

**Monthly Report: May 2017**

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**To:**

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16 May 2017

**By:**

Jamie Duberstein

USACE Savannah District:

Please see the bulleted list below for the major actions and accomplishments associated with Cooperative Agreement Number W912HZ-14-2-0002 (Modification Number P00003) for the month of May 2017.

Please let me know if you would like me to elaborate on the details of any items I've listed below, or if there are any status updates you'd like on unlisted topics.

Thank you,

Jamie

### Marsh Vegetation

- The June synoptic vegetation sample is scheduled to begin 24 June.

### Water Data

- Data from all water sensors were downloaded on 24 and 25 May.
- We were not able to provide an updated salinity table this month. The June report will have that information. Our efforts were focused on acquiring and configuring equipment to enable real-time access to data for the belowground sensor at Back 3.5
- There haven't been any data losses since January. In fact, eight days' worth of data were recovered from the Back 3 aboveground sensor by downloading all the way back to January (see April report: Table 2).
- A new wellpoint (*i.e.*, with thin slits) aboveground well pole was installed on the aboveground monitoring well at Middle 2. The old one was warped. No data were compromised by the slight warpage.
- Aside from the sensor at Swamp 2, all belowground sensors (Aquatroll 200) were cleaned and calibrated immediately after data were downloaded. All other sensors will be calibrated in June.
- A "spot check" of belowground salinity conditions were measured using a YSI Pro30 handheld salinity meter during the May sensor download. Salinity values were compared to those measured via Aquatrolls (Table 1).

### Forest monitoring

- Monthly measurements of baldcypress tree growth were last taken on 25 May at the swamp monitoring areas.
- Average basal area increase since last measurement:
  - Swamp 1: 2.9 cm<sup>2</sup> (19 April – 25 May)
  - Swamp 2: 3.0 cm<sup>2</sup> (19 April - 25 May)
  - Swamp 3: 2.6 cm<sup>2</sup> (19 April - 25 May)

Table 1. Comparison of belowground salinity measurements taken May 2017 via autonomous sensors (In-Situ Aquatrolls) versus a "spot check" measured via handheld YSI salinity meter (units: parts per thousand = ppt). Reports typically provide summaries of hourly Aquatroll measurements of salinity as practical salinity units (psu) though measurements of total dissolved solids as parts per thousand (ppt) are also collected. Here we report both Aquatroll measurements to facilitate comparisons with handheld YSI measurements. Accuracy of the handheld YSI meter is 0.1 (ppt), while accuracy of the Aquatrolls is 0.001 (psu, ppt); Aquatroll values were rounded to the nearest 0.1 to facilitate comparisons.

Site	Aquatroll Total			YSI Measurement Time	Aquatroll Measurement Time
	Aquatroll Salinity (psu)	Dissolved Solids (ppt)	YSI "spot check" (ppt)		
Back 1	0.2	0.2	0.2	05/24/2017 11:06	05/24/2017 11:00
Back 2	0.3	0.4	0.3	05/24/2017 11:38	05/24/2017 11:00
Back 3	1.0	1.2	0.9	05/25/2017 09:23	05/25/2017 09:00
Back 3.5	2.3	2.7	2.2	05/25/2017 08:58	05/25/2017 08:00
Back 4	3.4	4.0	3.2	05/25/2017 08:06	05/25/2017 08:00
Front 1	0.3	0.4	0.3	05/25/2017 12:11	05/25/2017 12:00
Front 2	1.7	2.0	1.7	05/25/2017 12:48	05/25/2017 12:00
Middle 1	0.5	0.7	0.5	05/24/2017 10:16	05/24/2017 10:00
Middle 2	1.3	1.6	1.2	05/24/2017 09:48	05/24/2017 09:00
Middle 3	1.8	2.2	1.9	05/24/2017 09:14	05/24/2017 09:00
Middle 4	4.7	5.4	4.8	05/25/2017 10:03	05/25/2017 10:00
Middle 5	1.7	2.1	1.9	05/25/2017 10:29	05/25/2017 10:00
Swamp 1	0.1	0.1	0.1	05/25/2017 16:41	05/25/2017 16:00
Swamp 2	0.2	0.2	0.2	05/25/2017 15:45	05/25/2017 15:00
Swamp 3	0.2	0.3	0.2	05/25/2017 11:31	05/25/2017 11:00