Abstract: Cirsium wrightii A.Gray (Wright's Marsh Thistle) occurs in boggy soils, closely associated with the rare ciénegas (wet meadows) of New Mexico and often co-occurring with the federally threatened Helianthus paradoxus Heiser (Pecos Sunflower). Both species require full sun in order to mature, but can be shaded and outcompeted by invasive plants. Bitter Lake National Wildlife Refuge (BLNWR), located within the Northern Chihuahuan desert ecoregion, hosts one of the largest populations of C. wrightii and H. paradoxus. Currently, prescribed fire is a management tool used on BLNWR to improve habitat conditions for H. paradoxus, although little is known about how C. wrightii responds to prescribed fire. We conducted a prescribed fire at one of three wetland units populated by C. wrightii to study the effects of fire on growth and survival. We randomly selected 30 plants from the burned unit and five plants from unburned areas to monitor.

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Abstract Continued: We used generalized linear mixed effect modeling and Akaike information criterion (AICc) model selection to examine the effects of prescribed fire on the weekly growth of plant height and width.

We found all plants survived the fire initially and differences in survival at 35 weeks were undetectable between burned and unburned plants. Individual plants within the fire boundary, and those that showed signs of damage due to the fire, grew taller and wider than plants that were not burned or showed no signs of damage. The results from our study will allow managers to improve habitat conditions for two rare and protected species by reducing competition with adjacent plants (including highly invasive species) and increasing the nutrient load in the system.

Read the full open-access article here!

Volunteer webmaster needed! We are looking for someone with WordPress expertise to help troubleshoot and maintain the new CalBotSoc website. Send inquiries to Vice President Josh Der (jder@fullerton.edu).

Upcoming Events

2024 Speaker Series (7 pm):
August 8th: Sophie Winitsky | California Botanical Garden
Sept. 12th: Irene Liao | University of California, Los Angeles
Oct. 10th: Niveditha Ramadoss | San Diego State University
Dec. 12th: Allyssa Richards | University of California, Riverside

Missed a Speaker?
View previous speakers on our YouTube Channel

Send Nemophila submissions HERE

New and Noteworthy from Madroño

A. Fruit Predation and Pollination of Morro Manzanita Read More Open-Access!
B. Flawed Human Perceptions of Smooth-Barked Trees Read More Open Access!
C. Relocation of alpine Potentilla Read More!
D. New sagebrush-steppe Ranunculus Read More Open-Access!

Read the full issue HERE (Free for Members)