

*Wetland/Marsh
Mitigation Plan
Evaluation*

April 2007

Savannah Harbor Expansion Project Wetland/Marsh Mitigation Plan Evaluation

MARSH Acreages Impacted ONLY

Deepening Only No Mitigation Options							
		Acreages Negatively Impacted (fresh to salt)		Acreages Postively Impacted (salt to fresh)		Net Impact (net negative), net positive	
		50% <i>Exceedance</i>	10% <i>Exceedance</i>	50% <i>Exceedance</i>	10% <i>Exceedance</i>	50% <i>Exceedance</i>	10% <i>Exceedance</i>
Basic Evaluation 1997- Existing Sea Level	44-ft	1633.2	0	0	0	(1633.2)	0.0
	45-ft	1633.2	0	0	0	(1633.2)	0.0
	46-ft	1633.2	0	0	0	(1633.2)	0.0
	48-ft	1932.2	299	0	0	(1932.2)	(299.0)
Sensitivity Analysis #1 2001- Existing Sea Level	44-ft	469.2	494.2	0	0	(469.2)	(494.2)
	45-ft	768.2	494.2	0	0	(768.2)	(494.2)
	46-ft	768.2	494.2	0	0	(768.2)	(494.2)
	48-ft	768.2	494.2	0	0	(768.2)	(494.2)
Sensitivity Analysis #2A 1997- 25cm Sea Level Rise	<i>Existing</i>	1287.4	299	0	0	(1287.4)	(299.0)
	44-ft	1932.2	299	0	0	(1932.2)	(299.0)
	45-ft	1932.2	299	0	0	(1932.2)	(299.0)
	46-ft	1932.2	299	0	0	(1932.2)	(299.0)
	48-ft	1932.2	299	0	0	(1932.2)	(299.0)
Sensitivity Analysis #2B 1997- 50cm Sea Level Rise	<i>Existing</i>	1932.2	299	0	0	(1932.2)	(299.0)
	44-ft	1932.2	1210.8	0	0	(1932.2)	(1210.8)
	45-ft	1932.2	1457.9	0	0	(1932.2)	(1457.9)
	46-ft	1932.2	1457.9	0	0	(1932.2)	(1457.9)
	48-ft	1932.2	1457.9	0	0	(1932.2)	(1457.9)

1997 Conditions- Average Historic Flow, Temperature, and Tidal Conditons- March through October 1997

2001 Conditions- Historic Low Flow, Average Temperature and Tidal Conditons- March through October 1997

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Plan 1							
-McCoy Cut Diversion Structure; -Channel Deepening on McCoy Cut to -4m NGVD and Upper Middle and Little Back River to -3m NGVD							
		Acreages Negatively Impacted (fresh to salt)		Acreages Postively Impacted (salt to fresh)		Net Impact (net negative), net postive	
		50% Exceedance	10% Exceedance	50% Exceedance	10% Exceedance	50% Exceedance	10% Exceedance
Basic Evaluation 1997- Existing Sea Level	44-ft	988.4	0	0	0	(988.4)	0.0
	45-ft	988.4	0	0	0	(988.4)	0.0
	46-ft	988.4	0	0	0	(988.4)	0.0
	48-ft	988.4	0	0	0	(988.4)	0.0
Sensitivity Analysis #1 2001- Existing Sea Level	44-ft	469.2	0	0	664.7	(469.2)	664.7
	45-ft	469.2	0	0	664.7	(469.2)	664.7
	46-ft	469.2	0	0	664.7	(469.2)	664.7
	48-ft	469.2	0	0	417.6	(469.2)	417.6
Sensitivity Analysis #2A 1997- 25cm Sea Level Rise	44-ft	988.4	0	0	0	(988.4)	0.0
	45-ft	1287.4	0	0	0	(1287.4)	0.0
	46-ft	1287.4	0	0	0	(1287.4)	0.0
	48-ft	1633.2	299	0	0	(1633.2)	(299.0)
Sensitivity Analysis #2B 1997- 50cm Sea Level Rise	44-ft	1287.4	299	0	0	(1287.4)	(299.0)
	45-ft	1633.2	299	0	0	(1633.2)	(299.0)
	46-ft	1633.2	299	0	0	(1633.2)	(299.0)
	48-ft	1932.2	299	0	0	(1932.2)	(299.0)

1997 Conditions- Average Historic Flow, Temperature, and Tidal Conditons- March through October 1997

2001 Conditions- Historic Low Flow, Average Temperature and Tidal Conditons- March through October 1997

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MARSH Acreages Impacted ONLY

Plan 2							
-McCoy Cut Diversion Structure;							
-Channel Deepening on McCoy Cut to -4m NGVD and Upper Middle and Little Back River to -3m NGVD;							
-Fill Entire Sediment Basin to -3.85m NGVD							
		Acreages Negatively Impacted (fresh to salt)		Acreages Postively Impacted (salt to fresh)		Net Impact (net negative), net positive	
		<i>50% Exceedance</i>	<i>10% Exceedance</i>	<i>50% Exceedance</i>	<i>10% Exceedance</i>	<i>50% Exceedance</i>	<i>10% Exceedance</i>
Basic Evaluation 1997- Existing Sea Level	<i>44-ft</i>	988.4	0	0	0	(988.4)	0.0
	<i>45-ft</i>	988.4	0	0	0	(988.4)	0.0
	<i>46-ft</i>	988.4	0	0	0	(988.4)	0.0
	<i>48-ft</i>	988.4	0	0	0	(988.4)	0.0
Sensitivity Analysis #1 2001- Existing Sea Level	<i>44-ft</i>	469.2	0	0	664.7	(469.2)	664.7
	<i>45-ft</i>	469.2	0	0	664.7	(469.2)	664.7
	<i>46-ft</i>	469.2	0	0	417.6	(469.2)	417.6
	<i>48-ft</i>	469.2	0	0	0	(469.2)	0.0
Sensitivity Analysis #2A 1997- 25cm Sea Level Rise	<i>44-ft</i>	988.4	0	0	0	(988.4)	0.0
	<i>45-ft</i>	988.4	0	0	0	(988.4)	0.0
	<i>46-ft</i>	1287.4	0	0	0	(1287.4)	0.0
	<i>48-ft</i>	1633.2	299	0	0	(1633.2)	(299.0)
Sensitivity Analysis #2B 1997- 50cm Sea Level Rise	<i>44-ft</i>	1287.4	299	0	0	(1287.4)	(299.0)
	<i>45-ft</i>	1633.2	299	0	0	(1633.2)	(299.0)
	<i>46-ft</i>	1633.2	299	0	0	(1633.2)	(299.0)
	<i>48-ft</i>	1932.2	299	0	0	(1932.2)	(299.0)

1997 Conditions- Average Historic Flow, Temperature, and Tidal Conditons- March through October 1997

2001 Conditions- Historic Low Flow, Average Temperature and Tidal Conditons- March through October 1997

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MARSH Acreages Impacted ONLY

Plan 3

- McCoy Cut Diversion Structure;
- Channel Deepening on McCoy Cut to -4m NGVD and Upper Middle and Little Back River to -3m NGVD;
- Fill Entire Sediment Basin to -3.85m NGVD;
- Rifle Cut Closed

		Acreages Negatively Impacted (fresh to salt)		Acreages Postively Impacted (salt to fresh)		Net Impact (net negative), net positive	
		50% Exceedance	10% Exceedance	50% Exceedance	10% Exceedance	50% Exceedance	10% Exceedance
Basic Evaluation 1997- Existing Sea Level	44-ft	988.4	0	453	345.8	(535.4)	345.8
	45-ft	988.4	0	453	345.8	(535.4)	345.8
	46-ft	988.4	0	453	345.8	(535.4)	345.8
	48-ft	1287.4	0	453	345.8	(834.4)	345.8
Sensitivity Analysis #1 2001- Existing Sea Level	44-ft	469.2	0	345.8	417.6	(123.4)	417.6
	45-ft	469.2	0	345.8	417.6	(123.4)	417.6
	46-ft	469.2	0	345.8	417.6	(123.4)	417.6
	48-ft	768.2	494.2	345.8	0	(422.4)	(494.2)
Sensitivity Analysis #2A 1997- 25cm Sea Level Rise	44-ft	1287.4	299	453	345.8	(834.4)	46.8
	45-ft	1287.4	299	453	345.8	(834.4)	46.8
	46-ft	1287.4	299	453	0	(834.4)	(299.0)
	48-ft	2055.6	299	0	0	(2055.6)	(299.0)
Sensitivity Analysis #2B 1997- 50cm Sea Level Rise	44-ft	1586.4	299	0	0	(1586.4)	(299.0)
	45-ft	1586.4	299	0	0	(1586.4)	(299.0)
	46-ft	2055.6	299	0	0	(2055.6)	(299.0)
	48-ft	2055.6	299	0	0	(2055.6)	(299.0)

1997 Conditions- Average Historic Flow, Temperature, and Tidal Conditons- March through October 1997

2001 Conditions- Historic Low Flow, Average Temperature and Tidal Conditons- March through October 1997

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Plan 4							
-McCoy Cut Diversion Structure; -Channel Deepening on McCoy Cut to -4m NGVD and Upper Middle and Little Back River to -3m NGVD; -Realign Middle River Outlet by Closing Middle River at Front River and Opening New Cut; -Close Houston Cut							
		Acreages Negatively Impacted (fresh to salt)		Acreages Postively Impacted (salt to fresh)		Net Impact (net negative), net positive	
		50% Exceedance	10% Exceedance	50% Exceedance	10% Exceedance	50% Exceedance	10% Exceedance
Basic Evaluation 1997- Existing Sea Level	44-ft	1334.2	0	210.1	598	(1124.1)	598.0
	45-ft	1334.2	0	0	598	(1334.2)	598.0
	46-ft	1334.2	0	0	598	(1334.2)	598.0
	48-ft	1334.2	0	0	598	(1334.2)	598.0
Sensitivity Analysis #1 2001- Existing Sea Level	44-ft	469.2	0	345.8	417.6	(123.4)	417.6
	45-ft	469.2	0	598	716.6	128.8	716.6
	46-ft	469.2	0	598	0	128.8	0.0
	48-ft	469.2	494.2	598	0	128.8	(494.2)
Sensitivity Analysis #2A 1997- 25cm Sea Level Rise	44-ft	1334.2	0	0	598	(1334.2)	598.0
	45-ft	1803.4	0	0	598	(1803.4)	598.0
	46-ft	1803.4	0	0	598	(1803.4)	598.0
	48-ft	1803.4	0	0	598	(1803.4)	598.0
Sensitivity Analysis #2B 1997- 50cm Sea Level Rise	44-ft	1803.4	0	0	299	(1803.4)	299.0
	45-ft	1803.4	0	0	299	(1803.4)	299.0
	46-ft	1803.4	0	0	299	(1803.4)	299.0
	48-ft	1803.4	0	0	0	(1803.4)	0.0

1997 Conditions- Average Historic Flow, Temperature, and Tidal Conditons- March through October 1997

2001 Conditions- Historic Low Flow, Average Temperature and Tidal Conditons- March through October 1997

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MARSH Acreages Impacted ONLY

Plan 5

- McCoy Cut Diversion Structure;
- Channel Deepening on McCoy Cut to -4m NGVD and Upper Middle and Little Back River to -3m NGVD;
- Realign Middle River Outlet by Closing Middle River at Front River and Opening New Cut;
- Close Houston Cut;

		Acreages Negatively Impacted (fresh to salt)		Acreages Postively Impacted (salt to fresh)		Net Impact (net negative), net postive	
		50% Exceedance	10% Exceedance	50% Exceedance	10% Exceedance	50% Exceedance	10% Exceedance
Basic Evaluation 1997- Existing Sea Level	44-ft	988.4	0	663.1	1153.9	(325.3)	1153.9
	45-ft	988.4	0	663.1	1153.9	(325.3)	1153.9
	46-ft	988.4	0	663.1	1153.9	(325.3)	1153.9
	48-ft	988.4	0	663.1	1153.9	(325.3)	1153.9
Sensitivity Analysis #1 2001- Existing Sea Level	44-ft	469.2	0	1153.9	1015.6	684.7	1015.6
	45-ft	469.2	494.2	1153.9	598	684.7	103.8
	46-ft	469.2	494.2	1153.9	598	684.7	103.8
	48-ft	469.2	494.2	1153.9	0	684.7	(494.2)
Sensitivity Analysis #2A 1997- 25cm Sea Level Rise	44-ft	988.4	0	663.1	1153.9	(325.3)	1153.9
	45-ft	988.4	0	663.1	1153.9	(325.3)	1153.9
	46-ft	988.4	0	663.1	1153.9	(325.3)	1153.9
	48-ft	1457.6	0	663.1	1153.9	(794.5)	1153.9
Sensitivity Analysis #2B 1997- 50cm Sea Level Rise	44-ft	988.4	0	663.1	1153.9	(325.3)	1153.9
	45-ft	988.4	0	663.1	1153.9	(325.3)	1153.9
	46-ft	1457.6	0	663.1	808.1	(794.5)	808.1
	48-ft	1457.6	0	663.1	598	(794.5)	598.0

1997 Conditions- Average Historic Flow, Temperature, and Tidal Conditons- March through October 1997

2001 Conditions- Historic Low Flow, Average Temperature and Tidal Conditons- March through October 1997