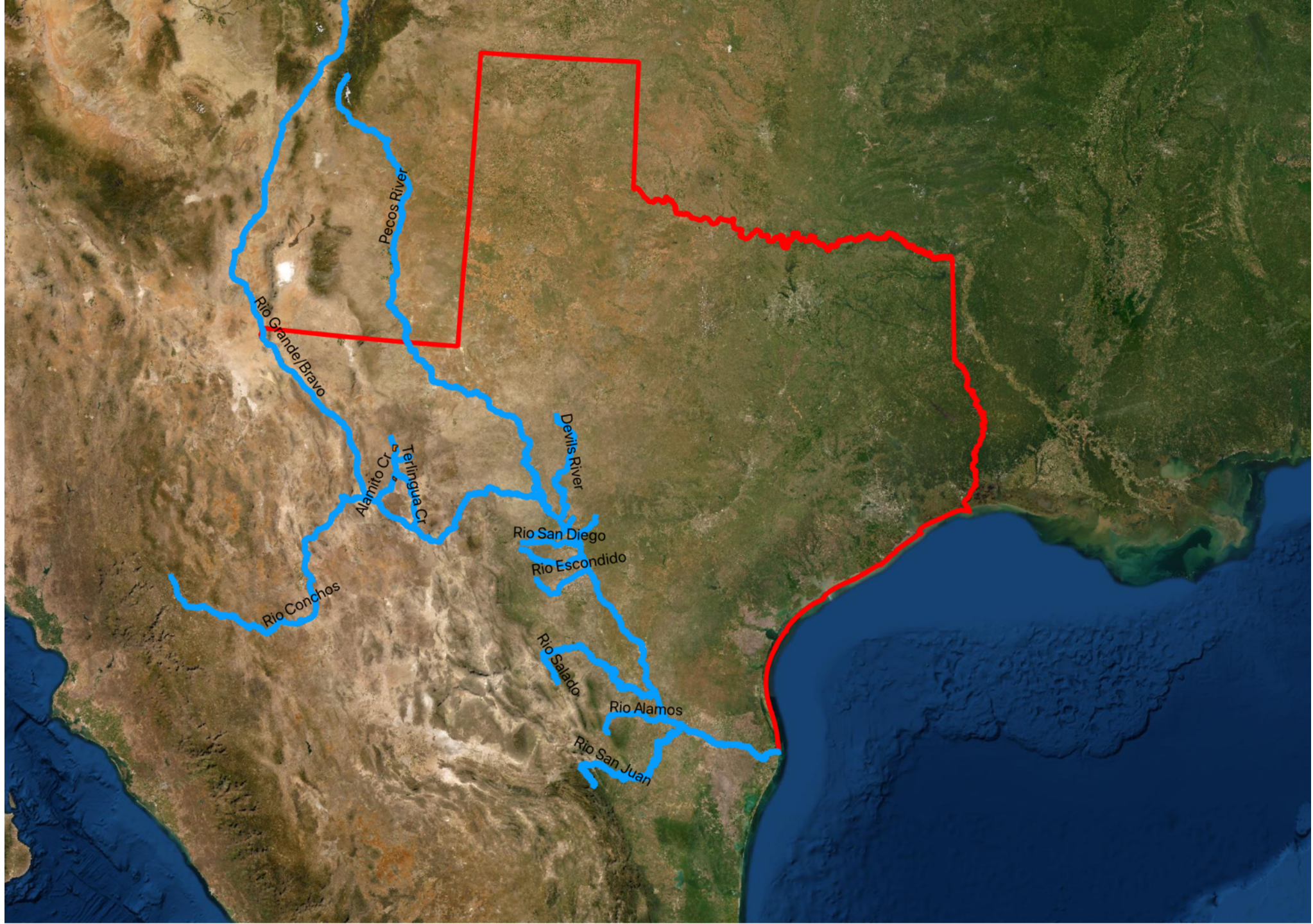




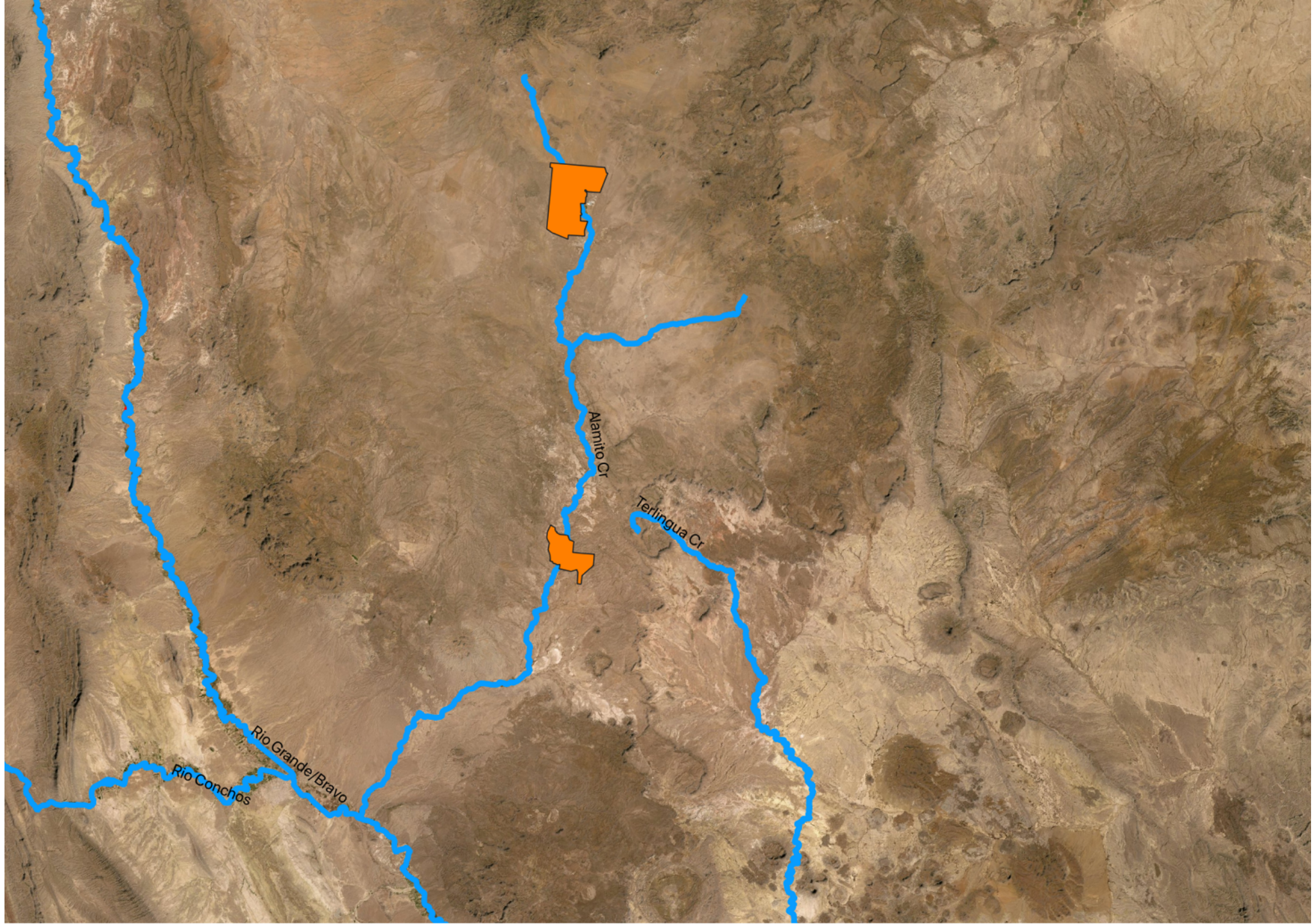
TPWD Texas Waters Program *“Regenerative Land Management for Healthy Watersheds”*

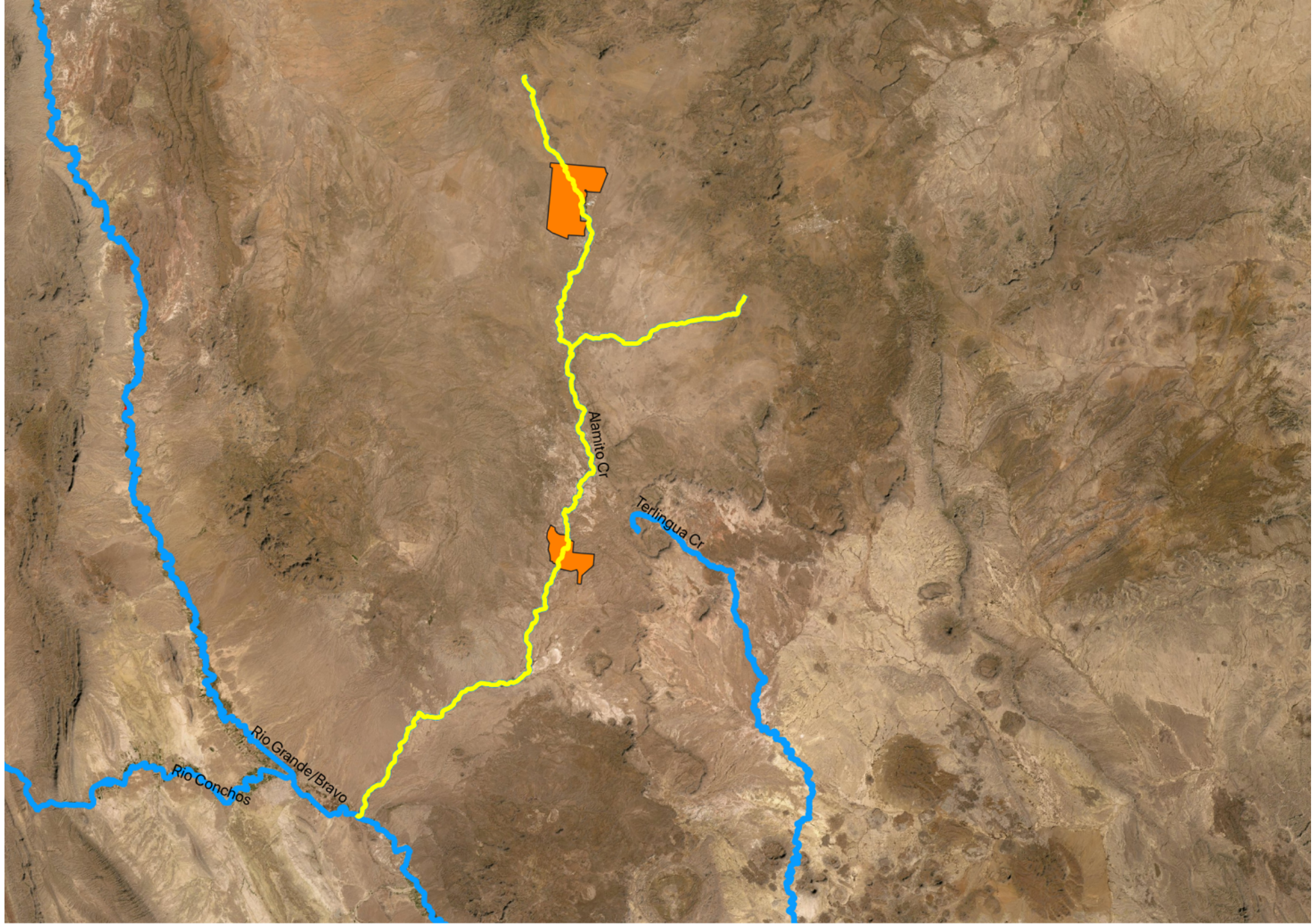
Alamito Creek Preserve – Desert Riparian Ranch Management

Philip Boyd – Director of Science and Communications









MIMMS RANCH

Marfa, TX

ALAMITO CREEK PRESERVE

12.81 mi

© 2021 INEGI
Image Landsat / Copernicus
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Google Earth

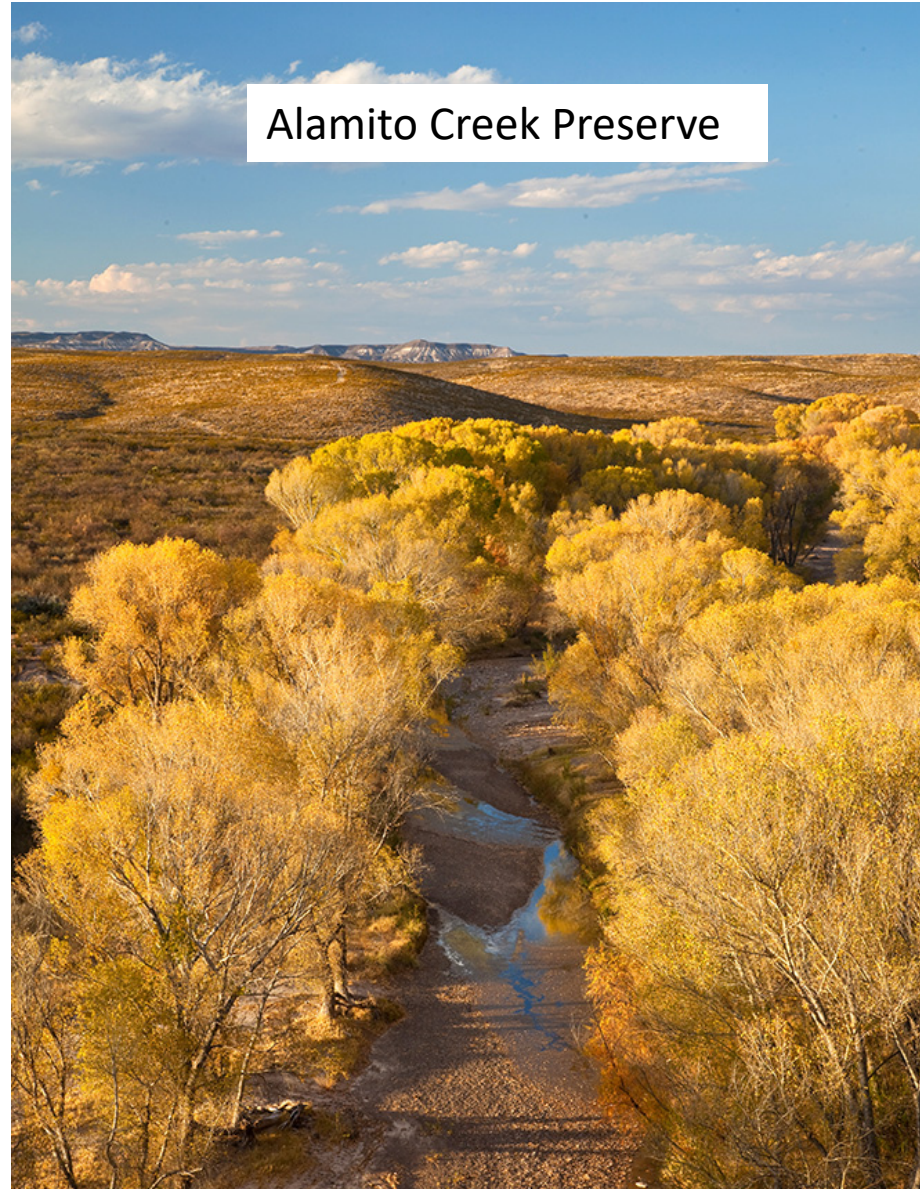
lat 30.242448° lon -104.305997° elev 5237 ft eve alt 56.52 mi

Mimms Unit



4,600 ft elevation, Mixed Prairie

Alamito Creek Preserve



3,600 ft elevation, Desert Grassland, Desert Scrub

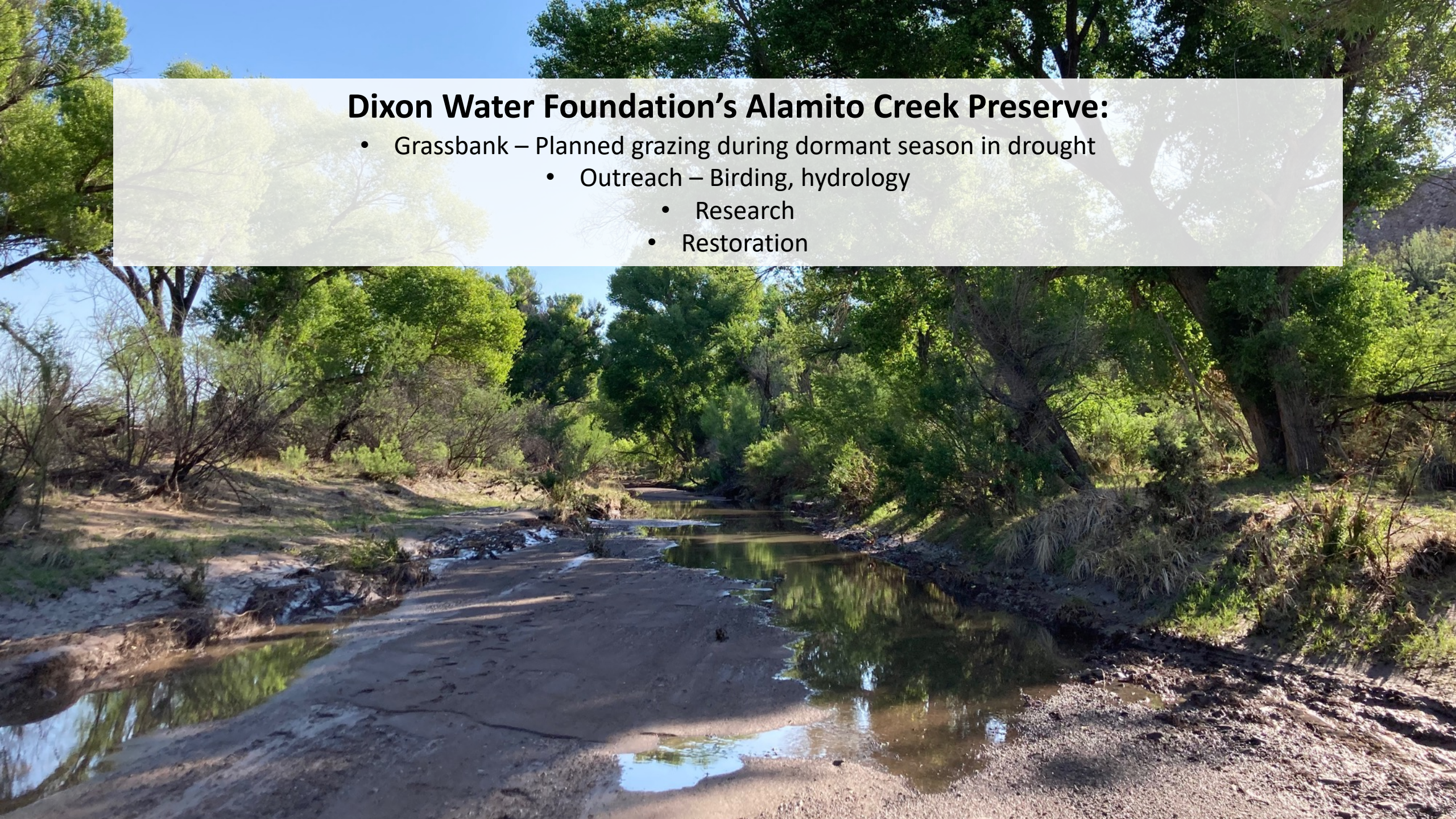
t.a.l.t.

Why are we concerned about riparian habitats & streams?

- In the arid SW U.S., historical accounts tell us that many southwestern streams have degraded since colonization.
 - Perennial flow has been replaced with ephemeral or intermittent flows
 - Arroyo downcutting, or stream incision, has disconnected flood plains from annual flows
 - riparian forests were logged to provide wood for mercury mines, fuel, and other needs.
 - often directly connected to aquifers.
- Streams provide habitat and water for many birds, fish, wildlife species, and working lands.
- In the arid SW U.S. and northern Mexico, 70-80% of avian species depend upon riparian habitats for survival at some stage of their life and support a higher breeding diversity of birds than all other western habitats (Krueper 1993, Villaseñor-Gómez 2008)
- Riparian areas are important landscape corridors and provide critical connections to upland and aquatic systems.
- Stream incision, gully formation, and associated headcutting erosion are known geomorphic processes that contribute to grassland degradation

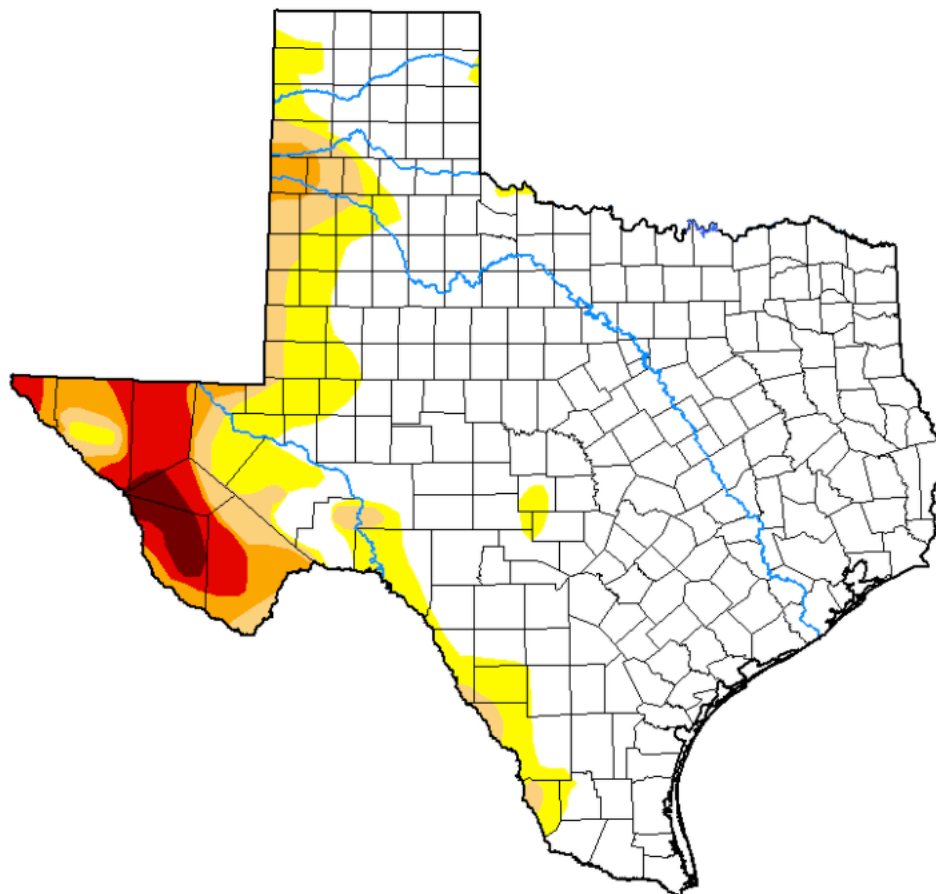
Slide courtesy of: Megan Bean, Texas Parks and Wildlife Department, Jeff Bennett, Rio Grande Joint Venture / American Bird Conservancy, David Borré, Pronatura Noreste, Aimee Roberson, American Bird Conservancy





Dixon Water Foundation's Alamito Creek Preserve:

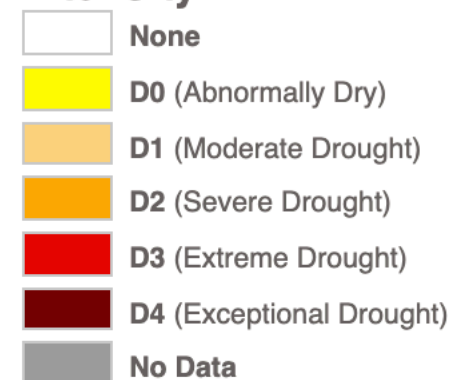
- Grassbank – Planned grazing during dormant season in drought
 - Outreach – Birding, hydrology
 - Research
 - Restoration



Map released: Thurs. June 10, 2021

Data valid: June 8, 2021 at 8 a.m. EDT

Intensity



Authors

United States and Puerto Rico Author(s):

Brian Fuchs, National Drought Mitigation Center

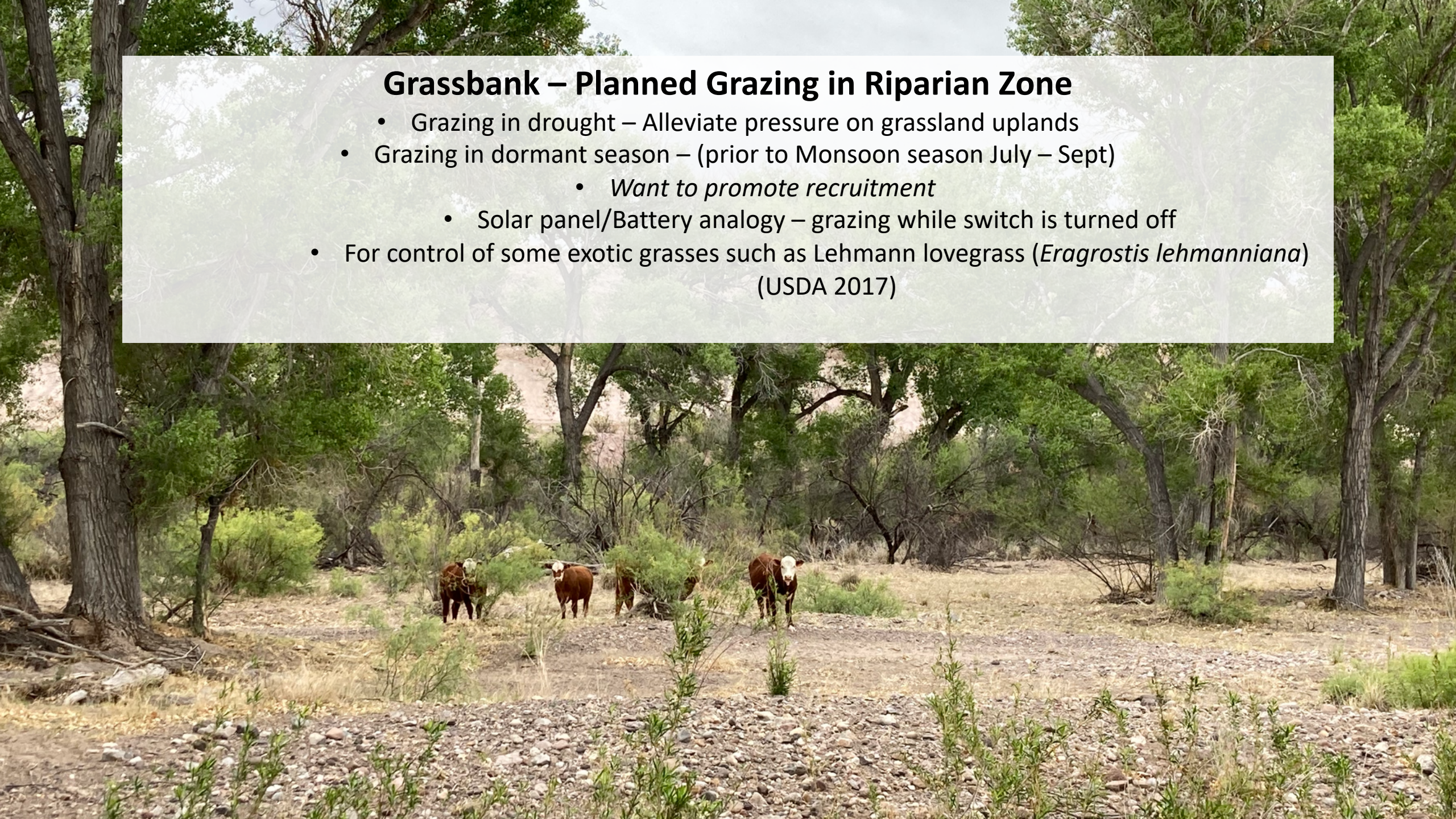
Pacific Islands and Virgin Islands Author(s):

Richard Tinker, NOAA/NWS/NCEP/CPC

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying [text summary](#) for forecast statements.

Grassbank – Planned Grazing in Riparian Zone

- Grazing in drought – Alleviate pressure on grassland uplands
- Grazing in dormant season – (prior to Monsoon season July – Sept)
 - *Want to promote recruitment*
 - Solar panel/Battery analogy – grazing while switch is turned off
- For control of some exotic grasses such as Lehmann lovegrass (*Eragrostis lehmanniana*) (USDA 2017)



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2021 DAVIS MOUNTAINS Hummingbird Celebration

Mark your calendars
August 19-22



Brought to you by:
Trans-Pecos Bird Conservation Partnership

Conservation Fundraiser - Raffle Ticket sale during Celebration

Outreach

Birding Groups



A group of people are walking along a wide, rocky path that winds through a wooded area. The path is covered with small, light-colored stones and pebbles. The trees on either side have green foliage, and the ground is dappled with sunlight and shadows. In the foreground, two people are walking towards the camera. The person on the left is wearing a blue and white plaid shirt, blue jeans, a blue baseball cap, and a blue face mask. The person on the right is wearing a grey hoodie, black shorts, a blue baseball cap, and a blue face mask. They are both carrying cameras. In the background, several other people are walking further down the path, some in groups and some alone. The overall scene is a peaceful outdoor setting, likely a park or a nature trail.

Outreach

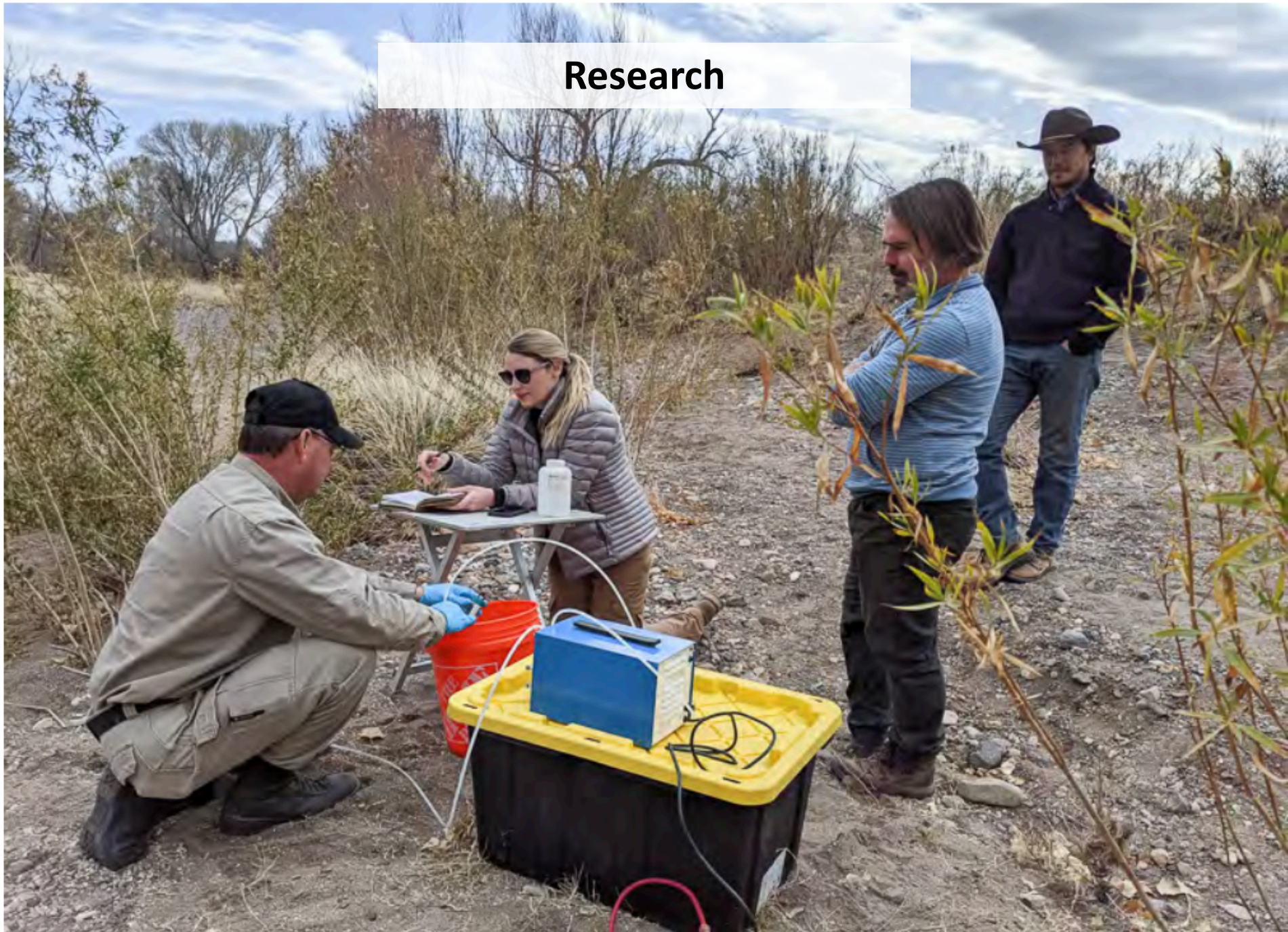
Birding Groups

Outreach

Partnerships

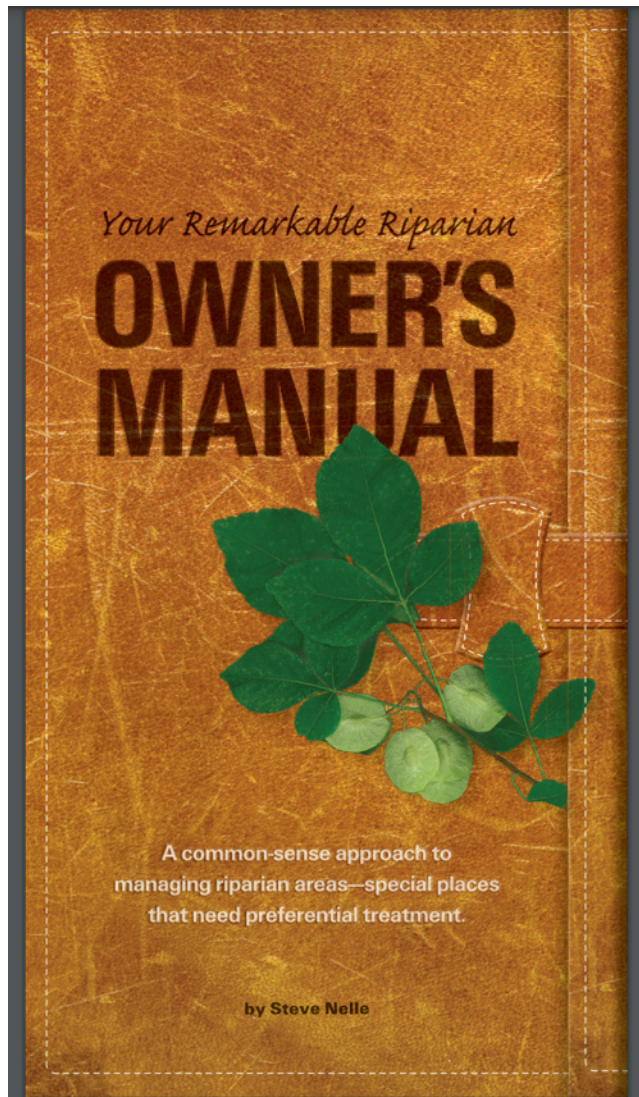


Research



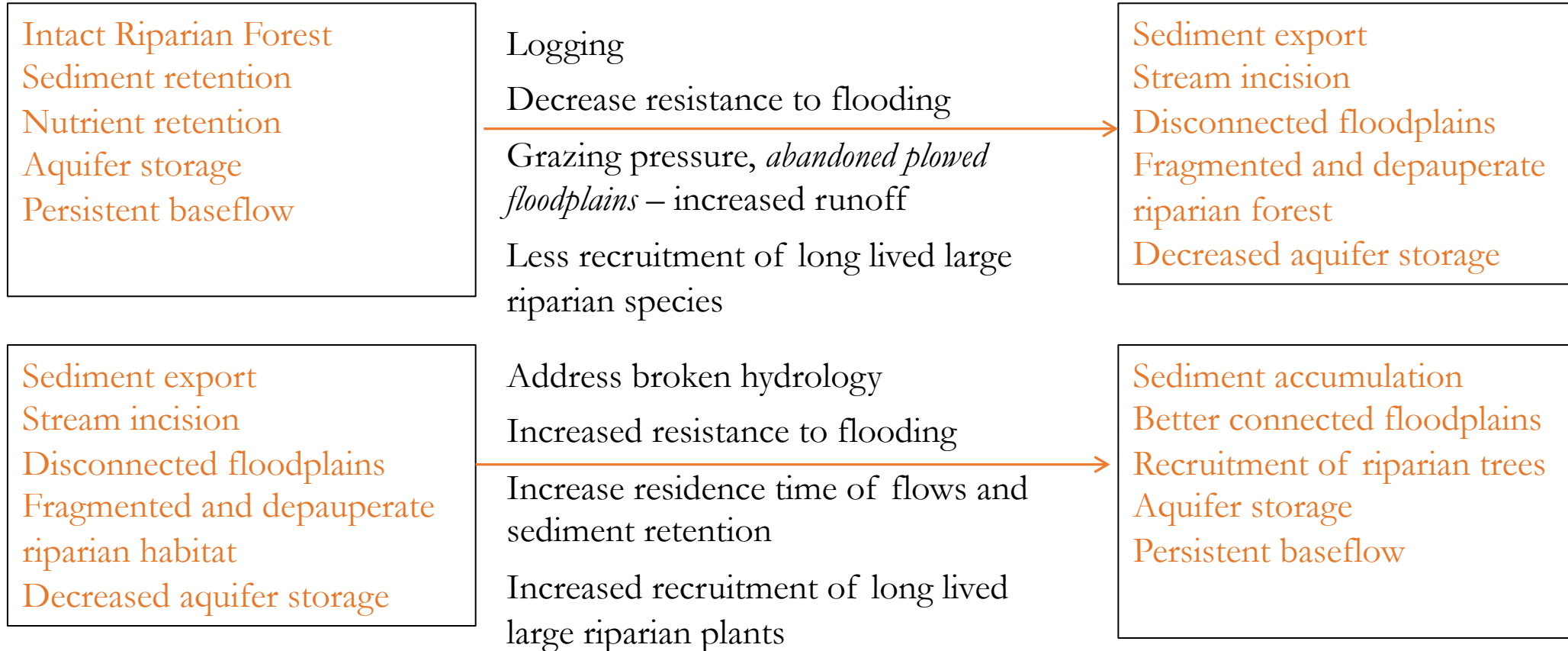
Restoration





Riparian areas under good management are able to sustain a relative balance between the forces of erosion and sediment deposition.

Hypotheses of Ecosystem Change



Decreased residence time (of water)

- Loss of vegetation, more erosion
- Loss of meanders/channelization

A. Simon, M. Rinaldi / Geomorphology 79 (2006) 361–383

369

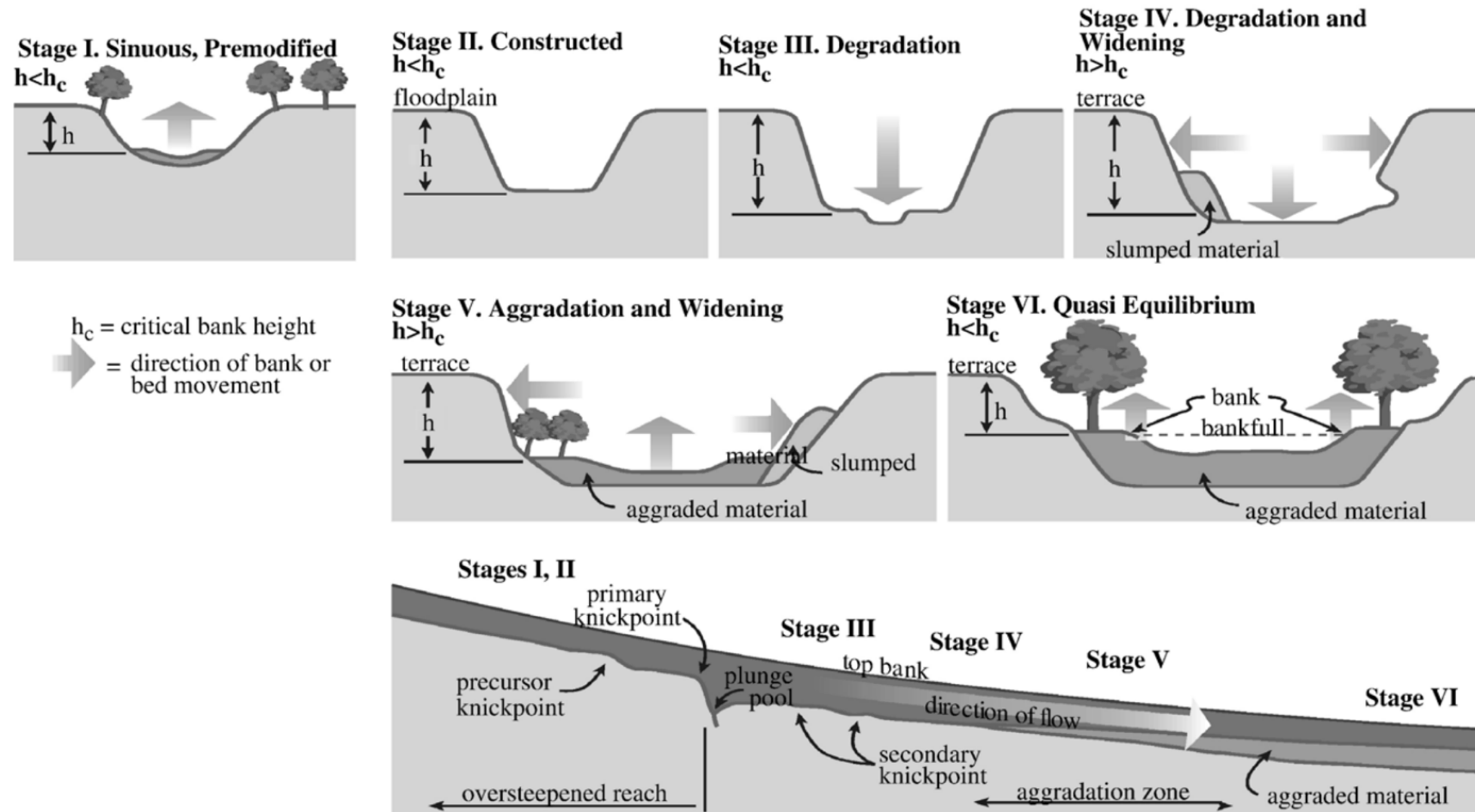


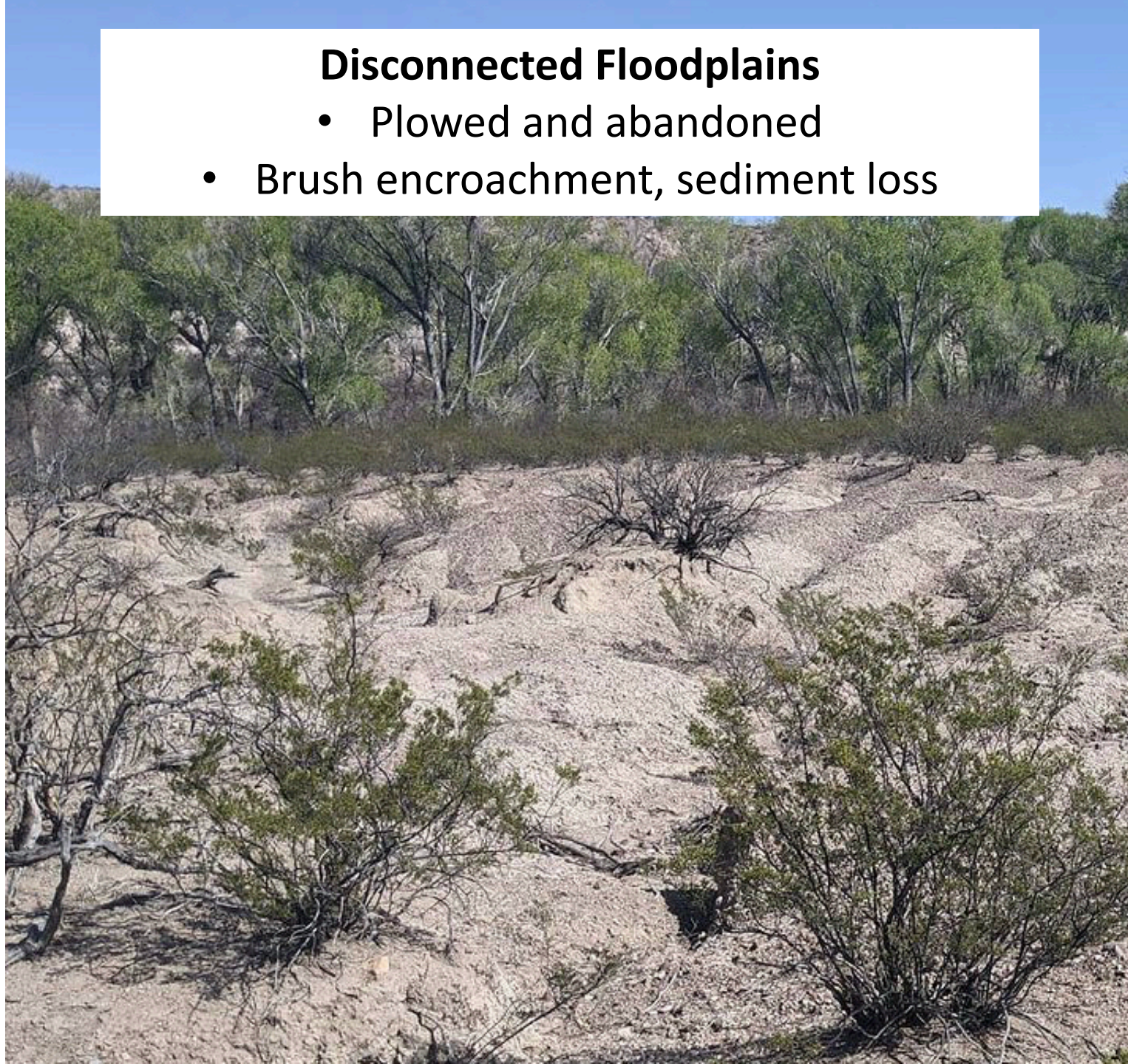
Fig. 7. Stages of channel evolution (modified from Simon and Hupp, 1986).

Disconnected floodplains



Disconnected Floodplains

- Plowed and abandoned
- Brush encroachment, sediment loss



Restoration?



Restoration?

- Planned Grazing: Promote recruitment
 - In-stream structures
- Increased organic matter/grass production

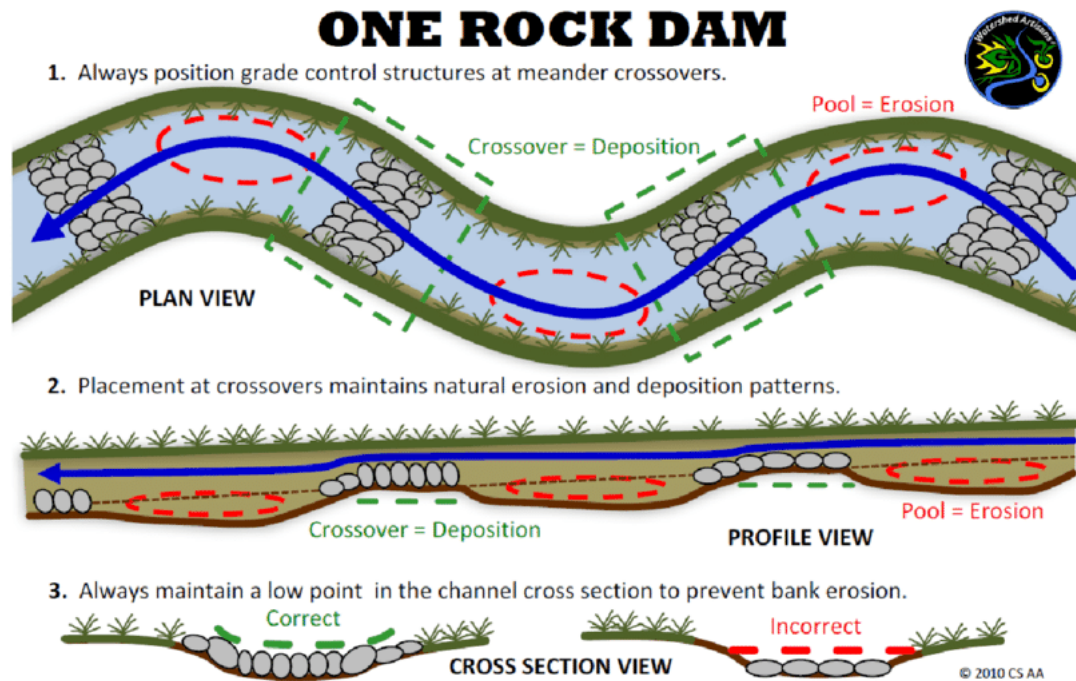
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Planned Grazing

- Dormant Season
- Grass growth – slow water, bank stabilization
- Recruitment of cottonwoods – bank stabilization



Grade control structures as low-tech, process-based restoration strategies



Alamito Creek Preserve, Texas



Cañon de Fernandez, Durango

Erosion Control / Stream Restoration Projects with Rio Grande Joint Venture and Steamboat Mountain School

14 Gully Plugs / Leaky Rock Dams

8 Log Jams







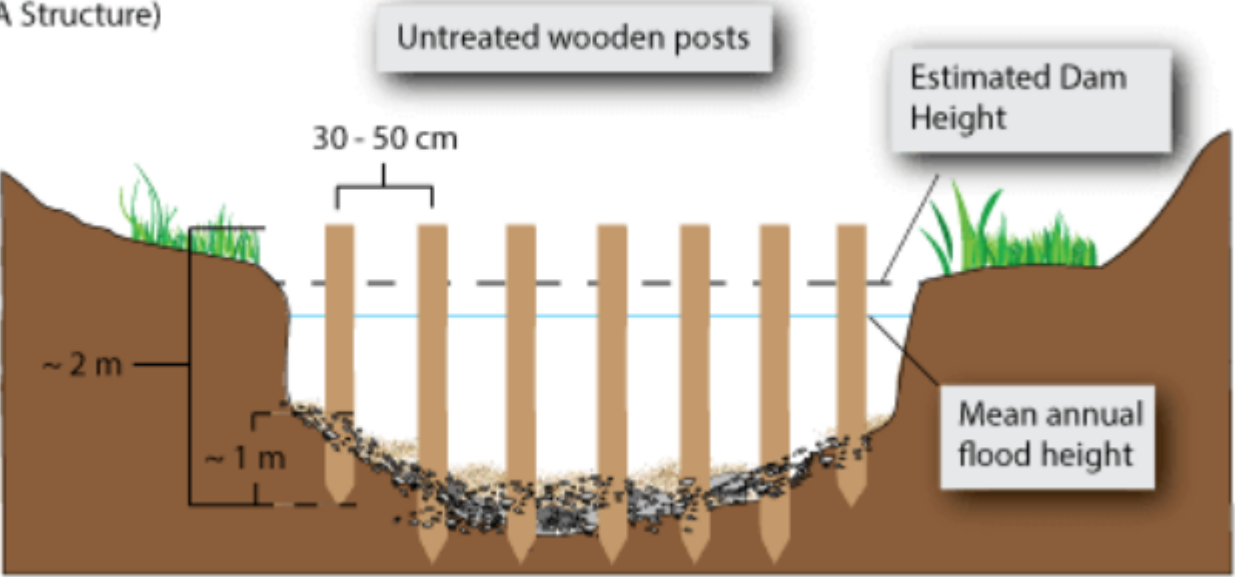


Beaver Dam Analogs and Post Assisted Log Structures as low-tech processed based restoration.

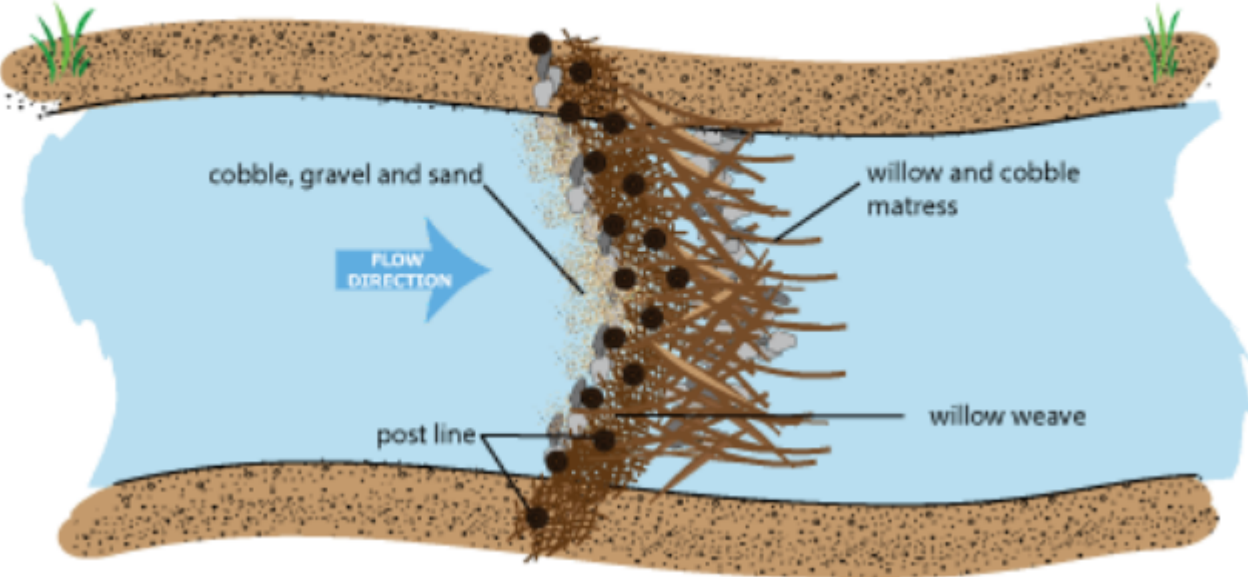
- slow flows and decrease sediment transport
- repair incised streams
- increase riparian vegetation and habitat
- increase the length of the wet season



Cross Section View
(Generic BDA Structure)



Plan View
(Convex Primary Dam)



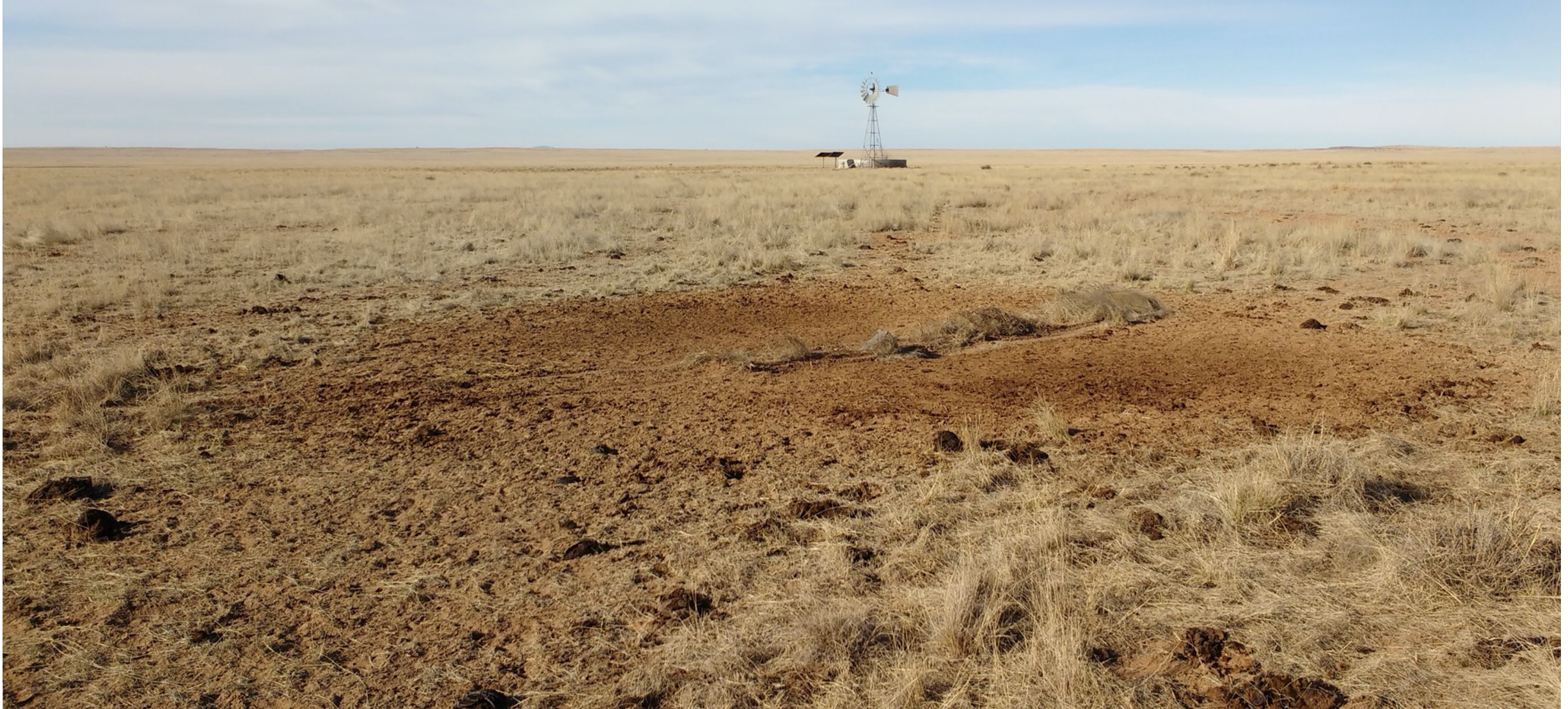
Restoration

- Increased organic matter/grass production
- Uplands – hay bale experimental enclosure



Restoration

Hay bale feeding on bareground



Restoration

Hay bale feeding on bareground



Restoration

- Increased organic matter/grass production
- Brush Removal – Banded Brush Restoration, Hay Bales



Restoration

- Increased organic matter/grass production
- Brush Removal – Banded Brush Restoration, Hay Bales
- On contour, microsites for seeding/plant production



Treeyo Permaculture

Restoration



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Questions?



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