



# AN ENDANGERED GRASS “FALLS” FOR A COMPLEX HYDROLOGIC REGIME IN EVERGLADES NATIONAL PARK

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## *Digitaria pauciflora* is a perennial grass that grows along ecotones

Grow in outcrops of weathered oolitic limestone, where solution holes are common.

Exist in isolated populations of 100 or more individuals.

Listed as federally threatened due to its limited distribution.

We asked how the seasonal flooding regime affects *Digitaria pauciflora* population size.



Pine rockland

Ecotone

Marl prairie



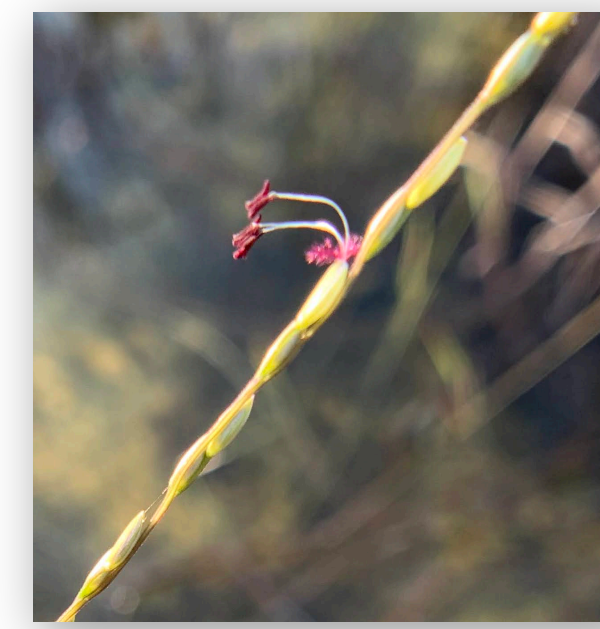
★ Plantlets begin falling

New culms grow and old culms die

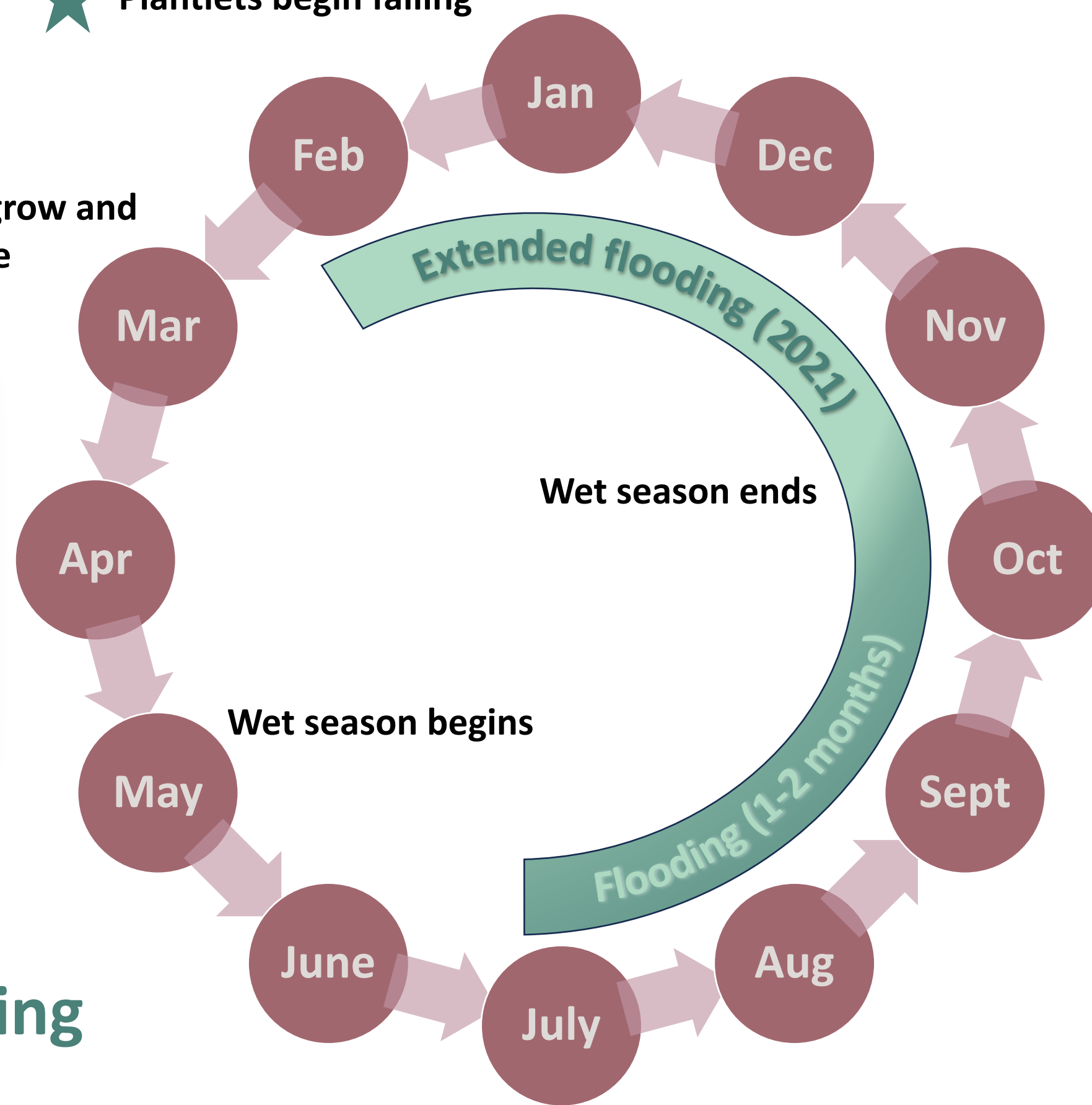


Plantlets form & seeds are dispersed

Flowering begins



## *Digitaria pauciflora* experience seasonal flooding



## Seasonal flooding affects the demography of *Digitaria pauciflora*

Overall, plants are bigger where elevation is lower.

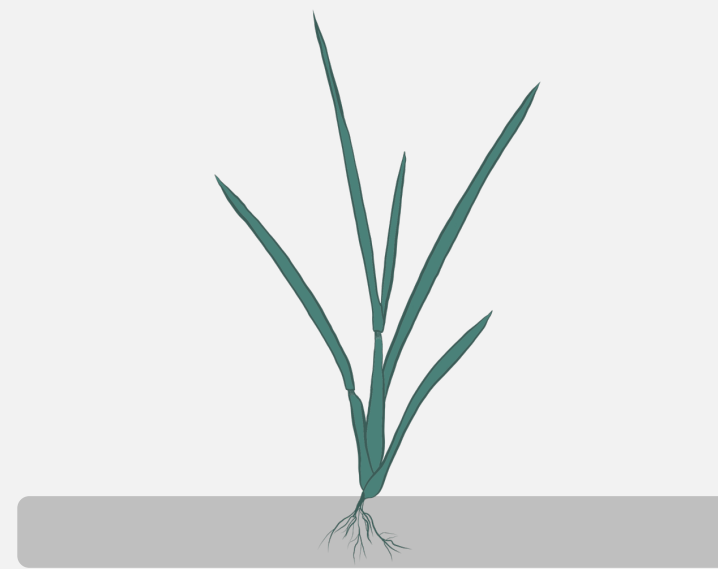
The largest plants with many stems were in solution holes.

An individual plant produces 60-6500 seeds each year, but seedlings are rare.

Plants mainly spread via plantlets that form below inflorescences.

Populations are sensitive to extended flooding.

## Typical flooding duration (1-2 months)

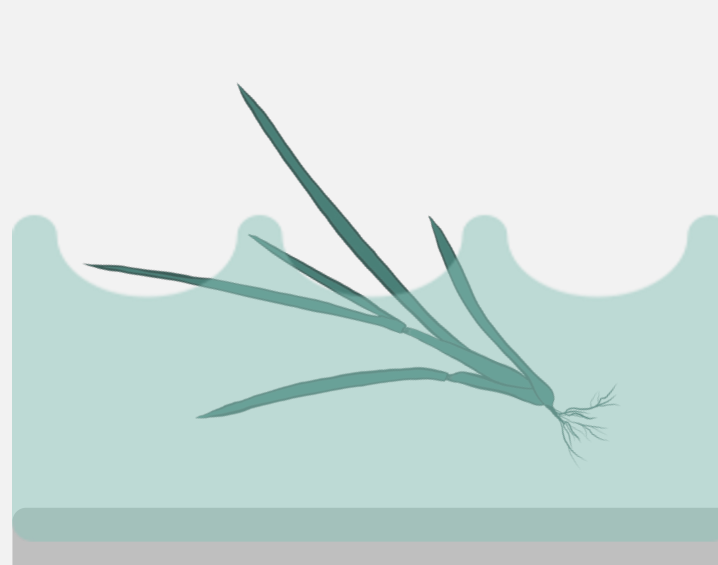


85% survival of adult plants

0.12 plantlets per adult establish

Population size increases

## Extended flooding duration



62% survival of adult plants

0.05 plantlets per adult establish

Population size decreases



## Conservation planning should consider asexual reproduction of *Digitaria pauciflora*

*Digitaria pauciflora* exhibits boom or bust demographics.

Multiple, sequential years with extended flooding could decimate populations.

Burning and moving plantlets to new areas might bolster populations during bust years.



Spikelet

Adult plant with seeds and a plantlet

*Digitaria pauciflora*

Two-spike crabgrass  
Everglades crabgrass