

### III. Physical Parameters

#### 3.1 Ditch Qualities

There are 43 delineated mosquito ditches within the four Areas. The ditches vary in width, but are constructed uniformly parallel east to west in all Areas, except in Area 4 which contains a grid ditch network. A visual inspection of all the mosquito ditches was performed in January 2004, and general characteristics of the ditches were documented. These included accounts of the plugs, which were classified as “working” (retaining water), “moderate,” or “failed.” A photo-log of the ditches was also compiled. Major features were recorded by GPS coordinates. It should be noted that most of the plugs in Area 4 were determined to have failed; most of the plugs in Area 1 were characterized as moderate; and most of the plugs in Area 3 were listed as working. Of other interest, Ditches 4 and 5 in Area 2 contain an additional plug in the mid-portion of the ditch, and Ditch 6 contains two additional mid-section plugs.

Area	Number of Plugs Installed	Number of Plugs Working	Number of Plugs Moderately Working	Number of Plugs Failed	Number of Plugs Missing
1	14	2	7	3	2
2	24	20	4	-	-
3	10	8	1	1	-
4	17	3	2	9	3

#### 3.2 Sedimentation

To quantify surface deposition on the marsh surface, marker horizons were established in October 2003. Feldspar clay was chosen for the marker in this project because it is easily distinguishable from the surrounding sediment and forms a cohesive layer once wetted. The marker horizons were placed at the 88 stations on the marsh surface, positioned 2 m southeast from the monitoring well at each station. These locations relative to the wells was chosen because it is generally away from station-to-station pathways, and yet close enough to a defined point that the horizon should be locatable in the future.

In November 2004, selected marker horizons were sampled to assess the sedimentation rate in all four areas. The selection of marker horizons in Areas 1 and 2 to was based on the proximity of the proposed construction of ponds or other alterations which would destroy the marker horizon plots. Thirteen marker horizons were sampled in Area 1, and twelve were sampled in Area 2. Control Areas 3 and 4 both had ten randomly selected marker horizons sampled. The selected marker horizons were sampled using a 2-inch corer to a depth of eight inches. The measurement of the feldspar clay line from the marsh surface was recorded and documented (see Table 3-1).



*Feldspar clay marker horizon line*

### 3.3 Water Table Height

Water table measurements have been collected using the 88 temporary groundwater monitoring wells in all four marsh areas, following USFWS/USGS protocols (James-Pirri et al., 2002) beginning in fall 2003. The monitoring wells are constructed of 4 cm PVC pipes, 70 cm in length. Sixty centimeters of the wells were installed below the marsh surface. Holes were drilled into the pipe to allow water to percolate into the well. The top 10 cm of the pipe was left intact to prevent surface water from entering the well. The wells were capped with PVC caps.

When possible, measurements were taken on a bi-monthly basis. When measuring the height of the water table, a meter stick was inserted into the well until the stick came into contact with the water in the well. The measurement from the top of the meter stick was recorded. The height of the well from the marsh surface was also recorded to determine if the well had moved from the previous sampling period. The height of the well from the marsh surface

was subtracted from the total distance of the top of the well casing to the water level and recorded (Water Table Depth). The data for the water table height is listed in Table 4-3.

### 3.4 Tidal Inundation

In July 2004, a study was conducted to measure the magnitude of tidal inundation within the areas to be altered (Areas 1 and 2). A “glue stick method” was selected which involved employing stakes covered with dried Elmer’s glue colored with food coloring at selected areas throughout Areas 1 and 2 (NHCP, 1998). Two hours before high tide of the full moon, Areas 1 and 2 were surveyed for areas of standing water and water flowing over the edges of ditches. A number of such stakes were placed in these areas and the GPS coordinates were recorded. As the full moon high tide rose, the glue was washed off up to the elevation of high tide. After high tide, measurements of the height of the stakes and the glue line were measured and recorded. The measurement of the height of the stake and the distance from the marsh surface that was washed away from the high tide (glue line) determined the amount of tidal inundation. The tidal inundation measurements are listed in Table 3-2; the stake locations are depicted in Figures 11a and 11b.



*Marsh inundation stake after high tide*

**Table 3.0 Ditch Qualities**

**AREA 1**

Ditch 1A	Starting at the easternmost end:
	<ul style="list-style-type: none"> <li>◆ Plug 5 feet wide, heavy <i>Phragmites</i></li> <li>◆ Ditch difficult to follow; wanders, shallow through thick <i>Phragmites</i>; no distinct ditch</li> </ul>
Ditch 1	Starting at the westernmost end:
	<ul style="list-style-type: none"> <li>◆ Distinct end to ditch; 50 feet from tree line; approximately 2.5 ft in width</li> <li>◆ <i>Phragmites</i> on edges of ditch; 75 ft west of terminus</li> <li>◆ Ditch is straight and shallow at high tide</li> <li>◆ Width varies from 1.5 ft – 2.5 ft</li> <li>◆ <i>Phragmites</i> become heavy west of intersecting of Ditch 1 and ditch running south to Ditch 2</li> <li>◆ Plug 80 ft from mouth, in good condition, overgrown with <i>Phragmites</i>; water level at high tide was 10 ft below top of plug.</li> </ul>
Ditch 2	Starting at the easternmost end:
	<ul style="list-style-type: none"> <li>◆ Muskrat mound in small ditches between Ditch 2 and Ditch 3</li> <li>◆ Ditch 6 ft wide at mouth, heavy <i>Phragmites</i> on edges</li> <li>◆ Second plug in poor condition</li> <li>◆ Looking east from second plug, the ditch is straight and edges are dominated by heavy <i>Phragmites</i>; no berm</li> <li>◆ Ditch is 4 ft wide at point of intersection with north-south ditch from Ditch 1</li> <li>◆ Ditch ends 100 ft east of intersection; no distinct end, it trails off into <i>Phragmites</i>, approximately 300 ft from the tree line</li> </ul>
Ditch 3	Starting at the westernmost end:
	<ul style="list-style-type: none"> <li>◆ Terminus in heavy <i>Phragmites</i></li> <li>◆ Ditch is straight; no berm, filled with dead <i>Phragmites</i></li> <li>◆ Water flow heading east; visible from 50 ft from the eastern terminus</li> <li>◆ Ditch widens 10 ft at fish station D-2 with no distinct bank; <i>Phragmites</i> on the western portion</li> <li>◆ Ditch then narrows to 3 ft with <i>Phragmites</i> on both sides</li> <li>◆ Plug 20 ft east of D-2</li> <li>◆ Area beyond (east) plug is totally overgrown &amp; ditch is choked off</li> </ul>
Ditch 4	Starting at the easternmost end:
	<ul style="list-style-type: none"> <li>◆ Soil plug 30 ft from mouth</li> <li>◆ No berm, low banks</li> <li>◆ Water flowing towards the west during falling tide</li> <li>◆ Ditch branches out over low areas 60 ft east of plug; light <i>Phragmites</i>, <i>Distichlis spicata</i> and <i>Spartina patens</i></li> <li>◆ Terminus in <i>Phragmites</i>, approximately 70 ft from tree line</li> </ul>
Ditch 5	Starting at the westernmost end:
	<ul style="list-style-type: none"> <li>◆ Terminus distinct, trails off into heavy <i>Phragmites</i> and <i>Iva frutescens</i> 300 ft west of the tree line</li> <li>◆ Tide visibly running west</li> <li>◆ Mid section of ditch contains light <i>Phragmites</i> and <i>Iva frutescens</i> on banks</li> <li>◆ Ditch is approximately 4 ft wide</li> </ul>

	<ul style="list-style-type: none"> <li>◆ Mouth is approximately 12-15 ft wide with <i>Phragmites</i> and <i>Iva frutescens</i> on banks</li> <li>◆ No plug visible at mouth, but shrub and <i>Phragmites</i> are growing in the center of the ditch 60 ft from the mouth.</li> </ul>
Ditch 6	Starting at the easternmost end:
	<ul style="list-style-type: none"> <li>◆ Mouth is 6-7 ft in width, in heavy <i>Phragmites</i></li> <li>◆ Plug in good condition located 30 ft from mouth with <i>Phragmites</i> and <i>Iva frutescens</i> growing behind it</li> <li>◆ 120 ft east of mouth has low banks, light <i>Phragmites</i>, <i>S. patens</i> and <i>Iva frutescens</i>; ditch is 2-3 ft in width</li> <li>◆ Water flowing west</li> <li>◆ <i>Phragmites</i>, <i>S. patens</i> and <i>Iva frutescens</i> near fish station D-6; ditch is 2-3 ft wide</li> <li>◆ Terminus of ditch at fish station D-7; trails off into <i>Phragmites</i> and <i>Scirpus americanus</i></li> </ul>
Ditch 7	Starting at the westernmost end:
	<ul style="list-style-type: none"> <li>◆ Terminus of ditch in <i>Phragmites</i>, <i>S. patens</i> and <i>S. americanus</i></li> <li>◆ Water flowing west, visible 20 ft from terminus at fish station D-9</li> <li>◆ Moderate <i>Phragmites</i> cover on banks 100 ft from terminus; ditch is approximately 3 ft wide</li> <li>◆ No <i>Phragmites</i> from D-8 to 70 ft west; <i>S. patens</i>, <i>S. americanus</i>, <i>D. spicata</i> and <i>S. alterniflora</i></li> <li>◆ Heavy <i>Phragmites</i> 7- ft west of D-8; ditch is straight and approximately 4-5 ft in width</li> <li>◆ Ditch varies in width heading west as <i>Phragmites</i> density changes</li> <li>◆ Plug in moderate condition 60 ft east of mouth, approximately 3.5 ft wide, covered with <i>Phragmites</i></li> <li>◆ Mouth of ditch is 4-5 ft wide, banks are lined with heavy <i>Phragmites</i></li> </ul>
Ditch 8	Starting at the easternmost end:
	<ul style="list-style-type: none"> <li>◆ Ditch is 10 ft wide at mouth, surrounded by heavy <i>Phragmites</i></li> <li>◆ Plug located 50 ft east of mouth; poor condition, <i>Phragmites</i> growing behind plug; evidence of muskrats</li> <li>◆ Ditch choked with <i>Phragmites</i> 100 ft southeast of T4-200; ditch is approximately 1 foot wide</li> <li>◆ Mid length of ditch there is a heavy area of <i>S. americanus</i> on north side, water flowing west</li> <li>◆ Moderate <i>Phragmites</i> on banks near mid-length of ditch; banks low</li> <li>◆ Heavy <i>Phragmites</i> near terminus; ditch is approximately 3-4 ft wide; merges with ditch running NW/SE</li> </ul>
Ditch 9	Starting at the westernmost end:
	<ul style="list-style-type: none"> <li>◆ Terminus is approximately 500 ft from the tree line, choked with <i>Phragmites</i></li> <li>◆ Water flow visible; flowing west with tide</li> <li>◆ Light <i>Phragmites</i> and <i>S. patens</i> at fish station D-10 for 80 ft on each side; no berm; ditch 1-3 ft wide</li> <li>◆ Ditch surrounded and choked by <i>Phragmites</i> from mouth to approximately 400-500 ft inland</li> <li>◆ Very narrow at points; less than 1 ft wide</li> <li>◆ Plug with board and soil 100 ft west from river; very little water (1 ½ hours before low tide)</li> </ul>

	<ul style="list-style-type: none"> <li>◆ Mouth is 2 ft wide at mouth with very low water</li> </ul>
Ditch 10	Starting from the easternmost end:
	<ul style="list-style-type: none"> <li>◆ Eastern plug in poor shape; moderately holding water 60 ft from junction with small pool 10 ft in diameter</li> <li>◆ Ditch turns south towards D-10; surrounded by dense <i>Phragmites</i></li> <li>◆ Light <i>Phragmites</i> with <i>S. patens</i> and <i>S. alterniflora</i> from plug to 300 ft east; ditch narrows to 2-3 ft wide</li> <li>◆ Ditch becomes choked with <i>Phragmites</i></li> <li>◆ D-10 exits <i>Phragmites</i> to east out of Area 1</li> </ul>
Ditch 11	Starting at the easternmost end:
	<ul style="list-style-type: none"> <li>◆ Mouth to plug is 25 yards; ditch is approximately 3 ft wide</li> <li>◆ Approximately 75 yards west <i>Iva frutescens</i> and <i>Phragmites</i> dominate both sides of the ditch</li> <li>◆ Small ditch connects Ditch 11 to southern portion of tidal creek 100 yards west</li> <li>◆ Short <i>Phragmites</i> and <i>S. americanus</i> between D-11 and tidal creek</li> <li>◆ 200 yards off from Carmans a berm begins on the northern side of the ditch</li> <li>◆ 300 yards west <i>Phragmites</i> is on the both sides; large strand of <i>Phragmites</i> on south side with small berm</li> <li>◆ East plug is approximately 25 yards from east tidal creek; about 8 ft in length</li> </ul>

**AREA 2**

Ditch 1	<p>Starting at easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Terminus at tidal creek; 50 ft in diameter</li> <li>◆ Large plug approximately 100 ft from terminus; 25 ft long; good condition</li> <li>◆ Ditch width is 18-24 in, with clumps of <i>S. patens</i> vegetation</li> <li>◆ Berm on north side of ditch from tidal creek heading west</li> <li>◆ Ditch opens up to a 10 ft wide, 30 ft long pool with vegetation clumps; 40 yd from D-1, 100 yd from tidal creek</li> <li>◆ <i>Phragmites</i> on east end of ditch for 30 yd</li> <li>◆ <i>Phragmites</i> on south side of ditch, 120 yd east of tidal creek; <i>S. americanus</i> and <i>S. patens</i> on north side of ditch for 40 yd; berm on south side</li> <li>◆ Vegetation turns to <i>S. patens</i> on north side, 35 yd from <i>S. americanus</i> edge; <i>Phragmites</i> thinning out on south side</li> <li>◆ Light <i>Phragmites</i> on both sides; ditch width is 2-3 ft wide</li> <li>◆ Berm on south side; <i>Iva frutescens</i> present</li> <li>◆ Edges become more winding</li> <li>◆ <i>Phragmites</i> ends on both sides; 40 yd west of mouth on south side becomes mostly <i>S. patens</i>; 20 yd west of mouth on north side mostly <i>S. americanus</i></li> <li>◆ Failed plug 10 yd east of mouth</li> <li>◆ Small <i>Phragmites</i> community on north side 10-15 yd east of mouth; intermix vegetative community on south side</li> </ul>
Ditch 2	<p>Starting at the westernmost end:</p> <ul style="list-style-type: none"> <li>◆ Very wide mouth</li> <li>◆ <i>Phragmites</i> on south side of mouth; north side is tall-form <i>S. alterniflora</i>, leading into <i>Phragmites</i></li> <li>◆ <i>Phragmites</i> ends 30 yd west of mouth</li> <li>◆ <i>S. patens</i>, <i>S. alterniflora</i> and <i>Pluchea purpurascens</i> on both sides; ditch width is 2-3 ft wide</li> <li>◆ Ditch curves toward north</li> <li>◆ Berm on north side</li> <li>◆ Plug 30 yd from mouth near D-2; good condition</li> <li>◆ Ditch curving towards the south</li> <li>◆ Ditch width increases after plug to 35 in for approximately 50 yd (hour-glass shape)</li> <li>◆ <i>Phragmites</i> choked off ditch west of eastern plug</li> <li>◆ Plug 30 yd from tidal creek; <i>S. alterniflora</i>, <i>S. americanus</i> and <i>Iva frutescens</i></li> </ul>
Ditch 3	<p>Starting at the easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Western plug 5 ft long 20 yd from tidal creek; <i>S. patens</i> and <i>S. alterniflora</i> from plug to tidal creek; no linear ditch</li> <li>◆ <i>Phragmites</i> on both sides 30 yd west of tidal creek for 20 yd</li> <li>◆ Water flowing from east to west</li> <li>◆ Berms on south side 100 yd from <i>Phragmites</i> heading west</li> <li>◆ Western plug 30 yd from Carmans River; moderately working; ditch width at 48 in east of plug</li> <li>◆ Ditch opens up to a pool on the north and south side surrounded by <i>Phragmites</i> 10 yd west of the plug</li> </ul>

Ditch 4	<p>Starting at the westernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth 10 yd wide; cone shaped, narrowing down to 36 in ditch</li> <li>◆ Western plug 30 yd from mouth; moderately working</li> <li>◆ 10 in diameter pool 5 yd west of plug</li> <li>◆ 2 small pools 50 yd east of mouth; 5 ft in diameter</li> <li>◆ Ditch opens up to 5 ft diameter pool 75 yd east of mouth</li> <li>◆ Monotypic <i>Phragmites</i> stand on both sides of ditch; 175 yd east of mouth</li> <li>◆ <i>S. patens</i> and <i>S. alterniflora</i> on both sides of ditch for a distance of 165 yd heading east</li> <li>◆ Plug 50 yd from end of <i>Phragmites</i> stand</li> <li>◆ Ditch width east of plug is 36 in for 15 yd, then tapering off to 24 in wide</li> <li>◆ East plug 15 yd west of tidal creek in <i>Phragmites</i>; 10 yd long; working; small pool on east end</li> <li>◆ Berm on south side</li> </ul>
Ditch 5	<p>Starting at the easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Eastern plug 18 yd from tidal creek; 4 ft x 4 ft; failed</li> <li>◆ Mouth opens up and branches out naturally; short form <i>S. alterniflora</i> vegetation</li> <li>◆ Water flow from west to east</li> <li>◆ West side of plug opens up to a small pool</li> <li>◆ Ditch width is 48 in</li> <li>◆ Monoculture of short form <i>S. alterniflora</i> on both sides of ditch, 50 yd west of plug</li> <li>◆ Ditch tapers off from 36 in to 48 in</li> <li>◆ <i>S. alterniflora</i> and <i>S. patens</i> mix 150 yd west of plug; <i>S. patens</i> dominating south side; <i>S. alterniflora</i> on north side of ditch</li> <li>◆ Middle plug 200 yd from previous plug; 6 ft long; working</li> <li>◆ Ditch 18 in wide</li> <li>◆ 100 yd west of plug water flow is from east to west</li> <li>◆ North edge of ditch becomes <i>S. americanus</i> and <i>S. alterniflora</i> mix into <i>Phragmites</i></li> <li>◆ 135 yd from middle plug, <i>Phragmites</i> dominates both sides of ditch</li> <li>◆ Ditch linear; width from 18 in to 5 ft</li> <li>◆ Western plug; failed</li> <li>◆ Water flow near plug is from east to west</li> <li>◆ Mouth is 25 yd wide</li> </ul>
Ditch 6	<p>Starting at the westernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth 15 yd wide; tapers off to a 20 in ditch 25 yd east of mouth</li> <li>◆ <i>S. alterniflora</i> on the north and south sides of ditch</li> <li>◆ Tall and short form <i>S. alterniflora</i> with <i>Iva frutescens</i> on the north side of ditch, approximately 25 yd east of mouth; south side is short form <i>S. alterniflora</i></li> <li>◆ Western plug is 45 yd east of mouth; 6 ft long, 30 in wide; working</li> <li>◆ Second plug 125 yd east of mouth, 5 ft long, 30 in wide</li> <li>◆ <i>S. patens</i> on north side for 30 yd</li> <li>◆ Small <i>Phragmites</i> stand with <i>S. americanus</i>, <i>S. patens</i> and short form <i>S. alterniflora</i> 220 yd east of mouth</li> <li>◆ Plug 240 yd east of mouth; 10 ft long; working</li> <li>◆ Eastern plug 270 yd from western plug; working; evidence of mu skrats</li> <li>◆ Ditch width 4-5 ft; water flow from west to east</li> </ul>



	<ul style="list-style-type: none"> <li>◆ Tidal creek 20 yd from eastern plug</li> </ul>
Ditch 7	<p>Starting at the easternmost end:</p> <ul style="list-style-type: none"> <li>◆ 10 yd west of tidal creek <i>Iva frutescens</i> on north side, <i>Phragmites</i> on south side</li> <li>◆ Eastern plug 6 ft wide, 10 ft long covered with <i>Iva frutescens</i></li> <li>◆ Short form <i>S. alterniflora</i> and <i>S. patens</i> mix on both sides 40 yd west of plug</li> <li>◆ Ditch width is 30 in wide; water flowing from west to east</li> <li>◆ 15 yd stand of <i>Phragmites</i> on both sides 80 yd west of tidal creek</li> <li>◆ 20 yd of <i>S. patens</i> west of <i>Phragmites</i> stand</li> <li>◆ 20 yd of <i>Phragmites</i> west of <i>S. patens</i></li> <li>◆ Ditch linear; 24 in wide for most of ditch length</li> <li>◆ Western plug 190 yd west from tidal creek</li> <li>◆ Mouth 10 ft wide; 15 yd from western plug</li> </ul>
Ditch 8	<p>Starting at the westernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth of ditch is 7 yd wide, tapering off to a 3 ft ditch</li> <li>◆ Western plug is 20 yd east of mouth; 4 ft long x 30 in wide; working</li> <li>◆ <i>S. patens</i> and <i>S. alterniflora</i> mix on both sides of ditch 50 yd east of plug</li> <li>◆ Eastern plug is 3 yd west of tidal creek; 8 ft long x 24 in wide</li> </ul>
Ditch 9	<p>Starting at the easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Eastern plug is 5 yd from tidal creek; 8 ft long, blends into marsh surface</li> <li>◆ Ditch width is 30 in</li> <li>◆ Short form <i>S. alterniflora</i> and <i>S. patens</i> mix on both sides of ditch</li> <li>◆ Western plug is 6 ft long x 30 in wide; 15 yd from mouth</li> <li>◆ Mouth is 12 ft wide</li> </ul>
Ditch 10	<p>Starting at the westernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth is 8 ft wide</li> <li>◆ Western plug is 10 yd east of mouth</li> <li>◆ <i>S. patens</i> and <i>S. alterniflora</i> on north and south sides of ditch</li> <li>◆ Western plug is 4 ft long x 5 ft wide; 25 yd west of tidal creek</li> </ul>
Ditch 11	<p>Starting at the easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Eastern plug is 5 yd west of tidal creek; 5 ft long x 30 in wide</li> <li>◆ Ditch width is 30 in</li> <li>◆ Western plug is 20 yd west of eastern plug; 5 ft long x 30 in wide</li> <li>◆ Short form <i>S. alterniflora</i> and <i>S. patens</i> mix on north and south sides of ditch</li> <li>◆ Mouth is 11 ft wide</li> </ul>

**AREA 3**

Ditch 1	<p>Starting at easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Terminus of ditch is 70 ft east of fish station D-1; heavy <i>Phragmites</i> on south side; <i>Iva frutescens</i>, <i>S. alterniflora</i> and <i>S. americanus</i> on north side</li> <li>◆ Ditch 2.5 ft wide</li> <li>◆ <i>Phragmites</i> on both sides west of D-1</li> <li>◆ Ditch narrows to less than 1 ft wide 60 ft west of D-1; <i>Phragmites</i> choking off ditch</li> <li>◆ <i>S. alterniflora</i> and <i>S. americanus</i> for 180 ft</li> <li>◆ Ditch curves slightly and varies between 2-4 ft wide with <i>Phragmites</i> on the north side and <i>S. patens</i>, <i>S. alterniflora</i> and <i>Iva frutescens</i> on the south side for 60 ft</li> <li>◆ Vegetation changes to <i>Phragmites</i> on both sides of ditch; ditch curves slightly south</li> <li>◆ Plug 30 ft east of mouth; 4 ft wide; moderately working</li> <li>◆ Mouth in heavy <i>Phragmites</i>; 60 ft west of fish station D-2; ditch width is 1 ft wide</li> </ul>
Ditch 2	<p>Starting at the westernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth of ditch is 4-5 ft wide; <i>S. alterniflora</i> and <i>S. patens</i> mix on both sides with some light <i>Phragmites</i> and <i>P. purpurascens</i> for a length of 150 ft</li> <li>◆ Plug 50 ft east of mouth</li> <li>◆ Water flowing from east to west</li> <li>◆ Vegetation changes to <i>Phragmites</i> on both sides with <i>Iva frutescens</i>; ditch narrows to 3 ft wide for a distance of 45 ft to D-3, <i>Phragmites</i> choking ditch</li> <li>◆ Ditch is 2.5 ft wide at D-3 with <i>S. patens</i>, <i>S. americanus</i> and <i>Phragmites</i> on both sides for 180 ft (between D-3 and D-4)</li> <li>◆ <i>Phragmites</i> choking ditch east of D-3 for 300 ft</li> <li>◆ Ditch opens up to a small panne (dry at low tide) with vegetation clumps of <i>S. patens</i>, <i>Phragmites</i>, <i>Iva frutescens</i> and <i>P. purpurascens</i>; 30 ft wide</li> <li>◆ Terminus of ditch is 10 ft wide ending at eastern tidal creek; <i>Phragmites</i> on both sides</li> </ul>
Ditch 3	<p>Starting at the easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth of ditch is 15 ft wide</li> <li>◆ Ditch branches off to the south 50 ft west of mouth</li> <li>◆ Plug 30 ft west of mouth; 5 ft wide, covered with <i>Iva frutescens</i> and <i>Phragmites</i></li> <li>◆ <i>Iva frutescens</i>, <i>Phragmites</i>, <i>S. patens</i> on north side of ditch; <i>S. patens</i>, <i>Iva frutescens</i> and <i>P. purpurascens</i> on south side; east of fish station D-5</li> <li>◆ Ditch width is 3 ft</li> <li>◆ Between D-5 and D-6 <i>S. patens</i>, <i>S. americanus</i>, <i>P. purpurascens</i> and tall-form <i>S. alterniflora</i> on both sides of ditch; berm on south side</li> <li>◆ Berm on north side of ditch west of T2-00; ditch width is 1 ft</li> <li>◆ <i>Iva frutescens</i> on both sides west of D-6; ditch width is 3 ft</li> <li>◆ Plug 60 ft west of D-6; 4ft x 10 ft; working</li> <li>◆ Ditch width is 5 ft east of plug</li> </ul>
Ditch 4	<p>Starting at the westernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth of ditch is 5 ft wide</li> <li>◆ Plug 30 ft west of mouth; 4 ft x 10 ft; working</li> <li>◆ Ditch width east of plug is 3 ft wide</li> <li>◆ Ditch intersects small ditch on north side, 360 ft east of plug (between D-7 and D-8)</li> <li>◆ <i>S. patens</i>, <i>P. purpurascens</i>, and <i>S. americanus</i> on both sides of ditch; berm on south side</li> </ul>

	<ul style="list-style-type: none"> <li>◆ <i>Phragmites</i> 480 ft east of plug on south side</li> <li>◆ <i>Phragmites</i> on both sides east of D-8</li> <li>◆ Changing to <i>Phragmites</i> and <i>Iva frutescens</i> community on the south side; ditch becoming choked off by <i>Phragmites</i></li> <li>◆ Water flowing from west to east</li> <li>◆ Ditch opens up to 20 ft wide towards the south side for 15 ft long, narrowing back down to 2 ft wide</li> <li>◆ Heavy <i>Phragmites</i> 100 ft west of mouth</li> <li>◆ Plug 40 ft west of mouth; 4 ft x 10 ft; widening to 6 ft; evidence of muskrats</li> <li>◆ Mouth of ditch is 6 ft wide</li> </ul>
Ditch 5	<p>Starting at the easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Eastern terminus of ditch is 5 ft wide</li> <li>◆ Plug 40 ft west of mouth; 4 ft x 10 ft; working</li> <li>◆ <i>Iva frutescens</i> and <i>Phragmites</i> on both sides for 150 ft west of mouth</li> <li>◆ Vegetation changes to <i>S. patens</i>, <i>P. purpurascens</i>, <i>S. alterniflora</i> and <i>S. americanus</i> 200 ft west of mouth; berm on south side; ditch width is 3 ft</li> <li>◆ Ditch widens to 4 ft wide 300 ft west of <i>Iva frutescens</i> and <i>Phragmites</i> stand</li> <li>◆ Plug 50 ft east of mouth; 5 ft x 10 ft</li> <li>◆ Ditch widens to 5-10 ft wide east of plug</li> <li>◆ <i>Iva frutescens</i> and tall-form <i>S. alterniflora</i> west of plug</li> <li>◆ Mouth of ditch is 4 ft wide</li> </ul>
Ditch 6	<p>Starting at the westernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth of ditch is 6 ft wide</li> <li>◆ Plug 40 ft east of mouth; 10 ft x 2 ft; covered with tall-form <i>S. alterniflora</i>, <i>Phragmites</i> and <i>Iva frutescens</i></li> <li>◆ Ditch width is 2.5 ft east of plug</li> <li>◆ Short-form <i>S. alterniflora</i> vegetation for the length of the ditch; berm on south side; ditch width is 5 ft</li> <li>◆ Plug 40 ft west of terminus; 3 ft x 4 ft; covered with <i>Iva frutescens</i></li> <li>◆ Eastern terminus is 5 ft wide</li> </ul>

**AREA 4**

Ditch 1 (E-W):	<p>Starting at westernmost end:</p> <ul style="list-style-type: none"> <li>◆ West end of ditch is choked off with <i>Phragmites</i></li> <li>◆ Ditch width is approximately 2 ft</li> <li>◆ Ditch widens to 2.5 ft in heavy <i>Phragmites</i></li> <li>◆ Ditch intersects with Ditch 9; ditch is shallow</li> <li>◆ Ditch east of the intersection is 3 ft wide, surrounded by <i>Phragmites</i></li> <li>◆ Ditch terminates at eastern plug</li> </ul>
Ditch 3 (E-W):	<p>Starting at the easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Eastern terminus ends at intersection with Ditch 10; <i>Phragmites</i> on north and south sides</li> <li>◆ Ditch width is approximately 2 ft; narrowing down to 1 ft wide</li> <li>◆ Ditch intersects with Ditch 9; ditch is 2.5 ft wide at intersection</li> <li>◆ North side of ditch changes to <i>S. patens</i> and light <i>Phragmites</i>; <i>Phragmites</i> and <i>Iva frutescens</i> on south side</li> <li>◆ Both sides of ditch dominated by <i>S. patens</i> and light <i>Phragmites</i> 50 ft west of intersection; ditch is 2 ft wide</li> <li>◆ Plug located 30 ft west of fish station D-6; <i>Iva frutescens</i> on both sides of plug</li> <li>◆ Ditch terminates at intersection with Ditch 9, approximately 1 ft west of plug</li> </ul>
Ditch 2 (E-W):	<p>Starting at the easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Ditch 2 begins along Ditch 6 which runs north to south</li> <li>◆ <i>S. patens</i> and tall-form <i>S. alterniflora</i> and <i>Iva frutescens</i> on north and south sides of ditch for approximately 60 ft, changing to light <i>Phragmites</i> and <i>S. patens</i></li> <li>◆ Ditch intersects with Ditch 5 to the south</li> <li>◆ Ditch width is 2-3 ft</li> <li>◆ Vegetation changes to predominantly <i>Iva frutescens</i> and <i>S. patens</i> on the south side</li> <li>◆ <i>S. patens</i> and <i>Iva frutescens</i> growing in clumps in middle of the ditch</li> <li>◆ <i>Iva frutescens</i> dominates the south side of the ditch for 100 ft, then changing to <i>Phragmites</i>; <i>S. patens</i> and <i>Iva frutescens</i> on the north side</li> <li>◆ Western terminus of ditch is 5 ft wide, surrounded by <i>Iva frutescens</i>, <i>Phragmites</i> and tall-form <i>S. alterniflora</i></li> </ul>
Ditch 6 (E-W):	<p>Starting at the westernmost end:</p> <ul style="list-style-type: none"> <li>◆ Western plug is 4 ft wide; heavy <i>Phragmites</i> on both sides</li> <li>◆ Ditch intersects with Ditch 5</li> <li>◆ Ditch narrows down to &gt; 1 ft wide, approximately 30 ft from intersection; choked by <i>Phragmites</i></li> <li>◆ <i>Phragmites</i> growing in the middle of the ditch</li> <li>◆ Ditch widens to 4-5 ft panne; evidence of muskrats</li> <li>◆ Ditch becomes overtaken by dense <i>Phragmites</i> east of panne, growing in clumps in the middle of the ditch</li> <li>◆ Ditch terminates at intersection with Ditch 9</li> </ul>
Ditch 3A (E-W):	<p>Starting at the easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Ditch begins along Ditch 10</li> <li>◆ Ditch width is 24-30 in; <i>Phragmites</i> on both sides of ditch</li> <li>◆ Ditch is not linear; irregular edge</li> <li>◆ <i>Phragmites</i> dominates both sides of ditch</li> <li>◆ Ditch terminates at intersection with Ditch 9, 70 yd west of beginning of ditch</li> </ul>

Ditch 4 (E-W):	<p>Starting at easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Ditch begins along Ditch 11</li> <li>◆ Ditch is 1 ft wide; becoming choked with <i>Phragmites</i>; irregular shape</li> <li>◆ <i>Phragmites</i> growing in the middle of the ditch approximately 20 yd east of beginning of ditch</li> <li>◆ Sides of ditch become higher in elevation (12 in)</li> <li>◆ Ditch widens into a 5 ft wide pool, approximately 100 yd from start of ditch</li> <li>◆ Small <i>Iva frutescens</i> community dominates the north side of ditch at intersection with Ditch 8, approximately 20 yd west of pool</li> <li>◆ Plug located 5 ft west of intersection, surrounding vegetation consists of <i>Iva frutescens</i> and <i>Phragmites</i></li> <li>◆ Ditch become irregular in shape, approximately 165 yd west of start of ditch; <i>S. patens</i> dominates the north side of the ditch, <i>Phragmites</i> dominates the south side</li> <li>◆ Ditch intersects with Ditch 8; intersection is approximately 4 ft in width</li> <li>◆ <i>S. patens</i> dominates the SW side of intersection; <i>Iva frutescens</i>, <i>Phragmites</i> and <i>S. patens</i> dominates the NW side of the intersection; and <i>S. patens</i> and <i>Phragmites</i> dominates the SE and NE portions of the intersection</li> <li>◆ Ditch intersects with Ditch 6 (N-S) approximately 250 yd from start of ditch; <i>Phragmites</i> things out on west side to <i>S. patens</i></li> <li>◆ <i>S. patens</i> dominates both sides of ditch 20 yd west of intersection for 40 ft, returning to <i>Phragmites</i> for 15 yd west of fish station D-10</li> <li>◆ Ditch terminus choked off by <i>Phragmites</i></li> </ul>
Ditch 5 (NW-SE):	<p>Starting at the westernmost end:</p> <ul style="list-style-type: none"> <li>◆ Ditch begins along Ditch 2 (E-W)</li> <li>◆ <i>S. alterniflora</i>, <i>S. patens</i> and <i>Iva frutescens</i> vegetation community on both sides of ditch</li> <li>◆ Ditch intersects with Ditch 6 (N-S), 30 yd SE of start of ditch</li> <li>◆ Ditch width is approximately 3 ft; widening with irregularities</li> <li>◆ Water flow in southern portion of ditch is south</li> <li>◆ <i>Phragmites</i> dominates the west side of ditch at intersection</li> <li>◆ <i>Phragmites</i> dominates the east side of ditch 25 yd east of intersection</li> <li>◆ Ditch width east of intersection is 24-48 in</li> <li>◆ <i>S. patens</i> community on east side of ditch, approximately 50 yd east of intersection</li> <li>◆ Ditch width widens to 3 ft</li> <li>◆ Ditch terminates at Ditch 4 (E-W)</li> </ul>
Ditch 1 (N-S):	<p>Starting at the northernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth of ditch is 3 ft wide</li> <li>◆ <i>S. alterniflora</i> and <i>S. patens</i> dominate the sides of the ditch</li> <li>◆ Ditch narrows to 18 in 10 yd south of mouth</li> <li>◆ Ditch terminates 40 yd south of mouth</li> </ul>
Ditch 2 (N-S):	<p>Starting at the southernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth of ditch is 18 in wide</li> <li>◆ <i>S. alterniflora</i> and <i>S. patens</i> dominate the sides of the ditch</li> <li>◆ Ditch widens to 3 ft</li> <li>◆ Ditch terminates approximately 50 yd from mouth</li> </ul>
Ditch 3 (N-S):	<p>Starting at the southernmost end:</p> <ul style="list-style-type: none"> <li>◆ Plug at the southern end of ditch, near Ditch 2</li> <li>◆ Ditch is &gt; 1 ft wide</li> <li>◆ <i>S. alterniflora</i> and <i>S. patens</i> community on both sides of ditch</li> <li>◆ Ditch becomes choked by vegetation</li> <li>◆ <i>Phragmites</i> community on east side of ditch, <i>Iva frutescens</i> on west side of ditch 20 yd north of plug</li> </ul>

	<ul style="list-style-type: none"> <li>◆ Ditch terminates at N-S tidal creek; mouth approximately 6 in wide</li> </ul>
Ditch 4 (N-S):	<p>Starting at the northernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth is 7 ft wide, surrounded by <i>Phragmites</i> and <i>Iva frutescens</i> community</li> <li>◆ Northern plug is 10 yd south of mouth; failed condition</li> <li>◆ <i>S. patens</i> and <i>S. alterniflora</i> community on both sides of ditch for 50 yd; ditch is 2 ft wide and slightly irregular in shape</li> <li>◆ Ditch intersects with Ditch 2 (E-W); heavy <i>Phragmites</i> on SE and SW sides of intersection</li> <li>◆ Ditch fades into marsh, then remnant parts appear</li> <li>◆ Ditch intersects with Ditch 4 (E-W); intersection is 4 ft in diameter</li> <li>◆ Ditch ends 20 yd south of intersection, terminating into marsh surface</li> </ul>
Ditch 5 (N-S):	<p>Starting at northernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth of ditch is 6 ft wide at tidal creek, tapering off to 5 ft wide just south of tidal creek</li> <li>◆ Northern plug 5 yd south of mouth; failed condition</li> <li>◆ <i>Iva frutescens</i> on west side of ditch for approximately 15 yd, changing to <i>S. patens</i> and <i>S. alterniflora</i> mixed community</li> <li>◆ <i>Iva frutescens</i> and <i>Phragmites</i> on east side for 20 yd then changing to <i>Phragmites</i></li> <li>◆ Ditch width 30 yd south of mouth is 2 ft</li> <li>◆ <i>Phragmites</i> and <i>S. patens</i> community on both sides of ditch 40 yd south of mouth</li> <li>◆ <i>S. patens</i> dominate both sides of ditch, with slight <i>Phragmites</i>, 60 yd south of mouth</li> <li>◆ Ditch intersects with Ditch 2 E-W approximately 100 yd south of mouth; ditch is 5 ft wide at intersection</li> <li>◆ <i>Iva frutescens</i> and <i>S. patens</i> community on SE and SW sides of ditch at intersection; <i>Phragmites</i> community on the NW corner, <i>Phragmites</i> and <i>Iva frutescens</i> on NE corner of intersection.</li> <li>◆ <i>S. patens</i> community dominates both sides of ditch 30 yd south of intersection; ditch width is 2 ft</li> <li>◆ Heavy <i>Phragmites</i> dominates both sides of ditch approximately 200 yd south of intersection</li> <li>◆ Both sides of ditch becomes dominated by <i>S. patens</i> 225 yd south of intersection for 10 yd, turning back to heavy <i>Phragmites</i></li> <li>◆ 250 yd from intersection, vegetation changes to <i>S. patens</i> for 10 yd, turning back to <i>Phragmites</i></li> <li>◆ Ditch choked off by <i>Phragmites</i>, ending 265 yd south of intersection</li> </ul>
Ditch 6 (N-S):	<p>Starting at the southernmost end:</p> <ul style="list-style-type: none"> <li>◆ Southern terminus of ditch ends at east-west path of WNWR southern boundary</li> <li>◆ Heavy <i>Phragmites</i> on both sides of ditch</li> <li>◆ Southern plug 5 yd south of intersection with Ditch 6 (E-W); working</li> <li>◆ Ditch is 3 ½ ft wide</li> <li>◆ East side of ditch opens up to a 40 yd x 20 yd open area with muskrat mounds</li> <li>◆ <i>Phragmites</i> continues on west side of ditch</li> <li>◆ West side of ditch opens up to a 10 ft diameter pool north of open area</li> <li>◆ <i>Phragmites</i> turns into a short-form on both sides of ditch 100 yd north of intersection</li> <li>◆ <i>Iva frutescens</i> mixes in with <i>Phragmites</i> 140 yd north of intersection</li> <li>◆ A small <i>patens</i> community dominates west side of ditch for 10 yd, 160 yd north of intersection</li> <li>◆ Water flow is from south to north</li> <li>◆ Ditch intersects with Ditch 4 (E-W) approximately 200 yd north of terminus</li> <li>◆ Intersection is 15 ft in diameter</li> <li>◆ Vegetation on the west side of ditch changes from <i>Phragmites</i> to <i>S. alterniflora</i> and <i>S. patens</i> community 215 yd from southern terminus</li> <li>◆ <i>Phragmites</i> ends on east side of ditch 230 yd north of terminus</li> </ul>

	<ul style="list-style-type: none"> <li>◆ Ditch intersects with Ditch 5 (NW – SE) and Ditch 2 (E-W); <i>Iva frutescens</i> begins at intersection</li> <li>◆ 20 yd of north end, ditch opens to 8 ft wide</li> <li>◆ Mouth is 12 ft wide, surrounded by <i>Iva frutescens</i> and <i>Phragmites</i></li> </ul>
Ditch 7 (N-S):	<p>Starting at the northernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth of ditch is 3 ft wide, surrounded by heavy <i>Phragmites</i></li> <li>◆ Plug 20 yd south of mouth; ditch is 1 foot wide</li> <li>◆ <i>Iva frutescens</i> and <i>Phragmites</i> community on both sides of ditch north of plug</li> <li>◆ South of plug, <i>S. alterniflora</i> community exists on the west side of ditch, and <i>S. patens</i> community exists on the east side</li> <li>◆ Ditch widens to 2 ft 60 yd south of mouth; irregular shape</li> <li>◆ Ditch ends in mixed vegetation community; approximately 115 yd long total</li> </ul>
Ditch 8 (N-S):	<p>Starting at the northernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth of ditch is 5 ft wide</li> <li>◆ Dense <i>Phragmites</i> for 10 ft, turning to <i>Iva frutescens</i> and <i>Phragmites</i> on both sides of ditch</li> <li>◆ <i>Iva frutescens</i> with some tall-form <i>S. alterniflora</i> dominates east side of ditch for approximately 100 ft south of mouth</li> <li>◆ Northern plug is 10 ft south of mouth; not working</li> <li>◆ Vegetation changes to <i>S. patens</i> for 60 ft; ditch width is 4 ft</li> <li>◆ <i>Phragmites</i> dominates both sides of ditch at fish station D-4, ditch choked by <i>Phragmites</i> approximately 30 ft from D-4 for 50 ft</li> <li>◆ Vegetation changes to <i>S. patens</i> on east side; <i>S. patens</i> and <i>S. alterniflora</i> on west side for 20 ft, changing to <i>S. patens</i> on both sides for 50 ft</li> <li>◆ Small pool to the east 10 ft from <i>S. patens</i> and <i>S. alterniflora</i> community</li> <li>◆ Berm apparent on east side</li> <li>◆ Light <i>Phragmites</i> starts on both sides; light <i>Iva frutescens</i> on east side</li> <li>◆ Water flowing from north to south</li> <li>◆ Ditch intersects with Ditch 4 (E-W)</li> <li>◆ <i>Phragmites</i> and <i>Iva frutescens</i> is light on all sides of intersection</li> <li>◆ Ditch is 2 ft wide</li> <li>◆ Water flowing into Ditch 4, heading west</li> <li>◆ Vegetation changes on the west side to <i>S. patens</i> and light <i>Phragmites</i> for 20 ft; <i>Iva frutescens</i> and <i>Phragmites</i> dominates the west side changing to <i>Phragmites</i></li> <li>◆ <i>Phragmites</i> dominates the west side; ditch is 3 ft wide</li> <li>◆ Ditch intersects with Ditch 6 (E-W); ditch is 5 ft wide at intersection</li> <li>◆ Ditch ends in heavy <i>Phragmites</i> south of intersection</li> </ul>
Ditch 9 (N-S):	<p>Starting at the southernmost end:</p> <ul style="list-style-type: none"> <li>◆ Ditch terminates in culvert south of Ditch 6 (E-W)</li> <li>◆ Dense <i>Phragmites</i> dominates both sides of ditch</li> <li>◆ Ditch is 4 ft wide at intersection with Ditch 6</li> <li>◆ Water flowing from south to north</li> <li>◆ Clumps of <i>Phragmites</i> is growing in ditch</li> <li>◆ Ditch opens up to large panne 60 ft x 100 ft with clumps of 3-square and <i>S. patens</i>, large muskrat mounds in area</li> <li>◆ Ditch width north of panne is 2 ft</li> <li>◆ Heavy <i>Phragmites</i> on both sides of ditch</li> <li>◆ Ditch intersects with Ditch 4 (E-W)</li> <li>◆ <i>Iva frutescens</i> and <i>Phragmites</i> on both sides of ditch at intersection</li> <li>◆ <i>Iva frutescens</i> dominates vegetation on east side at fish station D-7</li> <li>◆ Vegetation changes to <i>S. patens</i> and <i>Iva frutescens</i> 50 ft north of D-7; berm on east side</li> </ul>

	<ul style="list-style-type: none"> <li>◆ Ditch intersects with Ditch 3 (E-W); ditch is 2 ft wide</li> <li>◆ Light <i>Phragmites</i> and <i>Iva frutescens</i> on both sides for 100 ft north of intersection, changing to light <i>Phragmites</i> and <i>S. patens</i> on west side for 50 ft</li> <li>◆ Vegetation changes to <i>Phragmites</i> on west side and <i>Iva frutescens</i> and <i>Phragmites</i> on east side</li> <li>◆ Ditch terminates at tidal creek</li> <li>◆ Mouth of ditch is 3 ft wide</li> </ul>
Ditch 10 (N-S):	<p>Starting at the northernmost end:</p> <ul style="list-style-type: none"> <li>◆ Mouth of ditch is 4 ft wide</li> <li>◆ Plug located 20 ft south of mouth; not working</li> <li>◆ Heavy <i>Phragmites</i> dominates both sides of ditch</li> <li>◆ Ditch width is 3 ft</li> <li>◆ Water flowing towards the north</li> <li>◆ Ditch intersects with Ditch 1 (E-W)</li> <li>◆ Ditch is 3 ½ ft wide south of intersection</li> <li>◆ Ditch widens to 5 ft wide 50 ft south of intersection</li> <li>◆ <i>S. patens</i> community on the west side of ditch, <i>Phragmites</i> community on the east</li> <li>◆ Ditch intersects with Ditch 3 (E-W)</li> <li>◆ <i>S. patens</i> and light <i>Phragmites</i> on the NW side of intersection, <i>Phragmites</i> dominates the other sides of the intersection</li> <li>◆ Ditch 3 ft wide at fish station D-8 and intersection with Ditch 3A (E-W); <i>Phragmites</i> dominates all sides of intersection</li> <li>◆ Ditch terminates at intersection</li> </ul>
Ditch 7 (NE-SW):	<p>Starting at the north-easternmost end:</p> <ul style="list-style-type: none"> <li>◆ Ditch is approximately 30 ft west of tree line</li> <li>◆ Ditch is 2 ft wide; irregular in shape</li> <li>◆ Ditch overcome by upland/freshwater vegetation</li> <li>◆ Ditch terminates in <i>Phragmites</i></li> <li>◆ Ditch is approximately 100 ft in length</li> </ul>
Ditch 11 (N-S):	<p>Starting at the northernmost end:</p> <ul style="list-style-type: none"> <li>◆ Beginning of ditch is less than 1 ft wide; irregular in shape</li> <li>◆ Clumps of <i>S. patens</i> and <i>Phragmites</i> in ditch</li> <li>◆ Northern plug not working</li> <li>◆ Ditch widens to 2 ½ ft south of plug</li> <li>◆ <i>S. patens</i> community dominates east side of ditch for 30 ft, turning into <i>Phragmites</i> on both sides</li> <li>◆ Ditch ends in <i>Phragmites</i> community</li> <li>◆ Ditch starts up again in heavy <i>Phragmites</i>; 2 ft wide, <i>Phragmites</i> growing in ditch</li> <li>◆ Upland vegetation (torpedo grass) 100 ft south, changing to <i>Phragmites</i></li> <li>◆ Ditch intersects with Ditch 1 (E-W); ditch 2 ½ ft wide</li> <li>◆ Ditch intersects with Ditch 3 (E-W)</li> <li>◆ <i>Phragmites</i>, <i>Iva frutescens</i> and skunk cabbage community on SW corner of intersection, <i>Phragmites</i> on all other sides</li> <li>◆ <i>S. patens</i> and heavy <i>Phragmites</i> dominate east side of ditch for 50 ft</li> <li>◆ Ditch becomes choked off by <i>Phragmites</i> for approximately 100 ft</li> <li>◆ Ditch intersects with Ditch 4 (E-W); <i>Phragmites</i> choking ditch</li> <li>◆ Ditch choked off 30 ft south of intersection</li> </ul>



**Table 3-1. Sedimentation Rates**

Area	Station	Depth of Marker Horizon (cm)
A1	1-1-40	.
A1	1-3-40	2.1
A1	1-3-80	.
A1	1-2-40	.
A1	1-2-80	0.5
A1	1-3-160	0.9
A1	1-4-120	1.3
A1	1-4-80	0.5
A1	1-4-40	0.4
A1	1-4-00	1.8
A1	1-5-00	1.6
A1	1-5-40	0.8
A1	1-5-80	.
A2	2-1-40	0.9
A2	2-1-160	.
A2	2-2-200	.
A2	2-2-120	.
A2	2-2-40	0.0
A2	2-2-00	0.3
A2	2-3-40	0.0
A2	2-3-80	.
A2	2-3-120	0.7
A2	2-3-160	.
A2	2-4-40	0.6
A2	2-3-200	1.5
A3	3-1-40	0.6
A3	3-1-80	.
A3	3-1-200	0.4
A3	3-2-40	0.1
A3	3-2-160	.
A3	3-2-200	0.7
A3	3-3-120	1.0
A3	3-3-00	1.5
A3	3-4-00	1.0
A3	3-4-120	0.7
A4	4-1-00	0.2
A4	4-1-120	0.5
A4	4-1-160	1.3
A4	4-2-40	0.0
A4	4-2-120	0.1
A4	4-2-160	1.1
A4	4-3-120	.
A4	4-3-160	.
A4	4-4-80	1.0
A4	4-4-120	0.7

Note: "." denotes that marker horizon was unable to be located  
 "0" marker horizon measurements were at marsh surface

**Table 3-2. Tidal Inundation**

**AREA 1**

Location ID	Height of Stake (cm)		Height Difference	Height Washed Away (cm)	Overall Inundation
	7/1/04	7/2/04			
1-1-00	99.5	100.3	-0.8	7	7.8
1-1-40	38.7	39	-0.3	13.2	13.5
1-2-40	80	84.3	-4.3	3	7.3
1-2-120	78.7	80	-1.3	9.6	10.9
1-3-00	95.2	96.5	-1.3	8.8	10.1
1-3-80	62.5	61.9	0.6	8.8	8.2
1-3-160	83.1	84	-0.9	2.5	3.4
1-4-40	86.9	88.3	-1.4	5	6.4
1-4-160	84.3	85	-0.7	5	5.7
1-5-00	88.5	87.2	1.3	3.1	1.8
1-5-40	78.7	83	-4.3	12	16.3
1-5-80	87.5	91	-3.5	11.7	15.2
A1	89.2	89.9	-0.7	18	18.7
A2	89.5	89.2	0.3	10.8	10.5
A3	92.7	93.7	-1	9.5	10.5
A4	95.9	92	3.9	14.5	10.6
A5	87.63	86.4	1.23	14.3	13.07
A6	92	93.5	-1.5	16.5	18
A7	91.2	91.2	0	3.3	3.3
A8	81.6	82.9	-1.3	10.8	12.1
A9	97.8	99.4	-1.6	8.3	9.9
A10	81.9	81	0.9	22.9	22
A11	97	98	-1	7.3	8.3
D4	86	87.3	-1.3	3.8	5.1
D5	74	81.1	-7.1	16.8	23.9
D6	90	91	-1	8	9
D7	96.8	95.5	1.3	3.2	1.9
D8	93.3	93.5	-0.2	16.5	16.7
D9	95.3	95.3	0	3.2	3.2
D10	94	93.6	0.4	4.1	3.7

**AREA 2**

Location ID	Height of Stake (cm)		Height Difference	Height Washed Away (cm)	Overall Inundation
	7/1/04	7/2/04			
2-1-00	95	96.5	-1.5	6	7.5
2-1-40	86.5	86.5	0	3	3
2-1-80	92	91.5	0.5	3.5	3
2-1-120	89	89	0	0	0
2-1-160	72	74.5	-2.5	5	7.5
2-2-00	80.5	80	0.5	5	4.5
2-2-40	89	93.4	-4.4	8	12.4
2-2-80	78	78.5	-0.5	4.5	5
2-2-120	76.3	73.5	2.8	0	-2.8
2-2-160	82	81.5	0.5	8	7.5
2-2-200	80.5	80	0.5	2	1.5
2-3-00	84.5	85.5	-1	9	10
2-3-40	76	72	4	8	4
2-3-80	93	93	0	7	7
2-3-120	89	89	0	0	0
2-3-160	87	86	1	6	5
2-3-200	88	87	1	0	-1
2-4-00	75.5	76	-0.5	0	0.5
2-4-40	89.5	89.5	0	3	3
2-4-120	94	91	3	0	-3
2-5-00	104	105	-1	0	1
2-5-80	94.5	94	0.5	0	-0.5
M1	100.5	98	2.5	8	5.5
M2	89	89	0	0	0
M3	100	100	0	5	5
M4	78	80.5	-2.5	4	6.5
M5	83.5	84	-0.5	9	9.5
M6	95	94	1	4.5	3.5
M7	93	91.5	1.5	4	2.5
M8	77	75	2	0	-2
M9	79	79.5	-0.5	2	2.5

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M10	78	76.5	1.5	13	11.5
D1	78	78	0	0	0
D2	92	91.5	0.5	9.5	9
D3	87	88	-1	2.5	3.5
D4	90.5	89	1.5	3	1.5
D5	92.5	92.5	0	2	2
D6	88	86	2	0	-2
D7	96.5	95.5	1	4	3
D8	99	96	3	3	0
D9	93	93	0	0	0
D10	98	97.5	0.5	2	1.5

## **IV. Chemical Parameters**

### **4.1 Water Quality Monitoring in Ditches**

At each of the fish stations, beginning in October 2003, hand-held YSI multi-parameter and pH meters were used to collect salinity, temperature, conductivity, pH, and dissolved oxygen concentrations measurements using the USFWS/USGS protocols (James-Pirri et al., 2002). These measurements are listed in Table 4-1.

### **4.2 Ditch Salinity Surveys**

Salinity was measured along the mosquito ditches in November 2003 using a YSI meter in accordance with USFWS/USGS protocols (James-Pirri et al., 2002). Measurements were taken every 30 to 50 m, depending on the length of the ditch. These measurements may help identify fresh water influxes. Ditch salinity measurements are listed in Table 4-2.

### **4.3 Pore Water Salinity**

Soil water salinity was measured at all 88 stations every 10-14 days during fall 2003 and summer/fall 2004, following the USFWS/USGS protocol (James-Pirri et al., 2002). A soil probe was used to extract water from 15 cm below the marsh surface. The soil probe is constructed of a stainless steel tubing (0.065 in inner diameter), 70 cm in length, with one end crimped and slotted to allow the entry of water. A short length of plastic tubing was attached to the opposite end of the probe. Water was drawn up through the probe by a syringe attached to the plastic tubing. Once several millimeters of water had been extracted with the probe, the depth of which the water was collected was recorded. Salinity readings were recorded by passing the extracted water through a piece of filter paper placed over the syringe nozzle onto the glass plate of a refractometer. Soil water salinity measurements are listed in Table 4-3.

#### 4.4 Carmans River Water Quality

In July 2003, Suffolk County Department of Health Services (SCDHS) collected two rounds of samples at four stations on the River. Field parameters (temperature, depth, secchi disk depth, dissolved oxygen, specific conductivity, salinity and flow) were collected in accordance with SCDHS sampling protocols (SCDHS 2003) and the water samples were analyzed for the Department's full parameter suite (water quality indicators, nutrients, metals, and organic compounds including VOCs, SVOCs, and pesticides and metabolites) (Suffolk County 2003). Monitoring was conducted on a quarterly basis. Detections of analytes analyzed at the Carmans River sampling stations are listed in Table 4-4.

#### 4.5 Nutrient Sampling

In July and August 2004, SCDHS sampled randomly selected fish stations throughout the four areas for to assess the amount of nutrients in the ditches. Nutrient sampling results are listed in Table 4-5.

#### 4.6 Estuarine Water Quality

Following standard SCDHS sampling protocols (SCDHS 2003), water quality samples were collected by SCDHS on July 15<sup>th</sup>, July 29<sup>th</sup>, and October 15<sup>th</sup>, 2003. The samples were analyzed by PEHL, including a standard QA/QC review. Four samples (WWR001 – WWR004) were collected within WNWR. Three samples (WWNR011, WWNR021 and WWNR022) were taken from nearby areas. WWNR011 was collected from the east side of William Floyd Parkway spur between Bayfair Court and Roneck Court; WWNR021 was collected from beach #5 in Mastic, located at the south end of Oceanview Drive; and WWNR022 was collected from the town boat ramp located on the east side of Riviera Drive. The results for the estuarine water quality sampling are listed in Table 4-6. The complete list of inorganic compounds analyzed for each sample is listed in Table 4-7.

**Table 4-1. Water Quality in Ditches**

**AREA 1**

Date	Station	Time	pH	Temp (C)	DO (mg/L)	Salinity (ppt)	Tidal Stage/Remarks
10/16/2003	D-1	1155	6.5	15.6	2.6	14.8	Low, Beginning of flood
10/16/2003	D-2	1150	6.6	14.6	0.5	14.0	
10/16/2003	D-3	1145	6.4	13.9	0.2	12.4	
10/16/2003	D-4	1140	6.7	15.4	7.4	16.0	
10/16/2003	D-5	1130	6.5	14.7	1.3	4.9	
10/16/2003	D-6	1143	6.4	15.8	1.1	15.9	
10/16/2003	D-7	1150	6.0	16.1	7	17.6	
10/16/2003	D-8	1137	6.4	14.3	2.2	16.6	
10/16/2003	D-9	1155	6.1	15.4	5.2	16.9	
10/16/2003	D-10	1130	6.4	13.9	4.7	18.7	
10/27/2003	D-1	1445	6.8	15.5	5.7	6.5	High, Beginning of ebb
10/27/2003	D-2	1440	7.0	14.7	6.9	8.0	
10/27/2003	D-3	1435	7.0	14.6	6.9	9.6	
10/27/2003	D-4	1430	6.9	15.5	6.7	8.5	
10/27/2003	D-5	1425	6.9	14.9	6.7	10.0	
10/27/2003	D-6	1430	7.1	15.2	6.6	11.0	
10/27/2003	D-7	1424	7.2	15.5	4.9	7.0	
10/27/2003	D-8	1432	7.1	14.6	7.2	11.4	
10/27/2003	D-9	1420	6.9	14.8	6.9	11.6	
10/27/2003	D-10	1436	6.9	15.2	3.3	7.3	
11/24/2003	D-1	1220	7.4	8.6	8.9	14.5	End of flood
11/24/2003	D-2	1215	7.5	9.7	8.5	20.3	
11/24/2003	D-3	1210	7.6	10.0	8.4	24.0	
11/24/2003	D-4	1205	7.5	10.1	9.6	20.4	
11/24/2003	D-5	1200	7.7	10.0	8.9	24.2	
11/24/2003	D-6	1152	6.3	9.9	8.9	26.3	
11/24/2003	D-7	1154	6.2	8.4	8.2	18.0	
11/24/2003	D-8	1156	7.0	9.8	8.8	23.5	
11/24/2003	D-9	1210	6.2	10.0	8.6	24.1	
11/24/2003	D-10	1150	7.2	8.3	8.4	17.8	
12/12/2003	D-1	1135	6.6	4.4	3.9	14.6	Middle of flood
12/12/2003	D-2	1140	6.7	4.7	5.2	10.9	
12/12/2003	D-3	1145	7.0	4.5	10.3	4.1	
12/12/2003	D-4	1150	6.8	4.8	8.7	12.3	
12/12/2003	D-5	1155	6.8	4.8	6.2	14.5	
12/12/2003	D-6	1140	6.8	4.0	5.3	16.5	
12/12/2003	D-7	1143	6.8	5.0	4.2	15.6	
12/12/2003	D-8	1148	6.9	4.3	8.0	12.1	
12/12/2003	D-9	1150	6.9	5.6	7.8	11.7	
12/12/2003	D-10	1135	6.9	4.1	7.8	13.0	
12/29/2003	D-1	1122	7.2	1.5	6.2	11.7	End of ebb
12/29/2003	D-2	1115	7.1	5.5	0.4	6.8	
12/29/2003	D-3	1110	7.0	6.3	1.0	7.3	

12/29/2003	D-4	1105	7.3	3.3	0.4	11.3	
12/29/2003	D-5	1101	7.1	6.5	1.7	6.0	
12/29/2003	D-6	1058		4.6	3.0	11.5	skim layer of ice atop
12/29/2003	D-7	1054		1.5		15.5	Too shallow for DO reading
12/29/2003	D-8	1050		3.9		10.7	Too shallow for DO reading
12/29/2003	D-9	1100		5.1	5.2	10.1	
12/29/2003	D-10	1045		3.8	1.2	12.5	skim layer of ice atop
3/22/2004	D-1	1145	6.9	10.3	10.0	10.9	End of flood
3/22/2004	D-2	1150	6.8	6.9	3.1	11.9	
3/22/2004	D-3	1155	7.5	6.0	4.9	8.9	
3/22/2004	D-4	1200	7.3	7.0	9.5	15.3	
3/22/2004	D-5	1205	7.0	9.4	7.3	12.3	
3/22/2004	D-6	1208	7.2	8.2	7.0	14.7	
3/22/2004	D-7	1212	7.0	14.1		15.8	Too shallow for DO reading
3/22/2004	D-8	1204	8.1	6.8	7.0	13.1	
3/22/2004	D-9	1215	7.4	8.2		10.7	Too shallow for DO reading
3/22/2004	D-10	1200	9.4	6.4	6.5	13.4	
4/12/2004	D-1	1105	6.8	15.0	10.4	9.2	Last of ebb
4/12/2004	D-2	1110	6.6	8.9	0.3	7.2	
4/12/2004	D-3	1115	6.8	8.9	1.3	6.6	
4/12/2004	D-4	1120	6.9	10.2	3.4	12.2	
4/12/2004	D-5	1125	6.6	16.1	1.1	4.7	
4/12/2004	D-6	1123	*	10.3		11.0	Too shallow for DO reading
4/12/2004	D-7	1127	*				Too shallow to monitor
4/12/2004	D-8	1118	*	9.9		10.7	Too shallow for DO reading
4/12/2004	D-9	1130	*	13.5		10.8	Too shallow for DO reading
4/12/2004	D-10	1115	*	11.3		11.2	
5/24/2004	D-1	1145	6.7	21.0	7.5	8.0	low tide
5/24/2004	D-2	1150	6.6	19.8	0.2	3.0	
5/24/2004	D-3	1155	6.6	17.0	1.1	4.8	
5/24/2004	D-4	1200	7.0	20.1	2.9	8.0	
5/24/2004	D-5	1205	6.6	20.1	3.8	1.9	
5/24/2004	D-6	1155	6.8	19.0	*	7.0	
5/24/2004	D-7	1200	6.7	17.9	*	2.9	Sampled at ditch, (not in puddle as on previous sampling events)
5/24/2004	D-8	1150	6.7	18.3	*	5.3	
5/24/2004	D-9	1205	6.6	20.4	*	5.8	
5/24/2004	D-10	1145	6.6	20.7	*	5.7	
7/12/2004	D-1	1120					Too shallow to monitor
7/12/2004	D-2	1107	6.7	20.6		5.1	Too shallow for DO reading
7/12/2004	D-3	1115	6.4	21.1		6.6	Too shallow for DO reading
7/12/2004	D-4	1103	6.7	21.3		9.0	Too shallow for DO reading
7/12/2004	D-5	1105					Too shallow to monitor
7/12/2004	D-6	1120	6.6	21.7		9.9	Too shallow for DO reading
7/12/2004	D-7	1115					Too shallow to monitor
7/12/2004	D-8	1110	6.5	21.3		8.6	Too shallow for DO reading
7/12/2004	D-9	1108	6.7	21.6		11.5	Too shallow for DO reading



7/12/2004	D-10	1105	6.8	21.3		11.3	Too shallow for DO reading
10/13/2004	D-1	1155	7.3	13.9	9.9	11.9	Tide extremely high - marsh flooded
10/13/2004	D-2	1200	7.5	14.8	8.8	18.8	
10/13/2004	D-3	1210	7.9	15.7	8.8	22.3	
10/13/2004	D-4	1215	7.4	18.4	7.1	19.5	
10/13/2004	D-5	1225	7.8	15.9	7.7	22.8	
10/13/2004	D-6	1220	7.7	15.3	7.9	17.1	
10/13/2004	D-7	1215	7.6	13.5	7.8	14.6	
10/13/2004	D-8	1210	7.7	15.5	7.8	21.3	
10/13/2004	D-9	1200	7.5	15.4	7.6	21.3	
10/13/2004	D-10	1155	7.4	13.0	7.4	15.4	

Note: " \* " denotes equipment failure

**AREA 2**

Date	Station	Time	pH	Temp (C)	DO (mg/L)	Salinity (ppt)	Tidal Stage/Remarks
10/16/2003	D-1	1235	6.1	13.6	3.8	19.6	
10/16/2003	D-2	1240	6.6	13.3	4.5	20.2	
10/16/2003	D-3	1230	6.6	14	3.9	18.6	
10/16/2003	D-4	1250	6.0	14.5	5.2	19.9	
10/16/2003	D-5	1252	5.9	16.4	3.2	20.5	
10/16/2003	D-6	1255	6.0	14.5		22.6	Too shallow for DO reading
10/16/2003	D-7	1300	5.9	13.9	0.9	23.6	
10/16/2003	D-8	1303	5.9	16.6	2.4	25.1	
10/16/2003	D-9	1306	5.9	13.9	4.9	25.6	
10/16/2003	D-10	1310	5.8	14.9	5.7	25.3	
10/27/2003	D-1	1240	6.9	14.8	4.5	9.9	water flowing up ditch
10/27/2003	D-2	1230	7.3	14.8	7.5	9.2	
10/27/2003	D-3	1242	6.9	13.0	2.6	14.9	
10/27/2003	D-4	1220	7.0	14.9	8.2	10.3	
10/27/2003	D-5	1216	7.1	14.8	9.5	9.7	
10/27/2003	D-6	1215	7.2	14.9	8.7	11.0	
10/27/2003	D-7	1210	7.4	14.8	9.4	11.4	
10/27/2003	D-8	1205	7.1	14.6	5.5	15.8	
10/27/2003	D-9	1200	7.0	14.3	4.7	17.5	
10/27/2003	D-10	1155	7.1	14.8	7.7	16.5	
11/24/2003	D-1	1115	6.8	8.9	8.8	24.1	
11/24/2003	D-2	1118	6.9	9.5	8.5	23.5	
11/24/2003	D-3	1120	6.7	9.6	5.8	23.4	
11/24/2003	D-4	1108	6.4	9.8	8.8	25.5	
11/24/2003	D-5	1058	6.5	9.4	8.8	24.8	
11/24/2003	D-6	1056	6.3	8.5	9.1	25.7	
11/24/2003	D-7	1051	6.5	10.2	9.1	26.6	
11/24/2003	D-8	1046	8.6	10.2	8.7	26.6	
11/24/2003	D-9	1041	8.7	10.0	9.0	26.6	
11/24/2003	D-10	1035	8.9	10.1	8.9	26.6	
12/12/2003	D-1	1055	7.0	3.4	5.2	18.9	
12/12/2003	D-2	1050	6.9	3.5	6.7	17.3	
12/12/2003	D-3	1100	6.9	3.9	4.4	15.3	
12/12/2003	D-4	1045	7.0	3.6	7.5	17.8	
12/12/2003	D-5	1040	7.0	3.4	8.4	23.6	
12/12/2003	D-6	1035	6.7	3.0	5.0	23.7	
12/12/2003	D-7	1030	6.8	3.0		24.9	Too shallow for DO reading
12/12/2003	D-8	1025	7.3	2.3	8.3	24.2	
12/12/2003	D-9	1020	7.8	2.5	9.8	24.3	
12/12/2003	D-10	1015	7.3	3.8	9.9	23.8	
12/29/2003	D-1	1010		3.6	1.1	12.6	
12/29/2003	D-2	1015		0.9	1.8	14.2	skim layer of ice atop
12/29/2003	D-3	1020		1.9	7.3	15.3	skim layer of ice atop
12/29/2003	D-4	1005		2.8		15.8	Too shallow for DO reading

12/29/2003	D-5	1000		1.6	1.8	14.4	
12/29/2003	D-6	0955		1.7	0.6	17.2	skim layer of ice atop
12/29/2003	D-7	0950		1.4	1.7	17.1	skim layer of ice atop
12/29/2003	D-8	0945		0.8	>12	11.7	
12/29/2003	D-9	0940		1.9	11.4	15.3	skim layer of ice atop
12/29/2003	D-10	0935		1.8	6.2	16.7	skim layer of ice atop
3/22/2004	D-1	1115	6.7	4.1	8.6	14.9	
3/22/2004	D-2	1110	6.9	4.1	8.7	14.9	
3/22/2004	D-3	1120	6.9	5.9	8.3	15.2	
3/22/2004	D-4	1105	6.7	5.8	5.0	14.7	
3/22/2004	D-5	1100	6.7	7.0	5.1	16.8	Milky, greenish-gray tint
3/22/2004	D-6	1055	6.6	8.7	4.7	16	
3/22/2004	D-7	1051	6.7	4.7	9.8	16.3	
3/22/2004	D-8	1047	7.7	4.3	13.8	12.4	
3/22/2004	D-9	1043	7.2	4.4	>20	15.1	Thin ice layer at surface
3/22/2004	D-10	1040	8.8	7.1	10.1	22.2	
4/12/2004	D-1	1055	*	8.0		13.7	Too shallow for DO reading
4/12/2004	D-2	1050	*	8.0	3.3	14.3	
4/12/2004	D-3	1100	*	9.7	5.2	16.0	
4/12/2004	D-4		*				Too shallow to monitor
4/12/2004	D-5	1040	*	9.7		14.3	Too shallow for DO reading
4/12/2004	D-6	1030	*	10.4		15.0	Too shallow for DO reading
4/12/2004	D-7	1020	*	10.8		16.4	Too shallow for DO reading
4/12/2004	D-8		*				Too shallow to monitor
4/12/2004	D-9	1010	*	10.3	8.2	18.6	
4/12/2004	D-10	1000	*	11.4	3.7	19.0	
5/24/2004	D-1	1130	6.7	18.7	*	6.6	
5/24/2004	D-2	1125	7.0	18.5	*	7.2	
5/24/2004	D-3	1120	6.9	18.7	*	11.1	
5/24/2004	D-4	1115	7.0	18.9	*	10.9	
5/24/2004	D-5	1110	6.7	19.7	*	9.1	
5/24/2004	D-6	1105	6.8	19.8	*	11.7	
5/24/2004	D-7	1100	7.3	19.0	*	13.2	
5/24/2004	D-8	1055			*		Too shallow to monitor
5/24/2004	D-9	1050	7.1	18.8	*	11.9	
5/24/2004	D-10	1045	7.5	19.1	*	13.0	
7/12/2004	D-1	1100	6.7	21.1		11.5	Too shallow for DO reading
7/12/2004	D-2	1055	7.2	22.2		12.7	Too shallow for DO reading
7/12/2004	D-3	1050	7.0	22.2		17.5	Too shallow for DO reading
7/12/2004	D-4	1040	6.9	22.4		13.6	Too shallow for DO reading
7/12/2004	D-5	1035	7.0	22.5		14.2	Too shallow for DO reading
7/12/2004	D-6	1030	7.3	22.5		12.4	Too shallow for DO reading
7/12/2004	D-7	1020	7.2	21.9		12.2	Too shallow for DO reading
7/12/2004	D-8	1015	7.4	22.0		17.3	Too shallow for DO reading
7/12/2004	D-9	1010	7.1	22.0		16.2	Too shallow for DO reading
7/12/2004	D-10	1005	6.8	23.1		18.3	green-brown seaweed
10/13/2004	D-1	1115	7.6	13.1	7.1	18.4	
10/13/2004	D-2	1110	7.8	14.2	7.0	18.0	

10/13/2004	D-3	1105	7.5	11.7	7.0	18.8	
10/13/2004	D-4	1100	7.9	15.3	8.0	22.5	
10/13/2004	D-5	1055	7.8	15.1	8.1	22.4	
10/13/2004	D-6	1050	7.7	14.2	7.0	21.6	
10/13/2004	D-7	1045	7.9	15.7	8.1	23.6	
10/13/2004	D-8	1040	7.9	15.2	7.8	23.0	
10/13/2004	D-9	1035	7.8	15.0	8.0	22.0	
10/13/2004	D-10	1030	7.7	14.6	8.1	19.1	

Note: " \* " denotes equipment failure

**AREA 3**

Date	Station	Time	pH	Temp (C)	DO (mg/L)	Salinity (ppt)	Tidal Stage/Remarks
10/16/2003	D-1	1220	6.4	13.6	5.3	14.6	
10/16/2003	D-2	1225	6.3	13.6	5.5	9.1	
10/16/2003	D-3	1235	6.5	14.3	4.1	15.9	
10/16/2003	D-4	1240	6.4	14.6	4.6	16.2	
10/16/2003	D-5	1245	6.4	14.5	1.9	17.5	
10/16/2003	D-6	1230	6.5	15.5	3.7	19.9	
10/16/2003	D-7	1253	6.5	14.4	2.5	22.4	
10/16/2003	D-8	1250	6.5	15.3	5	19.9	
10/16/2003	D-9	1255	6.6	15.6	0.2	18.2	
10/16/2003	D-10	1300	6.9	12.8	4.5	26.4	
10/27/2003	D-1	1140	6.6	15.3	2.0	7.6	
10/27/2003	D-2	1145	7.1	14.4	8.4	10.1	
10/27/2003	D-3	1150	7.1	14.7	8.3	9.3	
10/27/2003	D-4	1225	7.0	15.0	7.1	5.6	
10/27/2003	D-5	1220	7.4	14.8	9.1	10.5	
10/27/2003	D-6	1155	6.7	14.9	7.4	10.7	
10/27/2003	D-7	1200	6.7	14.6	3.8	11.5	
10/27/2003	D-8	1215	7.2	14.8	7.7	9.6	
10/27/2003	D-9	1205	6.8	15.0	6.5	10.3	
10/27/2003	D-10	1210	6.9	14.7	4.4	17.4	
11/24/2003	D-1	1105	7	6.6	4.3	11.0	
11/24/2003	D-2	1100	7.5	9.7	8.7	24.3	
11/24/2003	D-3	1035	7.4	9.3	8.0	22.8	
11/24/2003	D-4	1015	6.7	8.6	5.4	14.2	
11/24/2003	D-5	1020	7.3	9.3	8.0	21.7	
11/24/2003	D-6	1050	7.7	9.9	8.8	24.6	
11/24/2003	D-7	1045	7.6	9.7	8.7	24.4	
11/24/2003	D-8	1025	7.3	7.9	7.4	18.0	
11/24/2003	D-9	1030	7.3	9.2	8.4	23.3	
11/24/2003	D-10	1035	7.7	9.4	9.1	24.2	
12/12/2003	D-1	1045	6.9	3.7	5.5	10.1	
12/12/2003	D-2	1040	7.1	3.7	8.0	10.3	
12/12/2003	D-3	1035	7.0	3.7	6.9	14.7	
12/12/2003	D-4	1000	6.9	3.2	7.6	14.8	
12/12/2003	D-5	1005	7.0	3.4	7.6	17.8	
12/12/2003	D-6	1030	7.1	3.6	6.0	17.4	
12/12/2003	D-7	1025	7.2	3.1	9.1	23.3	
12/12/2003	D-8	1010	7.0	2.9	9.1	22.9	
12/12/2003	D-9	1015	6.8	2.8	3.9	21.2	
12/12/2003	D-10	1020	7.1	2.8	8.9	24.3	
12/29/2003	D-1	1011	7.1	0.9	1.3	11.2	
12/29/2003	D-2	1008	7.1	4.8	5.1	7.3	
12/29/2003	D-3	1004	7.1	2.2	2.0	10.5	
12/29/2003	D-4	0928	7.2	0.7	3.8	11.6	

12/29/2003	D-5	0935	7.2	3.4	0.5	9.1	
12/29/2003	D-6	1000	7.2	4.3	1.2	12.7	
12/29/2003	D-7	0955	7.1	2.7	0.4	14.1	
12/29/2003	D-8	0940	7.3	1.1	0.4	12.3	
12/29/2003	D-9	0945	7.2	1.0	0.8	14.3	
12/29/2003	D-10	0950	7.6	2.2	14.1	14.4	
3/22/2004	D-1	1115	7.2	6.3	7.5	7.9	
3/22/2004	D-2	1110	7.0	6.6	8.9	9.1	
3/22/2004	D-3	1105	6.9	4.9	4.4	13.2	
3/22/2004	D-4	1030	6.1	6.3	6.6	12.8	
3/22/2004	D-5	1035	6.8	5.1	9.0	6.7	
3/22/2004	D-6	1100	6.9	7.3	4.9	15.8	
3/22/2004	D-7	1055	6.7	6.2	5.2	16.6	
3/22/2004	D-8	1040	6.8	5.0	10.2	15.4	
3/22/2004	D-9	1045	6.6	6.4	1.1	15.2	
3/22/2004	D-10	1050	7.3	2.9	10.0	17.8	
4/12/2004	D-1	1030	6.6	10.1	1.7	8.9	
4/12/2004	D-2	1025	6.6	10.9	7.3	6.6	
4/12/2004	D-3	1020	7.0	10.3	8.3	9.2	
4/12/2004	D-4	0945	6.8	10.4	11.6	9.6	
4/12/2004	D-5	0950	6.7	8.0	0.9	8.8	
4/12/2004	D-6	1015	6.8	10.9	1.7	12.4	
4/12/2004	D-7	1010	6.6	9.2	1.3	13.9	
4/12/2004	D-8	0955	6.8	7.7	1.1	11.9	
4/12/2004	D-9	1000	6.7	11.7	1.9	12.6	
4/12/2004	D-10	1005	7.2	9.0	6.5	22.2	
5/24/2004	D-1	1125	6.9	19.6	2.8	5.9	
5/24/2004	D-2	1120	6.9	18.8	4.4	3.2	
5/24/2004	D-3	1115	6.8	20.1	2.9	5.1	
5/24/2004	D-4	1040	6.7	19.4	0.4	7.3	
5/24/2004	D-5	1045	6.9	17.6	0.7	5.6	
5/24/2004	D-6	1110	6.7	19.8	0.5	9.9	
5/24/2004	D-7	1105	6.5	19.4	0.6	9.6	
5/24/2004	D-8	1050	7.0	18.6	3.5	7.4	
5/24/2004	D-9	1055	6.8	19.5	0.4	10.3	
5/24/2004	D-10	1100	7.3	19.1	1.6	10.7	
7/12/2004	D-1	1035	7.0	21.1		10.6	Too shallow for DO reading
7/12/2004	D-2	1023	6.4	20.6		5.2	Too shallow for DO reading
7/12/2004	D-3	1020	6.7	22.6		7.5	Muddy/shallow
7/12/2004	D-4	1000					Too shallow to monitor
7/12/2004	D-5	1005	6.6	20.6		7.7	Too shallow for DO reading
7/12/2004	D-6	1017	6.9	22.6		10.9	Too shallow for DO reading
7/12/2004	D-7	1015	6.7	22.2		11.8	Too shallow for DO reading
7/12/2004	D-8	1007	7.8	21.3		10.3	Too shallow for DO reading
7/12/2004	D-9	1010	6.7	22.6		8.5	Muddy/shallow
7/12/2004	D-10	1012	7.0	22.3		20.0	
10/13/2004	D-1	1105	6.9	11.5	3.8	13.7	
10/13/2004	D-2	1100	7.8	15.2	7.7	22.8	

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10/13/2004	D-3	1055	7.5	14.7	7.4	21.6	
10/13/2004	D-4	1020	7.2	12.8	7.6	13.7	
10/13/2004	D-5	1025	7.7	14.3	8.0	19.5	
10/13/2004	D-6	1050	7.8	15.3	8.0	22.9	
10/13/2004	D-7	1045	7.7	14.9	7.9	22.8	
10/13/2004	D-8	1030	7.5	13.0	7.7	16.3	
10/13/2004	D-9	1035	7.3	13.6	7.8	19.4	
10/13/2004	D-10	1040	7.8	14.1	8.3	22.0	

**AREA 4**

Date	Station	Time	pH	Temp (C)	DO (mg/L)	Salinity (ppt)	Tidal Stage/Remarks
10/16/2003	D-1	1040	6.6	12.0	4.0	25.8	
10/16/2003	D-2	1030	6.9	14.1	3.8	21.5	
10/16/2003	D-3	1047	6.5	13.1	4.9	20.4	
10/16/2003	D-4	1020	6.4	12.5	5.3	19.0	
10/16/2003	D-5	1025	6.0	12.6	1.1	14.7	
10/16/2003	D-6	1015	5.9	12.9	2.3	14.2	
10/16/2003	D-7	1040	5.5	13.0	1.3	11.1	
10/16/2003	D-8	1035	6.3	12.7	3.8	10.6	
10/16/2003	D-9	1015	6.8	13.3	7.7	20.3	
10/16/2003	D-10	1100	6.4	13.8	5.6	22.9	
10/27/2003	D-1	1335	6.8	15.3	1.9	17.7	
10/27/2003	D-2	1331	6.9	15.0	3.3	17.8	
10/27/2003	D-3	1326	7.5	14.0	7.4	23.4	
10/27/2003	D-4	1325	7.2	14.4	6.6	19.8	
10/27/2003	D-5	1330	7.1	14.0	6.5	19.7	
10/27/2003	D-6	1320	6.8	14.4	6.2	18.3	
10/27/2003	D-7	1340	5.9	14.8	0.6	2.5	
10/27/2003	D-8	1335	7.1	14.2	5.7	16.5	
10/27/2003	D-9	1325	7.1	15.0	6.4	21.6	
10/27/2003	D-10	1341	7.0	15.0	4.5	17.5	
11/24/2003	D-1	0936	7.7	6.0	7.1	20.1	
11/24/2003	D-2	0943	7.9	8.7	7.6	23.9	
11/24/2003	D-3	0950	8.3	9.8	8.3	26.3	
11/24/2003	D-4	0950	7.3	9.5	8.2	24.0	
11/24/2003	D-5	0955	7.3	8.6	7.6	21.7	
11/24/2003	D-6	0930	6.5	6.3	6.4	3.3	
11/24/2003	D-7	0940	6.7	6.1	4.2	9.5	
11/24/2003	D-8	0955	6.6	7.6	1.4	1.9	
11/24/2003	D-9	0930	7.6	6.8	1.6	23.2	
11/24/2003	D-10	0955	7.8	8.0	8.0	21.8	
12/12/2003	D-1	0925	7.0	3.4	6.0	26.4	
12/12/2003	D-2	0930	7.3	3.3	9.4	24.5	
12/12/2003	D-3	0938	7.2	3.4	7.4	16.7	
12/12/2003	D-4	0935	6.9	2.9	7.6	13.8	
12/12/2003	D-5	0940	6.9	3.2	6.9	12.2	
12/12/2003	D-6	0925	6.6	3.2	6.5	10.8	
12/12/2003	D-7	0930	6.8	2.8	7.6	10.3	
12/12/2003	D-8	0945	6.7	4.0	4.6	7.0	
12/12/2003	D-9	0920	7.7	3.3	8.5	15.0	
12/12/2003	D-10	0945	6.9	3.7	7.5	24.2	
12/29/2003	D-1	0852		1.0	0.3	20.6	sheet of ice atop
12/29/2003	D-2	0847		1.1	0.8	15.4	sheet of ice atop
12/29/2003	D-3	0840		1.8	3.8	6.4	
12/29/2003	D-4	0855	7.0	4.9	2.2	8.1	



12/29/2003	D-5	0908	6.7	5.8	1.3	2.7	
12/29/2003	D-6	0835	6.1	3.8	3.0	2.6	
12/29/2003	D-7	0842	7.1	1.4	8.9	2.1	
12/29/2003	D-8	0830	5.6	5.1	2.0	2.3	
12/29/2003	D-9	0830		1.0	1.0	20.5	sheet of ice atop
12/29/2003	D-10	0900		2.7	1.6	12.3	skim layer of ice atop
3/22/2004	D-1	0940	6.7	3.0		16.6	Too shallow for DO reading
3/22/2004	D-2	0935	7.0	2.8	1.7	17.0	
3/22/2004	D-3	0930	8.2	1.9	7.6	9.1	
3/22/2004	D-4	0950	6.8	2.1	5.4	14.7	
3/22/2004	D-5	1000	6.5	6.2	3.7	6.1	
3/22/2004	D-6	0955	6.6	4.6	5.4	3.9	
3/22/2004	D-7	1010	6.4	4.6	8.8	3.0	
3/22/2004	D-8	1000	6.2	5.1	4.0	1.6	
3/22/2004	D-9	0925	8.9	4.4	7.2	16.5	
3/22/2004	D-10	0945	6.7	4.2	3.5	13.4	
4/12/2004	D-1	0930	*	6.9	10.6	19.3	
4/12/2004	D-2	0925	*	7.1		12.1	Too shallow for DO reading
4/12/2004	D-3	0920	*	7.4	6.0	3.7	
4/12/2004	D-4	0920	6.4	7.6	2.4	5.3	
4/12/2004	D-5	0925	6.8	8.6	2.3	1.9	
4/12/2004	D-6	0915	6.7	7.7	5.6	0.7	
4/12/2004	D-7	0930	7.3	7.5	6.6	0.8	
4/12/2004	D-8	0935	6.6	8.3	2.8	0.9	
4/12/2004	D-9	0945	*	7.6	4.3	20.9	
4/12/2004	D-10	0940	*	7.2		6.9	Too shallow for DO reading
5/24/2004	D-1	1015	7.3	18.6	*	18.4	
5/24/2004	D-2	1010	7.0	18.9	*	7.1	
5/24/2004	D-3	1005	6.9	17.4	*	3.1	
5/24/2004	D-4	1016	6.2	15.9	1.1	5.7	
5/24/2004	D-5	1020	6.7	15.2	2.6	0.5	
5/24/2004	D-6	1005	6.4	15.5	3.5	0.5	
5/24/2004	D-7	1010	6.5	18.1	3.6	0.5	
5/24/2004	D-8	1000	6.2	14.4	2.2	0.4	
5/24/2004	D-9	1000	6.9	19.9	*	18.3	No water in ditch
5/24/2004	D-10	1020	6.8	18.4	*	4.3	Fish observed in ditch
7/12/2004	D-1	0925					Too shallow to monitor
7/12/2004	D-2	0920	6.7	22.7		10.3	
7/12/2004	D-3	0915	7.2	23.6	1.3	11.3	
7/12/2004	D-4	0930	6.5	19.1	4.4	5.5	
7/12/2004	D-5	0940	6.1	16.1		1.2	Too shallow for DO reading
7/12/2004	D-6	0915	6.8	18.8	4.9	0.3	
7/12/2004	D-7	0945	6.2	21.4		10.2	Too shallow for DO reading
7/12/2004	D-8	0925	6.3	18.5		0.8	Too shallow for DO reading
7/12/2004	D-9	0910	7.4	22.5		11.9	Too shallow for DO reading
7/12/2004	D-10	0930	6.8	22.0	5.5	6.9	
10/13/2004	D-1	0920	7.1	9.9	2.3	19.3	
10/13/2004	D-2	0930	7.2	11.2	4.8	17.0	

10/13/2004	D-3	0940	7.2	13.8	6.5	20.9	
10/13/2004	D-4	0940	7.4	13.6	6.9	20.6	
10/13/2004	D-5	0945	7.2	12.4	6.0	18.6	
10/13/2004	D-6	0935	7.0	12.3	6.2	17.3	
10/13/2004	D-7	0930	6.5	11.3	4.1	14.5	
10/13/2004	D-8	0920	5.9	9.6	2.4	0.8	Salinity is suspect
10/13/2004	D-9	0945	6.7	10.2	6.4	12.3	
10/13/2004	D-10	0950	7.3	12.1	5.0	16.5	

Note: " \* " denotes equipment failure

**Table 4-2. Ditch Salinities**

**AREA 1**

<b>Date</b>	<b>Station</b>	<b>Salinity (ppt)</b>
11/10/2003	1-E-0	1.4
11/10/2003	1-30	3.1
11/10/2003	1-60	4.2
11/10/2003	1-90	3.1
11/10/2003	1-120	3.0
11/10/2003	1-150	2.6
11/10/2003	2-W-0	1.2
11/10/2003	2-30	0.0
11/10/2003	2-60	2.4
11/10/2003	2-90	1.9
11/10/2003	3-E-0	0.0
11/10/2003	3-30	4.3
11/10/2003	3-60	6.5
11/10/2003	3-90	8.5
11/10/2003	3-120	7.2
11/10/2003	3-150	1.8
11/10/2003	4-E-0	3.2
11/10/2003	4-30	6.5
11/10/2003	4-60	7.3
11/10/2003	4-90	9.6
11/10/2003	4-120	10.1
11/10/2003	4-150	6.4
11/10/2003	5-E-0	4.7
11/10/2003	5-30	7.9
11/10/2003	5-60	8.3
11/10/2003	5-90	5.3
11/10/2003	6-E-0	6.2
11/10/2003	6-50	9.4
11/10/2003	6-100	7.8
11/10/2003	6-150	8.2
11/10/2003	6-200	5.6
11/10/2003	7-E-0	2.2
11/10/2003	7-50	6.7
11/10/2003	7-100	8.3
11/10/2003	7-150	8.0
11/10/2003	7-200	6.2
11/10/2003	7-250	4.2
11/10/2003	8-W-0	16.0
11/10/2003	8-50	5.4
11/10/2003	8-100	7.0
11/10/2003	8-150	8.3
11/10/2003	8-200	10.3
11/10/2003	8-250	7.3
11/10/2003	8-300	6.4
11/10/2003	8-350	5.8

11/10/2003	9-W-0	4.7
11/10/2003	9-50	10.6
11/10/2003	9-100	8.1
11/10/2003	9-150	8.6
11/10/2003	9-200	8.0
11/10/2003	9-250	9.6
11/10/2003	9-300	10.2
11/10/2003	9-350	6.6
11/10/2003	9-365	4.9
11/10/2003	10-E-0	6.2
11/10/2003	10-15	6.9
11/10/2003	10-65	7.7
11/10/2003	10-110	9.5
11/10/2003	10-160	10.7
11/10/2003	10-210	8.8
11/10/2003	10-260	11.3
11/10/2003	10-310	5.4
11/10/2003	10-350	5.4
11/10/2003	11-W-0	13.5
11/10/2003	11-30	14.9
11/10/2003	11-80	11.3
11/10/2003	11-130	12.1
11/10/2003	11-180	12.6
11/10/2003	11-230	8.0
11/10/2003	11-280	5.1

**AREA 2**

<b>Date</b>	<b>Station</b>	<b>Salinity (ppt)</b>
11/17/2003	1-E-0	11.3
11/17/2003	1-50	11.8
11/17/2003	1-100	11.9
11/17/2003	1-150	12.2
11/17/2003	1-200	12.0
11/17/2003	1-250	12.5
11/17/2003	1-300	12.6
11/17/2003	1-350	12.8
11/17/2003	1-375	7.7
11/17/2003	2-W-0	7.3
11/17/2003	2-50	15.2
11/17/2003	2-70	14.3
11/17/2003	2-120	14.9
11/17/2003	2-170	13.6
11/17/2003	2-220	12.9
11/17/2003	2-270	12.2
11/17/2003	2-330	13.5
11/17/2003	3-E-0	13.2
11/17/2003	3-10	11.9
11/17/2003	3-60	8.4
11/17/2003	3-110	9.4
11/17/2003	3-160	9.5
11/17/2003	3-210	9.9
11/17/2003	3-260	10.5
11/17/2003	3-310	10.9
11/17/2003	3-370	6.6
11/17/2003	4-W-30	14.1
11/17/2003	4-80	14.1
11/17/2003	4-130	13.9
11/17/2003	4-180	14.2
11/17/2003	4-230	14.8
11/17/2003	4-280	15.1
11/17/2003	4-330	14.9
11/17/2003	4-380	14.9
11/17/2003	4-430	12.7
11/17/2003	5-E-0	13.9
11/17/2003	5-50	13.8
11/17/2003	5-100	13.7
11/17/2003	5-160	14.0
11/17/2003	5-220	15.6
11/17/2003	5-280	14.5
11/17/2003	5-340	14.5
11/17/2003	5-400	14.0
11/17/2003	5-460	13.5
11/17/2003	6-W-0	15.5
11/17/2003	6-60	15.3

11/17/2003	6-130	18.6
11/17/2003	6-200	22.0
11/17/2003	6-270	21.1
11/17/2003	6-340	19.1
11/17/2003	6-410	17.6
11/17/2003	6-480	15.4
11/17/2003	6-550	15.1
11/17/2003	7-W-0	17.9
11/17/2003	7-30	16.0
11/17/2003	7-60	16.4
11/17/2003	7-90	19.1
11/17/2003	7-120	19.9
11/17/2003	7-150	19.1
11/17/2003	7-190	21.3
11/17/2003	8-W-0	23.4
11/17/2003	8-15	20.4
11/17/2003	8-25	20.4
11/17/2003	8-35	20.2
11/17/2003	8-45	19.2
11/17/2003	8-55	18.9
11/17/2003	8-65	18.9
11/17/2003	9-E-0	22.3
11/17/2003	9-10	22.4
11/17/2003	9-20	22.3
11/17/2003	9-30	22.3
11/17/2003	9-40	22.5
11/17/2003	9-50	24.0
11/17/2003	10-W-0	25.9
11/17/2003	10-10	22.2
11/17/2003	10-20	22.0
11/17/2003	10-30	22.0
11/17/2003	10-40	22.0
11/17/2003	11-E-0	19.1
11/17/2003	11-10	19.2
11/17/2003	11-20	19.3
11/17/2003	11-30	24.2

**AREA 3**

<b>Date</b>	<b>Station</b>	<b>Salinity (ppt)</b>
11/10/2003	1-E-0	4.4
11/10/2003	1-50	5.2
11/10/2003	1-100	6.1
11/10/2003	1-150	3.9
11/10/2003	1-180	2.9
11/10/2003	2-E-0	6.0
11/10/2003	2-50	6.1
11/10/2003	2-100	6.9
11/10/2003	2-150	3.1
11/10/2003	3-E-0	6.1
11/10/2003	3-30	4.9
11/10/2003	3-60	5.4
11/10/2003	3-90	5.6
11/10/2003	3-120	6.8
11/10/2003	3-150	7.3
11/10/2003	3-180	6.4
11/10/2003	3-200	8.0
11/10/2003	4-W-0	14.3
11/10/2003	4-30	8.5
11/10/2003	4-60	8.2
11/10/2003	4-90	4.7
11/10/2003	4-120	6.6
11/10/2003	4-150	5.7
11/10/2003	4-180	6.7
11/10/2003	5-W-0	9.6
11/10/2003	5-25	16.7
11/10/2003	5-50	15.4
11/10/2003	5-75	14.5
11/10/2003	5-105	12.0
11/10/2003	5-135	13.5
11/10/2003	5-165	14.3
11/10/2003	5-200	15.0
11/10/2003	5-230	14.4
11/10/2003	5-250	9.9
11/10/2003	6-W-0	9.9
11/10/2003	6-15	15.8
11/10/2003	6-55	16.3
11/10/2003	6-85	17.8
11/10/2003	6-105	17.4
11/10/2003	6-120	16.0
11/10/2003	6-130	10.7

**AREA 4**

<b>Date</b>	<b>Station</b>	<b>Salinity (ppt)</b>
12/15/2003	1-N-0	3.0
12/15/2003	1--50	3.7
12/15/2003	1--100	7.7
12/15/2003	1--150	5.9
12/15/2003	1--200	3.2
12/15/2003	1--250	2.1
12/15/2003	2-N-0	12.4
12/15/2003	2--50	22.5
12/15/2003	2--100	20.9
12/15/2003	2--150	20.6
12/15/2003	2--200	16.9
12/15/2003	2--250	10.9
12/15/2003	3-N-0	22.7
12/15/2003	3--50	26.3
12/15/2003	3--100	23.9
12/15/2003	3--150	22.7
12/15/2003	3--200	20.8
12/15/2003	3--250	18.1
12/31/2003	7-S-0	6.2
12/31/2003	7--50	9.9
12/31/2003	7--100	6.2
12/31/2003	7--150	5.1
12/31/2003	7--200	5.1
12/31/2003	7--250	11.7
12/31/2003	7--300	5.6
12/31/2003	7--317	7.7
12/31/2003	8-N-0	2.9
12/31/2003	8--50	6.6
12/31/2003	8--100	5.1
12/31/2003	8--150	10.8
12/31/2003	8--200	14.3
12/31/2003	8--250	11.1
12/31/2003	9-S-0	13.6
12/31/2003	9--10	14.6
12/31/2003	9--20	19.1
12/31/2003	9--30	17.8
12/31/2003	9--40	8.1
12/31/2003	9--50	17.3
12/31/2003	9--60	18.7
12/31/2003	9--70	10.8
12/31/2003	10-N-0	4.3
12/31/2003	10--10	16.4
12/31/2003	10--20	16.3
12/31/2003	10--26	17.5
12/31/2003	11-N-0	2.6
12/31/2003	11--10	17.1



12/31/2003	11--20	8.3
12/31/2003	11--28	10.6
3/22/2004	3--300	16.8
3/22/2004	3--400	10.6
3/22/2004	3--500	8.1
3/22/2004	3--600	12.5
3/22/2004	3--700	9.5
3/22/2004	4-N-00	5.1
3/22/2004	4--100	10.3
3/22/2004	4--200	17.2
3/22/2004	4--300	5.1
3/22/2004	4--400	3.1
3/22/2004	4--500	4.8
3/22/2004	5-N-0	6.1
3/22/2004	5--30	16.8
3/22/2004	5--60	16.8
3/22/2004	5--90	15.9
3/22/2004	5--120	15.8
3/22/2004	5--150	16.0
3/22/2004	6--00	8.4
3/22/2004	6--100	3.5
3/22/2004	6--200	4.3
3/22/2004	6--300	6.7
3/22/2004	6--400	8.1
3/22/2004	6--500	6.5

**Table 4-3. Water Table Height/Pore Water Salinity**

**AREA 1**

Date	Station #	Water Table Depth (cm)	Soil Salinity (ppt)	Depth of Soil Salinity (cm)
10/3/2003	1-1--00	1.5	14	15
10/3/2003	1-1--40	5.8	11	15
10/3/2003	1-1--80	-6.1	9	15
10/3/2003	1-1--120	-0.3	12	15
10/3/2003	1-2--120	0.7	2	15
10/3/2003	1-2--80	0.8	4	15
10/3/2003	1-2--40	-1.3	10	15
10/3/2003	1-2--00	-3.1	9	15
10/3/2003	1-3--00	5.2	5	15
10/3/2003	1-3--40	0.9	5	15
10/3/2003	1-3--80	0.8	13	15
10/3/2003	1-3--120	0.5	14	15
10/3/2003	1-3--160	-1.6	13	15
10/3/2003	1-3--200	-2.9	19	15
10/3/2003	1-4--240	-6.2	10	15
10/3/2003	1-4--200	-7.8	10	15
10/3/2003	1-4--160	-1.8	15	15
10/3/2003	1-4--120	-1.1	10	15
10/3/2003	1-4--80	-1	9	15
10/3/2003	1-4--40	2.6	14	15
10/3/2003	1-4--00	-3.3	12	15
10/3/2003	1-5--00	-2.3	12	15
10/3/2003	1-5--40	10.1	9	15
10/3/2003	1-5--80	-0.7	10	15
10/17/2003	1-1--00	0	7	15
10/17/2003	1-1--40	6.8	11	15
10/17/2003	1-1--80	-7.7	12	15
10/17/2003	1-1--120	-2.2	13	15
10/17/2003	1-2--120	1.7	14	15
10/17/2003	1-2--80	2.6	11	15
10/17/2003	1-2--40	-0.9	11	15
10/17/2003	1-2--00	-5.4	9	30
10/17/2003	1-3--00	6.2	16	15
10/17/2003	1-3--40	1.3	14	15
10/17/2003	1-3--80	1.3	13	15
10/17/2003	1-3--120	-0.2	15	15
10/17/2003	1-3--160	-1.3	12	15
10/17/2003	1-3--200	-1.1	12	15
10/17/2003	1-4--240	-5.3	14	15
10/17/2003	1-4--200	-4.2	15	15
10/17/2003	1-4--160	-1.4	14	15
10/17/2003	1-4--120	-2	9	15
10/17/2003	1-4--80	-0.8	14	15

10/17/2003	1-4--40	2.3	16	15
10/17/2003	1-4--00	0.5	13	15
10/17/2003	1-5--00	-1.4	15	15
10/17/2003	1-5--40	8.1	13	15
10/17/2003	1-5--80	0.2	18	15
10/31/2003	1-1--00	1.2	4	15
10/31/2003	1-1--40	-1.9	15	15
10/31/2003	1-1--80	-5.1	20	15
10/31/2003	1-1--120	-1.8	21	15
10/31/2003	1-2--120	4.2	17	15
10/31/2003	1-2--80	4.3	14	15
10/31/2003	1-2--40	-1.3	15	15
10/31/2003	1-2--00	-3.3	2	15
10/31/2003	1-3--00	4.6	3	15
10/31/2003	1-3--40	1.3	4	15
10/31/2003	1-3--80	1.3	16	15
10/31/2003	1-3--120	-0.7	14	15
10/31/2003	1-3--160	-1.8	18	15
10/31/2003	1-3--200	-6.8	8	15
10/31/2003	1-4--240	-4.9	10	15
10/31/2003	1-4--200	-5.2	11	15
10/31/2003	1-4--160	-2.2	13	15
10/31/2003	1-4--120	-0.8	14	15
10/31/2003	1-4--80	-1.3	11	15
10/31/2003	1-4--40	3.8	16	15
10/31/2003	1-4--00	-4.2	12	15
10/31/2003	1-5--00	-4.3	14	15
10/31/2003	1-5--40	5.9	10	15
10/31/2003	1-5--80	1.4	8	15
11/14/2003	1-1--00	1.1	6	15
11/14/2003	1-1--40	1.2	12	15
11/14/2003	1-1--80	.	14	15
11/14/2003	1-1--120	-0.1	11	15
11/14/2003	1-2--120	3.6	10	15
11/14/2003	1-2--80	2.8	8	15
11/14/2003	1-2--40	-1.1	7	15
11/14/2003	1-2--00	-3.3	4	15
11/14/2003	1-3--00	3.7	5	15
11/14/2003	1-3--40	.	6	15
11/14/2003	1-3--80	.	11	15
11/14/2003	1-3--120	-0.7	15	15
11/14/2003	1-3--160	-1.3	14	15
11/14/2003	1-3--200	-2.6	8	15
11/14/2003	1-4--240	.	9	15
11/14/2003	1-4--200	-3.6	13	15
11/14/2003	1-4--160	-2	15	15
11/14/2003	1-4--120	-1.3	11	15
11/14/2003	1-4--80	-1.2	11	15

11/14/2003	1-4--40	.	16	15
11/14/2003	1-4--00	-2.5	12	15
11/14/2003	1-5--00	-3.1	14	15
11/14/2003	1-5--40	7.4	10	15
11/14/2003	1-5--80	-0.5	8	15
11/24/2003	1-1--00	-1.3	9	15
11/24/2003	1-1--40	3.1	20	15
11/24/2003	1-1--80	4.2	13	15
11/24/2003	1-1--120	1.5	12	15
11/24/2003	1-2--120	-3.5	12	15
11/24/2003	1-2--80	-3.9	12	15
11/24/2003	1-2--40	0	13	15
11/24/2003	1-2--00	1.5	14	15
11/24/2003	1-3--00	-6.9	13	15
11/24/2003	1-3--40	-4.6	14	15
11/24/2003	1-3--80	-2.3	16	15
11/24/2003	1-3--120	-0.1	14	15
11/24/2003	1-3--160	1.2	13	15
11/24/2003	1-3--200	-1.1	11	15
11/24/2003	1-4--240	6.7	12	15
11/24/2003	1-4--200	3.7	14	15
11/24/2003	1-4--160	2.6	16	15
11/24/2003	1-4--120	0.9	15	15
11/24/2003	1-4--80	-0.2	11	15
11/24/2003	1-4--40	-4.9	16	15
11/24/2003	1-4--00	-1.2	14	15
11/24/2003	1-5--00	-0.2	20	15
11/24/2003	1-5--40	-8	14	15
11/24/2003	1-5--80	-0.8	5	15
12/9/2003	1-1--00	2.1	10	15
12/9/2003	1-1--40	2.5	5	15
12/9/2003	1-1--80	-1.4	15	15
12/9/2003	1-1--120	0.4	15	15
12/9/2003	1-2--120	6.7	14	15
12/9/2003	1-2--80	3	14	15
12/9/2003	1-2--40	0.8	12	15
12/9/2003	1-2--00	1.7	11	15
12/9/2003	1-3--00	6	14	15
12/9/2003	1-3--40	-4.9	12	15
12/9/2003	1-3--80	2.8	13	15
12/9/2003	1-3--120	2.3	9	15
12/9/2003	1-3--160	0.6	14	15
12/9/2003	1-3--200	0.4	10	15
12/9/2003	1-4--240	-0.5	13	15
12/9/2003	1-4--200	1	9	15
12/9/2003	1-4--160	1.2	11	15
12/9/2003	1-4--120	1.1	11	15
12/9/2003	1-4--80	3.1	13	15

12/9/2003	1-4--40	7.5	17	15
12/9/2003	1-4--00	4.3	13	15
12/9/2003	1-5--00	5.6	20	15
12/9/2003	1-5--40	12.9	16	15
12/9/2003	1-5--80	4.6	9	15
6/7/2004	1-1--00	2.3	10	15
6/7/2004	1-1--40	-1.5	14	15
6/7/2004	1-1--80	-4.9	10	15
6/7/2004	1-1--120	0.9	15	15
6/7/2004	1-2--120	4.8	17	30
6/7/2004	1-2--80	3.8	20	15
6/7/2004	1-2--40	0.1	20	15
6/7/2004	1-2--00	2.3	14	15
6/7/2004	1-3--00	13.8	.	15
6/7/2004	1-3--40	1.5	13	15
6/7/2004	1-3--80	2.1	15	15
6/7/2004	1-3--120	1.0	16	15
6/7/2004	1-3--160	0.3	16	15
6/7/2004	1-3--200	1.4	14	15
6/7/2004	1-4--240	-0.4	13	15
6/7/2004	1-4--200	-1.0	15	15
6/7/2004	1-4--160	-0.1	15	15
6/7/2004	1-4--120	-0.5	13	15
6/7/2004	1-4--80	0.4	16	15
6/7/2004	1-4--40	3.4	14	15
6/7/2004	1-4--00	.	9	15
6/7/2004	1-5--00	1.1	14	15
6/7/2004	1-5--40	9.6	9	15
6/7/2004	1-5--80	3.4	16	15
6/21/2004	1-1--00	-5.5	5	15
6/21/2004	1-1--40	-2.2	.	15
6/21/2004	1-1--80	-13.2	10	15
6/21/2004	1-1--120	-20.0	15	15
6/21/2004	1-2--120	-18.3	15	15
6/21/2004	1-2--80	-16.7	17	15
6/21/2004	1-2--40	-16.5	15	15
6/21/2004	1-2--00	-12.7	.	15
6/21/2004	1-3--00	-7.1	.	15
6/21/2004	1-3--40	-12.5	.	15
6/21/2004	1-3--80	-8.0	14	15
6/21/2004	1-3--120	-12.7	14	15
6/21/2004	1-3--160	-18.2	15	15
6/21/2004	1-3--200	-25.7	12	15
6/21/2004	1-4--240	-10.8	13	15
6/21/2004	1-4--200	-9.9	15	45
6/21/2004	1-4--160	-11.8	10	15
6/21/2004	1-4--120	-11.0	10	15
6/21/2004	1-4--80	-11.4	.	15

6/21/2004	1-4--40	-5.2	15	15
6/21/2004	1-4--00	.	.	15
6/21/2004	1-5--00	-12.1	15	15
6/21/2004	1-5--40	.	15	15
6/21/2004	1-5--80	-12.0	20	15
7/6/2004	1-1--00	2.0	7	15
7/6/2004	1-1--40	7.0	.	15
7/6/2004	1-1--80	0.3	11	15
7/6/2004	1-1--120	1.2	15	15
7/6/2004	1-2--120	3.9	15	15
7/6/2004	1-2--80	2.9	15	15
7/6/2004	1-2--40	0.3	15	15
7/6/2004	1-2--00	2.0	11	15
7/6/2004	1-3--00	2.2	.	15
7/6/2004	1-3--40	0.2	.	15
7/6/2004	1-3--80	3.4	15	15
7/6/2004	1-3--120	1.4	14	15
7/6/2004	1-3--160	1.2	15	15
7/6/2004	1-3--200	-0.4	14	15
7/6/2004	1-4--240	.	.	15
7/6/2004	1-4--200	-0.3	.	15
7/6/2004	1-4--160	-0.5	10	30
7/6/2004	1-4--120	0.5	10	15
7/6/2004	1-4--80	0.6	.	15
7/6/2004	1-4--40	5.5	14	15
7/6/2004	1-4--00	.	.	15
7/6/2004	1-5--00	1.7	15	45
7/6/2004	1-5--40	.	12	15
7/6/2004	1-5--80	3.1	11	15
7/19/2004	1-1--00	-1.7	7	15
7/19/2004	1-1--40	0.1	.	15
7/19/2004	1-1--80	-5.5	11	15
7/19/2004	1-1--120	-5.5	15	15
7/19/2004	1-2--120	-1.6	15	15
7/19/2004	1-2--80	-0.9	20	15
7/19/2004	1-2--40	-3.3	17	15
7/19/2004	1-2--00	-4.5	15	15
7/19/2004	1-3--00	5.4	.	15
7/19/2004	1-3--40	-1.8	.	15
7/19/2004	1-3--80	-0.4	15	15
7/19/2004	1-3--120	-3.1	15	15
7/19/2004	1-3--160	-6.6	15	15
7/19/2004	1-3--200	-6.9	14	15
7/19/2004	1-4--240	-6.0	15	15
7/19/2004	1-4--200	-5.6	10	15
7/19/2004	1-4--160	-5.5	15	15
7/19/2004	1-4--120	-3.6	14	15
7/19/2004	1-4--80	-2.0	6	15

7/19/2004	1-4--40	0.8	15	15
7/19/2004	1-4--00	.	.	15
7/19/2004	1-5--00	-0.5	15	15
7/19/2004	1-5--40	.	16	15
7/19/2004	1-5--80	-4.5	11	15
8/2/2004	1-1--00	-2.4	10	15
8/2/2004	1-1--40	0.4	10	15
8/2/2004	1-1--80	1.0	4	15
8/2/2004	1-1--120	0.3	8	15
8/2/2004	1-2--120	-1.2	18	15
8/2/2004	1-2--80	-2.3	13	15
8/2/2004	1-2--40	-1.2	15	15
8/2/2004	1-2--00	1.1	12	15
8/2/2004	1-3--00	2.6	14	15
8/2/2004	1-3--40	-8.5	12	15
8/2/2004	1-3--80	-1.7	11	15
8/2/2004	1-3--120	-0.7	9	15
8/2/2004	1-3--160	-1.0	12	15
8/2/2004	1-3--200	-0.6	18	15
8/2/2004	1-4--240	-5.3	12	15
8/2/2004	1-4--200	-3.3	9	15
8/2/2004	1-4--160	0.7	13	15
8/2/2004	1-4--120	-0.8	11	15
8/2/2004	1-4--80	0.5	12	15
8/2/2004	1-4--40	2.0	10	15
8/2/2004	1-4--00	.	.	15
8/2/2004	1-5--00	0.5	14	15
8/2/2004	1-5--40	.	11	15
8/2/2004	1-5--80	1.7	15	15
8/16/2004	1-1--00	-2.3	8	15
8/16/2004	1-1--40	1.7	6	15
8/16/2004	1-1--80	-5.2	12	15
8/16/2004	1-1--120	-5.7	13	15
8/16/2004	1-2--120	-3.2	15	15
8/16/2004	1-2--80	-1.5	19	15
8/16/2004	1-2--40	-4.6	18	15
8/16/2004	1-2--00	-4.5	16	15
8/16/2004	1-3--00	4.2	.	15
8/16/2004	1-3--40	-1.1	10	15
8/16/2004	1-3--80	-1.7	16	15
8/16/2004	1-3--120	-1.7	15	15
8/16/2004	1-3--160	-6.1	16	15
8/16/2004	1-3--200	-6.9	13	15
8/16/2004	1-4--240	-6.4	16	15
8/16/2004	1-4--200	-5.5	11	15
8/16/2004	1-4--160	-5.5	16	15
8/16/2004	1-4--120	-3.6	14	15
8/16/2004	1-4--80	-1.9	7	15

8/16/2004	1-4--40	0.7	17	15
8/16/2004	1-4--00	.	.	15
8/16/2004	1-5--00	-0.9	17	15
8/16/2004	1-5--40	.	18	15
8/16/2004	1-5--80	-3.4	12	15
8/30/2004	1-1--00	-1.3	15	15
8/30/2004	1-1--40	-1.4	11	15
8/30/2004	1-1--80	-6.0	10	15
8/30/2004	1-1--120	-1.4	13	15
8/30/2004	1-2--120	0.0	4	15
8/30/2004	1-2--80	-6.2	3	15
8/30/2004	1-2--40	-4.2	11	15
8/30/2004	1-2--00	-4.2	8	15
8/30/2004	1-3--00	5.4	6	15
8/30/2004	1-3--40	-2.3	7	15
8/30/2004	1-3--80	-1.9	13	15
8/30/2004	1-3--120	-3.9	14	15
8/30/2004	1-3--160	-7.2	15	15
8/30/2004	1-3--200	-7.0	20	15
8/30/2004	1-4--240	-3.6	18	15
8/30/2004	1-4--200	-3.9	21	15
8/30/2004	1-4--160	-3.5	22	15
8/30/2004	1-4--120	2.5	17	15
8/30/2004	1-4--80	-6.1	16	15
8/30/2004	1-4--40	-0.4	14	15
8/30/2004	1-4--00	.	15	15
8/30/2004	1-5--00	-0.7	17	15
8/30/2004	1-5--40	-3.2	12	15
8/30/2004	1-5--80	-2.6	11	15
9/9/2004	1-1--00	-4.2	8	15
9/9/2004	1-1--40	-1.8	10	15
9/9/2004	1-1--80	-5.8	13	15
9/9/2004	1-1--120	1.0	14	15
9/9/2004	1-2--120	-0.3	13	15
9/9/2004	1-2--80	-3.9	12	15
9/9/2004	1-2--40	-2.2	11	15
9/9/2004	1-2--00	-7.2	10	30.0
9/9/2004	1-3--00	3.8	17	15
9/9/2004	1-3--40	-2.2	16	15
9/9/2004	1-3--80	-1.3	14	15
9/9/2004	1-3--120	-3.3	16	15
9/9/2004	1-3--160	-6.8	13	15
9/9/2004	1-3--200	-9.0	13	15
9/9/2004	1-4--240	-1.9	15	15
9/9/2004	1-4--200	-2.7	15	15
9/9/2004	1-4--160	-4.4	10	15
9/9/2004	1-4--120	3.5	14	15
9/9/2004	1-4--80	-2.1	13	15



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9/9/2004	1-4--40	-0.3	10	15
9/9/2004	1-4--00	.	11	15
9/9/2004	1-5--00	-1.2	12	15
9/9/2004	1-5--40	-1.5	9	15
9/9/2004	1-5--80	-1.8	7	15

**AREA 2**

Date	Station #	Water Table Depth (cm)	Soil Salinity (ppt)	Depth of Soil Salinity (cm)
10/1/2003	2-5--00	-10.7	23	45
10/1/2003	2-5--40	-6.4	14	15
10/1/2003	2-5--80	-1.6	10	15
10/1/2003	2-4--120	-4.7	15	15
10/1/2003	2-4--80	0.2	11	15
10/1/2003	2-4--40	-1.8	11	15
10/1/2003	2-4--00	-0.9	10	15
10/1/2003	2-3--00	-3.9	8	15
10/1/2003	2-3--40	5.5	12	15
10/1/2003	2-3--80	-6.9	13	15
10/1/2003	2-3--120	1.1	10	15
10/1/2003	2-3--160	-4.5	7	15
10/1/2003	2-3--200	-3.5	18	15
10/1/2003	2-2--200	-1.6	4	15
10/1/2003	2-2--160	-0.4	7	15
10/1/2003	2-2--120	4	14	15
10/1/2003	2-2--80	1.5	8	15
10/1/2003	2-2--40	7.9	12	15
10/1/2003	2-2--00	-1	6	15
10/1/2003	2-1--00	-1.1	8	15
10/1/2003	2-1--40	-4.4	5	15
10/1/2003	2-1--80	-5.8	.	15
10/1/2003	2-1--120	0.9	10	15
10/1/2003	2-1--160	-1.3	8	15
10/17/2003	2-5--00	-7.9	11	15
10/17/2003	2-5--40	-4.1	10	15
10/17/2003	2-5--80	-0.7	10	15
10/17/2003	2-4--120	-7.8	10	15
10/17/2003	2-4--80	-0.4	13	15
10/17/2003	2-4--40	-2.9	13	15
10/17/2003	2-4--00	-0.6	18	15
10/17/2003	2-3--00	-5.2	10	30
10/17/2003	2-3--40	5.4	17	15
10/17/2003	2-3--80	-6.6	8	15
10/17/2003	2-3--120	1.3	14	15
10/17/2003	2-3--160	-3.2	13	30
10/17/2003	2-3--200	-3.6	20	15
10/17/2003	2-2--200	-0.1	10	15
10/17/2003	2-2--160	-1.3	13	15
10/17/2003	2-2--120	4	15	15
10/17/2003	2-2--80	2.3	13	15
10/17/2003	2-2--40	7.3	13	15
10/17/2003	2-2--00	1.1	10	15
10/17/2003	2-1--00	0.8	4	15
10/17/2003	2-1--40	-3.8	16	15

10/17/2003	2-1--80	-4.9	13	15
10/17/2003	2-1--120	-0.6	11	15
10/17/2003	2-1--160	-4	14	15
11/3/2003	2-5--00	-12.3	Dry	15
11/3/2003	2-5--40	-15.7	14	15
11/3/2003	2-5--80	-6.4	15	15
11/3/2003	2-4--120	-6	19	15
11/3/2003	2-4--80	-6.1	16	15
11/3/2003	2-4--40	-7.6	16	15
11/3/2003	2-4--00	-4.9	17	15
11/3/2003	2-3--00	.	15	15
11/3/2003	2-3--40	4.4	14	15
11/3/2003	2-3--80	-12.1	15	15
11/3/2003	2-3--120	-1.1	17	15
11/3/2003	2-3--160	-6.1	16	15
11/3/2003	2-3--200	-5.2	24	15
11/3/2003	2-2--200	-4.3	15	15
11/3/2003	2-2--160	-4.6	14	15
11/3/2003	2-2--120	3.5	18	15
11/3/2003	2-2--80	-0.9	19	15
11/3/2003	2-2--40	6.6	9	15
11/3/2003	2-2--00	-1	15	15
11/3/2003	2-1--00	-4.5	12	15
11/3/2003	2-1--40	-8.7	8	15
11/3/2003	2-1--80	-12	12	15
11/3/2003	2-1--120	-4.5	11	15
11/3/2003	2-1--160	-8.2	14	15
11/17/2003	2-5--00	.	.	
11/17/2003	2-5--40	-11.3	13	15
11/17/2003	2-5--80	-5.8	12	15
11/17/2003	2-4--120	-4.2	11	15
11/17/2003	2-4--80	-4.6	14	15
11/17/2003	2-4--40	.	13	15
11/17/2003	2-4--00	-3.4	9	15
11/17/2003	2-3--00	-5.1	10	15
11/17/2003	2-3--40	4.8	12	15
11/17/2003	2-3--80	-10	16	15
11/17/2003	2-3--120	-2.5	11	15
11/17/2003	2-3--160	-6	14	15
11/17/2003	2-3--200	.	18	15
11/17/2003	2-2--200	-2.6	15	15
11/17/2003	2-2--160	-5.7	13	15
11/17/2003	2-2--120	1.1	12	15
11/17/2003	2-2--80	-1	15	15
11/17/2003	2-2--40	5	9	15
11/17/2003	2-2--00	-0.2	10	15
11/17/2003	2-1--00	-5.1	13	15
11/17/2003	2-1--40	.	10	15

11/17/2003	2-1--80	-10.4	11	15
11/17/2003	2-1--120	-2.8	12	15
11/17/2003	2-1--160	-4.3	14	15
12/1/2003	2-5--00	7.2	25	15
12/1/2003	2-5--40	5.5	15	15
12/1/2003	2-5--80	1.7	13	15
12/1/2003	2-4--120	1	12	30
12/1/2003	2-4--80	1.5	14	15
12/1/2003	2-4--40	4.5	11	15
12/1/2003	2-4--00	0.7	15	15
12/1/2003	2-3--00	.	10	15
12/1/2003	2-3--40	-0.7	14	15
12/1/2003	2-3--80	-1.4	14	15
12/1/2003	2-3--120	-1.8	16	15
12/1/2003	2-3--160	4.4	12	15
12/1/2003	2-3--200	2.1	18	15
12/1/2003	2-2--200	1.5	13	15
12/1/2003	2-2--160	2.1	9	15
12/1/2003	2-2--120	-5.5	12	15
12/1/2003	2-2--80	-3.6	14	15
12/1/2003	2-2--40	-3.7	11	15
12/1/2003	2-2--00	-1.5	9	15
12/1/2003	2-1--00	-0.1	10	15
12/1/2003	2-1--40	6.1	14	15
12/1/2003	2-1--80	8.1	11	15
12/1/2003	2-1--120	1.2	13	15
12/1/2003	2-1--160	3.4	11	15
6/8/2004	2-5--00	-13.2	17	15
6/8/2004	2-5--40	-19.0	10	15
6/8/2004	2-5--80	-16.0	16	15
6/8/2004	2-4--120	-13.5	11	15
6/8/2004	2-4--80	-12.5	22	15
6/8/2004	2-4--40	-11.9	11	15
6/8/2004	2-4--00	-11.0	14	15
6/8/2004	2-3--00	.	15	15
6/8/2004	2-3--40	8.3	21	15
6/8/2004	2-3--80	-13.5	16	15
6/8/2004	2-3--120	10.1	16	15
6/8/2004	2-3--160	-13.4	15	15
6/8/2004	2-3--200	-10.0	19	15
6/8/2004	2-2--200	-8.1	19	15
6/8/2004	2-2--160	-8.0	13	15
6/8/2004	2-2--120	-1.0	16	15
6/8/2004	2-2--80	-7.4	22	15
6/8/2004	2-2--40	4.0	18	15
6/8/2004	2-2--00	-2.0	19	15
6/8/2004	2-1--00	4.9	12	15
6/8/2004	2-1--40	-14.8	11	15

6/8/2004	2-1--80	-20.6	9	15
6/8/2004	2-1--120	-10.4	9	15
6/8/2004	2-1--160	-13.5	15	15
6/21/2004	2-5--00	.	20	30
6/21/2004	2-5--40	-20.9	16	15
6/21/2004	2-5--80	.	15	15
6/21/2004	2-4--120	-27.9	18	15
6/21/2004	2-4--80	-21.0	20	30
6/21/2004	2-4--40	-21.1	.	15
6/21/2004	2-4--00	-19.3	12	15
6/21/2004	2-3--00	.	.	15
6/21/2004	2-3--40	-6.6	15	15
6/21/2004	2-3--80	-11.7	.	15
6/21/2004	2-3--120	-11.9	14	15
6/21/2004	2-3--160	-23.1	15	15
6/21/2004	2-3--200	-31.8	20	15
6/21/2004	2-2--200	-17.9	15	15
6/21/2004	2-2--160	-16.1	15	15
6/21/2004	2-2--120	-3.1	15	15
6/21/2004	2-2--80	.	15	15
6/21/2004	2-2--40	-2.2	15	15
6/21/2004	2-2--00	-11.3	15	30
6/21/2004	2-1--00	.	10	45
6/21/2004	2-1--40	-12.3	10	15
6/21/2004	2-1--80	-12.6	10	15
6/21/2004	2-1--120	-17.7	10	15
6/21/2004	2-1--160	.	19	15
7/6/2004	2-5--00	.	15	15
7/6/2004	2-5--40	-14.2	15	15
7/6/2004	2-5--80	.	.	15
7/6/2004	2-4--120	-24.0	15	15
7/6/2004	2-4--80	-9.9	15	15
7/6/2004	2-4--40	-0.8	.	15
7/6/2004	2-4--00	-0.6	11	15
7/6/2004	2-3--00	.	.	15
7/6/2004	2-3--40	8.4	15	15
7/6/2004	2-3--80	-5.1	10	15
7/6/2004	2-3--120	1.0	11	15
7/6/2004	2-3--160	-9.5	10	15
7/6/2004	2-3--200	-20.1	19	15
7/6/2004	2-2--200	-0.5	15	15
7/6/2004	2-2--160	-2.6	14	15
7/6/2004	2-2--120	3.3	14	15
7/6/2004	2-2--80	.	16	15
7/6/2004	2-2--40	7.7	16	15
7/6/2004	2-2--00	2.3	10	15
7/6/2004	2-1--00	.	.	15
7/6/2004	2-1--40	-4.1	15	15

7/6/2004	2-1--80	-3.7	11	15
7/6/2004	2-1--120	0.0	12	15
7/6/2004	2-1--160	-0.5	12	15
7/20/2004	2-5--00	.	21	15
7/20/2004	2-5--40	-12.9	14	15
7/20/2004	2-5--80	.	12	15
7/20/2004	2-4--120	-13.4	15	15
7/20/2004	2-4--80	-8.2	.	15
7/20/2004	2-4--40	-0.2	16	15
7/20/2004	2-4--00	0.4	15	15
7/20/2004	2-3--00	.	.	15
7/20/2004	2-3--40	7.8	14	15
7/20/2004	2-3--80	-5.6	11	15
7/20/2004	2-3--120	0.2	10	15
7/20/2004	2-3--160	-11.4	10	15
7/20/2004	2-3--200	-12.7	20	15
7/20/2004	2-2--200	0.4	.	15
7/20/2004	2-2--160	0.9	16	15
7/20/2004	2-2--120	3.2	.	15
7/20/2004	2-2--80	.	.	15
7/20/2004	2-2--40	7.6	0	15
7/20/2004	2-2--00	1.1	10	15
7/20/2004	2-1--00	.	7	15
7/20/2004	2-1--40	-2.1	10	15
7/20/2004	2-1--80	-2.2	.	15
7/20/2004	2-1--120	0.7	11	15
7/20/2004	2-1--160	.	11	15
8/3/2004	2-5--00	.	20	15
8/3/2004	2-5--40	-10.0	20	15
8/3/2004	2-5--80	.	14	15
8/3/2004	2-4--120	-18.1	15	15
8/3/2004	2-4--80	-5.4	16	15
8/3/2004	2-4--40	-1.0	15	15
8/3/2004	2-4--00	-0.1	16	15
8/3/2004	2-3--00	.	10	15
8/3/2004	2-3--40	0.2	15	15
8/3/2004	2-3--80	-6.0	10	15
8/3/2004	2-3--120	0.0	14	15
8/3/2004	2-3--160	-6.5	13	15
8/3/2004	2-3--200	-6.9	.	15
8/3/2004	2-2--200	-0.8	11	15
8/3/2004	2-2--160	-1.0	10	15
8/3/2004	2-2--120	2.0	.	15
8/3/2004	2-2--80	.	.	15
8/3/2004	2-2--40	7.5	.	15
8/3/2004	2-2--00	0.2	10	15
8/3/2004	2-1--00	.	10	15
8/3/2004	2-1--40	-2.5	10	15

8/3/2004	2-1--80	-2.0	.	15
8/3/2004	2-1--120	1.0	10	15
8/3/2004	2-1--160	.	11	15
8/17/2004	2-5--00	-2.1	20	15
8/17/2004	2-5--40	-10.8	15	15
8/17/2004	2-5--80	.	13	15
8/17/2004	2-4--120	-14.5	18	15
8/17/2004	2-4--80	-8.1	.	15
8/17/2004	2-4--40	-0.3	15	15
8/17/2004	2-4--00	1.0	13	15
8/17/2004	2-3--00	.	12	15
8/17/2004	2-3--40	5.8	11	15
8/17/2004	2-3--80	-4.2	10	15
8/17/2004	2-3--120	0.6	9	15
8/17/2004	2-3--160	-9.7	10	15
8/17/2004	2-3--200	-12.1	21	15
8/17/2004	2-2--200	0.8	.	15
8/17/2004	2-2--160	1.0	17	15
8/17/2004	2-2--120	2.8	18	15
8/17/2004	2-2--80	6.7	.	15
8/17/2004	2-2--40	1.0	9	15
8/17/2004	2-2--00	1.1	8	15
8/17/2004	2-1--00	-1.7	12	15
8/17/2004	2-1--40	-2.2	8	15
8/17/2004	2-1--80	1.1	12	15
8/17/2004	2-1--120	0.7	11	15
8/17/2004	2-1--160	2.4	11	15
8/31/2004	2-5--00	-7.8	21	15
8/31/2004	2-5--40	-8.1	19	15
8/31/2004	2-5--80	-0.7	13	15
8/31/2004	2-4--120	-10.9	11	15
8/31/2004	2-4--80	-6.1	15	15
8/31/2004	2-4--40	-0.8	16	15
8/31/2004	2-4--00	-2.5	15	15
8/31/2004	2-3--00	.	16	15
8/31/2004	2-3--40	0.8	11	15
8/31/2004	2-3--80	-3.3	12	15
8/31/2004	2-3--120	-0.9	15	15
8/31/2004	2-3--160	-4.1	13	15
8/31/2004	2-3--200	-6.1	14	15
8/31/2004	2-2--200	-0.9	9	15
8/31/2004	2-2--160	-1.6	15	15
8/31/2004	2-2--120	1.1	13	15
8/31/2004	2-2--80	0.9	11	15
8/31/2004	2-2--40	7.8	16	15
8/31/2004	2-2--00	0.1	18	15
8/31/2004	2-1--00	-4.1	19	15
8/31/2004	2-1--40	-4.4	21	15

8/31/2004	2-1--80	-3.4	25	15
8/31/2004	2-1--120	1.0	8	15
8/31/2004	2-1--160	-2.2	13	15
9/10/2004	2-5--00	-5.3	12	15
9/10/2004	2-5--40	-4.1	10	15
9/10/2004	2-5--80	-1.8	11	15
9/10/2004	2-4--120	-7.1	11	15
9/10/2004	2-4--80	-6.2	12	15
9/10/2004	2-4--40	-2.3	13	15
9/10/2004	2-4--00	-2.2	18	15
9/10/2004	2-3--00	-3.2	9	30.0
9/10/2004	2-3--40	-4.5	16	15
9/10/2004	2-3--80	-2.2	8	15
9/10/2004	2-3--120	3.7	4	15
9/10/2004	2-3--160	-5.3	5	15
9/10/2004	2-3--200	-5.3	13	15
9/10/2004	2-2--200	-6.5	20	15
9/10/2004	2-2--160	3.5	10	15
9/10/2004	2-2--120	-1.4	14	15
9/10/2004	2-2--80	-0.1	16	15
9/10/2004	2-2--40	3.2	12	15
9/10/2004	2-2--00	-4.1	11	15
9/10/2004	2-1--00	-3.7	8	15
9/10/2004	2-1--40	-2.9	20	15
9/10/2004	2-1--80	-2.1	10	15
9/10/2004	2-1--120	2.2	13	15
9/10/2004	2-1--160	-3.1	15	15



**AREA 3**

Date	Station #	Water Table Depth (cm)	Soil Salinity (ppt)	Depth of Soil Salinity (cm)
10/1/2003	3-4--00	-5.6	12	30
10/1/2003	3-4--40	-10	12	15
10/1/2003	3-4--80	-0.4	18	15
10/1/2003	3-4--120	0.2	6	15
10/1/2003	3-3--120	-10.4	4	15
10/1/2003	3-3--80	-2.2	9	15
10/1/2003	3-3--40	-1	9	15
10/1/2003	3-3--00	-4.5	13	15
10/1/2003	3-2--00	-11.4	10	15
10/1/2003	3-2--40	3.4	9	15
10/1/2003	3-2--80	-16.7	13	15
10/1/2003	3-2--120	-5	10	15
10/1/2003	3-2--160	1.9	8	15
10/1/2003	3-2--200	-2.3	9	15
10/1/2003	3-1--200	-0.2	15	15
10/1/2003	3-1--160	0.6	14	15
10/1/2003	3-1--120	-2.2	10	15
10/1/2003	3-1--80	-2	9	15
10/1/2003	3-1--40	3.5	11	15
10/1/2003	3-1--00	-1.2	9	15
10/16/2003	3-4--00	-2.5	21	15
10/16/2003	3-4--40	-4	15	15
10/16/2003	3-4--80	0.9	21	15
10/16/2003	3-4--120	-0.2	15	15
10/16/2003	3-3--120	5.3	24	15
10/16/2003	3-3--80	-0.4	16	15
10/16/2003	3-3--40	-3.7	15	15
10/16/2003	3-3--00	-1.7	20	15
10/16/2003	3-2--00	-2.1	18	15
10/16/2003	3-2--40	3.5	9	15
10/16/2003	3-2--80	9.2	17	15
10/16/2003	3-2--120	-0.2	13	15
10/16/2003	3-2--160	2.3	15	15
10/16/2003	3-2--200	-0.3	14	15
10/16/2003	3-1--200	-0.3	15	15
10/16/2003	3-1--160	1.8	18	15
10/16/2003	3-1--120	-0.6	16	15
10/16/2003	3-1--80	3.8	12	15
10/16/2003	3-1--40	3.8	9	15
10/16/2003	3-1--00	2.8	10	15
10/30/2003	3-4--00	-2.1	18	15
10/30/2003	3-4--40	-3.8	Dry	15
10/30/2003	3-4--80	2.4	21	15
10/30/2003	3-4--120	1.1	16	15
10/30/2003	3-3--120	-4	22	15

10/30/2003	3-3--80	0.6	15	15
10/30/2003	3-3--40	0.6	19	15
10/30/2003	3-3--00	-1.2	20	15
10/30/2003	3-2--00	0.1	13	15
10/30/2003	3-2--40	1.5	14	15
10/30/2003	3-2--80	-13.2	11	15
10/30/2003	3-2--120	-1.3	10	15
10/30/2003	3-2--160	.	19	15
10/30/2003	3-2--200	-0.3	17	15
10/30/2003	3-1--200	-1.4	16	15
10/30/2003	3-1--160	2.5	16	15
10/30/2003	3-1--120	-0.1	15	15
10/30/2003	3-1--80	0.2	10	15
10/30/2003	3-1--40	3.4	13	15
10/30/2003	3-1--00	1.8	12	15
11/13/2003	3-4--00	-5.7	16	30
11/13/2003	3-4--40	-6.1	15	15
11/13/2003	3-4--80	.	18	15
11/13/2003	3-4--120	-0.2	12	15
11/13/2003	3-3--120	-9.5	18	15
11/13/2003	3-3--80	.	15	15
11/13/2003	3-3--40	0.4	20	15
11/13/2003	3-3--00	-3.4	19	15
11/13/2003	3-2--00	-11	17	15
11/13/2003	3-2--40	2.5	8	15
11/13/2003	3-2--80	1.1	13	15
11/13/2003	3-2--120	-1.5	11	15
11/13/2003	3-2--160	.	.	15
11/13/2003	3-2--200	-0.5	16	45
11/13/2003	3-1--200	0.3	16	15
11/13/2003	3-1--160	-0.5	13	15
11/13/2003	3-1--120	-0.3	11	15
11/13/2003	3-1--80	0.2	12	15
11/13/2003	3-1--40	.	10	15
11/13/2003	3-1--00	1.3	16	15
11/25/2003	3-4--00	-4	21	15
11/25/2003	3-4--40	0.2	20	15
11/25/2003	3-4--80	-4.6	21	30
11/25/2003	3-4--120	-3.1	21	15
11/25/2003	3-3--120	-2.6	21	15
11/25/2003	3-3--80	-3.2	16	15
11/25/2003	3-3--40	-6.3	18	15
11/25/2003	3-3--00	-2.8	21	15
11/25/2003	3-2--00	.	15	15
11/25/2003	3-2--40	.	17	15
11/25/2003	3-2--80	-7.1	15	15
11/25/2003	3-2--120	.	15	15
11/25/2003	3-2--160	.	21	15

11/25/2003	3-2--200	-5.2	20	15
11/25/2003	3-1--200	-10.6	21	15
11/25/2003	3-1--160	11.5	20	15
11/25/2003	3-1--120	-10.1	16	15
11/25/2003	3-1--80	.	16	15
11/25/2003	3-1--40	-8.7	15	15
11/25/2003	3-1--00	-5.7	11	15
6/8/2004	3-4--00	0.6	.	15
6/8/2004	3-4--40	-10.1	9	15
6/8/2004	3-4--80	-1.1	16	15
6/8/2004	3-4--120	-1.0	16	15
6/8/2004	3-3--120	-9.5	5	15
6/8/2004	3-3--80	-4.3	15	15
6/8/2004	3-3--40	-3.9	15	15
6/8/2004	3-3--00	-8.7	10	15
6/8/2004	3-2--00	-14.1	6	15
6/8/2004	3-2--40	1.1	10	15
6/8/2004	3-2--80	-17.3	5	15
6/8/2004	3-2--120	-10.1	10	15
6/8/2004	3-2--160	.	15	15
6/8/2004	3-2--200	-4.3	10	15
6/8/2004	3-1--200	-4.5	20	15
6/8/2004	3-1--160	-1.4	8	15
6/8/2004	3-1--120	-5.3	10	15
6/8/2004	3-1--80	.	5	15
6/8/2004	3-1--40	1.1	10	15
6/8/2004	3-1--00	.	10	15
6/22/2004	3-4--00	.	10	15
6/22/2004	3-4--40	-9.8	10	15
6/22/2004	3-4--80	-3.3	.	15
6/22/2004	3-4--120	-20.8	10	15
6/22/2004	3-3--120	-22.0	15	15
6/22/2004	3-3--80	-23.4	15	15
6/22/2004	3-3--40	-23.8	10	15
6/22/2004	3-3--00	-15.8	.	15
6/22/2004	3-2--00	-11.9	10	15
6/22/2004	3-2--40	-18.5	5	15
6/22/2004	3-2--80	-10.6	12	15
6/22/2004	3-2--120	-17.3	5	15
6/22/2004	3-2--160	-26.9	10	15
6/22/2004	3-2--200	-21.6	10	15
6/22/2004	3-1--200	-23.8	10	15
6/22/2004	3-1--160	-31.8	.	15
6/22/2004	3-1--120	-26.8	15	15
6/22/2004	3-1--80	-26.3	20	15
6/22/2004	3-1--40	-28.0	10	15
6/22/2004	3-1--00	-28.4	15	15
7/6/2004	3-4--00	.	.	15

7/6/2004	3-4--40	3.3	.	15
7/6/2004	3-4--80	-2.0	5	15
7/6/2004	3-4--120	-1.5	14	15
7/6/2004	3-3--120	0.8	15	15
7/6/2004	3-3--80	-0.5	.	15
7/6/2004	3-3--40	-1.2	18	15
7/6/2004	3-3--00	1.7	19	15
7/6/2004	3-2--00	-3.9	15	15
7/6/2004	3-2--40	-15.5	10	15
7/6/2004	3-2--80	3.5	.	15
7/6/2004	3-2--120	-6.5	9	15
7/6/2004	3-2--160	-12.8	15	15
7/6/2004	3-2--200	-6.9	16	15
7/6/2004	3-1--200	-6.0	14	15
7/6/2004	3-1--160	-6.2	16	15
7/6/2004	3-1--120	-0.5	18	15
7/6/2004	3-1--80	0.5	20	15
7/6/2004	3-1--40	-16.2	.	15
7/6/2004	3-1--00	-9.9	15	15
7/20/2004	3-4--00	.	15	15
7/20/2004	3-4--40	2.8	8	15
7/20/2004	3-4--80	-3.6	13	15
7/20/2004	3-4--120	-2.2	15	15
7/20/2004	3-3--120	-1.6	15	15
7/20/2004	3-3--80	-1.0	7	15
7/20/2004	3-3--40	-2.5	20	15
7/20/2004	3-3--00	0.5	11	15
7/20/2004	3-2--00	-4.6	8	15
7/20/2004	3-2--40	-13.8	9	15
7/20/2004	3-2--80	-1.2	14	15
7/20/2004	3-2--120	-5.6	10	45
7/20/2004	3-2--160	-8.0	17	15
7/20/2004	3-2--200	-2.7	19	15
7/20/2004	3-1--200	-2.3	18	15
7/20/2004	3-1--160	-6.3	18	15
7/20/2004	3-1--120	0.2	10	30
7/20/2004	3-1--80	0.6	19	15
7/20/2004	3-1--40	-7.5	.	15
7/20/2004	3-1--00	-6.9	.	15
8/4/2004	3-4--00	.	.	15
8/4/2004	3-4--40	1.5	.	15
8/4/2004	3-4--80	-3.5	.	15
8/4/2004	3-4--120	-1.6	15	15
8/4/2004	3-3--120	0.1	.	15
8/4/2004	3-3--80	-3.5	.	15
8/4/2004	3-3--40	-3.0	.	15
8/4/2004	3-3--00	2.3	.	15
8/4/2004	3-2--00	-5.4	.	15

8/4/2004	3-2--40	-12.8	.	15
8/4/2004	3-2--80	3.7	.	15
8/4/2004	3-2--120	-8.8	.	15
8/4/2004	3-2--160	-5.4	20	15
8/4/2004	3-2--200	-4.3	.	15
8/4/2004	3-1--200	-7.0	15	15
8/4/2004	3-1--160	0.0	20	15
8/4/2004	3-1--120	6.5	.	15
8/4/2004	3-1--80	-8.5	20	15
8/4/2004	3-1--40	-7.0	.	15
8/4/2004	3-1--00	.	.	15
8/18/2004.	3-4--00	-1.2	9	15
8/18/2004.	3-4--40	3.5	11	15
8/18/2004.	3-4--80	-2.0	9	15
8/18/2004.	3-4--120	-2.2	10	15
8/18/2004.	3-3--120	0.6	14	15
8/18/2004.	3-3--80	-0.2	15	15
8/18/2004.	3-3--40	-2.3	9	15
8/18/2004.	3-3--00	1.9	8	15
8/18/2004.	3-2--00	-5.0	10	15
8/18/2004.	3-2--40	-16.7	13	15
8/18/2004.	3-2--80	3.4	9	15
8/18/2004.	3-2--120	-11.4	10	15
8/18/2004.	3-2--160	-4.5	13	15
8/18/2004.	3-2--200	-1.0	9	15
8/18/2004.	3-1--200	-2.2	9	15
8/18/2004.	3-1--160	-10.4	4	15
8/18/2004.	3-1--120	0.2	6	15
8/18/2004.	3-1--80	-0.4	18	15
8/18/2004.	3-1--40	-10.0	12	15
8/18/2004.	3-1--00	-5.6	12	30
8/31/2004	3-4--00	-1.3	15	15
8/31/2004	3-4--40	2.5	9	15
8/31/2004	3-4--80	-3.6	11	15
8/31/2004	3-4--120	-2.2	15	15
8/31/2004	3-3--120	-3.5	12	15
8/31/2004	3-3--80	-1.5	9	15
8/31/2004	3-3--40	0.7	13	15
8/31/2004	3-3--00	-5.7	20	15
8/31/2004	3-2--00	-14.1	12	15
8/31/2004	3-2--40	-3.3	8	15
8/31/2004	3-2--80	-4.0	9	15
8/31/2004	3-2--120	-10.9	13	15
8/31/2004	3-2--160	-2.6	10	15
8/31/2004	3-2--200	-4.2	16	15
8/31/2004	3-1--200	0.4	17	15
8/31/2004	3-1--160	0.6	17	15
8/31/2004	3-1--120	-5.1	20	15

8/31/2004	3-1--80	-2.2	18	15
8/31/2004	3-1--40	-3.0	4	15
8/31/2004	3-1--00	-2.5	3	15
9/10/2004	3-4--00	0.9	20	15
9/10/2004	3-4--40	-5.2	12	15
9/10/2004	3-4--80	-1.2	11	15
9/10/2004	3-4--120	-2.5	11	15
9/10/2004	3-3--120	1.9	13	15
9/10/2004	3-3--80	1.8	16	15
9/10/2004	3-3--40	-1.9	17	15
9/10/2004	3-3--00	-2.7	9	15
9/10/2004	3-2--00	-14.6	8	15
9/10/2004	3-2--40	-2.0	17	15
9/10/2004	3-2--80	-1.4	12	15
9/10/2004	3-2--120	-3.3	13	15
9/10/2004	3-2--160	-0.3	16	30
9/10/2004	3-2--200	-9.7	17	15
9/10/2004	3-1--200	-2.2	12	15
9/10/2004	3-1--160	-6.9	8	15
9/10/2004	3-1--120	-3.0	11	15
9/10/2004	3-1--80	-0.9	10	15
9/10/2004	3-1--40	-1.3	14	15
9/10/2004	3-1--00	-1.6	11	15

**AREA 4**

Date	Station #	Water Table Depth (cm)	Soil Salinity (ppt)	Depth of Soil Salinity (cm)
9/30/2003	4-1--00	0.7	10	15
9/30/2003	4-1--40	-2.2	4	15
9/30/2003	4-1--80	1.6	9	15
9/30/2003	4-1--120	-2.2	15	15
9/30/2003	4-1--160	-10.2	18	15
9/30/2003	4-2--00	-6.7	19	15
9/30/2003	4-2--40	0.2	17	15
9/30/2003	4-2--80	0.2	12	15
9/30/2003	4-2--120	-1.2	11	15
9/30/2003	4-2--160	2.6	10	15
9/30/2003	4-3--00	2	12	15
9/30/2003	4-3--40	0.4	16	15
9/30/2003	4-3--80	1.1	14	15
9/30/2003	4-3--120	-10.9	6	15
9/30/2003	4-3--160	7.2	12	15
9/30/2003	4-4--00	0.9	15	15
9/30/2003	4-4--40	3.9	13	15
9/30/2003	4-4--80	0.2	14	15
9/30/2003	4-4--120	0.8	3	15
9/30/2003	4-4--160	-2.4	9	15
10/14/2003	4-1--00	12	5	15
10/14/2003	4-1--40	0	0	15
10/14/2003	4-1--80	-1	14	15
10/14/2003	4-1--120	-7	19	15
10/14/2003	4-1--160	-11	21	15
10/14/2003	4-2--00	10	14	15
10/14/2003	4-2--40	-1.5	12	15
10/14/2003	4-2--80	.	12	15
10/14/2003	4-2--120	-4	29	15
10/14/2003	4-2--160	-1.5	21	15
10/14/2003	4-3--00	-0.1	10	15
10/14/2003	4-3--40	.	12	15
10/14/2003	4-3--80	.	15	15
10/14/2003	4-3--120	-16	8	15
10/14/2003	4-3--160	2.5	24	15
10/14/2003	4-4--00	-5	14	15
10/14/2003	4-4--40	0	21	15
10/14/2003	4-4--80	-0.5	12	15
10/14/2003	4-4--120	0	5	15
10/14/2003	4-4--160	-3.9	14	15
10/28/2003	4-1--00	1.3	8	15
10/28/2003	4-1--40	2.4	6	15
10/28/2003	4-1--80	-0.8	4	15
10/28/2003	4-1--120	-0.1	14	15
10/28/2003	4-1--160	6.7	13	15

10/28/2003	4-2--00	.	11	15
10/28/2003	4-2--40	.	10	30
10/28/2003	4-2--80	.	15	15
10/28/2003	4-2--120	0.9	25	15
10/28/2003	4-2--160	-3.6	21	15
10/28/2003	4-3--00	-0.5	14	15
10/28/2003	4-3--40	-0.9	13	15
10/28/2003	4-3--80	-2.1	17	15
10/28/2003	4-3--120	-1.9	15	15
10/28/2003	4-3--160	-7.1	13	15
10/28/2003	4-4--00	-1.1	11	15
10/28/2003	4-4--40	-0.6	3	15
10/28/2003	4-4--80	-0.5	10	15
10/28/2003	4-4--120		13	15
10/28/2003	4-4--160	0.3	8	15
11/11/2003	4-1--00	.	.	15
11/11/2003	4-1--40	-0.8	7	15
11/11/2003	4-1--80	1.1	8	15
11/11/2003	4-1--120	-0.2	11	15
11/11/2003	4-1--160	.	14	15
11/11/2003	4-2--00	.	19	15
11/11/2003	4-2--40	-2.3	18	15
11/11/2003	4-2--80	.	20	15
11/11/2003	4-2--120	-0.1	21	15
11/11/2003	4-2--160	0.9	13	30
11/11/2003	4-3--00	1.7	14	15
11/11/2003	4-3--40	2.3	12	15
11/11/2003	4-3--80	1.3	9	15
11/11/2003	4-3--120	1	12	15
11/11/2003	4-3--160	5.5	13	15
11/11/2003	4-4--00	.	11	15
11/11/2003	4-4--40	1.1	8	15
11/11/2003	4-4--80	.	6	15
11/11/2003	4-4--120	0.1	5	15
11/11/2003	4-4--160	3.2	11	15
11/24/2003	4-1--00	-0.6	12	15
11/24/2003	4-1--40	.	10	15
11/24/2003	4-1--80	-4.5	21	15
11/24/2003	4-1--120	-6.1	19	15
11/24/2003	4-1--160	-3.3	15	15
11/24/2003	4-2--00	.	14	15
11/24/2003	4-2--40	.	16	15
11/24/2003	4-2--80	.	19	15
11/24/2003	4-2--120	1.7	29	15
11/24/2003	4-2--160	-5	31	15
11/24/2003	4-3--00	.	21	15
11/24/2003	4-3--40	.	20	15
11/24/2003	4-3--80	.	19	15



11/24/2003	4-3--120	.	27	15
11/24/2003	4-3--160	-8.3	.	30
11/24/2003	4-4--00	-4	15	15
11/24/2003	4-4--40	.	25	15
11/24/2003	4-4--80	-7.5	14	15
11/24/2003	4-4--120	.	22	15
11/24/2003	4-4--160	.	19	15
12/9/2003	4-1--00	-0.4	10	15
12/9/2003	4-1--40	-2.2	0	15
12/9/2003	4-1--80	0.3	15	15
12/9/2003	4-1--120	1.1	16	15
12/9/2003	4-1--160	2.1	15	15
12/9/2003	4-2--00	3.9	26	15
12/9/2003	4-2--40	-0.4	22	15
12/9/2003	4-2--80	.	15	15
12/9/2003	4-2--120	.	14	15
12/9/2003	4-2--160	.	12	15
12/9/2003	4-3--00	2.7	20	15
12/9/2003	4-3--40	.	11	15
12/9/2003	4-3--80	.	22	15
12/9/2003	4-3--120	1.3	.	15
12/9/2003	4-3--160	7.4	25	15
12/9/2003	4-4--00	11.9	16	15
12/9/2003	4-4--40	.	20	15
12/9/2003	4-4--80	-0.7	11	15
12/9/2003	4-4--120	.	5	15
12/9/2003	4-4--160	0	14	15
6/10/2004	4-1--00	-1	19	15
6/10/2004	4-1--40	-2.2	15	15
6/10/2004	4-1--80	-1.5	12	15
6/10/2004	4-1--120	.	17	15
6/10/2004	4-1--160	-1.9	15	15
6/10/2004	4-2--00	-1.3	13	15
6/10/2004	4-2--40	-6.8	12	15
6/10/2004	4-2--80	-3.1	16	15
6/10/2004	4-2--120	-5.8	.	15
6/10/2004	4-2--160	.	15	15
6/10/2004	4-3--00	-0.5	15	15
6/10/2004	4-3--40	-1.2	12	15
6/10/2004	4-3--80	-3	16	15
6/10/2004	4-3--120	-6.5	19	15
6/10/2004	4-3--160	-0.1	20	15
6/10/2004	4-4--00	0.2	5	15
6/10/2004	4-4--40	-0.1	8	15
6/10/2004	4-4--80	-8.7	12	15
6/10/2004	4-4--120	-2.5	14	15
6/10/2004	4-4--160	-8.3	18	15
6/22/2004	4-1--00	.	5	15

6/22/2004	4-1--40	.	0	15
6/22/2004	4-1--80	.	13	15
6/22/2004	4-1--120	.	14	15
6/22/2004	4-1--160	.	12	15
6/22/2004	4-2--00	.	22	30
6/22/2004	4-2--40	.	21	15
6/22/2004	4-2--80	.	14	15
6/22/2004	4-2--120	.	12	15
6/22/2004	4-2--160	.	10	15
6/22/2004	4-3--00	.	17	15
6/22/2004	4-3--40	.	14	15
6/22/2004	4-3--80	.	9	15
6/22/2004	4-3--120	-14.3	.	15
6/22/2004	4-3--160	-7.8	25	15
6/22/2004	4-4--00	-7.3	8	15
6/22/2004	4-4--40	.	16	15
6/22/2004	4-4--80	-11.2	10	15
6/22/2004	4-4--120	.	.	15
6/22/2004	4-4--160	.	9	15
7/7/2004	4-1--00	.	11	15
7/7/2004	4-1--40	.	.	15
7/7/2004	4-1--80	.	12	15
7/7/2004	4-1--120	.	11	15
7/7/2004	4-1--160	.	10	15
7/7/2004	4-2--00	.	20	15
7/7/2004	4-2--40	.	21	15
7/7/2004	4-2--80	.	15	15
7/7/2004	4-2--120	.	10	15
7/7/2004	4-2--160	.	10	15
7/7/2004	4-3--00	.	.	15
7/7/2004	4-3--40	.	15	15
7/7/2004	4-3--80	.	15	15
7/7/2004	4-3--120	-16.8	14	15
7/7/2004	4-3--160	-6.8	.	15
7/7/2004	4-4--00	.	11	15
7/7/2004	4-4--40	.	.	15
7/7/2004	4-4--80	-4.1	.	15
7/7/2004	4-4--120	.	6	15
7/7/2004	4-4--160	.	.	15
7/21/2004	4-1--00	.	8	15
7/21/2004	4-1--40	.	12	15
7/21/2004	4-1--80	.	9	15
7/21/2004	4-1--120	.	11	15
7/21/2004	4-1--160	.	16	15
7/21/2004	4-2--00	.	24	15
7/21/2004	4-2--40	.	22	15
7/21/2004	4-2--80	.	8	15
7/21/2004	4-2--120	.	12	15

7/21/2004	4-2--160	.	10	15
7/21/2004	4-3--00	.	19	15
7/21/2004	4-3--40	.	15	15
7/21/2004	4-3--80	.	15	15
7/21/2004	4-3--120	-14.3	.	15
7/21/2004	4-3--160	-0.5	25	15
7/21/2004	4-4--00	-7.8	9	15
7/21/2004	4-4--40	.	16	15
7/21/2004	4-4--80	-0.8	15	15
7/21/2004	4-4--120	.	.	15
7/21/2004	4-4--160	.	8	15
8/4/2004	4-1--00	.	10	15
8/4/2004	4-1--40	.	0	15
8/4/2004	4-1--80	.	15	15
8/4/2004	4-1--120	.	.	15
8/4/2004	4-1--160	.	15	15
8/4/2004	4-2--00	.	19	15
8/4/2004	4-2--40	.	20	15
8/4/2004	4-2--80	.	.	15
8/4/2004	4-2--120	.	.	15
8/4/2004	4-2--160	.	10	15
8/4/2004	4-3--00	.	18	15
8/4/2004	4-3--40	.	15	15
8/4/2004	4-3--80	.	14	15
8/4/2004	4-3--120	3	15	15
8/4/2004	4-3--160	-0.6	20	15
8/4/2004	4-4--00	-6.5	10	15
8/4/2004	4-4--40	.	12	15
8/4/2004	4-4--80	-2	14	15
8/4/2004	4-4--120	.	10	15
8/4/2004	4-4--160	.	10	15
8/18/2004	4-1--00	0.7	10	15
8/18/2004	4-1--40	-2.2	4	15
8/18/2004	4-1--80	1.6	9	15
8/18/2004	4-1--120	-2.2	15	15
8/18/2004	4-1--160	-10.2	18	15
8/18/2004	4-2--00	-6.7	19	15
8/18/2004	4-2--40	0.2	17	15
8/18/2004	4-2--80	0.2	12	15
8/18/2004	4-2--120	-1.2	11	15
8/18/2004	4-2--160	2.6	10	15
8/18/2004	4-3--00	2	12	15
8/18/2004	4-3--40	0.4	16	15
8/18/2004	4-3--80	1.1	14	15
8/18/2004	4-3--120	-10.9	6	15
8/18/2004	4-3--160	7.2	12	15
8/18/2004	4-4--00	0.9	15	15
8/18/2004	4-4--40	3.9	13	15

8/18/2004	4-4--80	0.2	14	15
8/18/2004	4-4--120	0.8	3	15
8/18/2004	4-4--160	-2.4	9	15
9/1/2004	4-1--00	0.5	12	15
9/1/2004	4-1--40	-3.1	5	15
9/1/2004	4-1--80	3.7	10	15
9/1/2004	4-1--120	-4.4	13	15
9/1/2004	4-1--160	-8.3	19	15
9/1/2004	4-2--00	-5.7	21	15
9/1/2004	4-2--40	-0.2	18	15
9/1/2004	4-2--80	0.4	12	15
9/1/2004	4-2--120	-4.8	11	15
9/1/2004	4-2--160	-2.2	10	15
9/1/2004	4-3--00	-1.1	13	15
9/1/2004	4-3--40	-2	16	15
9/1/2004	4-3--80	-2.4	15	15
9/1/2004	4-3--120	0.9	7	15
9/1/2004	4-3--160	-4.3	13	15
9/1/2004	4-4--00	-2.8	14	15
9/1/2004	4-4--40	-2	13	15
9/1/2004	4-4--80	3	15	15
9/1/2004	4-4--120	-0.4	12	15
9/1/2004	4-4--160	-1	11	15
9/13/2004	4-1--00	-0.5	7	15
9/13/2004	4-1--40	-1.4	3	15
9/13/2004	4-1--80	3.4	12	15
9/13/2004	4-1--120	-10.7	17	15
9/13/2004	4-1--160	-7.3	20	15
9/13/2004	4-2--00	-7.5	11	15
9/13/2004	4-2--40	-2	14	15
9/13/2004	4-2--80	6.2	12	15
9/13/2004	4-2--120	-5.7	22	15
9/13/2004	4-2--160	-2.2	18	15
9/13/2004	4-3--00	-1.5	11	15
9/13/2004	4-3--40	-1.2	13	15
9/13/2004	4-3--80	-2.3	14	15
9/13/2004	4-3--120	1.2	8	15
9/13/2004	4-3--160	-3.1	9	15
9/13/2004	4-4--00	-2.9	20	15
9/13/2004	4-4--40	1.1	16	15
9/13/2004	4-4--80	6.9	13	15
9/13/2004	4-4--120	1.5	9	15
9/13/2004	4-4--160	4.6	16	15

**Table 4-4. Carmans River Water Quality Detections**

Date	Time	Bay Station	Diurnal	Analyte	Result	Units
7/15/2003	7:12	WWR001	A	Ammonia	0.079	mg/L
7/15/2003	7:12	WWR001	A	Depth	3	ft
7/15/2003	7:12	WWR001	A	Dissolved Nitrogen	1.2	mg/L
7/15/2003	7:12	WWR001	A	Dissolved Oxygen	1	mg/l
7/15/2003	7:12	WWR001	A	Dissolved Phosphorous	0.0369	mg/L
7/15/2003	7:12	WWR001	A	Fecal Coliform	500	MPN/100 ml
7/15/2003	7:12	WWR001	A	Metered Salinity	16.6	o/oo
7/15/2003	7:12	WWR001	A	Nitrate & Nitrite	0.169	mg/L
7/15/2003	7:12	WWR001	A	Temperature	24.3	Deg C
7/15/2003	7:12	WWR001	A	Total Coliform	5000	MPN/100 ml
7/15/2003	7:12	WWR001	A	Total Nitrogen	1.3	mg/L
7/15/2003	7:12	WWR001	A	Total Phosphorous	0.0658	mg/L
7/15/2003	12:28	WWR001	P	Ammonia	0.008	mg/L
7/15/2003	12:28	WWR001	P	Depth	4	ft
7/15/2003	12:28	WWR001	P	Dissolved Nitrogen	0.27	mg/L
7/15/2003	12:28	WWR001	P	Dissolved Oxygen	7.9	mg/l
7/15/2003	12:28	WWR001	P	Fecal Coliform	500	MPN/100 ml
7/15/2003	12:28	WWR001	P	Metered Salinity	16.4	o/oo
7/15/2003	12:28	WWR001	P	Methyl sulfide	0.7	ug/L
7/15/2003	12:28	WWR001	P	Methyl-tertiary-butyl-ether	4	ug/L
7/15/2003	12:28	WWR001	P	Nitrate & Nitrite	0.0289	mg/L
7/15/2003	12:28	WWR001	P	Ortho-Phosphate	0.015	mg/L
7/15/2003	12:28	WWR001	P	Temperature	25.8	Deg C
7/15/2003	12:28	WWR001	P	Toluene	1	ug/L
7/15/2003	12:28	WWR001	P	Total Coliform	1300	MPN/100 ml
7/15/2003	12:28	WWR001	P	Total Nitrogen	0.46	mg/L
7/15/2003	12:28	WWR001	P	Total Phosphorous	0.06	mg/L
7/15/2003	12:28	WWR001	P	Total Xylene	0.8	ug/L
7/15/2003	7:30	WWR002	A	Ammonia	0.199	mg/L
7/15/2003	7:30	WWR002	A	Dissolved Nitrogen	1.7	mg/L
7/15/2003	7:30	WWR002	A	Dissolved Oxygen	2.5	mg/l
7/15/2003	7:30	WWR002	A	Dissolved Phosphorous	0.0359	mg/L
7/15/2003	7:30	WWR002	A	Fecal Coliform	9000	MPN/100 ml
7/15/2003	7:30	WWR002	A	Metered Salinity	6.6	o/oo
7/15/2003	7:30	WWR002	A	Nitrate & Nitrite	0.505	mg/L
7/15/2003	7:30	WWR002	A	Temperature	21.3	Deg C
7/15/2003	7:30	WWR002	A	Total Nitrogen	1.9	mg/L
7/15/2003	7:30	WWR002	A	Total Phosphorous	0.0753	mg/L
7/15/2003	12:47	WWR002	P	Ammonia	0.067	mg/L
7/15/2003	12:47	WWR002	P	Depth	2.5	ft
7/15/2003	12:47	WWR002	P	Dissolved Nitrogen	0.75	mg/L
7/15/2003	12:47	WWR002	P	Dissolved Oxygen	8.6	mg/l
7/15/2003	12:47	WWR002	P	Fecal Coliform	2400	MPN/100 ml
7/15/2003	12:47	WWR002	P	Metered Salinity	13.7	o/oo
7/15/2003	12:47	WWR002	P	Nitrate & Nitrite	0.515	mg/L

7/15/2003	12:47	WWR002	P	Ortho-Phosphate	0.007	mg/L
7/15/2003	12:47	WWR002	P	Temperature	26.9	Deg C
7/15/2003	12:47	WWR002	P	Total Coliform	2400	MPN/100 ml
7/15/2003	12:47	WWR002	P	Total Nitrogen	0.58	mg/L
7/15/2003	12:47	WWR002	P	Total Phosphorous	0.0416	mg/L
7/15/2003	7:53	WWR003	A	Ammonia	0.058	mg/L
7/15/2003	7:53	WWR003	A	Depth	1	ft
7/15/2003	7:53	WWR003	A	Dissolved Nitrogen	1.2	mg/L
7/15/2003	7:53	WWR003	A	Dissolved Oxygen	3.8	mg/l
7/15/2003	7:53	WWR003	A	Dissolved Phosphorous	0.0406	mg/L
7/15/2003	7:53	WWR003	A	Fecal Coliform	130	MPN/100 ml
7/15/2003	7:53	WWR003	A	Metered Salinity	3.3	o/oo
7/15/2003	7:53	WWR003	A	Methyl-tertiary-butyl-ether	3	ug/L
7/15/2003	7:53	WWR003	A	Nitrate & Nitrite	0.421	mg/L
7/15/2003	7:53	WWR003	A	Temperature	21.2	Deg C
7/15/2003	7:53	WWR003	A	tert-Amyl-Methyl-Ether	0.6	ug/L
7/15/2003	7:53	WWR003	A	Total Coliform	2800	MPN/100 ml
7/15/2003	7:53	WWR003	A	Total Nitrogen	1.5	mg/L
7/15/2003	7:53	WWR003	A	Total Phosphorous	0.0668	mg/L
7/15/2003	13:02	WWR003	P	Ammonia	0.01	mg/L
7/15/2003	13:02	WWR003	P	Depth	2	ft
7/15/2003	13:02	WWR003	P	Dissolved Nitrogen	0.4	mg/L
7/15/2003	13:02	WWR003	P	Dissolved Oxygen	9.6	mg/l
7/15/2003	13:02	WWR003	P	Fecal Coliform	110	MPN/100 ml
7/15/2003	13:02	WWR003	P	Metered Salinity	9.7	o/oo
7/15/2003	13:02	WWR003	P	Methyl-tertiary-butyl-ether	2	ug/L
7/15/2003	13:02	WWR003	P	Nitrate & Nitrite	0.223	mg/L
7/15/2003	13:02	WWR003	P	Temperature	26.6	Deg C
7/15/2003	13:02	WWR003	P	Total Coliform	3000	MPN/100 ml
7/15/2003	13:02	WWR003	P	Total Nitrogen	0.64	mg/L
7/15/2003	13:02	WWR003	P	Total Phosphorous	0.0445	mg/L
7/15/2003	8:07	WWR004	A	Ammonia	0.061	mg/L
7/15/2003	8:07	WWR004	A	Depth	1	ft
7/15/2003	8:07	WWR004	A	Dissolved Nitrogen	1.4	mg/L
7/15/2003	8:07	WWR004	A	Dissolved Oxygen	5.2	mg/l
7/15/2003	8:07	WWR004	A	Dissolved Phosphorous	0.0507	mg/L
7/15/2003	8:07	WWR004	A	Fecal Coliform	300	MPN/100 ml
7/15/2003	8:07	WWR004	A	Metered Salinity	1.1	o/oo
7/15/2003	8:07	WWR004	A	Methyl-tertiary-butyl-ether	3	ug/L
7/15/2003	8:07	WWR004	A	Ortho-Phosphate	0.028	mg/L
7/15/2003	8:07	WWR004	A	Temperature	20.6	Deg C
7/15/2003	8:07	WWR004	A	tert-Amyl-Methyl-Ether	0.7	ug/L
7/15/2003	8:07	WWR004	A	Total Coliform	800	MPN/100 ml
7/15/2003	8:07	WWR004	A	Total Nitrogen	1.5	mg/L
7/15/2003	8:07	WWR004	A	Total Phosphorous	0.0696	mg/L
7/15/2003	13:13	WWR004	P	Ammonia	0.005	mg/L
7/15/2003	13:13	WWR004	P	Depth	2	ft
7/15/2003	13:13	WWR004	P	Dissolved Nitrogen	0.46	mg/L

7/15/2003	13:13	WWR004	P	Dissolved Oxygen	11	mg/l
7/15/2003	13:13	WWR004	P	Fecal Coliform	220	MPN/100 ml
7/15/2003	13:13	WWR004	P	Metered Salinity	7.2	o/oo
7/15/2003	13:13	WWR004	P	Methyl sulfide	0.9	ug/L
7/15/2003	13:13	WWR004	P	Methyl-tertiary-butyl-ether	3	ug/L
7/15/2003	13:13	WWR004	P	Nitrate & Nitrite	0.289	mg/L
7/15/2003	13:13	WWR004	P	Ortho-Phosphate	0.024	mg/L
7/15/2003	13:13	WWR004	P	Temperature	25.3	Deg C
7/15/2003	13:13	WWR004	P	tert-Amyl-Methyl-Ether	0.5	ug/L
7/15/2003	13:13	WWR004	P	Total Coliform	800	MPN/100 ml
7/15/2003	13:13	WWR004	P	Total Nitrogen	0.69	mg/L
7/15/2003	13:13	WWR004	P	Total Phosphorous	0.0508	mg/L
7/29/2003	13:07	WWR001	A	Dissolved Oxygen	9.3	mg/l
7/29/2003	13:07	WWR001	A	Metered Salinity	17.4	o/oo
7/29/2003	13:07	WWR001	A	Temperature	28.3	Deg C
7/29/2003	18:00	WWR001	P	Dissolved Oxygen	14.6	mg/l
7/29/2003	18:00	WWR001	P	Metered Salinity	16.5	o/oo
7/29/2003	18:00	WWR001	P	Temperature	29.5	Deg C
7/29/2003	12:42	WWR002	A	Dissolved Oxygen	9.4	mg/l
7/29/2003	12:42	WWR002	A	Metered Salinity	11.2	o/oo
7/29/2003	12:42	WWR002	A	Temperature	26.8	Deg C
7/29/2003	18:18	WWR002	P	Dissolved Oxygen	9.6	mg/l
7/29/2003	18:18	WWR002	P	Metered Salinity	6	o/oo
7/29/2003	18:18	WWR002	P	Temperature	27.6	Deg C
7/29/2003	12:34	WWR003	A	Dissolved Oxygen	8.1	mg/l
7/29/2003	12:34	WWR003	A	Metered Salinity	6	o/oo
7/29/2003	12:34	WWR003	A	Temperature	26.4	Deg C
7/29/2003	18:40	WWR003	P	Dissolved Oxygen	7	mg/l
7/29/2003	18:40	WWR003	P	Metered Salinity	4.5	o/oo
7/29/2003	18:40	WWR003	P	Temperature	27	Deg C
7/29/2003	12:26	WWR004	A	Dissolved Oxygen	8.2	mg/l
7/29/2003	12:26	WWR004	A	Metered Salinity	3.8	o/oo
7/29/2003	12:26	WWR004	A	Temperature	25.8	Deg C
7/29/2003	19:00	WWR004	P	Dissolved Oxygen	7.2	mg/l
7/29/2003	19:00	WWR004	P	Metered Salinity	1.1	o/oo
7/29/2003	19:00	WWR004	P	Temperature	25	Deg C
10/15/2003	8:37	WWR001		Ammonia	0.014	mg/L
10/15/2003	8:37	WWR001		Carbon disulfide	0.8	ug/L
10/15/2003	8:37	WWR001		Depth	4	ft
10/15/2003	8:37	WWR001		Dissolved Nitrogen	0.2	mg/L
10/15/2003	8:37	WWR001		Dissolved Oxygen	7.4	mg/l
10/15/2003	8:37	WWR001		Metered Salinity	27.9	o/oo
10/15/2003	8:37	WWR001		Temperature	16.5	Deg C
10/15/2003	8:37	WWR001		Total Nitrogen	0.26	mg/L
10/15/2003	9:35	WWR002		Ammonia	0.01	mg/L
10/15/2003	9:35	WWR002		Depth	3	ft
10/15/2003	9:35	WWR002		Dissolved Nitrogen	0.24	mg/L

10/15/2003	9:35	WWR002		Dissolved Oxygen	6.8	mg/l
10/15/2003	9:35	WWR002		Metered Salinity	27.4	o/oo
10/15/2003	9:35	WWR002		Nitrate & Nitrite	0.00555	mg/L
10/15/2003	9:35	WWR002		Ortho-Phosphate	0.009	mg/L
10/15/2003	9:35	WWR002		Temperature	16.3	Deg C
10/15/2003	9:35	WWR002		Total Coliform	200	MPN/100 ml
10/15/2003	9:35	WWR002		Total Nitrogen	0.29	mg/L
10/15/2003	9:35	WWR002		Total Phosphorous	0.0461	mg/L
10/15/2003	10:45	WWR003		Ammonia	0.013	mg/L
10/15/2003	10:45	WWR003		Depth	3	ft
10/15/2003	10:45	WWR003		Dissolved Nitrogen	0.23	mg/L
10/15/2003	10:45	WWR003		Dissolved Oxygen	7.2	mg/l
10/15/2003	10:45	WWR003		Fecal Coliform	200	MPN/100 ml
10/15/2003	10:45	WWR003		Metered Salinity	27.9	o/oo
10/15/2003	10:45	WWR003		Temperature	16.2	Deg C
10/15/2003	10:45	WWR003		Total Coliform	400	MPN/100 ml
10/15/2003	10:45	WWR003		Total Nitrogen	0.26	mg/L
10/15/2003	10:45	WWR003		Total Phosphorous	0.04	mg/L
10/15/2003	10:55	WWR004		Ammonia	0.018	mg/L
10/15/2003	10:55	WWR004		Depth	3	ft
10/15/2003	10:55	WWR004		Dissolved Nitrogen	0.2	mg/L
10/15/2003	10:55	WWR004		Dissolved Oxygen	6.8	mg/l
10/15/2003	10:55	WWR004		Dissolved Phosphorous	0.0765	mg/L
10/15/2003	10:55	WWR004		Fecal Coliform	400	MPN/100 ml
10/15/2003	10:55	WWR004		Metered Salinity	27.1	o/oo
10/15/2003	10:55	WWR004		Nitrate & Nitrite	0.0137	mg/L
10/15/2003	10:55	WWR004		Ortho-Phosphate	0.006	mg/L
10/15/2003	10:55	WWR004		Temperature	16.6	Deg C
10/15/2003	10:55	WWR004		Total Coliform	1700	MPN/100 ml
10/15/2003	10:55	WWR004		Total Nitrogen	0.21	mg/L
10/15/2003	10:55	WWR004		Total Phosphorous	0.0402	mg/L
9/16/2004	7:30	WWR001	A	Ammonia (not distilled)	0.0148	mg/L
9/16/2004	7:30	WWR001	A	Dissolved Nitrogen	0.063	mg/L
9/16/2004	7:30	WWR001	A	Dissolved Oxygen	4.8	mg/l
9/16/2004	7:30	WWR001	A	Dissolved Phosphorous	0.13	mg/L
9/16/2004	7:30	WWR001	A	Fecal Coliform	1100	MPN/100 ml
9/16/2004	7:30	WWR001	A	Metered Salinity	14.8	o/oo
9/16/2004	7:30	WWR001	A	Methyl sulfide	2	ug/L
9/16/2004	7:30	WWR001	A	Nitrate & Nitrite	0.162	mg/L
9/16/2004	7:30	WWR001	A	Ortho-Phosphate	0.023	mg/L
9/16/2004	7:30	WWR001	A	pH	7.4	N/A
9/16/2004	7:30	WWR001	A	Temperature	21.2	Deg C
9/16/2004	7:30	WWR001	A	Total Coliform	5000	MPN/100 ml
9/16/2004	7:30	WWR001	A	Total Nitrogen	0.19	mg/L
9/16/2004	7:30	WWR001	A	Total Phosphorous	0.291	mg/L
9/16/2004	12:20	WWR001	P	Ammonia (not distilled)	0.0096	mg/L
9/16/2004	12:20	WWR001	P	Dissolved Oxygen	6.7	mg/l
9/16/2004	12:20	WWR001	P	Dissolved Phosphorous	0.0508	mg/L



9/16/2004	12:20	WWR001	P	Fecal Coliform	230	MPN/100 ml
9/16/2004	12:20	WWR001	P	Metered Salinity	25	o/oo
9/16/2004	12:20	WWR001	P	Methyl sulfide	1	ug/L
9/16/2004	12:20	WWR001	P	Nitrate & Nitrite	0.0195	mg/L
9/16/2004	12:20	WWR001	P	Ortho-Phosphate	0.0086	mg/L
9/16/2004	12:20	WWR001	P	pH	8	N/A
9/16/2004	12:20	WWR001	P	Temperature	23.1	Deg C
9/16/2004	12:20	WWR001	P	Total Coliform	230	MPN/100 ml
9/16/2004	12:20	WWR001	P	Total Phosphorous	0.0487	mg/L
9/16/2004	7:15	WWR002	A	Ammonia (not distilled)	0.0167	mg/L
9/16/2004	7:15	WWR002	A	Dissolved Oxygen	3.9	mg/l
9/16/2004	7:15	WWR002	A	Dissolved Phosphorous	0.0704	mg/L
9/16/2004	7:15	WWR002	A	Fecal Coliform	2200	MPN/100 ml
9/16/2004	7:15	WWR002	A	Metered Salinity	12	o/oo
9/16/2004	7:15	WWR002	A	Methyl sulfide	2	ug/L
9/16/2004	7:15	WWR002	A	Nitrate & Nitrite	0.259	mg/L
9/16/2004	7:15	WWR002	A	Ortho-Phosphate	0.0192	mg/L
9/16/2004	7:15	WWR002	A	pH	7.4	N/A
9/16/2004	7:15	WWR002	A	Temperature	21.4	Deg C
9/16/2004	7:15	WWR002	A	Total Coliform	3500	MPN/100 ml
9/16/2004	7:15	WWR002	A	Total Nitrogen	0.16	mg/L
9/16/2004	7:15	WWR002	A	Total Phosphorous	0.0453	mg/L
9/16/2004	12:05	WWR002	P	Ammonia (not distilled)	0.0112	mg/L
9/16/2004	12:05	WWR002	P	Dissolved Oxygen	6	mg/l
9/16/2004	12:05	WWR002	P	Dissolved Phosphorous	0.0552	mg/L
9/16/2004	12:05	WWR002	P	Fecal Coliform	70	MPN/100 ml
9/16/2004	12:05	WWR002	P	Metered Salinity	27.8	o/oo
9/16/2004	12:05	WWR002	P	Methyl sulfide	1	ug/L
9/16/2004	12:05	WWR002	P	Nitrate & Nitrite	0.0127	mg/L
9/16/2004	12:05	WWR002	P	Ortho-Phosphate	0.0091	mg/L
9/16/2004	12:05	WWR002	P	pH	8	N/A
9/16/2004	12:05	WWR002	P	Temperature	22.5	Deg C
9/16/2004	12:05	WWR002	P	Total Coliform	170	MPN/100 ml
9/16/2004	12:05	WWR002	P	Total Phosphorous	0.0691	mg/L
9/16/2004	6:55	WWR003	A	Ammonia (not distilled)	0.0149	mg/L
9/16/2004	6:55	WWR003	A	Dissolved Nitrogen	0.09	mg/L
9/16/2004	6:55	WWR003	A	Dissolved Oxygen	2	mg/l
9/16/2004	6:55	WWR003	A	Dissolved Phosphorous	0.03	mg/L
9/16/2004	6:55	WWR003	A	Fecal Coliform	800	MPN/100 ml
9/16/2004	6:55	WWR003	A	Metered Salinity	6.7	o/oo
9/16/2004	6:55	WWR003	A	Methyl sulfide	2	ug/L
9/16/2004	6:55	WWR003	A	Nitrate & Nitrite	0.268	mg/L
9/16/2004	6:55	WWR003	A	Ortho-Phosphate	0.0422	mg/L
9/16/2004	6:55	WWR003	A	pH	7	N/A
9/16/2004	6:55	WWR003	A	Temperature	20.9	Deg C
9/16/2004	6:55	WWR003	A	Total Coliform	800	MPN/100 ml
9/16/2004	6:55	WWR003	A	Total Nitrogen	0.86	mg/L
9/16/2004	6:55	WWR003	A	Total Phosphorous	0.123	mg/L

9/16/2004	11:53	WWR003	P	Ammonia (not distilled)	0.0092	mg/L
9/16/2004	11:53	WWR003	P	Diethyltoluamide (DEET)	5.5	ug/L
9/16/2004	11:53	WWR003	P	Dissolved Oxygen	7	mg/l
9/16/2004	11:53	WWR003	P	Dissolved Phosphorous	0.0575	mg/L
9/16/2004	11:53	WWR003	P	Fecal Coliform	230	MPN/100 ml
9/16/2004	11:53	WWR003	P	Metered Salinity	26.8	o/oo
9/16/2004	11:53	WWR003	P	Methyl sulfide	2	ug/L
9/16/2004	11:53	WWR003	P	Nitrate & Nitrite	0.0688	mg/L
9/16/2004	11:53	WWR003	P	Ortho-Phosphate	0.0164	mg/L
9/16/2004	11:53	WWR003	P	pH	8.7	N/A
9/16/2004	11:53	WWR003	P	Temperature	22.7	Deg C
9/16/2004	11:53	WWR003	P	Total Coliform	800	MPN/100 ml
9/16/2004	11:53	WWR003	P	Total Nitrogen	0.44	mg/L
9/16/2004	11:53	WWR003	P	Total Phosphorous	0.118	mg/L
9/16/2004	6:40	WWR004	A	Ammonia (not distilled)	0.0519	mg/L
9/16/2004	6:40	WWR004	A	Dissolved Nitrogen	0.38	mg/L
9/16/2004	6:40	WWR004	A	Dissolved Oxygen	5	mg/l
9/16/2004	6:40	WWR004	A	Dissolved Phosphorous	0.0423	mg/L
9/16/2004	6:40	WWR004	A	Fecal Coliform	1300	MPN/100 ml
9/16/2004	6:40	WWR004	A	Metered Salinity	4.5	o/oo
9/16/2004	6:40	WWR004	A	Methyl sulfide	1	ug/L
9/16/2004	6:40	WWR004	A	Methyl-tertiary-butyl-ether	0.5	ug/L
9/16/2004	6:40	WWR004	A	Nitrate & Nitrite	0.293	mg/L
9/16/2004	6:40	WWR004	A	Ortho-Phosphate	0.0554	mg/L
9/16/2004	6:40	WWR004	A	pH	6.9	N/A
9/16/2004	6:40	WWR004	A	Temperature	19.7	Deg C
9/16/2004	6:40	WWR004	A	Total Coliform	2400	MPN/100 ml
9/16/2004	6:40	WWR004	A	Total Nitrogen	0.78	mg/L
9/16/2004	6:40	WWR004	A	Total Phosphorous	0.0891	mg/L
9/16/2004	11:45	WWR004	P	Ammonia (not distilled)	0.0062	mg/L
9/16/2004	11:45	WWR004	P	Diethyltoluamide (DEET)	0.6	ug/L
9/16/2004	11:45	WWR004	P	Dissolved Nitrogen	0.11	mg/L
9/16/2004	11:45	WWR004	P	Dissolved Oxygen	8.3	mg/l
9/16/2004	11:45	WWR004	P	Dissolved Phosphorous	0.0911	mg/L
9/16/2004	11:45	WWR004	P	Fecal Coliform	800	MPN/100 ml
9/16/2004	11:45	WWR004	P	Metered Salinity	19.8	o/oo
9/16/2004	11:45	WWR004	P	Methyl sulfide	0.8	ug/L
9/16/2004	11:45	WWR004	P	Nitrate & Nitrite	0.224	mg/L
9/16/2004	11:45	WWR004	P	Ortho-Phosphate	0.0332	mg/L
9/16/2004	11:45	WWR004	P	pH	8.9	N/A
9/16/2004	11:45	WWR004	P	Temperature	22.4	Deg C
9/16/2004	11:45	WWR004	P	Total Coliform	1300	MPN/100 ml
9/16/2004	11:45	WWR004	P	Total Nitrogen	0.66	mg/L
9/16/2004	11:45	WWR004	P	Total Phosphorous	0.163	mg/L

**Table 4-4. Nutrient Sampling**

**AREA 1**

Date	Time	Sample Location	Analyte	Result	Units
6/10/04	12:15	D-2	Ammonia (not distilled)	0.0604	mg/L
6/10/04	12:15	D-2	Dissolved Nitrogen	0.76	mg/L
6/10/04	12:15	D-2	Dissolved Phosphorous	< 0.025	mg/L
6/10/04	12:15	D-2	Fecal Coliform	1300	MPN/100 ml
6/10/04	12:15	D-2	Metered Salinity	5.6	o/oo
6/10/04	12:15	D-2	Nitrate & Nitrite	< 0.005	mg/L
6/10/04	12:15	D-2	Ortho-Phosphate	< 0.005	mg/L
6/10/04	12:15	D-2	pH	6.6	
6/10/04	12:15	D-2	Temperature	20.6	Deg C
6/10/04	12:15	D-2	Total Coliform	2400	MPN/100 ml
6/10/04	12:15	D-2	Total Nitrogen	1.1	mg/L
6/10/04	12:15	D-2	Total Phosphorous	0.1	mg/L
6/10/04	12:16	D-2	Ammonia (not distilled)	0.258	mg/L
6/10/04	12:16	D-2	Dissolved Nitrogen	0.7	mg/L
6/10/04	12:16	D-2	Dissolved Phosphorous	0.063	mg/L
6/10/04	12:16	D-2	Fecal Coliform	500	MPN/100 ml
6/10/04	12:16	D-2	Metered Salinity	5.6	o/oo
6/10/04	12:16	D-2	Nitrate & Nitrite	< 0.005	mg/L
6/10/04	12:16	D-2	Ortho-Phosphate	< 0.005	mg/L
6/10/04	12:16	D-2	pH	6.6	
6/10/04	12:16	D-2	Temperature	20.6	Deg C
6/10/04	12:16	D-2	Total Coliform	800	MPN/100 ml
6/10/04	12:16	D-2	Total Nitrogen	0.71	mg/L
6/10/04	12:16	D-2	Total Phosphorous	0.052	mg/L
6/10/04	12:30	D-4	Ammonia (not distilled)	0.39	mg/L
6/10/04	12:30	D-4	Dissolved Nitrogen	0.73	mg/L
6/10/04	12:30	D-4	Dissolved Phosphorous	0.0524	mg/L
6/10/04	12:30	D-4	Fecal Coliform	300	MPN/100 ml
6/10/04	12:30	D-4	Metered Salinity	9.6	o/oo
6/10/04	12:30	D-4	Nitrate & Nitrite	< 0.005	mg/L
6/10/04	12:30	D-4	Ortho-Phosphate	< 0.005	mg/L
6/10/04	12:30	D-4	pH	6.9	
6/10/04	12:30	D-4	Temperature	25.5	Deg C
6/10/04	12:30	D-4	Total Coliform	500	MPN/100 ml
6/10/04	12:30	D-4	Total Nitrogen	0.72	mg/L
6/10/04	12:30	D-4	Total Phosphorous	0.0632	mg/L
8/11/04	12:50	D-4	Ammonia	0.0813	mg/L
8/11/04	12:50	D-4	Ammonia (not distilled)	0.0813	mg/L
8/11/04	12:50	D-4	Dissolved Nitrogen	0.89	mg/L
8/11/04	12:50	D-4	Dissolved Oxygen	4.3	mg/l
8/11/04	12:50	D-4	Dissolved Phosphorous	0.0551	mg/L
8/11/04	12:50	D-4	Fecal Coliform	40	MPN/100 ml
8/11/04	12:50	D-4	Metered Salinity	12.3	o/oo

8/11/04	12:50	D-4	Nitrate & Nitrite	< 0.005	mg/L
8/11/04	12:50	D-4	Ortho-Phosphate	0.034	mg/L
8/11/04	12:50	D-4	pH	7.2	
8/11/04	12:50	D-4	Temperature	26.9	Deg C
8/11/04	12:50	D-4	Total Coliform	1300	MPN/100 ml
8/11/04	12:50	D-4	Total Nitrogen	1.2	mg/L
8/11/04	12:50	D-4	Total Phosphorous	0.111	mg/L
8/11/04	13:10	D-10	Ammonia	0.0137	mg/L
8/11/04	13:10	D-10	Ammonia (not distilled)	0.0137	mg/L
8/11/04	13:10	D-10	Dissolved Nitrogen	0.58	mg/L
8/11/04	13:10	D-10	Dissolved Phosphorous	0.0688	mg/L
8/11/04	13:10	D-10	Fecal Coliform	80	MPN/100 ml
8/11/04	13:10	D-10	Metered Salinity	10.4	o/oo
8/11/04	13:10	D-10	Nitrate & Nitrite	0.0429	mg/L
8/11/04	13:10	D-10	Ortho-Phosphate	0.012	mg/L
8/11/04	13:10	D-10	pH	7.6	
8/11/04	13:10	D-10	Temperature	29.5	Deg C
8/11/04	13:10	D-10	Total Coliform	5000	MPN/100 ml
8/11/04	13:10	D-10	Total Nitrogen	0.87	mg/L
8/11/04	13:10	D-10	Total Phosphorous	0.158	mg/L

**AREA 2**

Date	Time	Sample Location	Analyte	Result	Units
6/10/04	11:00	D-5	Ammonia (not distilled)	< 0.005	mg/L
6/10/04	11:00	D-5	Dissolved Nitrogen	1.2	mg/L
6/10/04	11:00	D-5	Dissolved Phosphorous	< 0.025	mg/L
6/10/04	11:00	D-5	Fecal Coliform	60	MPN/100 ml
6/10/04	11:00	D-5	Metered Salinity	11.7	o/oo
6/10/04	11:00	D-5	Nitrate & Nitrite	< 0.005	mg/L
6/10/04	11:00	D-5	Ortho-Phosphate	< 0.005	mg/L
6/10/04	11:00	D-5	pH	6.8	
6/10/04	11:00	D-5	Temperature	27.3	Deg C
6/10/04	11:00	D-5	Total Coliform	330	MPN/100 ml
6/10/04	11:00	D-5	Total Nitrogen	1.3	mg/L
6/10/04	11:00	D-5	Total Phosphorous	0.111	mg/L
6/10/04	10:45	D-9	Ammonia (not distilled)	0.0269	mg/L
6/10/04	10:45	D-9	Dissolved Nitrogen	0.46	mg/L
6/10/04	10:45	D-9	Dissolved Phosphorous	< 0.025	mg/L
6/10/04	10:45	D-9	Fecal Coliform	40	MPN/100 ml
6/10/04	10:45	D-9	Metered Salinity	21.5	o/oo
6/10/04	10:45	D-9	Nitrate & Nitrite	0.0269	mg/L
6/10/04	10:45	D-9	Ortho-Phosphate	< 0.005	mg/L
6/10/04	10:45	D-9	pH	7	
6/10/04	10:45	D-9	Temperature	24.2	Deg C
6/10/04	10:45	D-9	Total Coliform	5000	MPN/100 ml
6/10/04	10:45	D-9	Total Nitrogen	0.75	mg/L
6/10/04	10:45	D-9	Total Phosphorous	0.0664	mg/L
8/11/04	11:30	D-5	Ammonia	0.0166	mg/L
8/11/04	11:30	D-5	Ammonia (not distilled)	0.0166	mg/L
8/11/04	11:30	D-5	Dissolved Nitrogen	1.4	mg/L
8/11/04	11:30	D-5	Dissolved Oxygen	4.8	mg/l
8/11/04	11:30	D-5	Dissolved Phosphorous	< 0.025	mg/L
8/11/04	11:30	D-5	Fecal Coliform	500	MPN/100 ml
8/11/04	11:30	D-5	Metered Salinity	13.4	o/oo
8/11/04	11:30	D-5	Nitrate & Nitrite	0.00866	mg/L
8/11/04	11:30	D-5	Ortho-Phosphate	< 0.005	mg/L
8/11/04	11:30	D-5	pH	7.4	
8/11/04	11:30	D-5	Temperature	25.5	Deg C
8/11/04	11:30	D-5	Total Coliform	5000	MPN/100 ml
8/11/04	11:30	D-5	Total Nitrogen	2	mg/L
8/11/04	11:30	D-5	Total Phosphorous	0.083	mg/L
8/11/04	11:15	D-9	Ammonia	0.0166	mg/L
8/11/04	11:15	D-9	Ammonia (not distilled)	0.0166	mg/L
8/11/04	11:15	D-9	Dissolved Nitrogen	0.55	mg/L
8/11/04	11:15	D-9	Dissolved Oxygen	7.3	mg/l
8/11/04	11:15	D-9	Dissolved Phosphorous	0.0484	mg/L
8/11/04	11:15	D-9	Fecal Coliform	< 20	MPN/100 ml
8/11/04	11:15	D-9	Metered Salinity	19.9	o/oo

8/11/04	11:15	D-9	Nitrate & Nitrite	0.0103	mg/L
8/11/04	11:15	D-9	Ortho-Phosphate	< 0.005	mg/L
8/11/04	11:15	D-9	pH	7.5	
8/11/04	11:15	D-9	Temperature	25.6	Deg C
8/11/04	11:15	D-9	Total Coliform	< 20	MPN/100 ml
8/11/04	11:15	D-9	Total Nitrogen	1	mg/L
8/11/04	11:15	D-9	Total Phosphorous	0.17	mg/L
8/11/04	11:00	D-10	Ammonia	0.0827	mg/L
8/11/04	11:00	D-10	Ammonia (not distilled)	0.0827	mg/L
8/11/04	11:00	D-10	Dissolved Nitrogen	0.34	mg/L
8/11/04	11:00	D-10	Dissolved Oxygen	2.6	mg/l
8/11/04	11:00	D-10	Dissolved Phosphorous	0.0275	mg/L
8/11/04	11:00	D-10	Fecal Coliform	300	MPN/100 ml
8/11/04	11:00	D-10	Metered Salinity	18.7	o/oo
8/11/04	11:00	D-10	Nitrate & Nitrite	< 0.005	mg/L
8/11/04	11:00	D-10	Ortho-Phosphate	< 0.005	mg/L
8/11/04	11:00	D-10	pH	7.6	
8/11/04	11:00	D-10	Temperature	24.5	Deg C
8/11/04	11:00	D-10	Total Coliform	500	MPN/100 ml
8/11/04	11:00	D-10	Total Nitrogen	0.52	mg/L
8/11/04	11:00	D-10	Total Phosphorous	0.0791	mg/L

**AREA 3**

Date	Time	Sample Location	Analyte	Result	Units
8/11/04	12:30	D-5	Ammonia	0.0782	mg/L
8/11/04	12:30	D-5	Ammonia (not distilled)	0.0782	mg/L
8/11/04	12:30	D-5	Dissolved Nitrogen	0.7	mg/L
8/11/04	12:30	D-5	Dissolved Oxygen	4.1	mg/l
8/11/04	12:30	D-5	Dissolved Phosphorous	0.0434	mg/L
8/11/04	12:30	D-5	Fecal Coliform	300	MPN/100 ml
8/11/04	12:30	D-5	Metered Salinity	9.5	o/oo
8/11/04	12:30	D-5	Nitrate & Nitrite	< 0.005	mg/L
8/11/04	12:30	D-5	Ortho-Phosphate	< 0.005	mg/L
8/11/04	12:30	D-5	pH	7.5	
8/11/04	12:30	D-5	Temperature	25.9	Deg C
8/11/04	12:30	D-5	Total Coliform	5000	MPN/100 ml
8/11/04	12:30	D-5	Total Nitrogen	0.41	mg/L
8/11/04	12:30	D-5	Total Phosphorous	0.0748	mg/L
8/11/04	12:10	D-7	Ammonia	0.0291	mg/L
8/11/04	12:10	D-7	Ammonia (not distilled)	0.0291	mg/L
8/11/04	12:10	D-7	Dissolved Nitrogen	0.6	mg/L
8/11/04	12:10	D-7	Dissolved Oxygen	2.4	mg/l
8/11/04	12:10	D-7	Dissolved Phosphorous	0.0472	mg/L
8/11/04	12:10	D-7	Fecal Coliform	110	MPN/100 ml
8/11/04	12:10	D-7	Metered Salinity	11.9	o/oo
8/11/04	12:10	D-7	Nitrate & Nitrite	< 0.005	mg/L
8/11/04	12:10	D-7	Ortho-Phosphate	< 0.005	mg/L
8/11/04	12:10	D-7	pH	6.9	
8/11/04	12:10	D-7	Temperature	26.7	Deg C
8/11/04	12:10	D-7	Total Coliform	9000	MPN/100 ml
8/11/04	12:10	D-7	Total Nitrogen	0.7	mg/L
8/11/04	12:10	D-7	Total Phosphorous	0.0981	mg/L
8/11/04	11:45	D-10	Ammonia	0.0525	mg/L
8/11/04	11:45	D-10	Ammonia (not distilled)	0.0525	mg/L
8/11/04	11:45	D-10	Dissolved Nitrogen	0.55	mg/L
8/11/04	11:45	D-10	Dissolved Oxygen	1.8	mg/l
8/11/04	11:45	D-10	Dissolved Phosphorous	0.0494	mg/L
8/11/04	11:45	D-10	Fecal Coliform	< 20	MPN/100 ml
8/11/04	11:45	D-10	Metered Salinity	19.4	o/oo
8/11/04	11:45	D-10	Nitrate & Nitrite	< 0.005	mg/L
8/11/04	11:45	D-10	Ortho-Phosphate	< 0.005	mg/L
8/11/04	11:45	D-10	pH	7.6	
8/11/04	11:45	D-10	Temperature	25.3	Deg C
8/11/04	11:45	D-10	Total Coliform	130	MPN/100 ml
8/11/04	11:45	D-10	Total Nitrogen	0.72	mg/L
8/11/04	11:45	D-10	Total Phosphorous	0.1	mg/L

**AREA 4**

Date	Time	Sample Location	Analyte	Result	Units
6/10/04	9:25	D-1	Ammonia (not distilled)	0.028	mg/L
6/10/04	9:25	D-1	Dissolved Nitrogen	0.93	mg/L
6/10/04	9:25	D-1	Dissolved Phosphorous	0.0355	mg/L
6/10/04	9:25	D-1	Fecal Coliform	20	MPN/100 ml
6/10/04	9:25	D-1	Metered Salinity	18.8	o/oo
6/10/04	9:25	D-1	Nitrate & Nitrite	0.0195	mg/L
6/10/04	9:25	D-1	Ortho-Phosphate	< 0.005	mg/L
6/10/04	9:25	D-1	pH	6.6	
6/10/04	9:25	D-1	Temperature	23	Deg C
6/10/04	9:25	D-1	Total Coliform	40	MPN/100 ml
6/10/04	9:25	D-1	Total Nitrogen	1.1	mg/L
6/10/04	9:25	D-1	Total Phosphorous	0.0723	mg/L
6/10/04	9:45	D-3	Ammonia (not distilled)	0.0756	mg/L
6/10/04	9:45	D-3	Dissolved Nitrogen	0.86	mg/L
6/10/04	9:45	D-3	Dissolved Oxygen	2.6	mg/l
6/10/04	9:45	D-3	Dissolved Phosphorous	< 0.025	mg/L
6/10/04	9:45	D-3	Fecal Coliform	500	MPN/100 ml
6/10/04	9:45	D-3	Metered Salinity	5	o/oo
6/10/04	9:45	D-3	Nitrate & Nitrite	0.251	mg/L
6/10/04	9:45	D-3	Ortho-Phosphate	< 0.005	mg/L
6/10/04	9:45	D-3	pH	6.8	
6/10/04	9:45	D-3	Temperature	20.9	Deg C
6/10/04	9:45	D-3	Total Coliform	1300	MPN/100 ml
6/10/04	9:45	D-3	Total Nitrogen	0.83	mg/L
6/10/04	9:45	D-3	Total Phosphorous	< 0.025	mg/L
6/10/04	10:15	D-7	Ammonia (not distilled)	0.059	mg/L
6/10/04	10:15	D-7	Dissolved Nitrogen	0.88	mg/L
6/10/04	10:15	D-7	Dissolved Phosphorous	< 0.025	mg/L
6/10/04	10:15	D-7	Fecal Coliform	5000	MPN/100 ml
6/10/04	10:15	D-7	Metered Salinity	0.7	o/oo
6/10/04	10:15	D-7	Nitrate & Nitrite	0.197	mg/L
6/10/04	10:15	D-7	Ortho-Phosphate	< 0.005	mg/L
6/10/04	10:15	D-7	pH	6.7	
6/10/04	10:15	D-7	Temperature	22.9	Deg C
6/10/04	10:15	D-7	Total Coliform	5000	MPN/100 ml
6/10/04	10:15	D-7	Total Nitrogen	0.95	mg/L
6/10/04	10:15	D-7	Total Phosphorous	< 0.025	mg/L
8/11/04	10:10	D-3	Ammonia	0.1317	mg/L
8/11/04	10:10	D-3	Ammonia (not distilled)	0.1317	mg/L
8/11/04	10:10	D-3	Dissolved Nitrogen	0.43	mg/L
8/11/04	10:10	D-3	Dissolved Oxygen	2.7	mg/l
8/11/04	10:10	D-3	Dissolved Phosphorous	0.0461	mg/L
8/11/04	10:10	D-3	Fecal Coliform	1100	MPN/100 ml
8/11/04	10:10	D-3	Metered Salinity	18.4	o/oo
8/11/04	10:10	D-3	Nitrate & Nitrite	0.0258	mg/L



8/11/04	10:10	D-3	Ortho-Phosphate	0.008	mg/L
8/11/04	10:10	D-3	pH	7.3	
8/11/04	10:10	D-3	Temperature	25.1	Deg C
8/11/04	10:10	D-3	Total Coliform	16000	MPN/100 ml
8/11/04	10:10	D-3	Total Nitrogen	0.58	mg/L
8/11/04	10:10	D-3	Total Phosphorous	0.117	mg/L
8/11/04	10:25	D-7	Ammonia	0.2005	mg/L
8/11/04	10:25	D-7	Ammonia (not distilled)	0.2005	mg/L
8/11/04	10:25	D-7	Dissolved Nitrogen	1.2	mg/L
8/11/04	10:25	D-7	Dissolved Oxygen	1.9	mg/l
8/11/04	10:25	D-7	Dissolved Phosphorous	0.0377	mg/L
8/11/04	10:25	D-7	Fecal Coliform	500	MPN/100 ml
8/11/04	10:25	D-7	Metered Salinity	2.1	o/oo
8/11/04	10:25	D-7	Nitrate & Nitrite	0.622	mg/L
8/11/04	10:25	D-7	Ortho-Phosphate	< 0.005	mg/L
8/11/04	10:25	D-7	pH	6.9	
8/11/04	10:25	D-7	Temperature	19.7	Deg C
8/11/04	10:25	D-7	Total Coliform	1700	MPN/100 ml
8/11/04	10:25	D-7	Total Nitrogen	2.3	mg/L
8/11/04	10:25	D-7	Total Phosphorous	0.0666	mg/L
8/11/04	10:30	D-7	Ammonia	0.1875	mg/L
8/11/04	10:30	D-7	Ammonia (not distilled)	0.1875	mg/L
8/11/04	10:30	D-7	Dissolved Nitrogen	1.6	mg/L
8/11/04	10:30	D-7	Dissolved Oxygen	1.7	mg/l
8/11/04	10:30	D-7	Dissolved Phosphorous	0.0355	mg/L
8/11/04	10:30	D-7	Fecal Coliform	800	MPN/100 ml
8/11/04	10:30	D-7	Metered Salinity	2.1	o/oo
8/11/04	10:30	D-7	Nitrate & Nitrite	0.591	mg/L
8/11/04	10:30	D-7	Ortho-Phosphate	0.006	mg/L
8/11/04	10:30	D-7	pH	6.8	
8/11/04	10:30	D-7	Temperature	19.7	Deg C
8/11/04	10:30	D-7	Total Coliform	3000	MPN/100 ml
8/11/04	10:30	D-7	Total Nitrogen	0.86	mg/L
8/11/04	10:30	D-7	Total Phosphorous	< 0.025	mg/L
8/11/04	9:50	D-10	Ammonia	0.1052	mg/L
8/11/04	9:50	D-10	Ammonia (not distilled)	0.1052	mg/L
8/11/04	9:50	D-10	Dissolved Nitrogen	0.4	mg/L
8/11/04	9:50	D-10	Dissolved Oxygen	2.7	mg/l
8/11/04	9:50	D-10	Dissolved Phosphorous	0.0484	mg/L
8/11/04	9:50	D-10	Fecal Coliform	3000	MPN/100 ml
8/11/04	9:50	D-10	Metered Salinity	12	o/oo
8/11/04	9:50	D-10	Nitrate & Nitrite	0.0743	mg/L
8/11/04	9:50	D-10	Ortho-Phosphate	< 0.005	mg/L
8/11/04	9:50	D-10	pH	7.1	
8/11/04	9:50	D-10	Temperature	24.6	Deg C
8/11/04	9:50	D-10	Total Coliform	3000	MPN/100 ml
8/11/04	9:50	D-10	Total Nitrogen	0.71	mg/L
8/11/04	9:50	D-10	Total Phosphorous	0.0884	mg/L

**Table 4-6. Estuarine Water Quality**

Date	Time	Station	Diurnal	Depth (ft)	Salinity (o/oo)	Temp (C)	DO (mg/L)	T.Coliform	F.Coliform	NH3 (mg/L)	NOx (mg/L)	TN (mg/L)	TDN (mg/L)	TP (mg/L)	TDP (mg/L)	o-PO4 (mg/L)
								(mpn/100 ml)								
7/15/2003	7:12	WWR001	A	3.0	16.6	24.3	1.0	5,000	500	0.079	0.169	1.3	1.2	0.0658	0.0369	<0.005
7/15/2003	12:28	WWR001	P	4.0	16.4	25.8	7.9	1,300	500	0.008	0.0289	0.46	0.27	0.06	<0.025	0.015
7/15/2003	7:30	WWR002	A	1.5	6.6	21.3	2.5	>16000	9,000	0.199	0.505	1.9	1.7	0.0753	0.0359	<0.005
7/15/2003	12:47	WWR002	P	2.5	13.7	26.9	8.6	2,400	2,400	0.067	0.515	0.58	0.75	0.0416	>0.025	0.007
7/15/2003	7:53	WWR003	A	1.0	3.3	21.2	3.8	2,800	130	0.058	0.421	1.5	1.2	0.0668	0.0406	>0.005
7/15/2003	13:02	WWR003	P	2.0	9.7	26.6	9.6	3,000	110	0.01	0.223	0.64	0.4	0.0445	>0.025	>0.005
7/15/2003	8:07	WWR004	A	1.0	1.1	20.6	5.2	800	300	0.061	>0.005	1.5	1.4	0.0696	0.0507	0.028
7/15/2003	13:13	WWR004	P	2.0	7.2	25.3	11.0	800	220	0.005	0.289	0.69	0.46	0.0508	>0.025	0.024
7/29/2003	13:07	WWR001	A	NR	17.4	28.3	9.3	NR	NR	NR	NR	NR	NR	NR	NR	NR
7/29/2003	18:00	WWR001	P	NR	16.5	29.5	14.6	NR	NR	NR	NR	NR	NR	NR	NR	NR
7/29/2003	12:42	WWR002	A	NR	11.2	26.8	9.4	NR	NR	NR	NR	NR	NR	NR	NR	NR
7/29/2003	18:18	WWR002	P	NR	6.0	27.6	9.6	NR	NR	NR	NR	NR	NR	NR	NR	NR
7/29/2003	12:34	WWR003	A	NR	6.0	26.4	8.1	NR	NR	NR	NR	NR	NR	NR	NR	NR
7/29/2003	18:40	WWR003	P	NR	4.5	27.0	7.0	NR	NR	NR	NR	NR	NR	NR	NR	NR
7/29/2003	12:26	WWR004	A	NR	3.8	25.8	8.2	NR	NR	NR	NR	NR	NR	NR	NR	NR
7/29/2003	19:00	WWR004	P	NR	1.1	25.0	7.2	NR	NR	NR	NR	NR	NR	NR	NR	NR
10/15/2003	8:37	WWR001	NR	4.0	27.9	16.5	7.4	<200	<200	0.014	>0.005	0.26	0.2	>0.025	>0.025	>0.005
10/15/2003	9:35	WWR002	NR	3.0	27.4	16.3	6.8	200	<200	0.01	0.00555	0.29	0.24	0.0461	>0.025	0.009
10/15/2003	10:45	WWR003	NR	3.0	27.9	16.2	7.2	400	200	0.013	>0.005	0.26	0.23	0.04	>0.025	>0.005
10/15/2003	10:55	WWR004	NR	3.0	27.1	16.6	6.8	1,700	400	0.018	0.0137	0.21	0.2	0.0402	0.0765	0.006
10/15/2003	9:05	WWR011	NR	3.0	26.6	16.5	6.5	1,700	200	0.016	>0.005	0.23	0.18	0.117	0.0934	0.007
10/15/2003	9:55	WWR021	NR	3.0	26.5	16.3	6.3	5,000	3,000	0.015	0.111	0.3	0.17	0.132	0.109	0.006
10/15/2003	10:15	WWR022	NR	3.0	26.6	16.3	6.4	1,300	1,300	0.012	0.00818	0.27	0.19	0.118	0.0957	>0.005
9/16/2004	7:30	WWR001	A	NR	14.8	21.2	4.8	5000	1100	0.0148*	0.162	0.19	0.063	0.291	0.13	0.023

9/16/2004	12:20	WWR001	P	NR	25.0	23.1	6.7	230	230	0.0096*	0.0195	0.05	0.05	0.0487	0.0508	0.0086
9/16/2004	7:15	WWR002	A	NR	12.0	21.4	3.9	3500	2200	0.0167*	0.259	0.16	>0.05	0.0453	0.0704	0.0192
9/16/2004	12:05	WWR002	P	NR	27.8	22.5	6.0	170	70	0.0112*	0.0127	<0.05	>0.05	0.0691	0.0552	0.0091
9/16/2004	6:55	WWR003	A	NR	6.7	20.9	2.0	800	800	0.0149*	0.268	0.86	0.09	0.123	0.03	0.0422
9/16/2004	11:53	WWR003	P	NR	26.8	22.7	7.0	800	230	0.0092*	0.0688	0.44	<0.05	0.118	0.0575	0.0164
9/16/2004	6:40	WWR004	A	NR	4.5	19.7	5.0	2400	1300	0.0519*	0.293	0.78	0.038	0.0891	0.0423	0.0554
9/16/2004	11:45	WWR004	P	NR	19.8	22.4	8.3	1300	800	0.0062*	0.224	0.66	0.11	0.163	0.0911	0.0332

**Table 4-7. Estuarine Water Quality Analytes and Standard Values**

<b>Parameter</b>	<b>Standard</b>
1,1,1,2-Tetrachloroethane	0.5
1,1,1-Trichloroethane	0.5
1,1,2,2-Tetrachloroethane	0.5
1,1,2-Trichloroethane	0.5
1,1-Dichloroethane	0.5
1,1-Dichloroethene	0.5
1,1-Dichloropropene	0.5
1,2,3-Trichlorobenzene	0.5
1,2,3-Trichloropropane	0.5
1,2,4,5-Tetramethylbenzene	0.5
1,2,4-Trichlorobenzene	0.2
1,2,4-Trimethylbenzene	0.5
1,2-dibromo-3-chloropropane	0.02
1,2-dibromoethane	0.02
1,2-Dichlorobenzene (o)	0.5
1,2-Dichloroethane	0.5
1,2-Dichloropropane	0.5
1,3,5-Trimethylbenzene	0.5
1,3-Dichloropropane	0.5
1,4-Dichlorobutane	0.5
1-Bromo-2-chloroethane	0.5
2,2-Dichloropropane	0.5
2,3-Dichloropropene	0.5
2-Bromo-1-chloropropane	0.5
2-Butanone (MEK)	20
2-Chlorotoluene	0.5
3-Chlorotoluene	0.5
4,4 DDD	0.2
4,4 DDE	0.2
4,4 DDT	0.2
4-Chlorotoluene	0.5
Acenaphthene	0.2
Acenaphthylene	0.2
Acetochlor	0.2
Acrylonitrile	0.5
Alachlor	0.5
Aldrin	0.2
Allethrin	0.2
Allyl chloride	0.5
Alpha - BHC	0.2
Anthracene	0.5
Atrazine	0.2
Azoxystrobin	0.5
Benfluralin	0.5
Benzene	0.5
Benzo(a)anthracene	0.5

Benzo(b)fluoranthene	0.2
Benzo(ghi)perylene	0.2
Benzo(k)fluoranthene	0.2
Benzo-a-pyrene	0.2
Benzophenone	0.2
Benzyl butyl phthalate	0.2
Beta - BHC	0.2
bis(2-ethylhexyl) adipate	0.5
bis(2-ethylhexyl) phthalate	2
Bloc	0.2
Bromacil	0.5
Bromobenzene	0.5
Bromochloromethane	0.5
Bromodichloromethane	0.5
Bromoform	0.5
Bromomethane	0.5
Butachlor	0.2
Butylated Hydroxyanisole	0.5
Butylated Hydroxytoluene	0.2
Caffeine	0.5
Carbamazepine	0.2
Carbon disulfide	0.5
Carbon tetrachloride	0.5
Carisoprodol	0.2
Chlordane	1
Chlorobenzene	0.5
Chlorodibromomethane	0.5
Chlorodifluoromethane	0.5
Chloroethane	0.5
Chlorofenvinphos	0.2
Chloroform	0.5
Chloromethane	0.5
Chlorothalonil	1
Chloroxlenol	0.2
Chlorpyrifos	0.2
Chrysene	0.2
cis-1,2-Dichloroethene	0.5
cis-1,3-Dichloropropene	0.5
Cyanazine	0.2
Cyfluthrin	0.2
Cypermethrin	0.5
d-Limonene	0.5
Dacthal	0.2
Delta - BHC	0.2
Deltamethrin	0.5
Diazinon	0.2
Dibenzo(a,h)anthracene	0.2
Dibromomethane	0.5
Dibutyl phthalate	1

Dichlorbenil	0.2
Dichlorodifluoromethane	0.5
Dichlorvos	0.5
Dieldrin	0.2
Diethyl ether	0.5
Diethyl phthalate	1
Diethyltoluamide (DEET)	0.2
Dimethyl phthalate	0.2
Dimethyldisulfide	0.5
Dinoseb	0.5
Dioctyl phthalate	0.2
Disulfoton	0.5
Disulfoton sulfone	0.2
Endosulfan I	0.2
Endosulfan II	0.2
Endosulfan Sulfate	0.2
Endrin	0.2
Endrin aldehyde	0.2
EPTC	0.2
Ethenylbenzene (Styrene)	0.5
Ethofumesate	0.2
Ethyl parathion	0.2
Ethylbenzene	0.5
Ethylmethacrylate	0.5
Fluoranthene	0.2
Fluorene	0.2
Freon 113	0.5
Gamma - BHC	0.2
Gemfibrozil	0.5
Heptachlor	0.2
Heptachlor epoxide	0.2
Hexachlorobenzene	0.2
Hexachlorobutadiene	0.2
Hexachlorocyclopentadiene	1
Ibuprofen	0.2
Indeno(1,2,3-cd)pyrene	0.2
Iodofenphos	0.2
Iprodione	0.5
Isofenphos	0.5
Isopropylbenzene	0.5
Kelthane	0.5
m,p-Dichlorobenzene	0.5
m-Xylene	0.5
Malathion	0.5
Metalaxyl	0.2
Methacrylonitrile	0.5
Methoprene	0.2
Methoxychlor	0.2
Methyl isothiocyanate	2

Methyl parathion	0.2
Methyl sulfide	0.5
Methyl-tertiary-butyl-ether	0.5
Methylene chloride	0.5
Methylmethacrylate	0.5
Metolachlor	0.2
Metribuzin	0.2
n-Butylbenzene	0.5
n-Propylbenzene	0.5
Naled (Dibrom)	0.2
Naphthalene	0.2
Napropamide	0.2
o-Xylene	0.5
p-Diethylbenzene	0.5
p-Isopropyltoluene	0.5
p-Xylene	0.5
Pendimethalin	0.2
Pentachlorobenzene	0.2
Pentachloronitrobenzene	0.2
Permethrin	0.2
Phenanthrene	0.2
Piperonyl butoxide	0.5
Prometon	0.5
Prometryne	0.2
Propachlor	0.2
Propiconazole	0.2
Pyrene	0.5
Resmethrin	0.2
sec-Butylbenzene	0.5
Simazine	0.2
Sumithrin	0.2
Tebuthiuron	0.5
Terbacil	0.5
Terbufos	0.2
tert-Amyl-Methyl-Ether	0.5
tert-Butyl-Ethyl-Ether	0.5
tert-Butylbenzene	0.5
Tetrachloroethene	0.5
Tetrahydrofuran	20
Toluene	0.5
Total Chlorotoluene	0.5
Total Xylene	0.5
trans-1,2-Dichloroethene	0.5
trans-1,3-Dichloropropene	0.5
Triadimefon	0.5
Trichloroethene	0.5
Trichlorofluoromethane	0.5
Triclosan	0.2
Trifluralin	0.5

Vinclozolin	0.5
Vinyl chloride	0.5
1,1,1,2-Tetrachloroethane	0.5



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