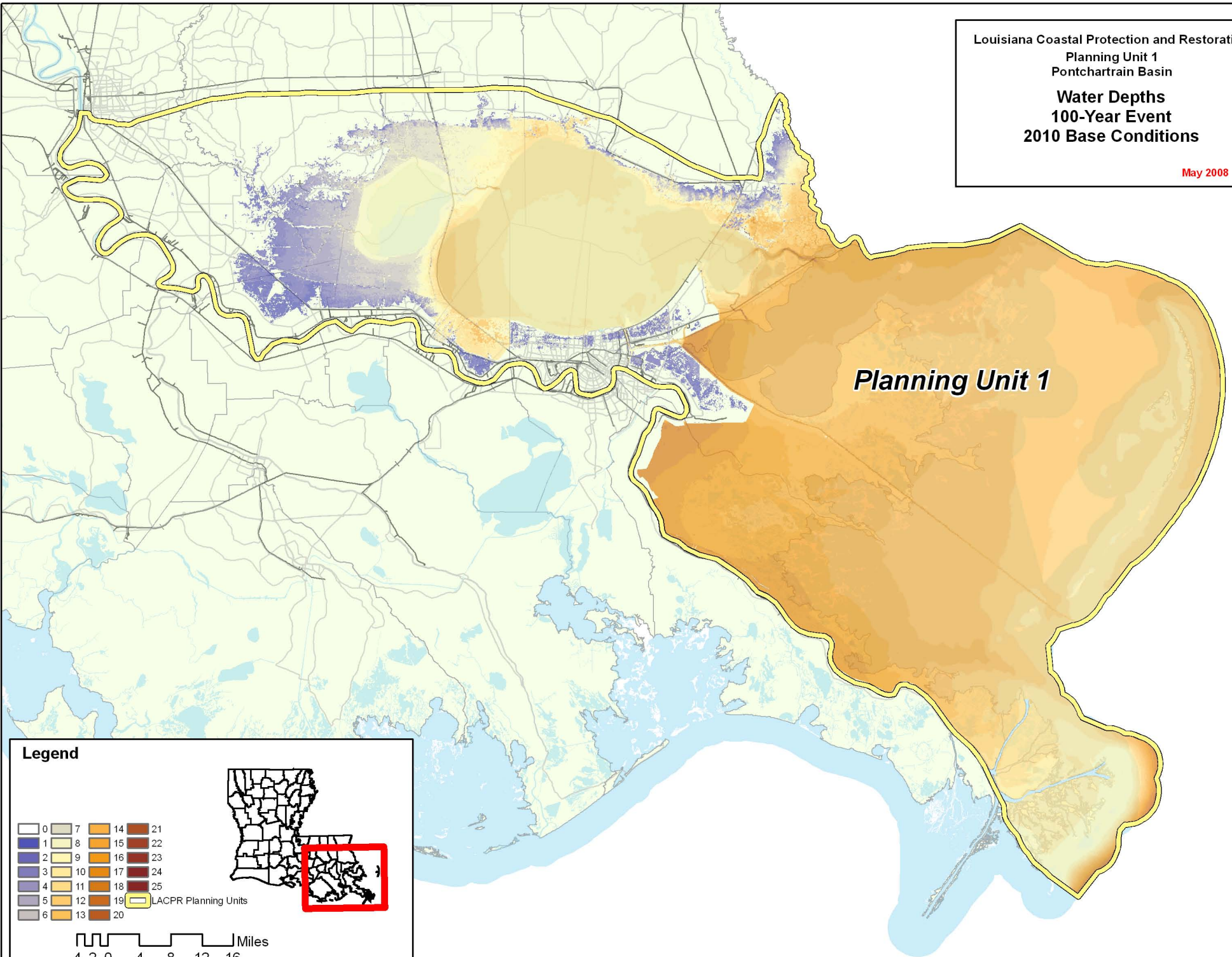
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-3	7	17	27
-2	8	18	28
-1	9	19	29
0	10	20	30
1	11	21	
2	12	22	

LACPR Planning Units

Miles  
 4 2 0 4 8 12 16

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Depths  
 100-Year Event  
 2010 Base Conditions**  
 May 2008



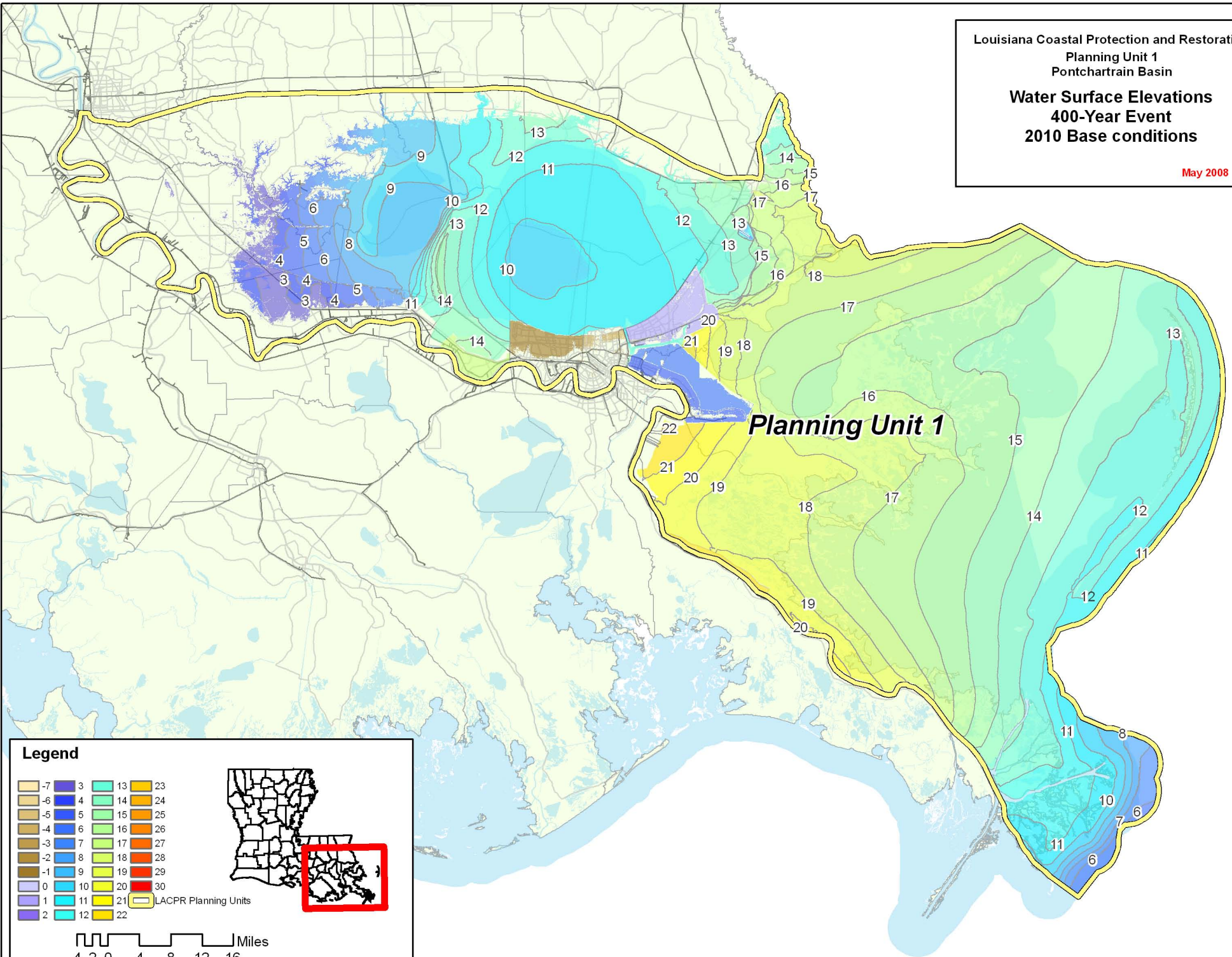
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2	9	16	23
3	10	17	24
4	11	18	25
5	12	19	
6	13	20	

LACPR Planning Units

Miles  
 4 2 0 4 8 12 16

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Surface Elevations  
 400-Year Event  
 2010 Base conditions**  
 May 2008

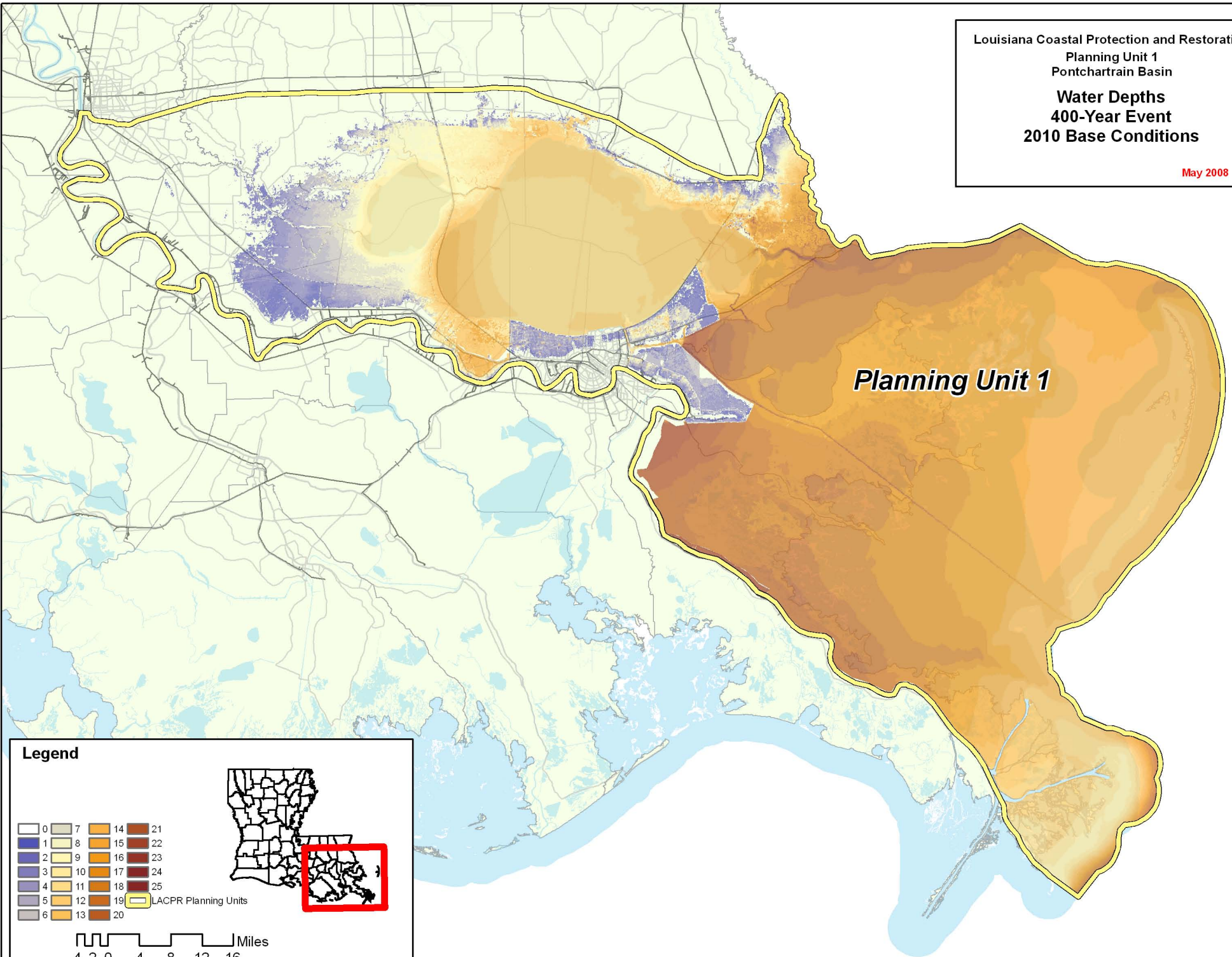


**Legend**

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-2	8	18	28
-1	9	19	29
0	10	20	30
1	11	21	LACPR Planning Units
2	12	22	

Miles  
 4 2 0 4 8 12 16

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Depths  
 400-Year Event  
 2010 Base Conditions**  
 May 2008



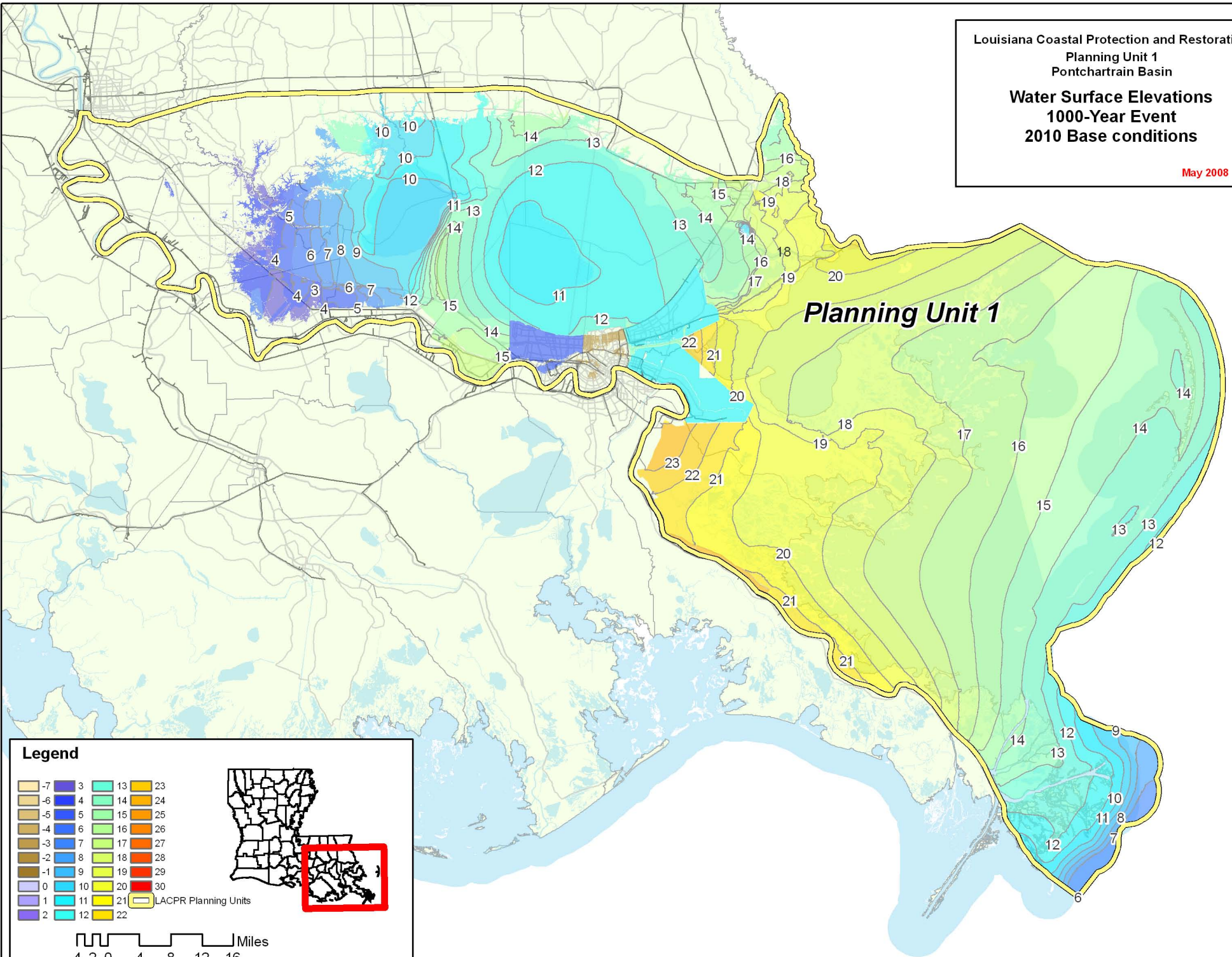
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2	9	16	23
3	10	17	24
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5	12	19	
6	13	20	

LACPR Planning Units

Miles  
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Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Surface Elevations  
 1000-Year Event  
 2010 Base conditions**  
 May 2008



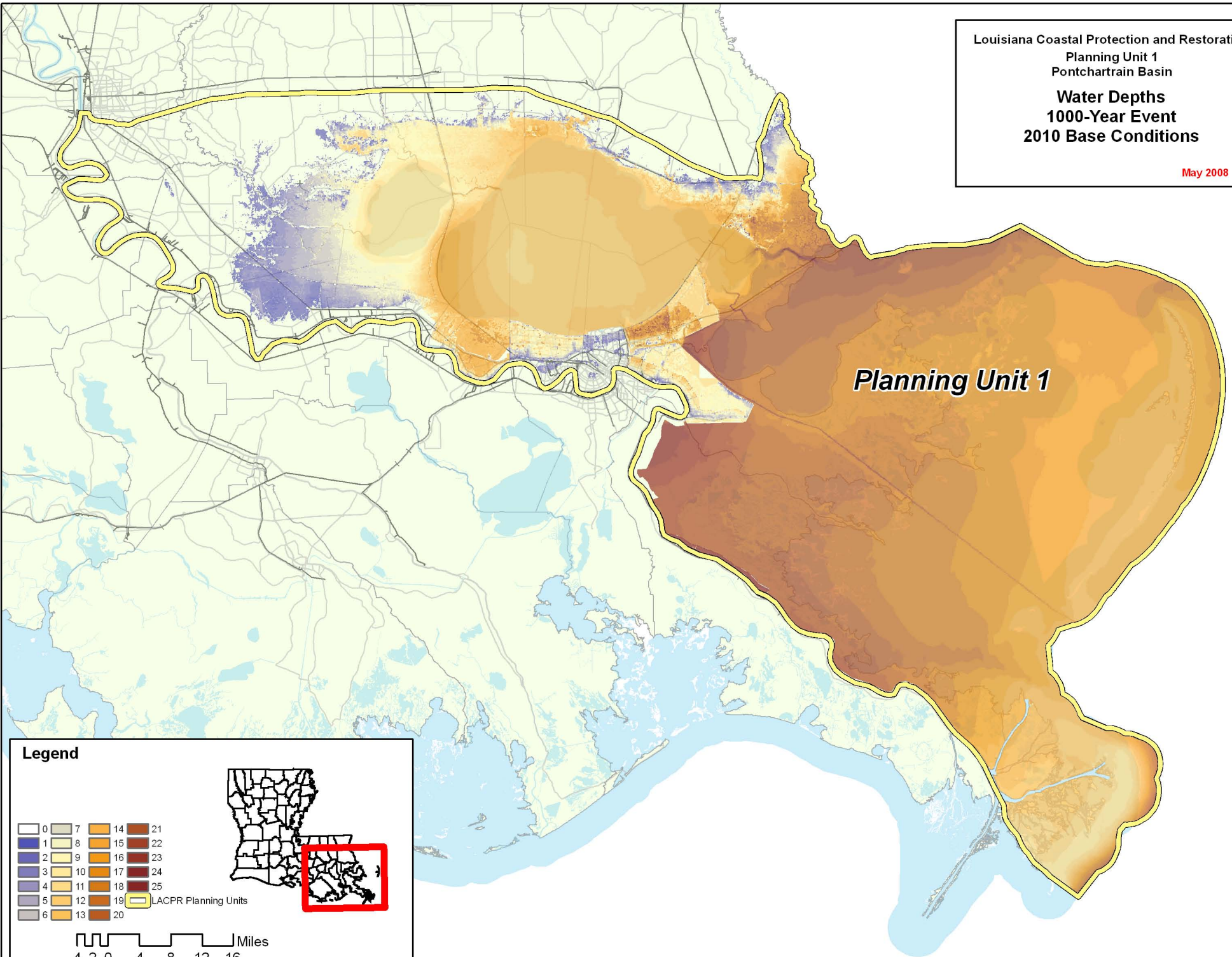
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LACPR Planning Units

Miles  
 4 20 4 8 12 16

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Depths  
 1000-Year Event  
 2010 Base Conditions**  
 May 2008



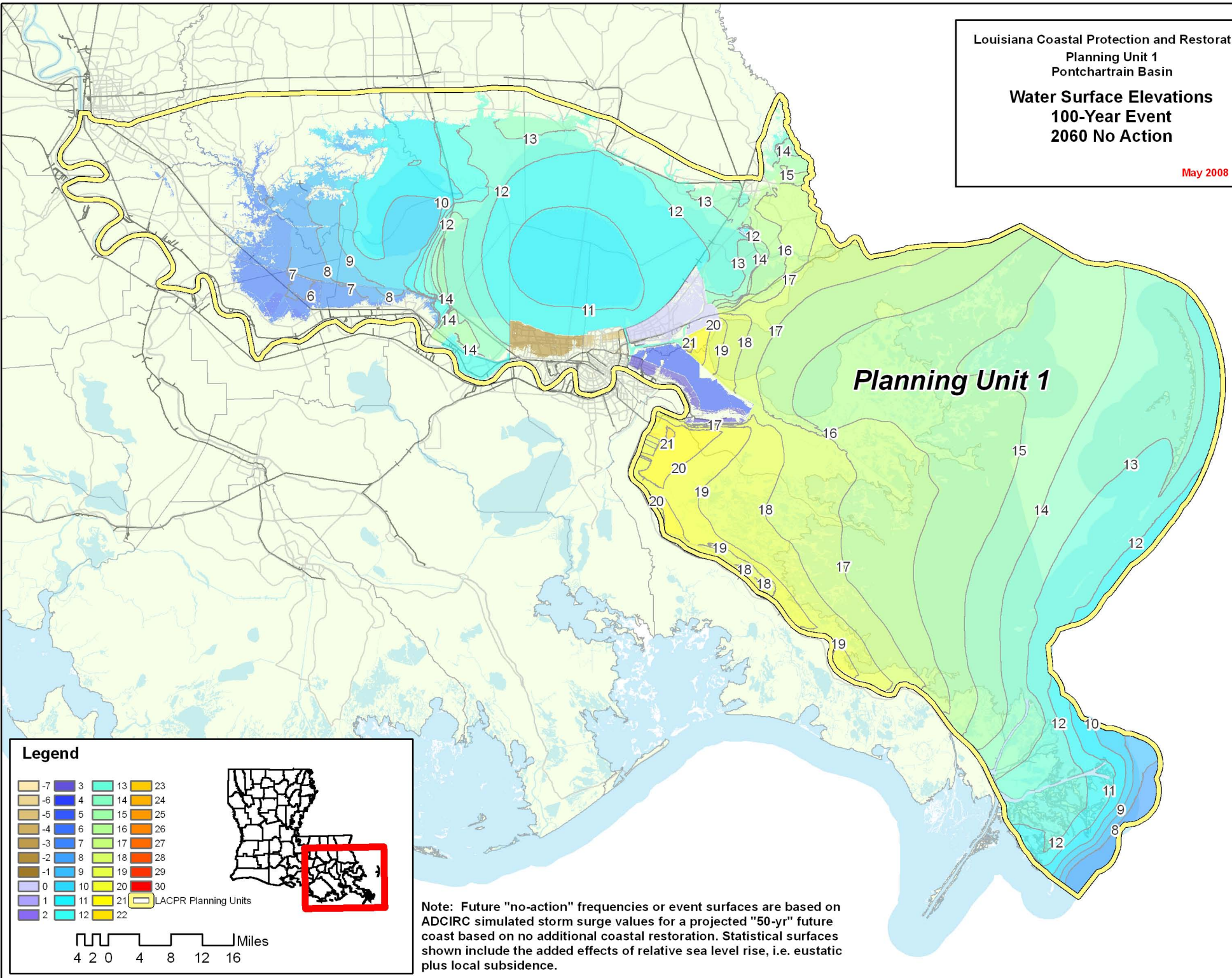
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5	12	19	
6	13	20	

LACPR Planning Units

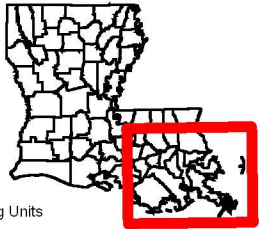

Miles  
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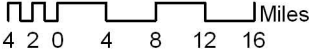
Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Surface Elevations  
 100-Year Event  
 2060 No Action**  
 May 2008



**Legend**

-7	3	13	23
-6	4	14	24
-5	5	15	25
-4	6	16	26
-3	7	17	27
-2	8	18	28
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0	10	20	30
1	11	21	
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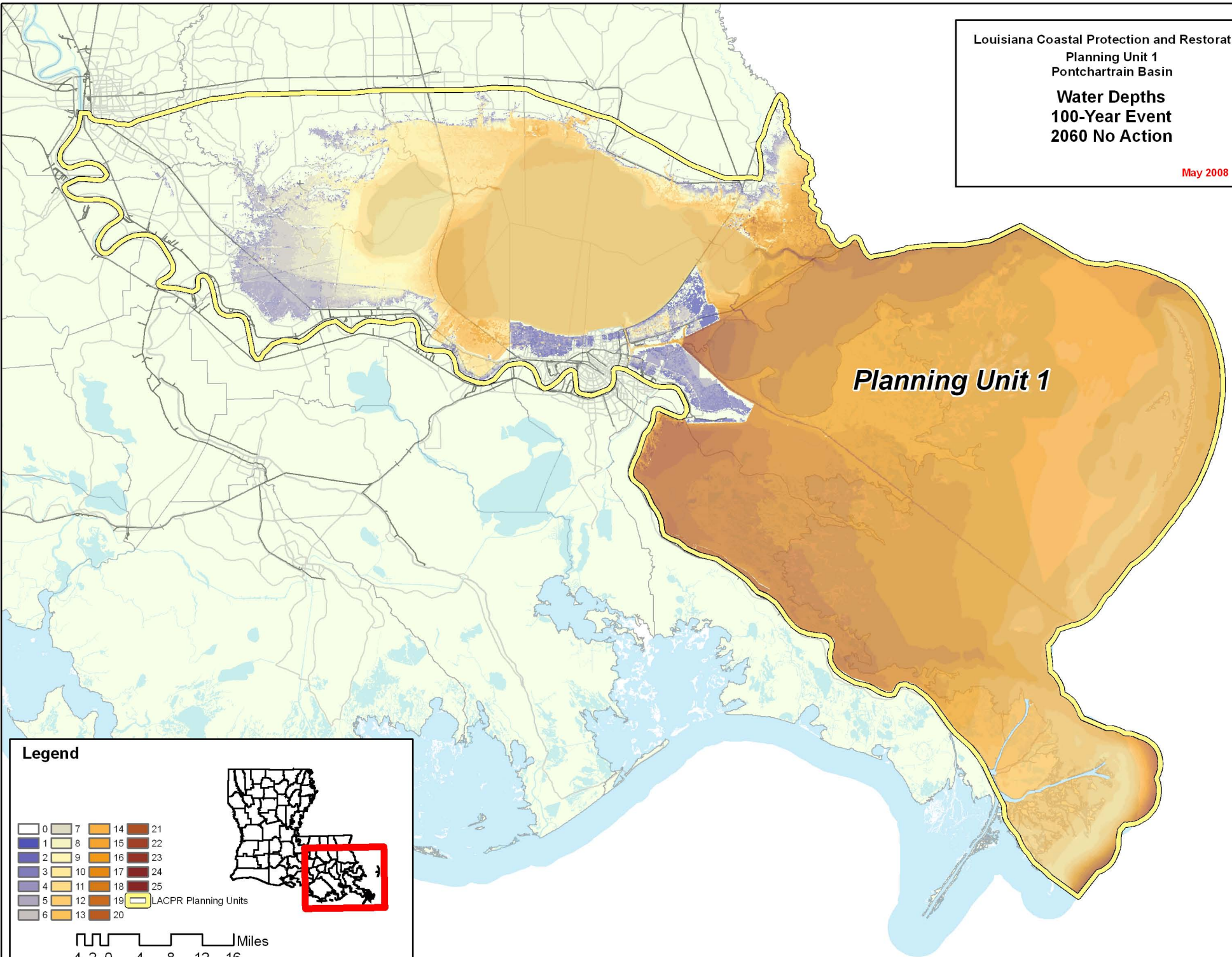

  
 LACPR Planning Units


  
 Miles  
 4 2 0 4 8 12 16

Note: Future "no-action" frequencies or event surfaces are based on ADCIRC simulated storm surge values for a projected "50-yr" future coast based on no additional coastal restoration. Statistical surfaces shown include the added effects of relative sea level rise, i.e. eustatic plus local subsidence.



Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Depths  
 100-Year Event  
 2060 No Action**  
 May 2008



**Legend**

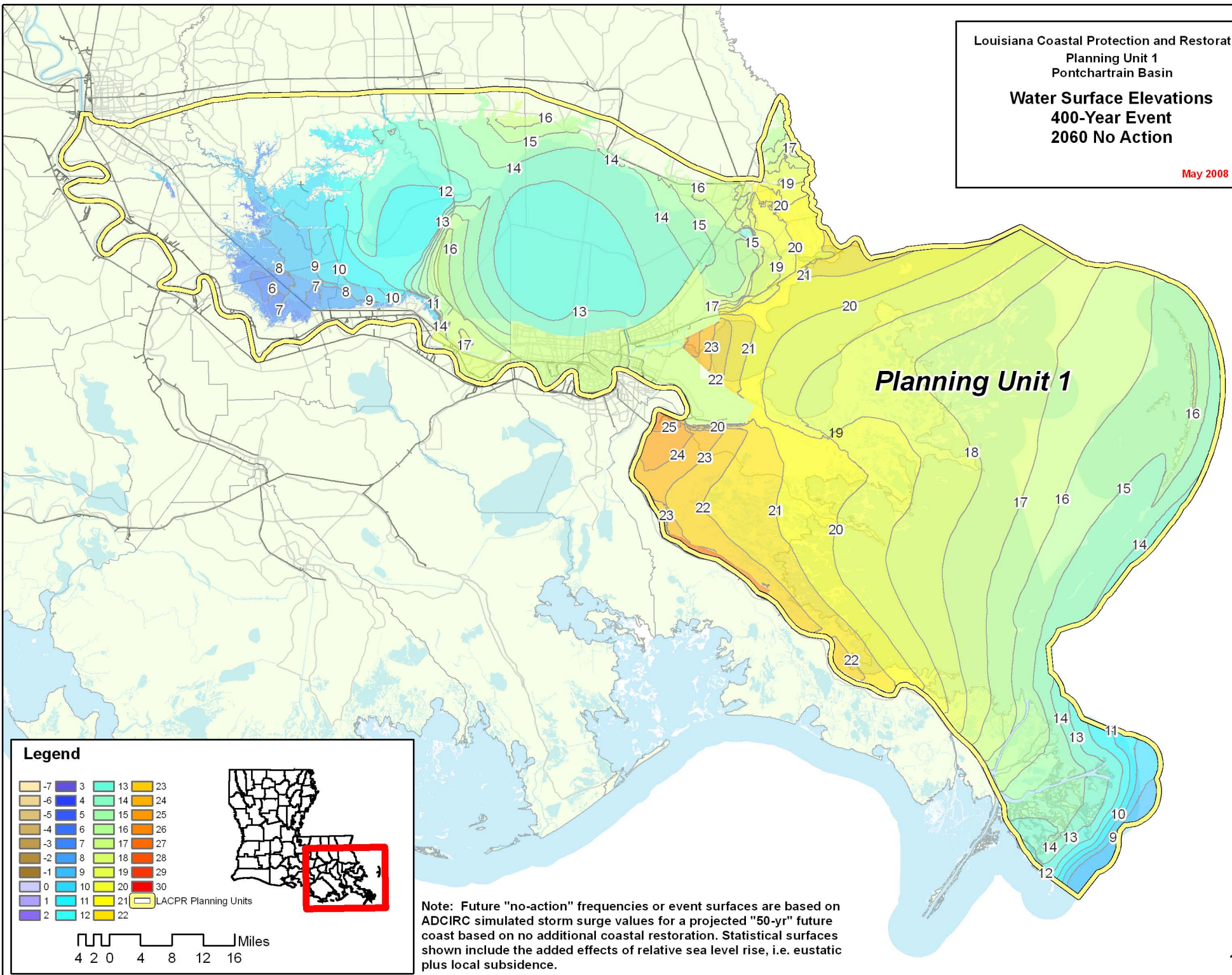
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1	8	15	22
2	9	16	23
3	10	17	24
4	11	18	25
5	12	19	
6	13	20	

LACPR Planning Units

Miles  
 4 2 0 4 8 12 16

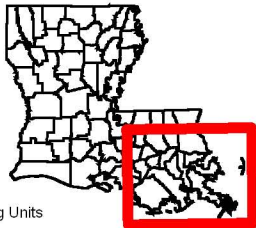
Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Surface Elevations  
 400-Year Event  
 2060 No Action**

May 2008

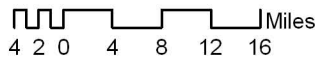


**Legend**

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-4	6	16	26
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-2	8	18	28
-1	9	19	29
0	10	20	30
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2	12	22	

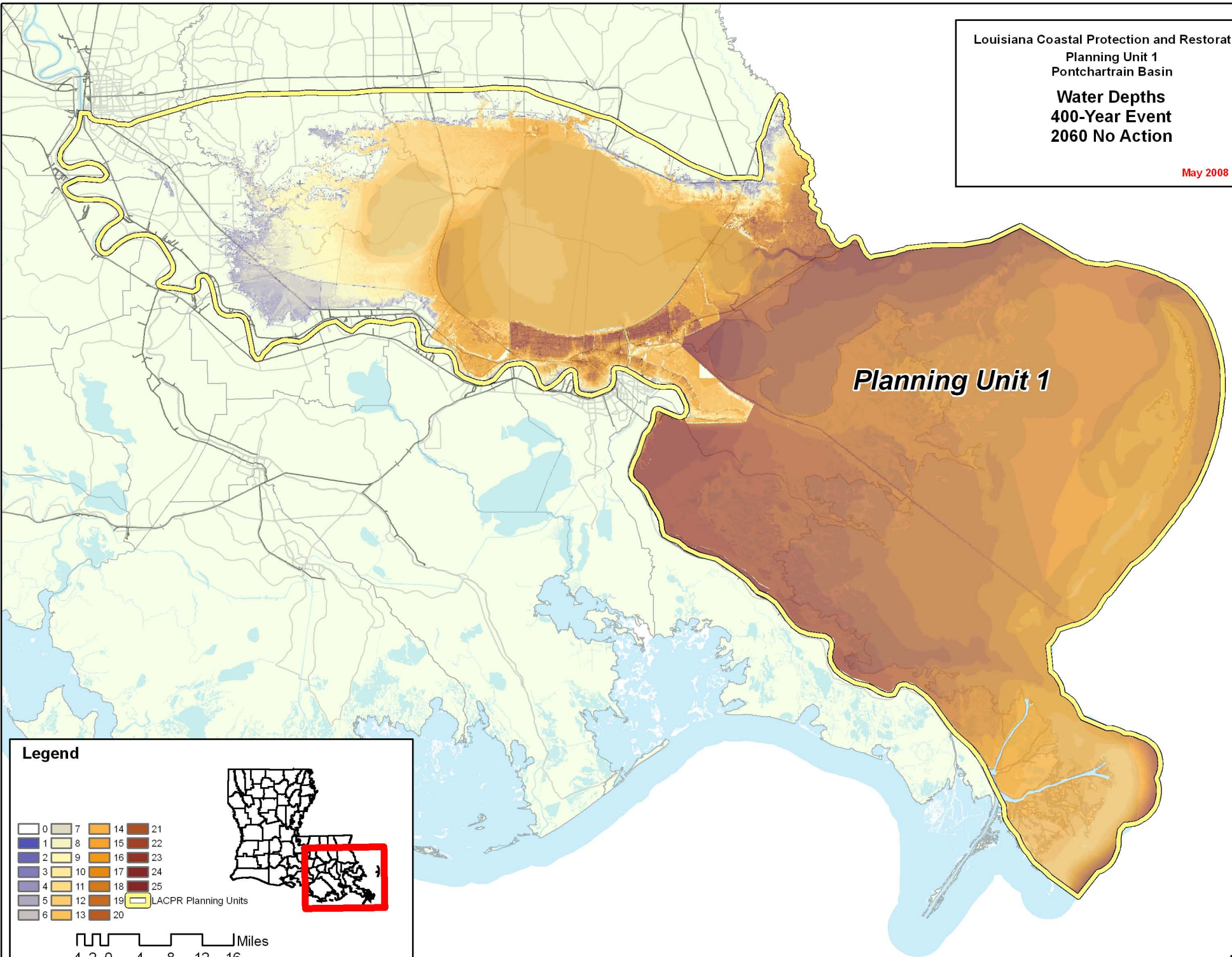


LACPR Planning Units



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Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Depths  
 400-Year Event  
 2060 No Action**  
 May 2008



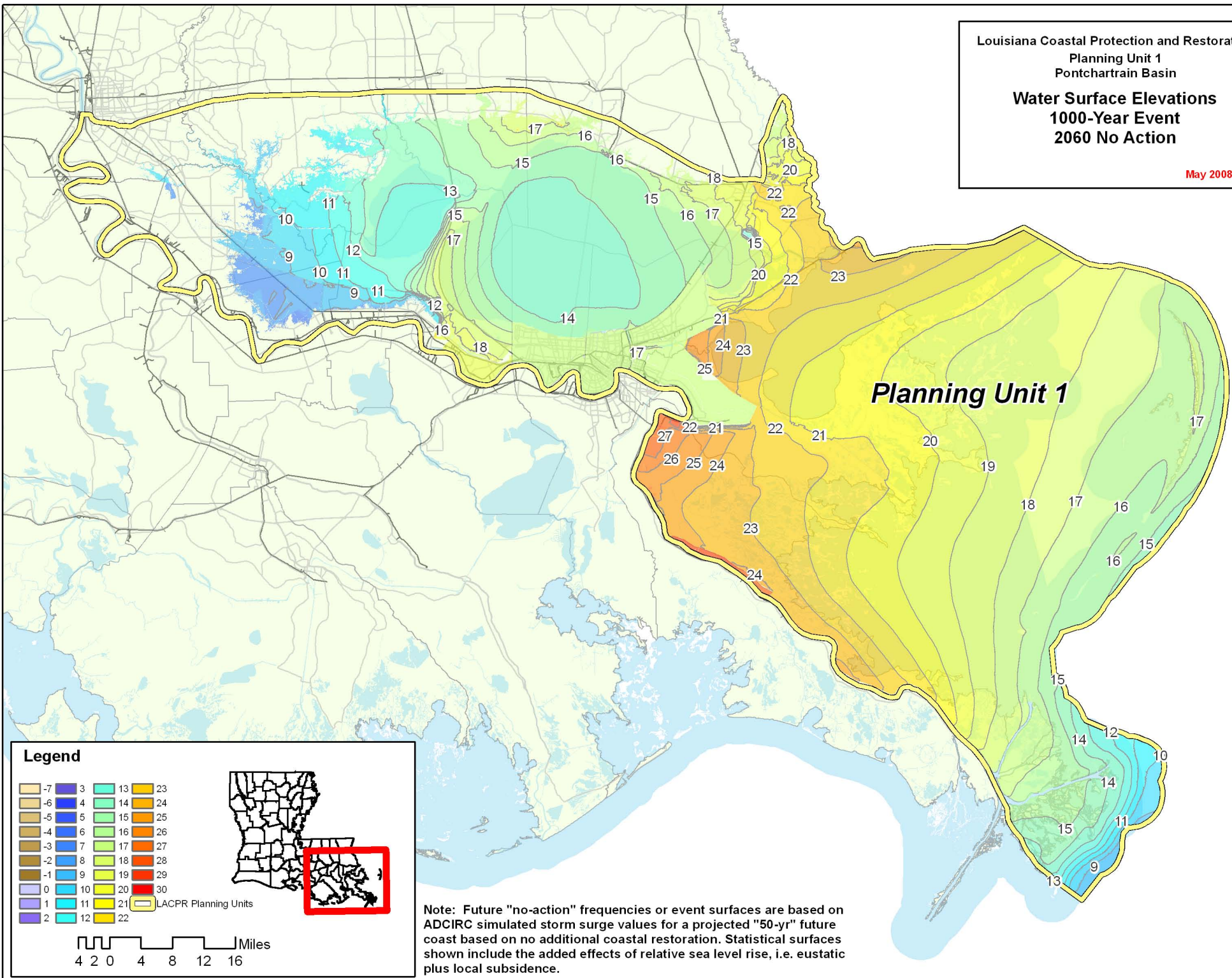
**Legend**

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1	8	15	22
2	9	16	23
3	10	17	24
4	11	18	25
5	12	19	
6	13	20	

LACPR Planning Units

Miles  
 4 2 0 4 8 12 16

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Surface Elevations  
 1000-Year Event  
 2060 No Action**  
 May 2008



**Planning Unit 1**

**Legend**

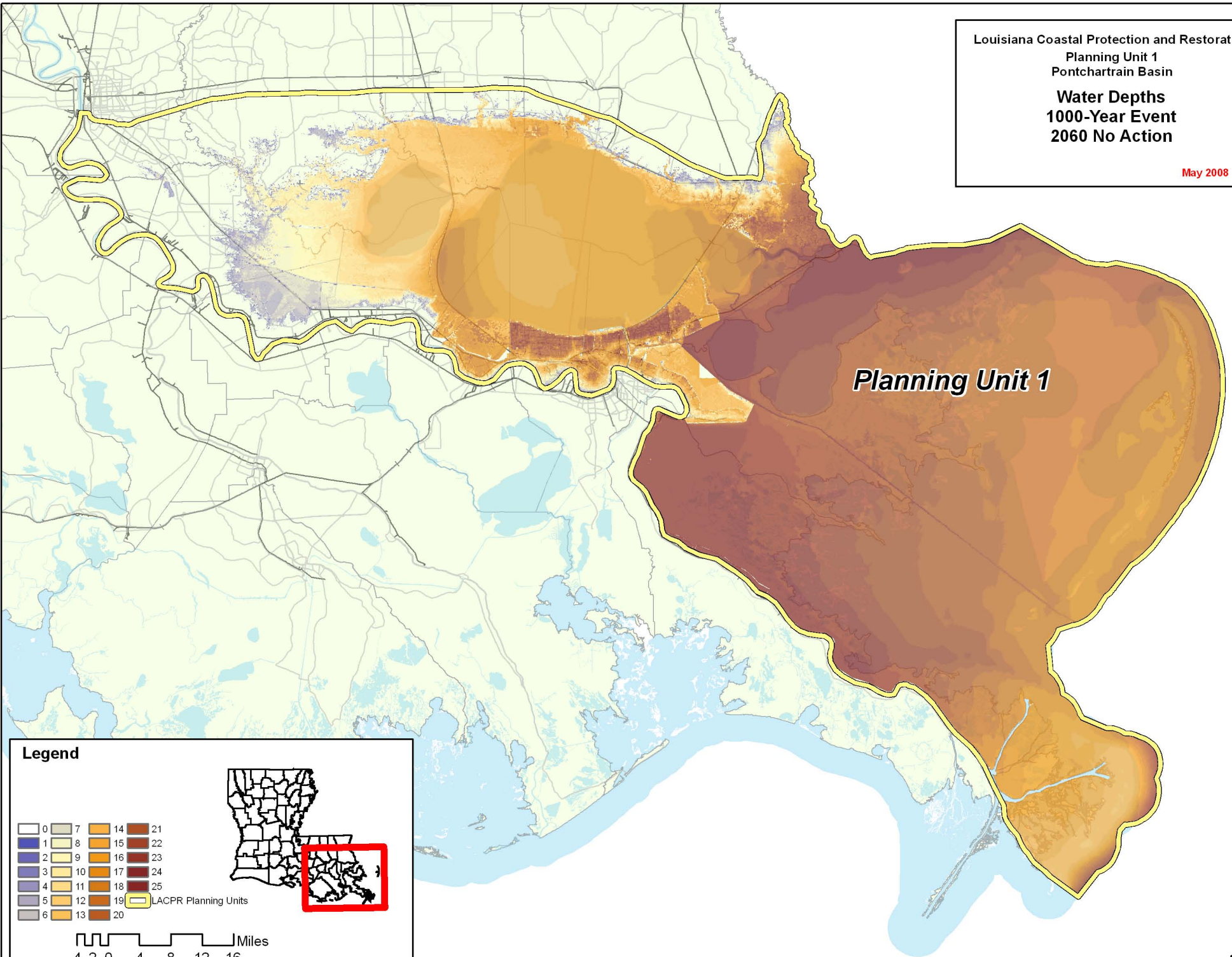
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-2	8	18	28
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LACPR Planning Units

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Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Depths  
 1000-Year Event  
 2060 No Action**  
 May 2008



**Legend**

0	7	14	21
1	8	15	22
2	9	16	23
3	10	17	24
4	11	18	25
5	12	19	
6	13	20	

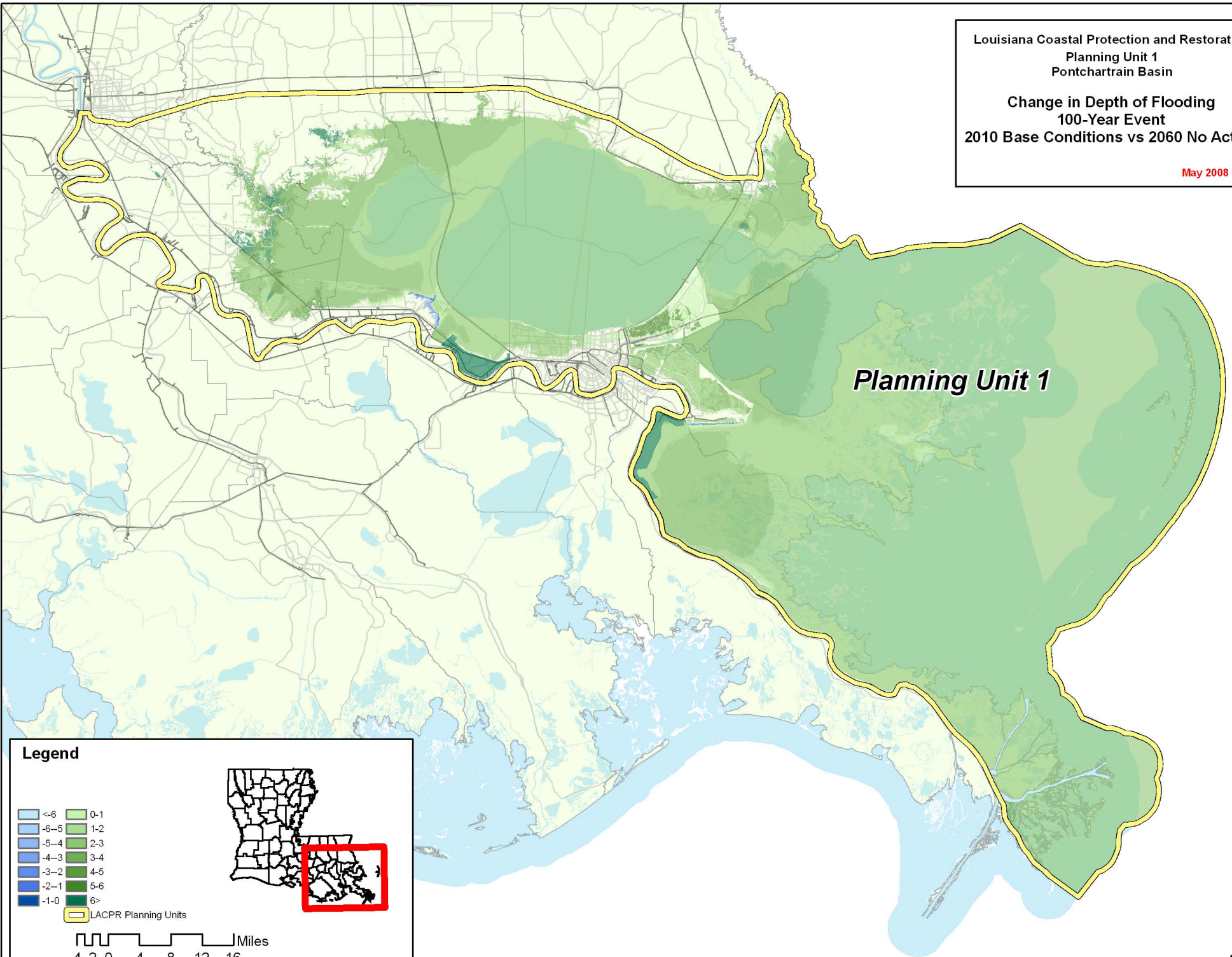
LACPR Planning Units

Miles  
 4 2 0 4 8 12 16

Louisiana Coastal Protection and Restoration  
Planning Unit 1  
Pontchartrain Basin

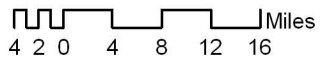
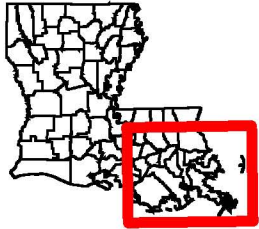
Change in Depth of Flooding  
100-Year Event  
2010 Base Conditions vs 2060 No Action

May 2008



Legend

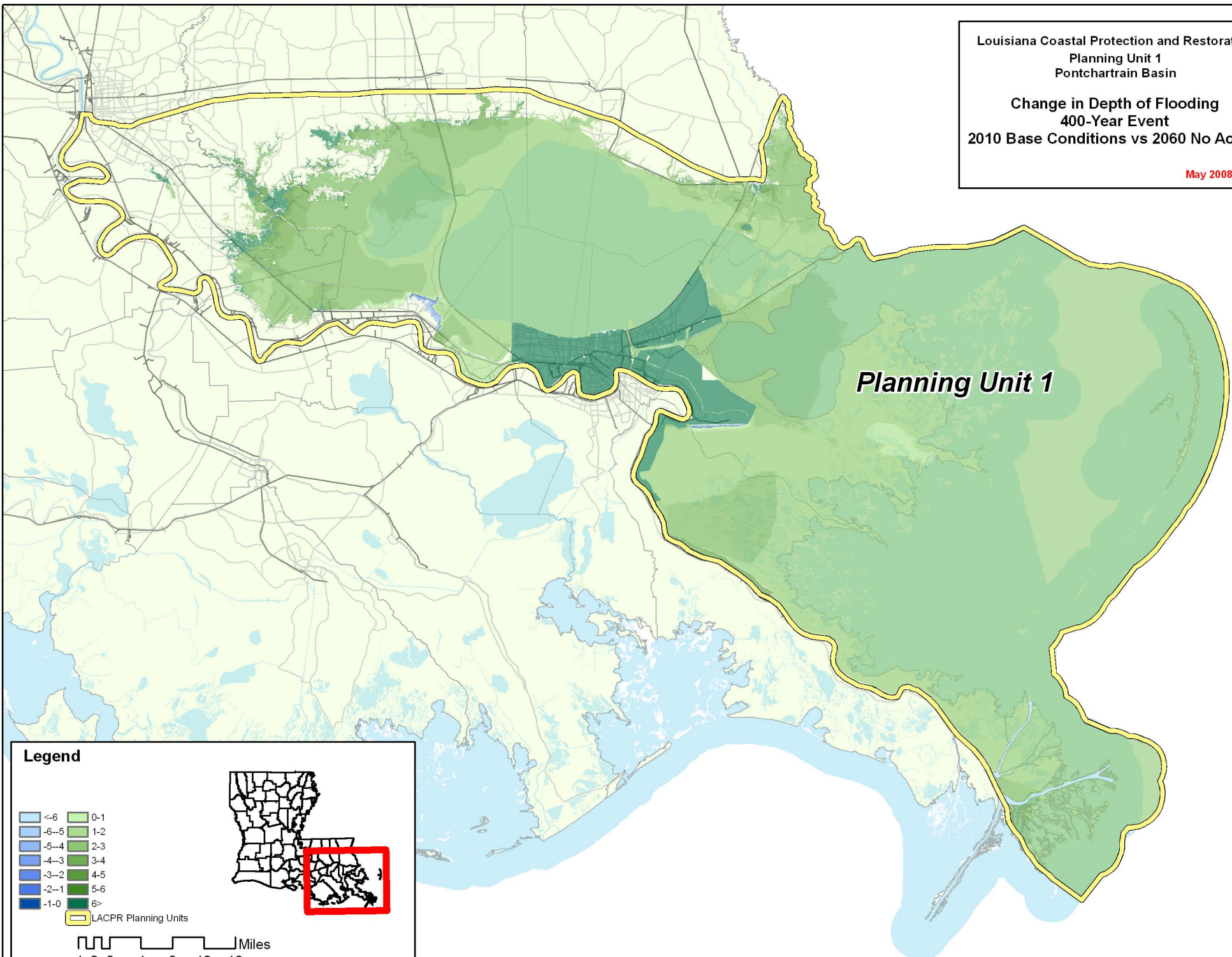
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|  | -4-3 |  | 3-4 |
|  | -3-2 |  | 4-5 |
|  | -2-1 |  | 5-6 |
|  | -1-0 |  | 6>  |
- LACPR Planning Units



Louisiana Coastal Protection and Restoration  
Planning Unit 1  
Pontchartrain Basin

Change in Depth of Flooding  
400-Year Event  
2010 Base Conditions vs 2060 No Action

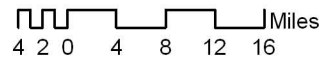
May 2008



*Planning Unit 1*

**Legend**

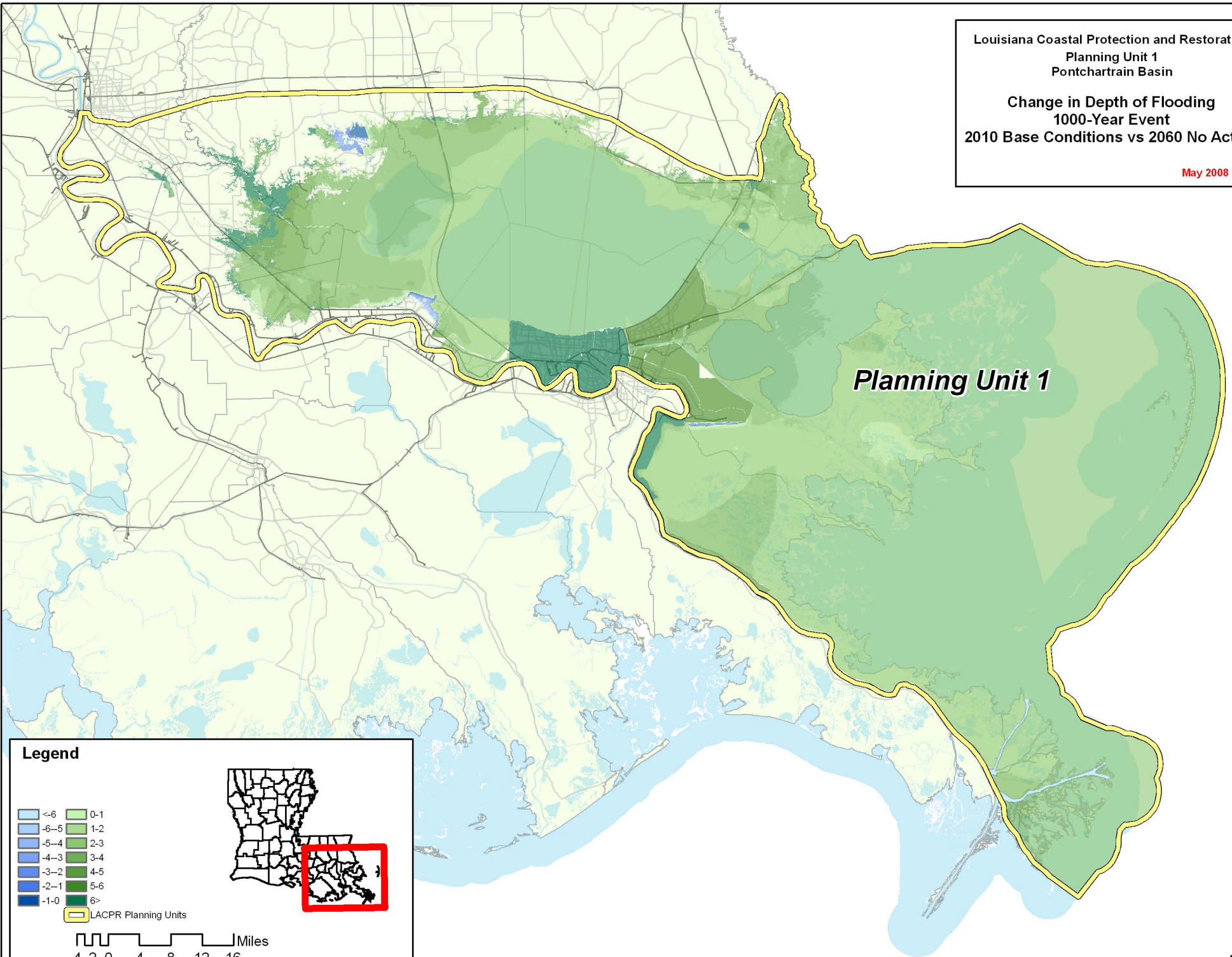
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|  | -2-1                 |  | 5-6 |
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|  | LACPR Planning Units |  |     |



Louisiana Coastal Protection and Restoration  
Planning Unit 1  
Pontchartrain Basin

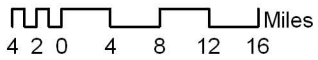
Change in Depth of Flooding  
1000-Year Event  
2010 Base Conditions vs 2060 No Action

May 2008



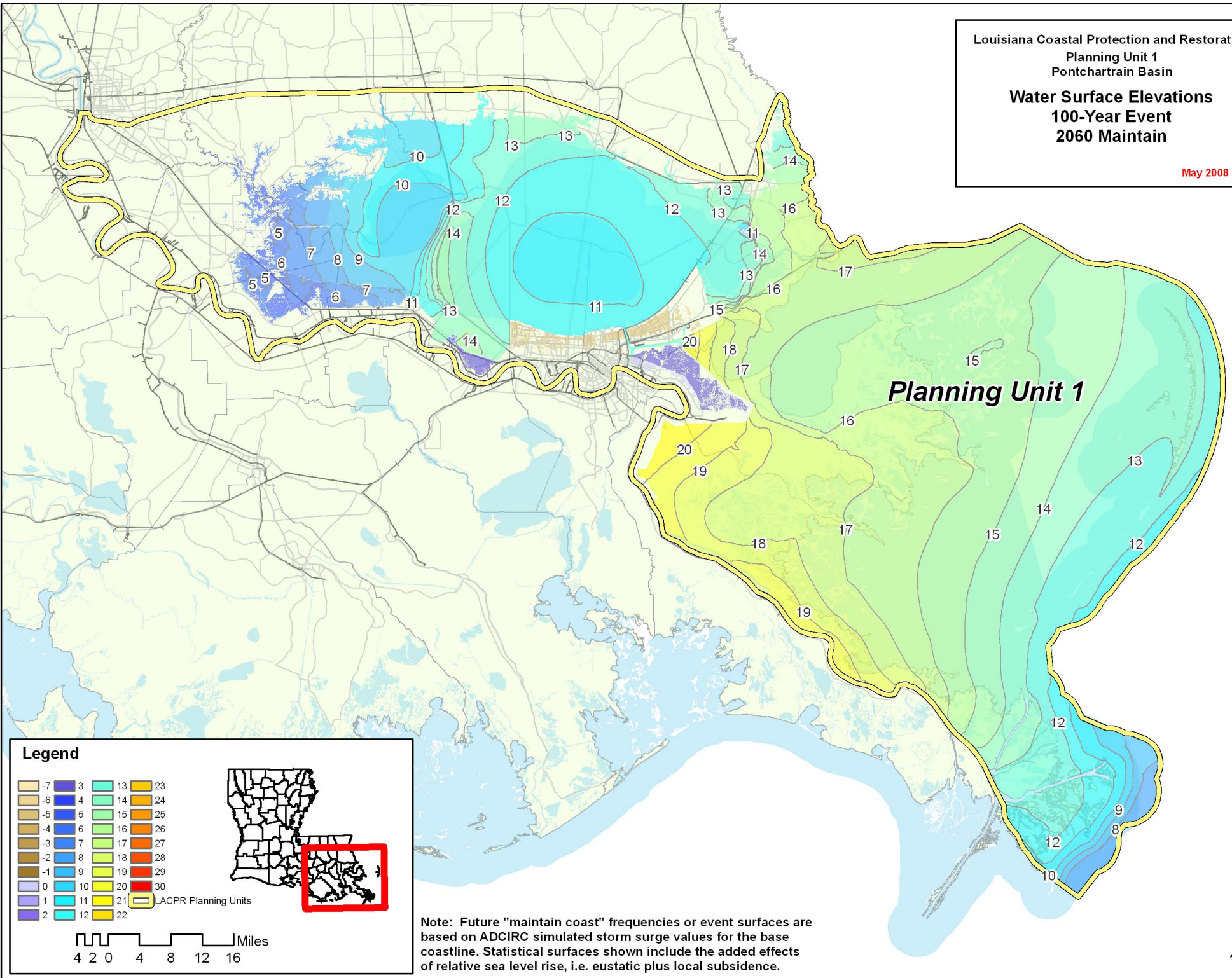
Legend

- |      |     |
|------|-----|
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| -6-5 | 1-2 |
| -5-4 | 2-3 |
| -4-3 | 3-4 |
| -3-2 | 4-5 |
| -2-1 | 5-6 |
| -1-0 | 6>  |
- LACPR Planning Units





Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Surface Elevations  
 100-Year Event  
 2060 Maintain**  
 May 2008



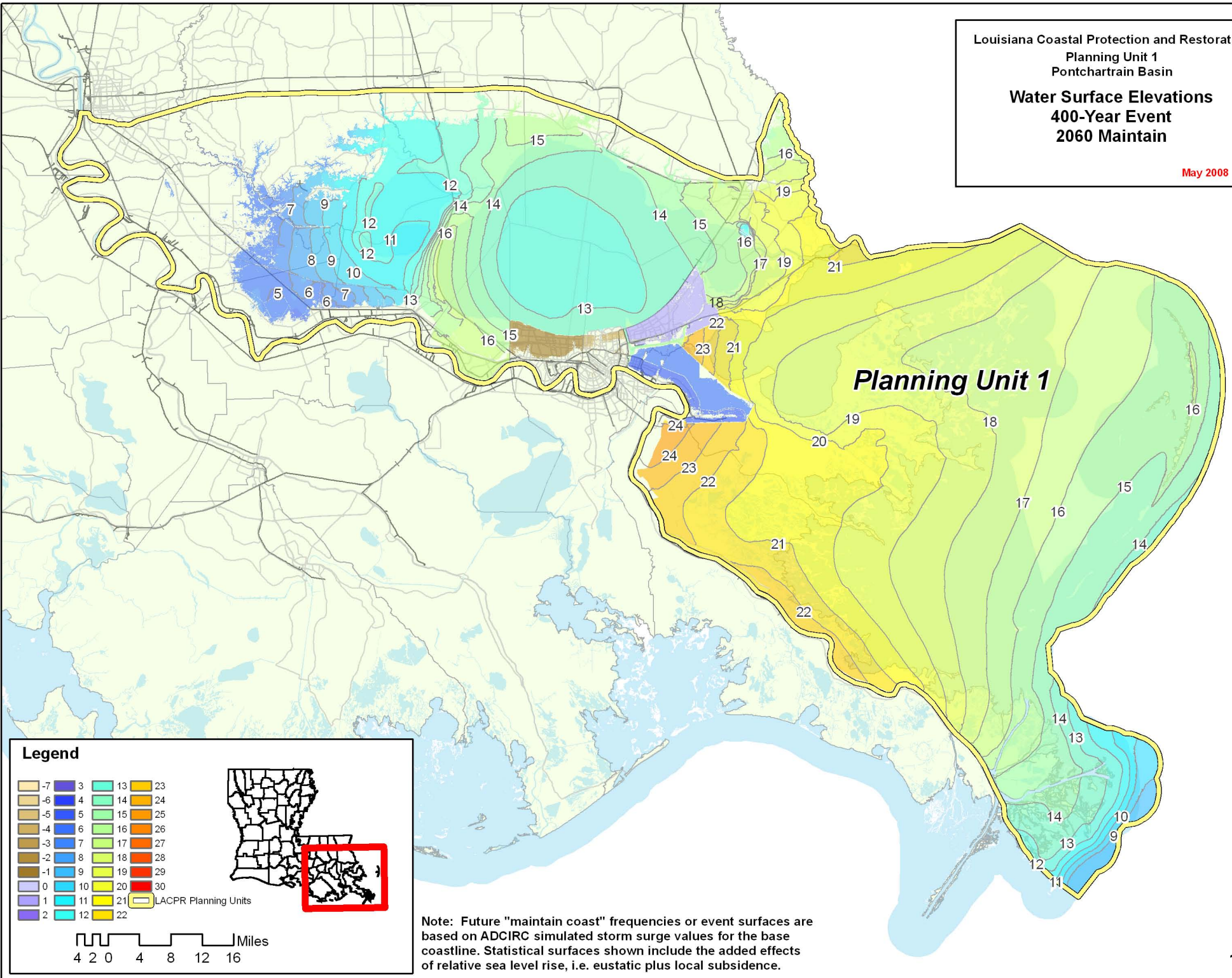
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-6	4	14	24
-5	5	15	25
-4	6	16	26
-3	7	17	27
-2	8	18	28
-1	9	19	29
0	10	20	30
1	11	21	
2	12	22	

LACPR Planning Units

Miles  
 4 2 0 4 8 12 16

Note: Future "maintain coast" frequencies or event surfaces are based on ADCIRC simulated storm surge values for the base coastline. Statistical surfaces shown include the added effects of relative sea level rise, i.e. eustatic plus local subsidence.



**Planning Unit 1**

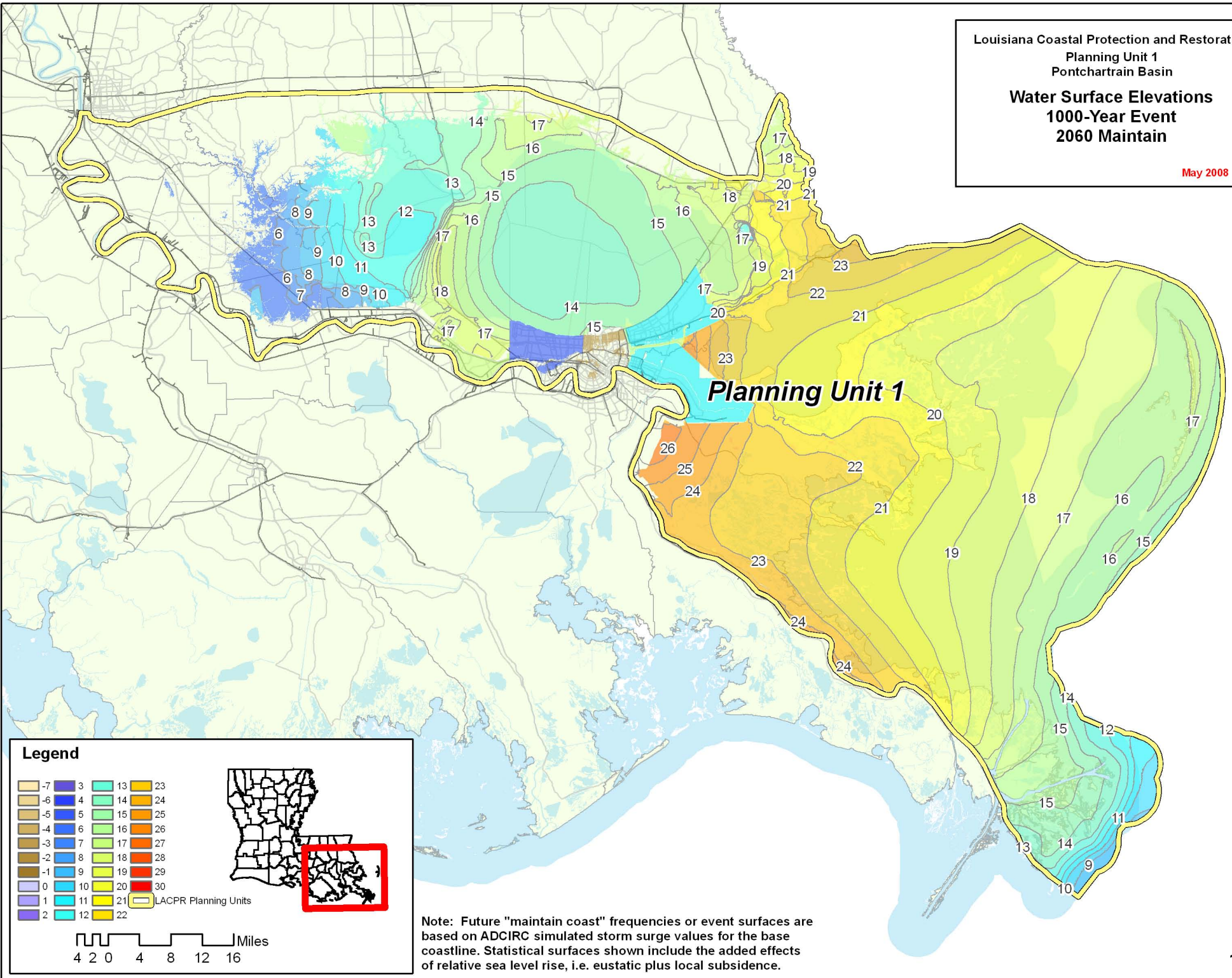
**Legend**

- |    |    |    |    |
|----|----|----|----|
| -7 | 3  | 13 | 23 |
| -6 | 4  | 14 | 24 |
| -5 | 5  | 15 | 25 |
| -4 | 6  | 16 | 26 |
| -3 | 7  | 17 | 27 |
| -2 | 8  | 18 | 28 |
| -1 | 9  | 19 | 29 |
| 0  | 10 | 20 | 30 |
| 1  | 11 | 21 |    |
| 2  | 12 | 22 |    |
- LACPR Planning Units

Miles  
 4 2 0 4 8 12 16

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Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Water Surface Elevations  
 1000-Year Event  
 2060 Maintain**  
 May 2008



**Legend**

-7	3	13	23
-6	4	14	24
-5	5	15	25
-4	6	16	26
-3	7	17	27
-2	8	18	28
-1	9	19	29
0	10	20	30
1	11	21	
2	12	22	

LACPR Planning Units

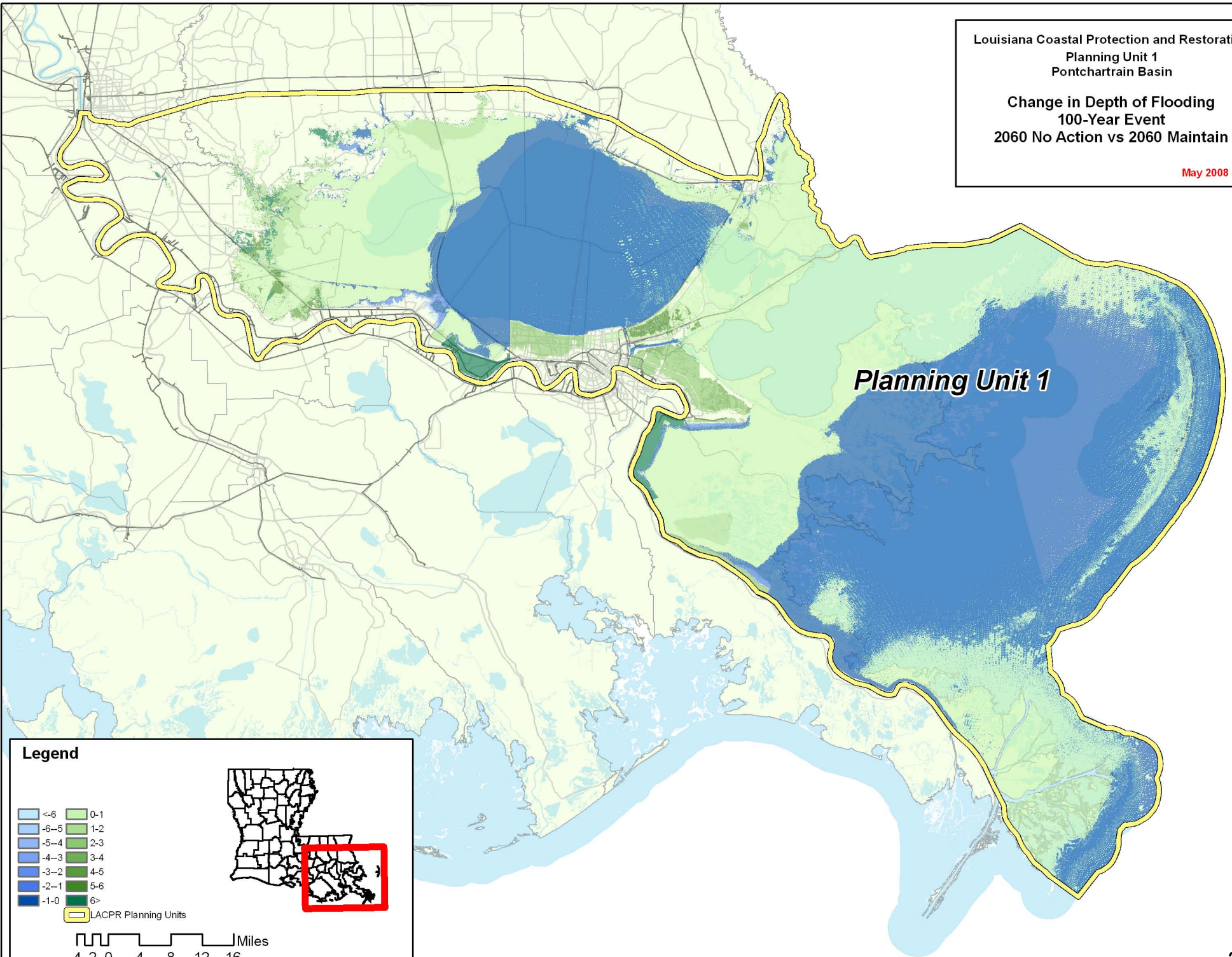
Miles  
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Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin

Change in Depth of Flooding  
 100-Year Event  
 2060 No Action vs 2060 Maintain

May 2008



**Legend**

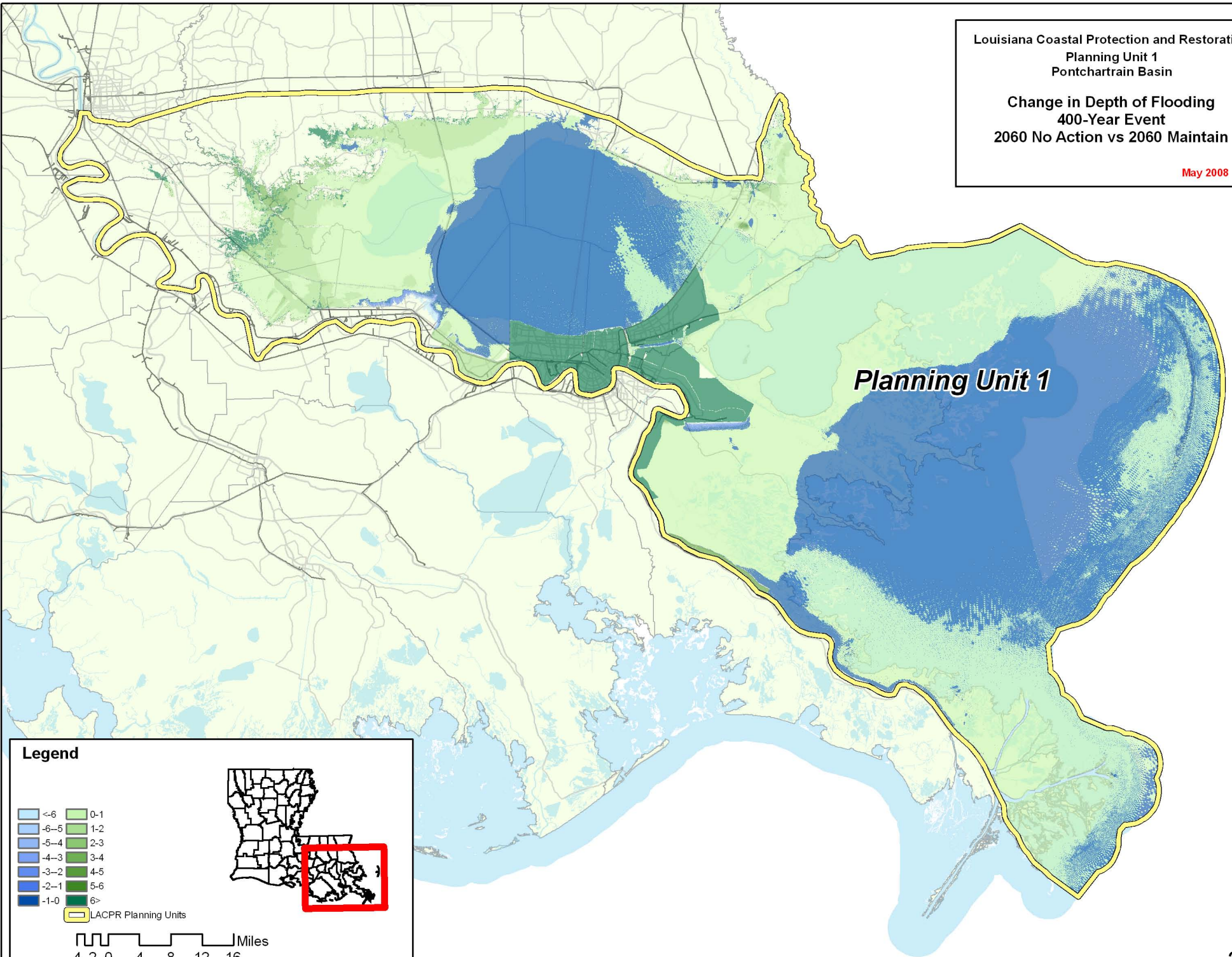
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LACPR Planning Units

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin

Change in Depth of Flooding  
 400-Year Event  
 2060 No Action vs 2060 Maintain

May 2008



**Legend**

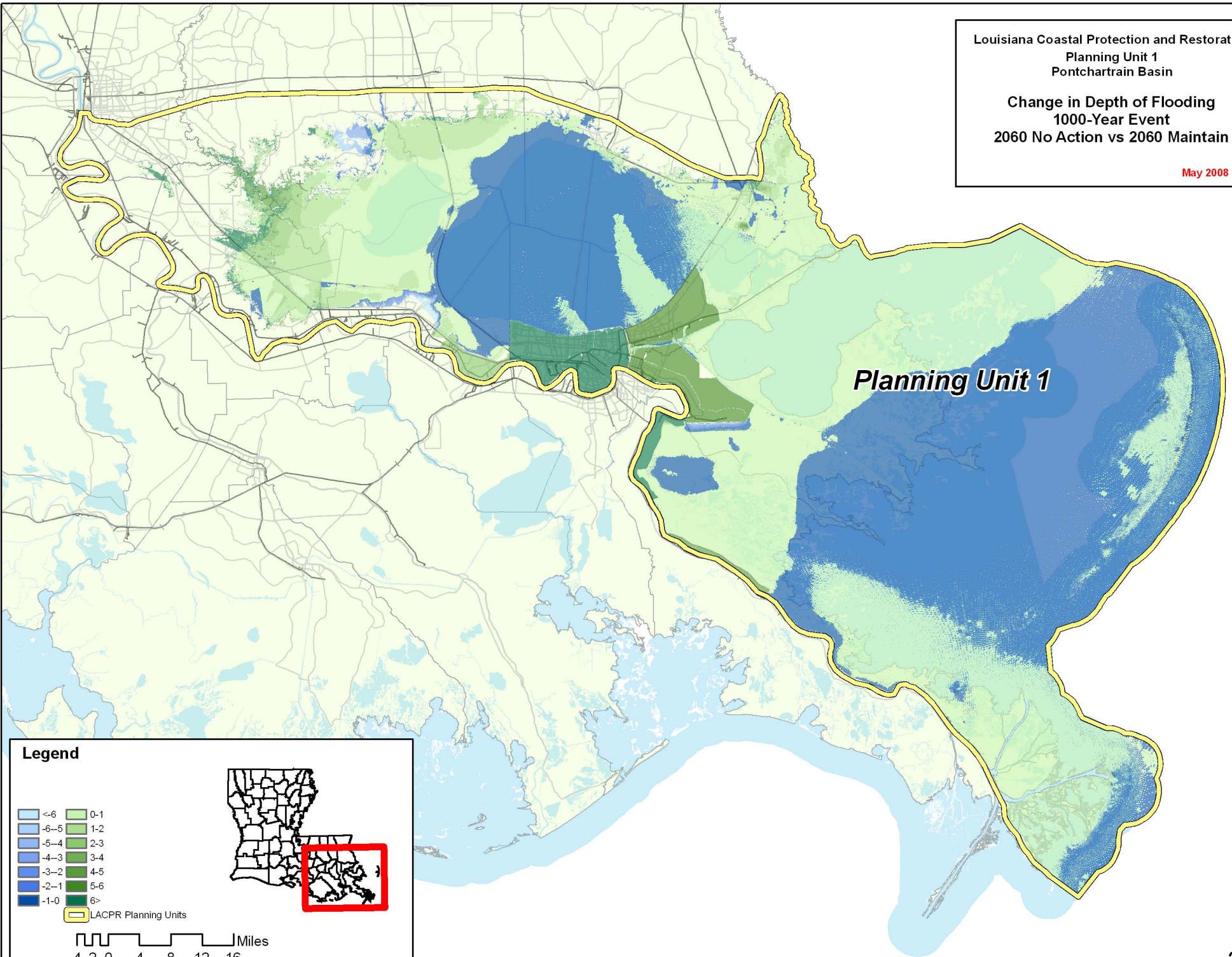
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	-2-1		5-6
	-1-0		6+

LACPR Planning Units

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin

Change in Depth of Flooding  
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May 2008



**Legend**

	<math><-6</math>		0-1
	-6-5		1-2
	-5-4		2-3
	-4-3		3-4
	-3-2		4-5
	-2-1		5-6
	-1-0		6>

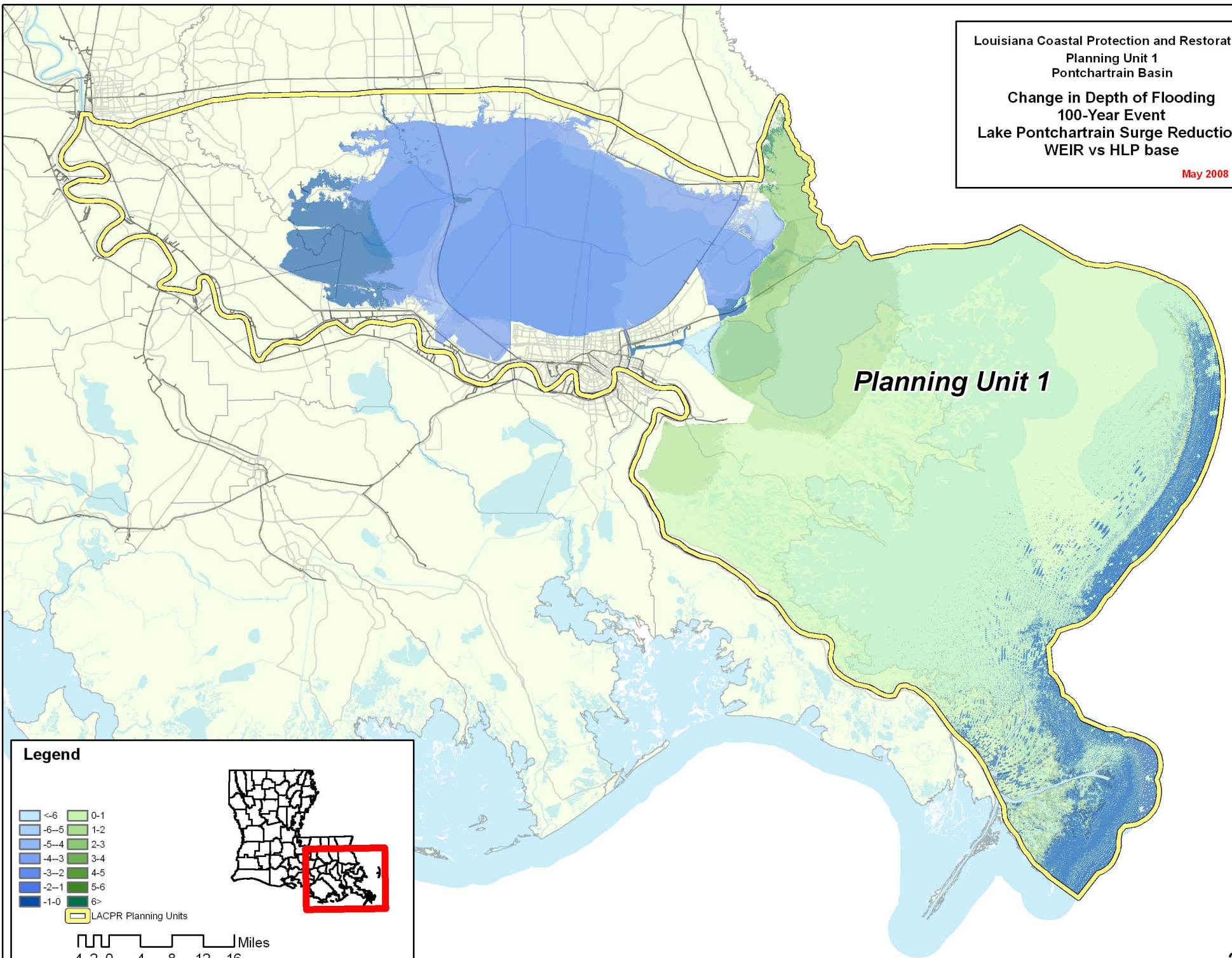
LACPR Planning Units

4 2 0 4 8 12 16 Miles

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin

**Change in Depth of Flooding  
 100-Year Event  
 Lake Pontchartrain Surge Reduction  
 WEIR vs HLP base**

May 2008



**Legend**

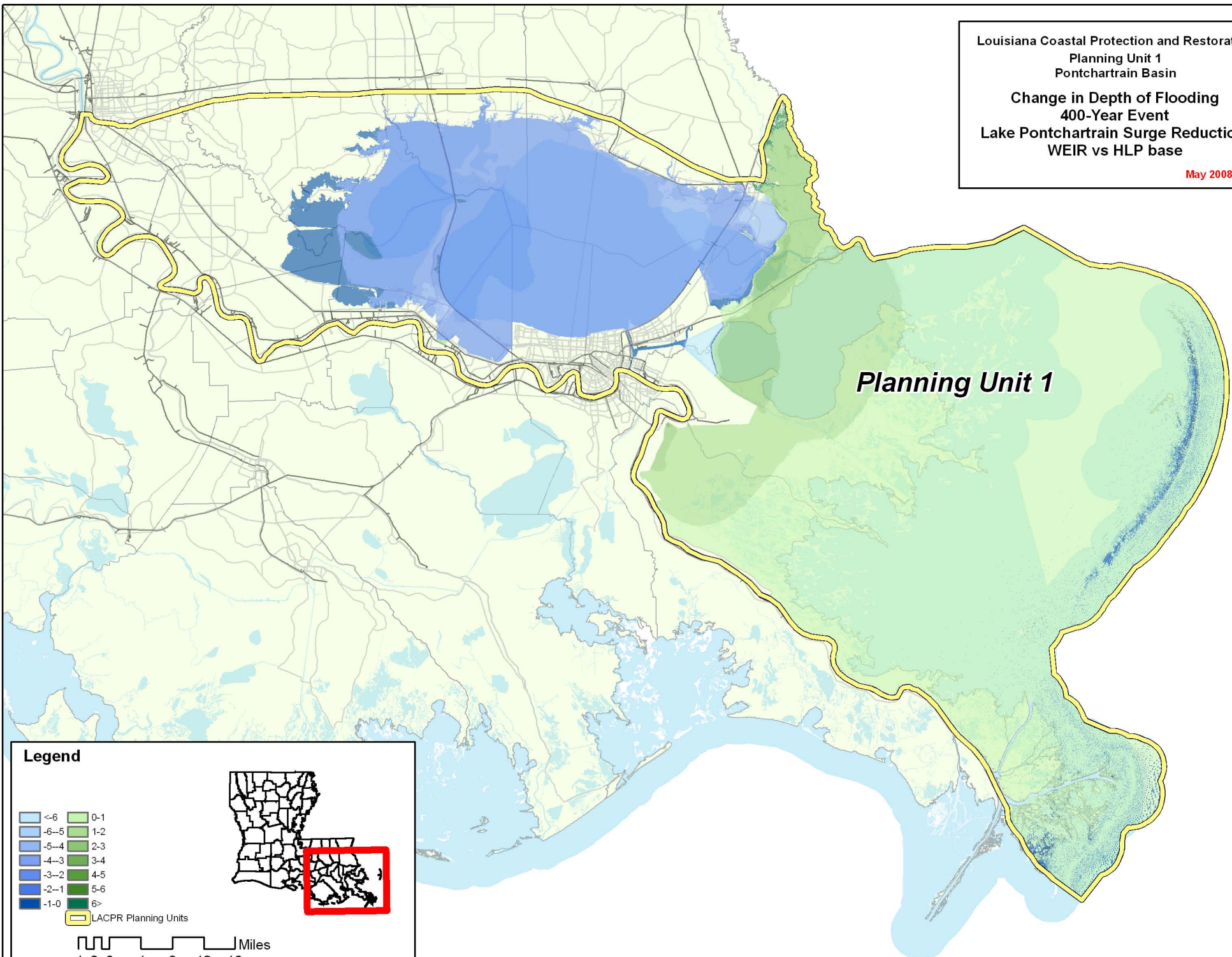
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	-2-1		5-6
	-1-0		6>

LACPR Planning Units

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin

**Change in Depth of Flooding  
 400-Year Event  
 Lake Pontchartrain Surge Reduction  
 WEIR vs HLP base**

May 2008



**Legend**

	<-6		0-1
	-6-5		1-2
	-5-4		2-3
	-4-3		3-4
	-3-2		4-5
	-2-1		5-6
	-1-0		6>

LACPR Planning Units

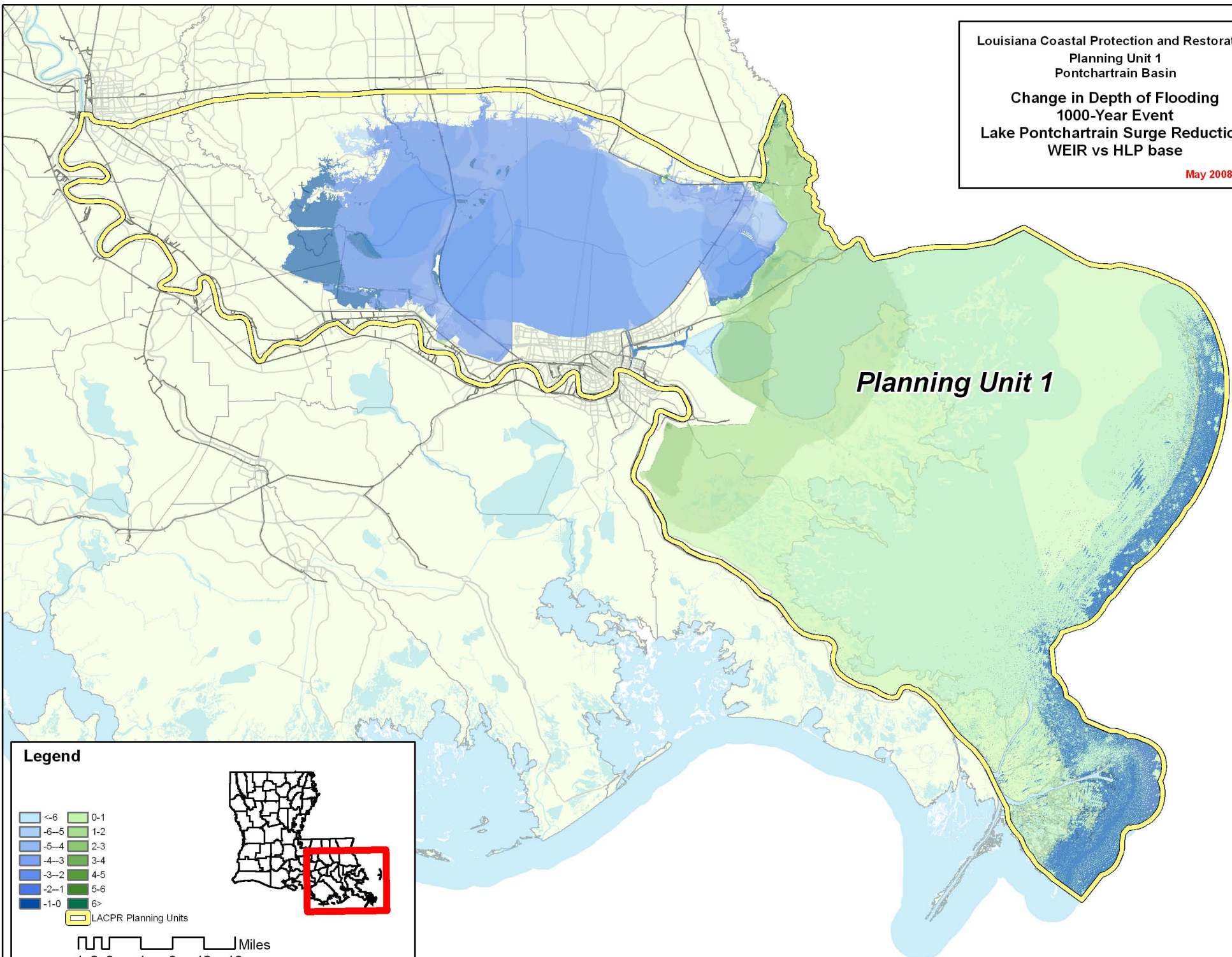
4 2 0 4 8 12 16 Miles



Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin

**Change in Depth of Flooding  
 1000-Year Event  
 Lake Pontchartrain Surge Reduction  
 WEIR vs HLP base**

May 2008



**Legend**

	<-6		0-1
	-6-5		1-2
	-5-4		2-3
	-4-3		3-4
	-3-2		4-5
	-2-1		5-6
	-1-0		6>

LACPR Planning Units

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-0	<b>Category:</b>	No Action
<b>Alternative Description:</b>	No action (without project) alternative.				
<b>Coastal Component:</b>	Degraded coast--increasing risk.	<b>Nonstructural Component:</b>	None		
<b>Structural Component:</b>	No new levees or increases in risk reduction level for existing levees.				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	0	37,371	442	287	1,471	76	143	130	50
		Mid		41,502	716	787	3,036	204	127	126	46
		Low		51,017	1,401	1,742	6,339	449	111	122	41
2	High RSLR High Employment Dispersed Population	High	0	38,803	522	524	2,092	134	143	130	50
		Mid		45,147	930	1,222	4,267	314	127	125	44
		Low		55,748	2,129	3,440	11,040	897	111	119	38
3	Low RSLR Business-as-Usual Compact Population	High	0	32,147	441	290	1,503	78	143	130	50
		Mid		35,876	684	656	2,785	174	127	126	46
		Low		43,832	1,267	1,262	5,246	341	111	122	41
4	High RSLR Business-as-Usual Compact Population	High	0	33,074	509	425	1,954	120	143	130	50
		Mid		38,592	852	879	3,526	239	127	125	44
		Low		47,254	1,800	2,710	8,909	700	111	119	38

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			0	After 50 yrs (% of baseline)		74	71	74	71
Direct Wetland Impacts (acres)			0	After 100 yrs (% of baseline)		49	37	49	37
Indirect Impacts (unitless)			0	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.24	Coastal Component		0	0	0	0
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0
	1 / 2	0	0	Structural Component		0	0	0	0
	3 / 4	0	0	Total Project		0	0	0	0

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1  No Action Plan
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	N/A	1,472	N/A	1,081	N/A	1,345	N/A	
100-year	11,935	N/A	34,000	N/A	9,879	N/A	26,076	N/A	
400-year	89,937	N/A	116,204	N/A	62,688	N/A	80,694	N/A	
1,000-year	118,260	N/A	122,423	N/A	81,963	N/A	84,515	N/A	
2,000-year	122,343	N/A	125,886	N/A	84,351	N/A	86,336	N/A	

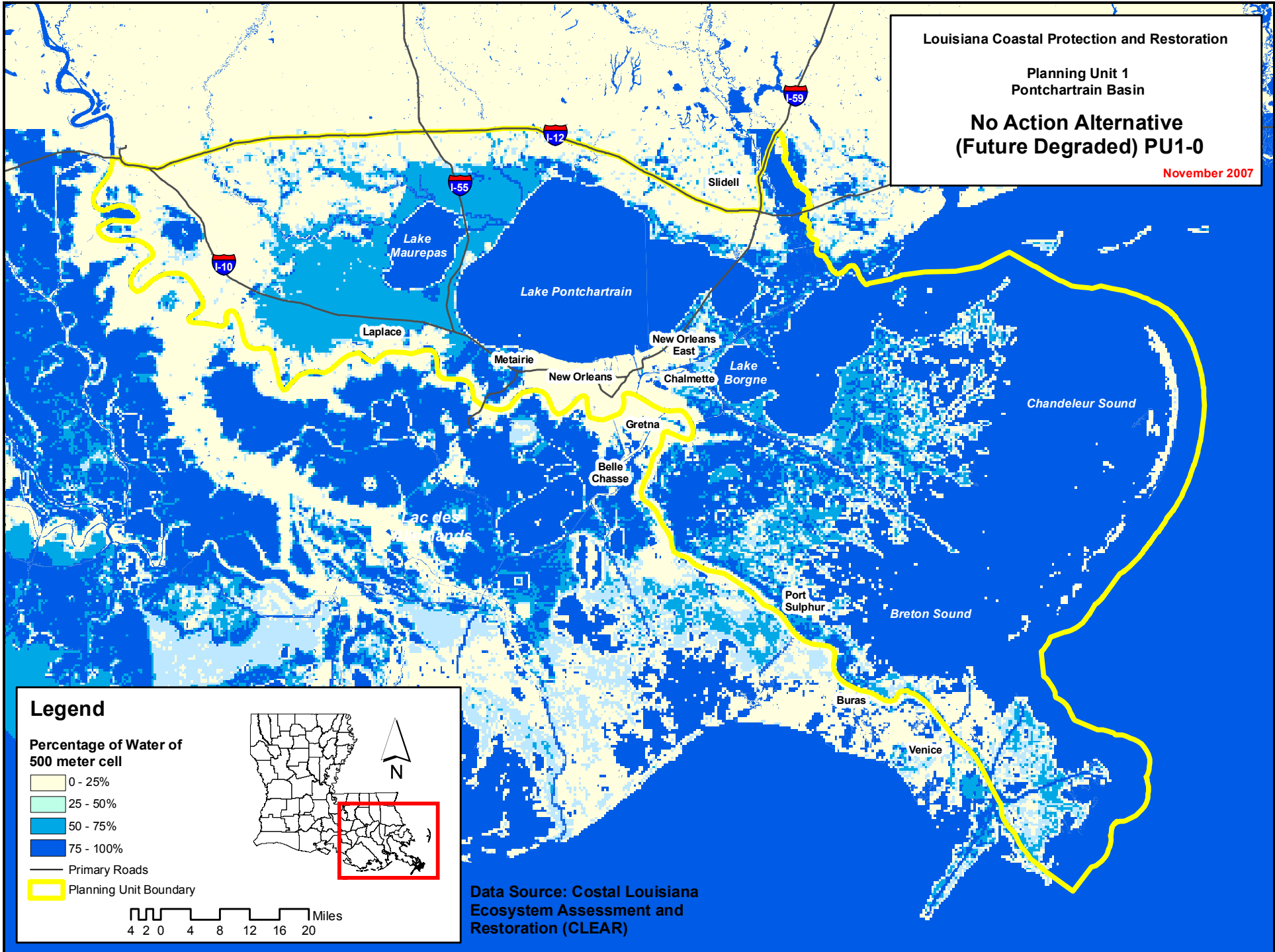
Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.

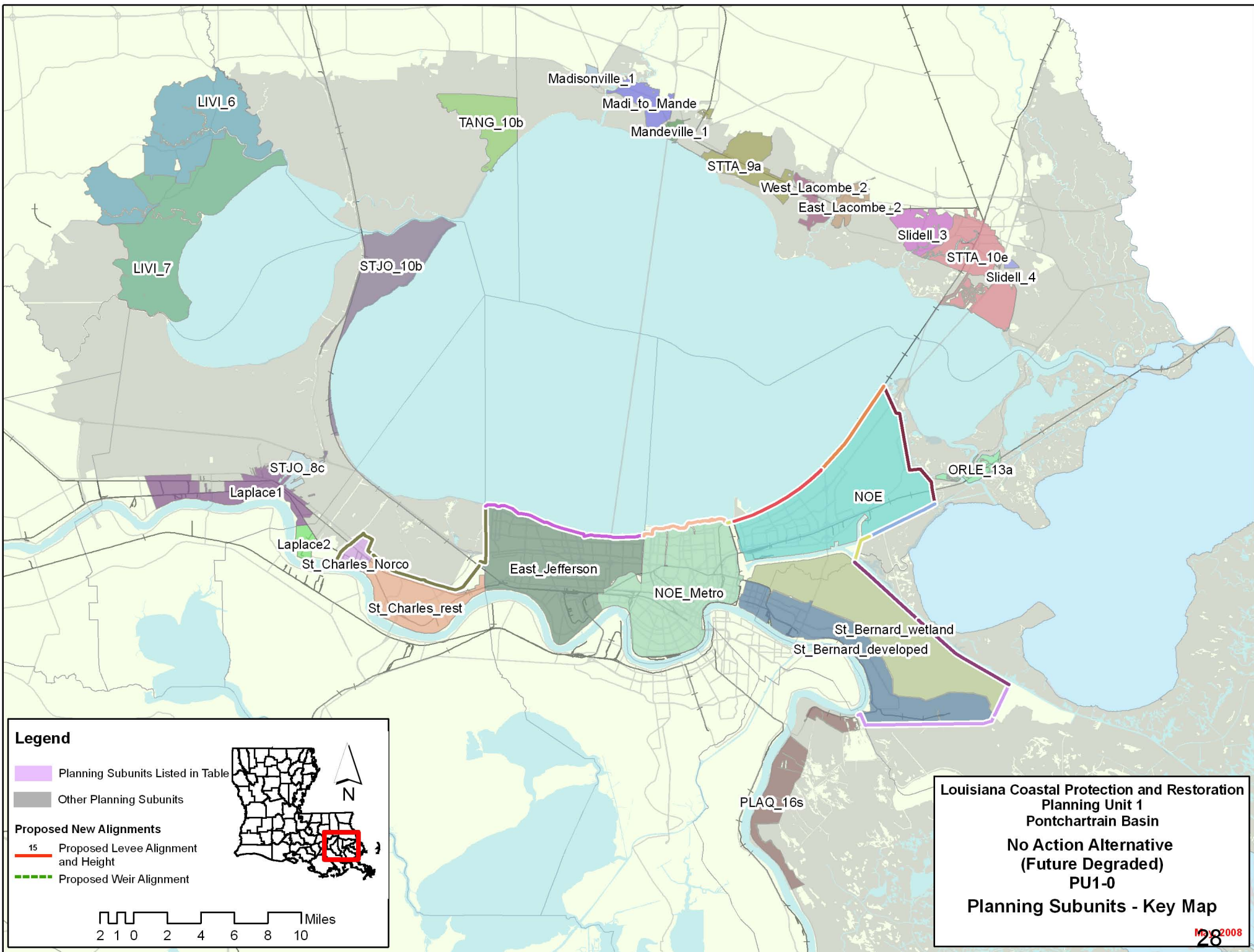
Louisiana Coastal Protection and Restoration

Planning Unit 1  
Pontchartrain Basin

No Action Alternative  
(Future Degraded) PU1-0

November 2007





**Alternative: PU1-0**  
**Water Surface Elevations** (feet - NAVD88 2004.65)

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1		-1.3		4.4		-2.6		16.0		16.0	
East_Lacombe_2	10.9		14.3		15.9		17.3		21.7		23.6	
Laplace1	9.4		12.2		14.0		12.4		15.0		16.8	
Laplace2	8.5		11.0		12.8		11.2		14.3		16.2	
LIVI_6	7.3		9.7		11.1		10.3		12.8		13.9	
LIVI_7	7.5		9.7		10.9		11.0		13.1		14.4	
Madi_to_Mande	11.0		13.1		14.3		13.8		16.7		18.3	
Madisonville_1	11.7		14.6		16.1		13.5		15.8		16.9	
Mandeville_1	11.0		13.1		14.3		14.9		19.1		21.4	
NOE	-5.8		0.5		10.9		-0.1		16.0		16.0	
NOE_Metro	-5.1		-4.8		-3.0		-5.0		16.0		16.0	
ORLE_13a	14.6		17.8		19.4		17.9		21.5		23.8	
PLAQ_16s	19.2		25.3		30.0		21.4		27.8		31.8	
Slidell_3	11.5		15.1		16.8		13.4		16.8		18.5	
Slidell_4	14.1		18.3		20.4		20.5		24.3		26.5	
St_Bernard_developed	-0.1		4.3		10.6		2.3		16.0		16.0	
St_Bernard_wetland	2.4		5.2		10.6		4.5		16.0		16.0	
St_Charles_Norco	4.4		16.0		16.0		11.5		17.3		18.6	
St_Charles_rest	2.1		16.0		16.0		11.5		17.3		18.6	
STJO_10b	10.6		12.9		14.1		13.3		15.6		16.7	
STJO_8c	9.4		12.2		14.0		12.7		15.4		17.2	
STTA_10e	12.2		16.2		18.2		13.3		16.7		18.6	
STTA_9a	10.4		12.7		14.0		13.2		15.6		17.5	
TANG_10b	11.0		13.6		15.0		13.7		16.3		17.8	
West_Lacombe_2	10.5		13.5		15.0		13.2		15.8		17.3	
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-R1	<b>Category:</b>	Coastal Restoration Only
<b>Alternative Description:</b>	Sustain coastal landscape through restoration including shoreline protection, marsh creation, and steady state diversions.				
<b>Coastal Component:</b>	R1 (steady state diversions)	<b>Nonstructural Component:</b>		None	
<b>Structural Component:</b>	No new levees or increases in risk reduction level for existing levees.				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv \$ Millions	Ann. Equiv. #	Ann. Equiv \$ Millions	Ann. Equiv \$ Millions	Ann. Equiv #	Ann. Equiv \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	484	37,016	423	278	1,443	74	313	134	51
		Mid		40,243	616	486	2,219	123	267	130	48
		Low		45,113	1,106	1,237	4,983	323	221	126	43
2	High RSLR High Employment Dispersed Population	High	496	38,180	483	428	1,847	111	313	134	51
		Mid		41,354	693	811	3,225	217	267	129	45
		Low		46,581	1,313	1,344	5,378	358	221	123	40
3	Low RSLR Business-as-Usual Compact Population	High	484	31,844	424	273	1,468	74	313	134	51
		Mid		34,923	614	441	2,189	116	267	130	48
		Low		39,623	1,075	981	4,536	275	221	126	43
4	High RSLR Business-as-Usual Compact Population	High	496	32,620	480	378	1,818	107	313	134	51
		Mid		35,729	677	648	2,955	189	267	129	45
		Low		40,585	1,210	1,072	4,876	305	221	123	40

Other Results		Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Construction Time (years)	15	After 50 yrs (% of baseline)		107	104	107	104
Direct Wetland Impacts (acres)	0	After 100 yrs (% of baseline)		105	96	105	96
Indirect Impacts (unitless)	0	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)	0.43	Coastal Component		9,476	9,710	9,476	9,710
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0
	1 / 2	3,317	3,398	Structural Component		0	0
	3 / 4	3,317	3,398	Total Project		9,476	9,710
				9,476	9,710	9,476	9,710

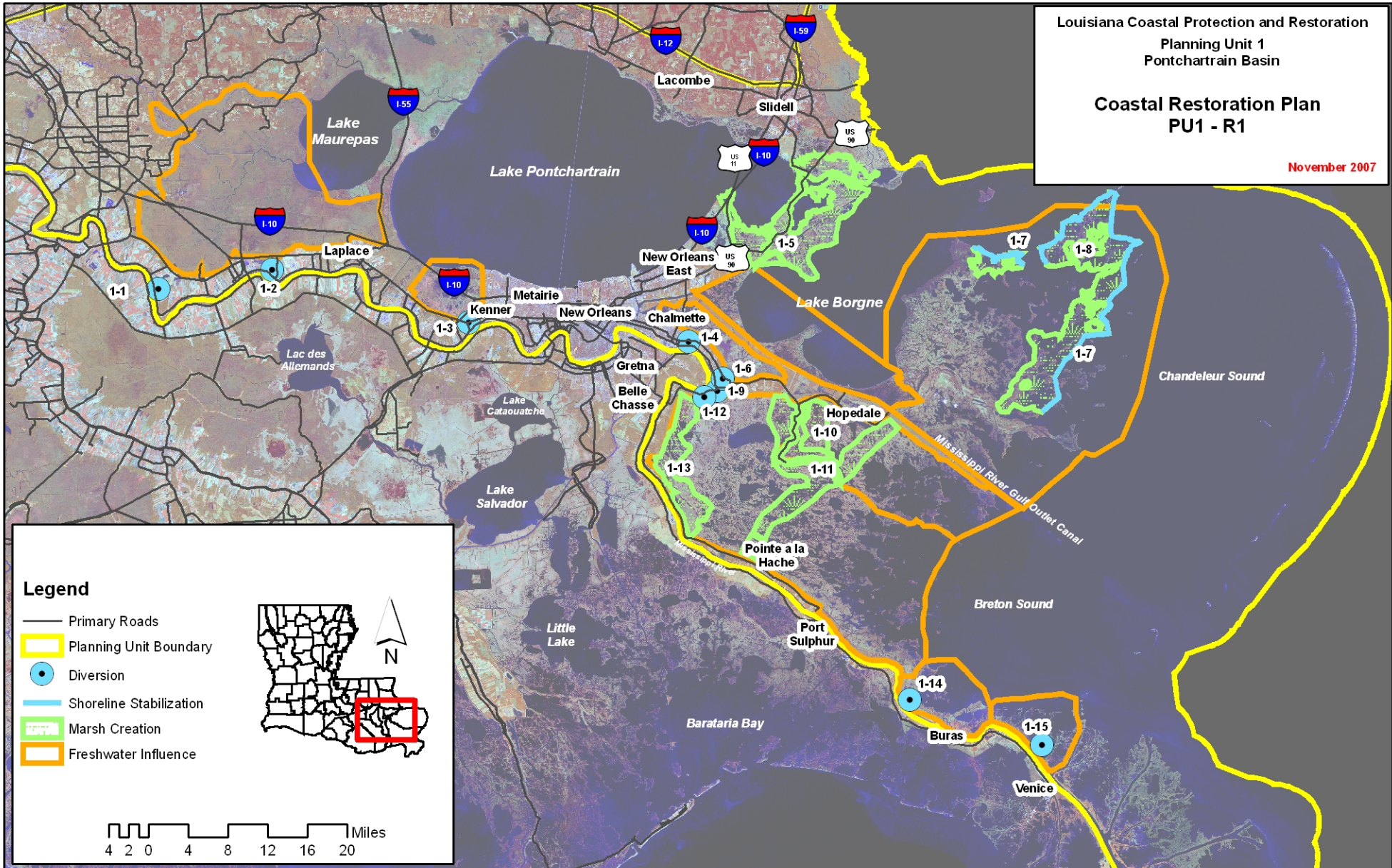
2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1  Coastal Plan  Coastal Restoration Alt
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	1,214	1,472	1,466	1,081	1,081	1,345	1,339	
100-year	11,935	5,957	34,000	12,291	9,879	5,946	26,076	9,992	
400-year	89,937	54,550	116,204	58,923	62,688	40,242	80,694	42,875	
1,000-year	118,260	78,763	122,423	82,448	81,963	56,290	84,515	58,415	
2,000-year	122,343	119,248	125,886	123,202	84,351	82,754	86,336	84,994	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin

**Coastal Restoration Plan  
 PU1 - R1**

November 2007



<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-R2	<b>Category:</b>	Coastal Restoration Only
<b>Alternative Description:</b>	Sustain coastal landscape through restoration including shoreline protection, marsh creation, and pulsed diversions.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>		None	
<b>Structural Component:</b>	No new levees or increases in risk reduction level for existing levees.				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	543	37,016	423	278	1,443	74	313	134	51
		Mid		40,243	616	486	2,219	123	267	130	48
		Low		45,113	1,106	1,237	4,983	323	221	126	43
2	High RSLR High Employment Dispersed Population	High	557	38,180	483	428	1,847	111	313	134	51
		Mid		41,354	693	811	3,225	217	267	129	45
		Low		46,581	1,313	1,344	5,378	358	221	123	40
3	Low RSLR Business-as-Usual Compact Population	High	543	31,844	424	273	1,468	74	313	134	51
		Mid		34,923	614	441	2,189	116	267	130	48
		Low		39,623	1,075	981	4,536	275	221	126	43
4	High RSLR Business-as-Usual Compact Population	High	557	32,620	480	378	1,818	107	313	134	51
		Mid		35,729	677	648	2,955	189	267	129	45
		Low		40,585	1,210	1,072	4,876	305	221	123	40

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			15	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			0	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			0	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0
	1 / 2	3,733	3,815	Structural Component		0	0	0	0
	3 / 4	3,733	3,815	Total Project		10,666	10,899	10,666	10,899

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Coastal Plan Coastal Restoration Alt
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	1,214	1,472	1,466	1,081	1,081	1,345	1,339	
100-year	11,935	5,957	34,000	12,291	9,879	5,946	26,076	9,992	
400-year	89,937	54,550	116,204	58,923	62,688	40,242	80,694	42,875	
1,000-year	118,260	78,763	122,423	82,448	81,963	56,290	84,515	58,415	
2,000-year	122,343	119,248	125,886	123,202	84,351	82,754	86,336	84,994	

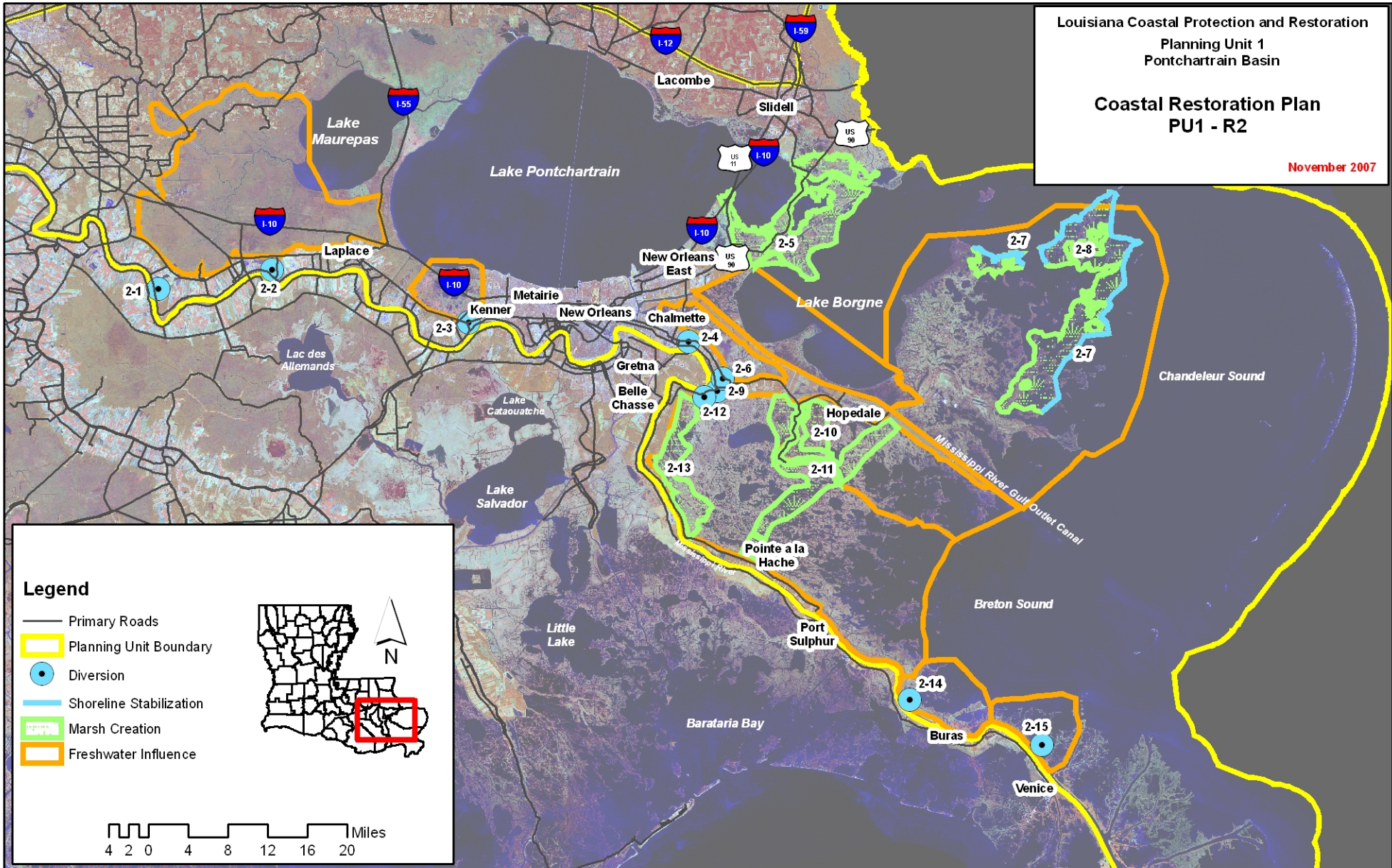
Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.



Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin

**Coastal Restoration Plan  
 PU1 - R2**

November 2007



<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-R3	<b>Category:</b>	Coastal Restoration Only
<b>Alternative Description:</b>	Sustain coastal landscape through restoration including shoreline protection, marsh creation, and diversions as proposed in the State Master Plan.				
<b>Coastal Component:</b>	R3 (state plan)	<b>Nonstructural Component:</b>	None		
<b>Structural Component:</b>	No new levees or increases in risk reduction level for existing levees.				

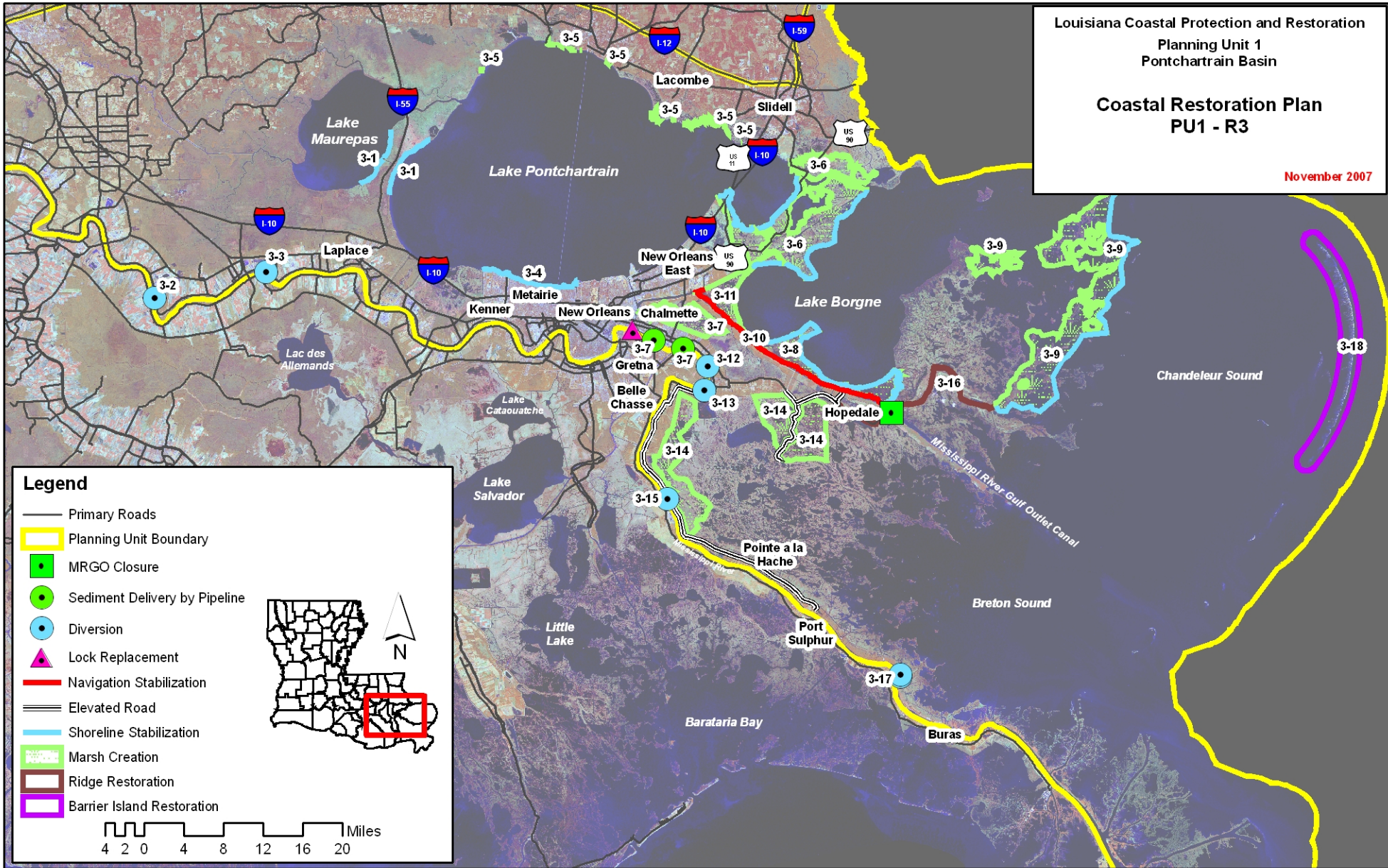
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv \$ Millions	Ann. Equiv. #	Ann. Equiv \$ Millions	Ann. Equiv \$ Millions	Ann. Equiv #	Ann. Equiv \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	777	37,016	423	278	1,443	74	313	134	51
		Mid		40,243	616	486	2,219	123	267	130	48
		Low		45,113	1,106	1,237	4,983	323	221	126	43
2	High RSLR High Employment Dispersed Population	High	798	38,180	483	428	1,847	111	313	134	51
		Mid		41,354	693	811	3,225	217	267	129	45
		Low		46,581	1,313	1,344	5,378	358	221	123	40
3	Low RSLR Business-as-Usual Compact Population	High	777	31,844	424	273	1,468	74	313	134	51
		Mid		34,923	614	441	2,189	116	267	130	48
		Low		39,623	1,075	981	4,536	275	221	126	43
4	High RSLR Business-as-Usual Compact Population	High	798	32,620	480	378	1,818	107	313	134	51
		Mid		35,729	677	648	2,955	189	267	129	45
		Low		40,585	1,210	1,072	4,876	305	221	123	40

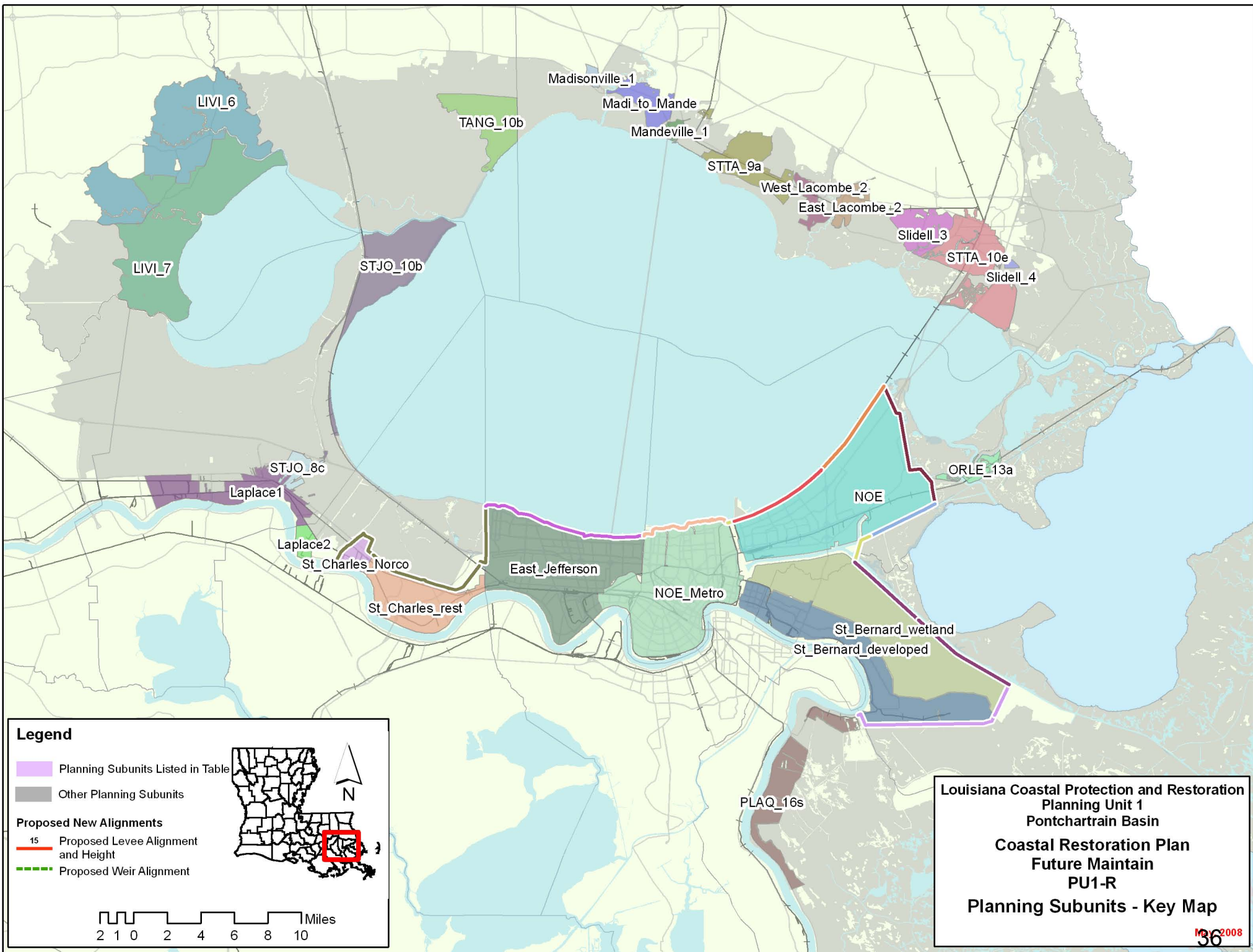
Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			15	After 50 yrs (% of baseline)		109	107	109	107
Direct Wetland Impacts (acres)			0	After 100 yrs (% of baseline)		101	94	101	94
Indirect Impacts (unitless)			0	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.44	Coastal Component		15,208	15,618	15,208	15,618
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0
	1 / 2	5,323	5,466	Structural Component		0	0	0	0
	3 / 4	5,323	5,466	Total Project		15,208	15,618	15,208	15,618

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1  Coastal Plan  Coastal Restoration Alt
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	1,214	1,472	1,466	1,081	1,081	1,345	1,339	
100-year	11,935	5,957	34,000	12,291	9,879	5,946	26,076	9,992	
400-year	89,937	54,550	116,204	58,923	62,688	40,242	80,694	42,875	
1,000-year	118,260	78,763	122,423	82,448	81,963	56,290	84,515	58,415	
2,000-year	122,343	119,248	125,886	123,202	84,351	82,754	86,336	84,994	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
 Coastal Restoration Plan  
 PU1 - R3  
 November 2007





LIVI\_6

LIVI\_7

STJO\_10b

Madisonville\_1

Madi\_to\_Mande

Mandeville\_1

TANG\_10b

STTA\_9a

West\_Lacombe\_2

East\_Lacombe\_2

Slidell\_3

STTA\_10e

Slidell\_4

STJO\_8c

Laplace1

Laplace2

St\_Charles\_Norco

St\_Charles\_rest

East\_Jefferson

NOE\_Metro

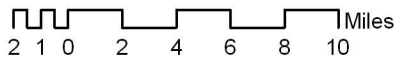
NOE

ORLE\_13a

St\_Bernard\_wetland

St\_Bernard\_developed

PLAQ\_16s



**Alternative: PU1-R1, R2, and R3**  
**Water Surface Elevations (feet - NAVD88 2004.65)**

Planning Sub Unit	2010 (Base) Conditions*						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.1	-1.3	-1.3	4.4	4.4	-2.6	-5.1	16.0	-1.3	16.0	4.4
East_Lacombe_2	10.9	10.9	14.3	14.3	15.9	15.9	17.3	13.5	21.7	16.9	23.6	18.5
Laplace1	9.4	9.4	12.2	12.2	14.0	14.0	12.4	12.0	15.0	14.8	16.8	16.6
Laplace2	8.5	8.5	11.0	11.0	12.8	12.8	11.2	11.1	14.3	13.6	16.2	15.4
LIVI_6	7.3	7.3	9.7	9.7	11.1	11.1	10.3	9.9	12.8	12.3	13.9	13.7
LIVI_7	7.5	7.5	9.7	9.7	10.9	10.9	11.0	10.1	13.1	12.3	14.4	13.5
Madi_to_Mande	11.0	11.0	13.1	13.1	14.3	14.3	13.8	13.6	16.7	15.7	18.3	16.9
Madisonville_1	11.7	11.7	14.6	14.6	16.1	16.1	13.5	13.5	15.8	15.8	16.9	16.9
Mandeville_1	11.0	11.0	13.1	13.1	14.3	14.3	14.9	13.6	19.1	15.7	21.4	16.9
NOE	-5.8	-5.8	0.5	0.5	10.9	10.9	-0.1	-5.8	16.0	0.5	16.0	10.9
NOE_Metro	-5.1	-5.1	-4.8	-4.8	-3.0	-3.0	-5.0	-5.1	16.0	-4.8	16.0	-3.0
ORLE_13a	14.6	14.6	17.8	17.8	19.4	19.4	17.9	17.2	21.5	20.4	23.8	22.0
PLAQ_16s	19.2	19.2	25.3	25.3	30.0	30.0	21.4	21.8	27.8	27.8	31.8	31.8
Slidell_3	11.5	11.5	15.1	15.1	16.8	16.8	13.4	13.4	16.8	16.8	18.5	18.5
Slidell_4	14.1	14.1	18.3	18.3	20.4	20.4	20.5	16.7	24.3	20.9	26.5	23.0
St_Bernard_developed	-0.1	-0.1	4.3	4.3	10.6	10.6	2.3	-0.1	16.0	4.3	16.0	10.6
St_Bernard_wetland	2.4	2.4	5.2	5.2	10.6	10.6	4.5	2.4	16.0	5.2	16.0	10.6
St_Charles_Norco	4.4	4.4	16.0	16.0	16.0	16.0	11.5	4.4	17.3	16.0	18.6	16.0
St_Charles_rest	2.1	2.1	16.0	16.0	16.0	16.0	11.5	2.1	17.3	16.0	18.6	16.0
STJO_10b	10.6	10.6	12.9	12.9	14.1	14.1	13.3	13.2	15.6	15.5	16.7	16.7
STJO_8c	9.4	9.4	12.2	12.2	14.0	14.0	12.7	12.0	15.4	12.0	17.2	16.6
STTA_10e	12.2	12.2	16.2	16.2	18.2	18.2	13.3	13.3	16.7	16.7	18.6	18.6
STTA_9a	10.4	10.4	12.7	12.7	14.0	14.0	13.2	13.0	15.6	15.3	17.5	16.6
TANG_10b	11.0	11.0	13.6	13.6	15.0	15.0	13.7	13.6	16.3	16.2	17.8	17.6
West_Lacombe_2	10.5	10.5	13.5	13.5	15.0	15.0	13.2	13.1	15.8	15.8	17.3	17.3
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

\* With and without project base conditions (2010) are the same for coastal restoration only plans.

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-NS-100	<b>Category:</b>	Coastal Restoration + Nonstructural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration. Implement comprehensive 100-year nonstructural measures.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>		100-yr stand alone measures	
<b>Structural Component:</b>	No new levees or increases in risk reduction level for existing levees.				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	873	32,289	204	79	542	21	313	134	51
		Mid		35,151	319	212	1,146	54	267	130	48
		Low		39,672	732	687	3,236	180	221	126	43
2	High RSLR High Employment Dispersed Population	High	885	32,854	222	164	750	42	313	134	51
		Mid		35,717	354	370	1,628	97	267	129	45
		Low		40,410	834	740	3,430	197	221	123	40
3	Low RSLR Business-as-Usual Compact Population	High	844	30,285	201	74	551	21	313	134	51
		Mid		33,272	317	195	1,187	53	267	130	48
		Low		37,927	724	607	3,186	169	221	126	43
4	High RSLR Business-as-Usual Compact Population	High	866	30,673	216	143	751	42	313	134	51
		Mid		33,684	346	326	1,636	95	267	129	45
		Low		38,414	803	651	3,351	183	221	123	40

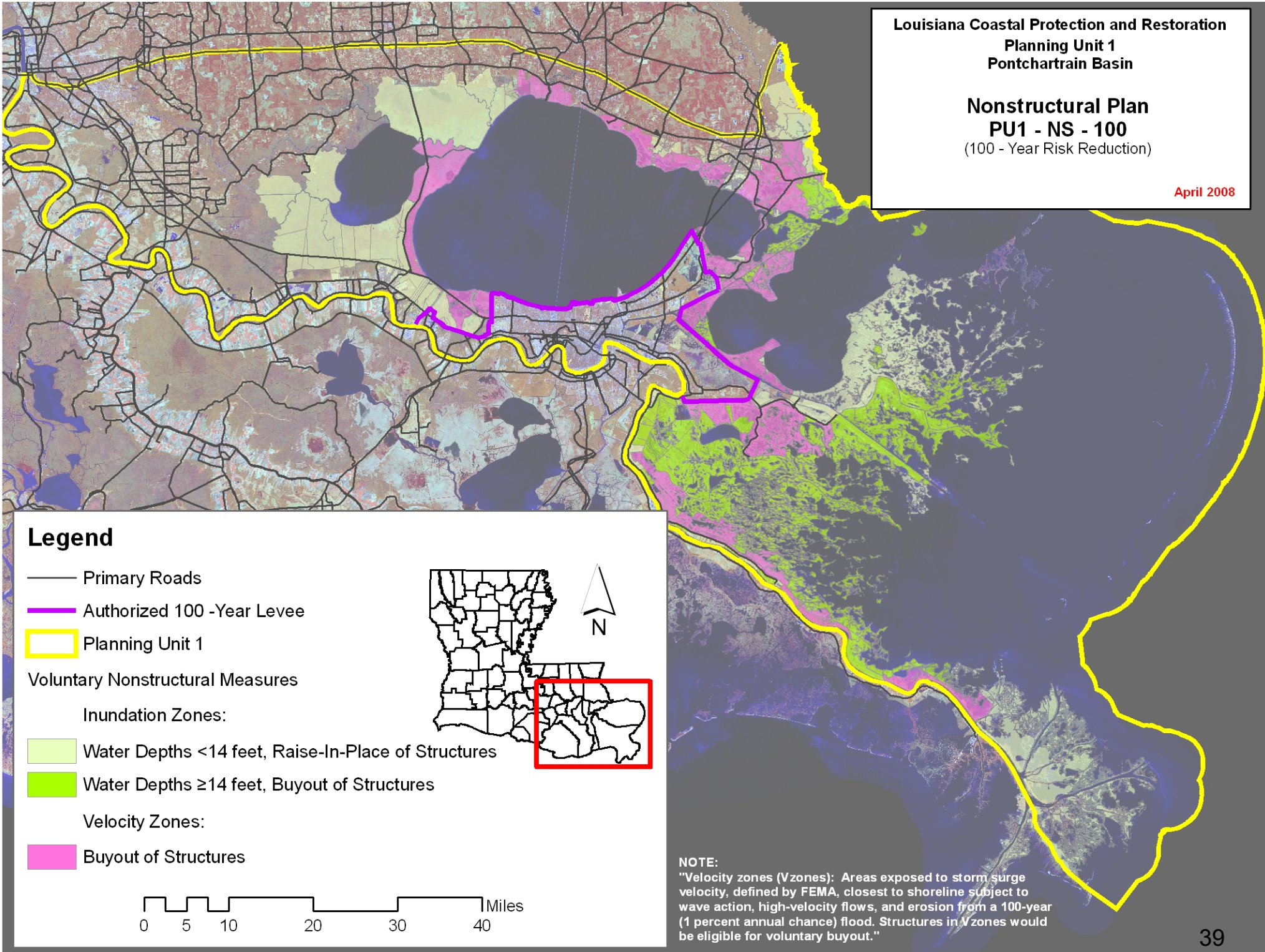
Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			15	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			0	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			0	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		6,453	6,453	6,069	6,069
	1 / 2	5,992	6,073	Structural Component		0	0	0	0
	3 / 4	5,857	5,939	Total Project		17,119	17,352	16,735	16,968

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1  Nonstructural Plan  100-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	490	1,472	529	1,081	372	1,345	399	
100-year	11,935	2,191	34,000	8,386	9,879	1,945	26,076	6,799	
400-year	89,937	50,601	116,204	55,036	62,688	37,766	80,694	40,722	
1,000-year	118,260	74,874	122,423	78,489	81,963	54,169	84,515	56,320	
2,000-year	122,343	115,364	125,886	119,181	84,351	80,708	86,336	82,932	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.

**Nonstructural Plan**  
**PU1 - NS - 100**  
(100 - Year Risk Reduction)

April 2008



**Legend**

- Primary Roads
- Authorized 100 -Year Levee
- Planning Unit 1

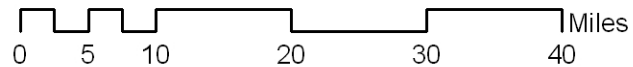
Voluntary Nonstructural Measures

Inundation Zones:

- Water Depths <14 feet, Raise-In-Place of Structures
- Water Depths ≥14 feet, Buyout of Structures

Velocity Zones:

- Buyout of Structures



**NOTE:**  
"Velocity zones (Vzones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in Vzones would be eligible for voluntary buyout."

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-NS-400	<b>Category:</b>	Coastal Restoration + Nonstructural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration. Implement comprehensive 400-year nonstructural measures.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>		400-yr stand alone measures	
<b>Structural Component:</b>	No new levees or increases in risk reduction level for existing levees.				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	1,761	31,188	167	45	413	13	313	134	51
		Mid		34,018	229	91	642	23	267	130	48
		Low		38,517	463	343	1,760	82	221	126	43
2	High RSLR High Employment Dispersed Population	High	1,773	31,753	169	48	421	13	313	134	51
		Mid		34,583	236	120	722	31	267	129	45
		Low		39,255	482	365	1,818	88	221	123	40
3	Low RSLR Business-as-Usual Compact Population	High	1,949	29,321	166	47	432	13	313	134	51
		Mid		32,274	232	96	692	25	267	130	48
		Low		36,904	466	341	1,810	81	221	126	43
4	High RSLR Business-as-Usual Compact Population	High	1,971	29,708	168	49	439	14	313	134	51
		Mid		32,685	238	122	759	32	267	129	45
		Low		37,391	480	359	1,855	86	221	123	40

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			15	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			0	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			0	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		23,873	23,873	27,758	27,758
	1 / 2	12,088	12,170	Structural Component		0	0	0	0
	3 / 4	13,448	13,530	Total Project		34,538	34,772	38,423	38,657

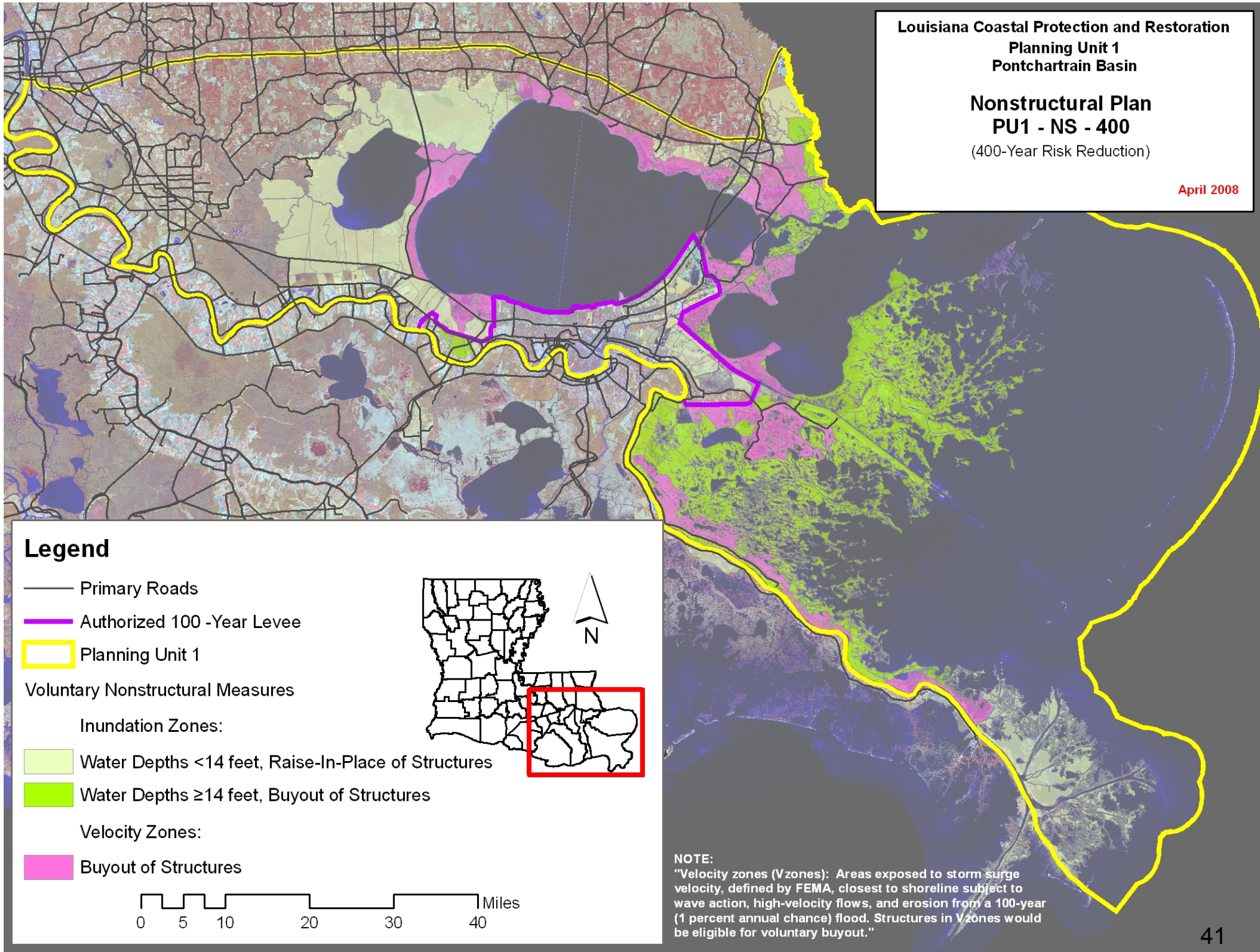
2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1  Nonstructural Plan  400-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	246	1,472	283	1,081	162	1,345	186	
100-year	11,935	804	34,000	1,219	9,879	657	26,076	987	
400-year	89,937	5,450	116,204	13,075	62,688	4,087	80,694	9,940	
1,000-year	118,260	61,995	122,423	67,873	81,963	44,770	84,515	48,444	
2,000-year	122,343	106,842	125,886	112,307	84,351	74,337	86,336	77,619	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.



**Nonstructural Plan  
PU1 - NS - 400**  
(400-Year Risk Reduction)

April 2008



<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-NS-1000	<b>Category:</b>	Coastal Restoration + Nonstructural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration. Implement comprehensive 1000-year nonstructural measures.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>		1000-yr stand alone measures	
<b>Structural Component:</b>	No new levees or increases in risk reduction level for existing levees.				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	2,535	25,999	151	44	411	13	313	134	51
		Mid		28,761	211	83	613	21	267	130	48
		Low		33,107	384	262	1,370	58	221	126	43
2	High RSLR High Employment Dispersed Population	High	2,547	26,564	153	44	411	13	313	134	51
		Mid		29,326	214	89	629	23	267	129	45
		Low		33,845	391	276	1,414	62	221	123	40
3	Low RSLR Business-as-Usual Compact Population	High	2,595	25,257	152	46	430	13	313	134	51
		Mid		28,162	217	89	664	23	267	130	48
		Low		32,686	395	271	1,436	60	221	126	43
4	High RSLR Business-as-Usual Compact Population	High	2,617	25,644	154	47	430	13	313	134	51
		Mid		28,574	219	94	677	24	267	129	45
		Low		33,173	401	282	1,469	63	221	123	40

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			15	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			0	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			0	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		39,066	39,066	40,442	40,442
	1 / 2	17,406	17,488	Structural Component		0	0	0	0
	3 / 4	17,888	17,969	Total Project		49,732	49,966	51,107	51,341

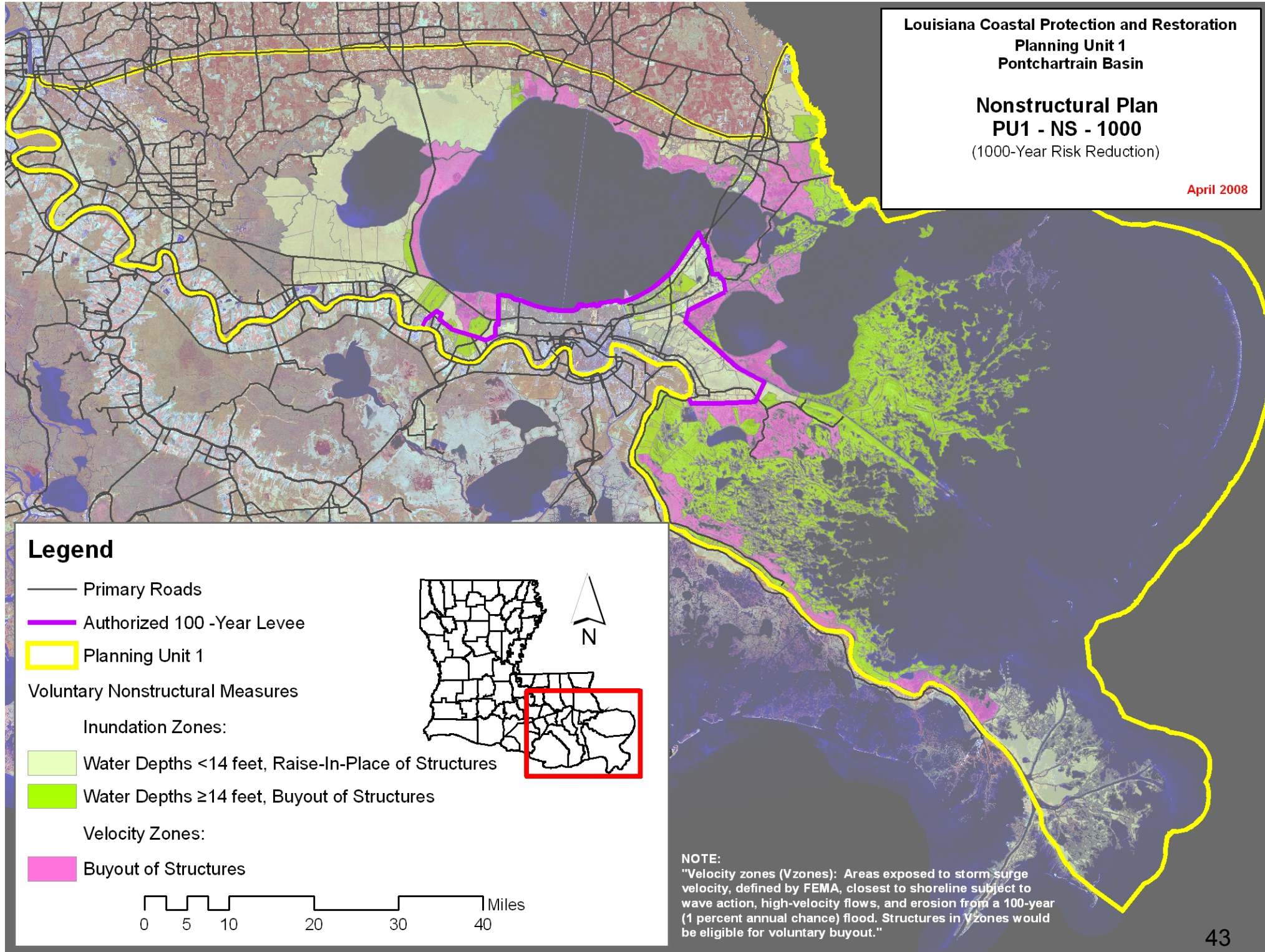
2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1  Nonstructural Plan  1000-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	139	1,472	175	1,081	90	1,345	114	
100-year	11,935	618	34,000	721	9,879	514	26,076	600	
400-year	89,937	2,090	116,204	3,188	62,688	1,761	80,694	2,579	
1,000-year	118,260	5,057	122,423	14,723	81,963	3,981	84,515	10,921	
2,000-year	122,343	89,283	125,886	97,921	84,351	63,811	86,336	69,581	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4.78% Federal discount rate. All dollar metrics are based on 2007 price levels.

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin

Nonstructural Plan  
 PU1 - NS - 1000  
 (1000-Year Risk Reduction)

April 2008



**Legend**

- Primary Roads
- Authorized 100 -Year Levee
- Planning Unit 1

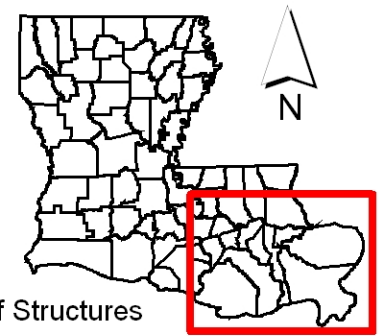
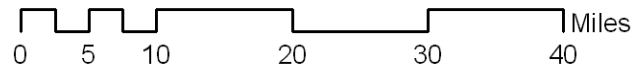
Voluntary Nonstructural Measures

Inundation Zones:

- Water Depths <14 feet, Raise-In-Place of Structures
- Water Depths ≥14 feet, Buyout of Structures

Velocity Zones:

- Buyout of Structures



**NOTE:**  
 "Velocity zones (Vzones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in Vzones would be eligible for voluntary buyout."

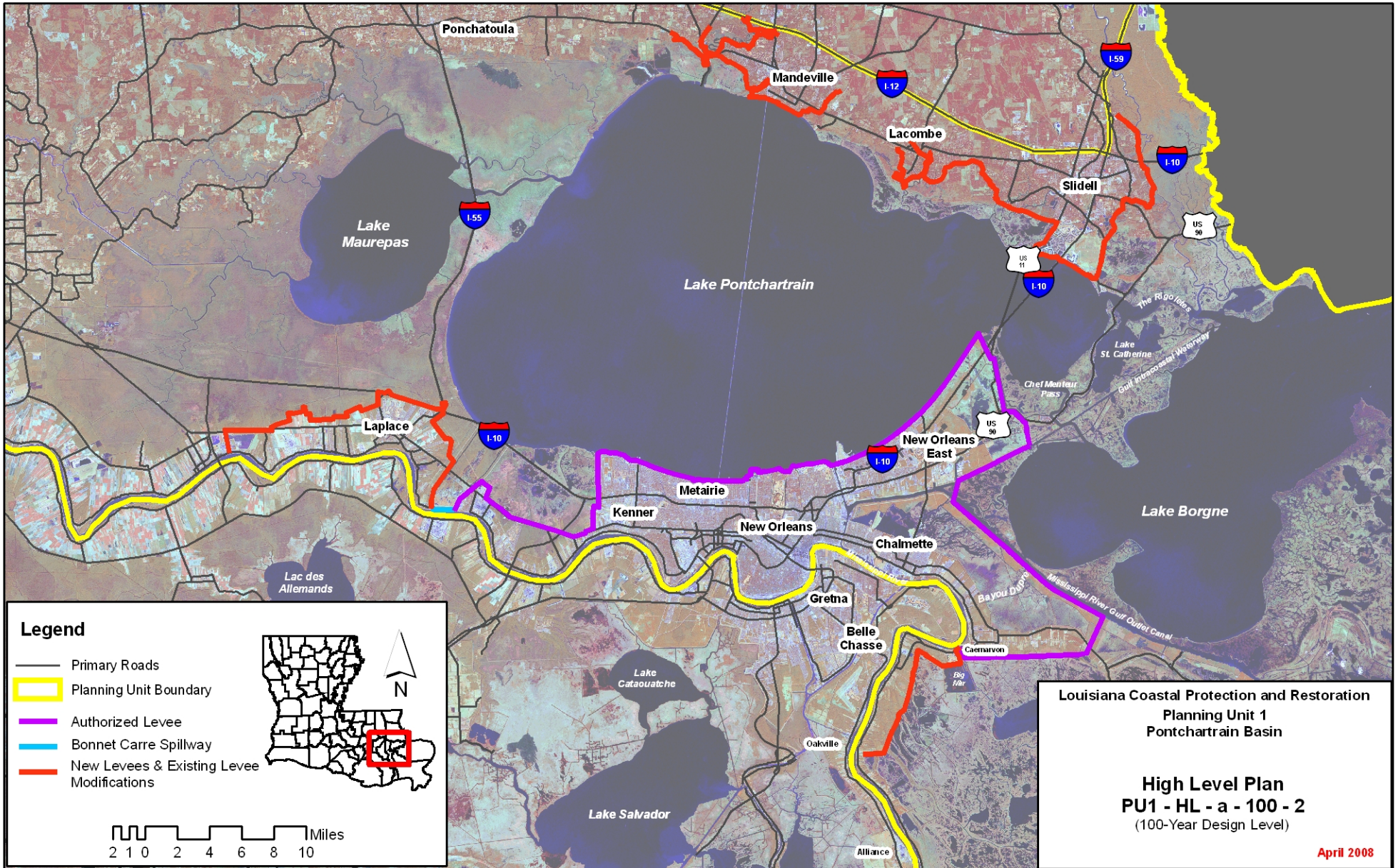
<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-HL-a-100-2	<b>Category:</b>	Coastal Restoration + Structural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration and construct high level plan providing 100-year design level of risk reduction to Northshore of Lake Pontchartrain, upper Plaquemines, and Laplace.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>		None	
<b>Structural Component:</b>	See alternative description above.				

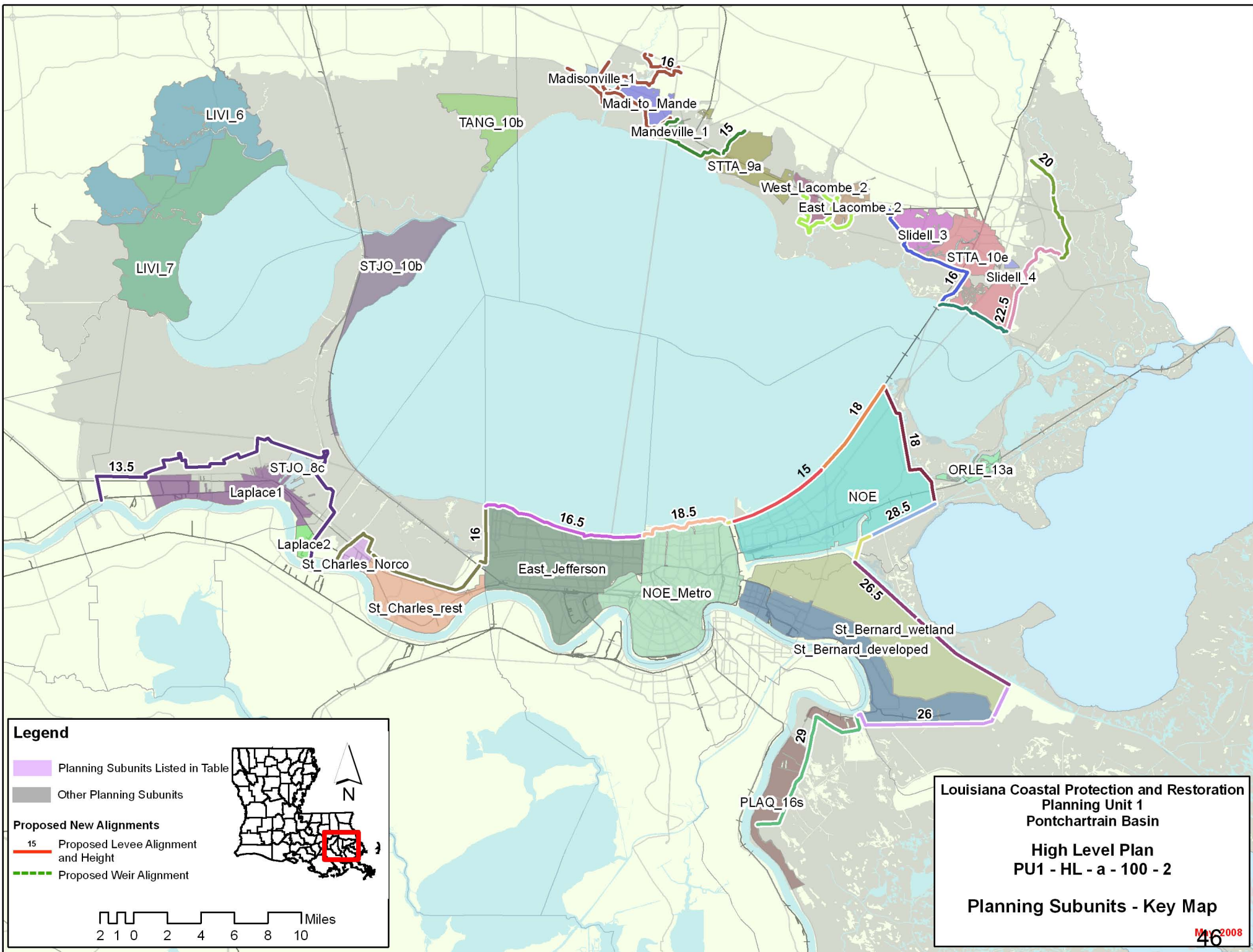
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	1,525	31,894	318	164	1,085	46	342	141	51
		Mid		34,647	468	368	1,823	94	312	138	50
		Low		39,955	950	890	4,019	234	282	132	43
2	High RSLR High Employment Dispersed Population	High	1,540	32,301	339	327	1,265	62	342	138	51
		Mid		35,358	516	484	2,141	124	312	135	49
		Low		40,911	1,106	1,176	4,810	309	282	129	41
3	Low RSLR Business-as-Usual Compact Population	High	1,525	27,886	311	161	1,089	45	342	141	51
		Mid		30,543	455	317	1,738	83	312	138	50
		Low		35,503	905	721	3,683	194	282	132	43
4	High RSLR Business-as-Usual Compact Population	High	1,540	28,107	327	188	1,175	53	342	138	51
		Mid		31,025	488	362	1,883	96	312	135	49
		Low		36,126	1,002	965	4,300	254	282	129	41

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			12	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			4,200	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-2	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0
	1 / 2	10,764	10,865	Structural Component		19,194	19,251	19,194	19,251
	3 / 4	10,764	10,865	Total Project		29,860	30,150	29,860	30,150

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Structural Plan High Level Alt 100-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	960	1,472	1,039	1,081	823	1,345	901	
100-year	11,935	2,156	34,000	3,965	9,879	1,879	26,076	2,254	
400-year	89,937	52,133	116,204	52,965	62,688	39,023	80,694	39,216	
1,000-year	118,260	72,433	122,423	73,856	81,963	52,486	84,515	52,963	
2,000-year	122,343	116,819	125,886	118,268	84,351	81,010	86,336	81,444	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4.78% Federal discount rate. All dollar metrics are based on 2007 price levels.





**Legend**

- Planning Subunits Listed in Table
- Other Planning Subunits

**Proposed New Alignments**

- 15 Proposed Levee Alignment and Height
- Proposed Weir Alignment

N

Miles

**Louisiana Coastal Protection and Restoration**  
**Planning Unit 1**  
**Pontchartrain Basin**  
  
**High Level Plan**  
**PU1 - HL - a - 100 - 2**  
  
**Planning Subunits - Key Map**

**46**

**Alternative: PU1-HL-a-100-2**  
**Water Surface Elevations (feet - NAVD88 2004.65)**

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.1	-1.3	-1.3	4.4	4.4	-2.6	-5.1	16.0	-1.3	16.0	4.4
East_Lacombe_2	10.9	5.2	14.3	15.0	15.9	15.0	17.3	5.2	21.7	15.0	23.6	15.0
Laplace1	9.4	4.4	12.2	13.5	14.0	14.0	12.4	4.4	15.0	13.5	16.8	14.0
Laplace2	8.5	4.4	11.0	13.5	12.8	13.5	11.2	4.4	14.3	13.5	16.2	13.5
LIVI_6	7.3	7.3	9.7	9.7	11.1	11.1	10.3	9.9	12.8	12.3	13.9	13.7
LIVI_7	7.5	7.5	9.7	9.7	10.9	10.9	11.0	10.1	13.1	12.3	14.4	13.5
Madi_to_Mande	11.0	5.9	13.1	13.1	14.3	16.0	13.8	5.9	16.7	13.1	18.3	16.0
Madisonville_1	11.7	6.4	14.6	16.0	16.1	16.0	13.5	6.4	15.8	16.0	16.9	16.0
Mandeville_1	11.0	6.8	13.1	15.0	14.3	15.0	14.9	6.8	19.1	15.0	21.4	15.0
NOE	-5.8	-5.8	0.5	0.5	10.9	10.9	-0.1	-5.8	16.0	0.5	16.0	10.9
NOE_Metro	-5.1	-5.1	-4.8	-4.8	-3.0	-3.0	-5.0	-5.1	16.0	-4.8	16.0	-3.0
ORLE_13a	14.6	14.6	17.8	17.8	19.4	19.4	17.9	17.2	21.5	20.4	23.8	22.0
PLAQ_16s	19.2	0.4	25.3	11.3	30.0	18.0	21.4	0.4	27.8	11.3	31.8	18.0
Slidell_3	11.5	4.6	15.1	16.5	16.8	16.5	13.4	4.6	16.8	16.5	18.5	16.5
Slidell_4	14.1	6.2	18.3	16.5	20.4	16.5	20.5	6.2	24.3	16.5	26.5	16.5
St_Bernard_developed	-0.1	-0.1	4.3	4.3	10.6	10.6	2.3	-0.1	16.0	4.3	16.0	10.6
St_Bernard_wetland	2.4	2.4	5.2	5.2	10.6	10.6	4.5	2.4	16.0	5.2	16.0	10.6
St_Charles_Norco	4.4	4.4	16.0	16.0	16.0	16.0	11.5	4.4	17.3	16.0	18.6	16.0
St_Charles_rest	2.1	2.1	16.0	16.0	16.0	16.0	11.5	2.1	17.3	16.0	18.6	16.0
STJO_10b	10.6	10.6	12.9	12.9	14.1	14.1	13.3	13.2	15.6	15.5	16.7	16.7
STJO_8c	9.4	4.4	12.2	13.5	14.0	14.0	12.7	4.4	15.4	13.5	17.2	14.0
STTA_10e	12.2	4.6	16.2	16.5	18.2	16.5	13.3	4.6	16.7	16.5	18.6	16.5
STTA_9a	10.4	10.4	12.7	12.7	14.0	14.0	13.2	13.0	15.6	15.3	17.5	16.6
TANG_10b	11.0	11.0	13.6	13.6	15.0	15.0	13.7	13.6	16.3	16.2	17.8	17.6
West_Lacombe_2	10.5	4.1	13.5	15.0	15.0	15.0	13.2	4.1	15.8	15.0	17.3	15.0
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-HL-a-100-3	<b>Category:</b>	Coastal Restoration + Structural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration and construct high level plan providing 100-year design level of risk reduction to Laplace, upper Plaquemines, and Slidell.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>		None	
<b>Structural Component:</b>	See alternative description above.				

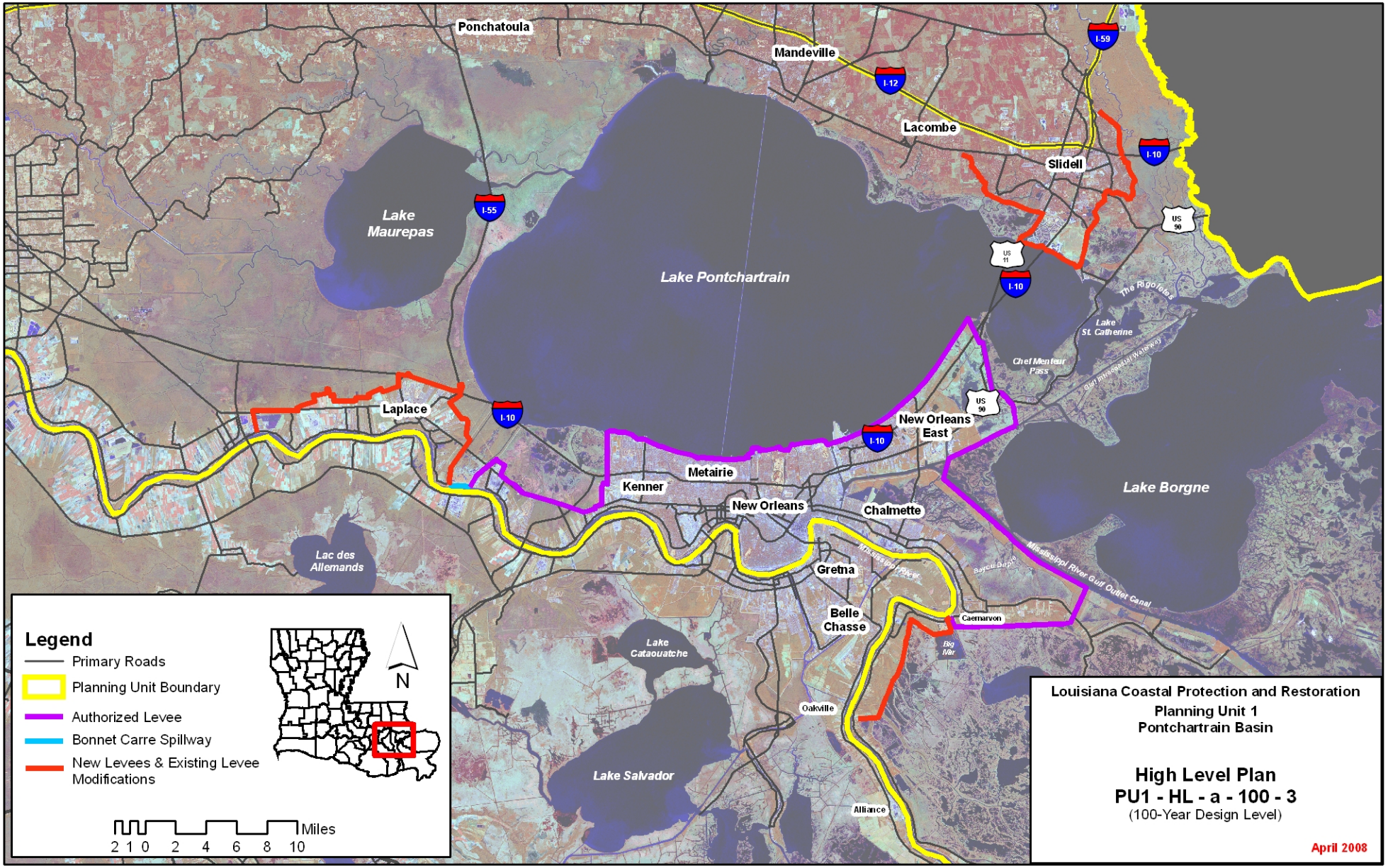
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	1,356	32,157	326	169	1,101	47	335	137	51
		Mid		35,012	479	375	1,853	96	305	133	50
		Low		40,309	961	902	4,058	237	275	126	43
2	High RSLR High Employment Dispersed Population	High	1,370	32,670	349	250	1,306	66	335	134	51
		Mid		35,824	531	503	2,201	129	305	128	48
		Low		41,369	1,125	1,198	4,884	315	275	124	40
3	Low RSLR Business-as-Usual Compact Population	High	1,356	28,051	320	165	1,106	46	335	137	51
		Mid		30,784	467	324	1,761	85	305	133	50
		Low		35,750	917	729	3,704	195	275	126	43
4	High RSLR Business-as-Usual Compact Population	High	1,370	28,342	337	197	1,204	55	335	134	51
		Mid		31,336	502	377	1,937	101	305	128	48
		Low		36,442	1,018	983	4,360	259	275	124	40

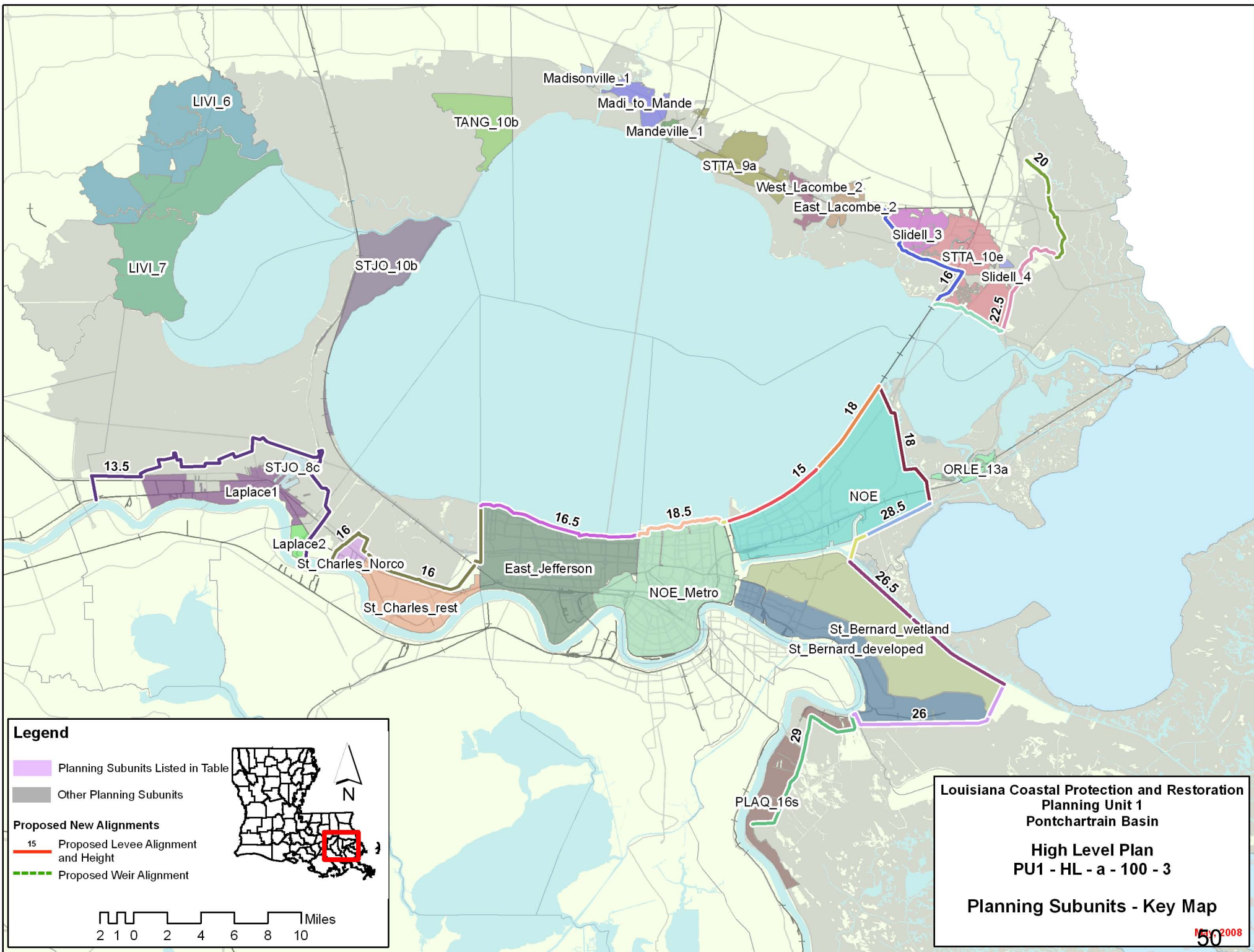
Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			12	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			3,600	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-1	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0
	1 / 2	9,515	9,608	Structural Component		15,893	15,928	15,893	15,928
	3 / 4	9,515	9,608	Total Project		26,559	26,827	26,559	26,827

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Structural Plan High Level Alt 100-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	1,011	1,472	1,120	1,081	873	1,345	981	
100-year	11,935	2,398	34,000	4,571	9,879	2,116	26,076	2,717	
400-year	89,937	52,213	116,204	53,587	62,688	39,049	80,694	39,536	
1,000-year	118,260	72,825	122,423	75,020	81,963	52,668	84,515	53,491	
2,000-year	122,343	117,664	125,886	120,372	84,351	81,362	86,336	82,565	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.







**Legend**

- Planning Subunits Listed in Table
- Other Planning Subunits

**Proposed New Alignments**

- 15 Proposed Levee Alignment and Height
- Proposed Weir Alignment

N

Miles

**Louisiana Coastal Protection and Restoration  
Planning Unit 1  
Pontchartrain Basin**

**High Level Plan  
PU1 - HL - a - 100 - 3**

**Planning Subunits - Key Map**

May 2008

**Alternative: PU1-HL-a-100-3**  
**Water Surface Elevations (feet - NAVD88 2004.65)**

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.1	-1.3	-1.3	4.4	4.4	-2.6	-5.1	16.0	-1.3	16.0	4.4
East_Lacombe_2	10.9	10.9	14.3	14.3	15.9	15.9	17.3	13.5	21.7	16.9	23.6	18.5
Laplace1	9.4	4.4	12.2	13.5	14.0	14.0	12.4	4.4	15.0	13.5	16.8	14.0
Laplace2	8.5	4.4	11.0	13.5	12.8	13.5	11.2	4.4	14.3	13.5	16.2	13.5
LIVI_6	7.3	7.3	9.7	9.7	11.1	11.1	10.3	9.9	12.8	12.3	13.9	13.7
LIVI_7	7.5	7.5	9.7	9.7	10.9	10.9	11.0	10.1	13.1	12.3	14.4	13.5
Madi_to_Mande	11.0	11.0	13.1	13.1	14.3	14.3	13.8	13.6	16.7	15.7	18.3	16.9
Madisonville_1	11.7	11.7	14.6	14.6	16.1	16.1	13.5	14.3	15.8	17.2	16.9	18.7
Mandeville_1	11.0	11.0	13.1	13.1	14.3	14.3	14.9	13.6	19.1	15.7	21.4	16.9
NOE	-5.8	-5.8	0.5	0.5	10.9	10.9	-0.1	-5.8	16.0	0.5	16.0	10.9
NOE_Metro	-5.1	-5.1	-4.8	-4.8	-3.0	-3.0	-5.0	-5.1	16.0	-4.8	16.0	-3.0
ORLE_13a	14.6	14.6	17.8	17.8	19.4	19.4	17.9	17.2	21.5	20.4	23.8	22.0
PLAQ_16s	19.2	0.4	25.3	11.3	30.0	18.0	21.4	0.4	27.8	11.3	31.8	18.0
Slidell_3	11.5	4.6	15.1	16.5	16.8	16.5	13.4	4.6	16.8	16.5	18.5	16.5
Slidell_4	14.1	6.2	18.3	16.5	20.4	16.5	20.5	6.2	24.3	16.5	26.5	16.5
St_Bernard_developed	-0.1	-0.1	4.3	4.3	10.6	10.6	2.3	-0.1	16.0	4.3	16.0	10.6
St_Bernard_wetland	2.4	2.4	5.2	5.2	10.6	10.6	4.5	2.4	16.0	5.2	16.0	10.6
St_Charles_Norco	4.4	4.4	16.0	16.0	16.0	16.0	11.5	4.4	17.3	16.0	18.6	16.0
St_Charles_rest	2.1	2.1	16.0	16.0	16.0	16.0	11.5	2.1	17.3	16.0	18.6	16.0
STJO_10b	10.6	10.6	12.9	12.9	14.1	14.1	13.3	13.2	15.6	15.5	16.7	16.7
STJO_8c	9.4	4.4	12.2	13.5	14.0	14.0	12.7	4.4	15.4	13.5	17.2	14.0
STTA_10e	12.2	4.6	16.2	16.5	18.2	16.5	13.3	4.6	16.7	16.5	18.6	16.5
STTA_9a	10.4	10.4	12.7	12.7	14.0	14.0	13.2	13.0	15.6	15.3	17.5	16.6
TANG_10b	11.0	11.0	13.6	13.6	15.0	15.0	13.7	13.6	16.3	16.2	17.8	17.6
West_Lacombe_2	10.5	10.5	13.5	13.5	15.0	15.0	13.2	13.1	15.8	16.1	17.3	17.6
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

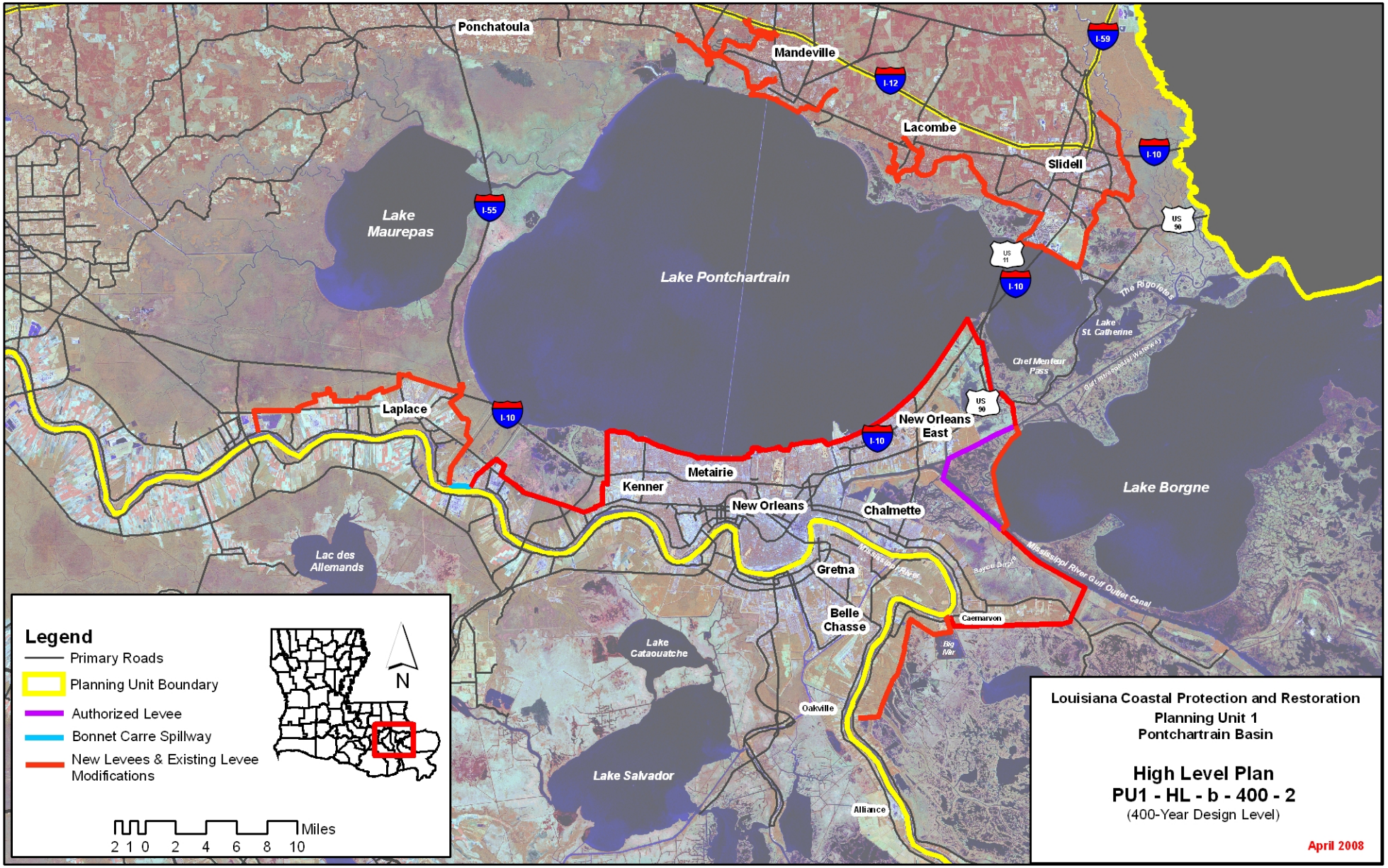
<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-HL-b-400-2	<b>Category:</b>	Coastal Restoration + Structural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration and construct high level plan providing 400-year design level of risk reduction to the Northshore and Southshore of Lake Pontchartrain, upper Plaquemines, Laplace and Slidell.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>		None	
<b>Structural Component:</b>	See alternative description above.				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	3,076	32,301	336	176	1,139	49	344	158	52
		Mid		34,414	470	363	1,797	94	314	153	51
		Low		38,544	797	715	3,261	186	284	148	50
2	High RSLR High Employment Dispersed Population	High	3,100	32,792	361	261	1,355	69	344	158	51
		Mid		35,400	533	506	2,193	130	314	150	49
		Low		39,851	1,005	1,138	4,430	298	284	142	46
3	Low RSLR Business-as-Usual Compact Population	High	3,076	28,540	330	173	1,150	48	344	158	52
		Mid		30,596	459	310	1,718	83	314	153	51
		Low		34,436	763	551	2,925	149	284	148	50
4	High RSLR Business-as-Usual Compact Population	High	3,100	28,823	350	211	1,271	60	344	158	51
		Mid		31,293	504	371	1,919	101	314	150	49
		Low		35,325	901	911	3,837	238	284	142	46

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			16	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			6,000	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-2	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0
	1 / 2	21,509	21,675	Structural Component		49,569	49,808	49,569	49,808
	3 / 4	21,509	21,675	Total Project		60,234	60,707	60,234	60,707

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Structural Plan High Level Alt 400-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	958	1,472	1,038	1,081	822	1,345	899	
100-year	11,935	1,952	34,000	3,761	9,879	1,695	26,076	2,070	
400-year	89,937	5,474	116,204	6,306	62,688	2,591	80,694	2,784	
1,000-year	118,260	9,482	122,423	10,904	81,963	5,397	84,515	5,875	
2,000-year	122,343	26,064	125,886	27,513	84,351	17,818	86,336	18,252	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.



**Legend**

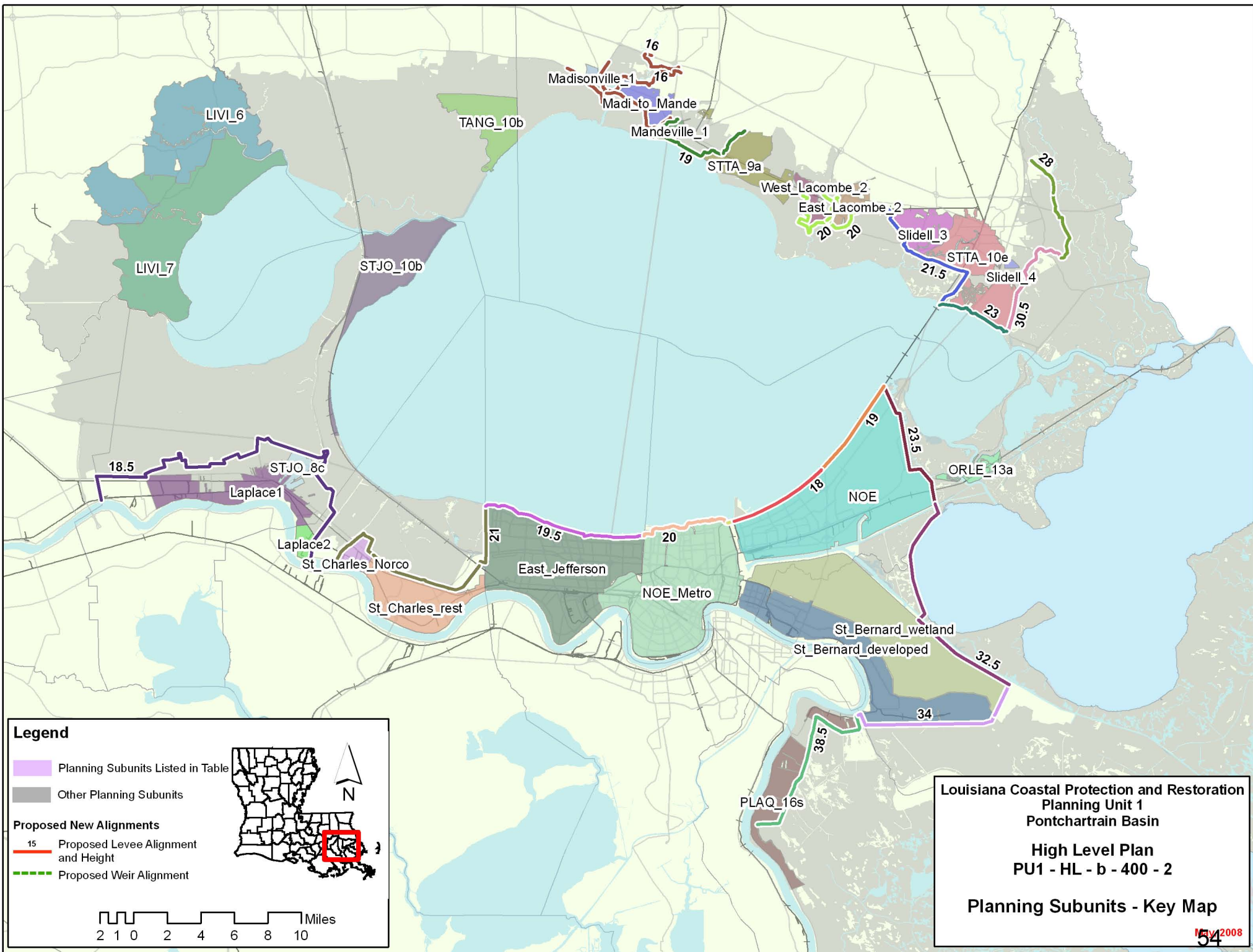
- Primary Roads
- ▭ Planning Unit Boundary
- ▭ Authorized Levee
- ▭ Bonnet Carre Spillway
- ▭ New Levees & Existing Levee Modifications

Miles  
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Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin

**High Level Plan**  
**PU1 - HL - b - 400 - 2**  
 (400-Year Design Level)

April 2008



**Alternative: PU1-HL-b-400-2**  
**Water Surface Elevations (feet - NAVD88 2004.65)**

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.2	-1.3	-5.0	4.4	-4.4	-2.6	-5.2	16.0	-5.0	16.0	-4.4
East_Lacombe_2	10.9	4.7	14.3	5.2	15.9	6.9	17.3	4.7	21.7	5.2	23.6	6.9
Laplace1	9.4	4.1	12.2	4.5	14.0	7.8	12.4	4.1	15.0	4.5	16.8	7.8
Laplace2	8.5	4.1	11.0	4.5	12.8	7.8	11.2	4.1	14.3	4.5	16.2	7.8
LIVI_6	7.3	7.3	9.7	9.7	11.1	11.1	10.3	9.9	12.8	12.3	13.9	13.7
LIVI_7	7.5	7.5	9.7	9.7	10.9	10.9	11.0	10.1	13.1	12.3	14.4	13.5
Madi_to_Mande	11.0	5.3	13.1	5.9	14.3	7.5	13.8	5.3	16.7	5.9	18.3	7.5
Madisonville_1	11.7	5.6	14.6	6.5	16.1	8.8	13.5	5.6	15.8	6.5	16.9	8.8
Mandeville_1	11.0	5.9	13.1	6.8	14.3	9.4	14.9	5.9	19.1	6.8	21.4	9.4
NOE	-5.8	-6.0	0.5	-5.9	10.9	-5.1	-0.1	-6.0	16.0	-5.9	16.0	-5.1
NOE_Metro	-5.1	-5.2	-4.8	-5.0	-3.0	-4.2	-5.0	-5.2	16.0	-5.0	16.0	-4.2
ORLE_13a	14.6	14.6	17.8	17.8	19.4	19.4	17.9	17.2	21.5	20.4	23.8	22.0
PLAQ_16s	19.2	-0.1	25.3	0.4	30.0	2.0	21.4	-0.1	27.8	0.4	31.8	2.0
Slidell_3	11.5	4.3	15.1	4.6	16.8	5.9	13.4	4.3	16.8	4.6	18.5	5.9
Slidell_4	14.1	6.2	18.3	6.2	20.4	6.2	20.5	6.2	24.3	6.2	26.5	6.2
St_Bernard_developed	-0.1	-0.4	4.3	-0.1	10.6	0.8	2.3	-0.4	16.0	-0.1	16.0	0.8
St_Bernard_wetland	2.4	1.7	5.2	1.8	10.6	2.2	4.5	1.7	16.0	1.8	16.0	2.2
St_Charles_Norco	4.4	3.4	16.0	4.5	16.0	4.5	11.5	3.4	17.3	4.5	18.6	4.5
St_Charles_rest	2.1	1.9	16.0	2.1	16.0	4.2	11.5	1.9	17.3	2.1	18.6	4.2
STJO_10b	10.6	10.6	12.9	12.9	14.1	14.1	13.3	13.2	15.6	15.5	16.7	16.7
STJO_8c	9.4	4.1	12.2	4.5	14.0	7.8	12.7	4.1	15.4	4.5	17.2	7.8
STTA_10e	12.2	4.3	16.2	4.6	18.2	5.9	13.3	4.3	16.7	4.6	18.6	5.9
STTA_9a	10.4	10.4	12.7	12.7	14.0	14.0	13.2	13.0	15.6	15.3	17.5	16.6
TANG_10b	11.0	11.0	13.6	13.6	15.0	15.0	13.7	13.6	16.3	16.2	17.8	17.6
West_Lacombe_2	10.5	3.6	13.5	4.1	15.0	5.9	13.2	3.6	15.8	4.1	17.3	5.9
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-HL-b-400-3	<b>Category:</b>	Coastal Restoration + Structural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration and construct high level plan providing 400-year design level of risk reduction to Southshore of Lake Pontchartrain, upper Plaquemines, Laplace and Slidell.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>		None	
<b>Structural Component:</b>	See alternative description above.				

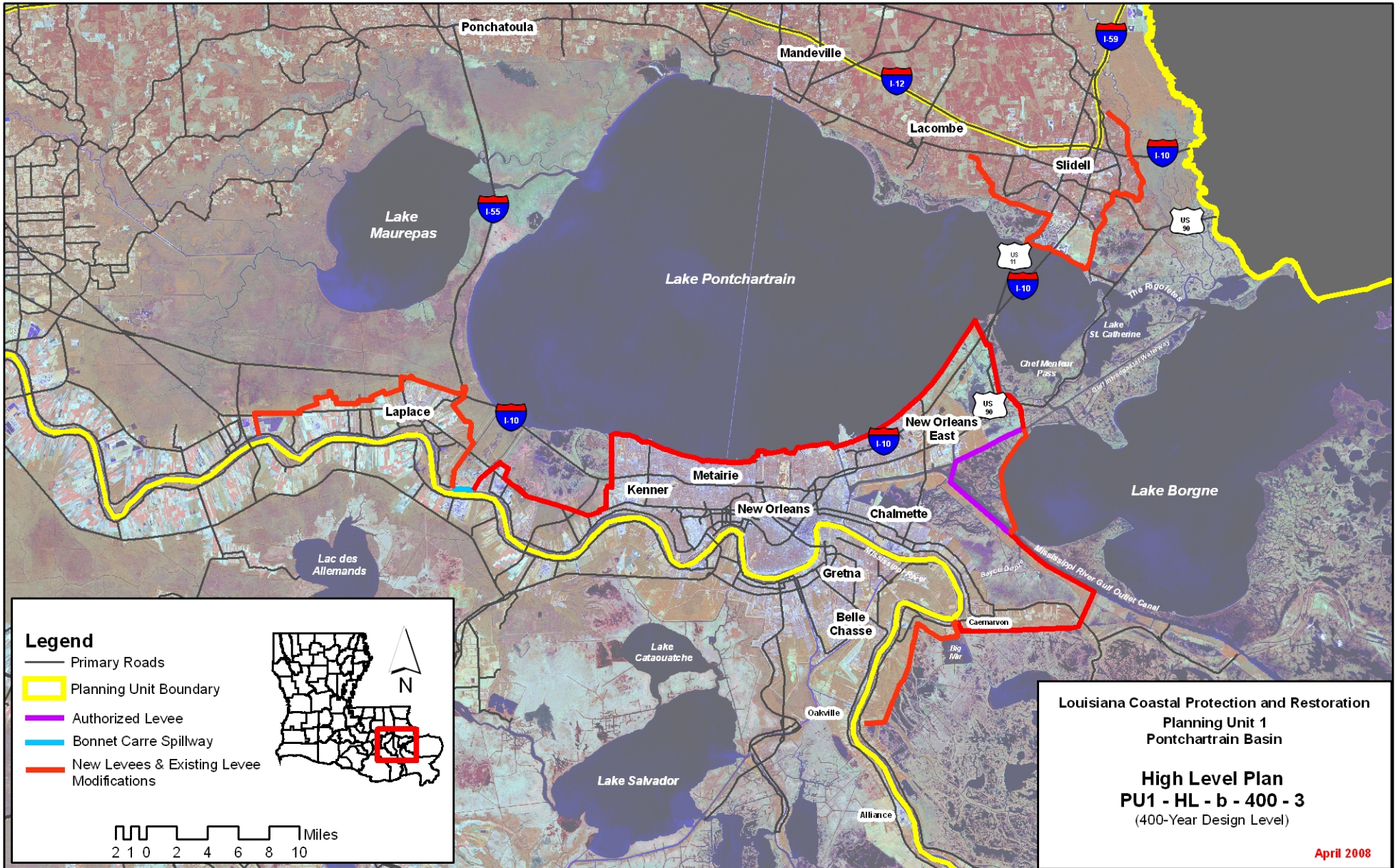
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	2,837	32,516	342	179	1,152	49	307	143	51
		Mid		34,727	480	370	1,822	96	307	143	50
		Low		38,940	810	729	3,306	190	277	140	48
2	High RSLR High Employment Dispersed Population	High	2,860	33,092	369	271	1,388	71	337	143	51
		Mid		35,795	546	522	2,243	135	307	141	49
		Low		40,330	1,025	1,160	4,504	304	277	133	45
3	Low RSLR Business-as-Usual Compact Population	High	2,837	28,675	337	177	1,164	49	307	143	51
		Mid		30,806	469	316	1,740	85	307	143	50
		Low		34,720	775	561	2,966	152	277	140	48
4	High RSLR Business-as-Usual Compact Population	High	2,860	29,014	359	218	1,295	61	337	143	51
		Mid		31,559	516	384	1,966	105	307	141	49
		Low		35,665	918	930	3,910	244	277	133	45

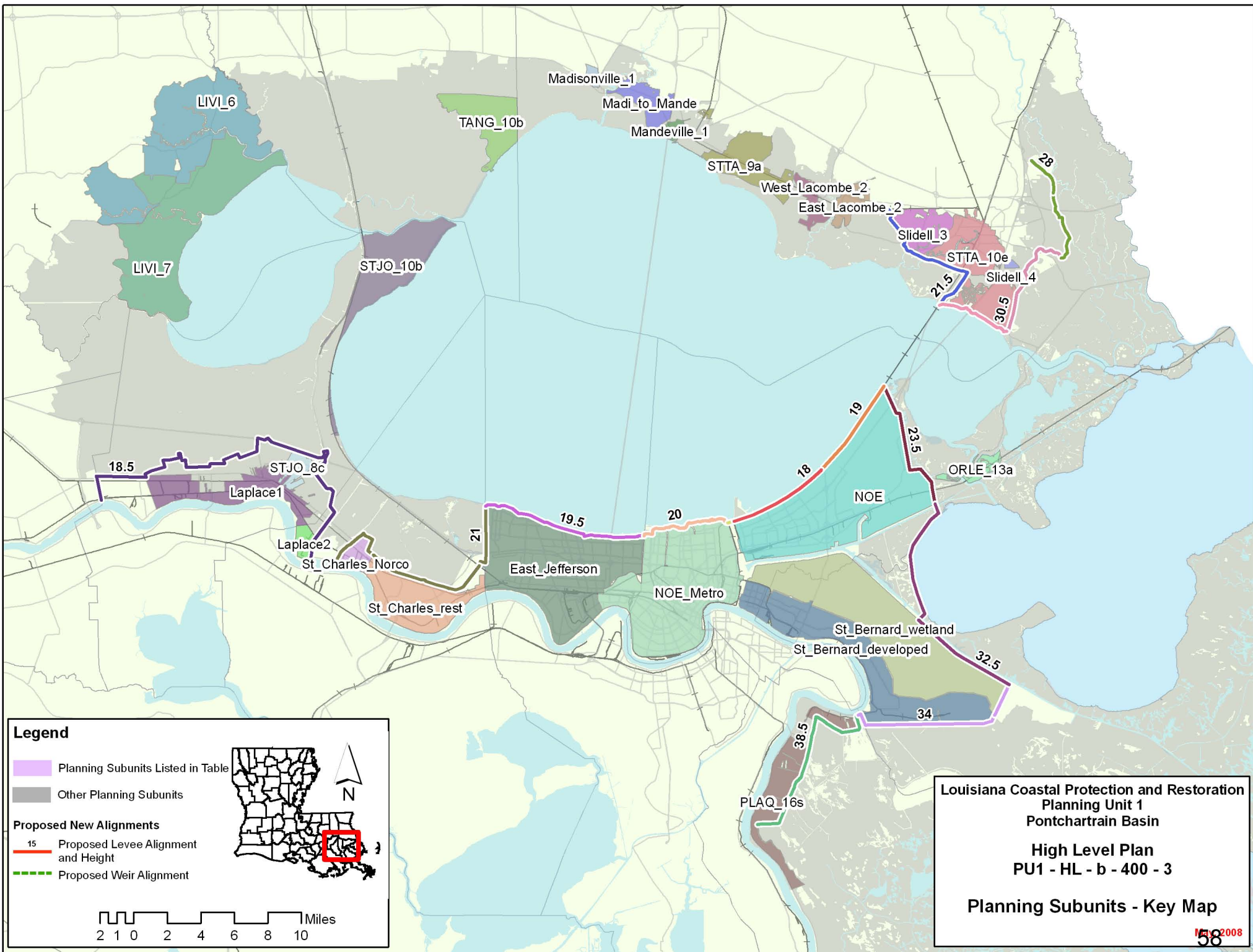
Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			16	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			5,500	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-2	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0
	1 / 2	19,790	19,945	Structural Component		44,895	45,103	44,895	45,103
	3 / 4	19,790	19,945	Total Project		55,561	56,002	55,561	56,002

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Structural Plan High Level Alt 400-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	1,011	1,472	1,120	1,081	873	1,345	981	
100-year	11,935	2,209	34,000	4,382	9,879	1,946	26,076	2,547	
400-year	89,937	6,516	116,204	7,890	62,688	3,270	80,694	3,757	
1,000-year	118,260	11,051	122,423	13,246	81,963	6,320	84,515	7,143	
2,000-year	122,343	28,009	125,886	30,717	84,351	18,776	86,336	19,980	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.







**Alternative: PU1-HL-b-400-3**  
**Water Surface Elevations** (feet - NAVD88 2004.65)

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.2	-1.3	-5.0	4.4	-4.4	-2.6	-5.2	16.0	-5.0	16.0	-4.4
East_Lacombe_2	10.9	10.9	14.3	14.3	15.9	15.9	17.3	13.5	21.7	16.9	23.6	18.5
Laplace1	9.4	4.1	12.2	4.5	14.0	7.8	12.4	4.1	15.0	4.5	16.8	7.8
Laplace2	8.5	4.1	11.0	4.5	12.8	7.8	11.2	4.1	14.3	4.5	16.2	7.8
LIVI_6	7.3	7.3	9.7	9.7	11.1	11.1	10.3	9.9	12.8	12.3	13.9	13.7
LIVI_7	7.5	7.5	9.7	9.7	10.9	10.9	11.0	10.1	13.1	12.3	14.4	13.5
Madi_to_Mande	11.0	11.0	13.1	13.1	14.3	14.3	13.8	13.6	16.7	15.7	18.3	16.9
Madisonville_1	11.7	11.7	14.6	14.6	16.1	16.1	13.5	14.3	15.8	17.2	16.9	18.7
Mandeville_1	11.0	11.0	13.1	13.1	14.3	14.3	14.9	13.6	19.1	15.7	21.4	16.9
NOE	-5.8	-6.0	0.5	-5.7	10.9	-4.2	-0.1	-6.0	16.0	-5.7	16.0	-4.2
NOE_Metro	-5.1	-5.2	-4.8	-5.0	-3.0	-4.2	-5.0	-5.2	16.0	-5.0	16.0	-4.2
ORLE_13a	14.6	14.6	17.8	17.8	19.4	19.4	17.9	17.2	21.5	20.4	23.8	22.0
PLAQ_16s	19.2	-0.1	25.3	0.4	30.0	2.0	21.4	-0.1	27.8	0.4	31.8	2.0
Slidell_3	11.5	4.3	15.1	4.6	16.8	5.9	13.4	4.3	16.8	4.6	18.5	5.9
Slidell_4	14.1	6.2	18.3	6.2	20.4	6.2	20.5	6.2	24.3	6.2	26.5	6.2
St_Bernard_developed	-0.1	-0.4	4.3	-0.1	10.6	0.8	2.3	-0.4	16.0	-0.1	16.0	0.8
St_Bernard_wetland	2.4	2.3	5.2	2.5	10.6	2.8	4.5	2.3	16.0	2.5	16.0	2.8
St_Charles_Norco	4.4	3.4	16.0	4.5	16.0	4.5	11.5	3.4	17.3	4.5	18.6	4.5
St_Charles_rest	2.1	1.9	16.0	2.1	16.0	4.2	11.5	1.9	17.3	2.1	18.6	4.2
STJO_10b	10.6	10.6	12.9	12.9	14.1	14.1	13.3	13.2	15.6	15.5	16.7	16.7
STJO_8c	9.4	4.1	12.2	4.5	14.0	7.8	12.7	4.1	15.4	4.5	17.2	7.8
STTA_10e	12.2	4.3	16.2	4.6	18.2	5.9	13.3	4.3	16.7	4.6	18.6	5.9
STTA_9a	10.4	10.4	12.7	12.7	14.0	14.0	13.2	13.0	15.6	15.3	17.5	16.6
TANG_10b	11.0	11.0	13.6	13.6	15.0	15.0	13.7	13.6	16.3	16.2	17.8	17.6
West_Lacombe_2	10.5	10.5	13.5	13.5	15.0	15.0	13.2	13.1	15.8	16.1	17.3	17.6
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

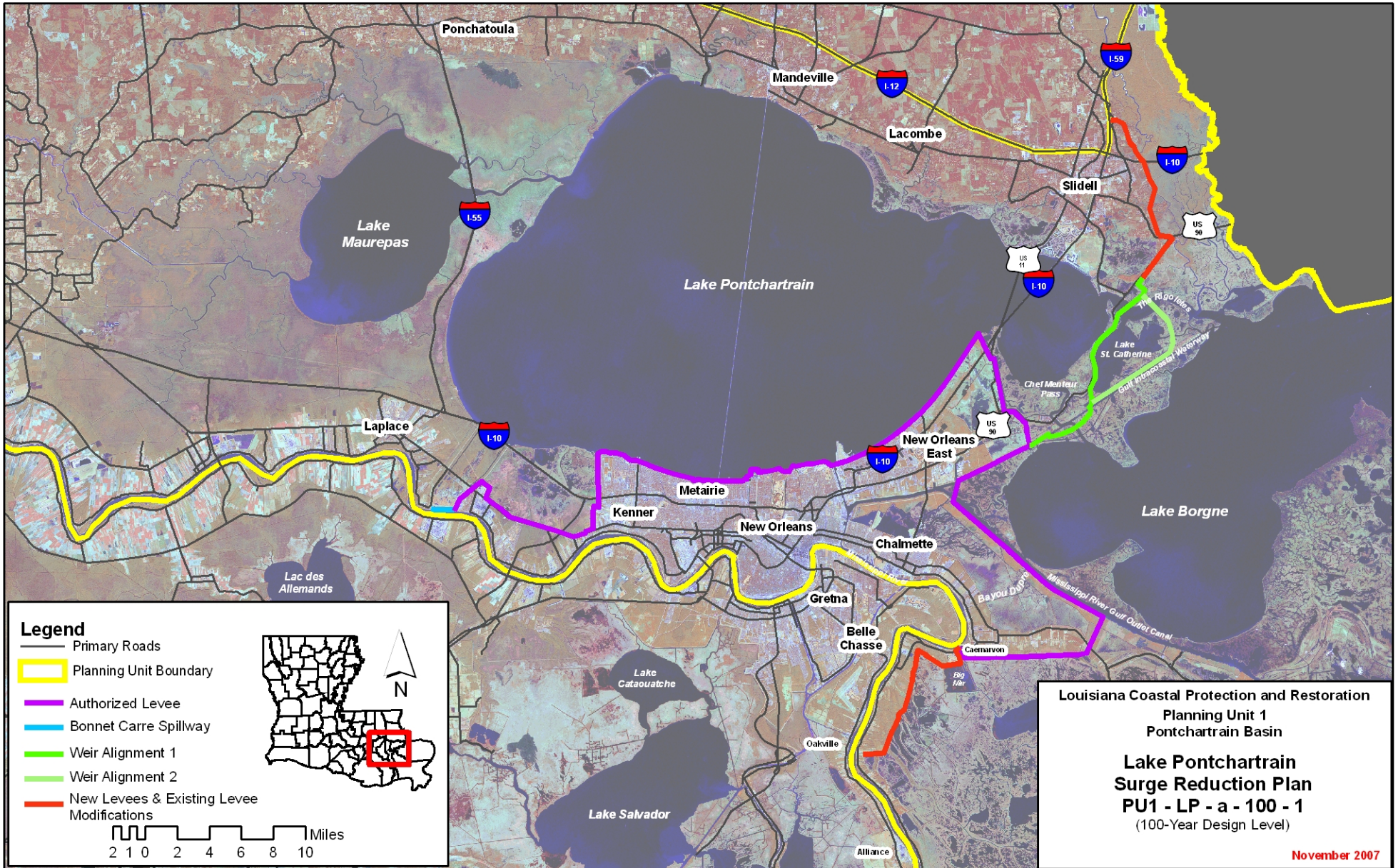
<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-LP-a-100-1	<b>Category:</b>	Coastal Restoration + Structural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise upper Plaquemines levees to 100-year level of risk reduction.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>		None	
<b>Structural Component:</b>	See alternative description above.				

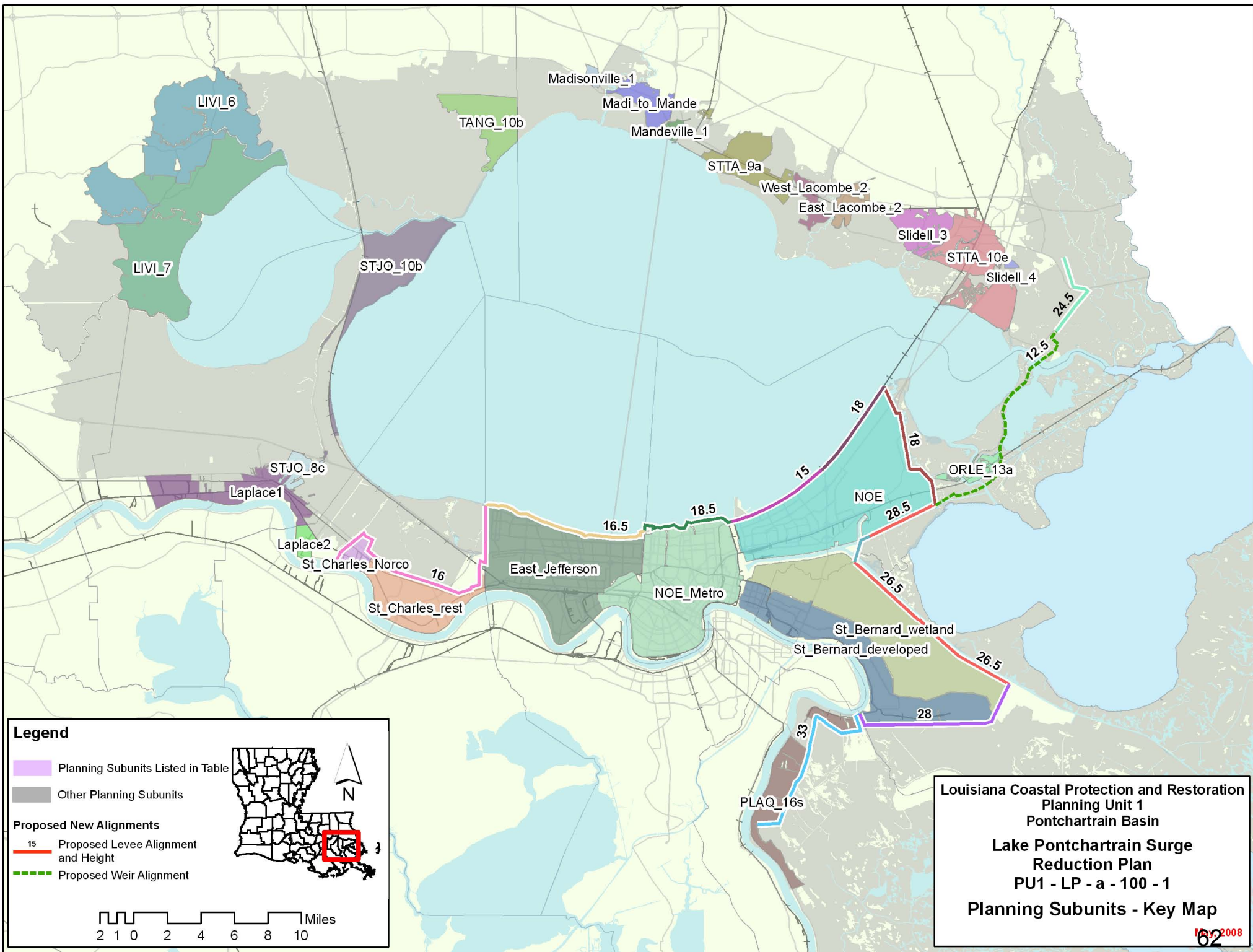
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	903	32,794	354	221	1,285	61	325	140	51
		Mid		35,620	511	411	1,991	107	295	133	50
		Low		40,916	904	823	3,715	214	265	127	43
2	High RSLR High Employment Dispersed Population	High	921	33,978	391	312	1,537	85	325	136	51
		Mid		37,219	582	551	2,379	142	295	129	45
		Low		42,568	1,096	1,237	4,808	319	265	123	40
3	Low RSLR Business-as-Usual Compact Population	High	903	29,002	341	187	1,197	53	325	140	51
		Mid		31,669	487	328	1,840	90	295	133	50
		Low		36,632	849	627	3,335	172	265	127	43
4	High RSLR Business-as-Usual Compact Population	High	921	29,765	370	230	1,347	67	325	136	51
		Mid		32,824	542	397	2,072	111	295	129	45
		Low		37,791	991	962	4,173	255	265	123	40

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			14	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			1,000	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0
	1 / 2	6,255	6,375	Structural Component		7,024	7,132	7,024	7,132
	3 / 4	6,255	6,375	Total Project		17,690	18,031	17,690	18,031

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Structural Plan Lake Pontchartrain Surge Reduction Alt 100-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	1,034	1,472	1,211	1,081	906	1,345	1,074	
100-year	11,935	4,200	34,000	6,145	9,879	3,194	26,076	4,731	
400-year	89,937	19,737	116,204	24,112	62,688	13,418	80,694	16,202	
1,000-year	118,260	54,345	122,423	58,424	81,963	37,801	84,515	40,213	
2,000-year	122,343	108,114	125,886	111,525	84,351	75,417	86,336	77,362	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4.78% Federal discount rate. All dollar metrics are based on 2007 price levels.





**Legend**

- Planning Subunits Listed in Table
- Other Planning Subunits

**Proposed New Alignments**

- 15 Proposed Levee Alignment and Height
- Proposed Weir Alignment

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Miles

**Louisiana Coastal Protection and Restoration**  
**Planning Unit 1**  
**Pontchartrain Basin**  
**Lake Pontchartrain Surge**  
**Reduction Plan**  
**PU1 - LP - a - 100 - 1**  
**Planning Subunits - Key Map**

12/2008  
**62**

**Alternative: PU1-LP-a-100-1**  
**Water Surface Elevations** (feet - NAVD88 2004.65)

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.3	-1.3	-4.7	4.4	-2.1	-2.6	-5.3	16.0	-4.7	16.0	-2.1
East_Lacombe_2	10.9	7.2	14.3	11.1	15.9	13.2	17.3	9.8	21.7	13.7	23.6	15.8
Laplace1	9.4	6.1	12.2	10.5	14.0	13.6	12.4	8.7	15.0	13.1	16.8	16.2
Laplace2	8.5	9.4	11.0	11.9	12.8	13.4	11.2	12.0	14.3	14.5	16.2	16.0
LIVI_6	7.3	4.1	9.7	5.2	11.1	6.1	10.3	6.7	12.8	7.8	13.9	8.7
LIVI_7	7.5	5.5	9.7	6.9	10.9	7.8	11.0	8.1	13.1	9.5	14.4	10.4
Madi_to_Mande	11.0	11.5	13.1	12.5	14.3	13.3	13.8	14.1	16.7	15.1	18.3	15.9
Madisonville_1	11.7	10.1	14.6	14.9	16.1	27.3	13.5	12.7	15.8	17.5	16.9	29.9
Mandeville_1	11.0	11.5	13.1	12.5	14.3	13.3	14.9	14.1	19.1	15.1	21.4	15.9
NOE	-5.8	-5.9	0.5	-4.0	10.9	-0.2	-0.1	-5.9	16.0	-4.0	16.0	-0.2
NOE_Metro	-5.1	-5.2	-4.8	-5.1	-3.0	-5.1	-5.0	-5.2	16.0	-5.1	16.0	-5.1
ORLE_13a	14.6	16.4	17.8	21.8	19.4	26.5	17.9	19.0	21.5	24.4	23.8	29.1
PLAQ_16s	19.2	17.8	25.3	25.7	30.0	29.9	21.4	20.4	27.8	28.3	31.8	32.5
Slidell_3	11.5	8.5	15.1	12.8	16.8	14.9	13.4	11.1	16.8	15.4	18.5	17.5
Slidell_4	14.1	10.0	18.3	16.4	20.4	22.2	20.5	12.6	24.3	19.0	26.5	24.8
St_Bernard_developed	-0.1	-0.1	4.3	4.8	10.6	12.5	2.3	-0.1	16.0	4.8	16.0	12.5
St_Bernard_wetland	2.4	2.4	5.2	5.4	10.6	12.5	4.5	2.4	16.0	5.4	16.0	12.5
St_Charles_Norco	4.4	3.4	16.0	4.6	16.0	16.0	11.5	3.4	17.3	4.6	18.6	16.0
St_Charles_rest	2.1	1.9	16.0	4.6	16.0	16.0	11.5	1.9	17.3	4.6	18.6	16.0
STJO_10b	10.6	8.9	12.9	11.4	14.1	12.8	13.3	11.5	15.6	14.0	16.7	15.4
STJO_8c	9.4	6.1	12.2	10.5	14.0	13.6	12.7	8.7	15.4	13.1	17.2	16.2
STTA_10e	12.2	8.8	16.2	13.1	18.2	15.3	13.3	11.4	16.7	15.7	18.6	17.9
STTA_9a	10.4	8.0	12.7	9.4	14.0	10.4	13.2	10.6	15.6	12.0	17.5	13.0
TANG_10b	11.0	7.7	13.6	10.6	15.0	12.1	13.7	10.3	16.3	13.2	17.8	14.7
West_Lacombe_2	10.5	7.4	13.5	10.0	15.0	11.5	13.2	10.0	15.8	12.6	17.3	14.1
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-LP-a-100-2	<b>Category:</b>	Coastal Restoration + Structural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise upper Plaquemines levees and construct new levees around Laplace and across the Northshore to the 100-year level of ri				
<b>Coastal Component:</b>	R2 (pulsed diversions)		<b>Nonstructural Component:</b>	None	
<b>Structural Component:</b>	See alternative description above.				

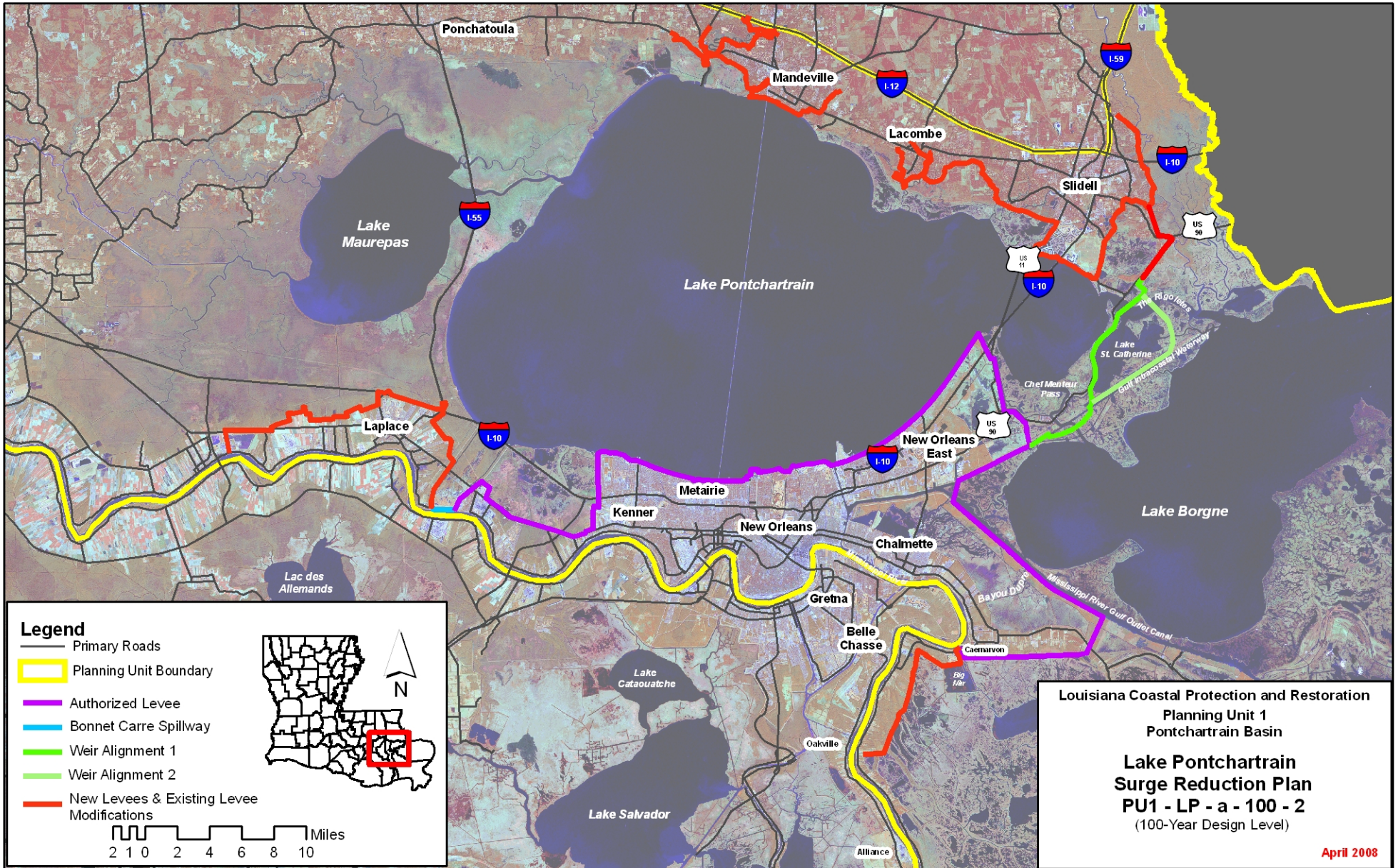
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	1,691	31,733	329	203	1,213	56	361	145	51
		Mid		34,111	474	376	1,839	97	331	137	50
		Low		38,655	842	745	3,435	193	301	134	43
2	High RSLR High Employment Dispersed Population	High	1,710	32,310	354	266	1,360	69	361	138	51
		Mid		35,036	525	467	2,097	120	331	135	49
		Low		39,833	999	1,102	4,432	288	301	129	41
3	Low RSLR Business-as-Usual Compact Population	High	1,691	28,104	316	171	1,128	48	361	145	51
		Mid		30,373	451	305	1,708	82	331	137	50
		Low		34,531	788	583	3,102	158	301	134	43
4	High RSLR Business-as-Usual Compact Population	High	1,710	28,401	334	200	1,224	57	361	138	51
		Mid		31,006	489	352	1,864	96	331	135	49
		Low		35,298	901	882	3,859	232	301	129	41

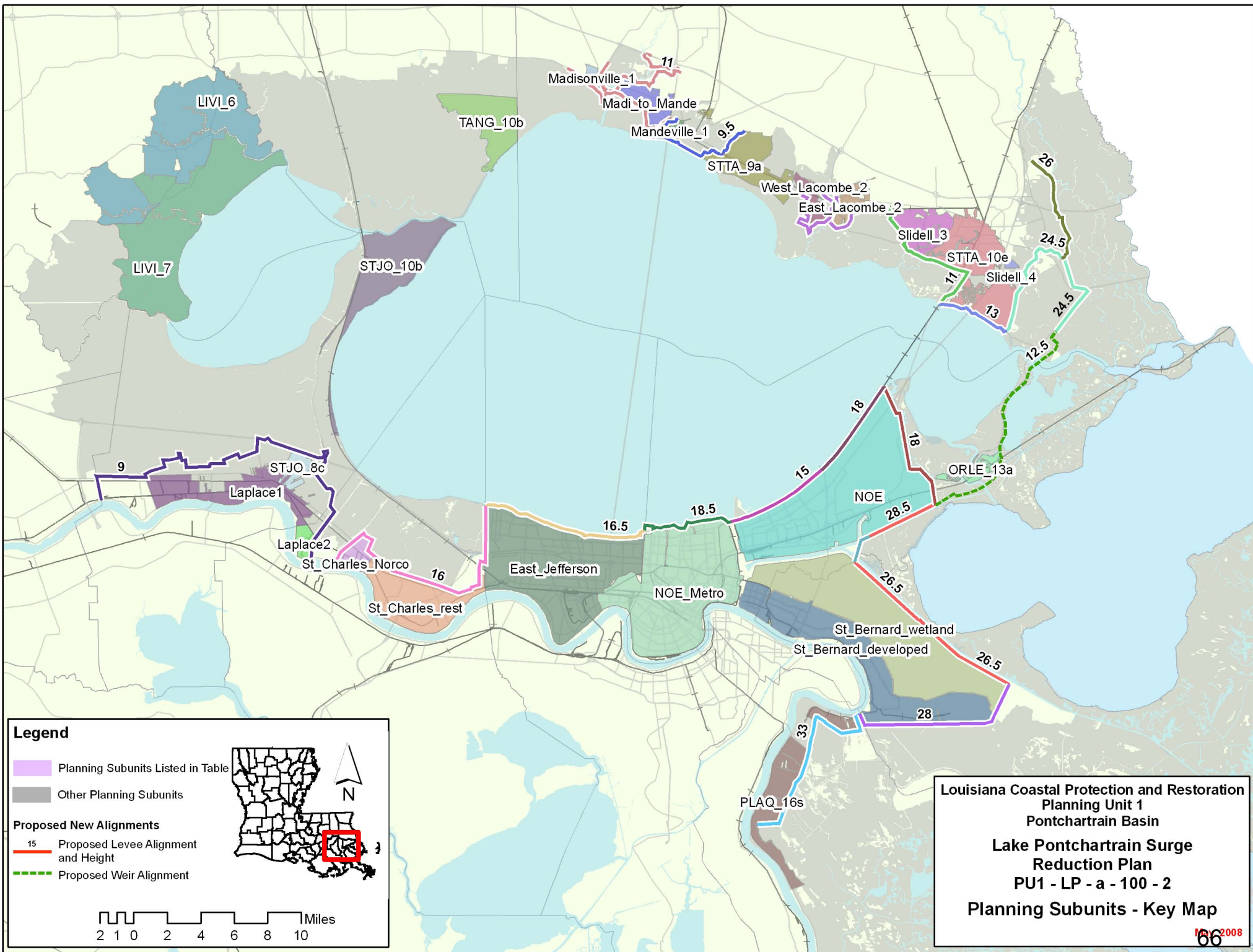
Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4		
Construction Time (years)			14		After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			4,100		After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8		Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42		Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0	
	1 / 2	11,805	11,936	Structural Component		22,443	22,582	22,443	22,582	
	3 / 4	11,805	11,936	Total Project		33,109	33,481	33,109	33,481	

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Structural Plan Lake Pontchartrain Surge Reduction Alt  100-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	941	1,472	1,007	1,081	811	1,345	870	
100-year	11,935	2,536	34,000	2,851	9,879	1,678	26,076	1,816	
400-year	89,937	16,183	116,204	16,791	62,688	10,505	80,694	10,730	
1,000-year	118,260	50,576	122,423	51,287	81,963	34,816	84,515	35,037	
2,000-year	122,343	105,784	125,886	106,664	84,351	73,501	86,336	73,745	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.







LIVI\_6

LIVI\_7

STJO\_10b

TANG\_10b

Madisonville\_1

Madi\_to\_Mande

Mandeville\_1

STTA\_9a

West\_Lacombe\_2

East\_Lacombe\_2

Slidell\_3

STTA\_10e

Slidell\_4

26

24.5

24.5

12.5

9

STJO\_8c

Laplace1

Laplace2

St\_Charles\_Norco

St\_Charles\_rest

16

East\_Jefferson

NOE\_Metro

16.5

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ORLE\_13a

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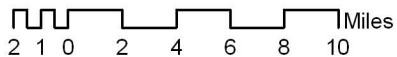
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PLAQ\_16s

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St\_Bernard\_wetland

St\_Bernard\_developed



**Alternative: PU1-LP-a-100-2**  
**Water Surface Elevations** (feet - NAVD88 2004.65)

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.3	-1.3	-4.7	4.4	-2.1	-2.6	-5.3	16.0	-4.7	16.0	-2.1
East_Lacombe_2	10.9	4.9	14.3	9.6	15.9	11.5	17.3	4.9	21.7	9.6	23.6	11.5
Laplace1	9.4	4.6	12.2	9.0	14.0	10.9	12.4	4.6	15.0	9.0	16.8	10.9
Laplace2	8.5	4.6	11.0	9.0	12.8	10.9	11.2	4.6	14.3	9.0	16.2	10.9
LIVI_6	7.3	4.1	9.7	5.2	11.1	6.1	10.3	6.7	12.8	7.8	13.9	8.7
LIVI_7	7.5	5.5	9.7	6.9	10.9	7.8	11.0	8.1	13.1	9.5	14.4	10.4
Madi_to_Mande	11.0	5.9	13.1	11.0	14.3	11.1	13.8	5.9	16.7	11.0	18.3	11.1
Madisonville_1	11.7	6.4	14.6	11.0	16.1	11.1	13.5	6.4	15.8	11.0	16.9	11.1
Mandeville_1	11.0	6.7	13.1	9.5	14.3	10.1	14.9	6.7	19.1	9.5	21.4	10.1
NOE	-5.8	-5.9	0.5	-4.0	10.9	-0.2	-0.1	-5.9	16.0	-4.0	16.0	-0.2
NOE_Metro	-5.1	-5.2	-4.8	-5.1	-3.0	-5.1	-5.0	-5.2	16.0	-5.1	16.0	-5.1
ORLE_13a	14.6	16.4	17.8	21.8	19.4	26.5	17.9	19.0	21.5	24.4	23.8	29.1
PLAQ_16s	19.2	0.5	25.3	16.4	30.0	18.0	21.4	0.5	27.8	16.4	31.8	18.0
Slidell_3	11.5	4.5	15.1	13.9	16.8	16.4	13.4	4.5	16.8	13.9	18.5	16.4
Slidell_4	14.1	6.2	18.3	13.9	20.4	16.4	20.5	6.2	24.3	13.9	26.5	16.4
St_Bernard_developed	-0.1	-0.1	4.3	4.8	10.6	12.5	2.3	-0.1	16.0	4.8	16.0	12.5
St_Bernard_wetland	2.4	2.4	5.2	5.4	10.6	12.5	4.5	2.4	16.0	5.4	16.0	12.5
St_Charles_Norco	4.4	3.4	16.0	4.6	16.0	16.0	11.5	3.4	17.3	4.6	18.6	16.0
St_Charles_rest	2.1	1.9	16.0	4.6	16.0	16.0	11.5	1.9	17.3	4.6	18.6	16.0
STJO_10b	10.6	8.9	12.9	11.4	14.1	12.8	13.3	11.5	15.6	14.0	16.7	15.4
STJO_8c	9.4	4.6	12.2	9.0	14.0	10.9	12.7	4.6	15.4	9.0	17.2	10.9
STTA_10e	12.2	4.5	16.2	13.9	18.2	16.4	13.3	4.5	16.7	13.9	18.6	16.4
STTA_9a	10.4	8.0	12.7	9.4	14.0	10.4	13.2	10.6	15.6	12.0	17.5	13.0
TANG_10b	11.0	7.7	13.6	10.6	15.0	12.1	13.7	10.3	16.3	13.2	17.8	14.7
West_Lacombe_2	10.5	3.9	13.5	9.6	15.0	11.5	13.2	3.9	15.8	9.6	17.3	11.5
Evaluation Parameters	Confidence Level:		90%			Levee Design:		No Friction Waves				
	Future Relative Sea Level Rise:		2.6 feet			Levee Overtopping:		No Friction Waves				

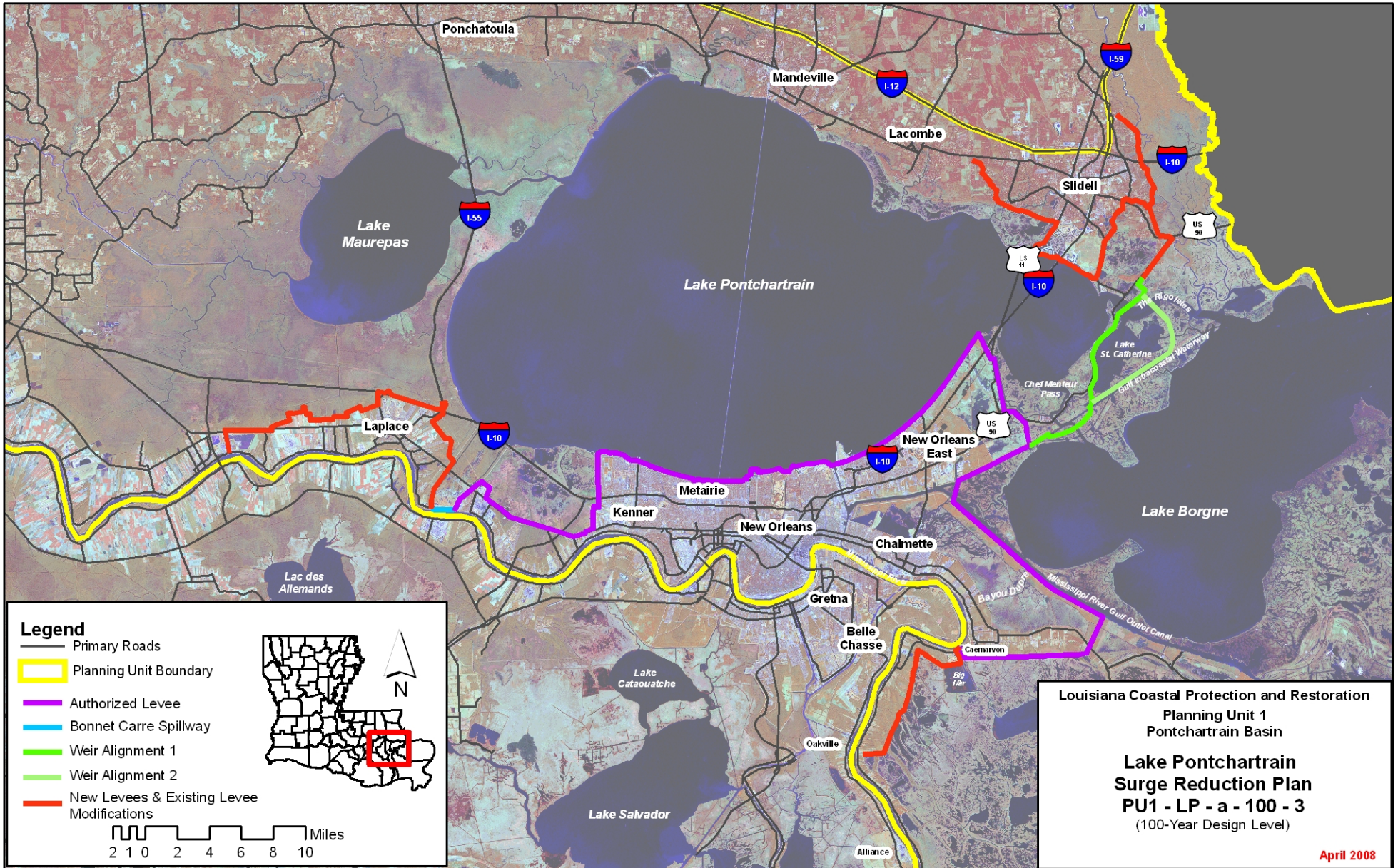
<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-LP-a-100-3	<b>Category:</b>	Coastal Restoration + Structural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise upper Plaquemines levees and construct new levees around Laplace and Slidell to the 100-year level of risk reduction.				
<b>Coastal Component:</b>	R2 (pulsed diversions)		<b>Nonstructural Component:</b>	None	
<b>Structural Component:</b>	See alternative description above.				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	1,622	31,942	333	205	1,227	56	354	143	51
		Mid		34,379	479	380	1,856	98	324	133	50
		Low		38,931	850	753	3,467	196	294	127	43
2	High RSLR High Employment Dispersed Population	High	1,643	32,603	360	273	1,387	72	354	137	51
		Mid		35,378	535	477	2,133	122	324	128	45
		Low		40,198	1,012	1,119	4,485	293	294	123	40
3	Low RSLR Business-as-Usual Compact Population	High	1,622	28,214	321	173	1,136	48	354	143	51
		Mid		30,523	457	307	1,719	83	324	133	50
		Low		34,704	795	588	3,123	160	294	127	43
4	High RSLR Business-as-Usual Compact Population	High	1,643	28,552	340	204	1,242	58	354	137	51
		Mid		31,198	497	359	1,889	98	324	128	45
		Low		35,522	912	894	3,896	236	294	123	40

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4		
Construction Time (years)			14		After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			3,700		After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8		Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42		Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0	
	1 / 2	11,284	11,431	Structural Component		21,092	21,279	21,092	21,279	
	3 / 4	11,284	11,431	Total Project		31,758	32,178	31,758	32,178	

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Structural Plan Lake Pontchartrain Surge Reduction Alt  100-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	960	1,472	1,052	1,081	828	1,345	913	
100-year	11,935	2,742	34,000	3,299	9,879	1,853	26,076	2,159	
400-year	89,937	16,545	116,204	17,507	62,688	10,729	80,694	11,128	
1,000-year	118,260	51,238	122,423	52,430	81,963	35,144	84,515	35,612	
2,000-year	122,343	106,606	125,886	108,011	84,351	73,883	86,336	74,417	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.

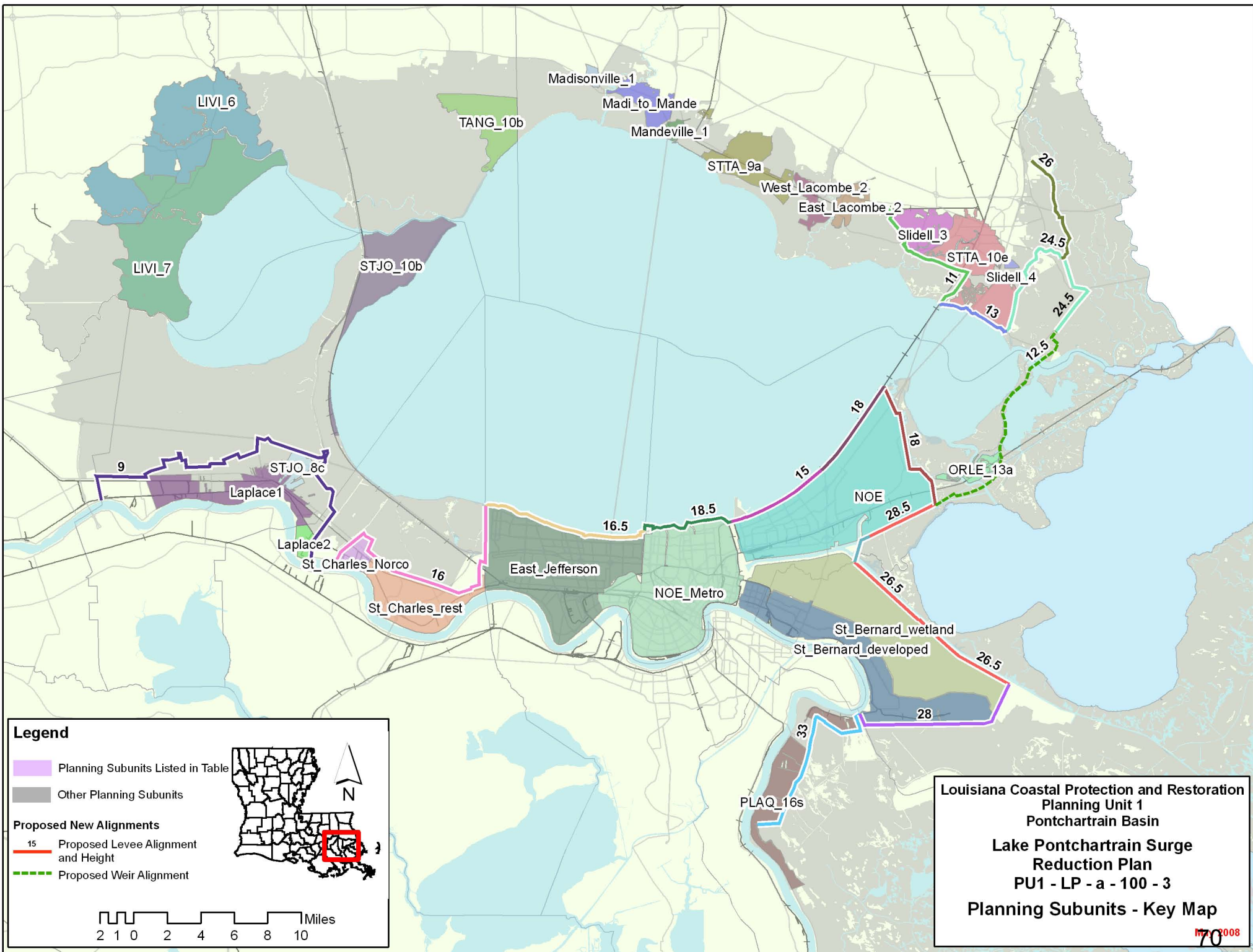


**Legend**

- Primary Roads
- Planning Unit Boundary
- Authorized Levee
- Bonnet Carre Spillway
- Weir Alignment 1
- Weir Alignment 2
- New Levees & Existing Levee Modifications

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Lake Pontchartrain  
 Surge Reduction Plan**  
**PU1 - LP - a - 100 - 3**  
 (100-Year Design Level)

**April 2008**



Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
 Lake Pontchartrain Surge  
 Reduction Plan  
 PU1 - LP - a - 100 - 3  
 Planning Subunits - Key Map

**Alternative: PU1-LP-a-100-3**  
**Water Surface Elevations (feet - NAVD88 2004.65)**

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.3	-1.3	-4.7	4.4	-2.1	-2.6	-5.3	16.0	-4.7	16.0	-2.1
East_Lacombe_2	10.9	7.2	14.3	11.1	15.9	13.2	17.3	9.8	21.7	13.7	23.6	15.8
Laplace1	9.4	4.6	12.2	9.0	14.0	10.9	12.4	4.6	15.0	9.0	16.8	10.9
Laplace2	8.5	4.6	11.0	9.0	12.8	10.9	11.2	4.6	14.3	9.0	16.2	10.9
LIVI_6	7.3	4.1	9.7	5.2	11.1	6.1	10.3	6.7	12.8	7.8	13.9	8.7
LIVI_7	7.5	5.5	9.7	6.9	10.9	7.8	11.0	8.1	13.1	9.5	14.4	10.4
Madi_to_Mande	11.0	11.5	13.1	12.5	14.3	13.3	13.8	14.1	16.7	15.1	18.3	15.9
Madisonville_1	11.7	10.1	14.6	14.9	16.1	27.3	13.5	12.7	15.8	17.5	16.9	29.9
Mandeville_1	11.0	11.5	13.1	12.5	14.3	13.3	14.9	14.1	19.1	15.1	21.4	15.9
NOE	-5.8	-5.9	0.5	-4.0	10.9	-0.2	-0.1	-5.9	16.0	-4.0	16.0	-0.2
NOE_Metro	-5.1	-5.2	-4.8	-5.1	-3.0	-5.1	-5.0	-5.2	16.0	-5.1	16.0	-5.1
ORLE_13a	14.6	16.4	17.8	21.8	19.4	26.5	17.9	19.0	21.5	24.4	23.8	29.1
PLAQ_16s	19.2	0.5	25.3	16.4	30.0	18.0	21.4	0.5	27.8	16.4	31.8	18.0
Slidell_3	11.5	4.5	15.1	13.9	16.8	16.4	13.4	4.5	16.8	13.9	18.5	16.4
Slidell_4	14.1	6.2	18.3	13.9	20.4	16.4	20.5	6.2	24.3	13.9	26.5	16.4
St_Bernard_developed	-0.1	-0.1	4.3	4.8	10.6	12.5	2.3	-0.1	16.0	4.8	16.0	12.5
St_Bernard_wetland	2.4	2.4	5.2	5.4	10.6	12.5	4.5	2.4	16.0	5.4	16.0	12.5
St_Charles_Norco	4.4	3.4	16.0	4.6	16.0	16.0	11.5	3.4	17.3	4.6	18.6	16.0
St_Charles_rest	2.1	1.9	16.0	4.6	16.0	16.0	11.5	1.9	17.3	4.6	18.6	16.0
STJO_10b	10.6	8.9	12.9	11.4	14.1	12.8	13.3	11.5	15.6	14.0	16.7	15.4
STJO_8c	9.4	4.6	12.2	9.0	14.0	10.9	12.7	4.6	15.4	9.0	17.2	10.9
STTA_10e	12.2	4.5	16.2	13.9	18.2	16.4	13.3	4.5	16.7	13.9	18.6	16.4
STTA_9a	10.4	8.0	12.7	9.4	14.0	10.4	13.2	10.6	15.6	12.0	17.5	13.0
TANG_10b	11.0	7.7	13.6	10.6	15.0	12.1	13.7	10.3	16.3	13.2	17.8	14.7
West_Lacombe_2	10.5	7.4	13.5	10.0	15.0	11.5	13.2	10.0	15.8	12.6	17.3	14.1
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-LP-b-400-1	<b>Category:</b>	Coastal Restoration + Structural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise Lake Pontchartrain and Vicinity and upper Plaquemines levees to 400-year level of risk reduction.				
<b>Coastal Component:</b>	R2 (pulsed diversions)		<b>Nonstructural Component:</b>	None	
<b>Structural Component:</b>	See alternative description above.				

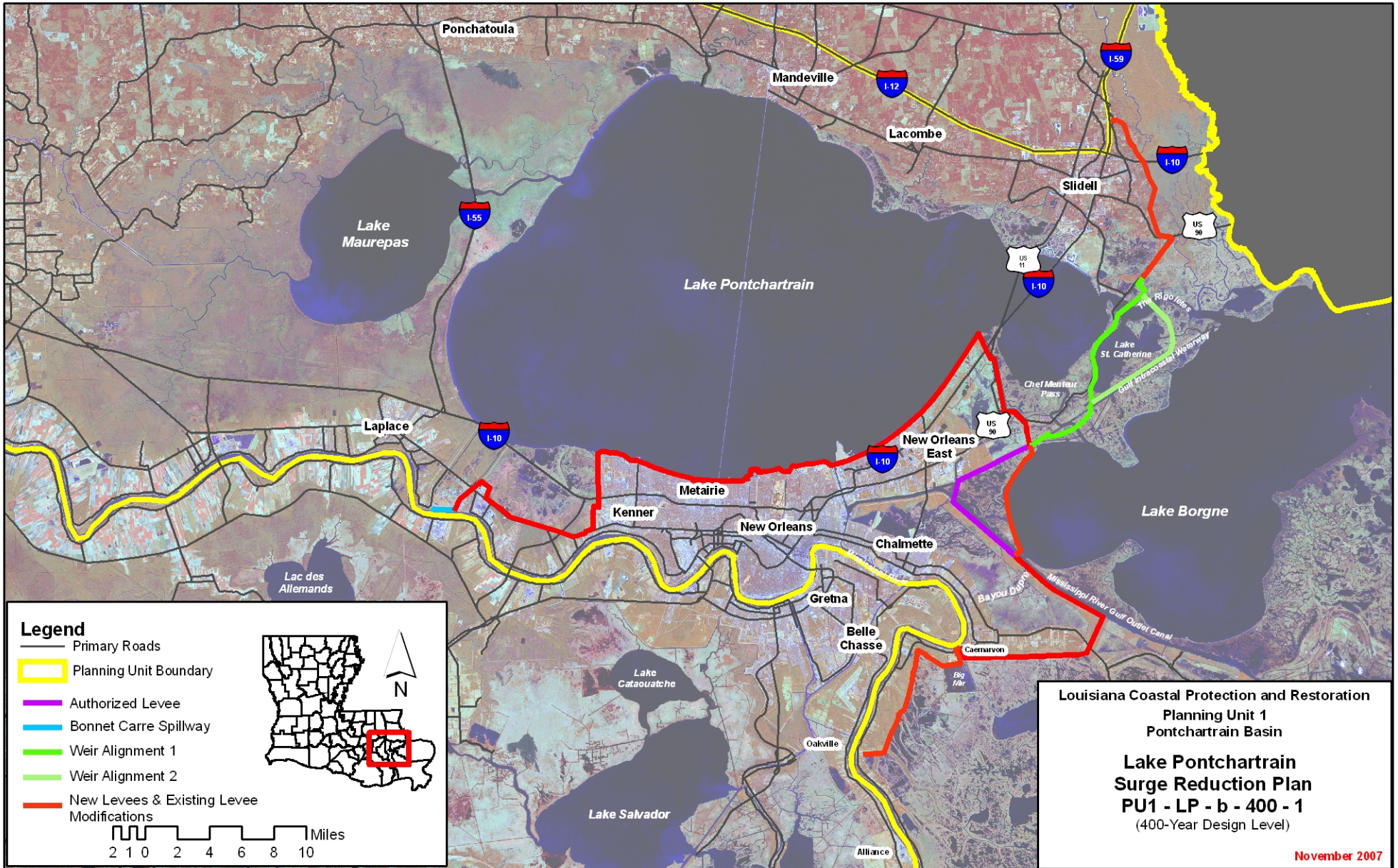
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	1,849	32,873	359	220	1,291	60	327	142	51
		Mid		35,618	517	420	2,021	109	297	137	50
		Low		40,570	878	797	3,598	207	267	131	48
2	High RSLR High Employment Dispersed Population	High	1,865	34,007	397	316	1,553	85	354	138	51
		Mid		37,263	594	572	2,443	148	324	133	50
		Low		42,333	1,096	1,273	4,869	330	294	129	45
3	Low RSLR Business-as-Usual Compact Population	High	1,849	29,237	348	190	1,217	53	327	142	51
		Mid		31,861	496	341	1,884	93	297	137	50
		Low		36,549	833	609	3,243	168	267	131	48
4	High RSLR Business-as-Usual Compact Population	High	1,865	29,968	378	237	1,379	69	354	138	51
		Mid		33,054	556	416	2,136	115	324	133	50
		Low		37,792	994	1,000	4,223	265	294	129	45

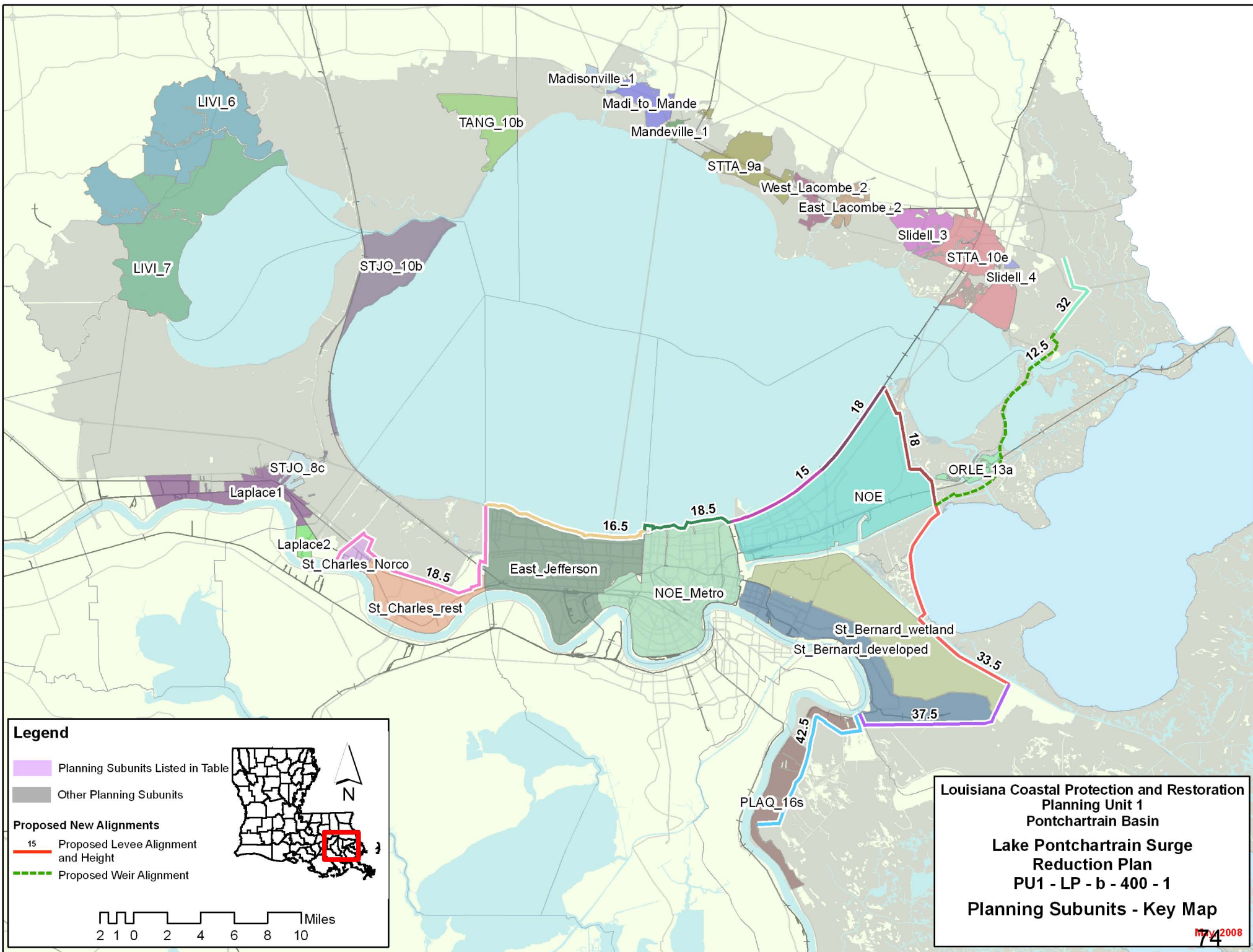
Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4		
Construction Time (years)			16		After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			4,200		After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8		Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42		Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0	
		1 / 2	12,754	12,865	Structural Component		25,538	25,620	25,538	25,620
		3 / 4	12,754	12,865	Total Project		36,204	36,519	36,204	36,519

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Structural Plan Lake Pontchartrain Surge Reduction Alt  400-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	1,033	1,472	1,210	1,081	905	1,345	1,073	
100-year	11,935	4,144	34,000	6,088	9,879	3,146	26,076	4,684	
400-year	89,937	11,216	116,204	15,591	62,688	8,666	80,694	11,450	
1,000-year	118,260	20,434	122,423	24,513	81,963	14,819	84,515	17,231	
2,000-year	122,343	39,642	125,886	43,054	84,351	28,407	86,336	30,352	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.







**Legend**

- Planning Subunits Listed in Table
- Other Planning Subunits

**Proposed New Alignments**

- 15 Proposed Levee Alignment and Height
- Proposed Weir Alignment

**Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
 Lake Pontchartrain Surge  
 Reduction Plan  
 PU1 - LP - b - 400 - 1  
 Planning Subunits - Key Map**

May 2008

**Alternative: PU1-LP-b-400-1**  
**Water Surface Elevations** (feet - NAVD88 2004.65)

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.3	-1.3	-5.1	4.4	-4.5	-2.6	-5.3	16.0	-5.1	16.0	-4.5
East_Lacombe_2	10.9	7.2	14.3	11.1	15.9	13.2	17.3	9.8	21.7	13.7	23.6	15.8
Laplace1	9.4	6.1	12.2	10.5	14.0	13.6	12.4	8.7	15.0	13.1	16.8	16.2
Laplace2	8.5	9.4	11.0	11.9	12.8	13.4	11.2	12.0	14.3	14.5	16.2	16.0
LIVI_6	7.3	4.1	9.7	5.2	11.1	6.1	10.3	6.7	12.8	7.8	13.9	8.7
LIVI_7	7.5	5.5	9.7	6.9	10.9	7.8	11.0	8.1	13.1	9.5	14.4	10.4
Madi_to_Mande	11.0	11.5	13.1	12.5	14.3	13.3	13.8	14.1	16.7	15.1	18.3	15.9
Madisonville_1	11.7	10.1	14.6	14.9	16.1	27.3	13.5	12.7	15.8	17.5	16.9	29.9
Mandeville_1	11.0	11.5	13.1	12.5	14.3	13.3	14.9	14.1	19.1	15.1	21.4	15.9
NOE	-5.8	-6.0	0.5	-5.9	10.9	-4.6	-0.1	-6.0	16.0	-5.9	16.0	-4.6
NOE_Metro	-5.1	-5.2	-4.8	-5.1	-3.0	-5.1	-5.0	-5.2	16.0	-5.1	16.0	-5.1
ORLE_13a	14.6	16.4	17.8	21.8	19.4	26.5	17.9	19.0	21.5	24.4	23.8	29.1
PLAQ_16s	19.2	17.8	25.3	25.7	30.0	29.9	21.4	20.4	27.8	28.3	31.8	32.5
Slidell_3	11.5	8.5	15.1	12.8	16.8	14.9	13.4	11.1	16.8	15.4	18.5	17.5
Slidell_4	14.1	10.0	18.3	16.4	20.4	22.2	20.5	12.6	24.3	19.0	26.5	24.8
St_Bernard_developed	-0.1	-0.4	4.3	-0.1	10.6	0.7	2.3	-0.4	16.0	-0.1	16.0	0.7
St_Bernard_wetland	2.4	1.7	5.2	1.8	10.6	2.2	4.5	1.7	16.0	1.8	16.0	2.2
St_Charles_Norco	4.4	3.4	16.0	4.2	16.0	4.5	11.5	3.4	17.3	4.2	18.6	4.5
St_Charles_rest	2.1	1.9	16.0	2.1	16.0	4.3	11.5	1.9	17.3	2.1	18.6	4.3
STJO_10b	10.6	8.9	12.9	11.4	14.1	12.8	13.3	11.5	15.6	14.0	16.7	15.4
STJO_8c	9.4	6.1	12.2	10.5	14.0	13.6	12.7	8.7	15.4	13.1	17.2	16.2
STTA_10e	12.2	8.8	16.2	13.1	18.2	15.3	13.3	11.4	16.7	15.7	18.6	17.9
STTA_9a	10.4	8.0	12.7	9.4	14.0	10.4	13.2	10.6	15.6	12.0	17.5	13.0
TANG_10b	11.0	7.7	13.6	10.6	15.0	12.1	13.7	10.3	16.3	13.2	17.8	14.7
West_Lacombe_2	10.5	7.4	13.5	10.0	15.0	11.5	13.2	10.0	15.8	12.6	17.3	14.1
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

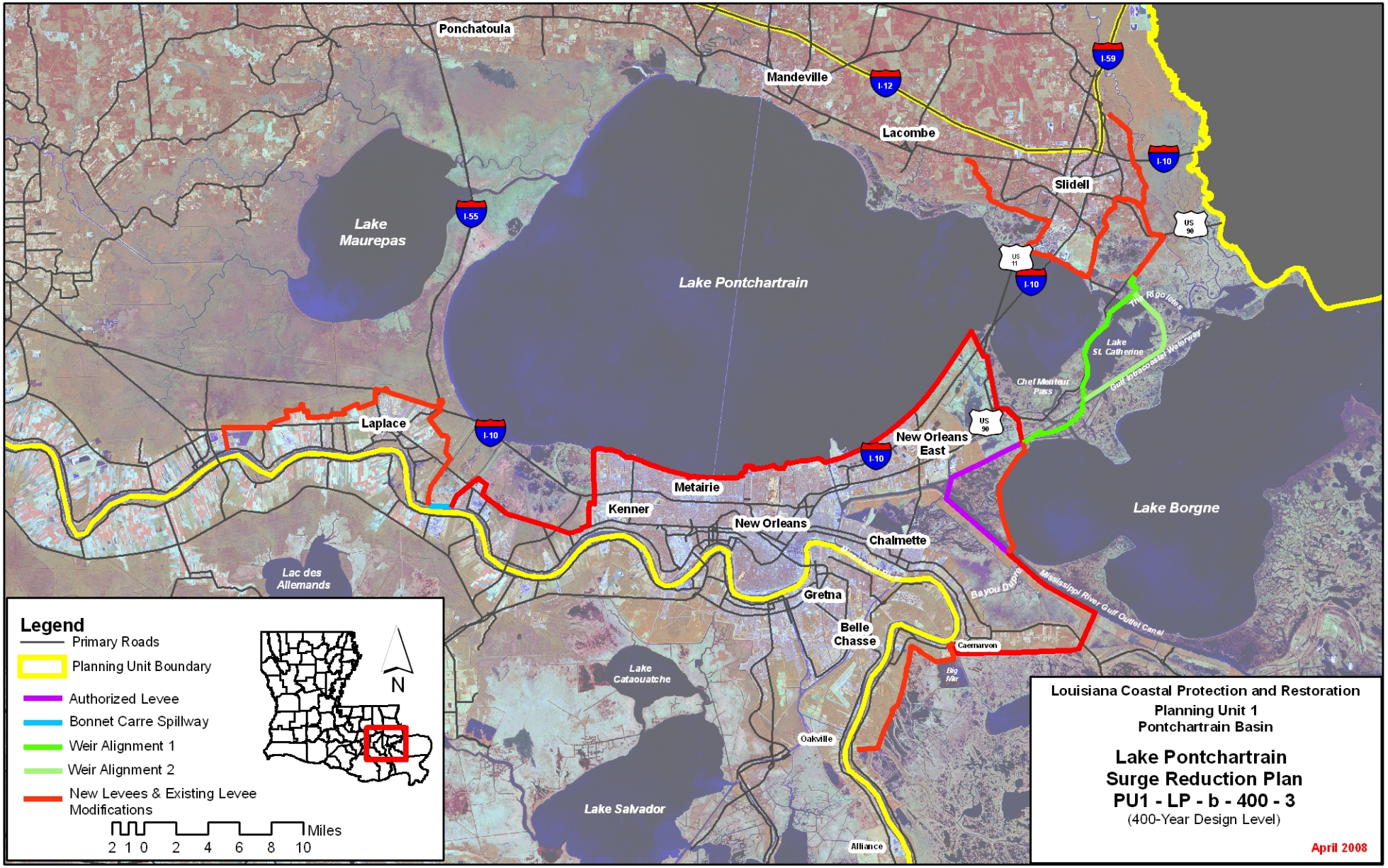
<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-LP-b-400-3	<b>Category:</b>	Coastal Restoration + Structural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise Lake Pontchartrain and Vicinity and upper Plaquemines levees and construct new levees around Laplace and Slidell to t				
<b>Coastal Component:</b>	R2 (pulsed diversions)		<b>Nonstructural Component:</b>	None	
<b>Structural Component:</b>	See alternative description above.				

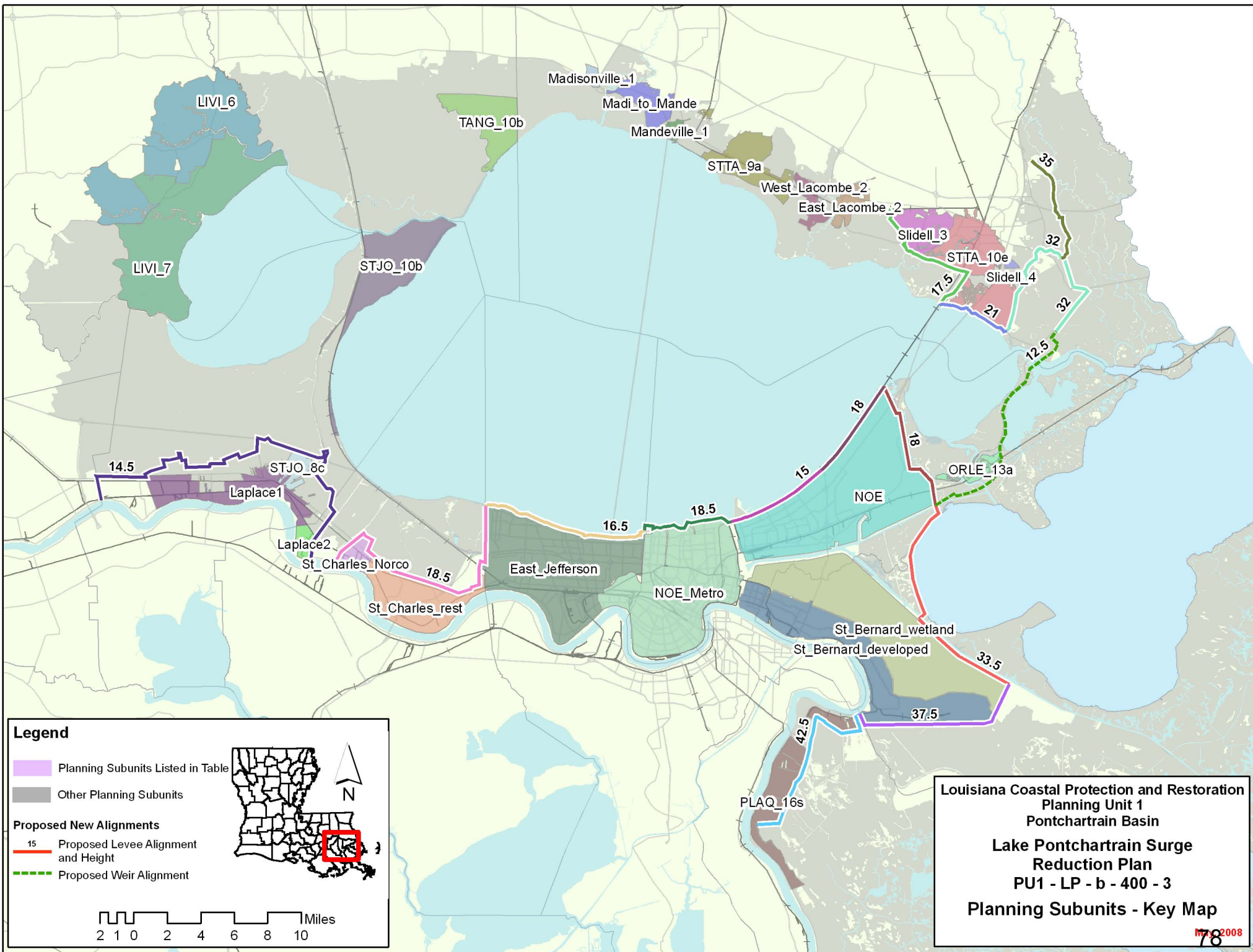
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	2,847	32,087	339	205	1,235	56	356	149	51
		Mid		34,302	478	383	1,859	99	326	146	50
		Low		38,442	811	714	3,279	185	296	141	48
2	High RSLR High Employment Dispersed Population	High	2,867	32,762	368	280	1,417	73	356	147	51
		Mid		35,421	541	497	2,184	128	326	142	50
		Low		39,867	1,001	1,148	4,485	301	296	134	45
3	Low RSLR Business-as-Usual Compact Population	High	2,847	28,496	328	176	1,158	49	356	149	51
		Mid		30,580	458	311	1,724	83	326	146	50
		Low		34,419	766	554	2,943	150	296	141	48
4	High RSLR Business-as-Usual Compact Population	High	2,867	28,854	350	213	1,281	61	356	147	51
		Mid		31,353	504	371	1,922	101	326	142	50
		Low		35,364	903	918	3,865	241	296	134	45

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4		
Construction Time (years)			16		After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			7,500		After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8		Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42		Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0	
	1 / 2	19,733	19,870	Structural Component		45,081	45,238	45,081	45,238	
	3 / 4	19,733	19,870	Total Project		55,747	56,137	55,747	56,137	

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Structural Plan Lake Pontchartrain Surge Reduction Alt  400-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	959	1,472	1,051	1,081	827	1,345	912	
100-year	11,935	2,668	34,000	3,226	9,879	1,789	26,076	2,095	
400-year	89,937	4,448	116,204	5,411	62,688	2,452	80,694	2,851	
1,000-year	118,260	10,316	122,423	11,508	81,963	7,048	84,515	7,516	
2,000-year	122,343	29,258	125,886	30,663	84,351	21,861	86,336	22,395	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.





**Alternative: PU1-LP-b-400-3**  
**Water Surface Elevations (feet - NAVD88 2004.65)**

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.3	-1.3	-5.1	4.4	-4.5	-2.6	-5.3	16.0	-5.1	16.0	-4.5
East_Lacombe_2	10.9	7.2	14.3	11.1	15.9	13.2	17.3	9.8	21.7	13.7	23.6	15.8
Laplace1	9.4	4.1	12.2	4.5	14.0	9.8	12.4	4.1	15.0	4.5	16.8	9.8
Laplace2	8.5	4.1	11.0	4.5	12.8	9.8	11.2	4.1	14.3	4.5	16.2	9.8
LIVI_6	7.3	4.1	9.7	5.2	11.1	6.1	10.3	6.7	12.8	7.8	13.9	8.7
LIVI_7	7.5	5.5	9.7	6.9	10.9	7.8	11.0	8.1	13.1	9.5	14.4	10.4
Madi_to_Mande	11.0	11.5	13.1	12.5	14.3	13.3	13.8	14.1	16.7	15.1	18.3	15.9
Madisonville_1	11.7	10.1	14.6	14.9	16.1	27.3	13.5	12.7	15.8	17.5	16.9	29.9
Mandeville_1	11.0	11.5	13.1	12.5	14.3	13.3	14.9	14.1	19.1	15.1	21.4	15.9
NOE	-5.8	-6.0	0.5	-5.9	10.9	-4.6	-0.1	-6.0	16.0	-5.9	16.0	-4.6
NOE_Metro	-5.1	-5.2	-4.8	-5.1	-3.0	-5.1	-5.0	-5.2	16.0	-5.1	16.0	-5.1
ORLE_13a	14.6	16.4	17.8	21.8	19.4	26.5	17.9	19.0	21.5	24.4	23.8	29.1
PLAQ_16s	19.2	-0.1	25.3	0.9	30.0	4.0	21.4	-0.1	27.8	0.9	31.8	4.0
Slidell_3	11.5	4.3	15.1	4.5	16.8	6.4	13.4	4.3	16.8	4.5	18.5	6.4
Slidell_4	14.1	6.2	18.3	6.2	20.4	6.2	20.5	6.2	24.3	6.2	26.5	6.2
St_Bernard_developed	-0.1	-0.4	4.3	-0.1	10.6	0.7	2.3	-0.4	16.0	-0.1	16.0	0.7
St_Bernard_wetland	2.4	1.7	5.2	1.8	10.6	2.2	4.5	1.7	16.0	1.8	16.0	2.2
St_Charles_Norco	4.4	3.4	16.0	4.2	16.0	4.5	11.5	3.4	17.3	4.2	18.6	4.5
St_Charles_rest	2.1	1.9	16.0	2.1	16.0	4.3	11.5	1.9	17.3	2.1	18.6	4.3
STJO_10b	10.6	8.9	12.9	11.4	14.1	12.8	13.3	11.5	15.6	14.0	16.7	15.4
STJO_8c	9.4	4.1	12.2	4.5	14.0	9.8	12.7	4.1	15.4	4.5	17.2	9.8
STTA_10e	12.2	4.3	16.2	4.5	18.2	6.4	13.3	4.3	16.7	4.5	18.6	6.4
STTA_9a	10.4	8.0	12.7	9.4	14.0	10.4	13.2	10.6	15.6	12.0	17.5	13.0
TANG_10b	11.0	7.7	13.6	10.6	15.0	12.1	13.7	10.3	16.3	13.2	17.8	14.7
West_Lacombe_2	10.5	7.4	13.5	10.0	15.0	11.5	13.2	10.0	15.8	12.6	17.3	14.1
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-LP-b-1000-1	<b>Category:</b>	Coastal Restoration + Structural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise Lake Pontchartrain and Vicinity and upper Plaquemines levees to 1000-year level of risk reduction.				
<b>Coastal Component:</b>	R2 (pulsed diversions)		<b>Nonstructural Component:</b>	None	
<b>Structural Component:</b>	See alternative description above.				

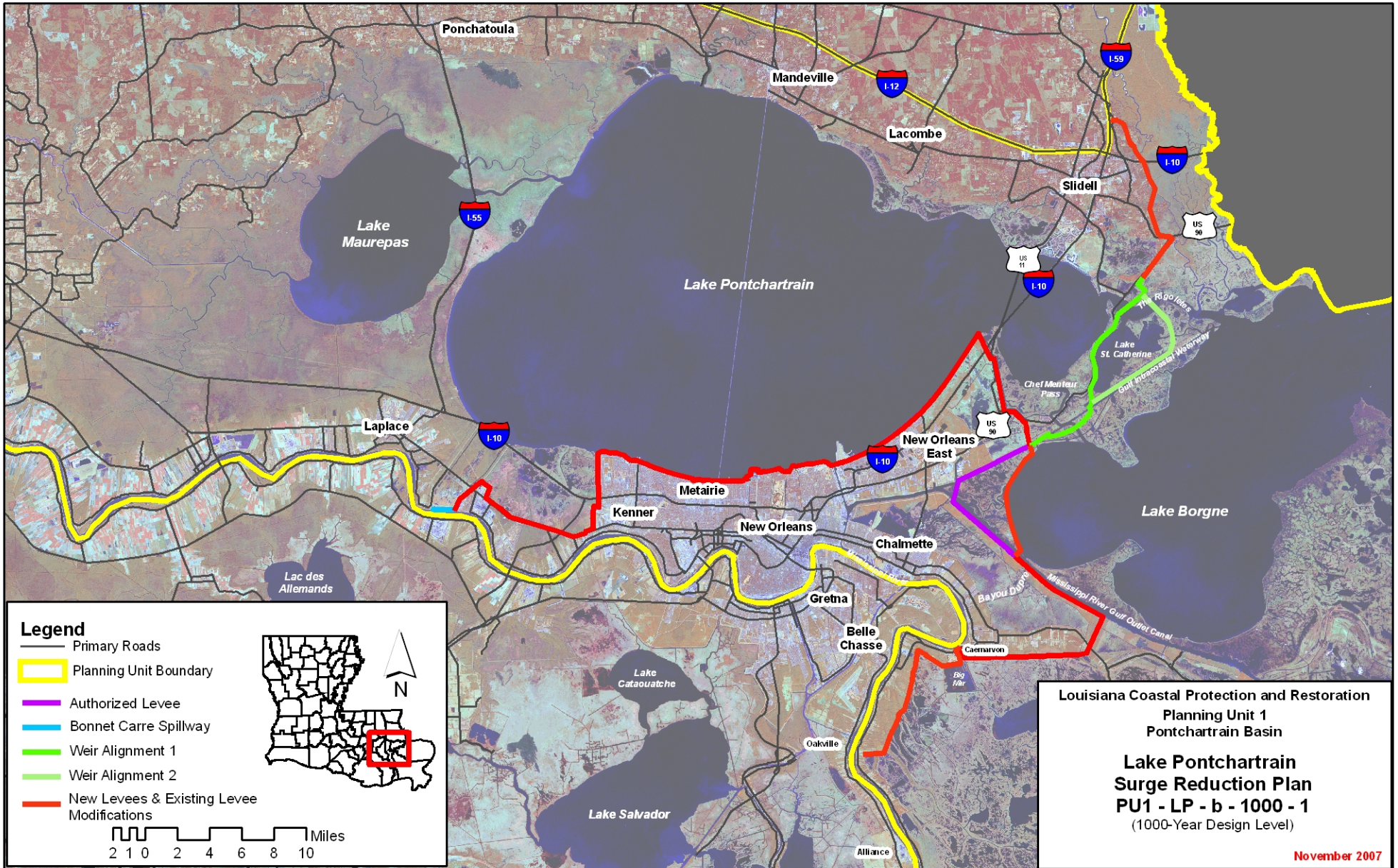
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	2,247	32,873	359	220	1,291	60	327	142	51
		Mid		35,605	517	420	2,021	109	297	137	50
		Low		40,423	874	789	3,561	205	267	131	48
2	High RSLR High Employment Dispersed Population	High	2,270	34,007	397	316	1,553	85	327	138	51
		Mid		37,249	594	372	2,443	147	297	133	50
		Low		42,186	1,091	1,264	4,832	327	267	129	45
3	Low RSLR Business-as-Usual Compact Population	High	2,247	29,237	348	190	1,217	53	327	142	51
		Mid		31,850	496	341	1,884	93	297	137	50
		Low		36,414	829	602	3,214	166	267	131	48
4	High RSLR Business-as-Usual Compact Population	High	2,270	29,968	378	237	1,379	69	327	138	51
		Mid		33,043	556	416	2,136	115	297	133	50
		Low		37,657	989	993	4,193	263	267	129	45

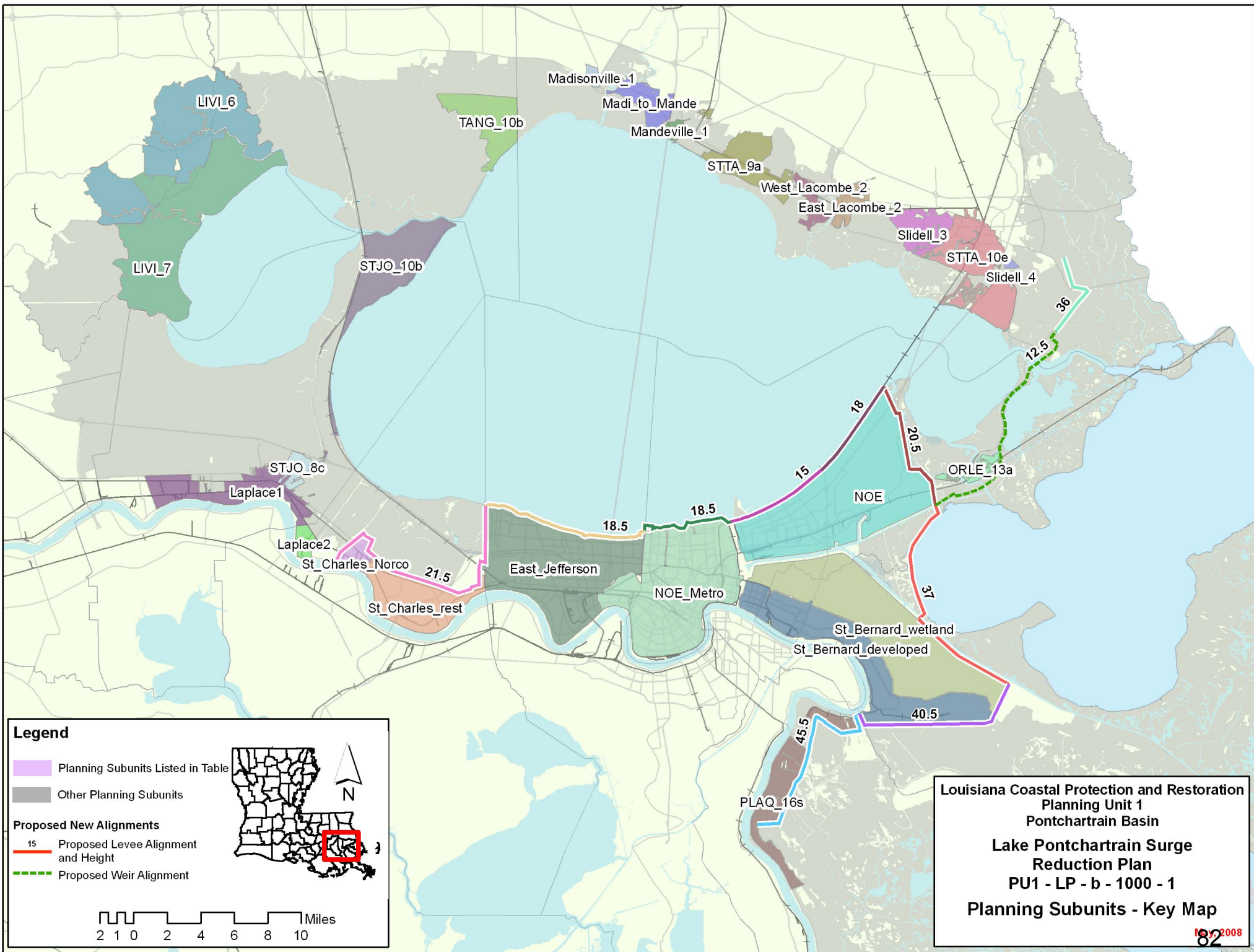
Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4		
Construction Time (years)			16		After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			5,100		After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8		Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42		Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0	
	1 / 2	15,628	15,788	Structural Component		33,339	33,562	33,339	33,562	
	3 / 4	15,628	15,788	Total Project		44,005	44,461	44,005	44,461	

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Structural Plan Lake Pontchartrain Surge Reduction Alt 1000-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	1,033	1,472	1,210	1,081	1,210	1,345	1,073	
100-year	11,935	4,142	34,000	6,087	9,879	6,087	26,076	4,683	
400-year	89,937	11,126	116,204	15,501	62,688	15,501	80,694	11,368	
1,000-year	118,260	18,304	122,423	22,384	81,963	22,384	84,515	15,520	
2,000-year	122,343	23,524	125,886	26,936	84,351	26,936	86,336	18,675	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.







**Alternative: PU1-LP-b-1000-1**  
**Water Surface Elevations** (feet - NAVD88 2004.65)

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.3	-1.3	-5.2	4.4	-5.0	-2.6	-5.3	16.0	-5.2	16.0	-5.0
East_Lacombe_2	10.9	7.2	14.3	11.1	15.9	13.2	17.3	9.8	21.7	13.7	23.6	15.8
Laplace1	9.4	6.1	12.2	10.5	14.0	13.6	12.4	8.7	15.0	13.1	16.8	16.2
Laplace2	8.5	9.4	11.0	11.9	12.8	13.4	11.2	12.0	14.3	14.5	16.2	16.0
LIVI_6	7.3	4.1	9.7	5.2	11.1	6.1	10.3	6.7	12.8	7.8	13.9	8.7
LIVI_7	7.5	5.5	9.7	6.9	10.9	7.8	11.0	8.1	13.1	9.5	14.4	10.4
Madi_to_Mande	11.0	11.5	13.1	12.5	14.3	13.3	13.8	14.1	16.7	15.1	18.3	15.9
Madisonville_1	11.7	10.1	14.6	14.9	16.1	27.3	13.5	12.7	15.8	17.5	16.9	29.9
Mandeville_1	11.0	11.5	13.1	12.5	14.3	13.3	14.9	14.1	19.1	15.1	21.4	15.9
NOE	-5.8	-6.0	0.5	-6.0	10.9	-5.9	-0.1	-6.0	16.0	-6.0	16.0	-5.9
NOE_Metro	-5.1	-5.2	-4.8	-5.1	-3.0	-5.1	-5.0	-5.2	16.0	-5.1	16.0	-5.1
ORLE_13a	14.6	16.4	17.8	21.8	19.4	26.5	17.9	19.0	21.5	24.4	23.8	29.1
PLAQ_16s	19.2	17.8	25.3	25.7	30.0	29.9	21.4	20.4	27.8	28.3	31.8	32.5
Slidell_3	11.5	8.5	15.1	12.8	16.8	14.9	13.4	11.1	16.8	15.4	18.5	17.5
Slidell_4	14.1	10.0	18.3	16.4	20.4	22.2	20.5	12.6	24.3	19.0	26.5	24.8
St_Bernard_developed	-0.1	-0.4	4.3	-0.3	10.6	0.1	2.3	-0.4	16.0	-0.3	16.0	0.1
St_Bernard_wetland	2.4	1.7	5.2	1.7	10.6	1.8	4.5	1.7	16.0	1.7	16.0	1.8
St_Charles_Norco	4.4	3.4	16.0	3.5	16.0	4.5	11.5	3.4	17.3	3.5	18.6	4.5
St_Charles_rest	2.1	1.9	16.0	1.9	16.0	2.1	11.5	1.9	17.3	1.9	18.6	2.1
STJO_10b	10.6	8.9	12.9	11.4	14.1	12.8	13.3	11.5	15.6	14.0	16.7	15.4
STJO_8c	9.4	6.1	12.2	10.5	14.0	13.6	12.7	8.7	15.4	13.1	17.2	16.2
STTA_10e	12.2	8.8	16.2	13.1	18.2	15.3	13.3	11.4	16.7	15.7	18.6	17.9
STTA_9a	10.4	8.0	12.7	9.4	14.0	10.4	13.2	10.6	15.6	12.0	17.5	13.0
TANG_10b	11.0	7.7	13.6	10.6	15.0	12.1	13.7	10.3	16.3	13.2	17.8	14.7
West_Lacombe_2	10.5	7.4	13.5	10.0	15.0	11.5	13.2	10.0	15.8	12.6	17.3	14.1
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

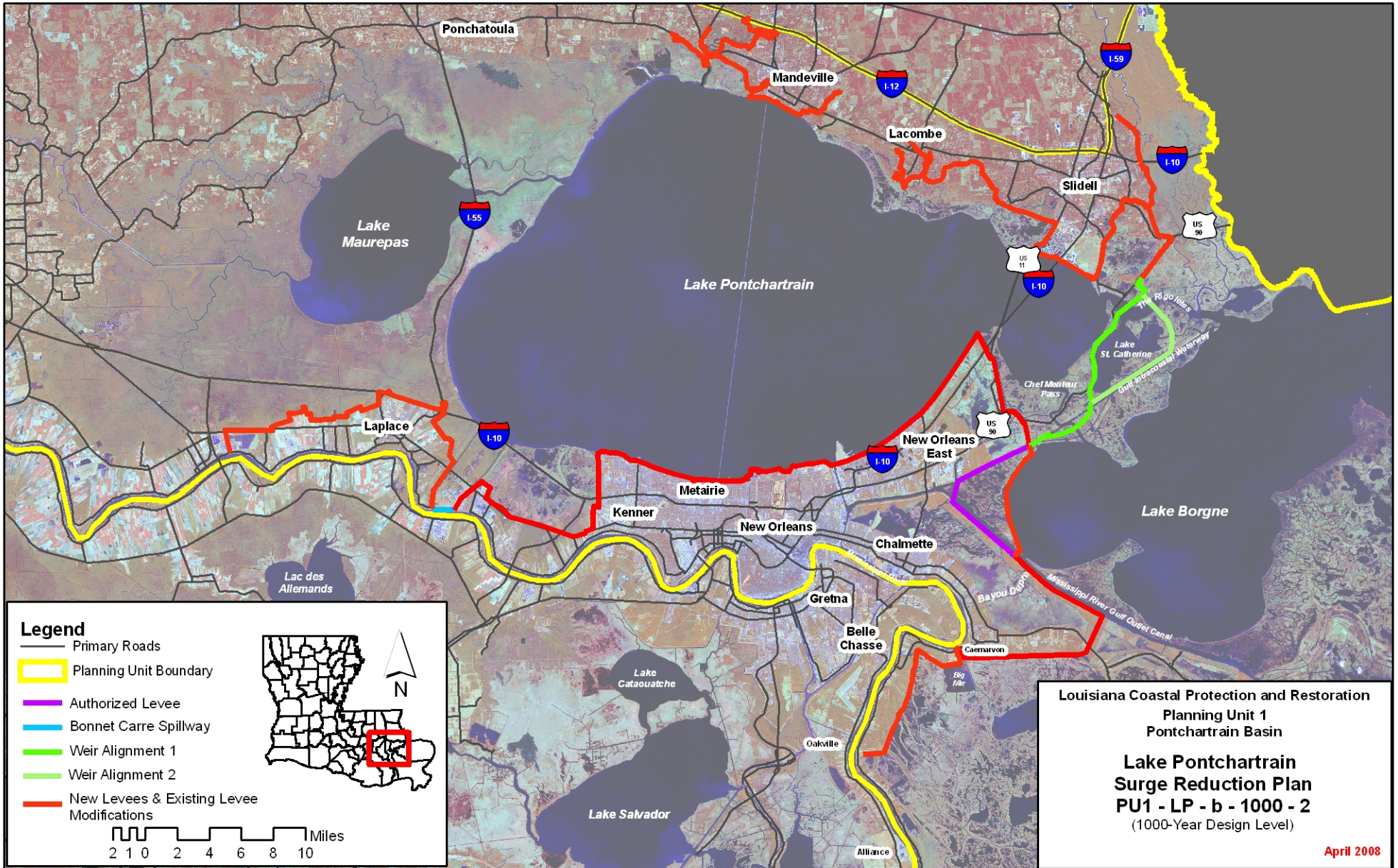
<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-LP-b-1000-2	<b>Category:</b>	Coastal Restoration + Structural Measures
<b>Alternative Description:</b>	Sustain coastal landscape through restoration and construct barrier-weir and levees to reduce risk to the Lake Pontchartrain area. Raise Lake Pontchartrain and Vicinity and upper Plaquemines levees and construct new levees around Laplace and across the No				
<b>Coastal Component:</b>	R2 (pulsed diversions)		<b>Nonstructural Component:</b>	None	
<b>Structural Component:</b>	See alternative description above.				

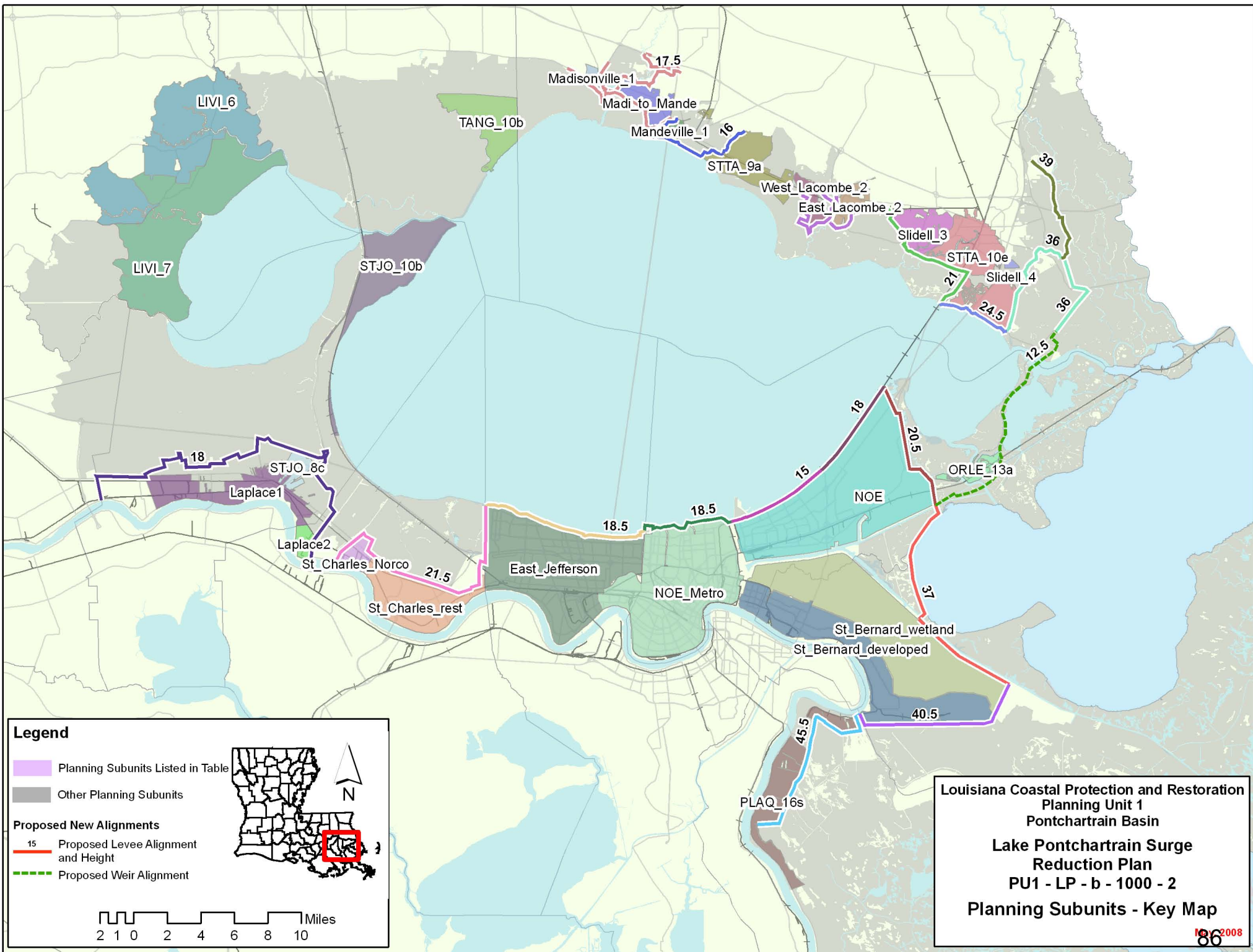
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	3,578	31,899	335	202	1,223	55	363	159	52
		Mid		34,031	473	379	1,843	98	333	159	50
		Low		37,940	796	696	3,203	180	303	156	48
2	High RSLR High Employment Dispersed Population	High	3,600	32,500	363	274	1,393	71	363	138	51
		Mid		35,084	532	488	2,152	125	333	135	49
		Low		39,287	981	1,122	4,390	293	303	129	41
3	Low RSLR Business-as-Usual Compact Population	High	3,578	28,396	325	175	1,151	49	363	159	52
		Mid		30,418	452	309	1,713	83	333	159	50
		Low		34,039	751	540	2,881	146	303	156	48
4	High RSLR Business-as-Usual Compact Population	High	3,600	28,718	345	209	1,265	59	363	138	51
		Mid		31,154	497	365	1,899	99	333	135	49
		Low		34,940	885	898	3,789	235	303	129	41

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4		
Construction Time (years)			16		After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			9,100		After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8		Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42		Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		0	0	0	0	
	1 / 2	24,889	25,043	Structural Component		59,398	59,605	59,398	59,605	
	3 / 4	24,889	25,043	Total Project		70,064	70,504	70,064	70,504	

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Structural Plan Lake Pontchartrain Surge Reduction Alt 1000-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	939	1,472	1,006	1,081	810	1,345	869	
100-year	11,935	2,451	34,000	2,766	9,879	1,601	26,076	1,740	
400-year	89,937	3,853	116,204	4,462	62,688	1,999	80,694	2,223	
1,000-year	118,260	5,330	122,423	6,040	81,963	2,505	84,515	2,726	
2,000-year	122,343	7,208	125,886	8,088	84,351	3,853	86,336	4,096	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.





LIVI\_6

LIVI\_7

STJO\_10b

TANG\_10b

Madisonville\_1

Madi\_to\_Mande

Mandeville\_1

STTA\_9a

West\_Lacombe\_2

East\_Lacombe\_2

Slidell\_3

STTA\_10e

Slidell\_4

STJO\_8c

Laplace1

Laplace2

St\_Charles\_Norco

St\_Charles\_rest

East\_Jefferson

NOE\_Metro

St\_Bernard\_wetland

St\_Bernard\_developed

18

15

18.5

18.5

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ORLE\_13a

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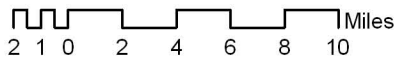
16

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PLAQ\_16s



**Alternative: PU1-LP-b-1000-2**  
**Water Surface Elevations** (feet - NAVD88 2004.65)

Planning Sub Unit	2010 (Base) Conditions						2060 (Future) Conditions					
	100-yr Event		400-year Event		1,000-yr Event		100-yr Event		400-year Event		1,000-yr Event	
	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
East_Jefferson	-5.1	-5.3	-1.3	-5.2	4.4	-5.0	-2.6	-5.3	16.0	-5.2	16.0	-5.0
East_Lacombe_2	10.9	4.6	14.3	4.7	15.9	4.9	17.3	4.6	21.7	4.7	23.6	4.9
Laplace1	9.4	4.1	12.2	4.1	14.0	4.5	12.4	4.1	15.0	4.1	16.8	4.5
Laplace2	8.5	4.1	11.0	4.1	12.8	4.5	11.2	4.1	14.3	4.1	16.2	4.5
LIVI_6	7.3	4.1	9.7	5.2	11.1	6.1	10.3	6.7	12.8	7.8	13.9	8.7
LIVI_7	7.5	5.5	9.7	6.9	10.9	7.8	11.0	8.1	13.1	9.5	14.4	10.4
Madi_to_Mande	11.0	5.3	13.1	5.4	14.3	5.8	13.8	5.3	16.7	5.4	18.3	5.8
Madisonville_1	11.7	5.6	14.6	5.7	16.1	6.3	13.5	5.6	15.8	5.7	16.9	6.3
Mandeville_1	11.0	5.9	13.1	6.0	14.3	6.5	14.9	5.9	19.1	6.0	21.4	6.5
NOE	-5.8	-6.0	0.5	-6.0	10.9	-5.9	-0.1	-6.0	16.0	-6.0	16.0	-5.9
NOE_Metro	-5.1	-5.2	-4.8	-5.1	-3.0	-5.1	-5.0	-5.2	16.0	-5.1	16.0	-5.1
ORLE_13a	14.6	16.4	17.8	21.8	19.4	26.5	17.9	19.0	21.5	24.4	23.8	29.1
PLAQ_16s	19.2	-0.1	25.3	0.3	30.0	2.0	21.4	-0.1	27.8	0.3	31.8	2.0
Slidell_3	11.5	4.3	15.1	4.3	16.8	4.6	13.4	4.3	16.8	4.3	18.5	4.6
Slidell_4	14.1	6.2	18.3	6.2	20.4	6.2	20.5	6.2	24.3	6.2	26.5	6.2
St_Bernard_developed	-0.1	-0.4	4.3	-0.3	10.6	0.1	2.3	-0.4	16.0	-0.3	16.0	0.1
St_Bernard_wetland	2.4	1.7	5.2	1.7	10.6	1.8	4.5	1.7	16.0	1.7	16.0	1.8
St_Charles_Norco	4.4	3.4	16.0	3.5	16.0	4.5	11.5	3.4	17.3	3.5	18.6	4.5
St_Charles_rest	2.1	1.9	16.0	1.9	16.0	2.1	11.5	1.9	17.3	1.9	18.6	2.1
STJO_10b	10.6	8.9	12.9	11.4	14.1	12.8	13.3	11.5	15.6	14.0	16.7	15.4
STJO_8c	9.4	4.1	12.2	4.1	14.0	4.5	12.7	4.1	15.4	4.1	17.2	4.5
STTA_10e	12.2	4.3	16.2	4.3	18.2	4.6	13.3	4.3	16.7	4.3	18.6	4.6
STTA_9a	10.4	8.0	12.7	9.4	14.0	10.4	13.2	10.6	15.6	12.0	17.5	13.0
TANG_10b	11.0	7.7	13.6	10.6	15.0	12.1	13.7	10.3	16.3	13.2	17.8	14.7
West_Lacombe_2	10.5	3.6	13.5	3.6	15.0	3.9	13.2	3.6	15.8	3.6	17.3	3.9
Evaluation Parameters	Confidence Level:			90%		Levee Design:			No Friction Waves			
	Future Relative Sea Level Rise:			2.6 feet		Levee Overtopping:			No Friction Waves			

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-C-HL-a-100-2	<b>Category:</b>	Comprehensive (Coastal+Structural+Nonstructural)
<b>Alternative Description:</b>	Comprehensive plan--Same coastal and structural measures as Alternative PU1-HL-a-100-2 but with complementary nonstructural measures to reduce residual risk.				
<b>Coastal Component:</b>	R2 (pulsed diversions)		<b>Nonstructural Component:</b>	100-yr complementary measures	
<b>Structural Component:</b>	Same as Alternative PU1-HL-a-100-2				

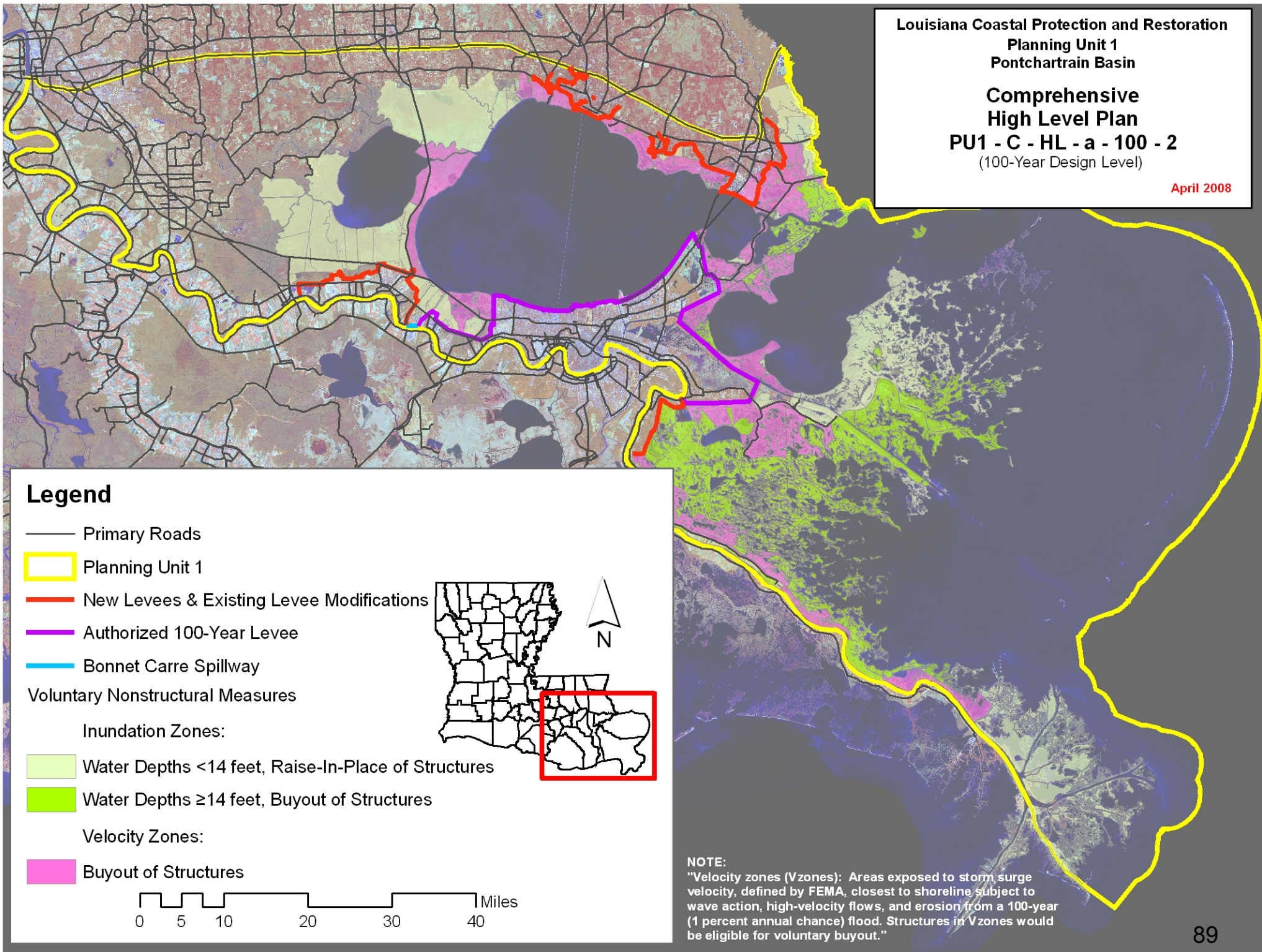
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	1,672	31,018	264	129	882	36	342	141	51
		Mid		33,710	399	325	1,594	83	312	138	50
		Low		39,008	873	817	3,709	214	282	132	43
2	High RSLR High Employment Dispersed Population	High	1,687	31,392	281	196	1,048	51	342	138	51
		Mid		34,415	445	412	1,837	105	312	135	49
		Low		39,947	1,014	1,102	4,498	289	282	129	41
3	Low RSLR Business-as-Usual Compact Population	High	1,640	27,282	257	129	907	36	342	141	51
		Mid		29,896	388	284	1,551	74	312	138	50
		Low		34,845	831	685	3,480	183	282	132	43
4	High RSLR Business-as-Usual Compact Population	High	1,654	27,491	270	156	994	44	342	138	51
		Mid		30,375	419	326	1,687	86	312	135	49
		Low		35,460	925	928	4,095	243	282	129	41

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			12	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			4,200	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-2	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		2,896	2,896	2,254	2,254
	1 / 2	11,777	11,879	Structural Component		19,194	19,251	19,194	19,251
	3 / 4	11,553	11,654	Total Project		32,756	33,046	32,114	32,405

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Comprehensive Plan High Level Alt 100-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	717	1,472	729	1,081	592	1,345	599	
100-year	11,935	1,368	34,000	2,323	9,879	1,106	26,076	1,406	
400-year	89,937	49,813	116,204	50,452	62,688	38,075	80,694	38,237	
1,000-year	118,260	69,880	122,423	71,216	81,963	51,501	84,515	51,964	
2,000-year	122,343	114,192	125,886	115,532	84,351	80,011	86,336	80,443	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.





**Legend**

- Primary Roads
- Planning Unit 1
- New Levees & Existing Levee Modifications
- Authorized 100-Year Levee
- Bonnet Carre Spillway

Voluntary Nonstructural Measures

Inundation Zones:

- Water Depths <14 feet, Raise-In-Place of Structures
- Water Depths ≥14 feet, Buyout of Structures

Velocity Zones:

- Buyout of Structures

0 5 10 20 30 40 Miles

**NOTE:**  
 "Velocity zones (Vzones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in Vzones would be eligible for voluntary buyout."

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-C-HL-a-100-3	<b>Category:</b>	Comprehensive (Coastal+Structural+Nonstructural)
<b>Alternative Description:</b>	Comprehensive plan--Same coastal and structural measures as Alternative PU1-HL-a-100-3 but with complementary nonstructural measures to reduce residual risk.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>	100-yr complementary measures		
<b>Structural Component:</b>	Same as Alternative PU1-HL-a-100-3				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	1,514	31,233	263	129	874	36	335	137	51
		Mid		34,023	398	329	1,601	84	305	133	50
		Low		39,309	870	825	3,717	216	275	126	43
2	High RSLR High Employment Dispersed Population	High	1,528	31,712	282	206	1,066	54	335	134	51
		Mid		34,829	448	428	1,875	109	305	128	48
		Low		40,352	1,020	1,120	4,540	294	275	124	40
3	Low RSLR Business-as-Usual Compact Population	High	1,483	27,407	255	128	897	36	335	137	51
		Mid		30,093	385	286	1,549	75	305	133	50
		Low		35,048	827	687	3,468	184	275	126	43
4	High RSLR Business-as-Usual Compact Population	High	1,496	27,686	270	162	1,000	46	335	134	51
		Mid		30,641	419	338	1,718	90	305	128	48
		Low		35,731	926	941	4,121	248	275	124	40

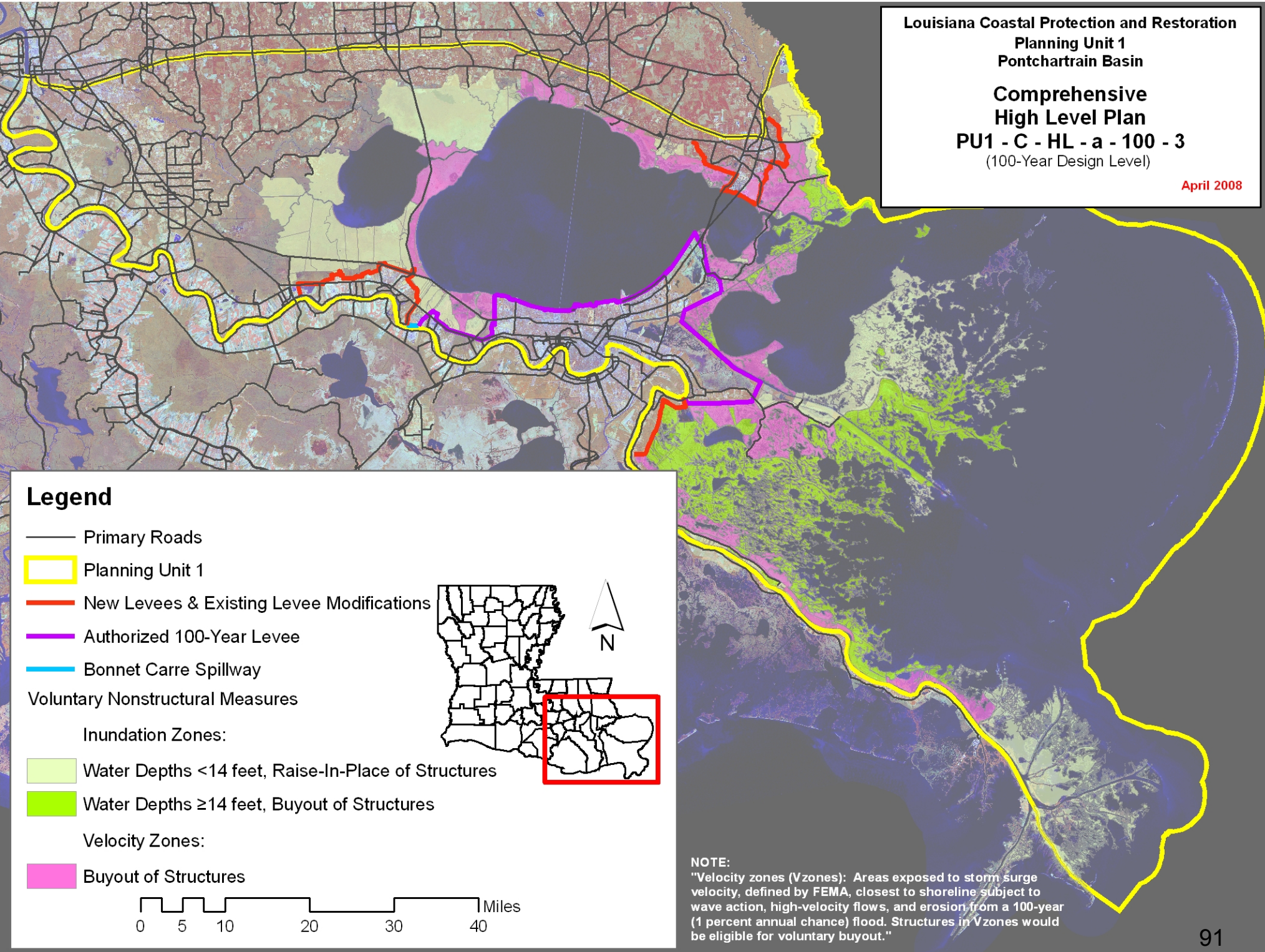
Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			12	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			3,600	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-1	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		3,102	3,102	2,483	2,483
	1 / 2	10,600	10,694	Structural Component		15,893	15,928	15,893	15,928
	3 / 4	10,384	10,477	Total Project		29,661	29,929	29,042	29,310

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Comprehensive Plan High Level Alt 100-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	721	1,472	736	1,081	590	1,345	599	
100-year	11,935	1,440	34,000	2,774	9,879	1,157	26,076	1,712	
400-year	89,937	49,754	116,204	50,953	62,688	37,969	80,694	38,452	
1,000-year	118,260	70,154	122,423	72,279	81,963	51,581	84,515	52,420	
2,000-year	122,343	114,933	125,886	117,538	84,351	80,285	86,336	81,502	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4.78% Federal discount rate. All dollar metrics are based on 2007 price levels.

**Comprehensive  
 High Level Plan**  
**PU1 - C - HL - a - 100 - 3**  
 (100-Year Design Level)

April 2008



**Legend**

- Primary Roads
- ▭ Planning Unit 1
- New Levees & Existing Levee Modifications
- Authorized 100-Year Levee
- Bonnet Carre Spillway

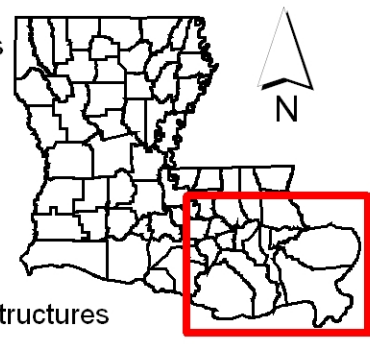
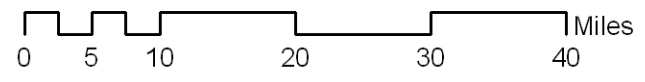
Voluntary Nonstructural Measures

Inundation Zones:

- ▭ Water Depths <14 feet, Raise-In-Place of Structures
- ▭ Water Depths ≥14 feet, Buyout of Structures

Velocity Zones:

- ▭ Buyout of Structures



**NOTE:**  
 "Velocity zones (Vzones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in Vzones would be eligible for voluntary buyout."

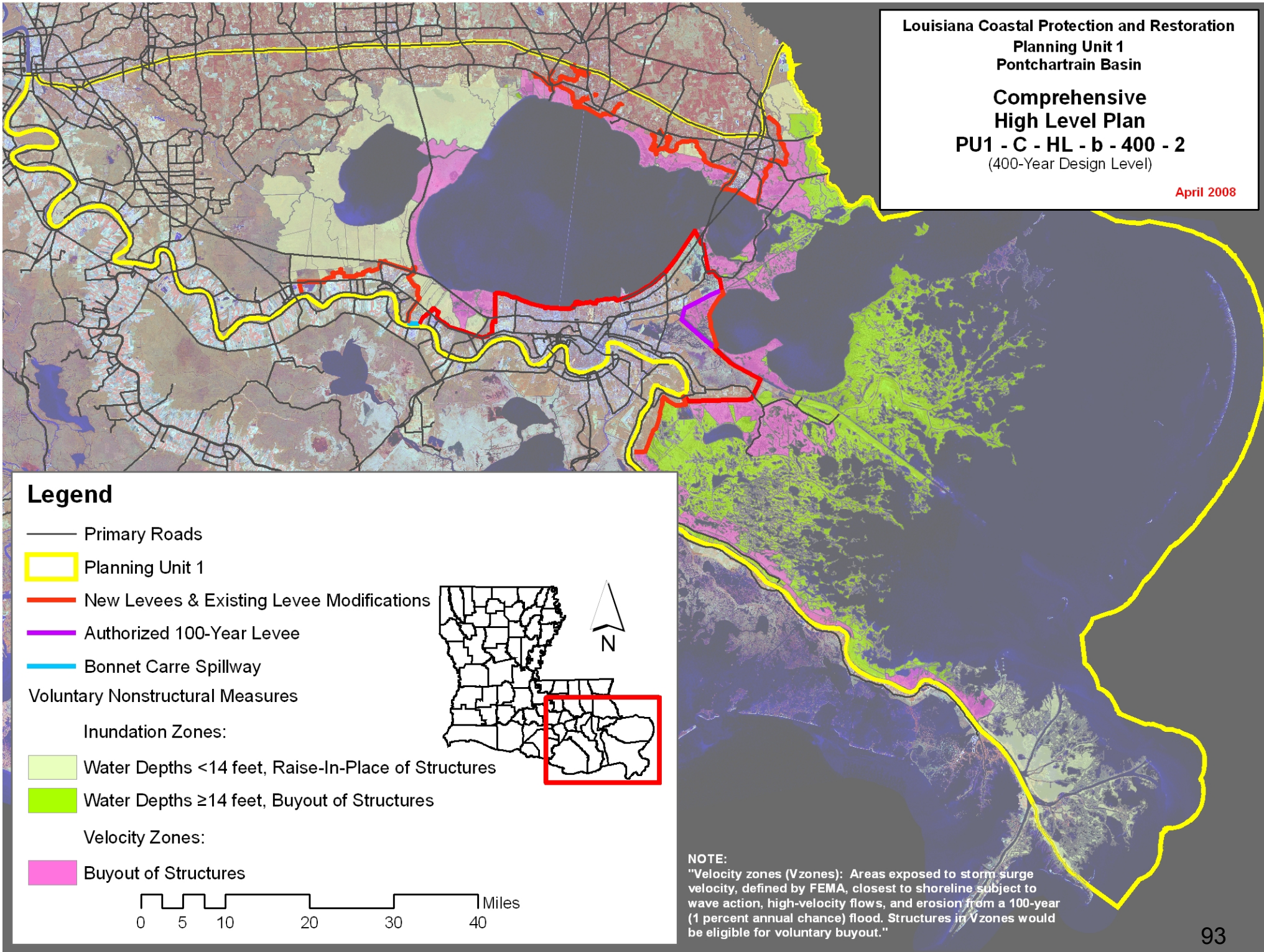
<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-C-HL-b-400-2	<b>Category:</b>	Comprehensive (Coastal+Structural+Nonstructural)
<b>Alternative Description:</b>	Comprehensive plan--Same coastal and structural measures as Alternative PU1-HL-b-400-2 but with complementary nonstructural measures to reduce residual risk.				
<b>Coastal Component:</b>	R2 (pulsed diversions)		<b>Nonstructural Component:</b>	400-yr complementary measures	
<b>Structural Component:</b>	Same as Alternative PU1-HL-b-400-2				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	3,238	31,154	279	136	924	37	344	158	52
		Mid		33,173	395	292	1,494	76	314	153	51
		Low		37,294	708	610	2,864	159	284	148	50
2	High RSLR High Employment Dispersed Population	High	3,262	31,611	299	193	1,076	51	344	158	51
		Mid		34,153	449	401	1,801	104	314	150	49
		Low		38,583	890	1,032	4,031	271	284	142	46
3	Low RSLR Business-as-Usual Compact Population	High	3,203	27,820	274	140	964	39	344	158	52
		Mid		29,799	387	268	1,503	72	314	153	51
		Low		33,628	683	504	2,688	136	284	148	50
4	High RSLR Business-as-Usual Compact Population	High	3,228	28,091	292	173	1,075	49	344	158	51
		Mid		30,492	429	326	1,690	88	314	150	49
		Low		34,510	816	865	3,597	225	284	142	46

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4		
Construction Time (years)			16		After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			6,000		After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-2		Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42		Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		3,182	3,182	2,506	2,506	
	1 / 2	22,623	22,788	Structural Component		49,569	49,808	49,569	49,808	
	3 / 4	22,386	22,552	Total Project		63,416	63,889	62,740	63,212	

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Comprehensive Plan High Level Alt 400-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	703	1,472	712	1,081	585	1,345	589	
100-year	11,935	980	34,000	1,106	9,879	837	26,076	912	
400-year	89,937	1,531	116,204	2,491	62,688	1,178	80,694	1,432	
1,000-year	118,260	5,672	122,423	7,379	81,963	4,049	84,515	4,586	
2,000-year	122,343	22,470	125,886	23,948	84,351	16,517	86,336	16,966	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4.78% Federal discount rate. All dollar metrics are based on 2007 price levels.



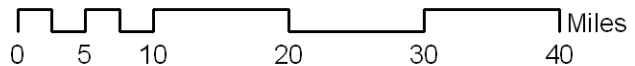
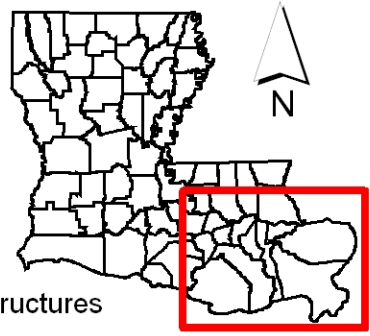
**Legend**

- Primary Roads
- Planning Unit 1
- New Levees & Existing Levee Modifications
- Authorized 100-Year Levee
- Bonnet Carre Spillway

Voluntary Nonstructural Measures

- Inundation Zones:
- Water Depths <14 feet, Raise-In-Place of Structures
  - Water Depths ≥14 feet, Buyout of Structures

- Velocity Zones:
- Buyout of Structures



**NOTE:**  
 "Velocity zones (Vzones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in Vzones would be eligible for voluntary buyout."

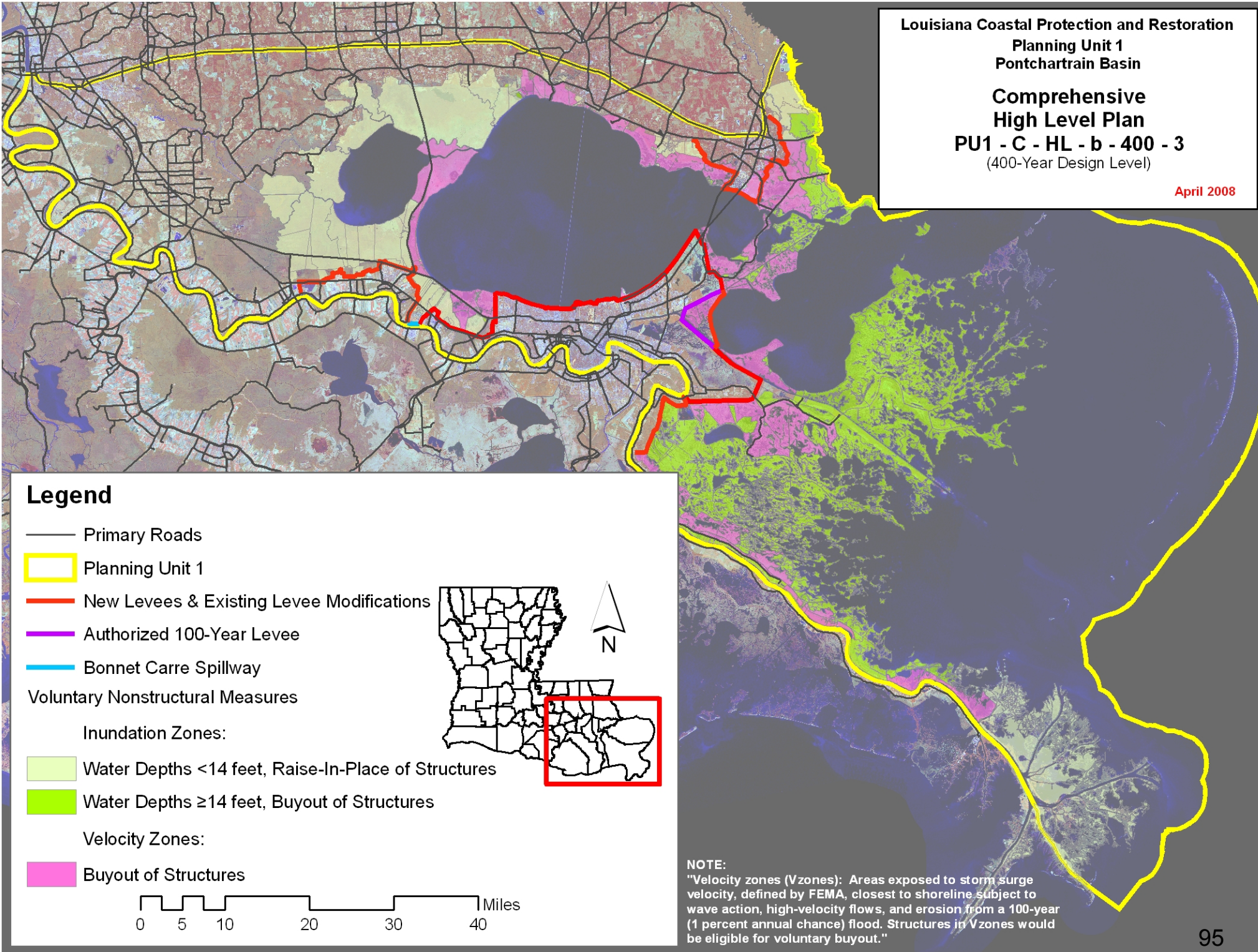
<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-C-HL-b-400-3	<b>Category:</b>	Comprehensive (Coastal+Structural+Nonstructural)
<b>Alternative Description:</b>	Comprehensive plan--Same coastal and structural measures as Alternative PU1-HL-b-400-3 but with complementary nonstructural measures to reduce residual risk.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>	400-yr complementary measures		
<b>Structural Component:</b>	Same as Alternative PU1-HL-b-400-3				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	3,011	31,321	277	134	910	37	307	143	51
		Mid		33,435	391	291	1,481	76	307	143	50
		Low		37,636	704	610	2,853	159	277	140	48
2	High RSLR High Employment Dispersed Population	High	3,034	31,863	297	192	1,063	51	337	143	51
		Mid		34,496	446	402	1,796	104	307	141	49
		Low		39,009	889	1,036	4,037	272	277	133	45
3	Low RSLR Business-as-Usual Compact Population	High	2,986	27,914	271	138	948	38	307	143	51
		Mid		29,965	383	267	1,489	71	307	143	50
		Low		33,867	678	504	2,676	136	277	140	48
4	High RSLR Business-as-Usual Compact Population	High	3,009	28,241	289	172	1,061	49	337	143	51
		Mid		30,714	426	326	1,683	89	307	141	49
		Low		34,803	812	867	3,600	227	277	133	45

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			16	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			5,500	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-2	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		3,415	3,415	2,929	2,929
	1 / 2	20,985	21,140	Structural Component		44,895	45,103	44,895	45,103
	3 / 4	20,815	20,970	Total Project		58,975	59,417	58,489	58,931

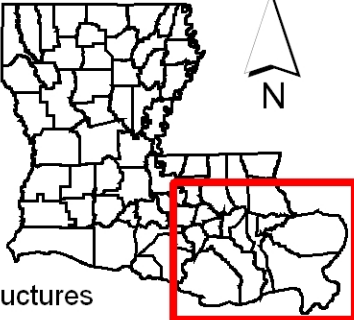
2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Comprehensive Plan High Level Alt 400-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	708	1,472	721	1,081	584	1,345	591	
100-year	11,935	1,023	34,000	1,248	9,879	869	26,076	1,029	
400-year	89,937	1,793	116,204	3,387	62,688	1,389	80,694	2,019	
1,000-year	118,260	6,558	122,423	9,086	81,963	4,590	84,515	5,527	
2,000-year	122,343	23,779	125,886	26,611	84,351	17,141	86,336	18,415	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.



**Legend**

- Primary Roads
- Planning Unit 1
- New Levees & Existing Levee Modifications
- Authorized 100-Year Levee
- Bonnet Carre Spillway
- Voluntary Nonstructural Measures
- Inundation Zones:
  - Water Depths <14 feet, Raise-In-Place of Structures
  - Water Depths ≥14 feet, Buyout of Structures
- Velocity Zones:
  - Buyout of Structures



0 5 10 20 30 40 Miles

**NOTE:**  
 "Velocity zones (Vzones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in Vzones would be eligible for voluntary buyout."

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-C-LP-a-100-1	<b>Category:</b>	Comprehensive (Coastal+Structural+Nonstructural)
<b>Alternative Description:</b>	Comprehensive plan--Same coastal and structural measures as Alternative PU1-LP-a-100-1 but with complementary nonstructural measures to reduce residual risk.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>	100-yr complementary measures		
<b>Structural Component:</b>	Same as Alternative PU1-LP-a-100-1				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	1,100	31,885	271	132	825	35	325	140	51
		Mid		34,496	387	299	1,421	78	295	133	50
		Low		39,725	744	710	3,102	183	265	127	43
2	High RSLR High Employment Dispersed Population	High	1,118	32,929	295	211	1,068	59	325	136	51
		Mid		36,027	450	451	1,815	114	295	129	45
		Low		41,341	933	1,115	4,183	287	265	123	40
3	Low RSLR Business-as-Usual Compact Population	High	1,071	28,339	264	131	870	36	325	140	51
		Mid		30,883	378	263	1,411	71	295	133	50
		Low		35,788	712	557	2,869	152	265	127	43
4	High RSLR Business-as-Usual Compact Population	High	1,088	29,053	285	175	1,022	50	325	136	51
		Mid		32,008	428	333	1,644	92	295	129	45
		Low		36,932	851	891	3,701	234	265	123	40

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			14	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			1,000	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		3,869	3,869	3,291	3,291
	1 / 2	7,609	7,729	Structural Component		7,024	7,132	7,024	7,132
	3 / 4	7,407	7,527	Total Project		21,559	21,901	20,981	21,323

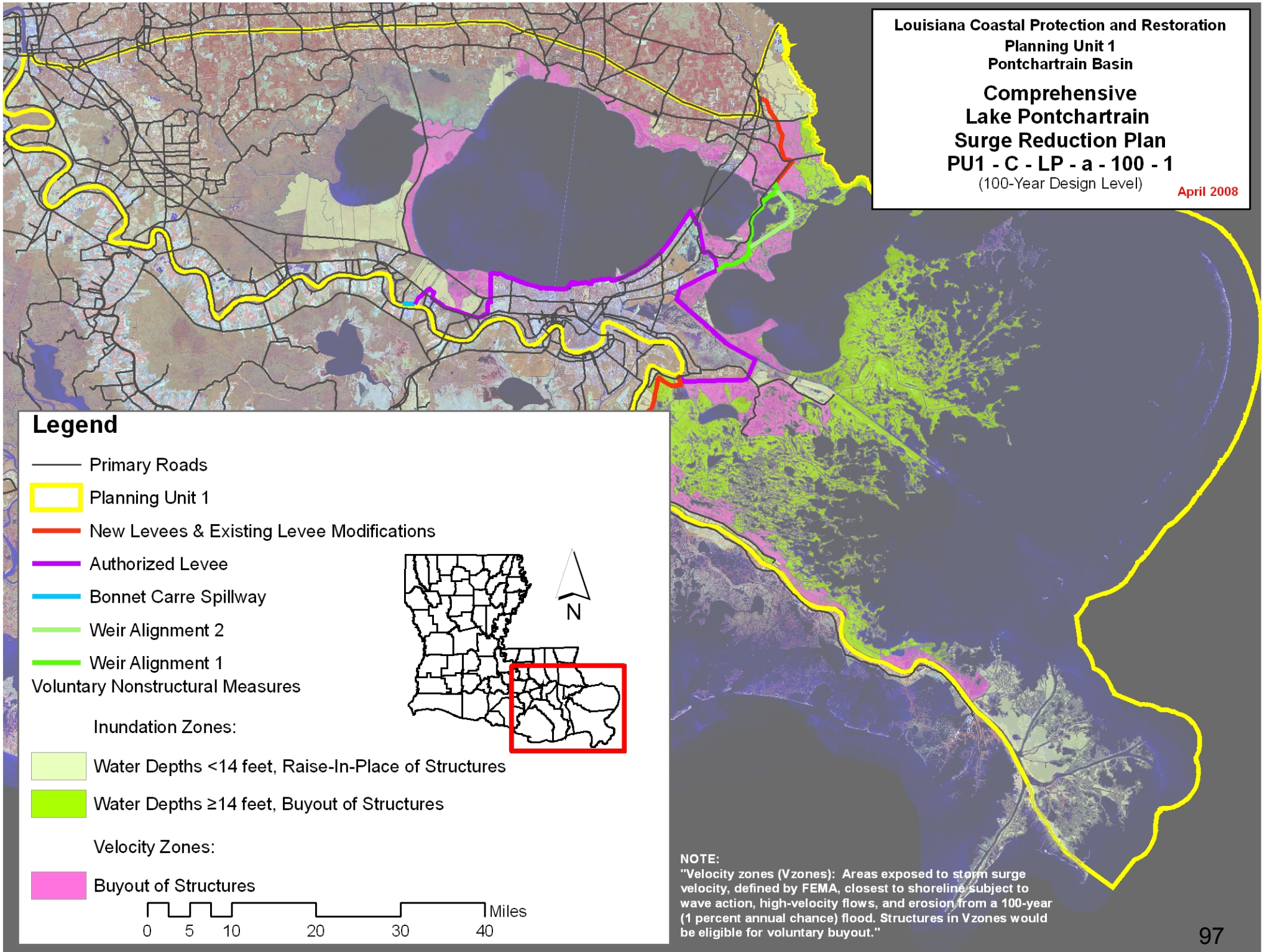
2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Comprehensive Plan Lake Pontchartrain Surge Reduction Alt 100-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	723	1,472	784	1,081	594	1,345	646	
100-year	11,935	1,703	34,000	3,524	9,879	1,516	26,076	2,955	
400-year	89,937	16,335	116,204	20,709	62,688	11,352	80,694	14,331	
1,000-year	118,260	50,410	122,423	54,445	81,963	35,865	84,515	38,371	
2,000-year	122,343	104,180	125,886	107,583	84,351	73,593	86,336	75,637	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.



Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Comprehensive  
 Lake Pontchartrain  
 Surge Reduction Plan**  
**PU1 - C - LP - a - 100 - 1**  
 (100-Year Design Level)

April 2008



**Legend**

- Primary Roads
  - Planning Unit 1
  - New Levees & Existing Levee Modifications
  - Authorized Levee
  - Bonnet Carre Spillway
  - Weir Alignment 2
  - Weir Alignment 1
  - Voluntary Nonstructural Measures
  - Inundation Zones:
    - Water Depths <14 feet, Raise-In-Place of Structures
    - Water Depths ≥14 feet, Buyout of Structures
  - Velocity Zones:
    - Buyout of Structures
- 0 5 10 20 30 40 Miles

**NOTE:**  
 "Velocity zones (Vzones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in Vzones would be eligible for voluntary buyout."

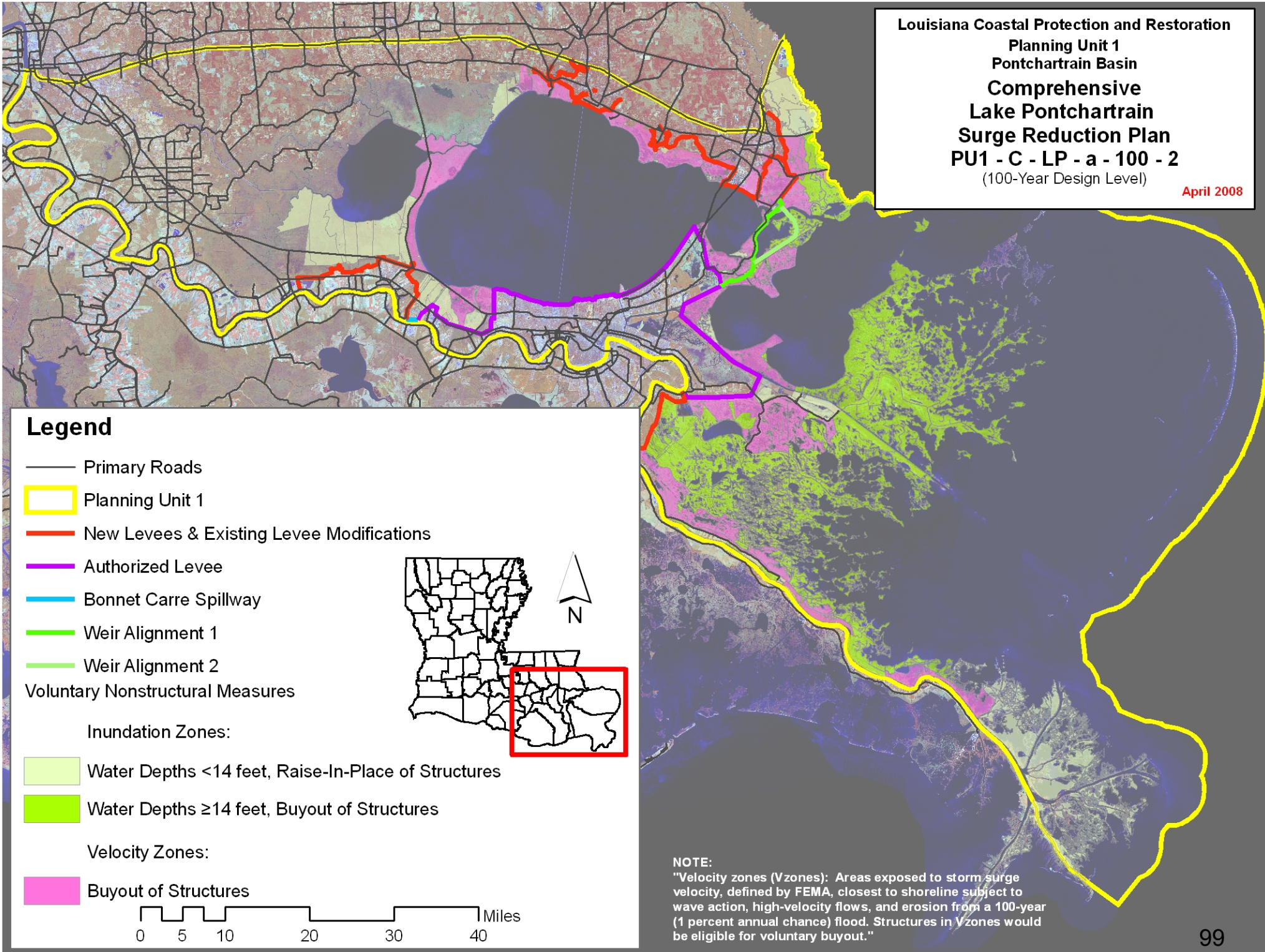
<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-C-LP-a-100-2	<b>Category:</b>	Comprehensive (Coastal+Structural+Nonstructural)
<b>Alternative Description:</b>	Comprehensive plan--Same coastal and structural measures as Alternative PU1-LP-a-100-2 but with complementary nonstructural measures to reduce residual risk.				
<b>Coastal Component:</b>	R2 (pulsed diversions)		<b>Nonstructural Component:</b>	100-yr complementary measures	
<b>Structural Component:</b>	Same as Alternative PU1-LP-a-100-2				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	1,834	30,998	276	133	884	37	361	145	51
		Mid		33,212	399	292	1,479	76	331	137	50
		Low		37,747	751	661	3,057	172	301	134	43
2	High RSLR High Employment Dispersed Population	High	1,853	31,467	294	184	1,017	49	361	138	51
		Mid		34,100	446	394	1,746	100	331	135	49
		Low		38,891	905	1,017	4,049	267	301	129	41
3	Low RSLR Business-as-Usual Compact Population	High	1,798	27,582	270	137	943	38	361	145	51
		Mid		29,762	391	269	1,512	72	331	137	50
		Low		33,915	721	544	2,892	147	301	134	43
4	High RSLR Business-as-Usual Compact Population	High	1,817	27,843	285	165	1,038	47	361	138	51
		Mid		30,381	428	316	1,669	85	331	135	49
		Low		34,669	832	842	3,646	221	301	129	41

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4		
Construction Time (years)			14		After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			4,100		After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8		Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42		Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		2,820	2,820	2,113	2,113	
	1 / 2	12,792	12,923	Structural Component		22,443	22,582	22,443	22,582	
	3 / 4	12,545	12,675	Total Project		35,929	36,301	35,222	35,594	

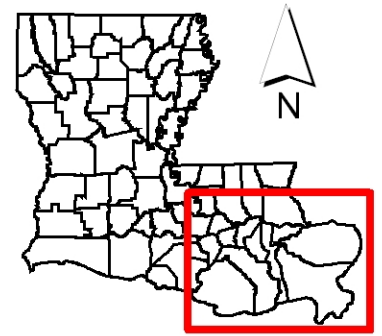
2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Comprehensive Plan Lake Pontchartrain Surge Reduction Alt 100-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	713	1,472	734	1,081	593	1,345	612	
100-year	11,935	1,109	34,000	1,310	9,879	952	26,076	1,062	
400-year	89,937	14,016	116,204	14,462	62,688	9,602	80,694	9,803	
1,000-year	118,260	47,839	122,423	48,458	81,963	33,836	84,515	34,043	
2,000-year	122,343	102,967	125,886	103,784	84,351	72,511	86,336	72,749	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.



**Legend**

- Primary Roads
  - Planning Unit 1
  - New Levees & Existing Levee Modifications
  - Authorized Levee
  - Bonnet Carre Spillway
  - Weir Alignment 1
  - Weir Alignment 2
  - Voluntary Nonstructural Measures
  - Inundation Zones:
    - Water Depths <14 feet, Raise-In-Place of Structures
    - Water Depths ≥14 feet, Buyout of Structures
  - Velocity Zones:
    - Buyout of Structures
- 0 5 10 20 30 40 Miles



**NOTE:**  
 "Velocity zones (Vzones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in Vzones would be eligible for voluntary buyout."

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-C-LP-a-100-3	<b>Category:</b>	Comprehensive (Coastal+Structural+Nonstructural)
<b>Alternative Description:</b>	Comprehensive plan--Same coastal and structural measures as Alternative PU1-LP-a-100-3 but with complementary nonstructural measures to reduce residual risk.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>	100-yr complementary measures		
<b>Structural Component:</b>	Same as Alternative PU1-LP-a-100-3				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	1,773	31,162	275	134	876	36	354	143	51
		Mid		33,433	397	294	1,477	76	324	133	50
		Low		37,976	750	667	3,068	174	294	127	43
2	High RSLR High Employment Dispersed Population	High	1,795	31,715	294	189	1,030	51	354	137	51
		Mid		34,395	447	402	1,763	102	324	128	45
		Low		39,208	909	1,031	4,081	271	294	123	40
3	Low RSLR Business-as-Usual Compact Population	High	1,738	27,654	269	137	932	35	354	143	51
		Mid		29,874	389	269	1,503	72	324	133	50
		Low		34,048	718	547	2,894	148	294	127	43
4	High RSLR Business-as-Usual Compact Population	High	1,760	27,956	285	168	1,039	48	354	137	51
		Mid		30,534	428	321	1,673	87	324	128	45
		Low		34,853	833	851	3,663	224	294	123	40

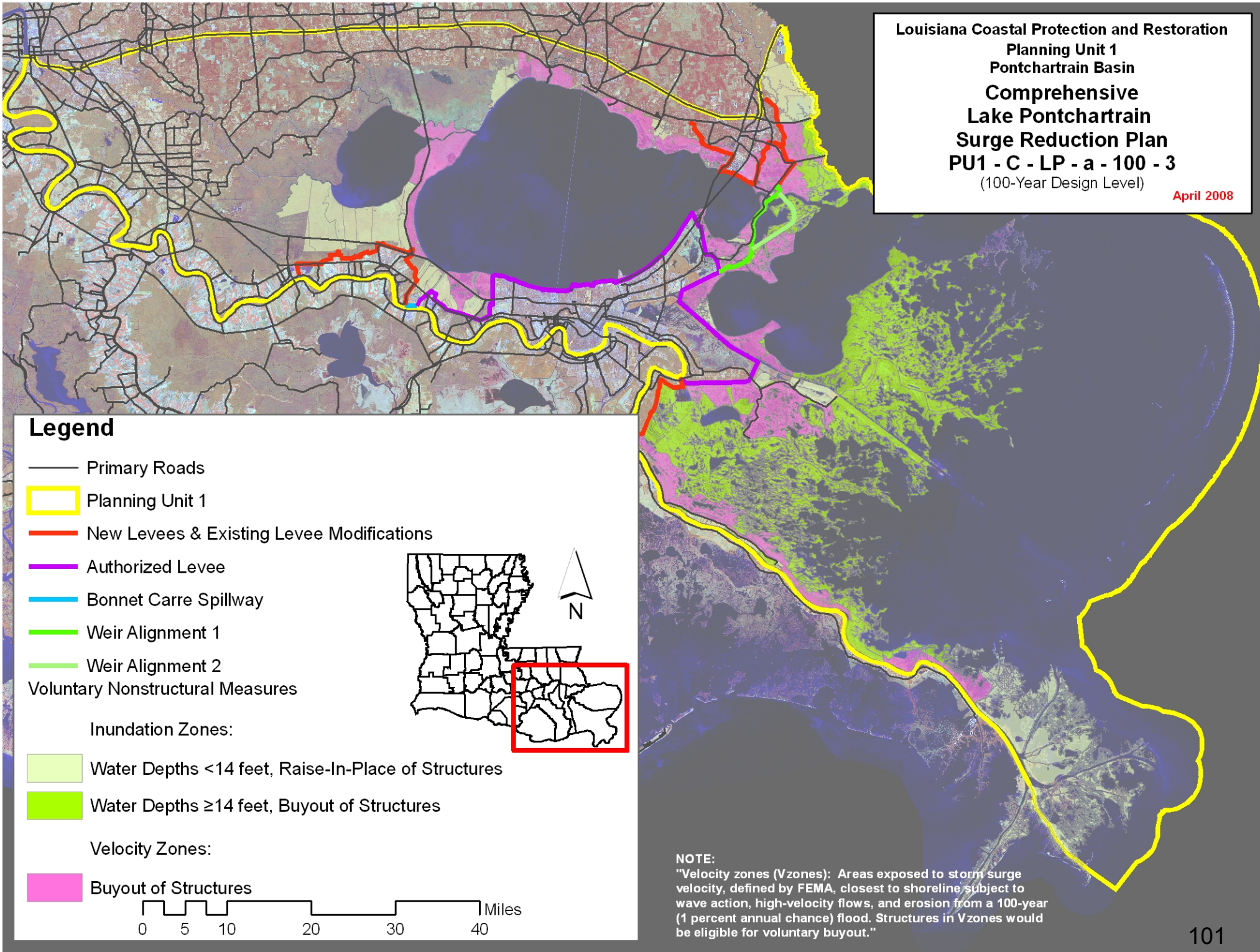
Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			14	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			3,700	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		2,977	2,977	2,287	2,287
	1 / 2	12,326	12,473	Structural Component		21,092	21,279	21,092	21,279
	3 / 4	12,085	12,232	Total Project		34,735	35,155	34,045	34,465

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Comprehensive Plan Lake Pontchartrain Surge Reduction Alt 100-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	714	1,472	738	1,081	590	1,345	611	
100-year	11,935	1,166	34,000	1,599	9,879	991	26,076	1,257	
400-year	89,937	14,212	116,204	15,043	62,688	9,672	80,694	10,069	
1,000-year	118,260	48,364	122,423	49,464	81,963	34,033	84,515	34,504	
2,000-year	122,343	103,665	125,886	104,997	84,351	72,777	86,336	73,318	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
**Comprehensive  
 Lake Pontchartrain  
 Surge Reduction Plan**  
**PU1 - C - LP - a - 100 - 3**  
 (100-Year Design Level)

April 2008



**Legend**

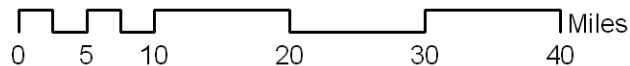
- Primary Roads
- Planning Unit 1
- New Levees & Existing Levee Modifications
- Authorized Levee
- Bonnet Carre Spillway
- Weir Alignment 1
- Weir Alignment 2
- Voluntary Nonstructural Measures

Inundation Zones:

- Water Depths <14 feet, Raise-In-Place of Structures
- Water Depths ≥14 feet, Buyout of Structures

Velocity Zones:

- Buyout of Structures



**NOTE:**

"Velocity zones (Vzones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in Vzones would be eligible for voluntary buyout."

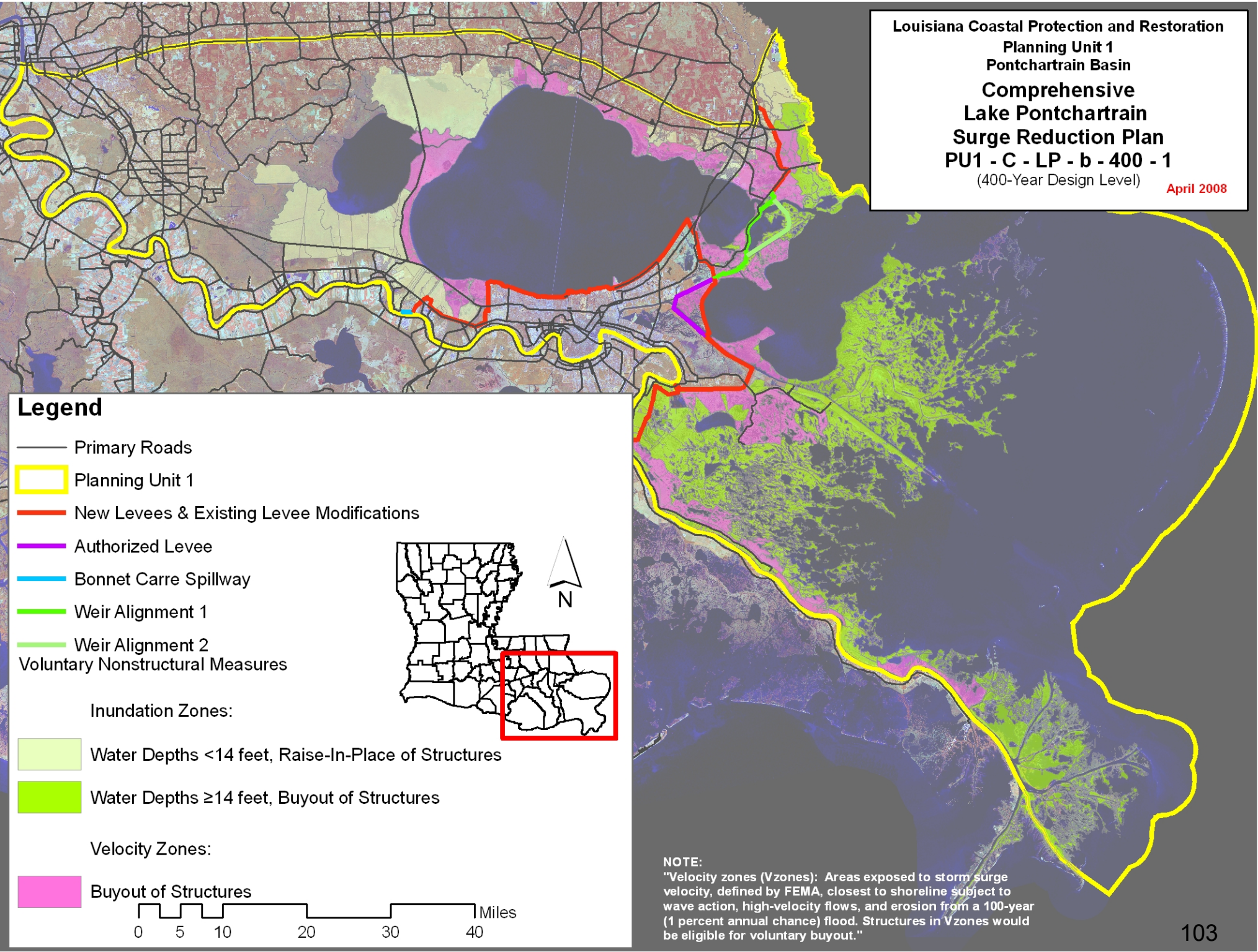
<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-C-LP-b-400-1	<b>Category:</b>	Comprehensive (Coastal+Structural+Nonstructural)
<b>Alternative Description:</b>	Comprehensive plan--Same coastal and structural measures as Alternative PU1-LP-b-400-1 but with complementary nonstructural measures to reduce residual risk.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>	400-yr complementary measures		
<b>Structural Component:</b>	Same as Alternative PU1-LP-b-400-1				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	2,147	31,572	272	123	816	34	327	142	51
		Mid		34,075	378	277	1,346	72	297	137	50
		Low		38,960	684	611	2,758	161	267	131	48
2	High RSLR High Employment Dispersed Population	High	2,163	32,555	293	186	987	50	354	138	51
		Mid		35,646	436	416	1,768	111	324	133	50
		Low		40,681	878	1,069	4,039	284	294	129	45
3	Low RSLR Business-as-Usual Compact Population	High	2,178	28,231	266	132	882	36	327	142	51
		Mid		30,703	372	257	1,371	68	297	137	50
		Low		35,332	661	505	2,581	137	267	131	48
4	High RSLR Business-as-Usual Compact Population	High	2,194	28,906	285	169	1,005	48	354	138	51
		Mid		31,862	417	330	1,615	90	324	133	50
		Low		36,557	803	884	3,555	233	294	129	45

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			16	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			4,200	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		5,858	5,858	6,453	6,453
	1 / 2	14,804	14,915	Structural Component		25,538	25,620	25,538	25,620
	3 / 4	15,012	15,123	Total Project		42,061	42,377	42,656	42,972

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Comprehensive Plan Lake Pontchartrain Surge Reduction Alt 400-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	704	1,472	749	1,081	579	1,345	614	
100-year	11,935	1,175	34,000	1,544	9,879	995	26,076	1,277	
400-year	89,937	2,761	116,204	8,697	62,688	2,367	80,694	6,868	
1,000-year	118,260	14,209	122,423	18,516	81,963	11,121	84,515	13,955	
2,000-year	122,343	33,494	125,886	37,673	84,351	25,057	86,336	27,508	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4.78% Federal discount rate. All dollar metrics are based on 2007 price levels.



**Legend**

- Primary Roads
  - Planning Unit 1
  - New Levees & Existing Levee Modifications
  - Authorized Levee
  - Bonnet Carre Spillway
  - Weir Alignment 1
  - Weir Alignment 2
  - Voluntary Nonstructural Measures
- Inundation Zones:
- Water Depths <14 feet, Raise-In-Place of Structures
  - Water Depths ≥14 feet, Buyout of Structures
- Velocity Zones:
- Buyout of Structures
- 0 5 10 20 30 40 Miles

**NOTE:**  
 "Velocity zones (Vzones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in Vzones would be eligible for voluntary buyout."

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-C-LP-b-400-3	<b>Category:</b>	Comprehensive (Coastal+Structural+Nonstructural)
<b>Alternative Description:</b>	Comprehensive plan--Same coastal and structural measures as Alternative PU1-LP-b-400-3 but with complementary nonstructural measures to reduce residual risk.				
<b>Coastal Component:</b>	R2 (pulsed diversions)	<b>Nonstructural Component:</b>	400-yr complementary measures		
<b>Structural Component:</b>	Same as Alternative PU1-LP-b-400-3				

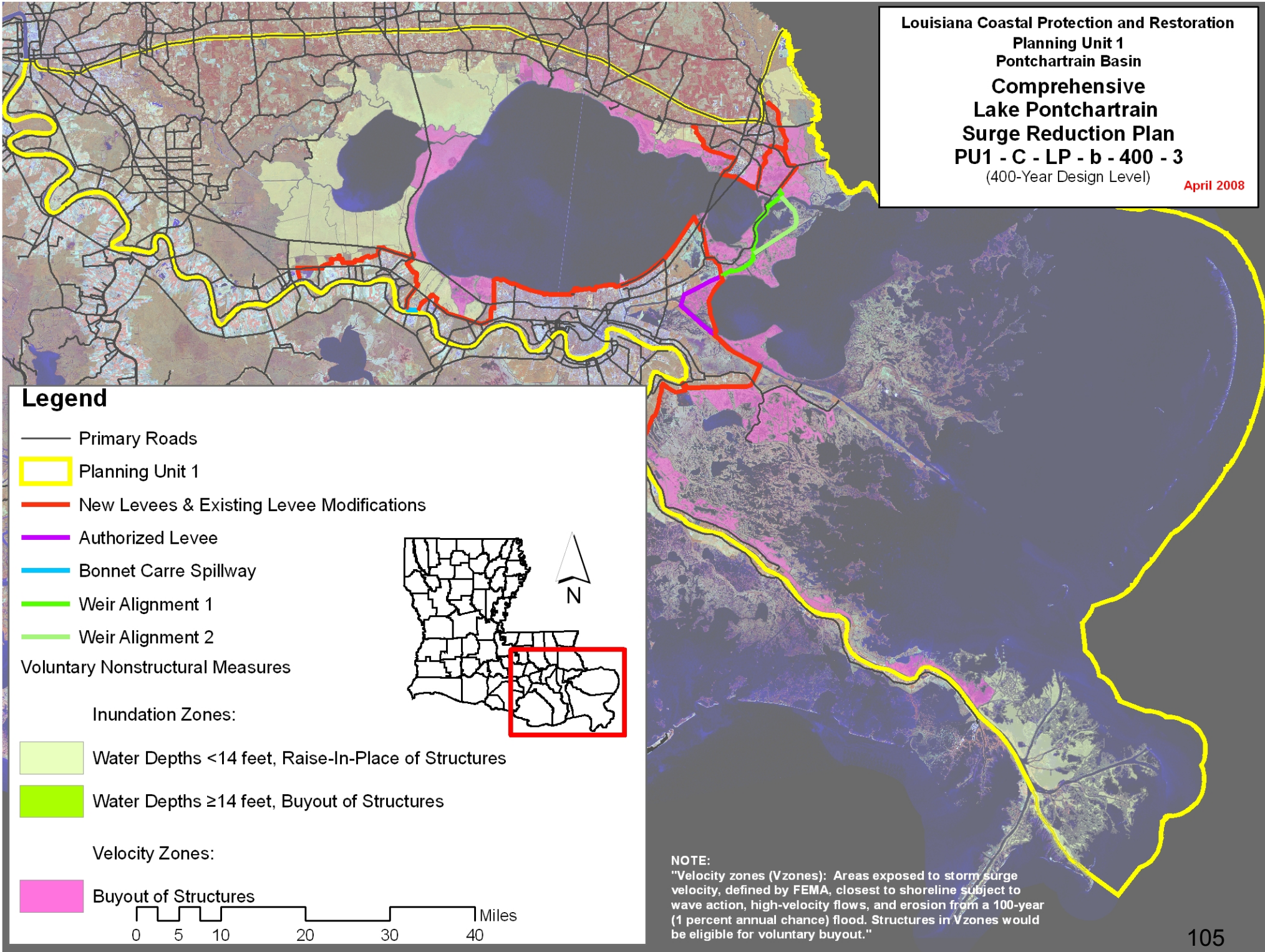
Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	3,008	31,109	279	130	878	36	356	149	51
		Mid		33,133	393	286	1,449	75	326	146	50
		Low		37,263	705	605	2,830	160	296	141	48
2	High RSLR High Employment Dispersed Population	High	3,028	31,666	300	191	1,044	51	356	147	51
		Mid		34,208	448	402	1,781	105	326	142	50
		Low		38,647	889	1,034	4,015	273	296	134	45
3	Low RSLR Business-as-Usual Compact Population	High	2,975	27,852	275	139	952	38	356	149	51
		Mid		29,818	388	267	1,489	71	326	146	50
		Low		33,650	684	506	2,688	137	296	141	48
4	High RSLR Business-as-Usual Compact Population	High	2,995	28,167	293	175	1,072	50	356	147	51
		Mid		30,571	431	328	1,689	89	326	142	50
		Low		34,577	819	869	3,608	227	296	134	45

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4	
Construction Time (years)			16	After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			7,500	After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8	Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42	Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		3,172	3,172	2,520	2,520
	1 / 2	20,843	20,980	Structural Component		45,081	45,238	45,081	45,238
	3 / 4	20,615	20,752	Total Project		58,919	59,309	58,267	58,657

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Comprehensive Plan Lake Pontchartrain Surge Reduction Alt 400-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	702	1,472	720	1,081	583	1,345	597	
100-year	11,935	995	34,000	1,218	9,879	855	26,076	1,024	
400-year	89,937	1,337	116,204	2,323	62,688	1,127	80,694	1,514	
1,000-year	118,260	6,866	122,423	8,000	81,963	5,668	84,515	6,172	
2,000-year	122,343	25,731	125,886	27,153	84,351	20,497	86,336	21,082	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4.78% Federal discount rate. All dollar metrics are based on 2007 price levels.





**Legend**

- Primary Roads
- Planning Unit 1
- New Levees & Existing Levee Modifications
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- Bonnet Carre Spillway
- Weir Alignment 1
- Weir Alignment 2

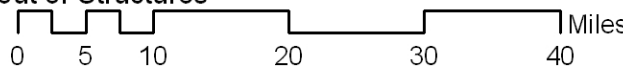
Voluntary Nonstructural Measures

Inundation Zones:

- Water Depths <14 feet, Raise-In-Place of Structures
- Water Depths ≥14 feet, Buyout of Structures

Velocity Zones:

- Buyout of Structures



**NOTE:**  
 "Velocity zones (V zones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in V zones would be eligible for voluntary buyout."

<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-C-LP-b-1000-1	<b>Category:</b>	Comprehensive (Coastal+Structural+Nonstructural)	
<b>Alternative Description:</b>	Comprehensive plan--Same coastal and structural measures as Alternative PU1-LP-b-1000-1 but with complementary nonstructural measures to reduce residual risk.					
<b>Coastal Component:</b>	R2 (pulsed diversions)		<b>Nonstructural Component:</b>	1000-yr complementary measures		
<b>Structural Component:</b>	Same as Alternative PU1-LP-b-1000-1					

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	2,579	31,285	270	123	816	34	327	142	51
		Mid		33,710	375	272	1,326	71	297	137	50
		Low		38,446	667	575	2,618	151	267	131	48
2	High RSLR High Employment Dispersed Population	High	2,602	32,247	290	180	966	48	327	138	51
		Mid		35,269	429	382	1,642	99	297	133	50
		Low		40,146	852	1,019	3,867	270	267	129	45
3	Low RSLR Business-as-Usual Compact Population	High	2,667	28,145	265	132	881	36	327	142	51
		Mid		30,547	369	253	1,353	67	297	137	50
		Low		35,039	645	477	2,447	128	267	131	48
4	High RSLR Business-as-Usual Compact Population	High	2,690	28,809	282	165	992	46	327	138	51
		Mid		31,700	411	310	1,545	84	297	133	50
		Low		36,257	780	851	3,410	223	267	129	45

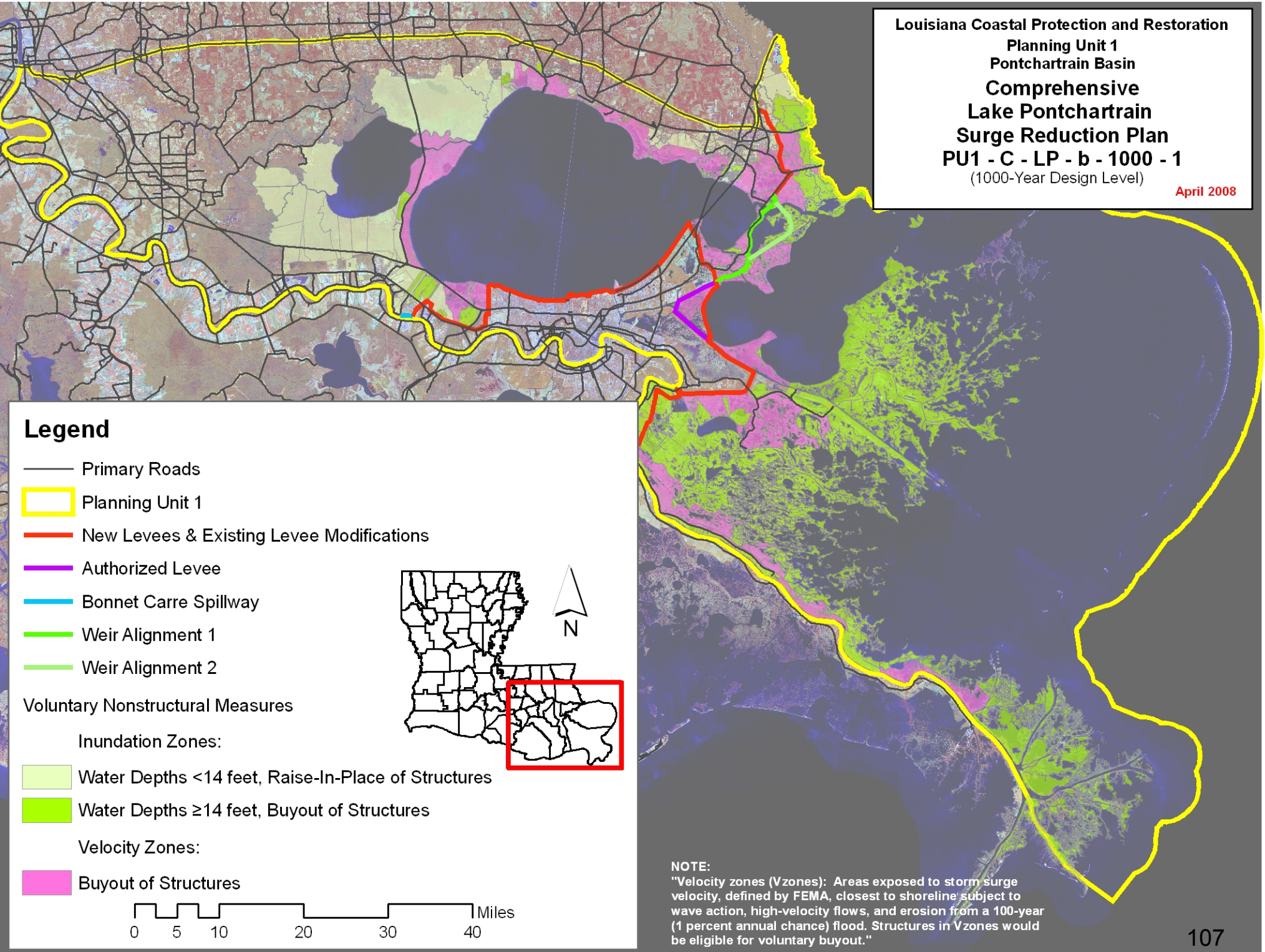
Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4		
Construction Time (years)			16		After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			5,100		After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8		Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42		Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		6,508	6,508	8,243	8,243	
	1 / 2	17,906	18,066	Structural Component		33,339	33,562	33,339	33,562	
	3 / 4	18,513	18,673	Total Project		50,512	50,969	52,248	52,704	

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Comprehensive Plan Lake Pontchartrain Surge Reduction Alt 1000-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	695	1,472	732	1,081	573	1,345	599	
100-year	11,935	1,125	34,000	1,296	9,879	953	26,076	1,086	
400-year	89,937	1,408	116,204	2,250	62,688	1,195	80,694	1,750	
1,000-year	118,260	3,324	122,423	10,985	81,963	2,636	84,515	8,711	
2,000-year	122,343	12,020	125,886	17,240	84,351	10,022	86,336	13,278	

Note: Present Value costs and Annual Equivalent numbers are calculated for the period from 2010 to 2075 at common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.

Louisiana Coastal Protection and Restoration  
 Planning Unit 1  
 Pontchartrain Basin  
 Comprehensive  
 Lake Pontchartrain  
 Surge Reduction Plan  
**PU1 - C - LP - b - 1000 - 1**  
 (1000-Year Design Level)

April 2008



**Legend**

- Primary Roads
- Planning Unit 1
- New Levees & Existing Levee Modifications
- Authorized Levee
- Bonnet Carre Spillway
- Weir Alignment 1
- Weir Alignment 2

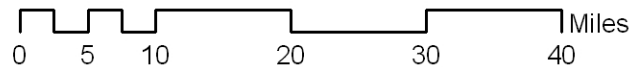
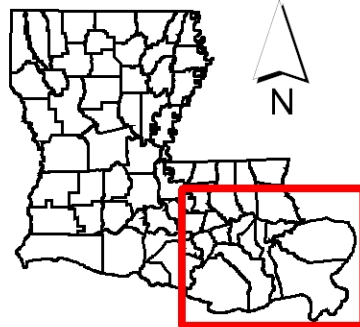
Voluntary Nonstructural Measures

Inundation Zones:

- Water Depths <14 feet, Raise-In-Place of Structures
- Water Depths ≥14 feet, Buyout of Structures

Velocity Zones:

- Buyout of Structures



**NOTE:**  
 "Velocity zones (Vzones): Areas exposed to storm surge velocity, defined by FEMA, closest to shoreline subject to wave action, high-velocity flows, and erosion from a 100-year (1 percent annual chance) flood. Structures in Vzones would be eligible for voluntary buyout."

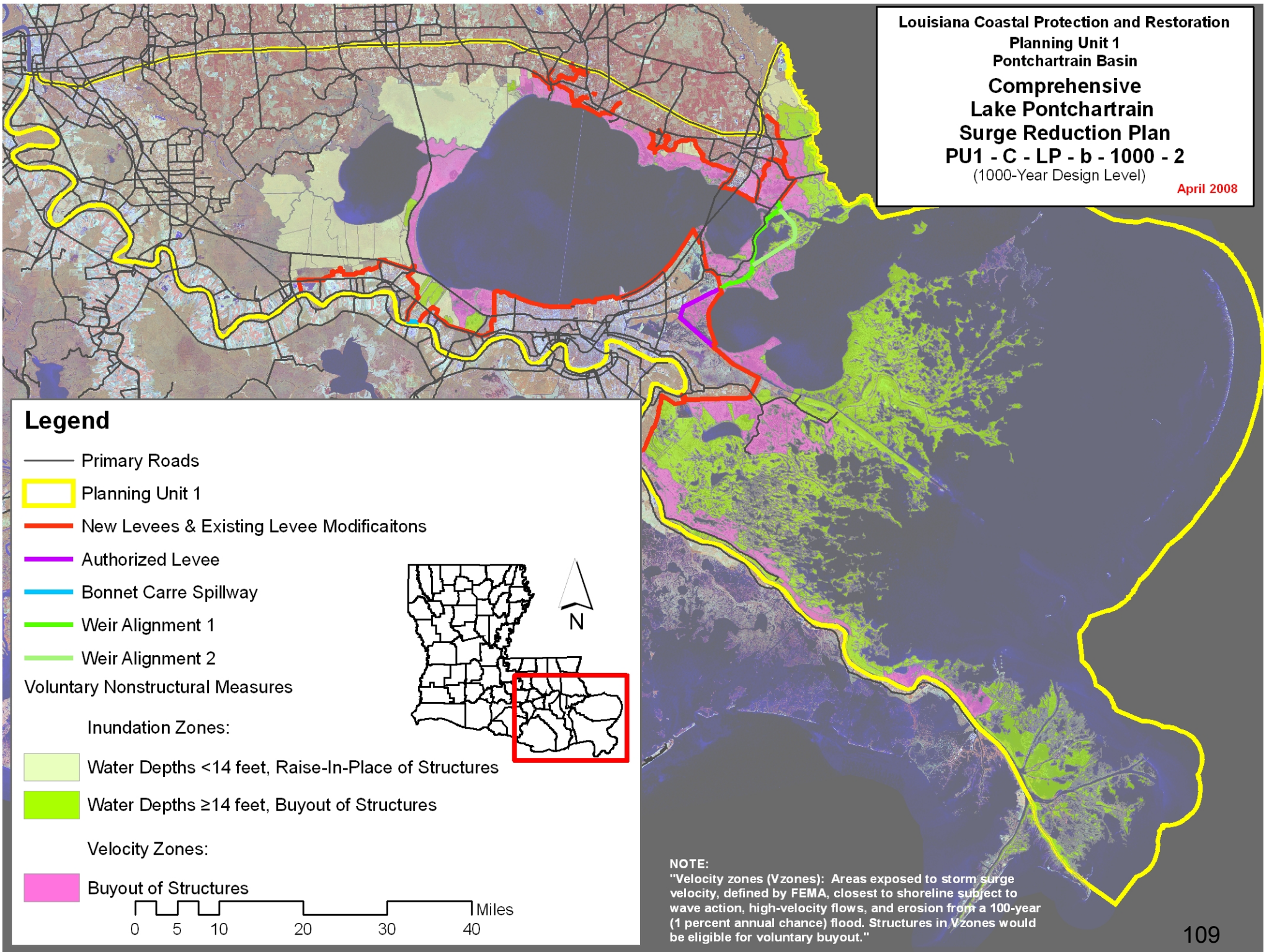
<b>Planning Unit:</b>	1	<b>Alt. No.:</b>	PU1-C-LP-b-1000-2	<b>Category:</b>	Comprehensive (Coastal+Structural+Nonstructural)
<b>Alternative Description:</b>	Comprehensive plan--Same coastal and structural measures as Alternative PU1-LP-b-1000-2 but with complementary nonstructural measures to reduce residual risk.				
<b>Coastal Component:</b>	R2 (pulsed diversions)		<b>Nonstructural Component:</b>	1000-yr complementary measures	
<b>Structural Component:</b>	Same as Alternative PU1-LP-b-1000-2				

Scenario	Future Conditions (Relative Sea Level Rise (RSLR) and Redevelopment Assumptions)	Uncertainty	Results by Scenario with Uncertainty Bands								
			Life Cycle Cost	Population Impacted	Residual Damages	Gross Regional Output Impacted	Employment Impacted	People's Earned Income Impacted	Archeo. Sites Protected	Historic Properties Protected	Historic Districts Protected
			Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	Ann. Equiv. \$ Millions	Ann. Equiv. #	Ann. Equiv. \$ Millions	# Sites	# Properties	# Districts
1	Low RSLR High Employment Dispersed Population	High	3,754	30,761	280	131	889	36	363	159	52
		Mid		32,697	393	287	1,459	75	333	159	50
		Low		36,596	697	591	2,780	155	303	156	48
2	High RSLR High Employment Dispersed Population	High	3,777	31,242	299	189	1,042	50	363	138	51
		Mid		33,707	446	395	1,763	102	333	135	49
		Low		37,903	878	1,010	3,939	266	303	129	41
3	Low RSLR Business-as-Usual Compact Population	High	3,701	27,765	276	140	964	39	363	159	52
		Mid		29,663	389	268	1,502	71	333	159	50
		Low		33,279	679	495	2,651	134	303	156	48
4	High RSLR Business-as-Usual Compact Population	High	3,724	28,043	293	174	1,075	49	363	138	51
		Mid		30,381	431	323	1,685	88	333	135	49
		Low		34,161	810	852	3,555	222	303	129	41

Other Results			Wetlands Created/Protected		Scenario 1	Scenario 2	Scenario 3	Scenario 4		
Construction Time (years)			16		After 50 yrs (% of baseline)		106	104	106	104
Direct Wetland Impacts (acres)			9,100		After 100 yrs (% of baseline)		104	95	104	95
Indirect Impacts (unitless)			-8		Present Value of Life Cycle Costs (\$ Millions)					
Spatial Integrity (unitless)			0.42		Coastal Component		10,666	10,899	10,666	10,899
Non-Federal Share of Present Value of Life Cycle Costs	Scenario	(\$ Millions)		Nonstructural Component		3,459	3,459	2,424	2,424	
	1 / 2	26,099	26,254	Structural Component		59,398	59,605	59,398	59,605	
	3 / 4	25,737	25,891	Total Project		73,523	73,963	72,488	72,929	

2075 Residual Risk / Damages - Low Uncertainty (\$ Millions)									Planning Unit 1 Comprehensive Plan Lake Pontchartrain Surge Reduction Alt 1000-year Design
Frequency	Scenario 1		Scenario 2		Scenario 3		Scenario 4		
	No Action	With Proj	No Action	With Proj	No Action	With Proj	No Action	With Proj	
10-year	1,215	696	1,472	707	1,081	582	1,345	589	
100-year	11,935	931	34,000	968	9,879	807	26,076	832	
400-year	89,937	996	116,204	1,172	62,688	854	80,694	969	
1,000-year	118,260	1,362	122,423	1,933	81,963	1,137	84,515	1,376	
2,000-year	122,343	3,099	125,886	4,018	84,351	2,488	86,336	2,790	

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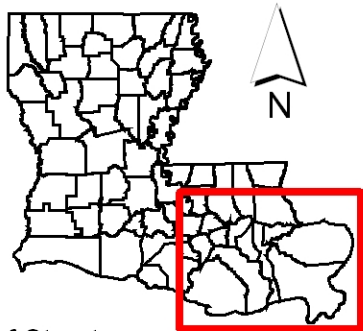
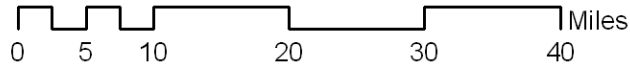
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