Everglades STA Vegetation Recovery

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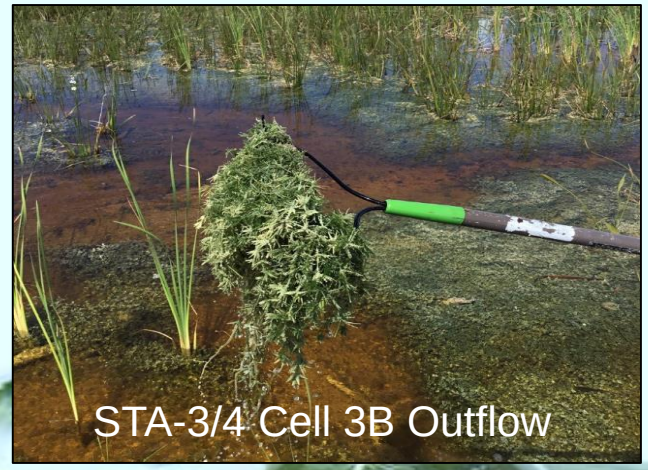
16th Annual Public Meeting on the Long-Term Plan for Achieving Water Quality Goals for the Everglades Protection Area Tributary Basins
February 25, 2019

STA Recent Events


Hurricane Irma Sept. 10, 2017

- Unnamed storm – June 2017
- Hurricane Irma – September 2017
  - High inflow volumes and TP loads to all STAs


STA-3/4 Cell 3B Outflow

- Various post-storm assessments throughout STAs
  - Aerial flights
  - Ground surveys
    - Coverage and health assessments
    - Water depths
    - Turbidity measurements

STA Vegetation Recovery

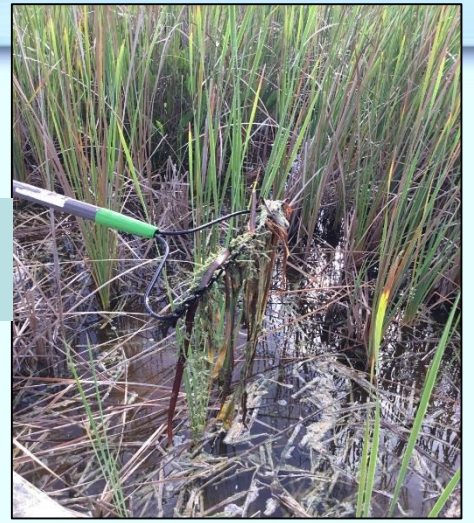
- STAs have been closely monitored since events of 2017
- Storm damage to Submerged Aquatic Vegetation (SAV) observed

Rafts of dislodged SAV within EAV edges in STA-1W Cell 5B after Hurricane Irma

Floating EAV material likely a result of high water depths in STA-3/4 2A

SAV Coverage Classifications

STA-3/4 Cell 3B
Sept 2018

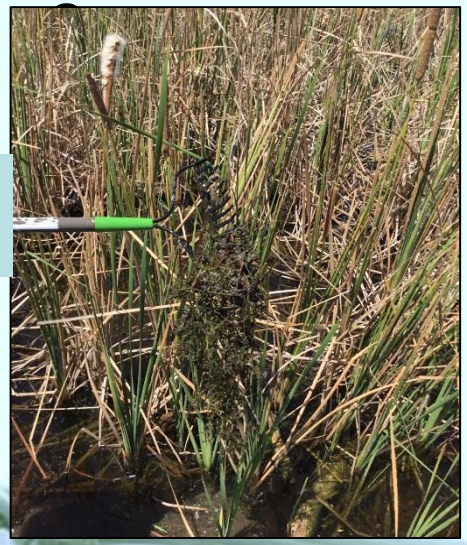


Low SAV

Medium SAV Coverage

High SAV Coverage

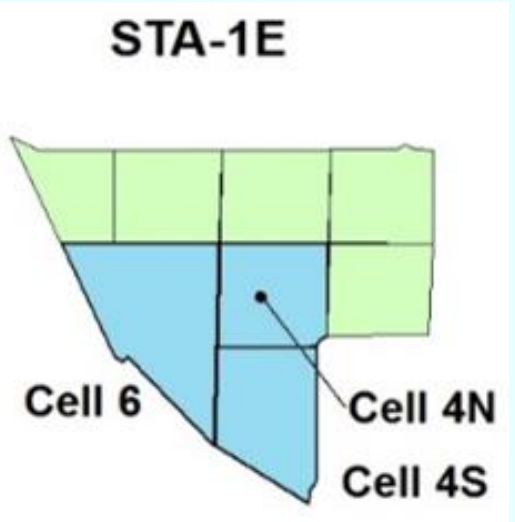
STA-2 Cell 5
April 2018



STA-1E Cells 4N and 4S SAV Conditions

STA-1E 4N east-central region

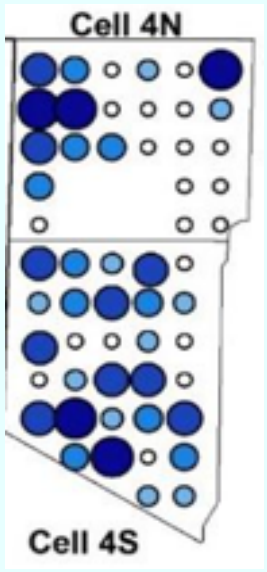
- Dominant vegetation types remain as *Hydrilla* and *Ceratophyllum*
- Overall SAV coverages have improved spatially and in relative densities



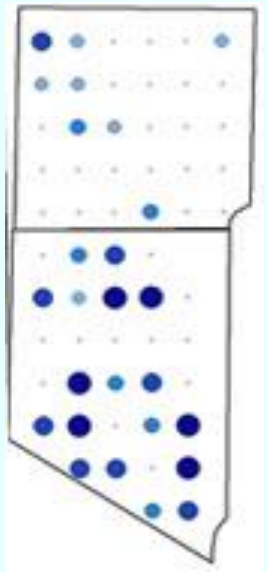
STA-1E 4S outflow

- Dense *Chara* beds found at outflow of Cell 4S
- *Utricularia foliosa* observed
- Turbidity has declined

STA-1E Cells 4N and 4S SAV Coverages



6/29/17



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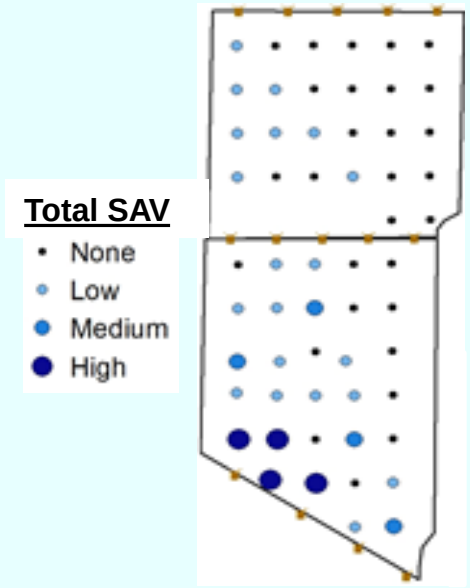
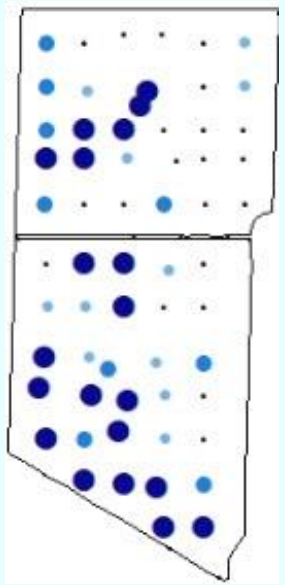
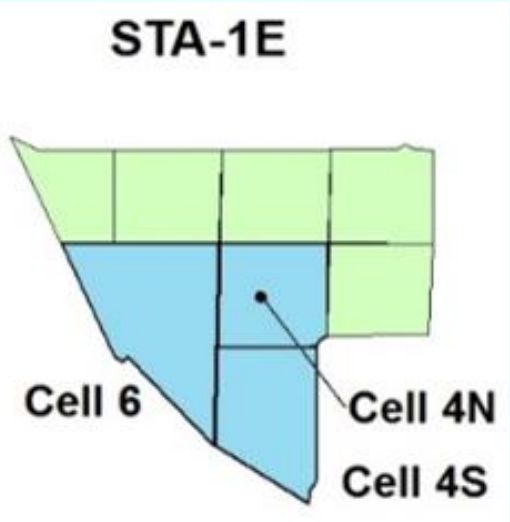


2/27/18



10/8/18

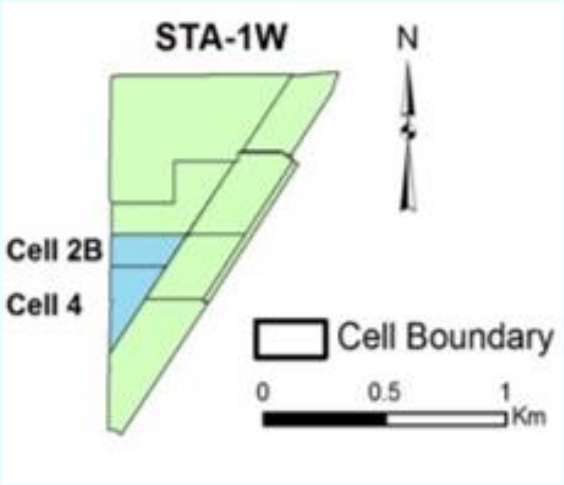


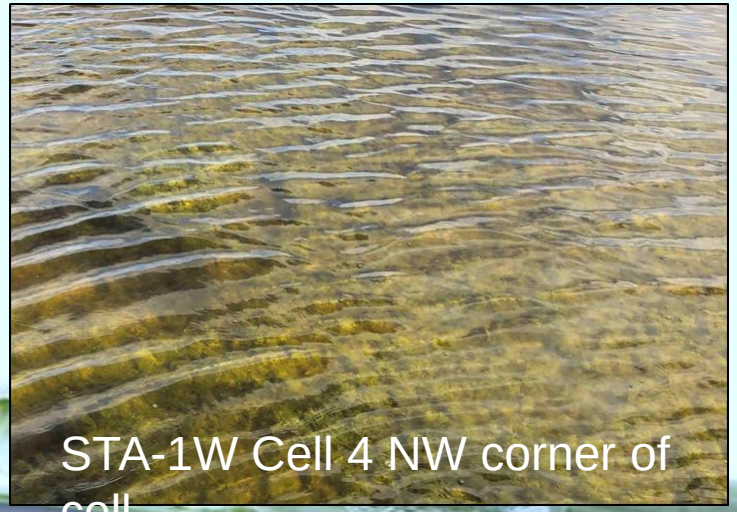
- SAV density and coverages have increased
- *Hydrilla* and *Ceratophyllum* remain dominant species
- High coverages have returned to Cells 4N

STA-1W Cells 2B and 4 SAV Conditions


STA-1W Cell 2B Central location

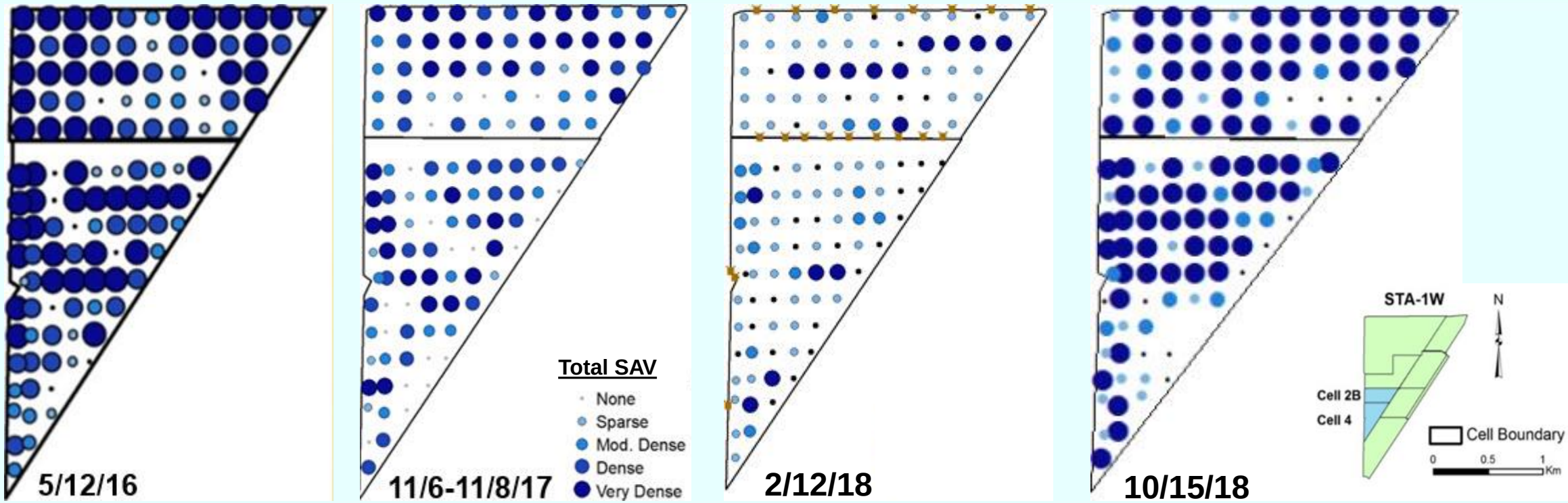
- Cell 2B-Dominant vegetation type remains *Ceratophyllum,* with some *Najas marina*
- Overall SAV coverages and densities have increased




STA-1W Cell 4 NW corner of cell

- Cell 4-Dominant vegetation type remains *Chara,* with some *Najas guad. a*nd *Ceratophyllum*
- SAV appeared stressed, frequently covered in algae

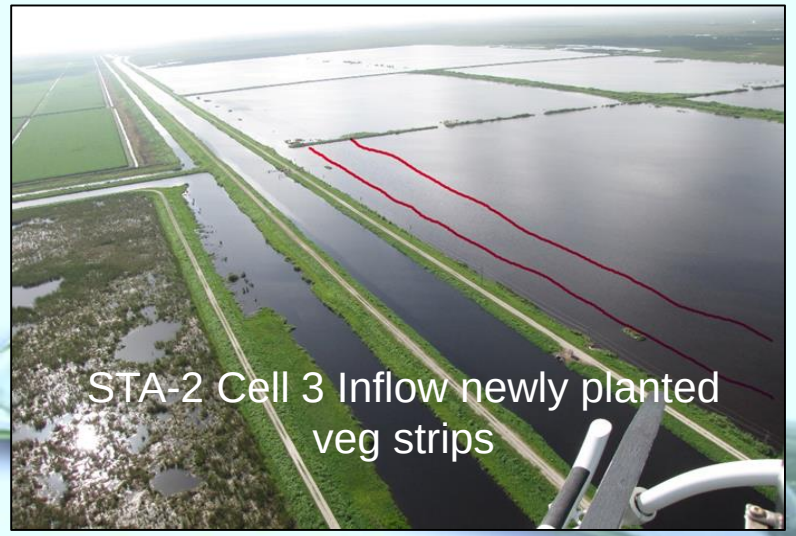
STA-1W Cells 2B and 4 SAV Coverages



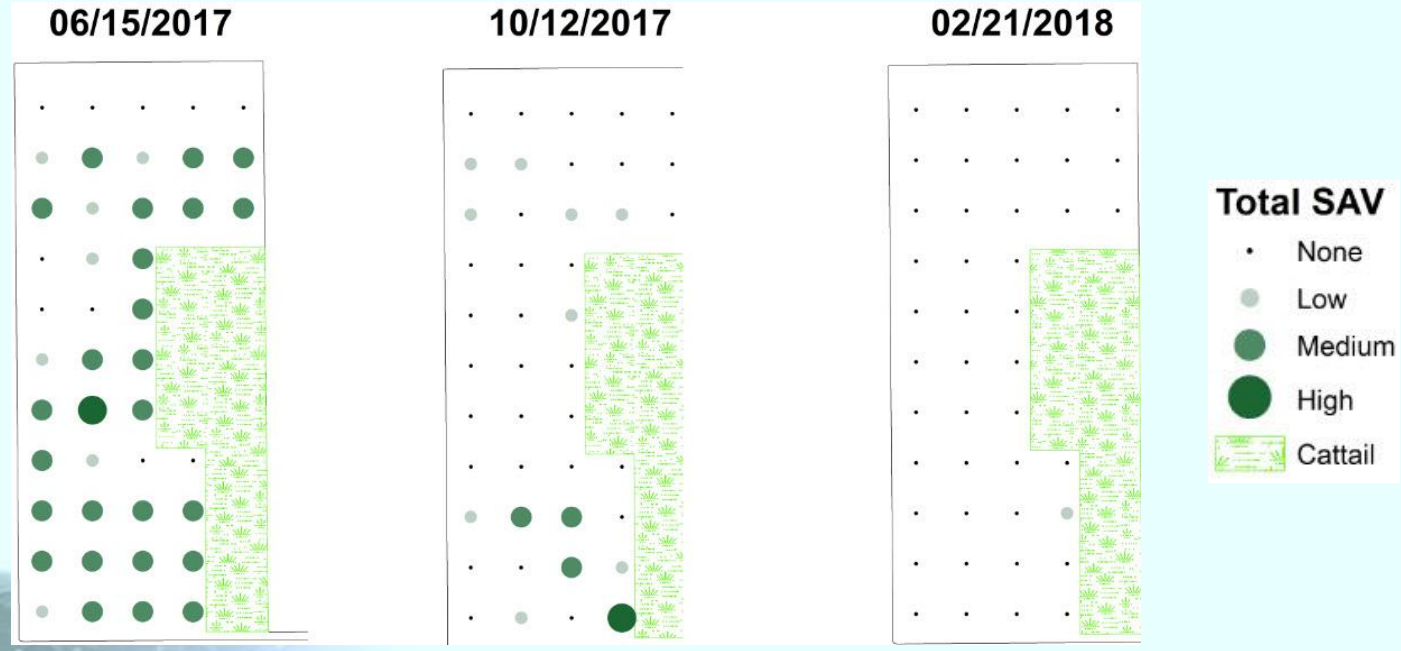
- SAV has returned to pre-Hurricane Irma density and coverage
- *Ceratophyllum* dominant species in Cell 2B, *Chara* dominant species in Cell 4

STA-2 Cell 3 SAV Conditions and Coverage


STA-2 Cell 3 Outflow region


STA-2 Cell 3 Inflow newly planted veg strips

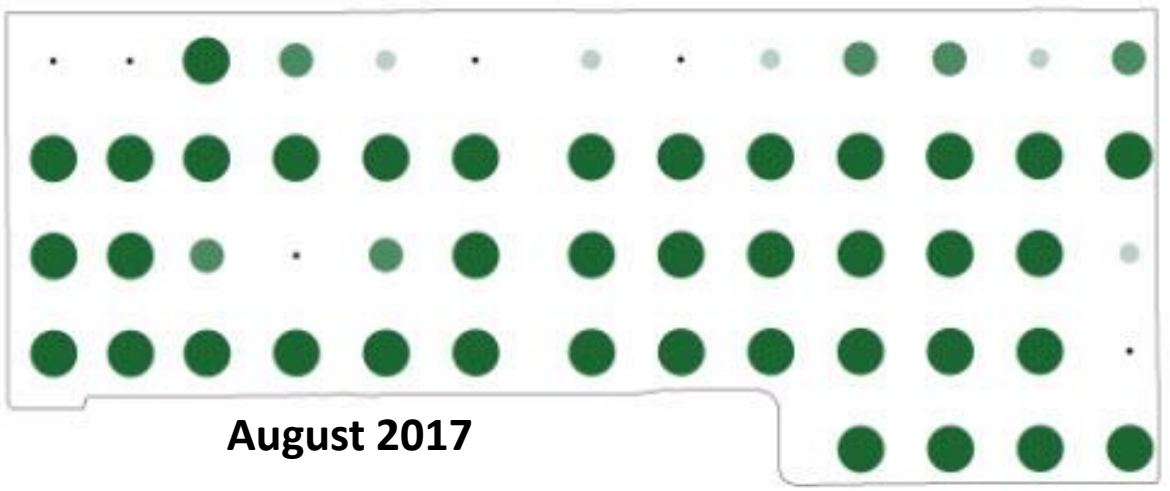
- Cell 3-Almost 100% loss of SAV throughout cell
- One location near outflow low coverage of *Najas marina*
- Cell undergoing major rehabilitation to restore SAV and incorporate vegetation strips



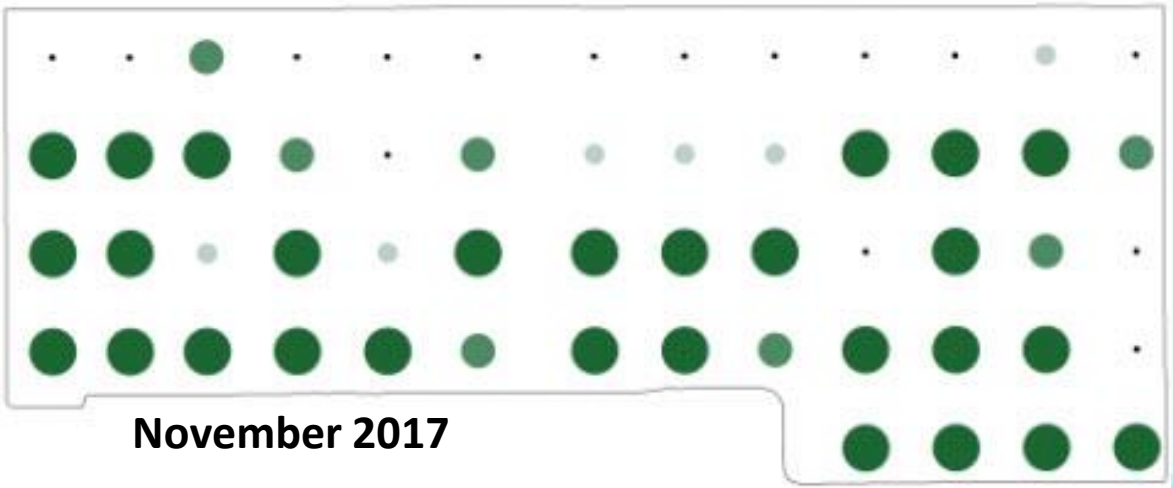
STA-3/4 Cell 3B SAV Conditions

- SAV appears to be recovering well
- *Chara* recovering more quickly than other species
- Highest densities near outflow regions

STA-3/4 Cell 3B SAV Coverage

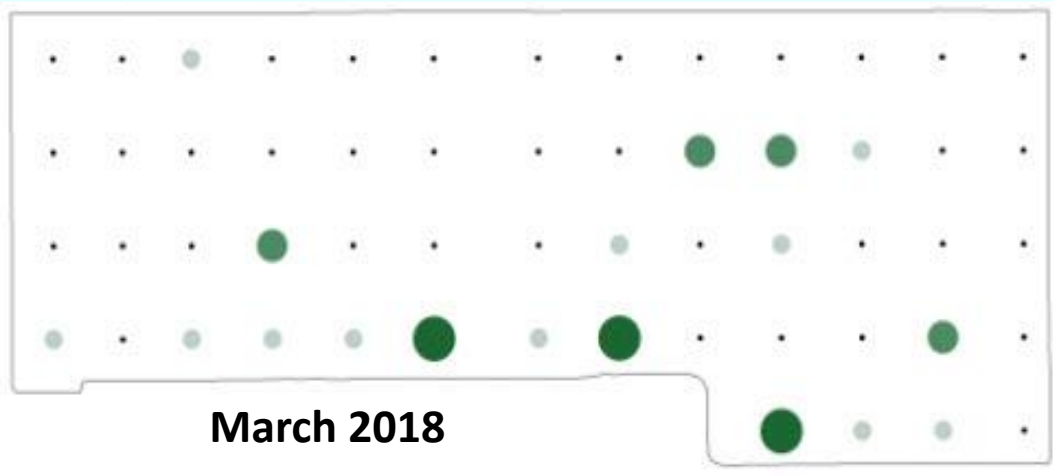


August 2017

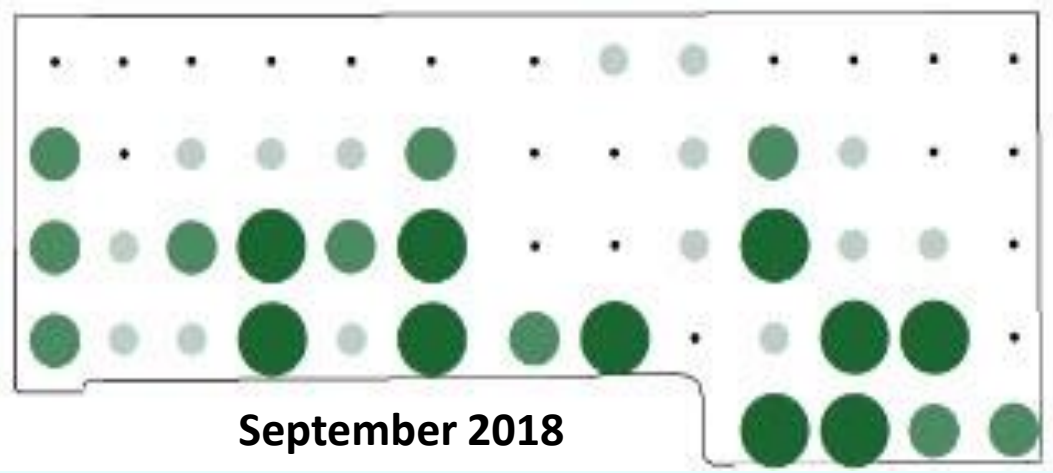


November 2017

Total SAV
- None
- Low
- Medium
- High



March 2018

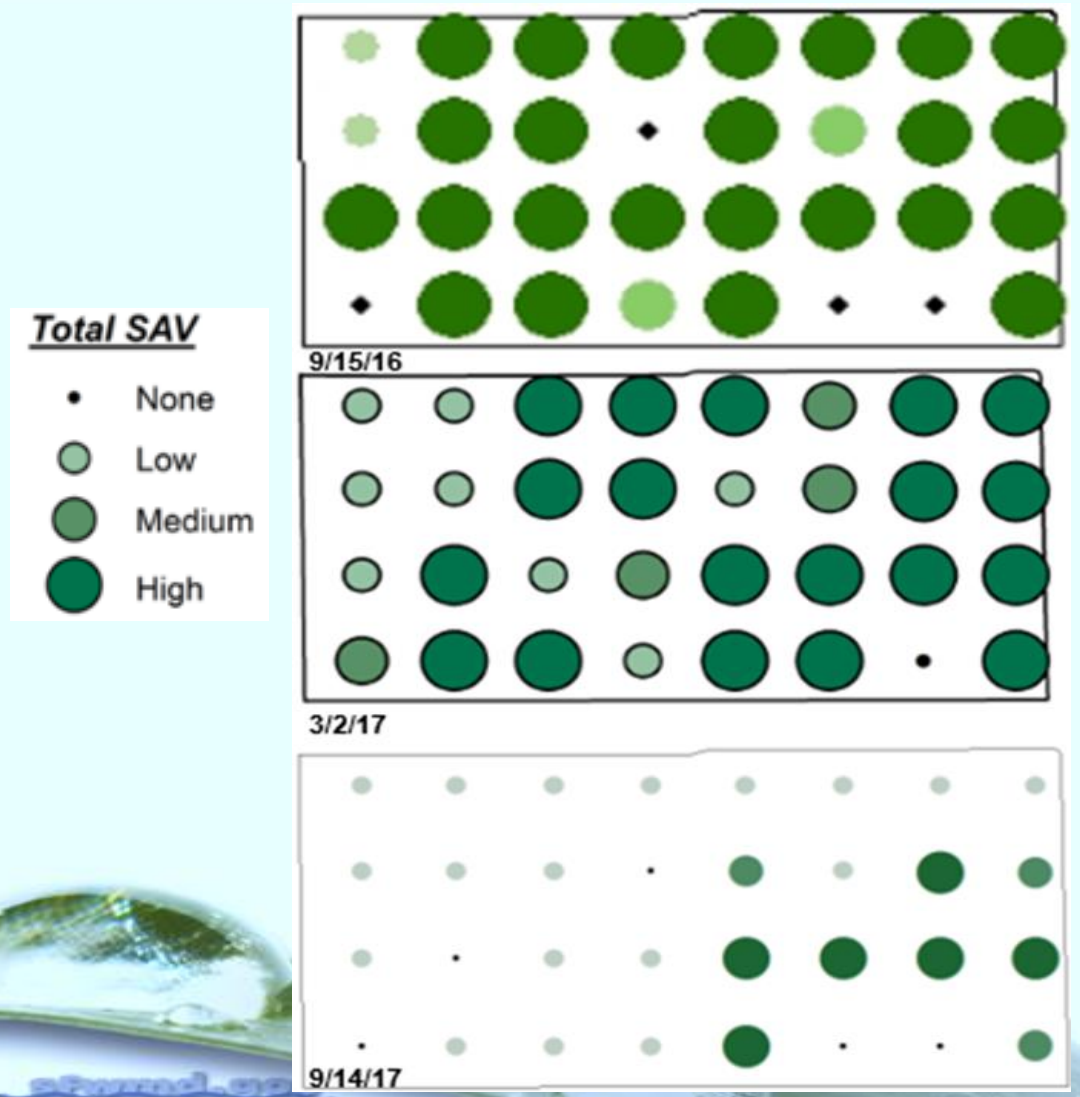


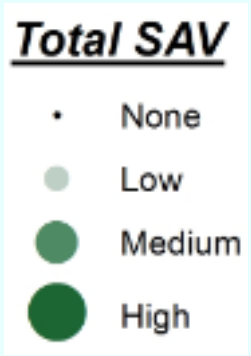
September 2018

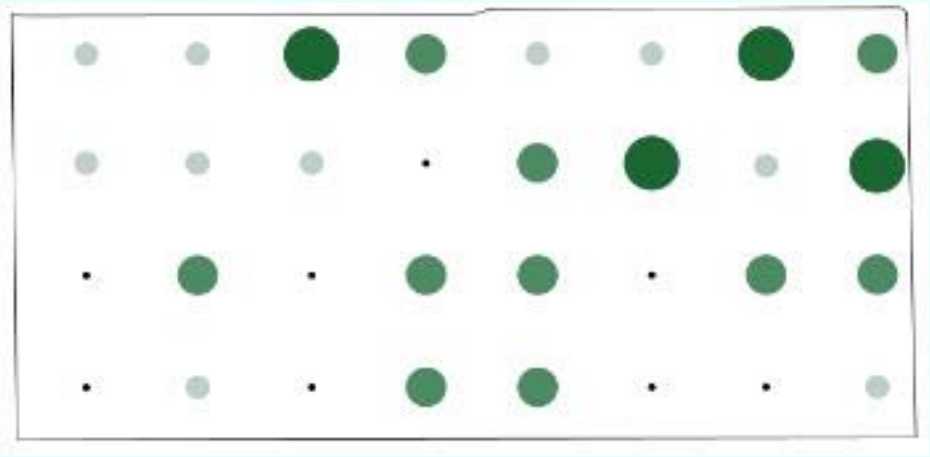
STA-5/6 Cell 1B SAV Conditions

- *Hydrilla* most common, with *Ceratophyllum* and *Najas guad*
- SAV is recovering well
- *Hydrilla* recovering more quickly than other species
- Highest densities near mid-flow and outflow regions

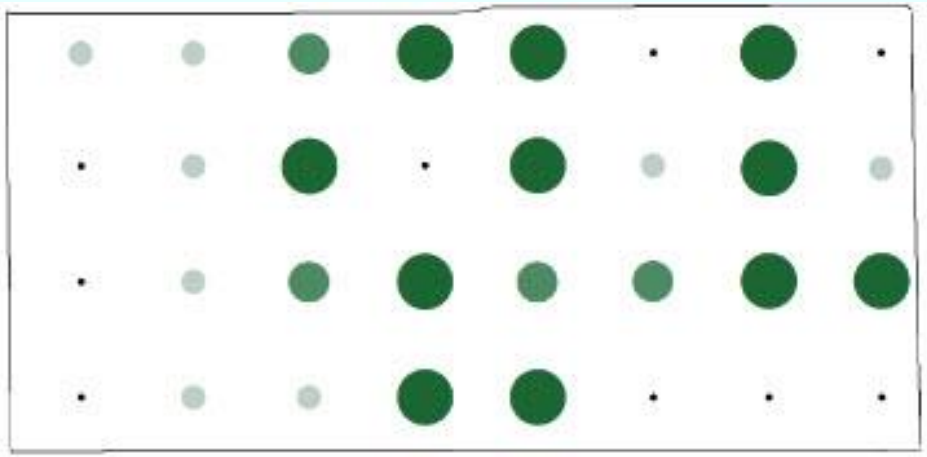
STA-5/6 Cell 1B SAV Coverage







March 2018



October 2018

Summary of STA SAV Conditions
(as of October 2018)

- STA-1E Cells 4N and 4S - Coverages and densities increased
- STA-1W Cells 2B and 4 - Coverages and densities increased
- STA-2 Cell 3 – SAV has not recovered; major vegetation rehabilitation ongoing
- STA-3/4 Cell 3B - SAV is slowly recovering; densities and coverages increased
- STA-5/6 Cell 1B- Coverages and densities increased

Questions

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