

Scientific Research on the Balcones Canyonlands Preserve

Presented by:
Melinda Mallia
Travis County Natural Resources
Austin, Texas



Wild Basin Preserve

St. Edward's University
Creative Research Center

A TRAVIS COUNTY PRESERVE

YOURS TO ENJOY WITH CARE

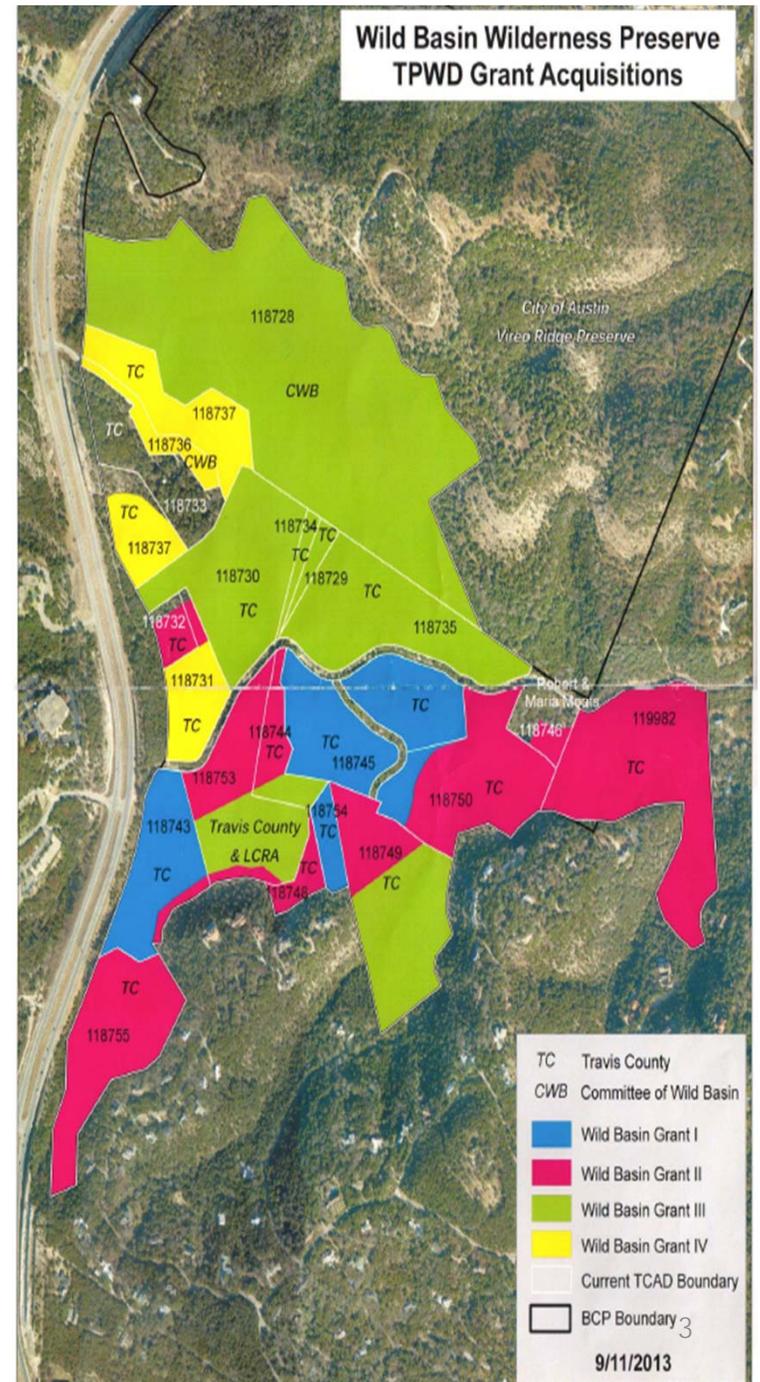
805 N. CAPITAL OF TEXAS HIGHWAY

Open Sunrise to Sunset



Wild Basin Preserve

- Created in 1980s as
 - wilderness preserve
 - environmental education center
- Grandfathered into BCP 1996
- Co-owned by Travis County & NGO committee
- St. Edward's took over NGO's role



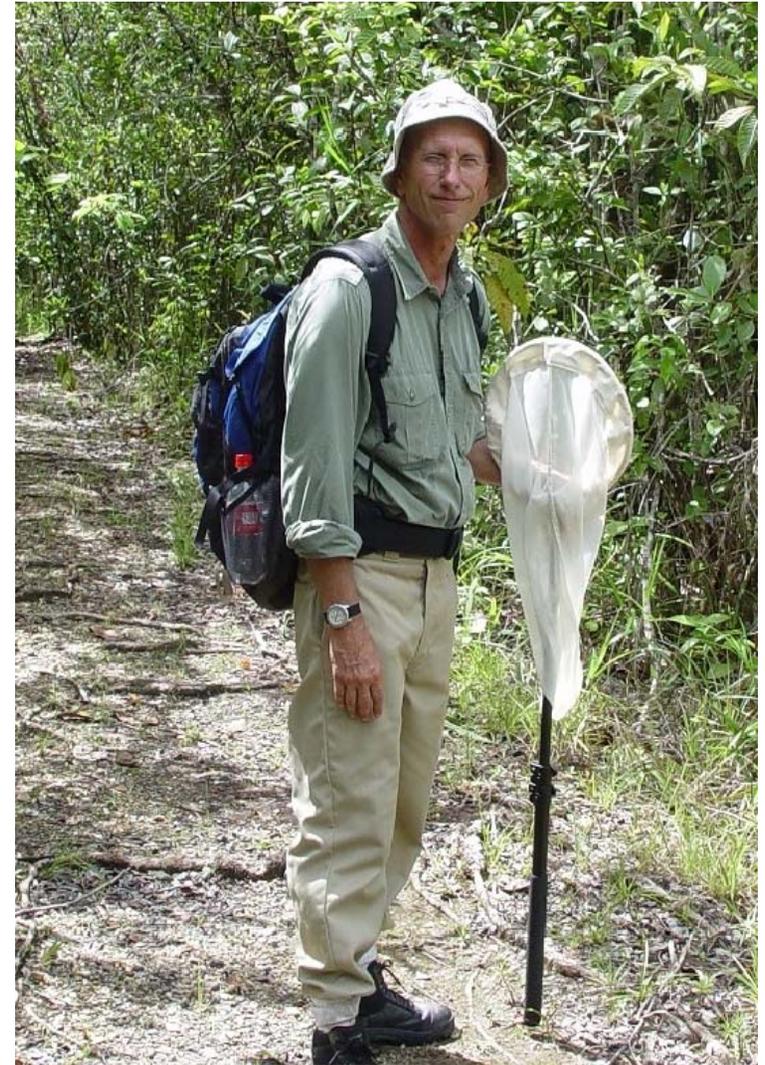


Wild Basin Mission:

To protect and maintain the preserve's urban wilderness, and to promote the importance of environmental education, research, conservation, and preservation



Wild Basin Creative Research Center



Dr. Allan Hook, 1953 - 2013

Concordia University





Evolution of Roles
from Landowner to
Preserve Partner



2018-2019 Academic Catalog

Environmental Science and Conservation (BS)

The Environmental Science and Conservation major examines the relationship between humans and the environment, and prepares students to manage human impact on environmental systems. The program emphasizes field experiences in water resources conservation and wildlife conservation, many of which take place in Concordia's nature preserve. Additional emphasis is placed on policy, planning, economics, philosophy, and communications in the context of natural resources management. Majors will have abundant opportunities to work with local government agencies and volunteer groups solving critical environmental problems.



Graduate Student Research

Streptanthus bracteatus
Bracted twistflower



Master's Theses Research on the BCP

Black-capped vireo

- Foraging
- Migration corridors



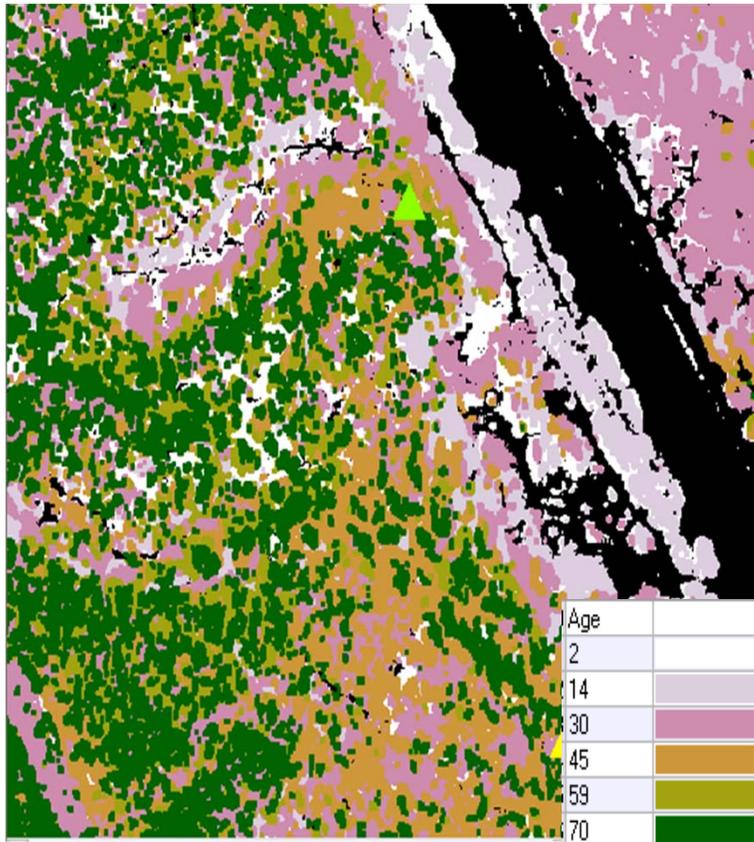
Golden-cheeked warbler

- Edge effects
- Modeling

Contractual Research: Baylor University

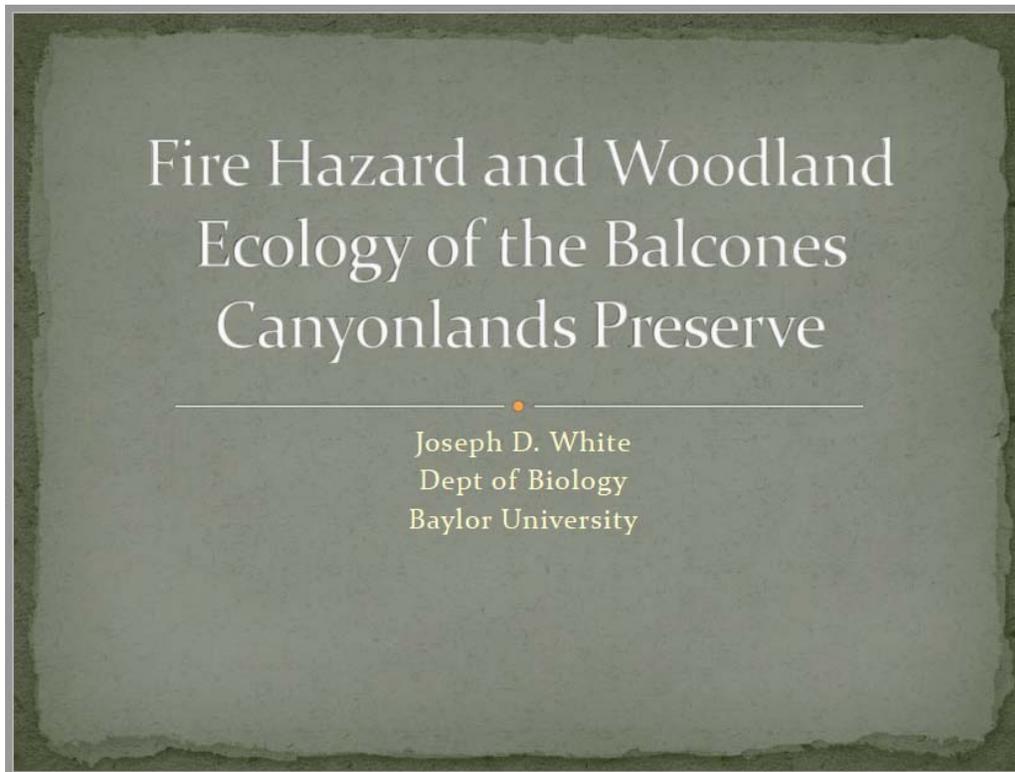
Joseph D. White, Ph.D.
Spatial Ecology Laboratory
Center for Spatial Research

2009 Stand Age Mapping



Baylor University

Dr. Joseph White



The Balcones Canyonlands
Preserve Fire Risk and
Management:

Characterization of Woodland
Fuels and Simulated Fire
Behavior in the Wildland-Urban
Interface

Joseph D. White, Ph.D.

Jon Thomas, M.S.

Darrel Murray, M.S.

Mary Sides, M.A., M.B.A.

Jian Yao

*Spatial Ecology Laboratory
Baylor University*

Draft resubmitted June 30, 2009

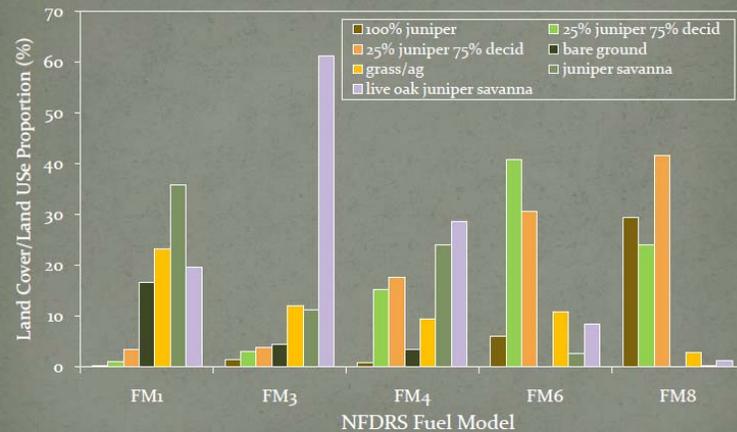
Fire Hazard Assessment

- Develop fuels database based on field sampling
 - Coarse woody debris
 - Canopy bulk density
- Fire behavior modeling for hazard assessment
 - Short-term
 - FARSITE
 - Long-term
 - FLAMMAP

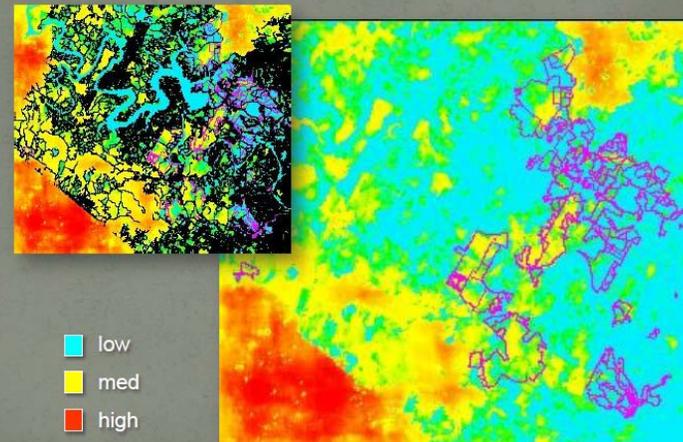
Fuel Mapping

- Downed woody fuels and live surface fuels estimated from 112 sites located at the Balcones Canyonlands National Wildlife Refuge
- Landsat-7 ETM+ (July 7, 2001) used to classify fuel model types (NFDRS Anderson models 1,3,4,6, & 8)
 - Red and near infrared channels
 - Spectral space mapping
 - Accuracy assessed based on 31 sites measured at BCP

Vegetation Composition by Fuel Model



FLAMMAP: Prob(burn) - Roads

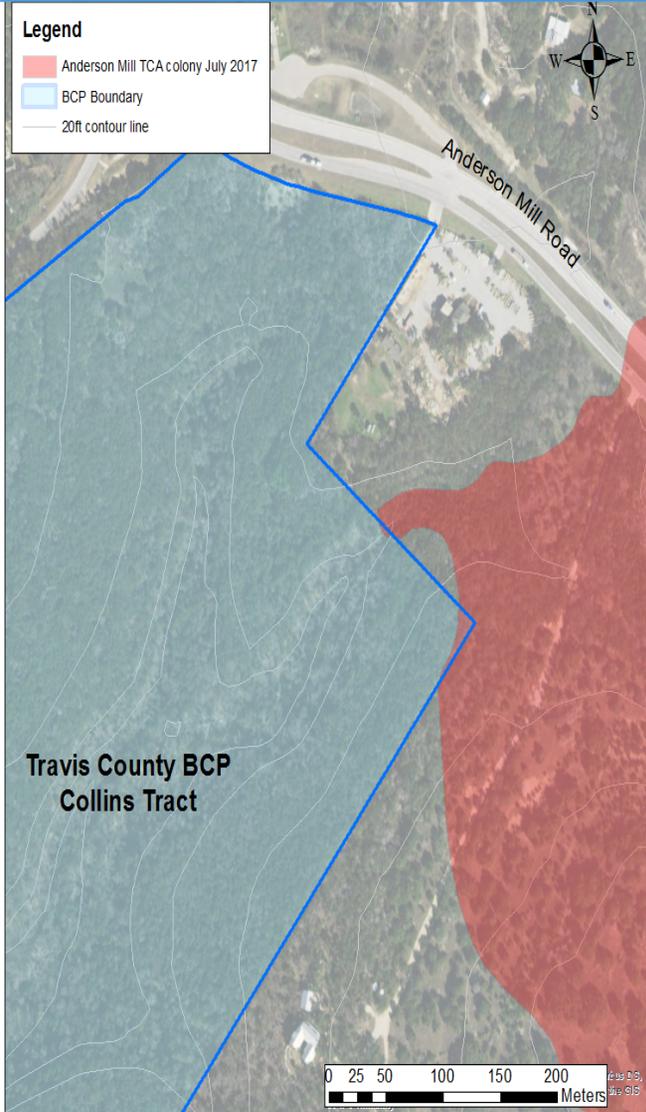


Tawny Crazy Ant Research

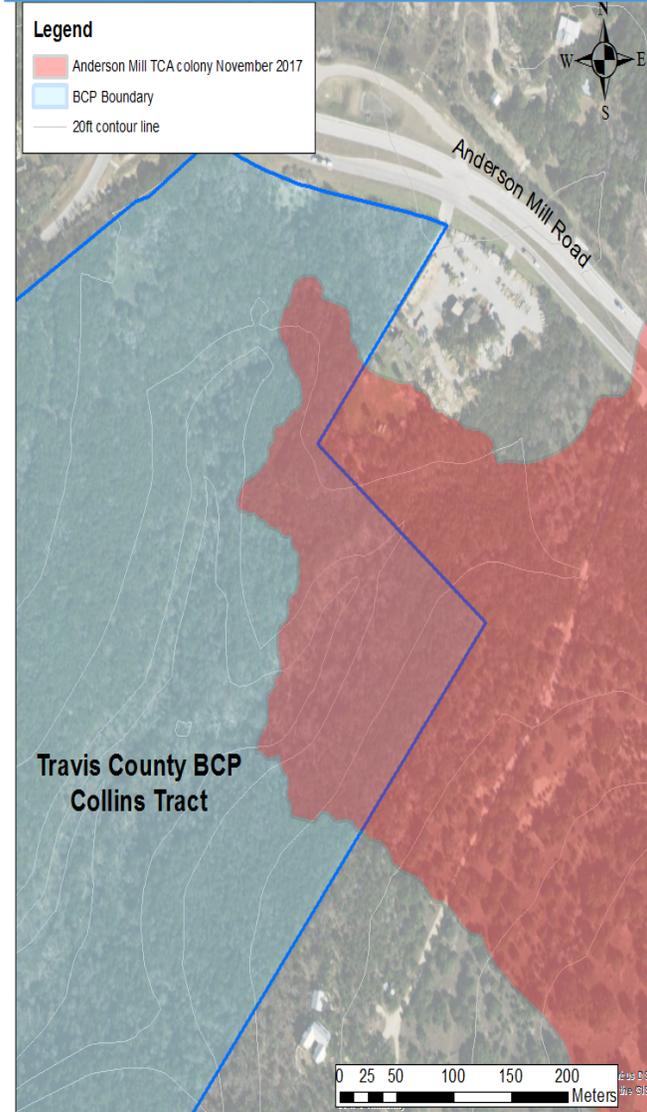
- Recent invader from South America
- Spreading rapidly to preserve
- Studying effects on GCWA & prey base



July 2017



November 2017



University of Texas

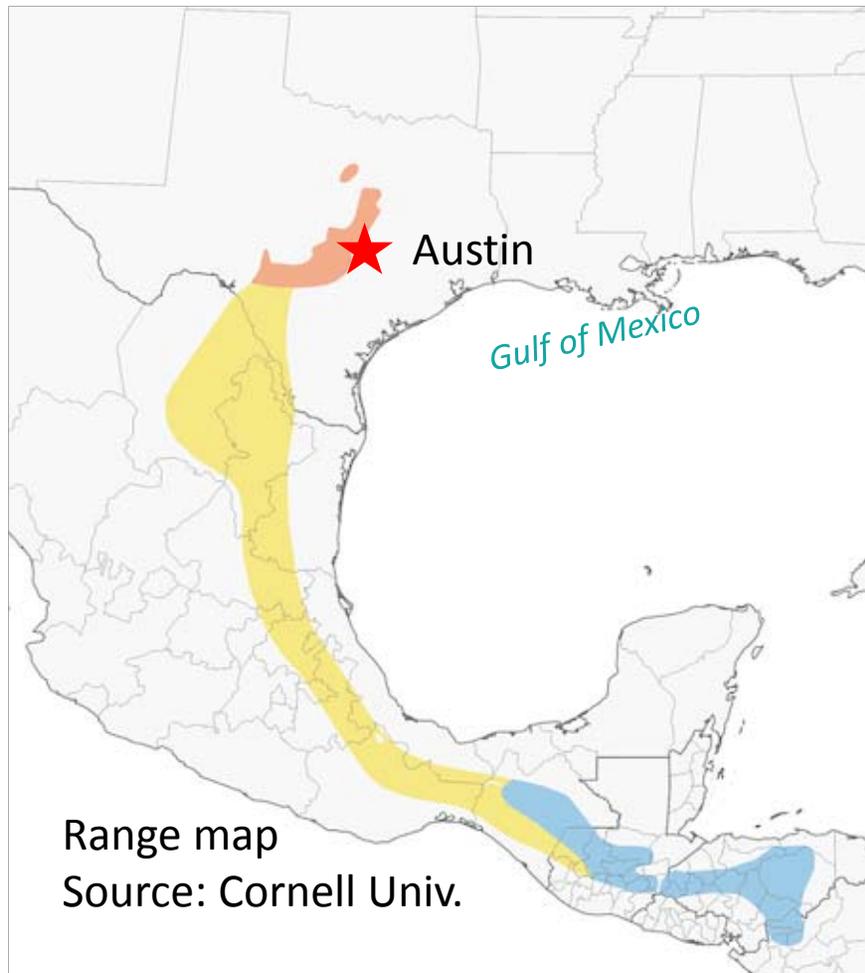
**Dr. Ed LeBrun, Entomologist
Brackenridge Field Laboratory**



Joint Research Project with UT and BCP Staff

- Started with Section 6 Research Grant
- Continued with joint funding by
 - City of Austin
 - Travis County
- Staff & Dr. Le Brun conduct research

Research in Mexico & Central America



- Data exchanges
- Songbird wintering range
- Telemetry difficult with tiny birds





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National HCP Coalition Meeting ❖ November 13, 2019