APPENDIX D
SENSITIVITY ANALYSIS #2B
ECOLOGICAL COMMUNITY MAPS &
ECOLOGICAL COMMUNITY SHIFT MAPS
USGS/USFWS Savannah Marsh Succession Model CART 2005 Predicted Ecological Community
Existing Depth

Values Based on EFDC and M2M Output using Historic Average Flow, Temperature, and Tidal Conditions
1 March through 1 October 1997 (1997 best represents average historic conditions from the available data set)
50 cm Sea Level Rise Conditions
Savannah Harbor Expansion Project - Wetland/Marsh Impact Evaluation

USGS/USFWS Savannah Marsh Succession Model CART 2005 Predicted Ecological Community
44 Foot Depth (2 Foot Deepening)

Values Based on EFDC and M2M Output using Historic Average Flow, Temperature, and Tidal Conditions
1 March through 1 October 1997 (1997 best represents average historic conditions from the available data set)
50 cm Sea Level Rise Conditions

March 2007
Savannah Harbor Expansion Project - Wetland/Marsh Impact Evaluation

USGS/USFWS Savannah Marsh Succession Model CART 2002 Predicted Ecological Community
45 Foot Deepening

Values Based on EFDC and M2M Output using Historic Average Flow, Temperature, and Tidal Conditions
1 March through 1 October 1997 (1997 best represents average historic conditions from the available data set)
50 cm Sea Level Rise Conditions

March 2007
USGS/USFWS Savannah Marsh Succession Model CART 2002 Predicted Ecological Community
46 Foot Deepening

Values Based on EFDC and M2M Output using Historic Average Flow, Temperature, and Tidal Conditions
1 March through 1 October 1997 (1997 best represents average historic conditions from the available data set)
50 cm Sea Level Rise Conditions

March 2007
Savannah Harbor Expansion Project - Wetland/Marsh Impact Evaluation

USGS/USFWS Savannah Marsh Succession Model CART 2002 Predicted Ecological Community
48 Foot Deepening

Values Based on EFDC and M2M Output using Historic Average Flow, Temperature, and Tidal Conditions
1 March through 1 October 1997 (1997 best represents average historic conditions from the available data set)
50 cm Sea Level Rise Conditions

March 2007
USGS/USFWS Savannah Marsh Succession Model CART 2005/2002 Predicted Ecological Community Shift
44 Foot Deepening

Values Based on EFDC and M2M Output using Historic Average Flow, Temperature, and Tidal Conditions
1 March through 1 October 1997 (1997 best represents average historic conditions from the available data set)
50 cm Sea Level Rise Conditions

Legend
Ecological Community Shift (M2M971Mar1OctEFDC2Slr50)

- No Community Shift
- Existing Condition; Deepening
  - 100% ELEMO_GALTI_SAGLT; 45% ELEMO; 23% SCIVA; 31% ZIZMI_POLSP
  - 100% ELEMO_GALTI_SAGLT; 86% SCIVA
  - 45% ZIZMI_POLSP_MURKE, 29% ELEMO_GALTI_SAGLT, 26% SCIVA; 86% SCIVA
  - 78% SCIVA; 78% SPASP_SCIRO, 22% SCIVA
  - 80% ZIZMI_POLSP_MURKE; 86% SCIVA

Savannah Harbor Expansion Project - Wetland/Marsh Impact Evaluation

March 2007
Legend
Ecological Community Shift (M2M971Mar1OctEFDC3Slr50)

No Community Shift
Existing Condition; Deepening
- 100% ELEMO_GALT_SAGLT; 45% ELEMO, 23% SCIVA, 31% ZIZIMI_POLSP
- 100% ELEMO_GALT_SAGLT; 86% SCIVA
- 45% ZIZI_POLS_MURKE, 29% ELEMO_GALT_SAGLT, 26% SCIVA; 86% SCIVA
- 78% SCIVA; 78% SPASP_SCIRO, 22% SCIVA
- 80% ZIZI_POLS_MURKE; 86% SCIVA

Savannah Harbor Expansion Project - Wetland/Marsh Impact Evaluation

USGS/USFWS Savannah Marsh Succession Model CART 2005/2002 Predicted Ecological Community Shift
45 Foot Deepening

Values Based on EFDC and M2M Output using Historic Average Flow, Temperature, and Tidal Conditions
1 March through 1 October 1997 (1997 best represents average historic conditions from the available data set)
50 cm Sea Level Rise Conditions

March 2007
USGS/USFWS Savannah Marsh Succession Model CART 2005/2002 Predicted Ecological Community Shift
46 Foot Deepening

Values Based on EFDC and M2M Output using Historic Average Flow, Temperature, and Tidal Conditions
1 March through 1 October 1997 (1997 best represents average historic conditions from the available data set)
50 cm Sea Level Rise Conditions

Legend
Ecological Community Shift (M2M971Mar1OctEFDC4Slr50)

No Community Shift

Existing Condition; Deepening

- 100% ELEMO_GALTI_SAGLT; 45% ELEMO, 23% SCIVA, 31% ZIZIMI_POLSP
- 100% ELEMO_GALTI_SAGLT; 86% SCIVA
- 45% ZIZMI_POLSP_MURKE, 29% ELEMO_GALTI_SAGLT, 26% SCIVA; 86% SCIVA
- 78% SCIVA; 78% SPASP_SCIRO, 22% SCIVA
- 80% ZIZMI_POLSP_MURKE; 86% SCIVA
Savannah Harbor Expansion Project - Wetland/Marsh Impact Evaluation

USGS/USFWS Savannah Marsh Succession Model CART 2005/2002 Predicted Ecological Community Shift
48 Foot Deepening

Values Based on EFDC and M2M Output using Historic Average Flow, Temperature, and Tidal Conditions
1 March through 1 October 1997 (1997 best represents average historic conditions from the available data set)
50 cm Sea Level Rise Conditions

Legend
Ecological Community Shift (M2M971Mar1OctEFDC6Sr50)

- No Community Shift
- Existing Condition; Deepening
  - 100% ELEMO_GALTI_SAGLT, 45% ELEMO, 23% SCIVA, 31% ZIZMI_POLSP
  - 100% ELEMO_GALTI_SAGLT, 86% SCIVA
  - 45% ZIZMI_POLSP_MURKE, 29% ELEMO_GALTI_SAGLT, 26% SCIVA, 86% SCIVA
  - 78% SCIVA, 78% SPASP_SCIRO, 22% SCIVA
  - 80% ZIZMI_POLSP_MURKE, 86% SCIVA
### Savannah Harbor Expansion Project
#### USGS/USFWS MSM Wetland/Marsh Impact Evaluation
#### Vegetation Community Shifts

<table>
<thead>
<tr>
<th>Community CART2005/2002</th>
<th>Existing Depth 50 cm Sea Level Rise Associated Acreages</th>
<th>44 ft Depth 50 cm Sea Level Rise Associated Acreages</th>
<th>Net Change (net negative), net positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% Elemo_Galti_Saglt/ 91% Elemo</td>
<td>1519</td>
<td>975</td>
<td>(544)</td>
</tr>
<tr>
<td>80% Zizmi_Polsp/ 100% Zizmi_Polsp</td>
<td>702</td>
<td>457</td>
<td>(245)</td>
</tr>
<tr>
<td>45% Zizmi_Polsp, 29% Elemo_Galti_Saglt, 26% Sciva/ 45% Elemo,23% Sciva, 31% Zizmi_Polsp</td>
<td>788</td>
<td>1181</td>
<td>393</td>
</tr>
<tr>
<td>78% Sciva/ 86% Sciva</td>
<td>2114</td>
<td>2510</td>
<td>395</td>
</tr>
<tr>
<td>78% Spasp_Sciro_Astte/ 78% Spasp_Sciro, 22% Sciva</td>
<td>3723</td>
<td>3723</td>
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</tr>
<tr>
<td>TOTAL</td>
<td>8847</td>
<td>8847</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Community CART2005/2002</th>
<th>Existing Depth 50 cm Sea Level Rise Associated Acreages</th>
<th>45 ft Depth 50 cm Sea Level Rise Associated Acreages</th>
<th>Net Change (net negative), net positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% Elemo_Galti_Saglt/ 91% Elemo</td>
<td>1519</td>
<td>883</td>
<td>(637)</td>
</tr>
<tr>
<td>80% Zizmi_Polsp/ 100% Zizmi_Polsp</td>
<td>702</td>
<td>359</td>
<td>(343)</td>
</tr>
<tr>
<td>45% Zizmi_Polsp, 29% Elemo_Galti_Saglt, 26% Sciva/ 45% Elemo,23% Sciva, 31% Zizmi_Polsp</td>
<td>788</td>
<td>1064</td>
<td>275</td>
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<tr>
<td>78% Sciva/ 86% Sciva</td>
<td>2114</td>
<td>2792</td>
<td>678</td>
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<tr>
<td>78% Spasp_Sciro_Astte/ 78% Spasp_Sciro, 22% Sciva</td>
<td>3723</td>
<td>3750</td>
<td>27</td>
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<tr>
<td>TOTAL</td>
<td>8847</td>
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<table>
<thead>
<tr>
<th>Community CART2005/2002</th>
<th>Existing Depth 50 cm Sea Level Rise Associated Acreages</th>
<th>46 ft Depth 50 cm Sea Level Rise Associated Acreages</th>
<th>Net Change (net negative), net positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% Elemo_Galti_Saglt/ 91% Elemo</td>
<td>1519</td>
<td>785</td>
<td>(734)</td>
</tr>
<tr>
<td>80% Zizmi_Polsp/ 100% Zizmi_Polsp</td>
<td>702</td>
<td>255</td>
<td>(447)</td>
</tr>
<tr>
<td>45% Zizmi_Polsp, 29% Elemo_Galti_Saglt, 26% Sciva/ 45% Elemo,23% Sciva, 31% Zizmi_Polsp</td>
<td>788</td>
<td>972</td>
<td>184</td>
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<tr>
<td>78% Sciva/ 86% Sciva</td>
<td>2114</td>
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<td>870</td>
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<tr>
<td>78% Spasp_Sciro_Astte/ 78% Spasp_Sciro, 22% Sciva</td>
<td>3723</td>
<td>3850</td>
<td>127</td>
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<tr>
<td>TOTAL</td>
<td>8847</td>
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<tr>
<th>Community CART2005/2002</th>
<th>Existing Depth 50 cm Sea Level Rise Associated Acreages</th>
<th>48 ft Depth 50 cm Sea Level Rise Associated Acreages</th>
<th>Net Change (net negative), net positive</th>
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</thead>
<tbody>
<tr>
<td>100% Elemo_Galti_Saglt/ 91% Elemo</td>
<td>1519</td>
<td>632</td>
<td>(887)</td>
</tr>
<tr>
<td>80% Zizmi_Polsp/ 100% Zizmi_Polsp</td>
<td>702</td>
<td>135</td>
<td>(567)</td>
</tr>
<tr>
<td>45% Zizmi_Polsp, 29% Elemo_Galti_Saglt, 26% Sciva/ 45% Elemo,23% Sciva, 31% Zizmi_Polsp</td>
<td>788</td>
<td>801</td>
<td>12</td>
</tr>
<tr>
<td>78% Sciva/ 86% Sciva</td>
<td>2114</td>
<td>3275</td>
<td>1161</td>
</tr>
<tr>
<td>78% Spasp_Sciro_Astte/ 78% Spasp_Sciro, 22% Sciva</td>
<td>3723</td>
<td>4004</td>
<td>282</td>
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<tr>
<td>TOTAL</td>
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<td>8847</td>
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</tbody>
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* Values Based EFDC and M2M Marsh Pore Water Salinity Input for Historic Average Flow, Temperature, and Tidal Conditions
1 March through 1 October 1997 (1997 best represents average historic conditions from the available data set).
50 cm Sea Level Rise Conditions.

** 50 cm sea level rise conditions with deepening were modeled using the CART 2002 MSM due to predicted salinity increases showing similarities to drought conditions.