



STORMWATER TREATMENT AREAS

Technical Oversight Committee Update

5/31/11

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Water Quality Treatment Technologies Division

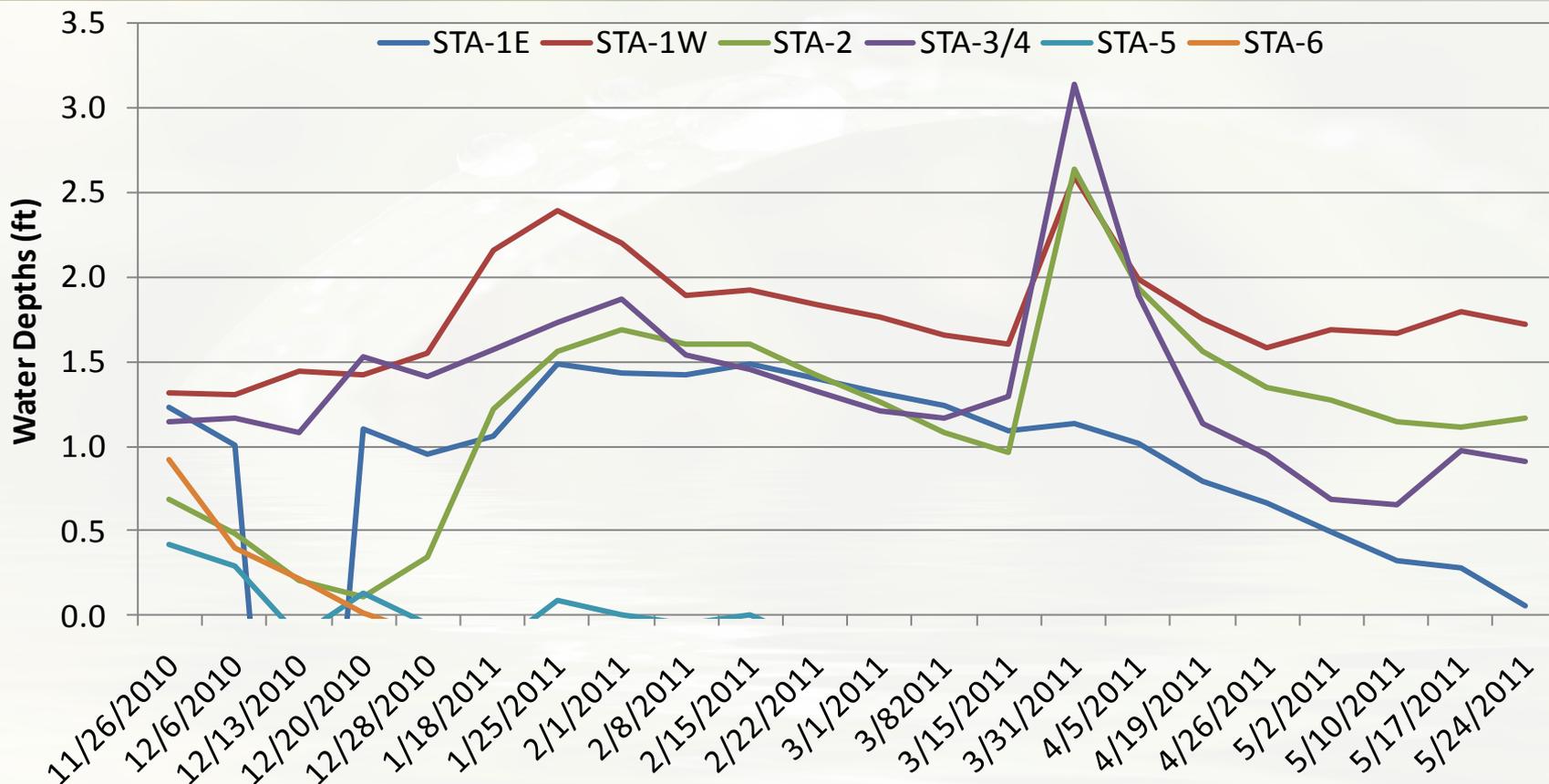
STA Performance

(May 1, 2010 – April 30, 2011)*

| STA | Inflow Flow (ac-ft) | Inflow FWM TP (ppb) | Outflow Flow (ac-ft) | Outflow FWM TP (ppb) | Interim Effluent TP Limit (ppb) |
|---------|------------------------|------------------------|-------------------------|----------------------------|---------------------------------------|
| STA-1E | 37,139 | 111 | 25,675 | 22 | 20 |
| STA-1W | 126,628 | 151 | 126,793 | 25 | 27 |
| STA-2 | 172,691 | 72 | 158,476 | 15 | 21 |
| STA-3/4 | 303,194 | 70 | 298,825 | 16 | 22 |
| STA-5 | 26,015 | 159 | 24,561 | 45 | 40 |
| STA-6 | 72,160 | 112 | 72,522 | 25 | 28 |

*These results include provisional data and are subject to change.

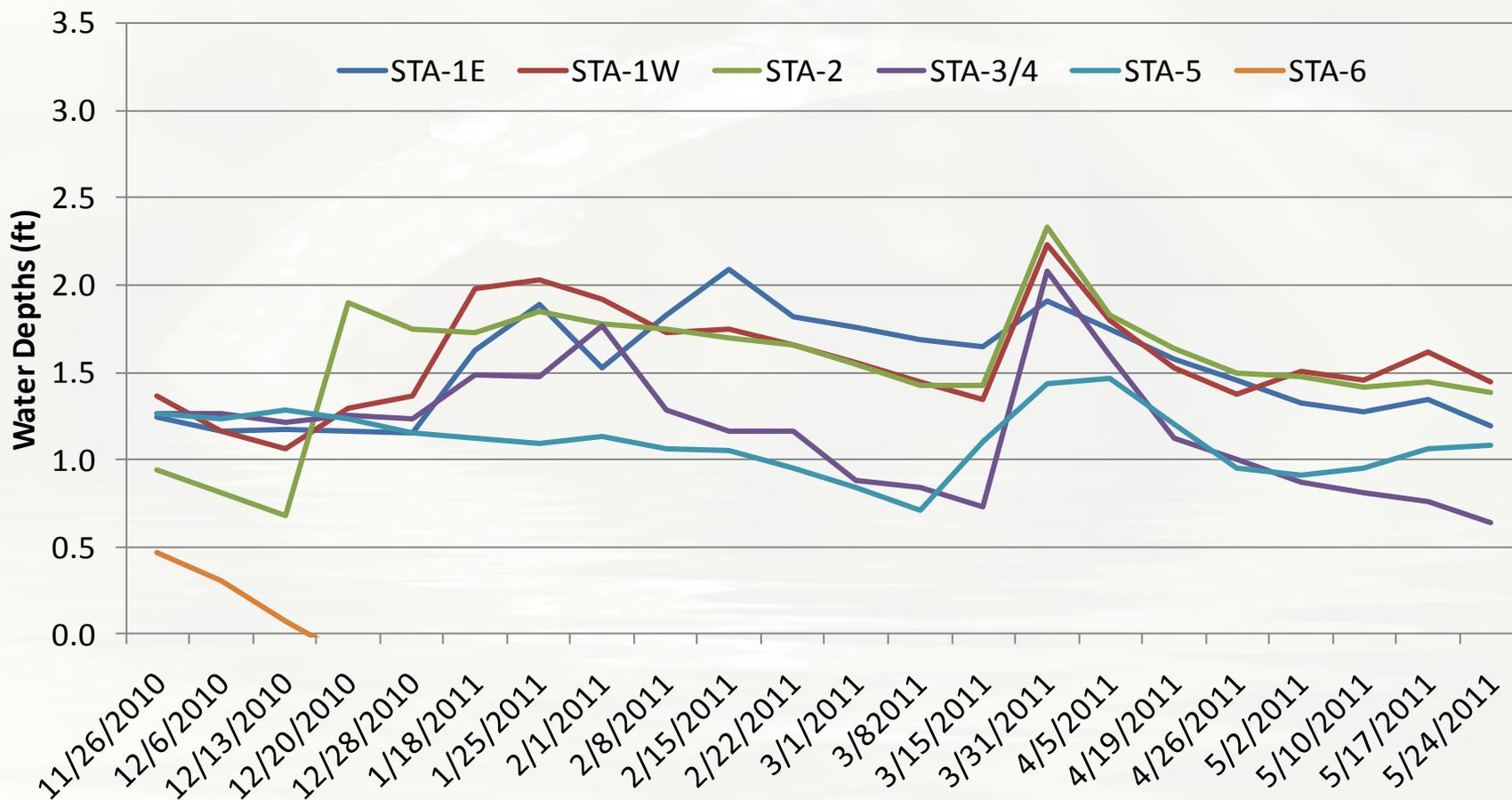
Emergent Cell Water Depths for 2011 Dry Season



*Excludes STA-3/4 Cell 1A

SAV Cell

Water Depths in 2011 Dry Season



*STA-2 Cell 4 excluded due to Compartment B Buildout; STA-5 Cell 3B excluded due to Compartment C Buildout

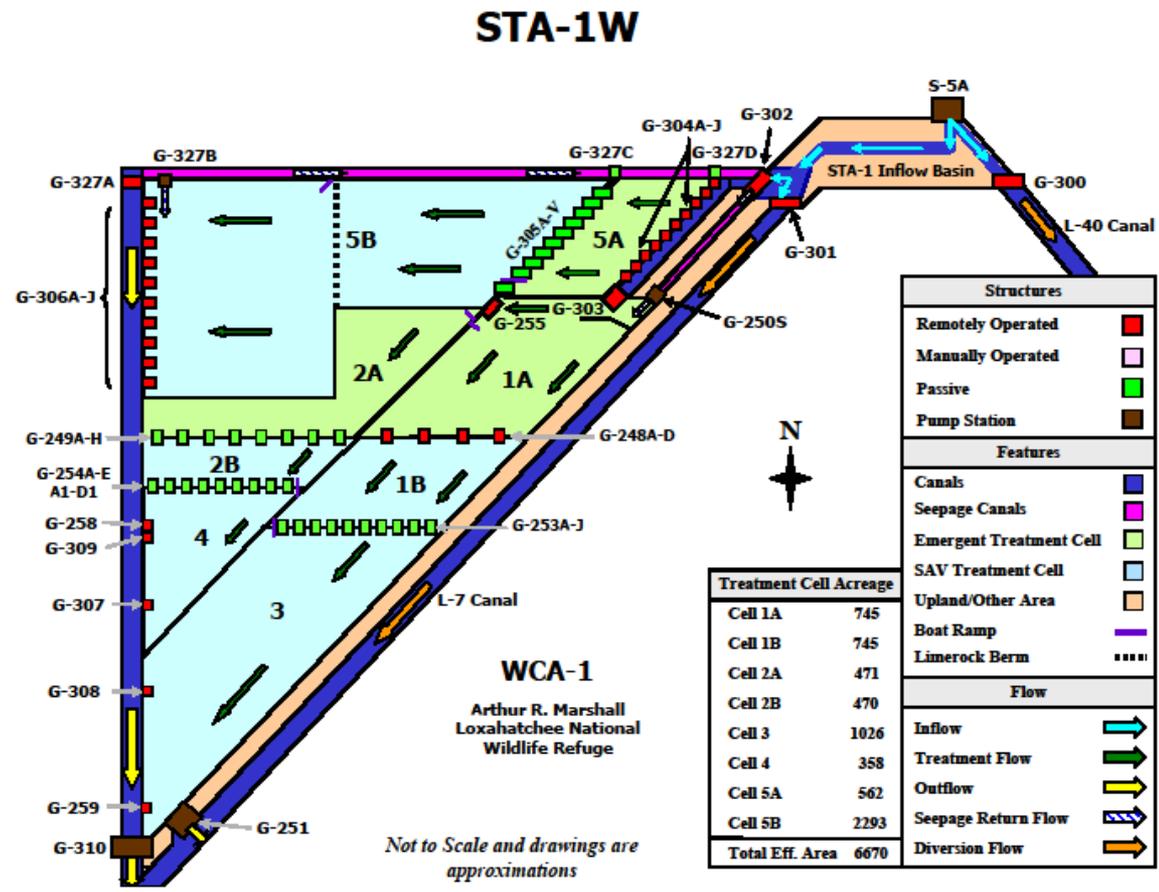
Giant Bulrush Planting Efforts



- Survey in the past month indicates successful establishment of giant bulrush planted by the District's Vegetation Management team in various STA areas
 - On vegetation strips within SAV cells
 - In deep non-vegetated areas



STA - 1W



STA-1W Hydraulic Short Circuit Fix



- Soil plug was installed to eliminate short-circuiting and improve treatment through Cell 3
- ~50 % of flow was going through the old borrow canal



Bird Nesting Status - 2011

| STA | Latest Survey | # nests | Affected Cells |
|--------------|---------------|---------|------------------------------|
| STA-1E | 5/18/11 | 16 | EDC, Cells 3 & 4S |
| STA-1W | 5/9/11 | 86 | Cells 2B & 4 |
| STA-2/Comp B | 5/20/11 | 22 | Cells 4 & 6 |
| STA-3/4 | 5/13/11 | 126 | Cells 1A, 2A, 2B, 3A, & PSTA |
| STA-5 | 5/16/11 | 9 | Cells 1A, 2B, & 3A |
| STA-6 | 5/5/11 | 1 | Section 2 |



Evaluating Vegetation Types



- Mesocosm study to examine P removal efficacy and mechanism sustainability for six vegetation types under a low-P condition
 - Overall objective: to find the optimal vegetation type and mix to further reduce STA outflow concentration
 - Cattails, sawgrass, water lily, *Eleocharis*, SAV, mixed species
- Conducting a field trial for water lily transplanting methods in the upper and bottom portions of STA flow path

Evaluating Effects of Extreme Hydrologic Conditions on Cattails

- Controlled studies completed to determine effects of dryout and deep water on cattails, and find early warning indicators on impacts of these conditions
- Field evaluations
 - Study in STA-1E Cell 7 was completed; report and publications in preparation
 - Evaluation of effects of drawdown in re-establishment of cattails in STA-3/4 Cell 1A; ongoing

Sediment and Phosphorus Accretion

| STA/Cells | Accrued Soil Depth (cm) | Soil Accrual Rate (cm/yr) | Phosphorus Accrual Rate (g/m ² /year) |
|----------------------------------|-------------------------|---------------------------|--|
| STA-1W Cells 5A & 5B | 12 ± 5.5 | 1.2 ± 0.55 | 2 ± 1.2 |
| STA-2 Cells 1-4 | 11 ± 3.3 | 1.1 ± 0.3 | 1.9 ± 0.9 |
| STA-3/4 Cells 1A, 1B, 2A, and 2B | 10 ± 4.6 | 1.7 ± 0.77 | 3.3 ± 2 |



Thank You

