Post Oak Flatwoods

By Ethan Schmidt and Laura Garcia

Characteristics

Post oak flatwood forests are most commonly found in Arkansas, Missouri, Illinois, Indiana and Kentucky

The forest develops on level soil with a dense subsoil hardpan that is largely impervious to water. This causes a shallow water table to develop during the wet season

Flatwoods are usually maintained by wildfires or prescribed fires. Without these fires the forests will be invaded by other species

Environmental Services

Provides food for grazing animals. Grazing also helps maintain the forest however the most common maintenance is wildfires or prescribed fires

Depressions in the soil can also provide small ponds during the wet season

Provides a canopy for flora and fauna with a maximum height of 22-23 meters

Producers

- Post Oak
- Japanese Honeysuckle
- Great Mullein
- Coralberry
- Saw Greenbriar

Post Oak, and Japanese Honeysuckle

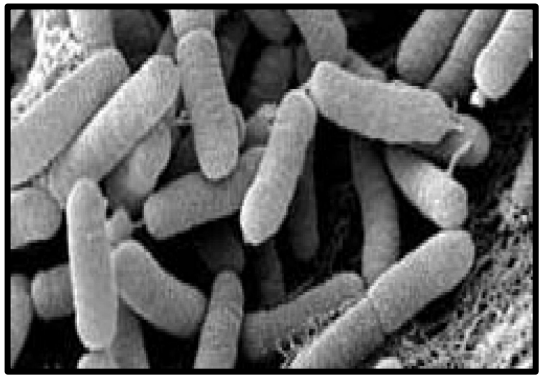
Great Mullein, Saw Greenbriar, and Coralberry

Consumers

- White-tailed deer
- Wild turkeys
- Squirrels
- Blue jays
  - Eats the acorns of the post oak tree

Decomposers

- Xylella-fastidiosa - can cause Oak Leaf Scorch
- Polypores
- Root-Knot nematodes




LL10
LL9
LL8
Successional Forest
LL7
LL2
Wetland
LL1
LL6
Post Oak Flatwoods
LL5
LL3
LL4
bing
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PAR and PPFD

Photosynthetically Active Radiation (PAR) -
Light wavelengths of the visible range of 400-700 nm that are important for photosynthesis.

Photosynthetic Photon Flux Density (PPFD) -
Measure of the quantity of photons from the 400-700 nm (PAR) range from the visible light spectrum that lands on a m^2 of target area per sec

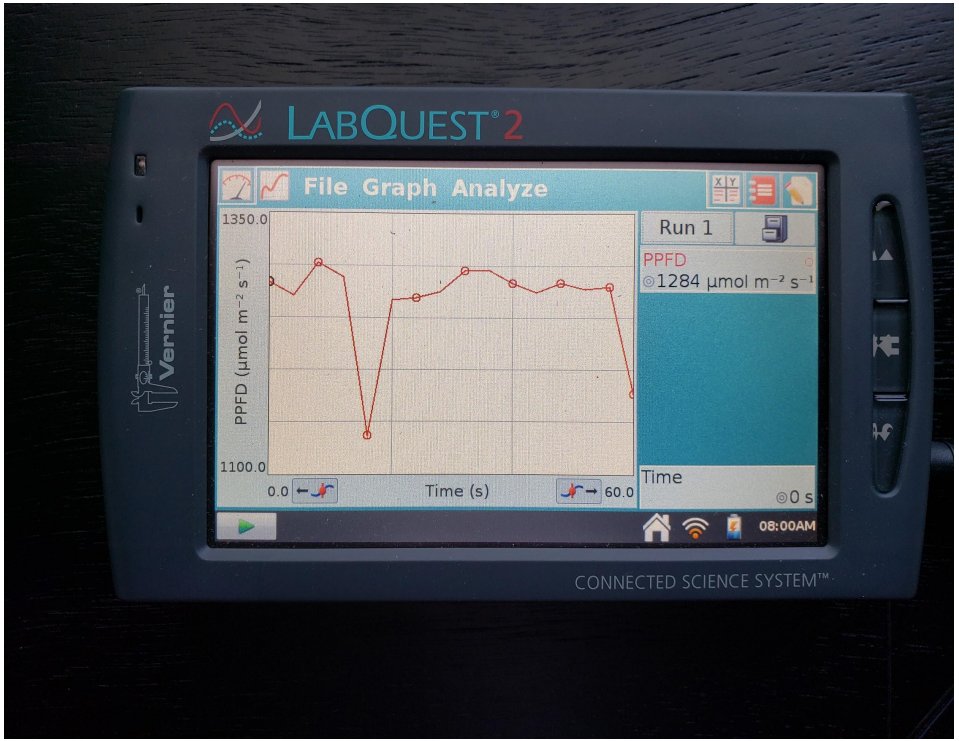
($\mu mol\ m^{-2}\ s^{-1}$) = micromoles/m^2/sec

Post Oak Flatwoods Data Before Leaf Out and After Leaf Out

	PPFD average over 60 seconds ($\mu mol\ m^{-2}\ s^{-1}$) = micromoles/m^2/sec		
Monitoring Point	3/7/2020	4/15/2020	Increase/ Decrease
LL3	1226	1103	10% Decrease
LL4	1273	1209	5% Decrease
LL5	570	547	4% Decrease
LL6	1236	1360	10% Increase
LL7	783	720	8% Decrease

PPFD was less after leaf out with the exception of the monitoring point LL6.

LabQuest Unit and GPS Unit



iNaturalist

An app where people record observations of plant and animal life all around the world

A joint initiative of the Natural Geographic Society and California Academy of Sciences

Visit https://www.inaturalist.org/ and join the project NWACC Bentonville Campus Biodiversity to get started

How iNaturalist works

Record observations through the app on your phone or take pictures and upload them to the website

These photos can be used by scientists in different projects throughout your community and you can also discuss findings with others in your community

References

https://www.dormgrow.com/par/ slide 11

https://www.hortidaily.com/article/6027841/video-what-is-ppfd/ slide 11

https://www1.usgs.gov/csas/nvcs/nvcsGetUnitDetails?elementGlobalId=899554 slide 2 & 4

https://www.fs.fed.us/database/feis/plants/tree/queste/all.html slide 8

https://nature.mdc.mo.gov/discover-nature/field-guide/post-oak slide 8

https://extension.psu.edu/bacterial-leaf-scorch slide 9

Images

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