

SFWMD Stormwater Treatment Area Program: Vegetation Management in STA's

Recreation Forum of the SFWMD
September 13, 2021



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Mandated Water Quality Improvements

- Everglades Forever Act (1994)
 - Directs SFWMD to construct and operate Storm Water Treatment Areas
 - Objective: Use biological and physical wetland processes to remove surface water nutrients (phosphorus) prior to entering the Everglades



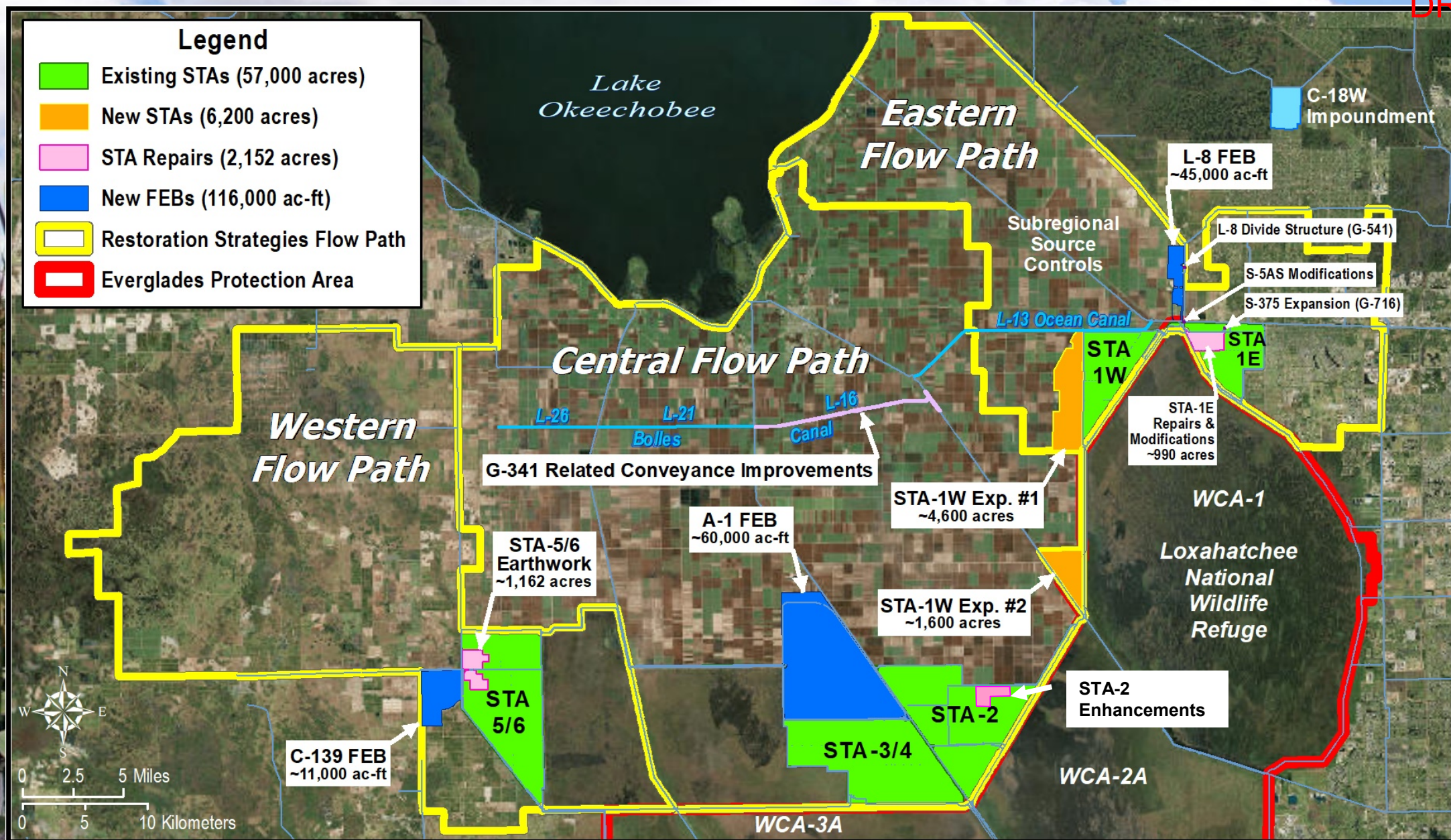
STA-3/4 Pump Station

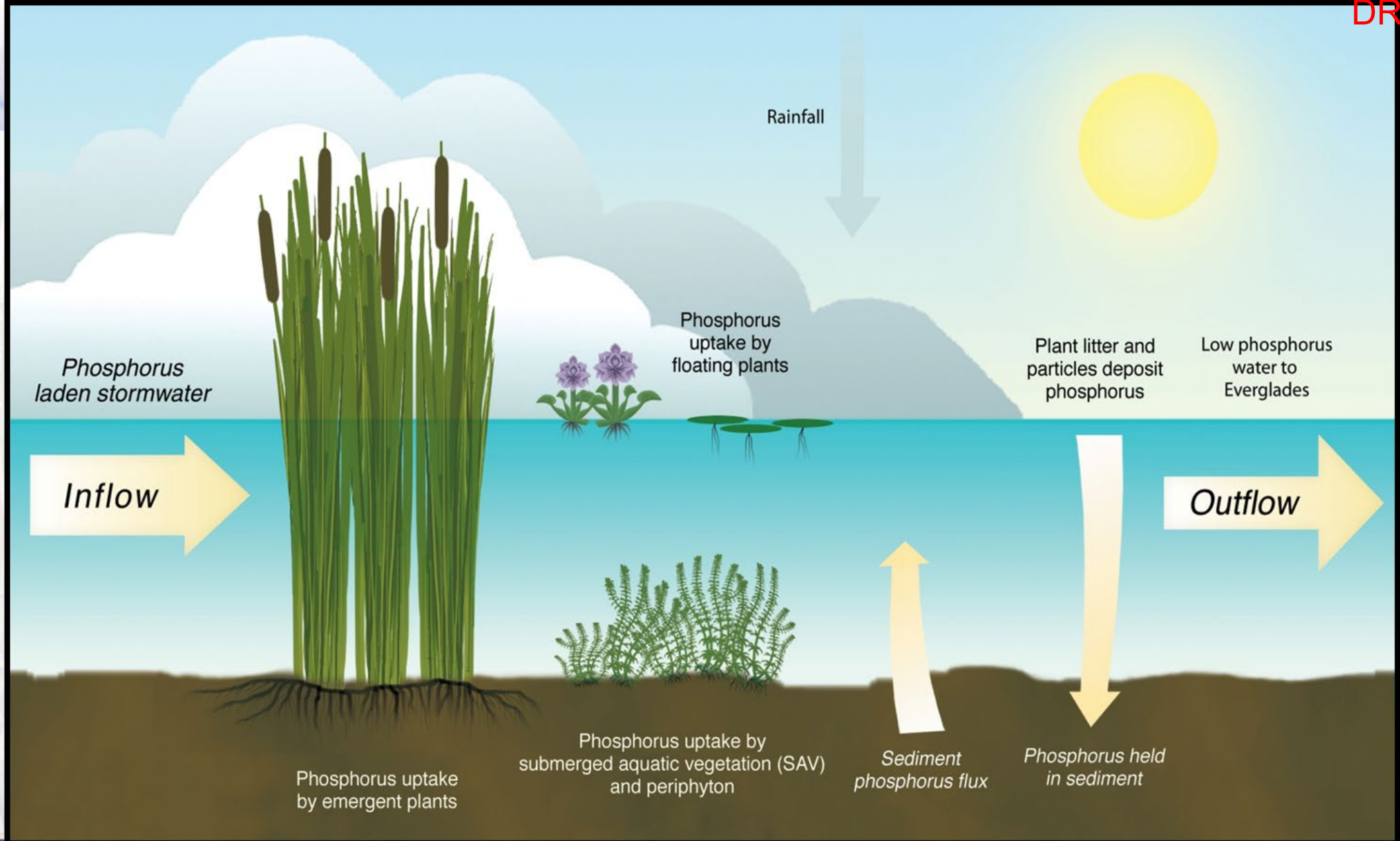
Nature-Based Recreation

- Most popular activities
 - Hunting
 - Fishing
 - Birdwatching
 - Hiking/Biking
 - Star Gazing



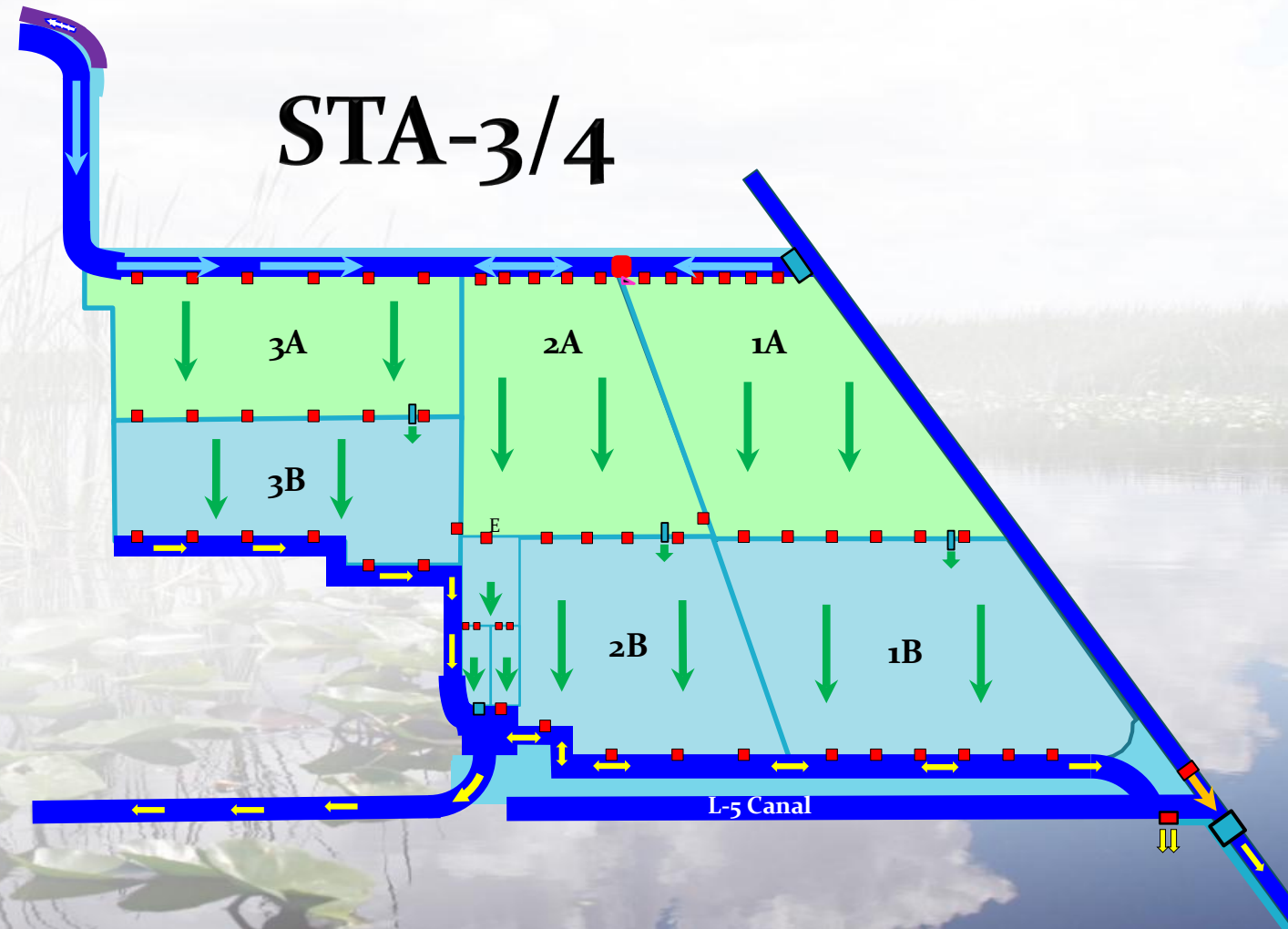
STA waterfowl hunters





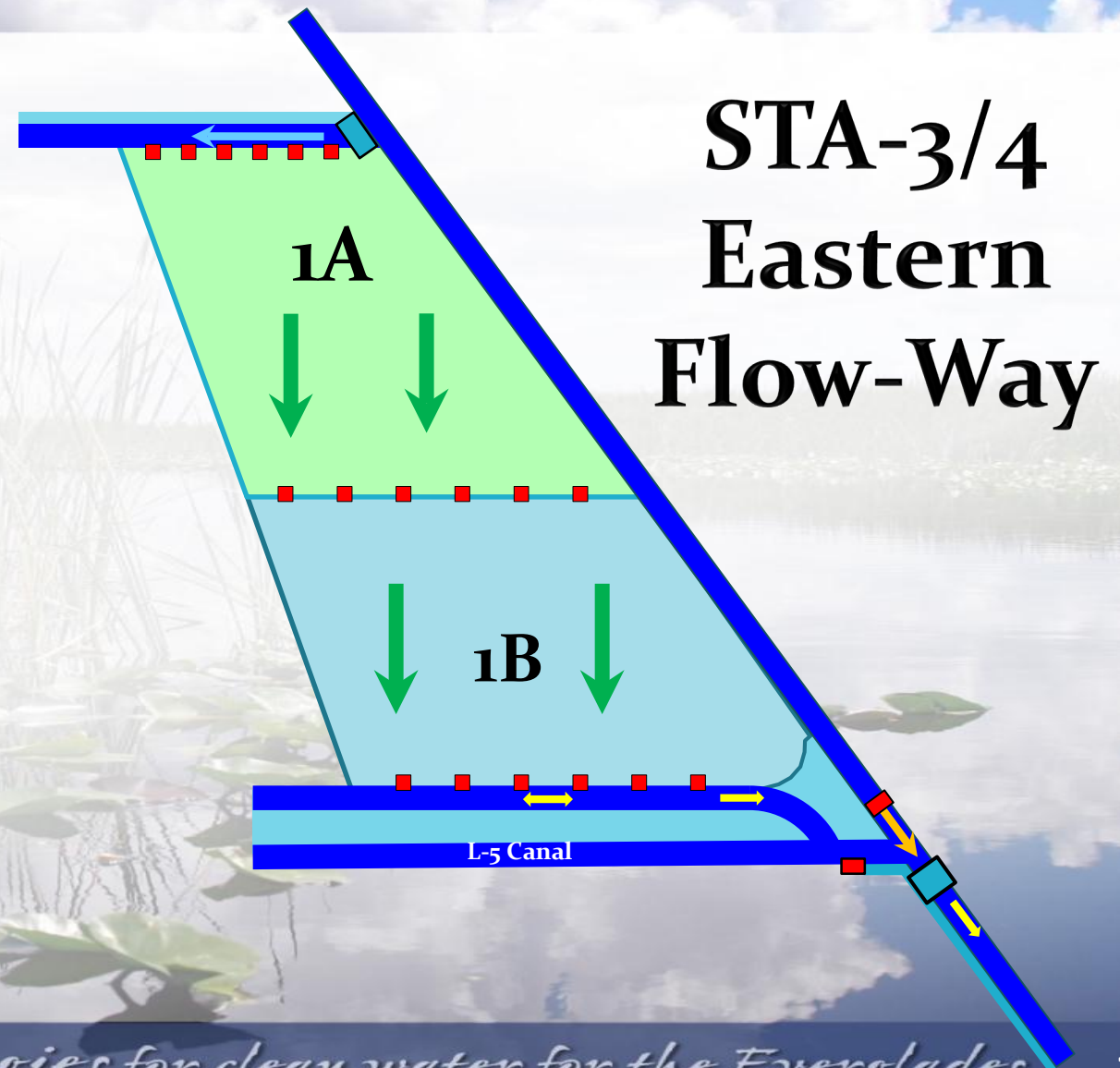
STA Principals and Design

- Each STA consists of multiple flow-ways
- Flow-ways begin with emergent vegetation (e.g., cattail)
- Flow-ways end with mixed marsh (mainly submerged plants)



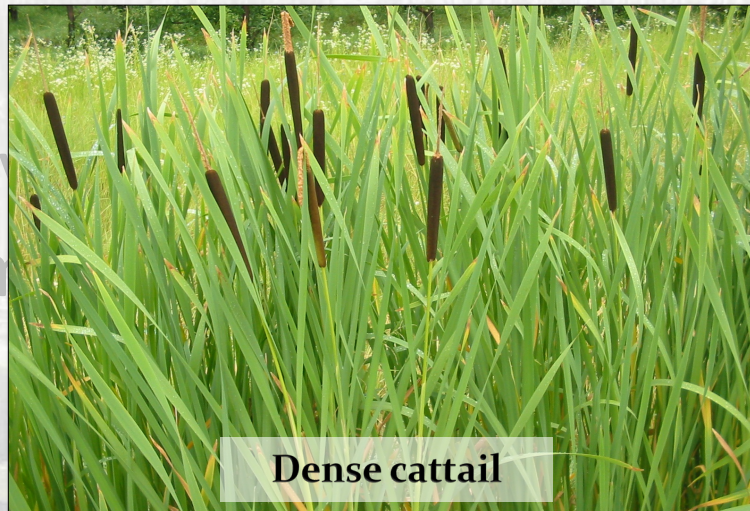
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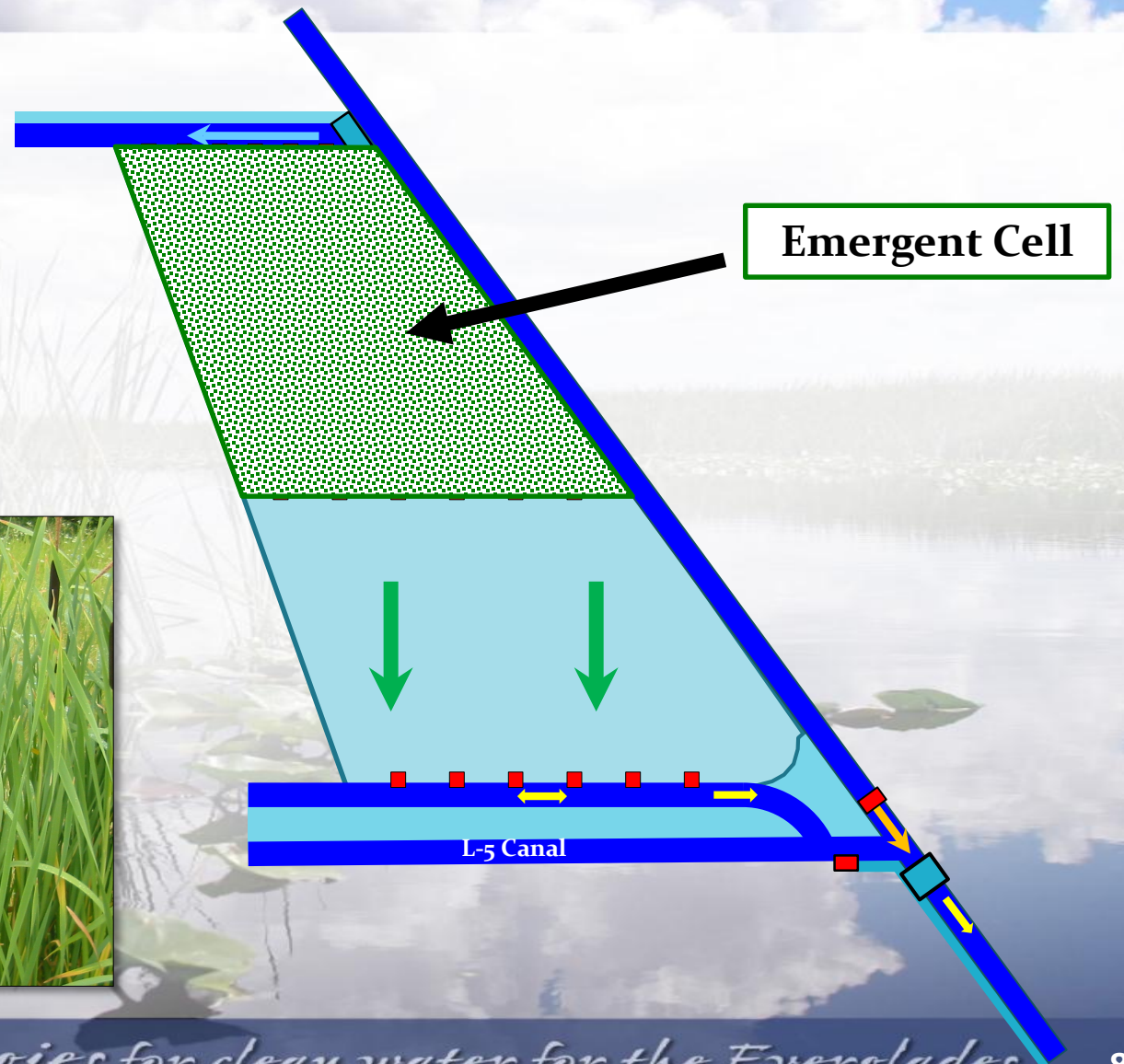


STA Principals and Design

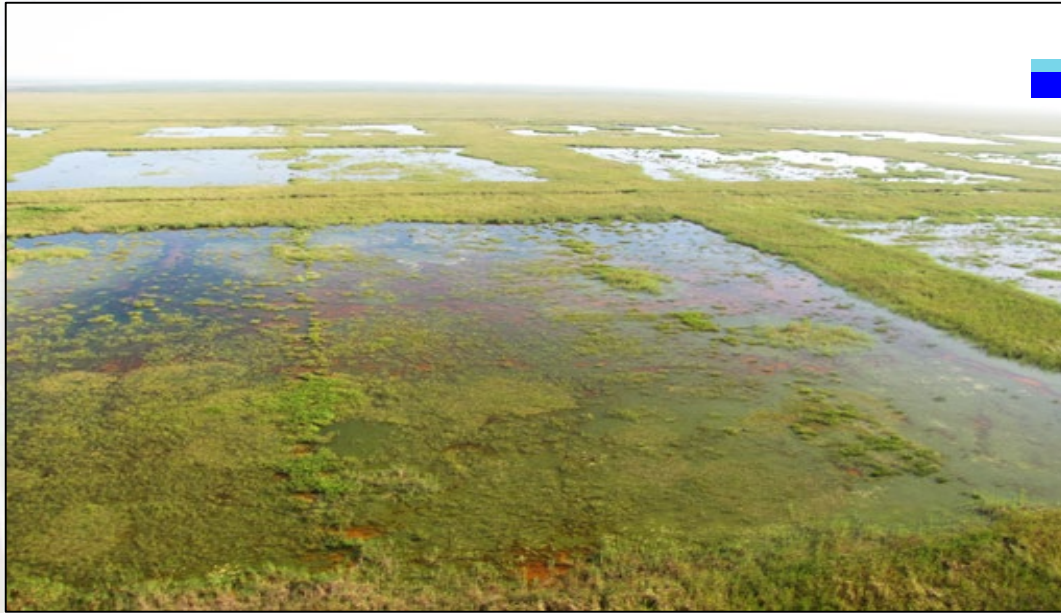
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- Flow-ways end with a marsh (native plants)



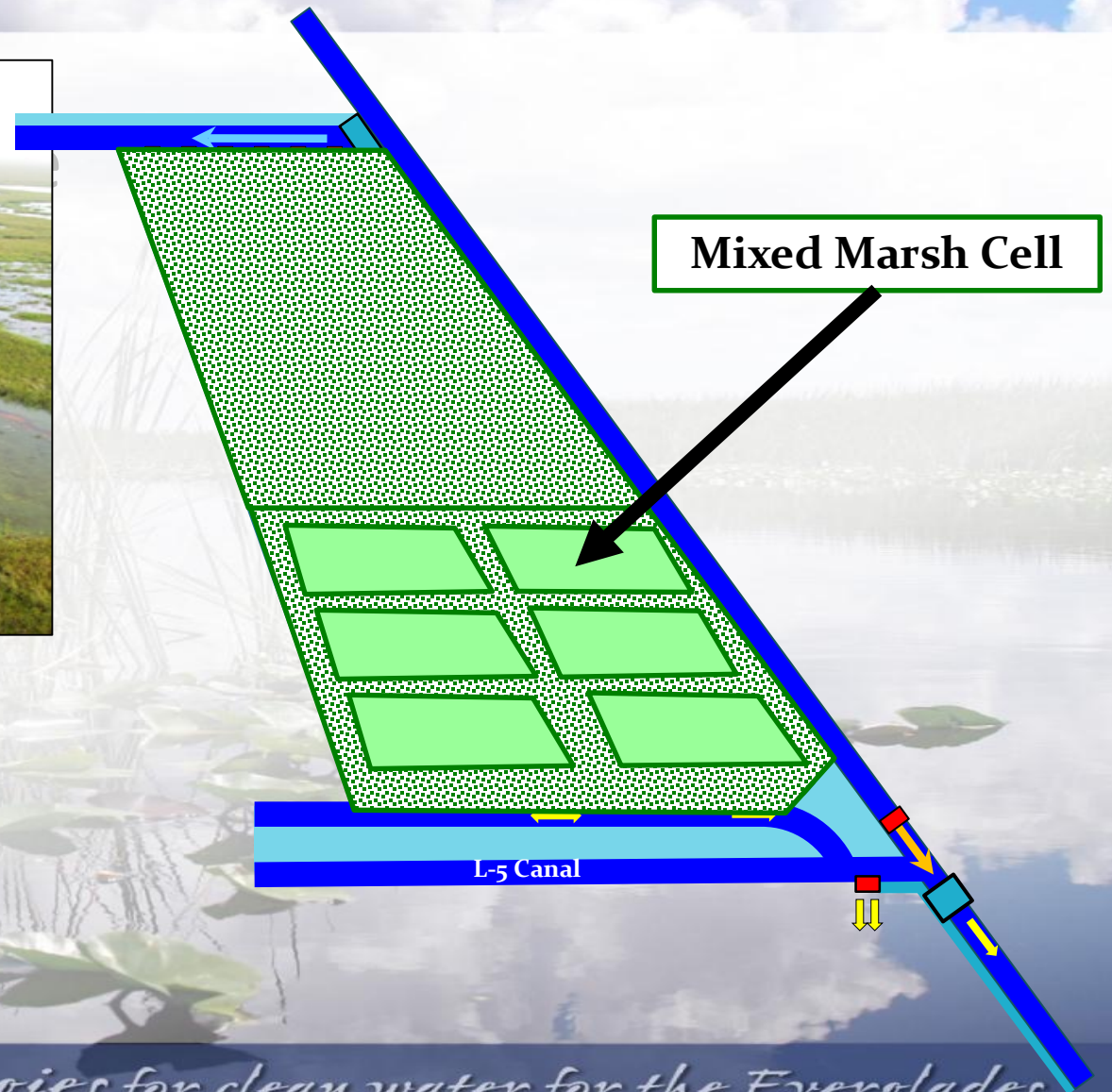
Dense cattail



STA Principals and Design



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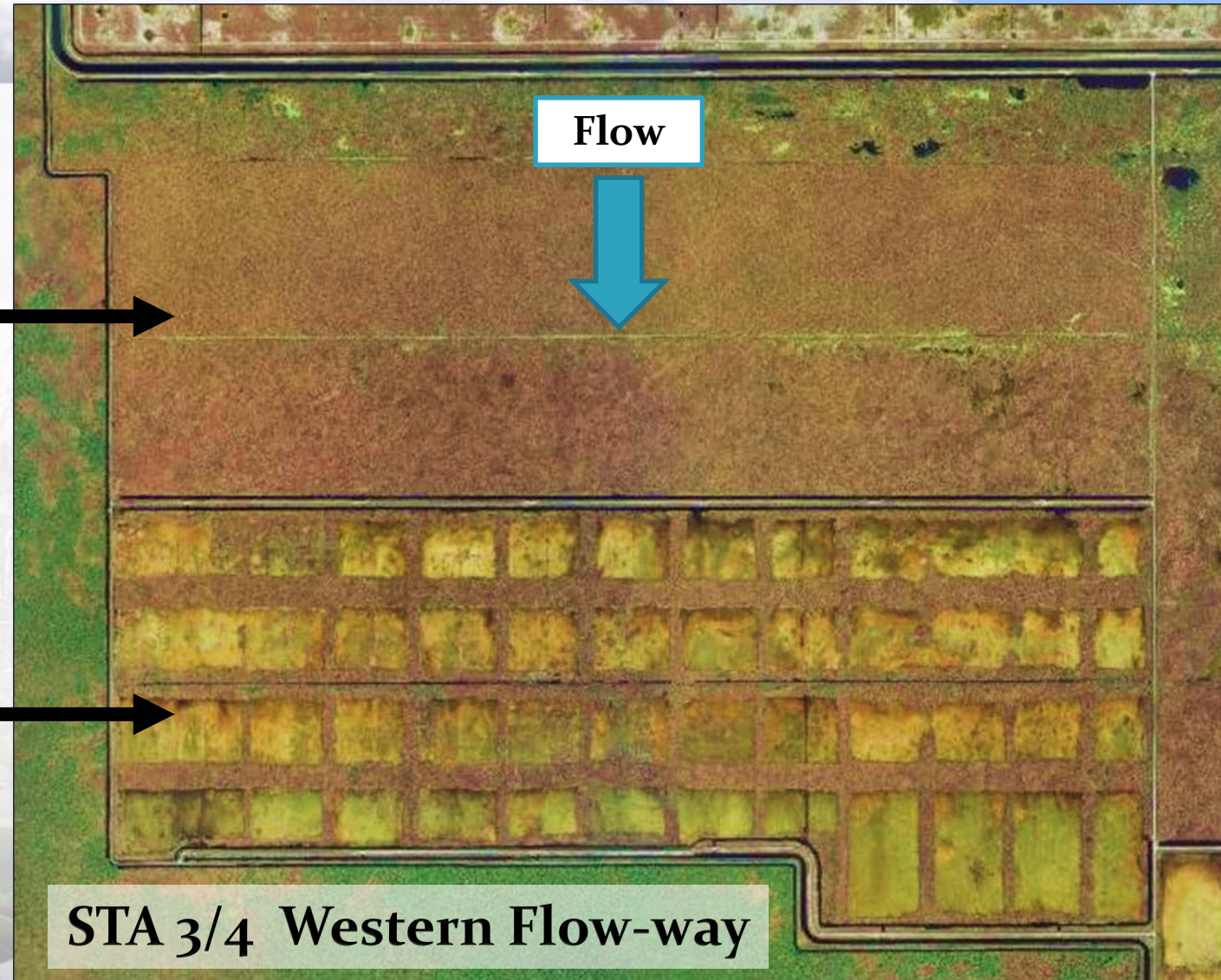
Model Flow-Way

Upstream Cell

- Dense emergent vegetation
- Even flow and distribution
- Maximum sedimentation

Downstream Cell

- Mixed emergent and submerged vegetation
- “Vegetation strips” for SAV stabilization and even flow distribution



STA Ecosystem Optimization– An ongoing process

- Start-up of new STA's
 - Vegetation establishment
 - Erosion control
- Control undesirable vegetation
 - Invasive and nuisance plant species
- Restore damaged vegetation and topography from natural and human causes
 - storms, high flow events, boat traffic, wildlife damage, etc.



Planting emergent vegetation in open water areas

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Floating aquatic plants clog structures and shade out desirable submerged vegetation

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Fill and grade in STA-1E Western Flow-way

Short circuits reduce STA performance



Flow short circuit

Replanting Short Circuits



Replanting Short Circuits



New Access Strategy for STA Waterfowl Hunting



Previous Access Point

New
Access
Point



Discussion

