SOUTHWEST VEGETATION MANAGEMENT ASSOCIATION

NOVEMBER 7, 2025

DAY 2 - FIELD TRIP

A MOUNTAIN - UPPER PARKING LOT

1501 SENTINEL PEAK RD, TUCSON, AZ 85745

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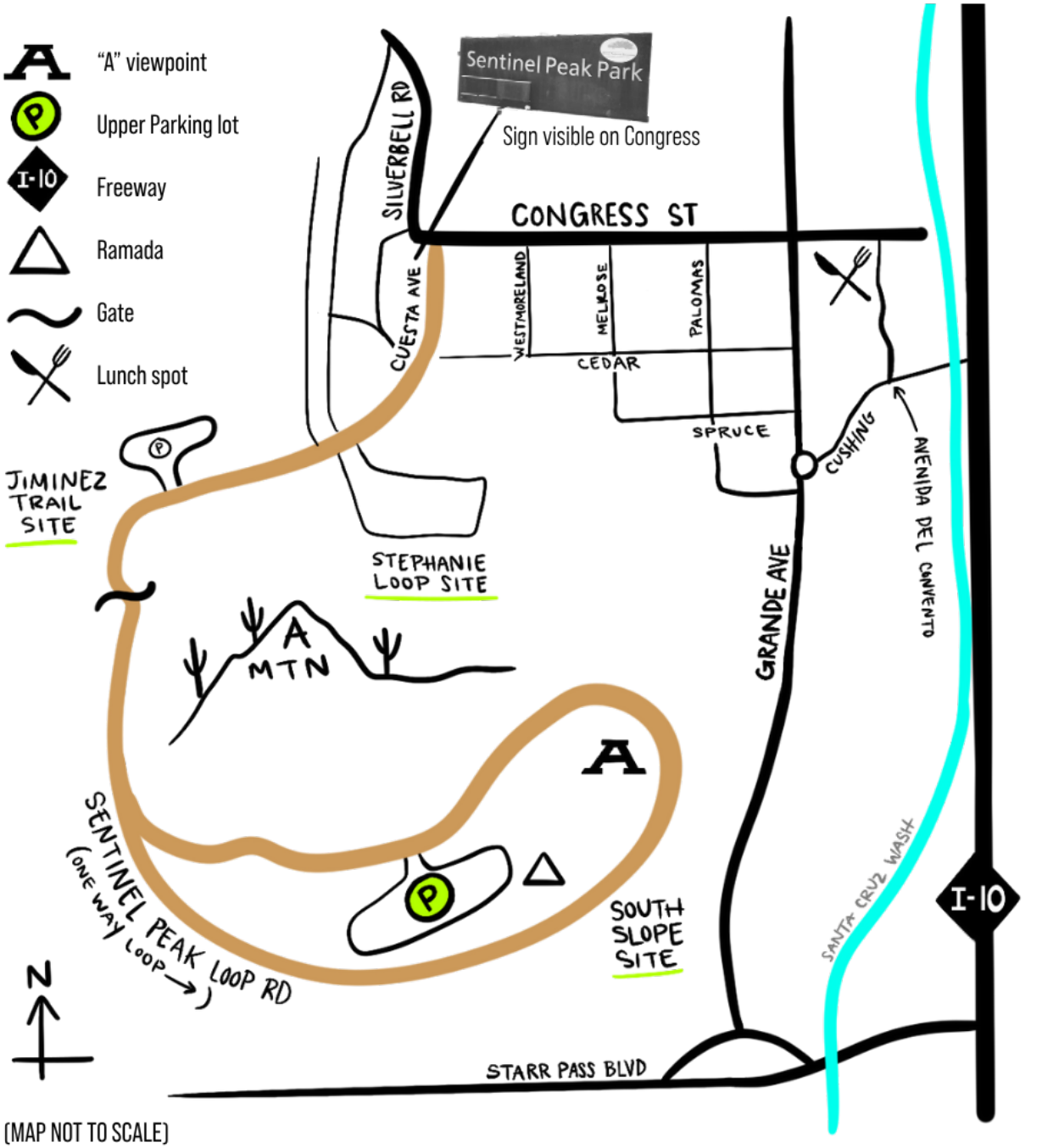
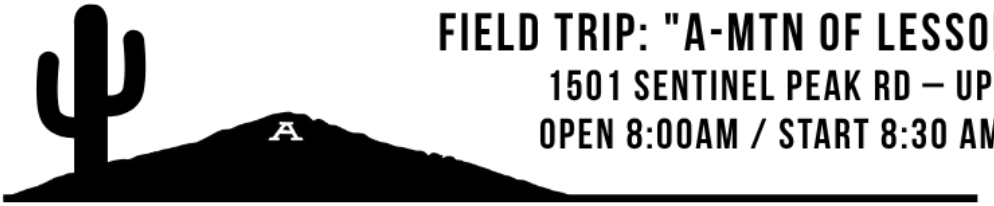


(MAP NOT TO SCALE)



DAY 2 – FRIDAY, NOVEMBER 7

FIELD TRIP: "A-MTN OF LESSONS LEARNED"

1501 SENTINEL PEAK RD – UPPER PARKING LOT

OPEN 8:00AM / START 8:30 AM / END 12:30 PM

KEY LOGISTICS

- Participants must meet at upper parking lot, where tour begins/ends
- Gate access to upper part of the mountain begins at 8am
- Bring: water bottlehiking shoes, hat, sunscreen, (bonus: binoculars, boot brush)
- Some rocky trail hiking & 1-mile road hike required. Expect full-sun
- Available onsite: Coffee, snacks, water, port-a-potty
- Shuttle service provided for travel between 3 tour sites
- Note: we will not return to the parking area before 11am.
- Due to past event requests, we will divide into 2 smaller groups: groups and rotation schedule will be identified by the color of flier you receive; flier trading allowed.
- There will be time for wrap-up questions and discussion

SAFETY NOTE

The upper Sentinel Peak loop is a one-way road - Be mindful of cyclists/pedestrians. Please help stick to the schedule so everyone is off the road when it opens to public vehicle access at 11am

SENSE OF PLACE

Sentinel Peak Park, also known as “A” Mountain, is a prominent landmark west of Downtown Tucson. Its ease of access makes it a great site for geological, ecological and archeological public education/awareness.

The Santa Cruz River Valley is below the birthplace of modern Tucson. When the Spaniards arrived in the 17th century, the Tohono O'odham people’s settlements dotted the valley. One settlement called "Schuk-Shon," meaning "at the foot of the black mountain," was pronounced "Tuk-Son" by the Spaniards. Sentinel Peak was a lookout point and used for signal fires by native Americans, and later used by early colonists and soldiers during the Civil War.

The adjacent Tumamoc Hill is a biological laboratory land preserve founded by Andrew Carnegie Institution in 1903, now managed for research and education by the University of Arizona. A-Mountain is now a City of Tucson park.

INDIGENOUS HISTORY

The Tucson Mountains and surrounding Santa Cruz Valley have a rich archaeological history, with earliest known human artifacts and footprints dating back 6,000 years. Beginning ~4,800 years ago the Hohokam, ancestors of the Tohono O'odham people, initiated farming in the then perennial, flowing Santa Cruz River valley.

Their agricultural practices evolved to include large areas of irrigation canals dating back to approximately 3,000 years ago. Tumamoc Hill preserves regionally unique "trencheras" with stone walls encircling the hilltop. The area holds extensive evidence of agave roasting pits, petroglyphs, pottery fragments, and other relics. *The Tohono O'odham and Pascua Yaqui people continue to reside here.*

A Silverbell Interval house encountered during the Rio Nuevo excavations south of West Congress Street.

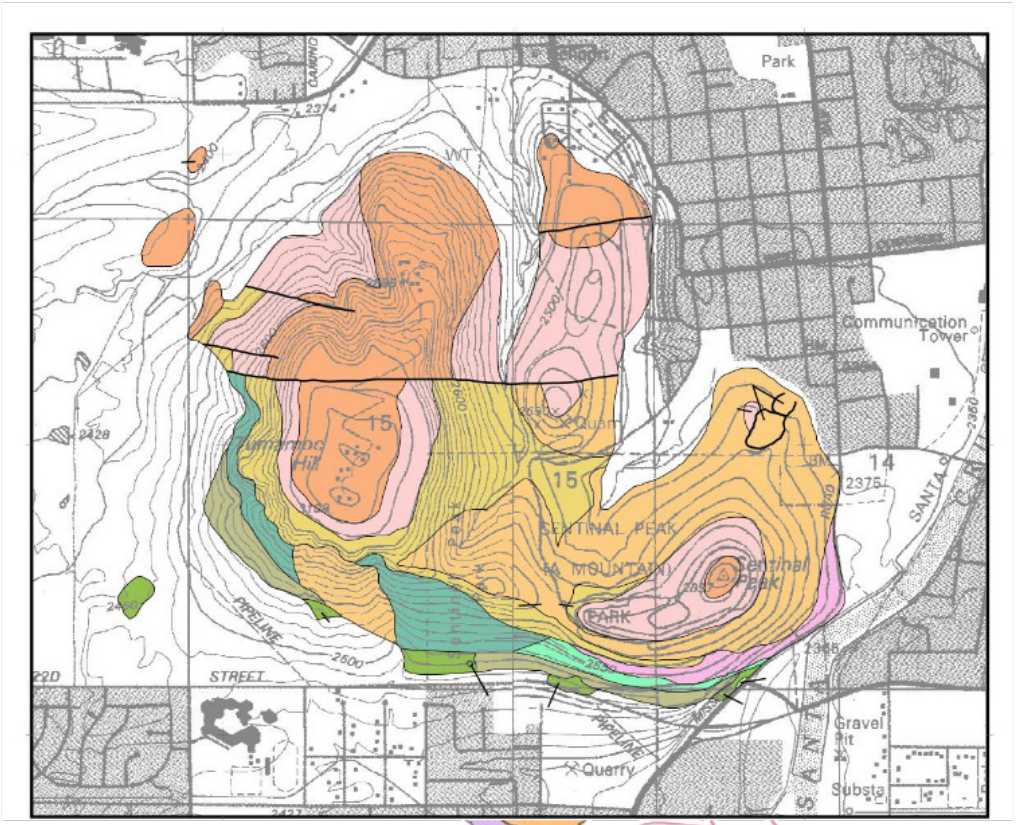
GEOLOGY, CALICHE, AND FRAGILE SOILS

"A"Mountain and Tumamoc Hill are part of the Tucson Mountains flanking the west side of the Tucson basin. The dominant rock type is variably porous "andesite" volcanic rock layers.

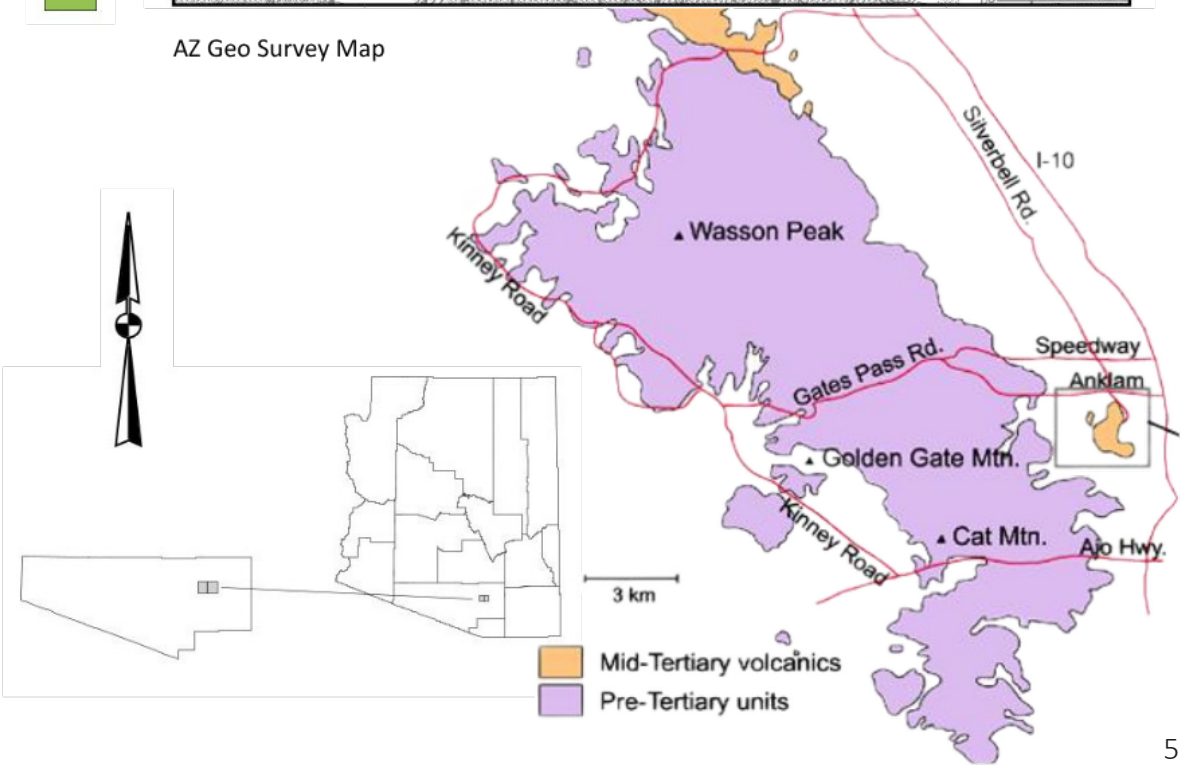
The bedrock layers are mostly intact, although displaced stratigraphically; deep tectonic extension essentially moved the Tucson Mountains from where they originally formed, above the Catalina Mountains to the east.

Upon weathering, the andesite releases calcium and potassium. Due to ~20 million years of weathering in our arid environment, the bedrock breaks down to form loose surface rock clasts which have become irregularly canvased by caliche growth.

This loose "desert pavement" blanketing the slopes is highly susceptible to movement, and this movement can cause loss of the very meager soils that take a long time to form here. Add humans, and risk of movement-induced soil and seed bank risk damage increases.



AZ Geo Survey Map



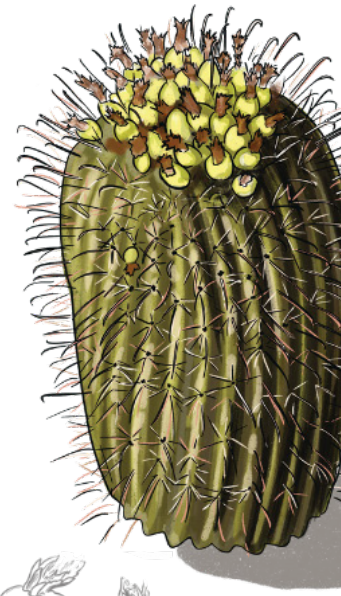
NATIVE VEGETATION

The local plant community is classified as the Paloverde-cactus-mixed scrub series of the Arizona Upland, Sonoran Desertscrub.

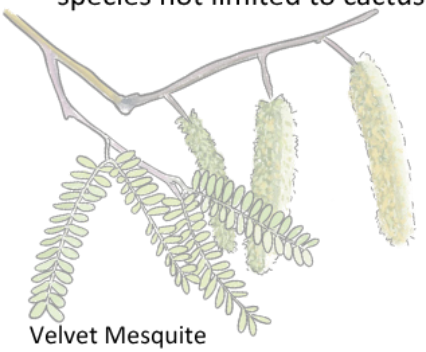
Visually dominant plant species are Foothill Palo Verde (*P. microphylla*), Brittlebush (*E. farinosa*), Creosote Bush (*L. divaricata subsp. tridentata*), Saguaro (*C. gigantea*), Ocotillo (*F. splendens*), Velvet Mesquite (*P. velutina*), Arizona Fishhook Barrel Cactus (*F. wislizeni*) (Turner, Bowers, and Burgess, 1995, and Felger, 2000), plus great diversity of shrubs, native grasses, and herbaceous plants appearing dependent on rainfall.

The site's vegetation richness has much to do with fracturing of the underlying variously-porous andesite rock, which weathers to release an abundance of potassium, magnesium, and calcium. The relative sparseness of vegetation is due to the steep slopes and xeric nature of the area.

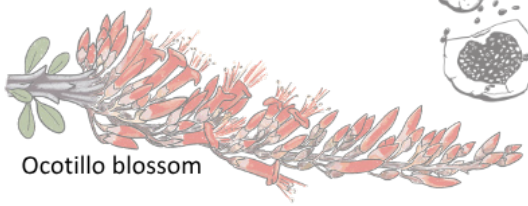
It is important to note that the Sonoran Desert did not evolve with fire, the native vegetation won't carry fire across the landscape, and many species not limited to cactus won't persist in a fire-prone landscape.



Fishhook Barrel Cactus with ripe fruit



Velvet Mesquite



Ocotillo blossom

INVASIVE EXOTIC VEGETATION

There is a high diversity of non-native plants in the local region, with the most impactful to date being the addition of fire-prone invasive understory plants, like Buffelgrass (P. ciliare) and more recently Stinknet (O. piluliferum), which is appearing in proximal parts of the Tucson area. Fire is ruinous to our cacti species and native ecology.

Buffelgrass was introduced to Southern Arizona in the 1950's for forage and disturbed land stabilization. It is now overtaking many areas of our local watersheds. Its seeds spread primarily along roadways and are readily carried upslope by prevailing winds. It is in this manner it has colonized "A" Mountain and Tumamoc Hill, plus vast additional areas including the front range of the Catalina's to the west of Tucson.

Buffelgrass removal approaches have been changing on A-Mountain and nearby areas for 25 years. Treatment vigilance has evolved, and new methods are being implemented.

Buffelgrass, before drying

Upper Parking Lot Ramada

OPENING REMARKS & FIELD TRIP GUIDANCE

Jennifer Becker, Pima County Regional Flood Control District and SWVMA field trip organizer

- Brief overview of tour context, expectations, and split group for tour site rotations.

SCAN QR CODE for Speaker Bios & Abstracts

swvma.org/event-qr-code

Stephanie Loop Site

Shuttle to ~¼ mile trail trek

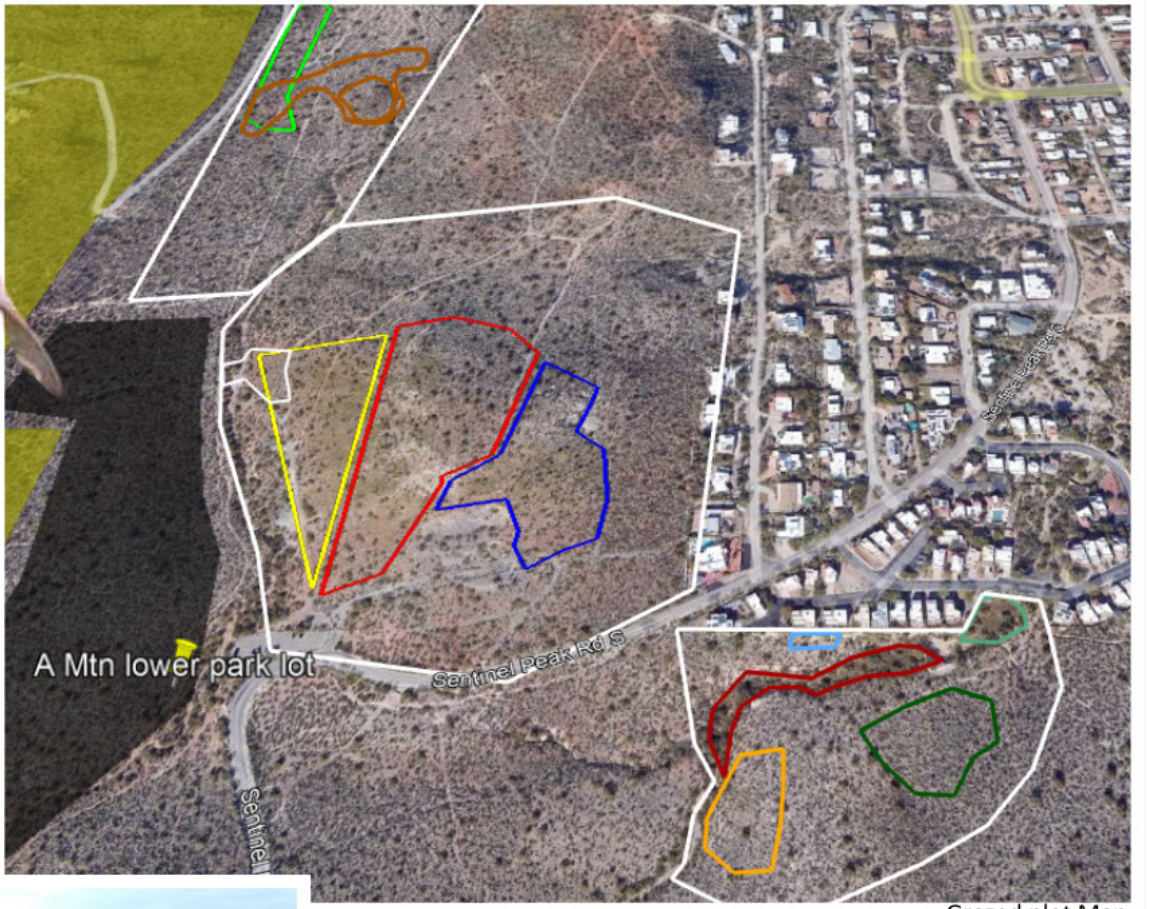
SHEEP GRAZING FOR BIOMASS REDUCTION AND PUBLIC EXCITEMENT

Sonya Norman & Katie Predick, Arizona Sonora Desert Museum; Grant Tims, Rejuvenation Farm

Land managers around Tucson have been waging battles on invasive buffelgrass and a new tool is being deployed: targeted grazing.

Lessons learned:

- When working with multiple agencies and the vagaries of rainfall give your project extra time, an year extra.
- Talk to local groups that are adjacent to the project area, and ask if they can provide support
  - providing water, follow-up spraying or pulling, parking for vehicles, use of restrooms, cookies for volunteers, etc. Small things can be very useful.
- Monitor animal's grazing; If old grass growth is too hard and dry, they may prefer cholla and need to be moved.



Grazed plot Map

(Top)July 2025; (Bottom) May 2025

Jiménez Trail Site
Shuttle to ~¼ mile trail trek

MANUAL REMOVAL OF BUFFELGRASS, LOCAL COMMUNITY VIGILANCE

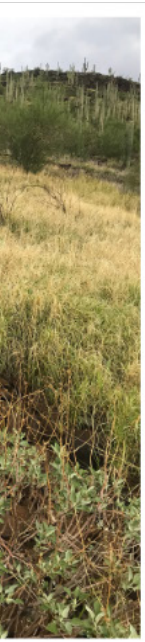
David Walker & friends, Menlo Park Neighborhood & Partners

Manually removing buffelgrass with well-timed revisits (before regrowth seed maturation) cuts reinfestation dramatically. New partnerships broaden the areas of treatment and offer outdoor exposure opportunities to school and community groups.

Lessons Learned during many years of pulling buffelgrass:

1. Revisit areas pulled to get regrowth before new seed heads are mature (don't bite off more than you can chew.)
2. Effective pulling is fairly easy with the correct tools and good demonstration
3. Pulling can be an enjoyable group effort any time of year
4. Buffelgrass is a strong fiber that can be a useful building material, adding strength to adobe buildings and bricks

NORTH: Before (Nov 2022) & After (Aug 2025)



Grass Sack

WEST: Before (Nov 2022) & After (Aug 2025) Buffelgrass removal. Fishhook barrel cactus featured in center.

EAST: Before (Nov 2022) & After (Aug 2025)

Doing the hard work

South Slope Site
~1 mile Sentinel Peak Road Loop walk

REWILDING THE SUMMIT OF SENTINEL PEAK/A-MOUNTAIN: DON'T RETR

John Scheuring, Arizona Native Plant Society

Buffelgrass control at Sentinel Peak is impeded by the rocky and steep terrain. AZNPS spot sprays buffelgrass regrown on the Sentinel Peak summit and south slope on a repeating as-need basis, with priority to protect native plants and seed bank.

Lessons Learned include:

1. Spot spraying buffelgrass on an as-needed basis has resulted in the return of a highly diverse native flora, including 16 native grass species.
2. Native plants emerged from seed banks in the soil and blow-in native seed from adjacent desert.
3. As BG is brought under control, spring annual dicots and summer annual grasses are the first native plants to recover; gradually followed by perennial desert grasses, bushes, and desert trees.
4. Ongoing buffelgrass control maintenance is essential to avoid BG re-establishment, especially from problematic patches.
5. Native plant restoration following control of heavy/monoculture BG populations will take over 10 years of ongoing maintenance sprays, especially disturbed soils.

REAT ON BUFFELGRASS RE-TREATMENT

Above:Native Streptantha Meadow
Left: Work underway (Oct 26, 2025)

Left to Right: May 2019, Nov 2022, July 2024

Upper Parking Lot – Large Ramada
No later than 11:20am

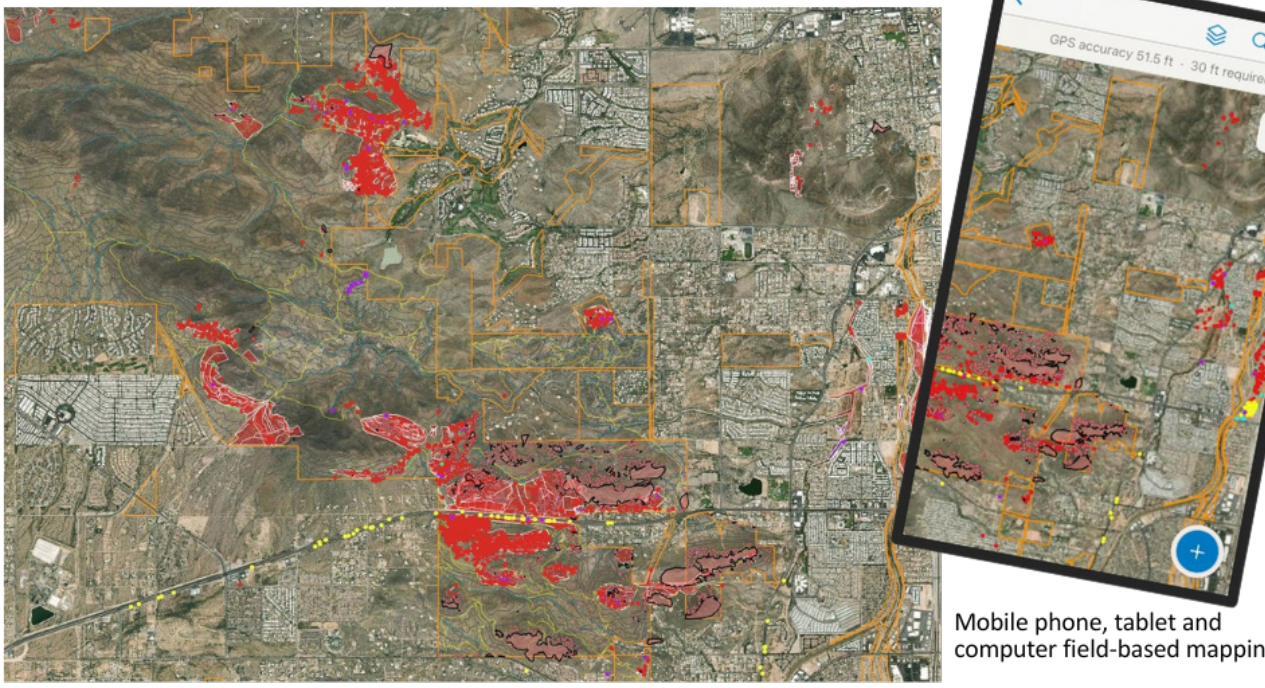
GIS MAPPING FOR COLLABORATIVE INVASIVE SPECIES CONTROL

Kelsey Landreville & Ellie Schertz, Pima County Conservation Land Resources

Over the last five years, Pima County has made new improvements to our GIS mapping systems to increase collaboration and effectiveness in invasive species control.

Lessons Learned include:

1. A modern GIS mapping system for invasive species should include dynamic data layers, data fields, and mobile data collection apps that are: easy for different user groups to understand; useful for short- and long-term planning and decision-making; consistent with partner organizations' systems where possible; and backed up and maintained in a centralized location by an authorized data administrator.
2. Effective EDRR (early detection rapid response) requires data tools that provide real time data on surveying efforts, capture negative presence data, and allow for various groups to participate in data collection.
3. Data collection processes should be designed so that data collection is accessible, and data sharing is possible. Data collaboration improves planning and strategic decision making for land managers controlling invasive species.



Mobile phone, tablet and computer field-based mappin

Upper Parking Lot – Large Ramada
No later than 11:20am

HIGHLIGHTED EFFORTS OF THE SONORAN DESERT COOPERATIVE WEED MANAGEMENT AREA

Kim Franklin & Kailin Tyler, Arizona Sonora Desert Museum

Introduction to the Sonoran Desert Cooperative Weed Management Area (SD-CWMA), based at ASDM, and highlighted topics:

- Save Our Saguaros Month (SOS) - Sustaining Buffelgrass Outreach and Action since 2008
- Drone Herbicide Treatment Grant - In Need of Green Up

Roads

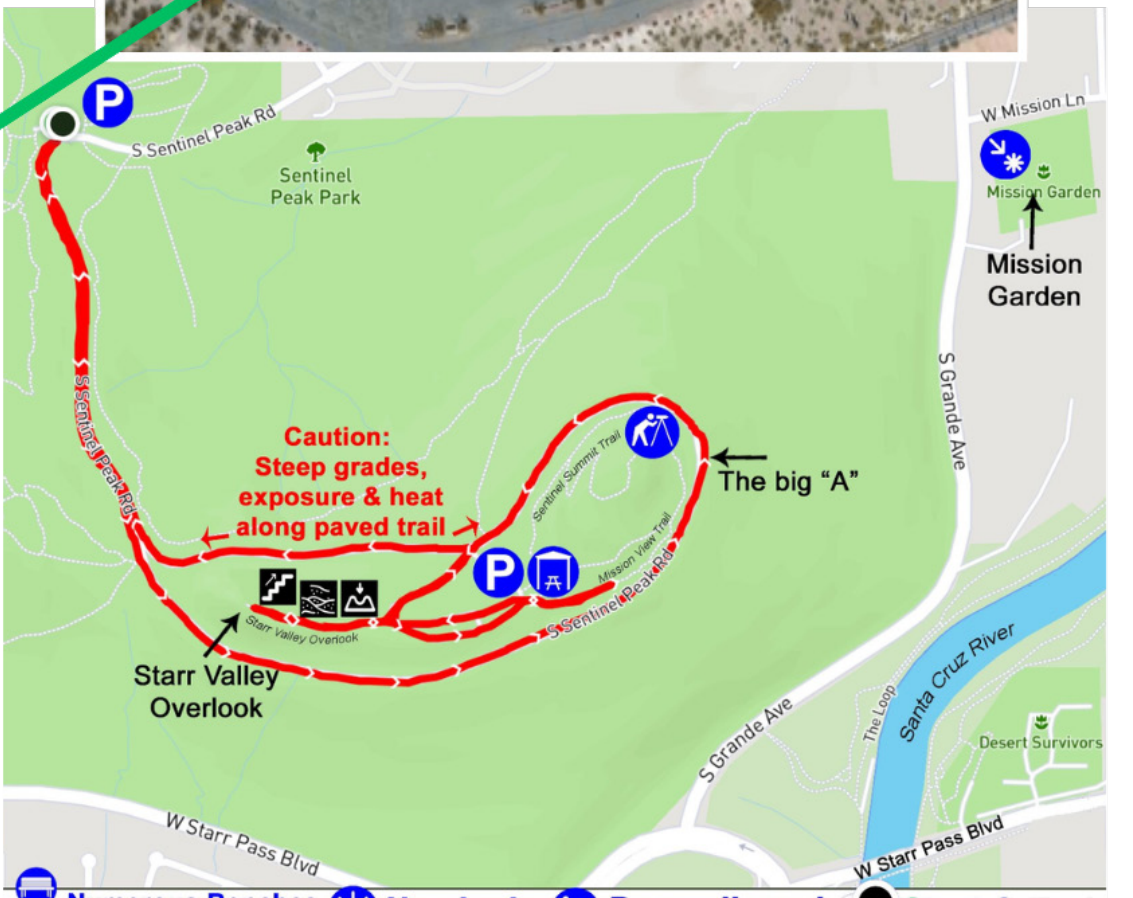
Hiking Trail

Santa Cruz River (usually dried)

The Loop car-free multi-use path


S Avenida Del Convento
S Avenida
S Melwood Av
W 21st
S Paseo


ONE WAY
SHUTTLE - UPPER-EAST
RAMADA
PARKING


S Sentinel Peak Rd
Sentinel Peak Park
W Mission Ln
Mission Garden
Mission Garden
S Grande Ave
Caution: Steep grades, exposure & heat along paved trail
Sentinel Summit Trail
The big "A"
Mission View Trail
Starr Valley Overlook
Starr Valley Overlook
S Sentinel Peak Rd
S Sentinel Peak Rd
S Grande Ave
The Loop
Santa Cruz River
Desert Survivors
W Starr Pass Blvd
W Starr Pass Blvd
Numerous Benches & Interpretive Signs
No shade
Dogs allowed
Start & End
9.1°E
/14/2025
0.05 0 0 0 0 0.05 0.1 0.15 0.2 MI 0.25
100 0 0 100 200 300 M 400
AllTrails
Gain: 298.56 ft Loss: 298.56 ft
2,810 ft
2,478 ft
0 mi 1.2 mi 2.4 mi

We thank you for coming, and special thanks go to our sponsors, presenters and supportive partners who helped us make this field trip possible, including our volunteer van drivers from PC-Conservation Land Resources, PC-Environment Ed and AZ-DFFM.

We welcome you to provide your feedback and get involved in support of our organization.

After our SWVMA Closing Remarks, we encourage those headed to lunch to reconvene at the nearby Sies Kitchen, 130 South Avenida del Convento.

THANKS TO OUR SPONSORS

granite SEED and erosion control

AMERICAN CONSERVATION EXPERIENCE

DESERT SEEDERS

Eocene℠ Environmental Group

SOUTHWEST FIRE SCIENCE CONSORTIUM

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PIMA COUNTY FLOOD CONTROL

BORDERLANDS NURSERY & SEED

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BKW Farming in Arizona since 1939

SWCA ENVIRONMENTAL CONSULTANTS

CITY OF TUCSON

Storm to Shade