



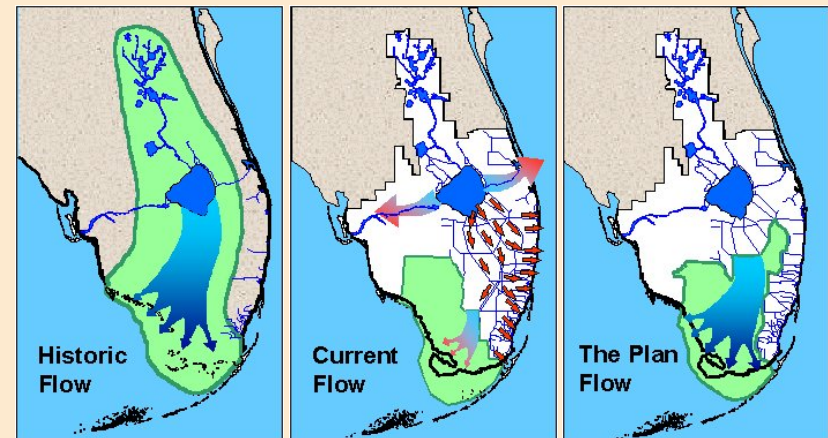
Active management in support of ecosystem restoration

Christa Zweig, Susan Newman, Colin Saunders, and Fred Sklar



Active Management

- Some systems have undergone drastic changes from pre-disturbance conditions
- Indirect restoration may not suffice
- Loss of:
 - Topography
 - Landscape pattern
 - Ecosystem engineers
 - Ecological drivers (disturbance, natural periodicity, etc.)

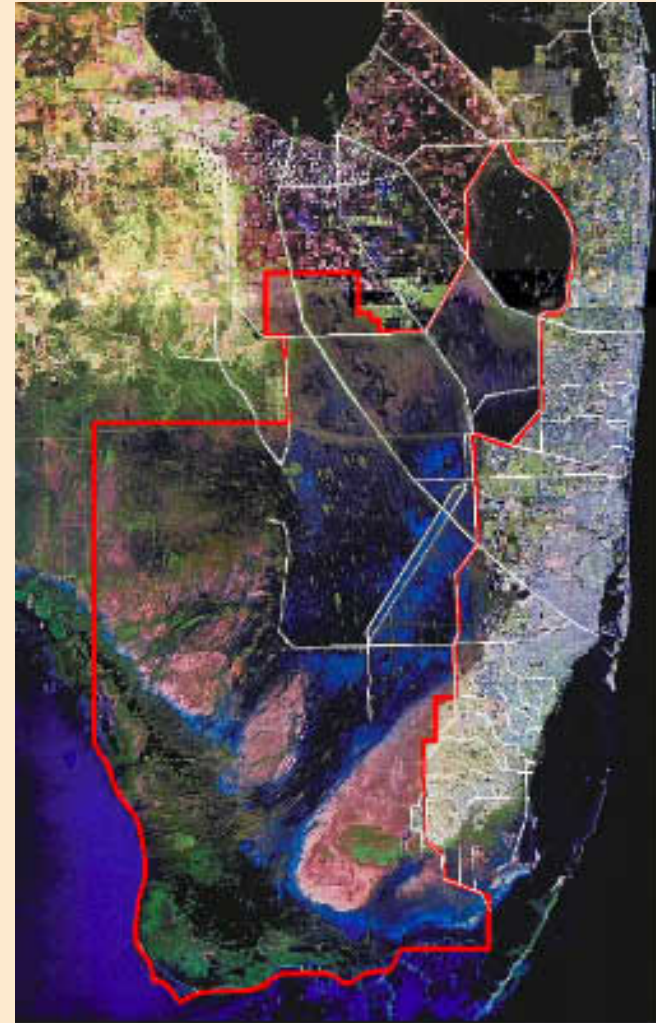




Active Management

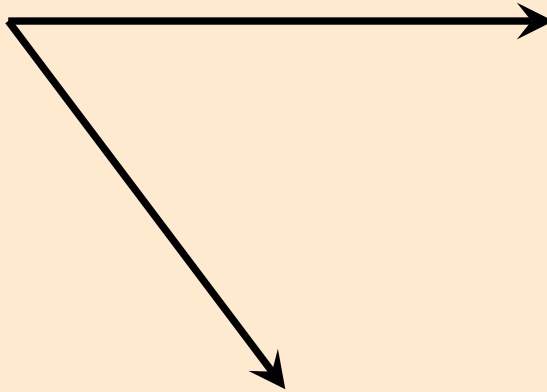
History of active management in Everglades

- Invasives
 - Plant—large scale eradication of Melaleuca, Brazilian pepper, Lygodium
 - Animals—pythons and other reptiles
- Pattern restoration
 - Fire programs
 - Tree island plantings
 - CHIP/AMI



Central WCA3A South

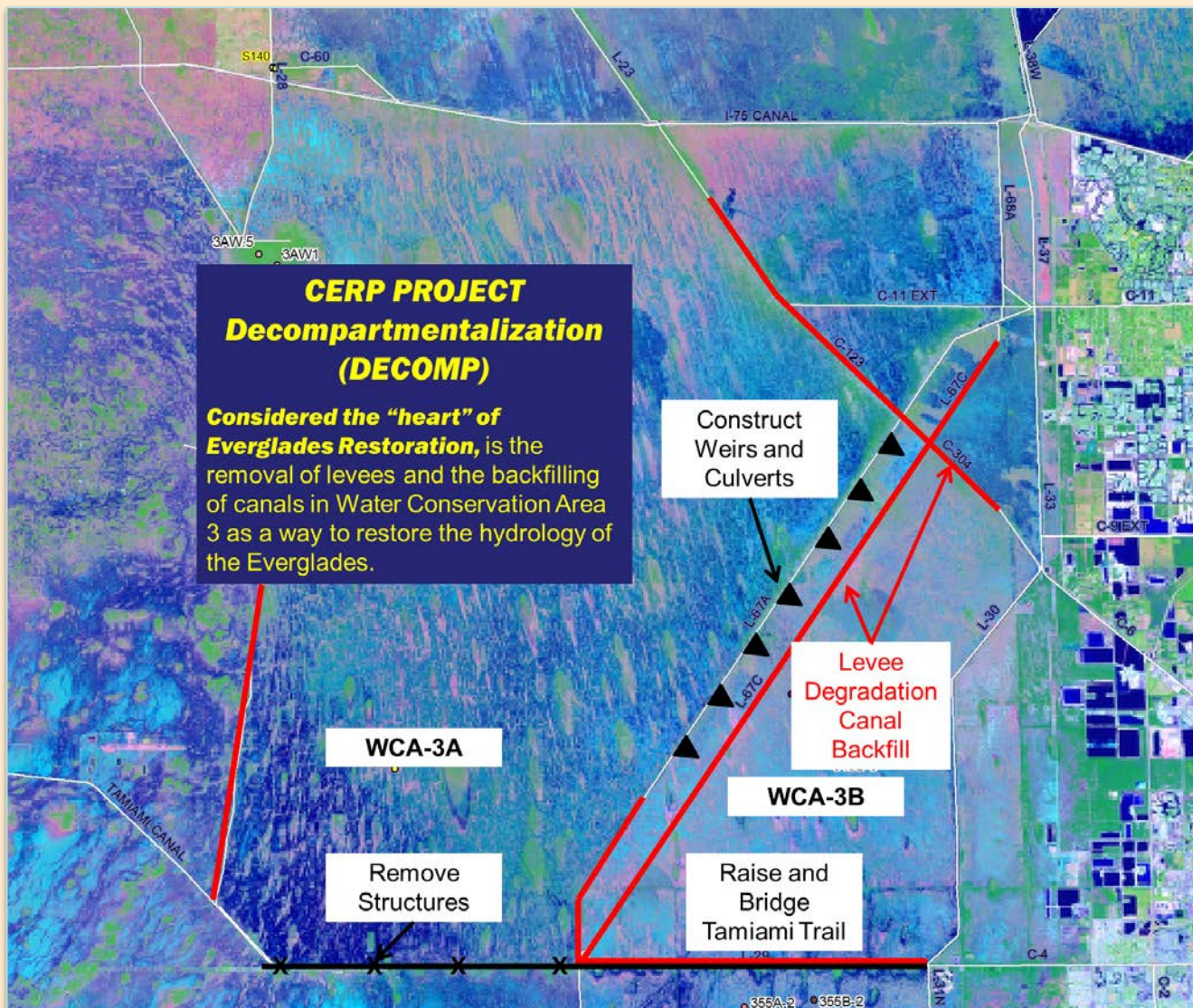
Impounded



Over-drained

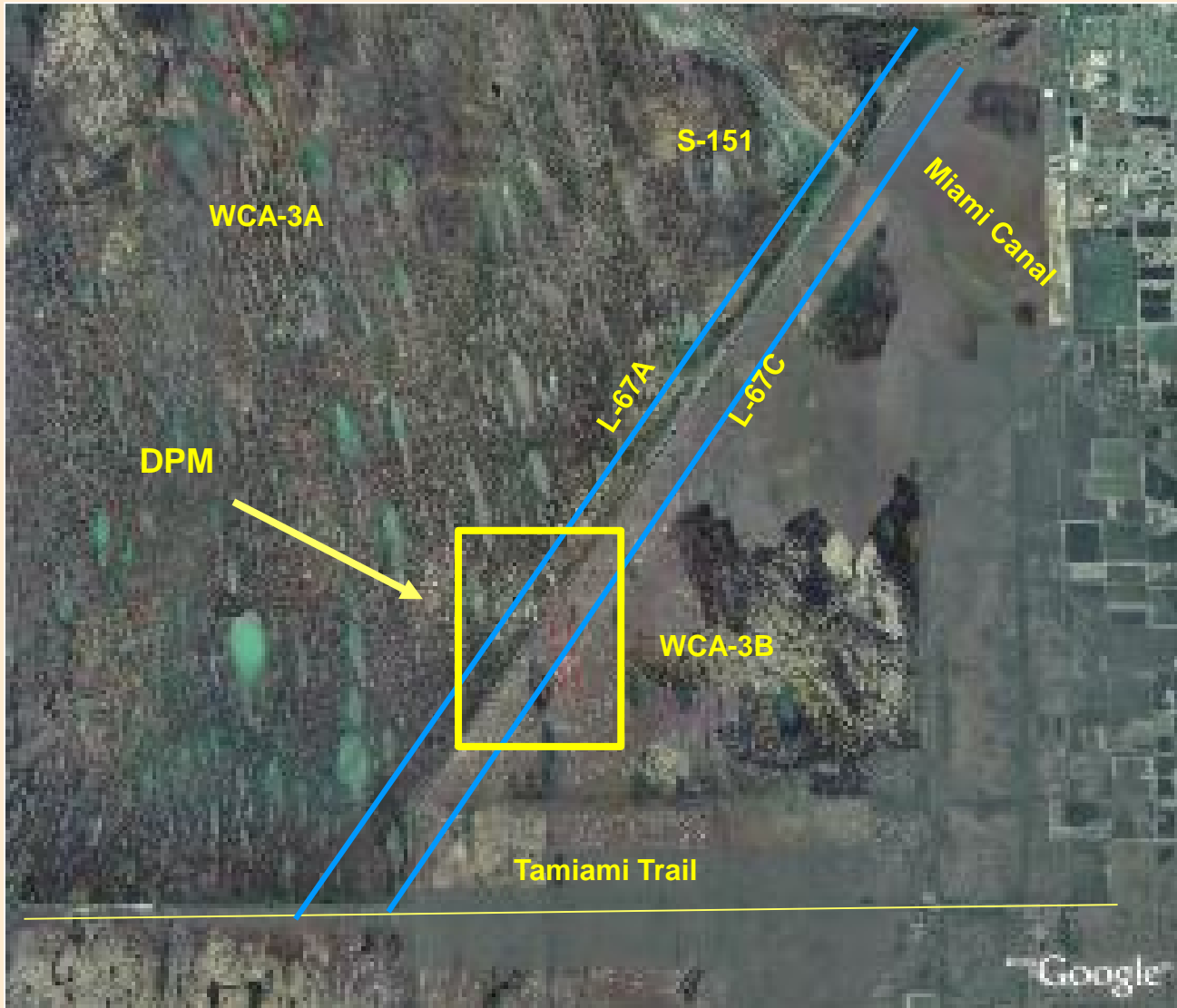


CERP/DECOMP



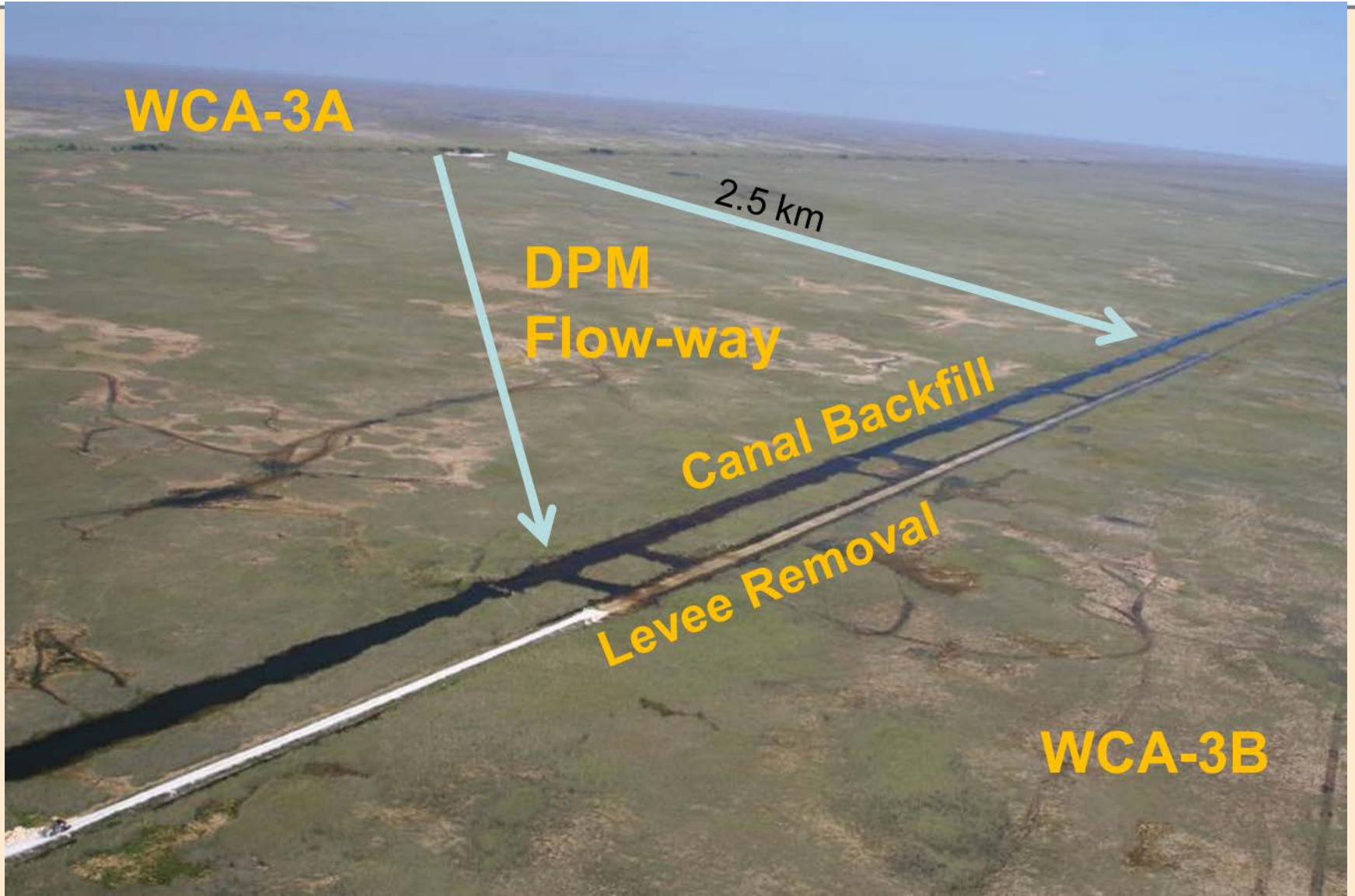


Decomp Physical Model



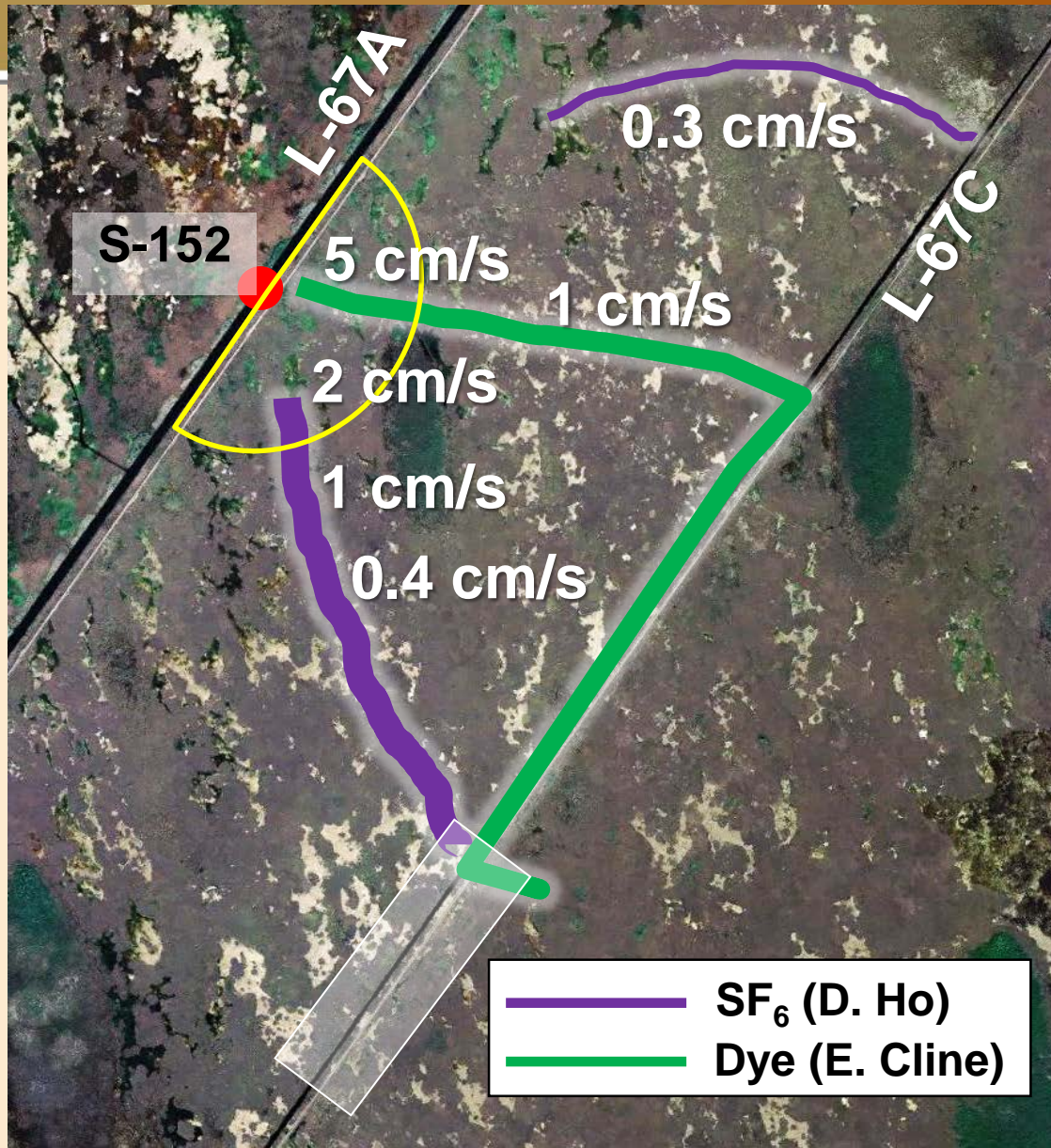


Decomp Physical Model flow way





Flows in DPM





What can we do?

- Active management experiment or “Brute Force Science”
 - Can we change direction of flow?
 - Can we increase flow speeds and propagate it further into the DPM footprint?
 - Can we create microtopography?
 - Can we create differential flow (ridge vs. slough)?
 - What is the best option for active management of an over-drained ridge and slough landscape?
 - Cut vs. smash



Phase 1: “Zweig slough”—cut

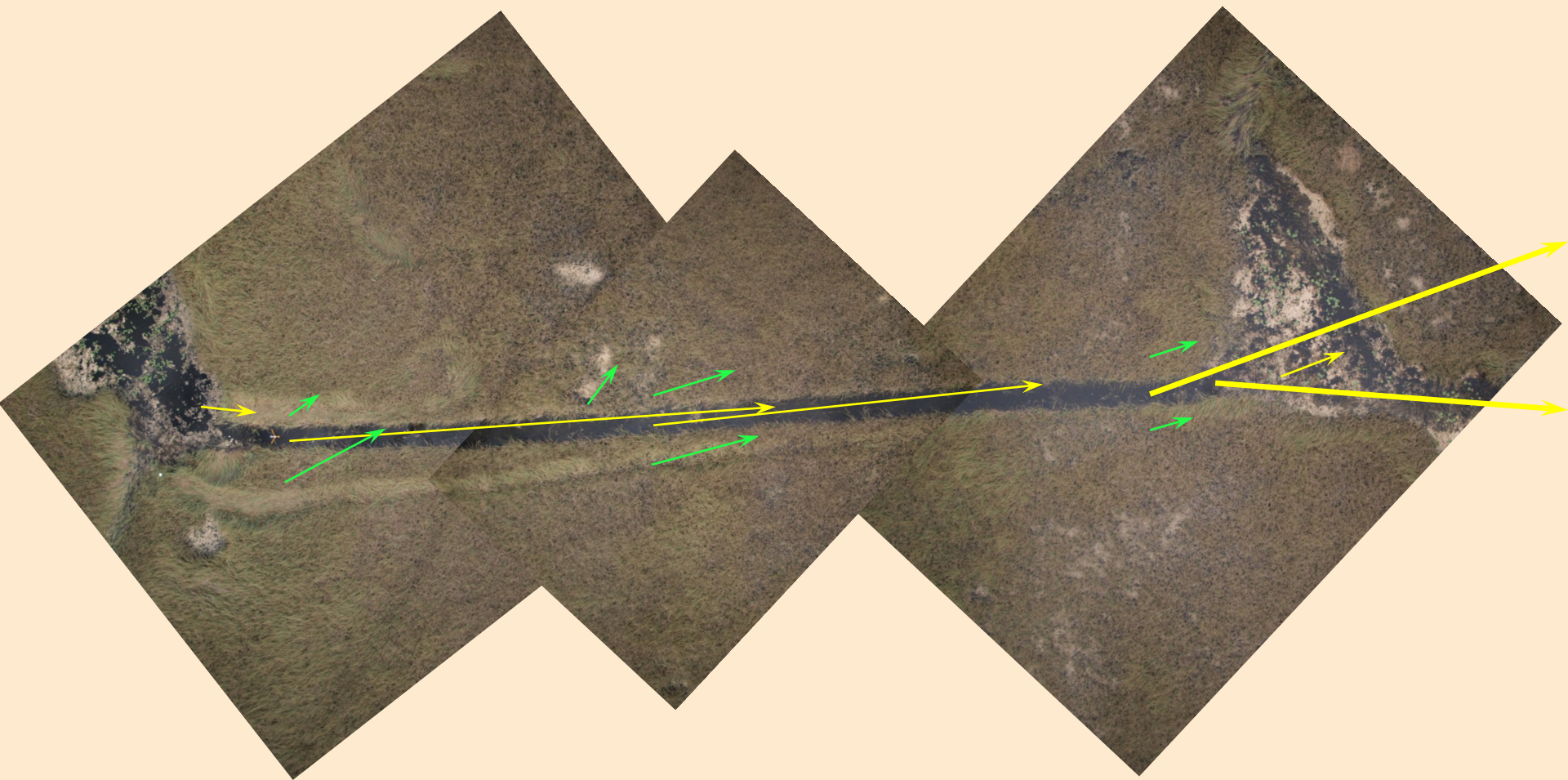






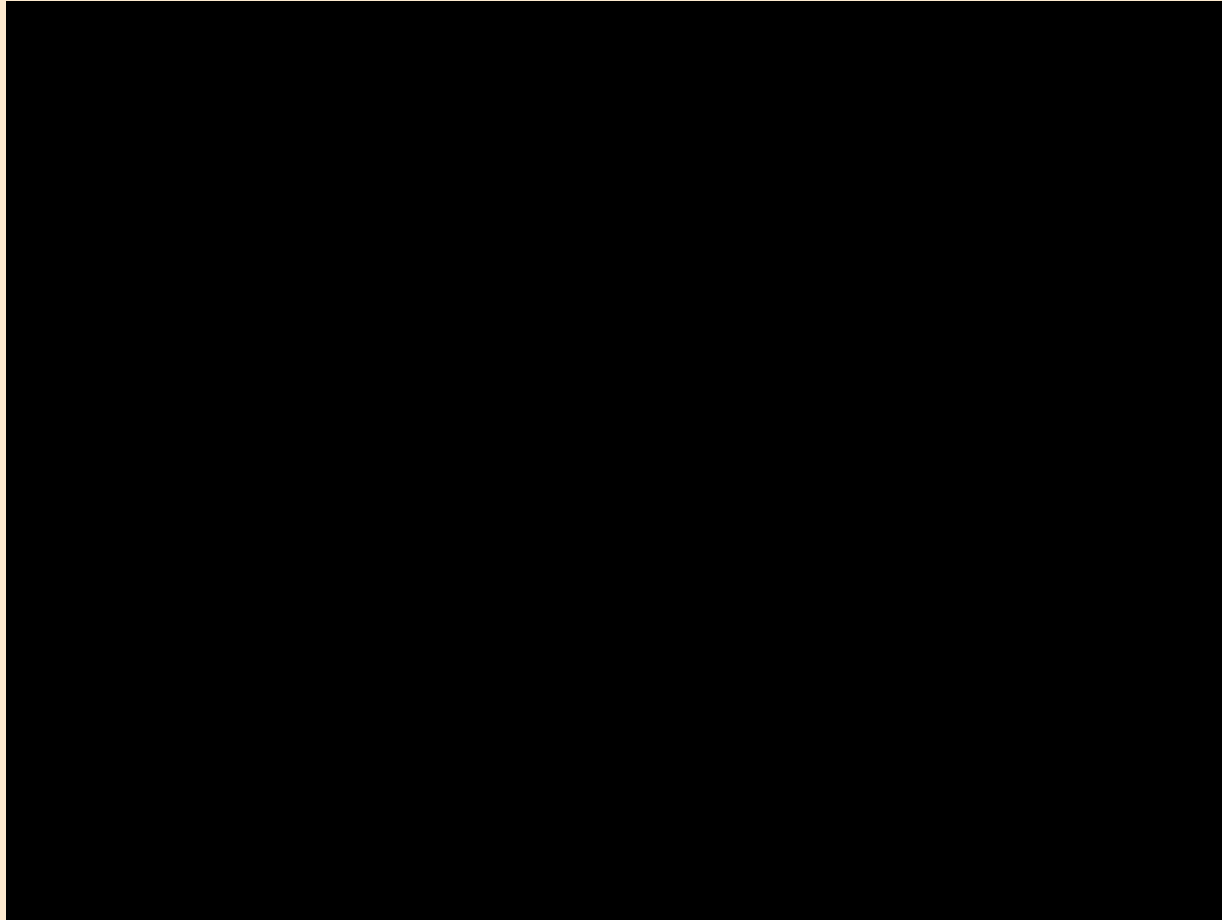


December 4, 2014



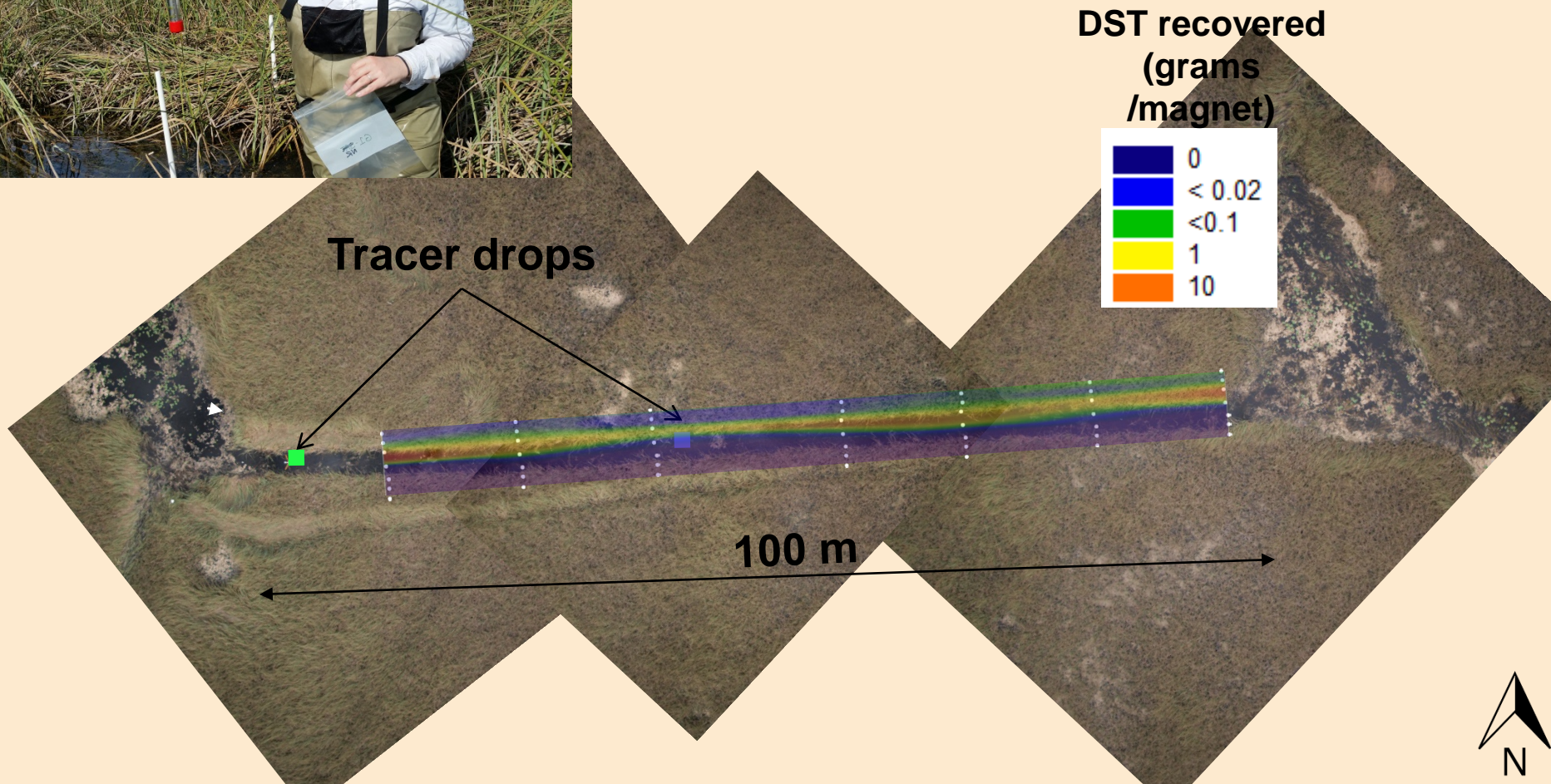


Dual synthetic tracer/flow



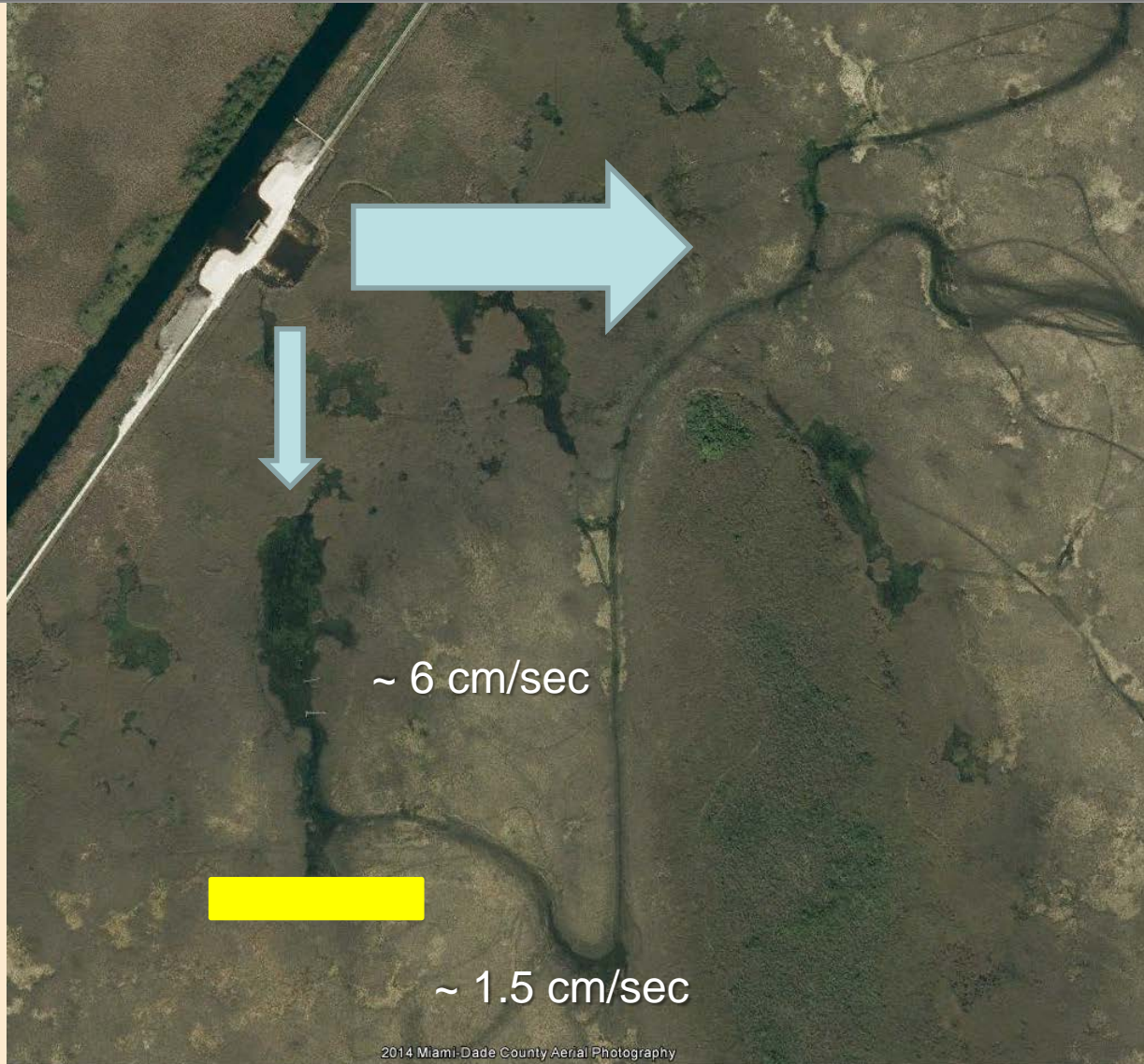


Dual synthetic tracer





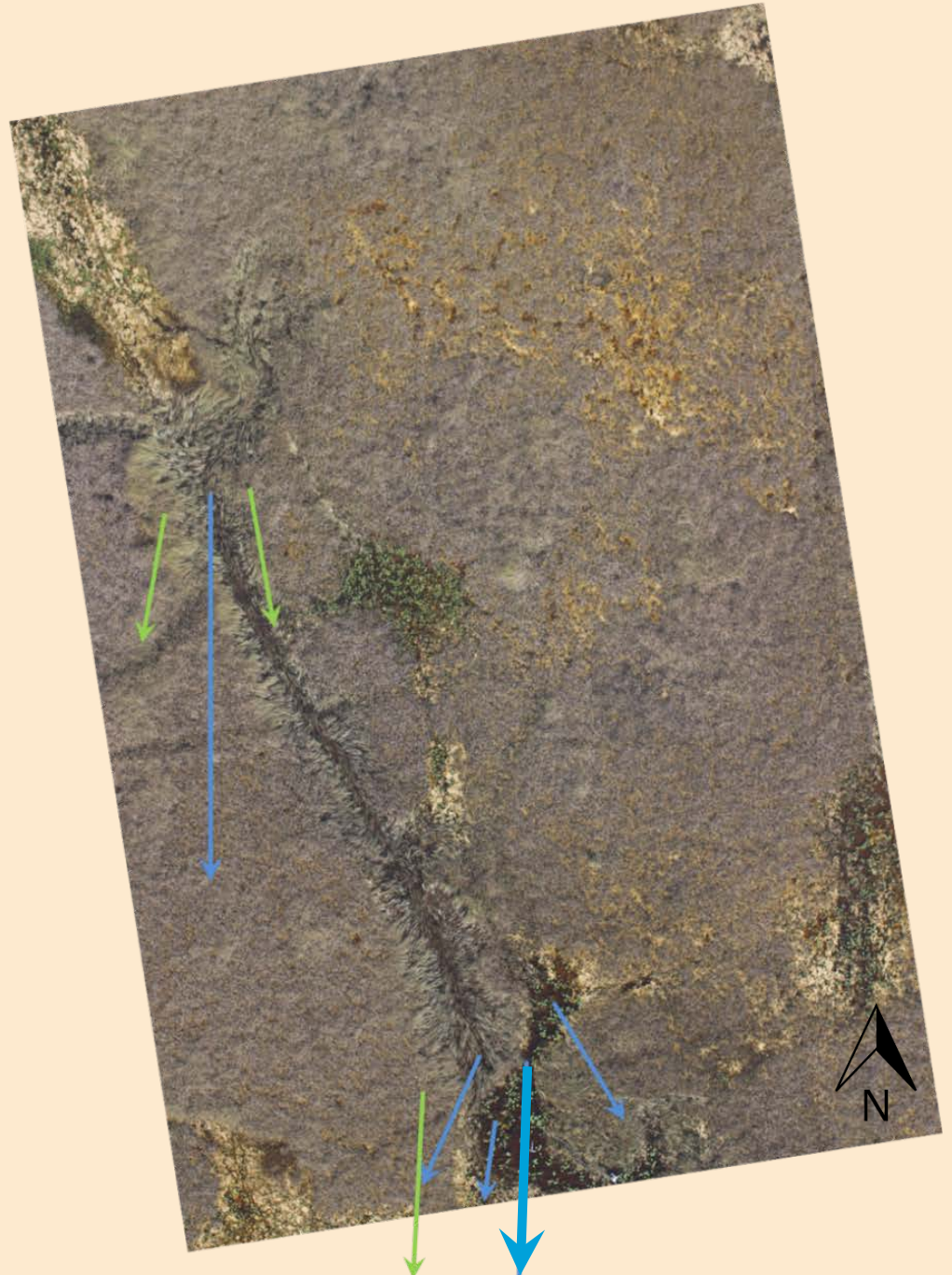
Phase 2: "Smash" slough

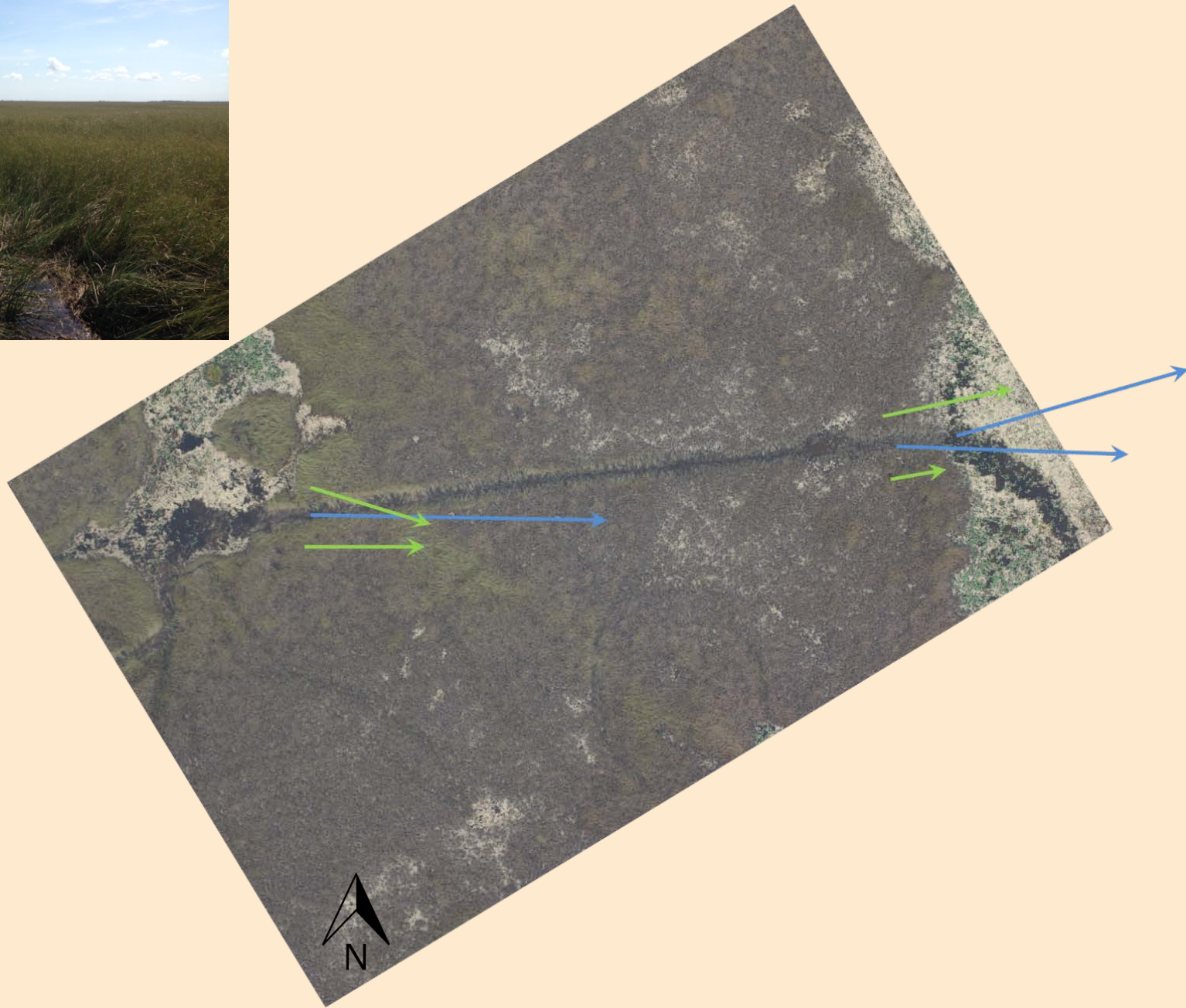




Propagate flow further?









What did we learn?

Question	Smash	Cut
Can we change direction of flow?	N	Y
Can we increase flow speeds and propagate it further into the DPM footprint?	?	?
Can we create microtopography?	NY	Y
Can we create differential flow (ridge vs. slough)?	Y	Y
What is the best option for active management of an over-drained ridge and slough landscape?	? Fire?	?

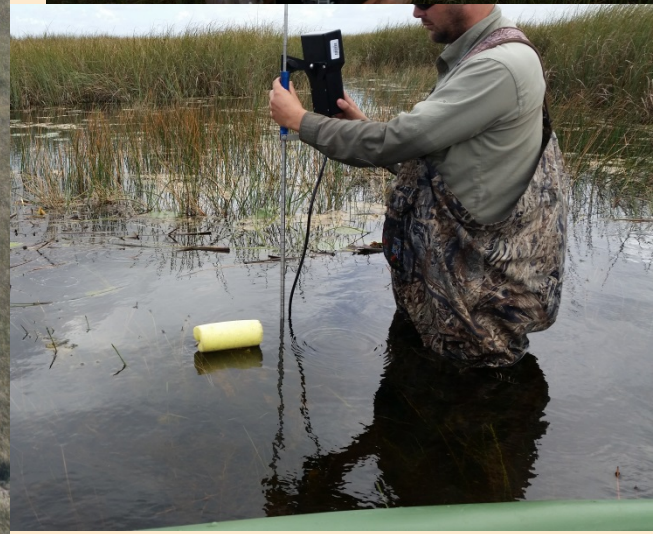
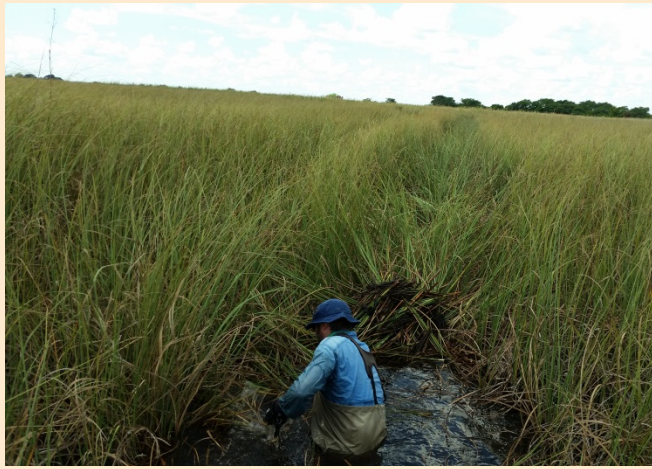
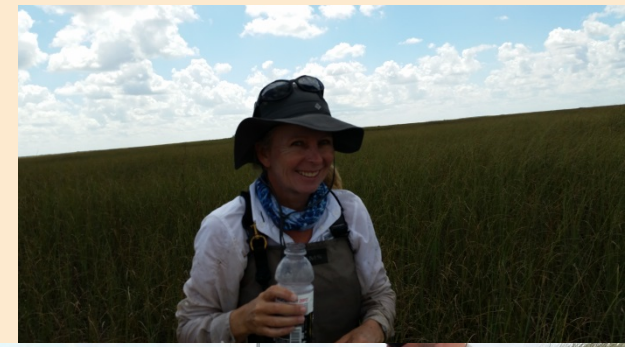


Look Mom! I'm on Google Earth!





Acknowledgements



Chris Hansen, Claus Hansen, Carlos Coronado, Michael Manna, Erik Tate-Boldt, Kristen Seitz, Mike Baranski, DPM science team



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