GEER 2015

Following the Bulldozers. Invasive Plant Control for the Picayune Strand Restoration Project

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Institute for Regional Conservation

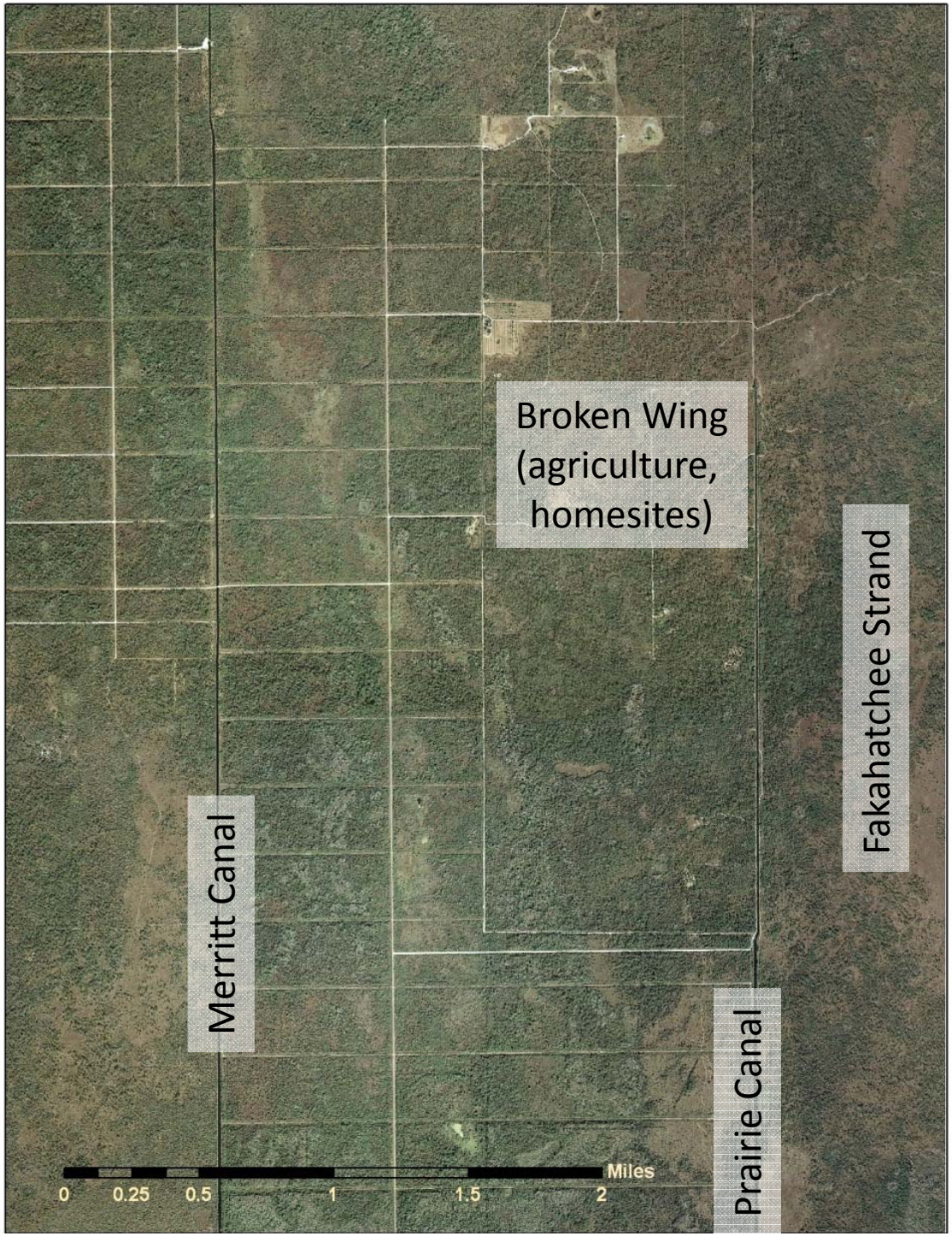
Restoring hydrology and ecosystem functions

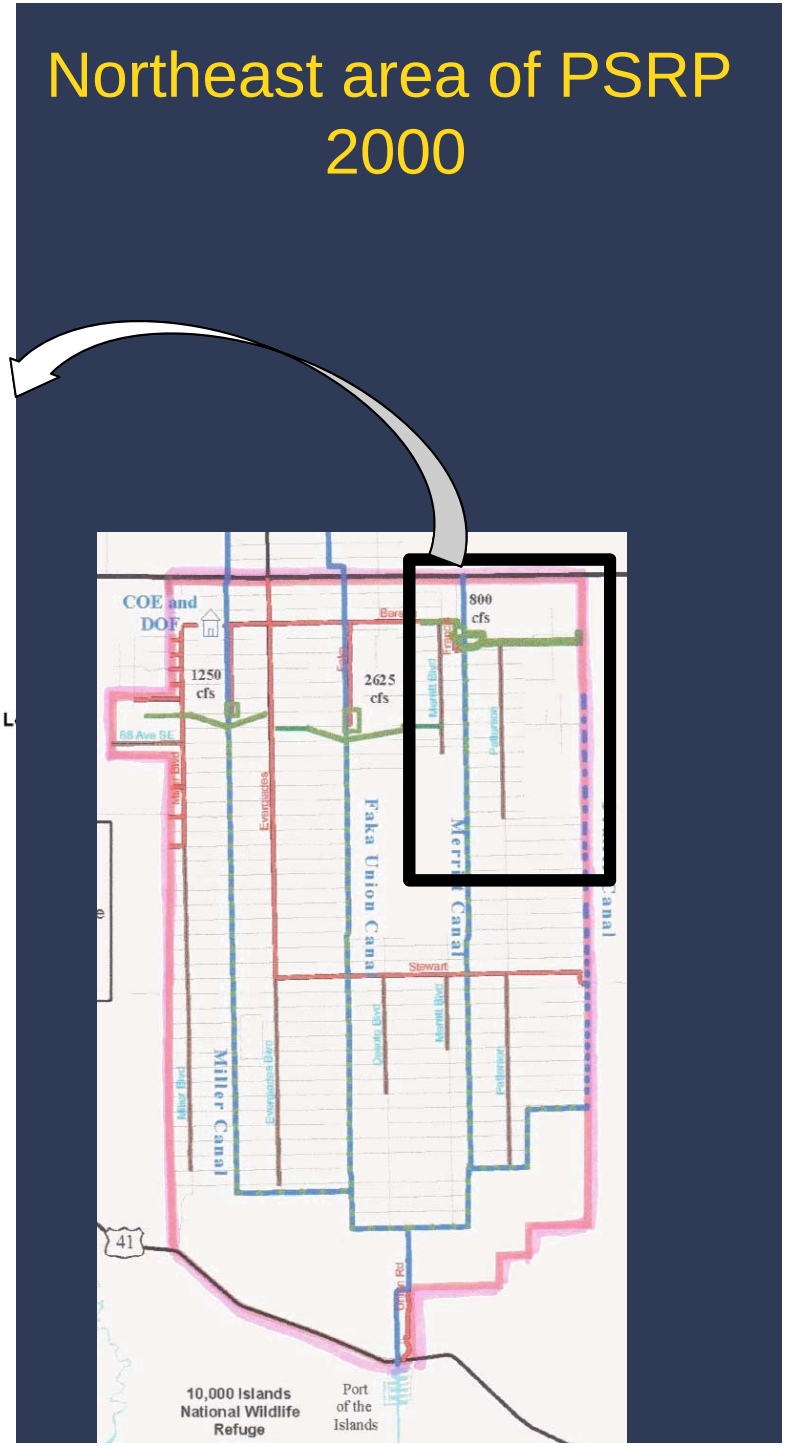
Restoring hydrology and ecosystem functions

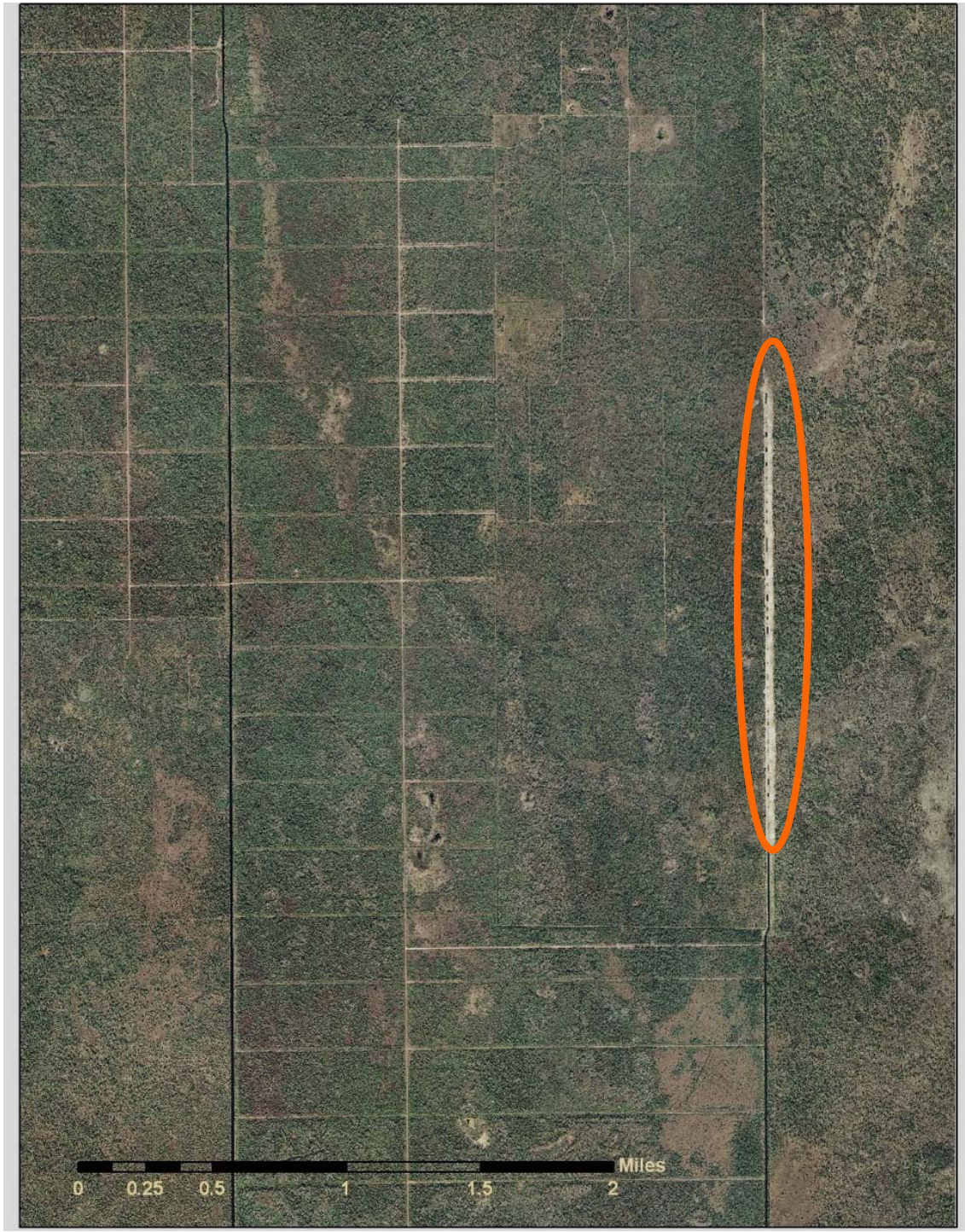
degradation of a grid of hundreds of miles of roads

~7,000 acres to be bulldozed

Northeast area of PSRP 2000

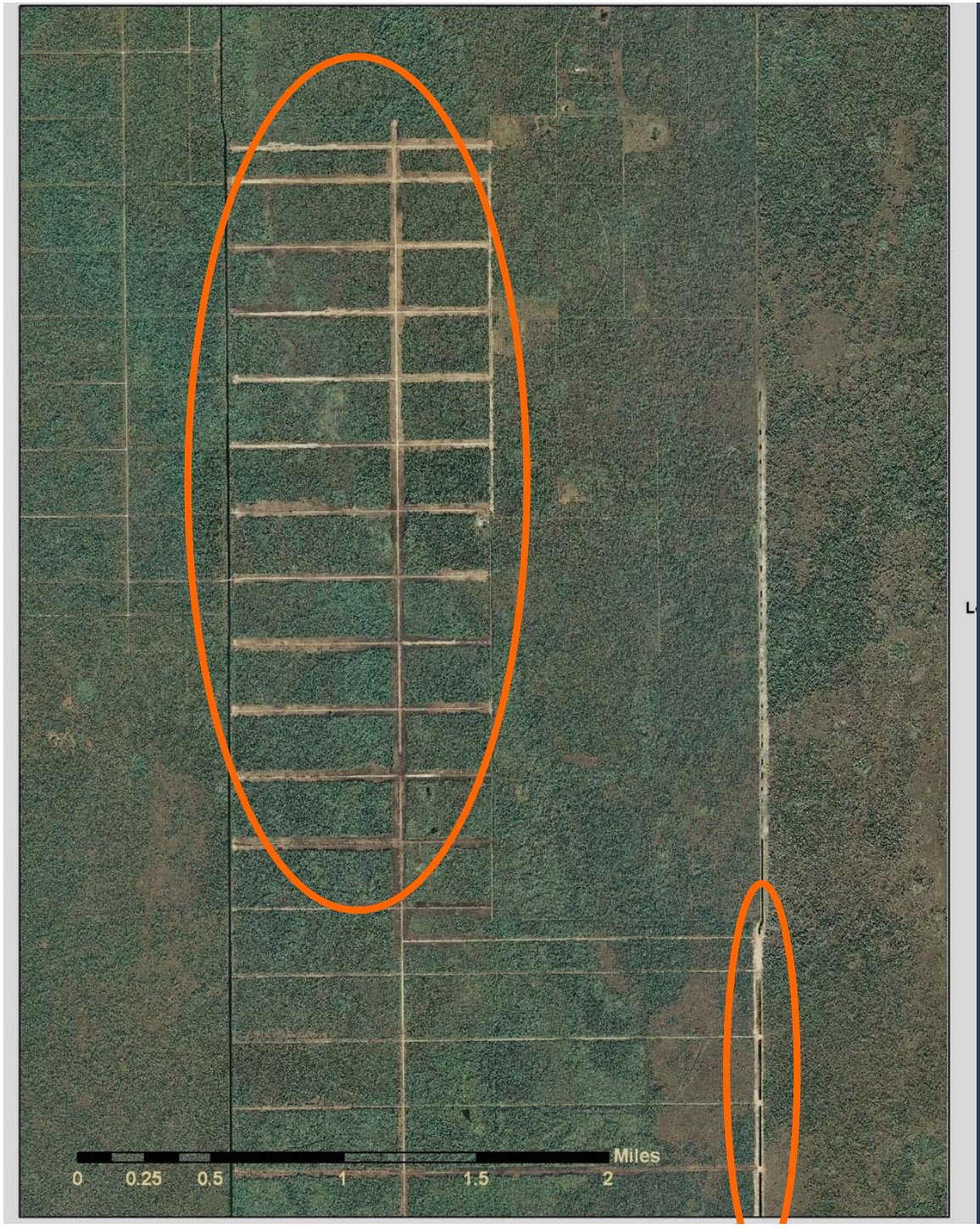






Northeast area of PSRP 2006

2 miles of Prairie Canal filled (2004)



Northeast area of PSRP 2007

2 miles of Prairie Canal filled

5 more miles of Pr Canal filled

Roads degradation started

Northeast area of PSRP 2009

2 miles of Prairie Canal filled

5 more miles of Pr Canal filled

Roads degradation started

More roads degraded

Northeast area of PSRP 2012

2 miles of Prairie Canal filled

5 more miles of Pr Canal filled

Roads degradation started

More roads degraded

Logging trams degraded

Tie-back levee installed; Merritt pump station completed

Merritt Phase roads degraded

Northeast area of PSRP 2014

2 miles of Prairie Canal filled

5 more miles of Pr Canal filled

Roads degradation started (2007)

More roads degraded

Logging trams degraded

Tie-back levee installed; Merritt pump station completed

Merritt Phase roads degraded

Construction footprints re-vegetated (2015 Merritt Canal plugged)

Role of Institute for Regional Conservation (IRC)

Since 2008, IRC is contractor responsible for:

1) Coordinating crews doing control of exoitc/invasive plants

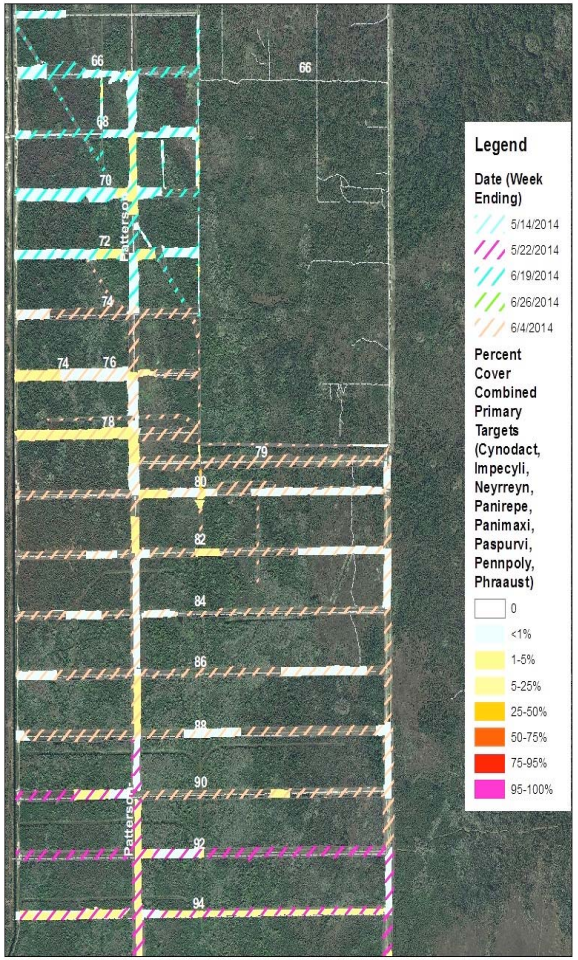
Coordinator (Mike Barry) adapts to weekly changes in:

- availability of funding
- conditions that restrict herbicide application:
  - water levels (flooding)
  - rain / lightning
  - frost
  - fire
- seasonal conditions of target plant species
- availability of trained crew

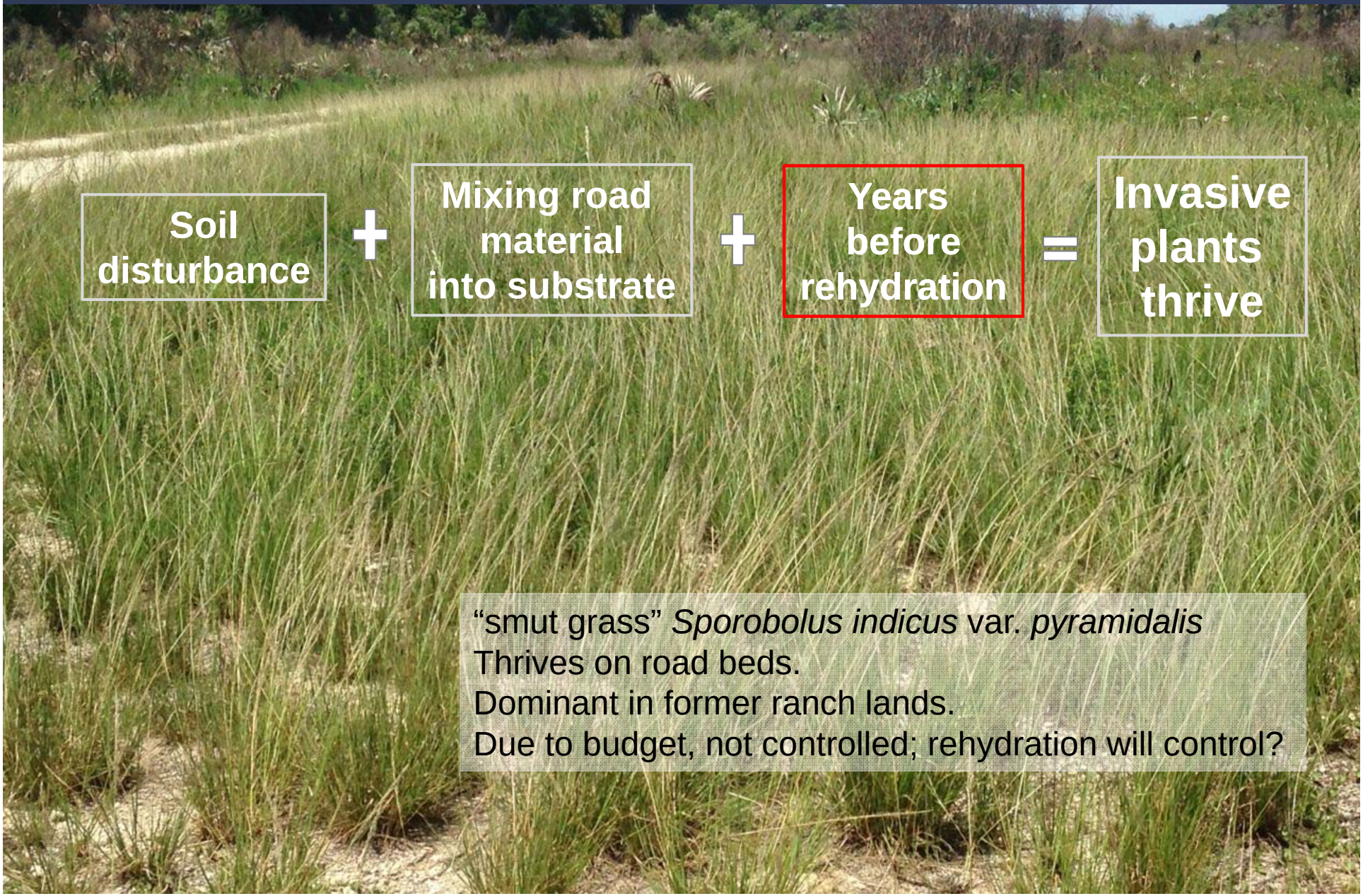
Role of Institute for Regional Conservation (IRC)

Since 2008, IRC is contractor responsible for:

2) Mapping and monitoring the control of invasive plants



The Plan: 6 years of treatments to attain “maintenance level”; thereafter much lower cost.



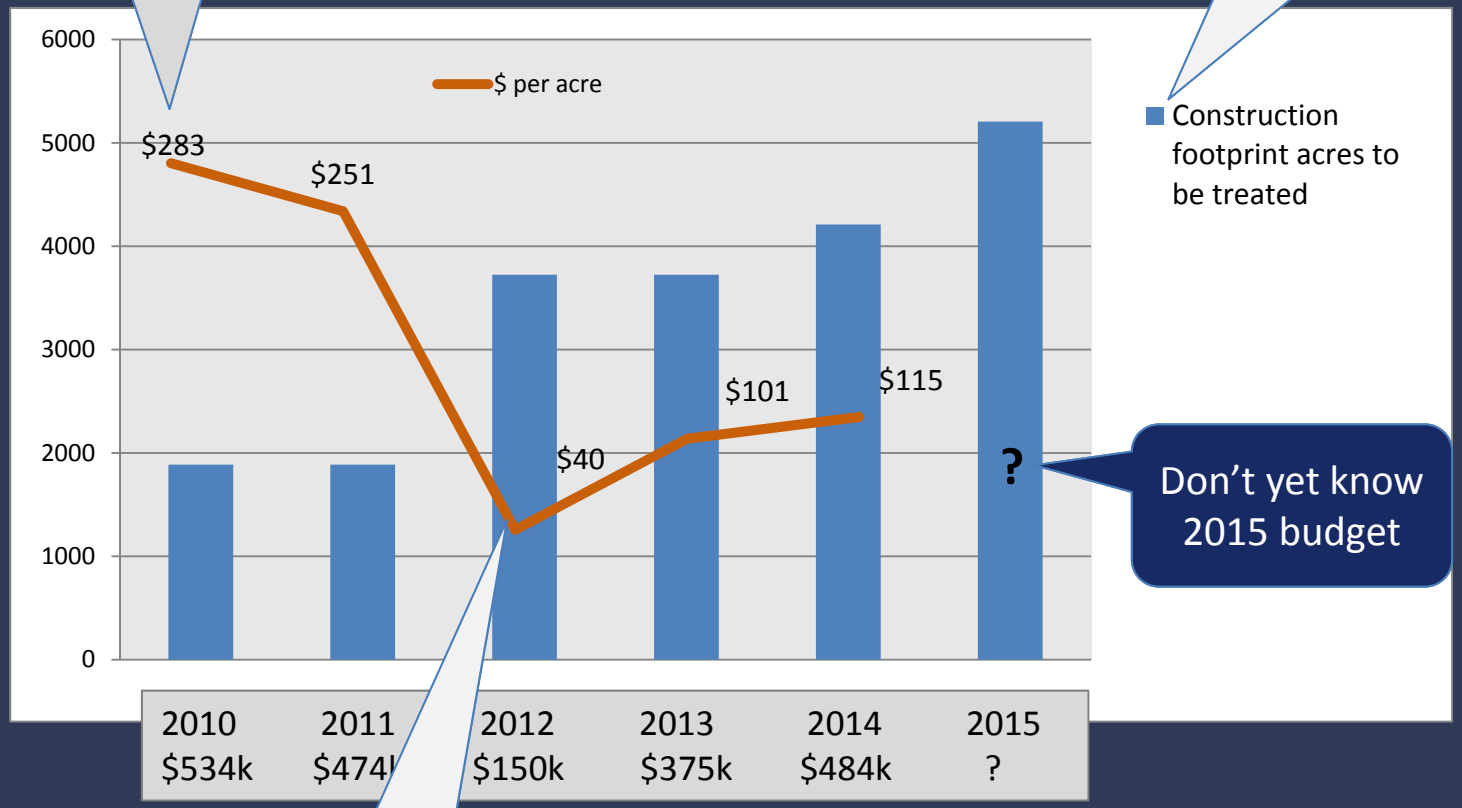
“smut grass” *Sporobolus indicus* var. *pyramidalis*
Thrives on road beds.
Dominant in former ranch lands.
Due to budget, not controlled; rehydration will control?

“tanglehead” *Heteropogon contortus*
VERY fast-spreading
ID only if reproductive
(can’t treat after frost)
Not controlled; rehydration will control?

Funding for controlling invasive plants has been limited and unpredictable.

not enough $ to control all species

Number of treatment acres increases annually



Don't yet know 2015 budget

Very low funding = untreated acres = set-back of 2-3 years

Adaptive management to fluctuating biological conditions and fiscal conditions (more coverage of invasive species; never enough $)

Modified target strategy:

A. **Must-Do**

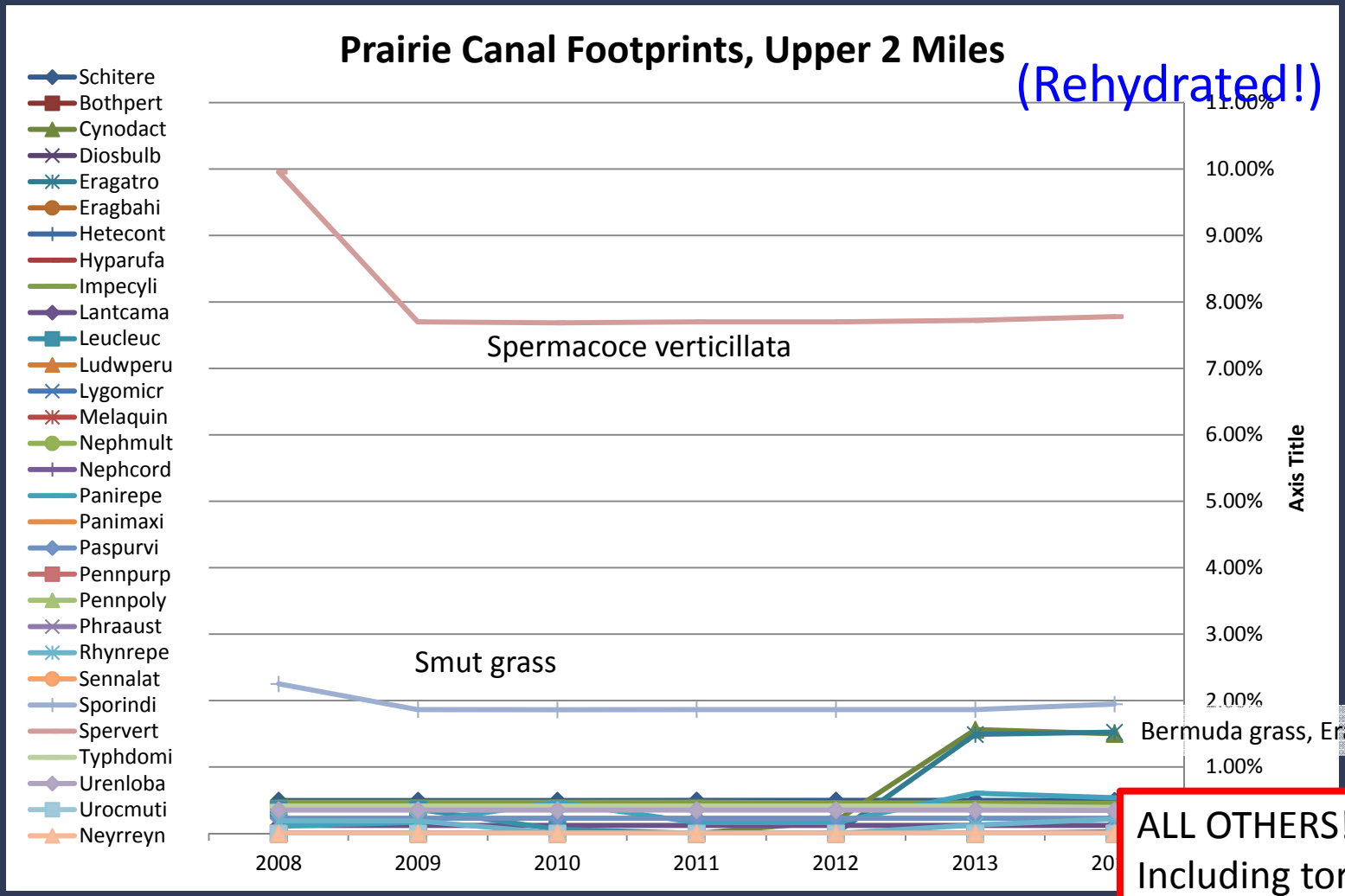
B. **Can-Do (within constraints)**

C. **Deferred**

D. **Problematic areas that require attention**

A. "Must-Do"

Pre-emptive strikes on aggressive wetland invasive species with repeated follow-up treatment (Treating the worst of the worst.)



2014 report on exotics control

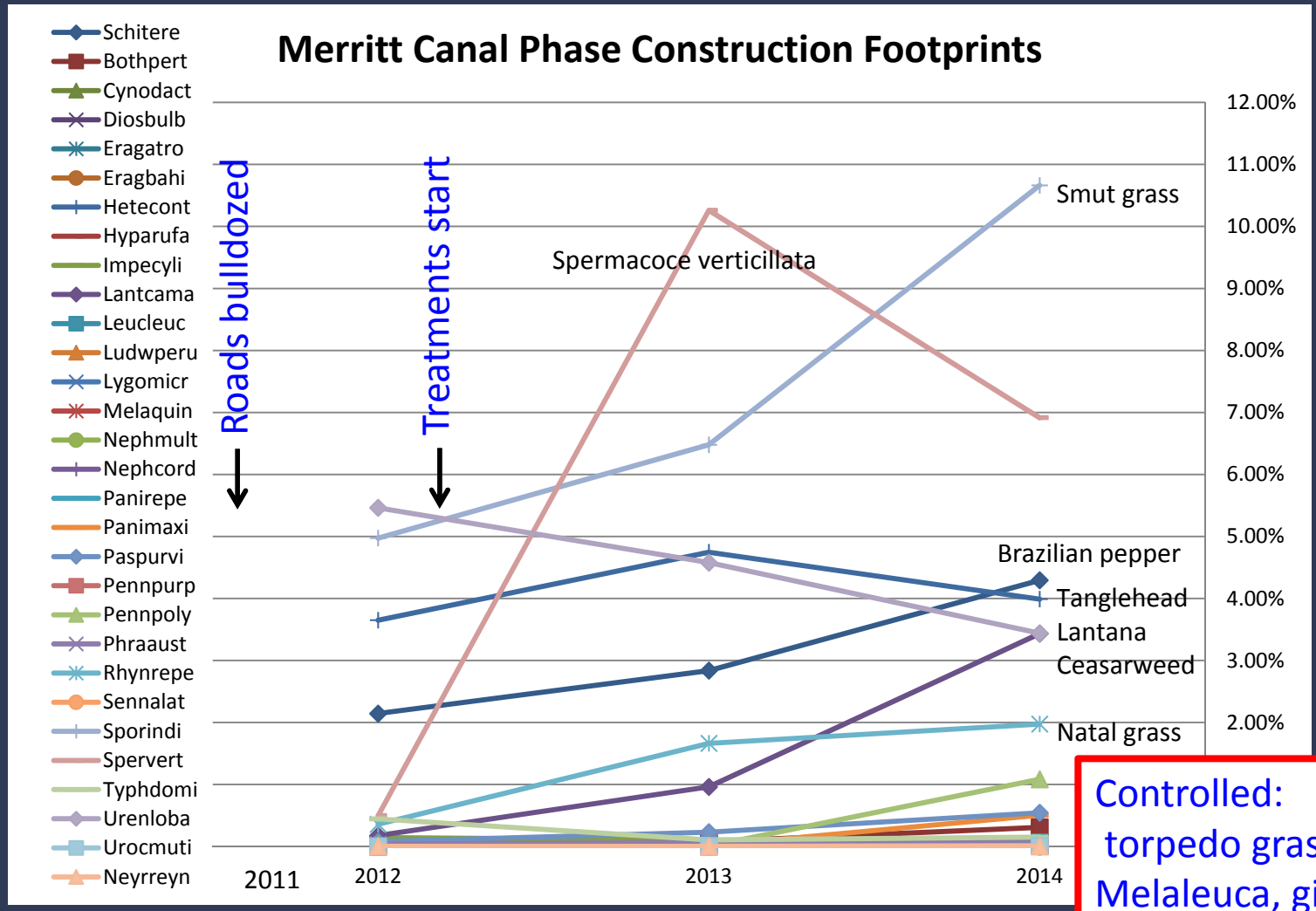
B. “Can-Do”

Treating several species that are readily extinguished

Easy ID; treatment is effective; big effect

C. "Deferred"

Holding off on treatment of most upland species until post-rehydration (tanglehead, smut grass, natal grass, etc.)



Not treated

Controlled:
torpedo grass, cogon grass, Melaleuca, giant grasses, …

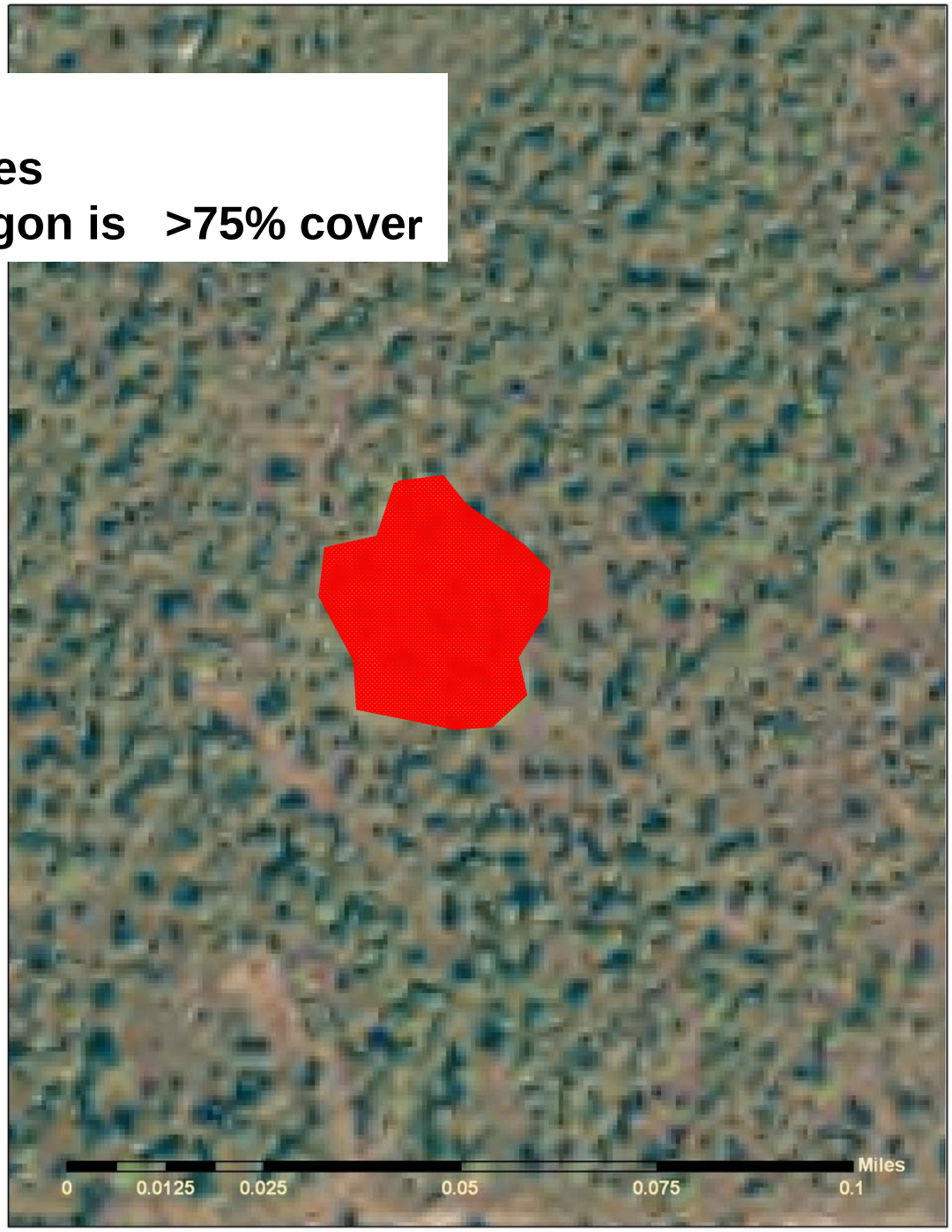
2014 report on exotics control

D. “Problematic areas that require attention”

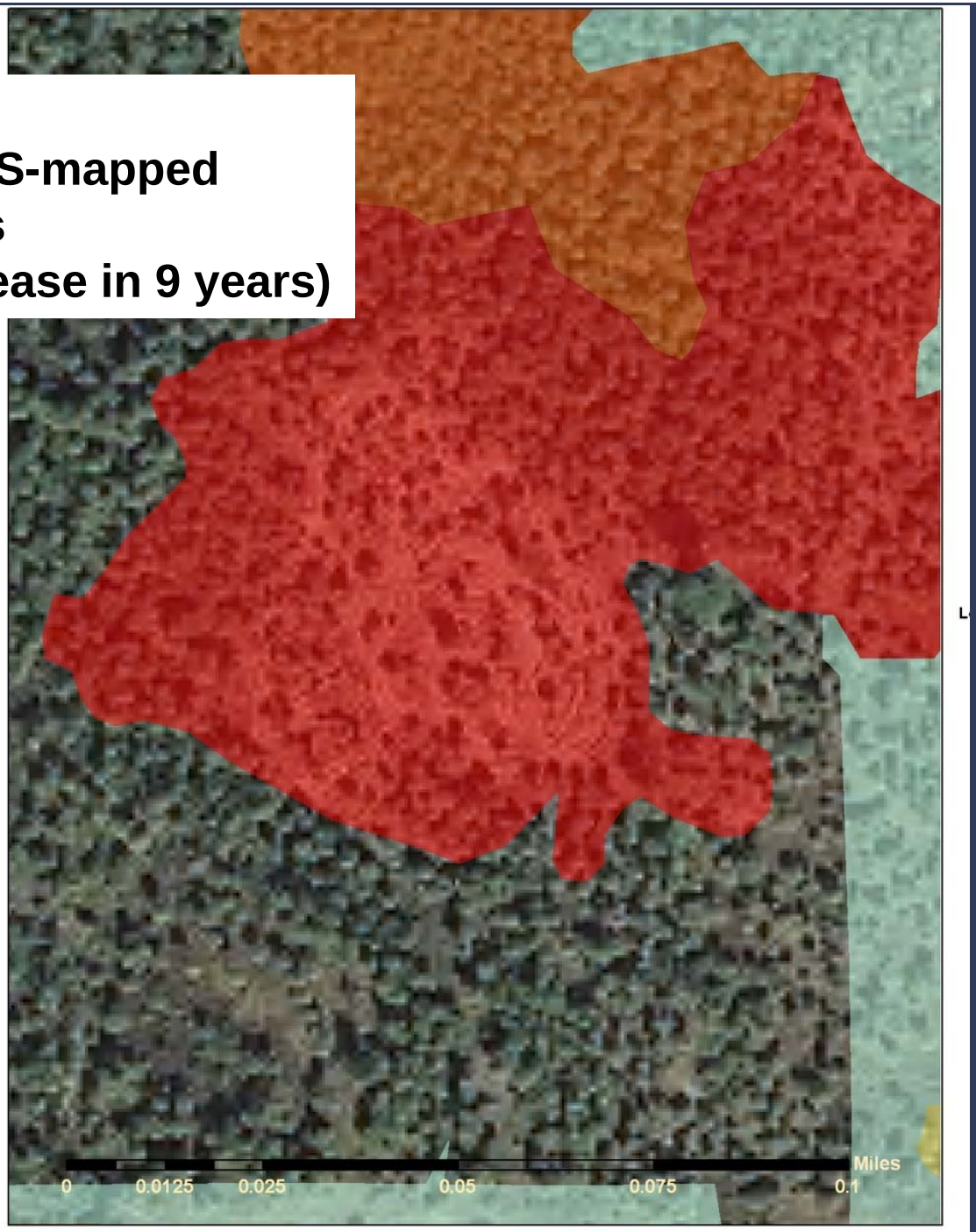
treating aggressive species in upland disturbed areas (former agriculture sites) that will not be rehydrated.

2000
Near former agriculture

2003
~1.25 acres
Red polygon is >75% cover

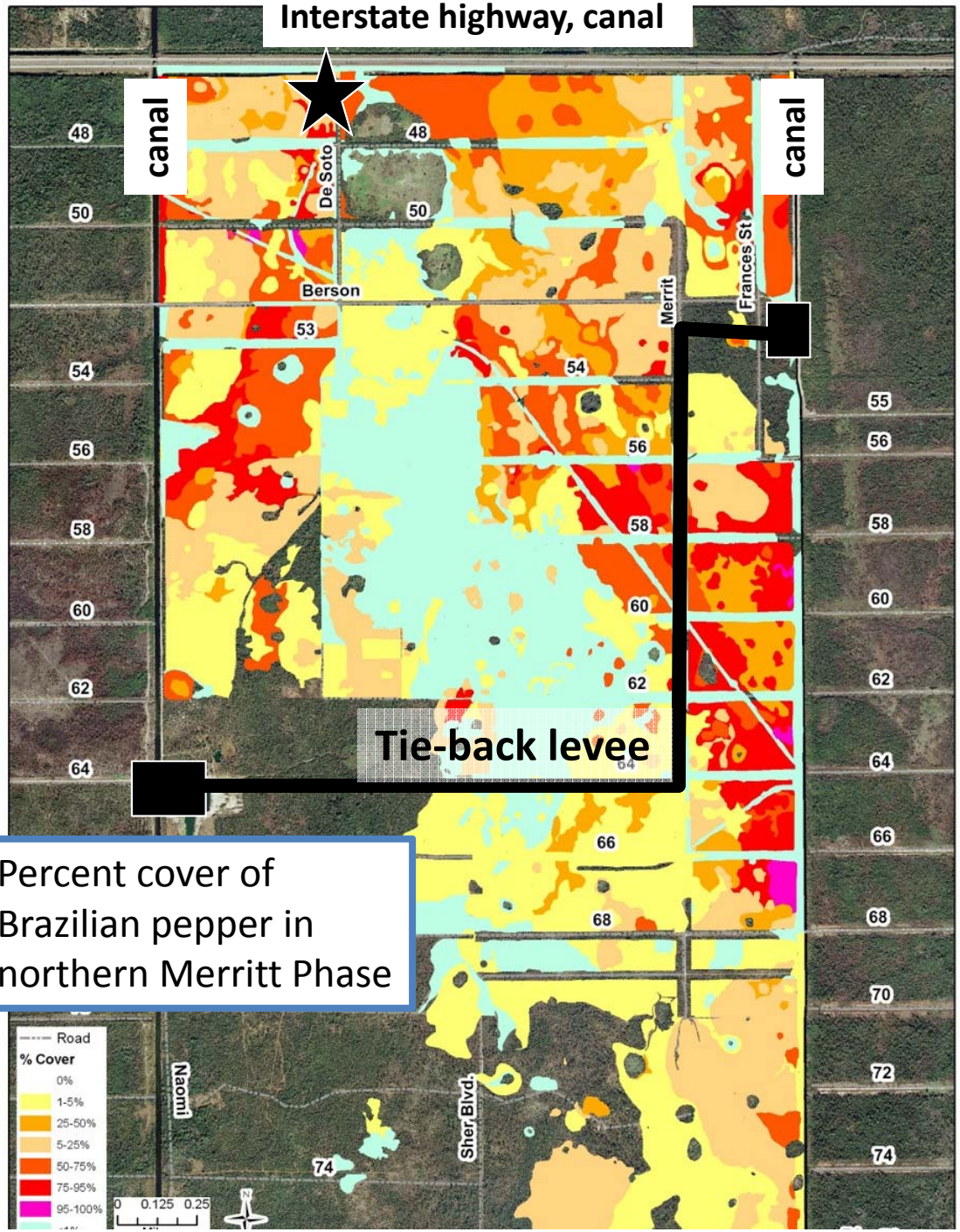


2012
field GPS-mapped
>8 acres
(6x increase in 9 years)



2014
4 acres treated

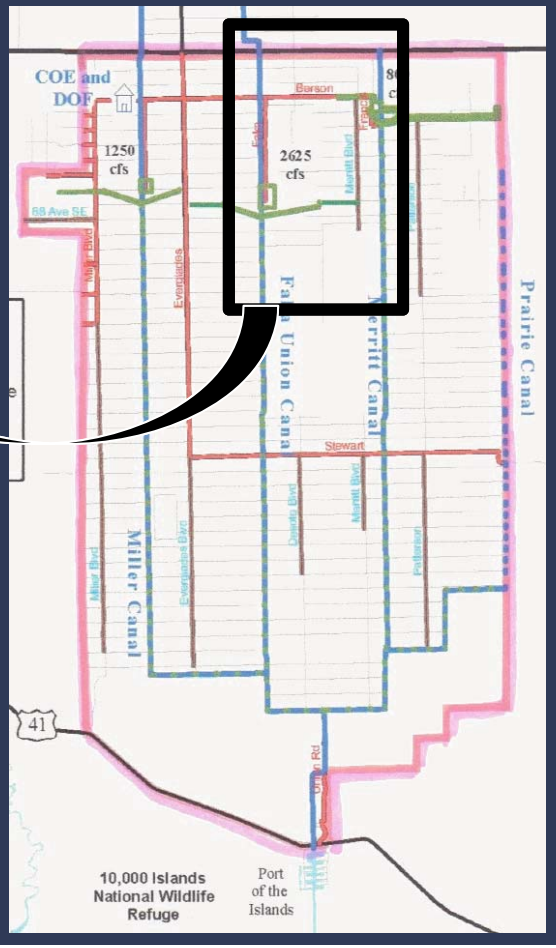

Waiting for rehydration
Control invasive plants for free?
But, …. upstream of tie-back levee … won't be rehydrated?
But, ….. zones between the roads?
Management of invasive plants is forever (not just Construction Phase)
former Prairie Canal

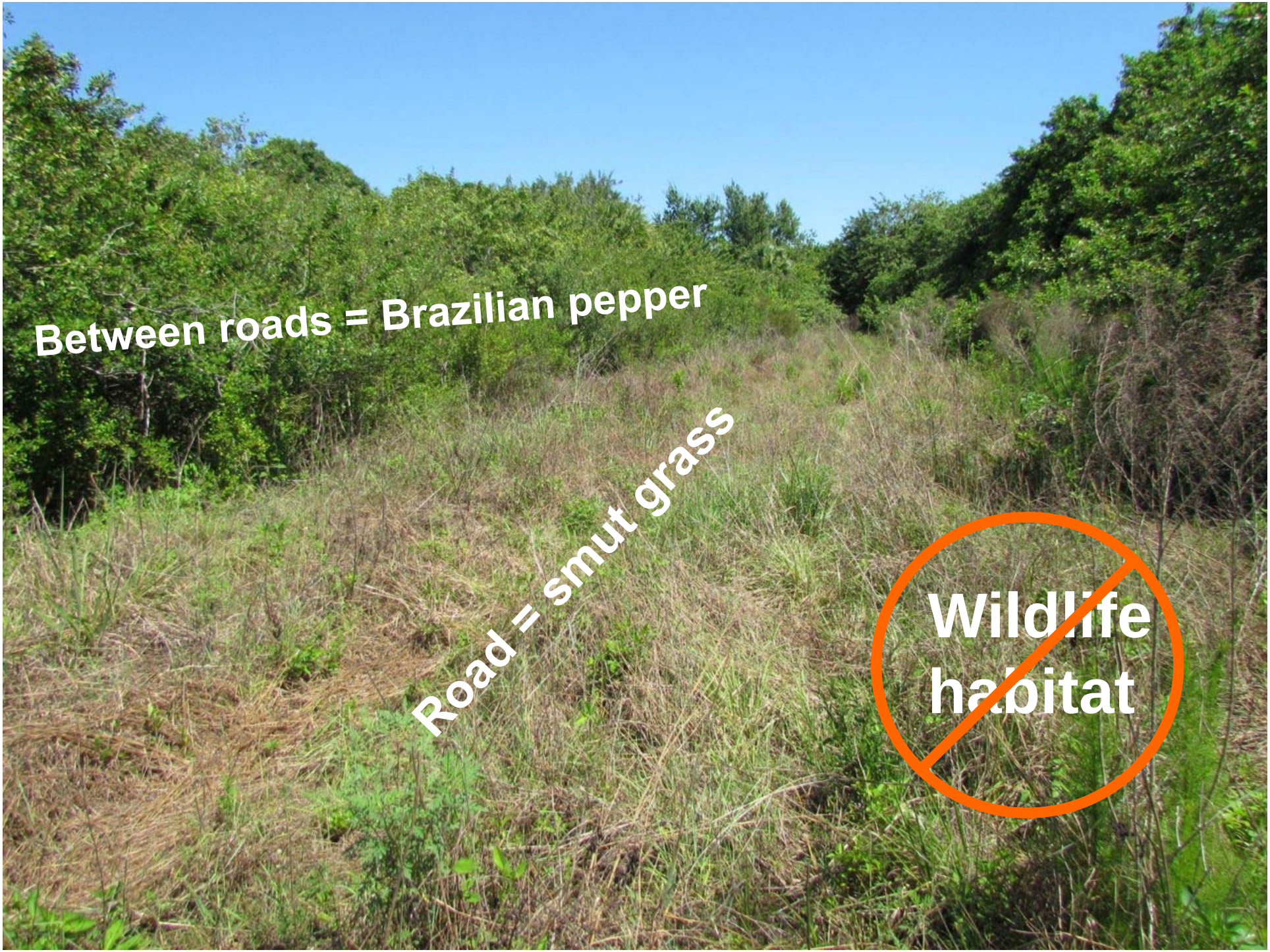


Percent cover of Brazilian pepper in northern Merritt Phase

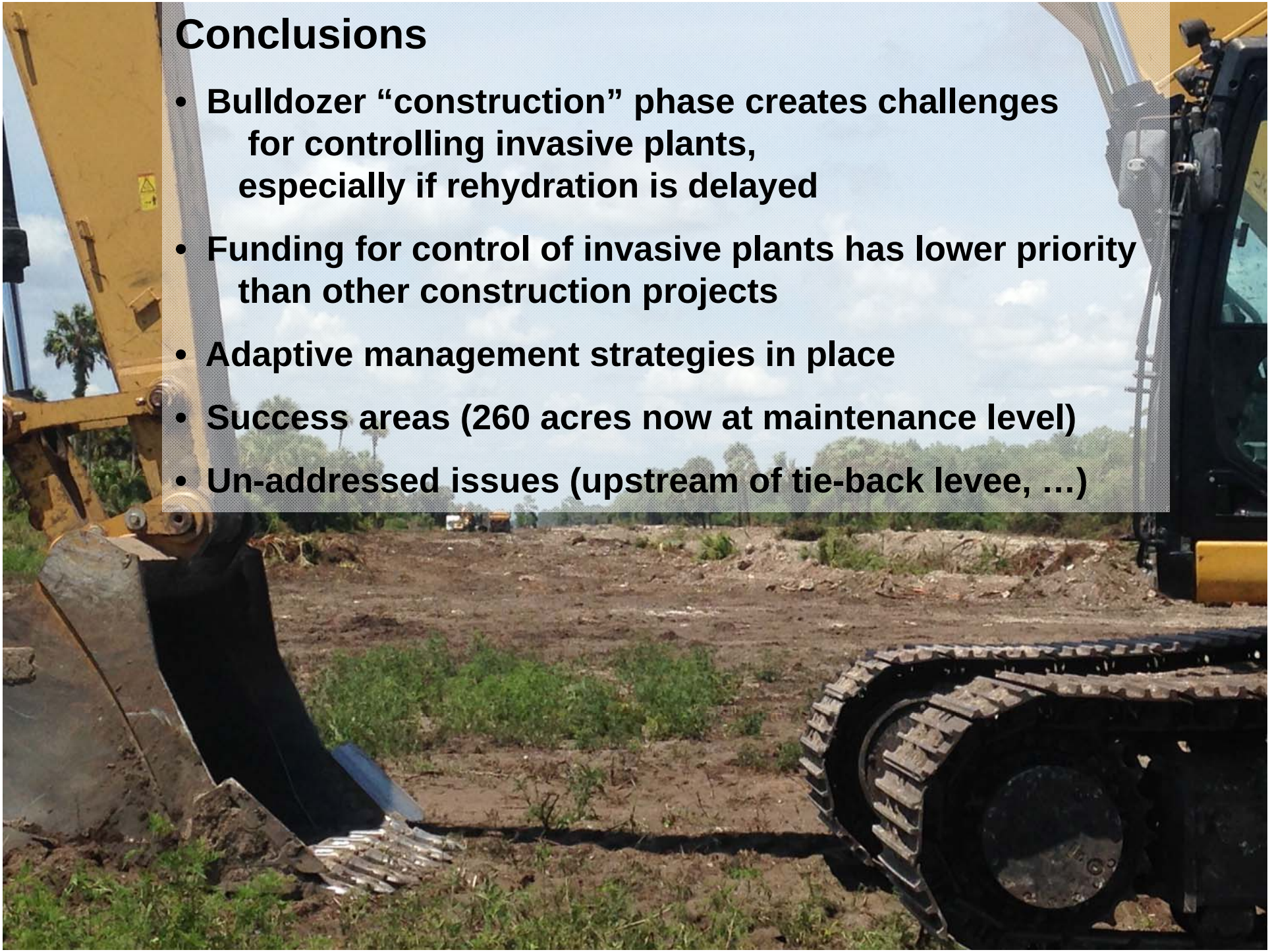
Re-hydration will assist in controlling invasive plants

… but not upstream of tie-back levee?




Between roads = Brazilian pepper
Road = smut grass
Wildlife habitat


Southern Prairie Canal Phase, near Fakahtchee.
Muhly-grass prairie reclaims the road footprint
Now at “maintenance level”.



Conclusions

- **Bulldozer “construction” phase creates challenges for controlling invasive plants, especially if rehydration is delayed**
- **Funding for control of invasive plants has lower priority than other construction projects**
- **Adaptive management strategies in place**
- **Success areas (260 acres now at maintenance level)**
- **Un-addressed issues (upstream of tie-back levee, …)**


Prairie Canal today (filled 2004)

Merritt Canal today (filled 2015)

… Just Add Water

…. And apply herbicide