Fire and Flooding Interact to Affect *Croton linearis* Survival in Pine Rocklands of Everglades National Park, Florida

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(C) James Johnson, 2014.

https://www.regionalconservation.org/beta/nfyn/plantdetail.asp?sc=Crotline
Fire and Water Interact

...Along an elevational gradient
Fire and Water Interact
Fire and Water Interact
Fire and Water Interact

- Wet/Inundated
- Dry
- Unburned
- Burned
Pine Rocklands – Ecotones of Water and Fire

[Images of wetlands, forest, and prescribed burns]

**Hydrologic Modifications**

**Plant Diversity**

**Prescribed Burns**

[Links to Ecoinet.org page for conservation programs]
Pine Rocklands – Ecotones of Water and Fire


Hydrologic Modifications

Plant Diversity

Prescribed Burns

WATER

FIRE

CROTON LINEARIS
Croton linearis is an essential host plant

Bartram’s Hairstreak, *Strymon acis*
Federally endangered
2014 Listed

Florida Leafwing, *Anaea troglodyta*
Federally endangered
2006 Candidate, 2014 Listed
NOT SEEN OUTSIDE OF ENP SINCE 2007
How do fire and hydrology interact to affect survival of *Croton linearis*?
Dry and Wet season burns

AA water surface elevations

D water surface elevations
The dry season begins when precipitation declines.
The dry season begins when precipitation declines

Modified from Fill, et al 2015
Croton post-fire recovery linked to hydrology
More absences and deaths after wet-season fire
Preliminary conclusions: Inundation following fire reduces survival

- **WET SEASON VS. DRY SEASON BURNING AFFECTS SURVIVAL**
- **CROTON LINEARIS** RESPROUTS IMMEDIATELY FOLLOWING FIRE, AND SURVIVAL DECLINES OVER TIME
- **HYDROLOGY** CAN BE MANAGED
Thank you

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- Dr. Ben Baiser
- Leonard Pearlstine
- Owen Schneider
- Stephanie Bohlman and Crandall Fire Lab