

Telling the Story: The Virtual Tour of the Cienega Watershed

LabEx DRIIHM International Symposium

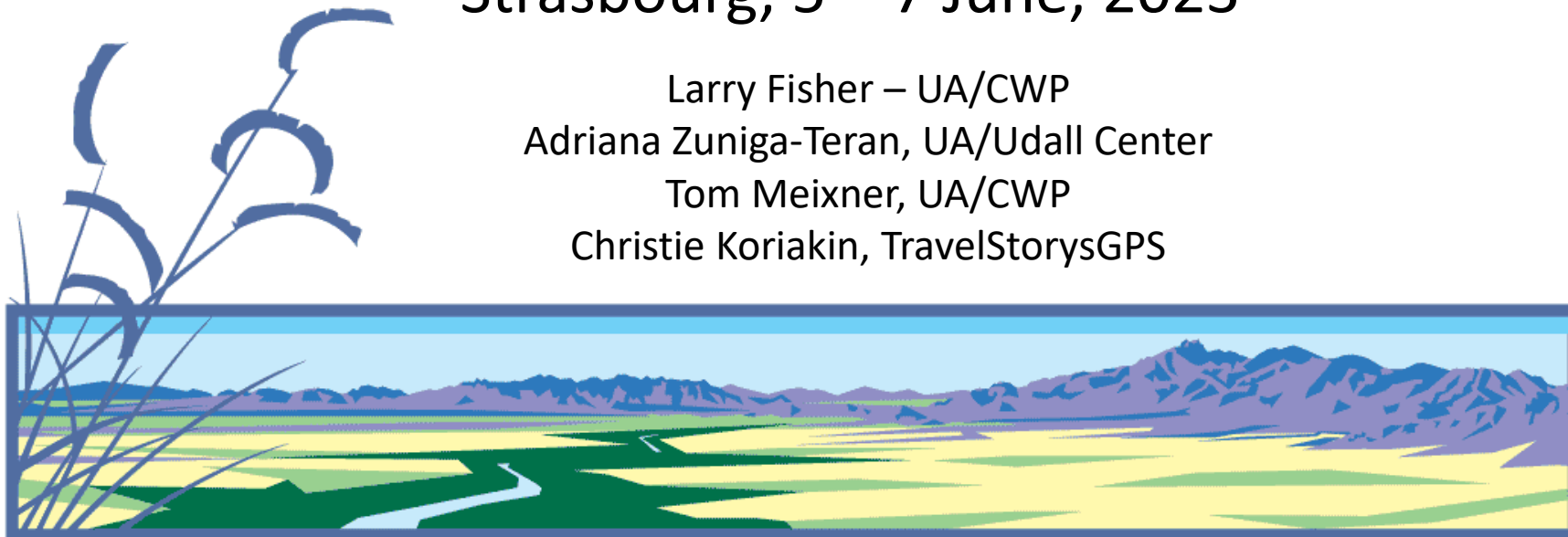
Strasbourg, 5 – 7 June, 2023

Larry Fisher – UA/CWP

Adriana Zuniga-Teran, UA/Udall Center

Tom Meixner, UA/CWP

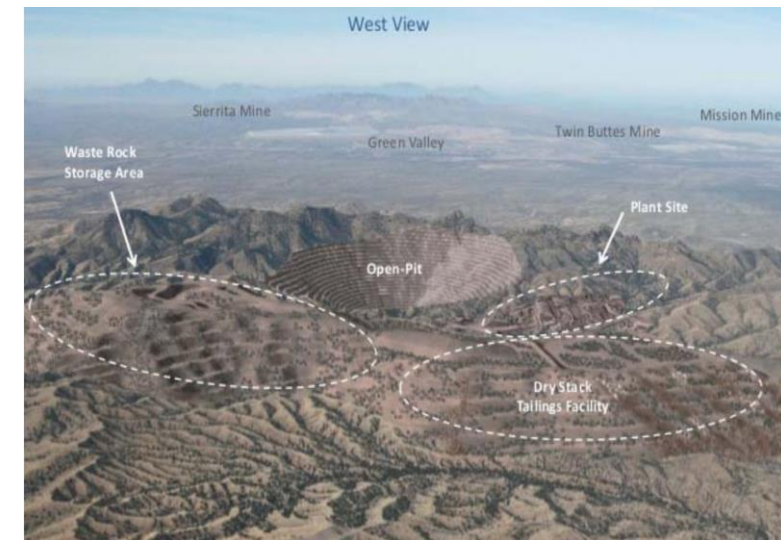
Christie Koriakin, TravelStorysGPS



C I E N E G A W A T E R S H E D
Partnership

OHM Pima County (OHM-PC)

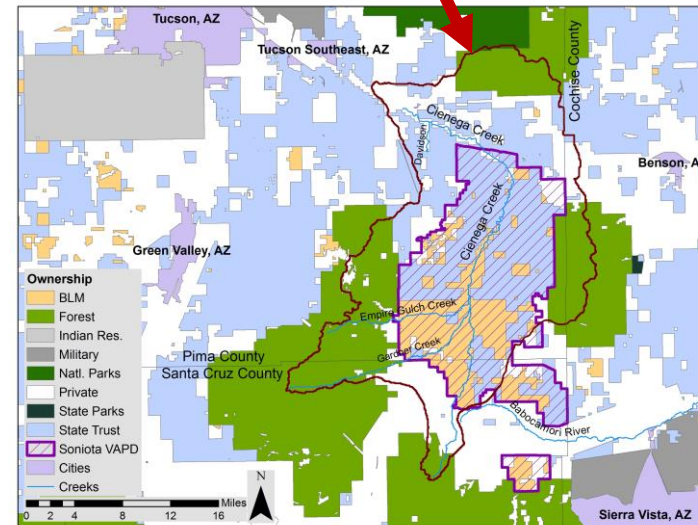
- Pima County (Arizona, USA): one of DRIIHM network's 13 "Human-Environment observatories"
- Located in a region of extreme climatic conditions, unique and diverse ecosystems - from semi-arid Sonoran Desert to conifer forests present at higher elevations.
- OHM-PC established in 2014; precipitating event: demographic and social changes in the 1970s that are reconfiguring the socio-ecological framework (from extraction to preservation)
- One of the main examples of this transformation is the controversy surrounding the anticipated impacts and suitability of the Rosemont mine project (estimated copper reserves: 2.7 billion tons (> 10% of total US production))



« 2012-2022: ten years of OHM results" Session

Cienega Watershed Partnership

- Non-profit organization that supports stewardship initiatives in the Cienega Creek Watershed
- National example of effective stakeholder collaboration and adaptive management
- Given its proximity to the Rosemont mine, Cienega Creek would be directly affected, and therefore provides an immediate measure of potential impacts
- OHM-PC partner since 2019 focused on monitoring how change in perception about the environment is reflected in new attitudes and practices



« 2012-2022: ten years of OHM results" Session

Cienega Watershed

- Includes five of the rarest habitat types in the American Southwest:
 - Cienegas (marshlands)
 - Cottonwood-willow riparian forests
 - Sacaton grasslands
 - Mesquite bosques
 - Semi-desert grasslands
- Cienega Creek – one of the few remaining perennial streams in Arizona, providing critical habitat for wildlife (threatened & endangered species).
- Historically important ranching operations, important cultural and archaeological resources.
- Attractive visitor destination, for its scenic landscapes, natural beauty, and cultural heritage.
- Water source for Tucson Metropolitan Area (groundwater).



CWP – Key initiatives

Applied science and adaptive management

- Active engagement of university and agency researchers
- ○ Biological planning – regular adaptive management field visits
- ○ Science on the Sonoita Plain – annual symposium sharing research within the watershed
- ○ State of the Watershed – annual assessment of watershed health

Targeted conservation initiatives (through collaboration)

- Bullfrog eradication project
- Antelope management
- Prairie dog reintroduction
- Erosion control and restoration
- Wetlands restoration
- Cultural resources –oral history and timeline projects

Public outreach and education

- Watershed tours – in person and virtual
- Youth Engaged Stewardship – summer youth conservation program
- Lunch and learn webinars
- Other public engagement events



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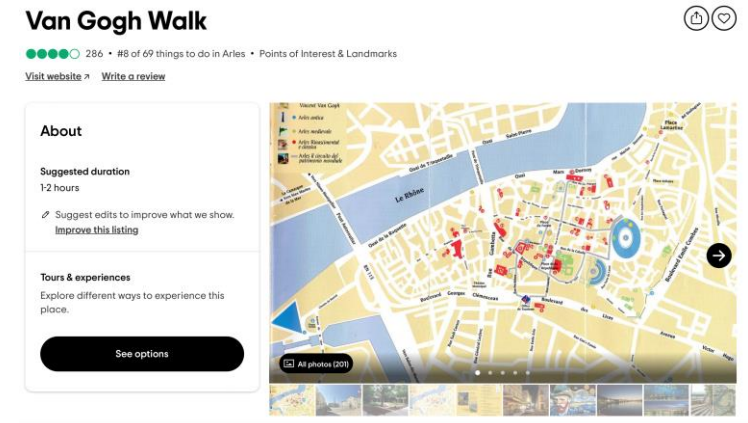
Cienega Watershed tours

- Begun in 2016
- Full day tour – Saturdays
- Offered to the general public, to promote general education and to broaden understanding and support for watershed protection and management actions
- Organized by CWP Board members, researchers, agency staff, and other subject matter specialists
- Attendance varied greatly: 6 – 30 participants



Impetus for the virtual tour

- COVID leads to cancellation of all in-person events
- Issues of inconsistent attendance (5 to 30 participants)
- Staffing demands (cost/benefit)
- Post-COVID: rising visitation and use issues in the watershed
- Visit to France, exposure to self-guided on-line tours
- Support from CNRS – both substantive and financial



Key steps in developing the tour

- Discussions with partners
 - ❖ Gain overall support for the concept
 - ❖ Develop a general narrative, list of topics, sequence, and route
 - ❖ Enlist writers/experts to develop and draft site descriptions
- Draft and edit site descriptions
- • Identify technical support (TravelStorysGPS)
- Secure additional sponsors and funding
- Develop the narratives for each site description
- Edit the descriptions, position with support from TravelStoryGPS
- Narrate the site descriptions (LF, KS, AB, FB, IT)
- Field-test the tour, trouble-shoot wayfinding and content issues
- Publish and promote the tour
- • Translate and record a Spanish-language version (AZT)

Site descriptions

- Introduction to the tour (L. Fisher)
- Marsh Station Bridge/railroads (M. Mier, JJ Lamb, J. Fonseca, others)
- Geography/Gabe Z. Trailhead (K. Simms)
- Indigenous history (S. McFarlin, others)
- Conservation priorities, easements (C. Becker)
- Migration and immigration (M. Mier, others)
- Rosemont Mine (T. Meixner, L. Fisher, others)
- Overview of the LCNCA (K. Simms)
- Empire Ranch (A. Bunting)
- Prairie dogs (L. Fisher)
- Dispersed camping (R. Walter)
- T & E species, Cottonwood Tank (D. Caldwell)
- Empire Gulch (J. Simms)
- Modern Ranching (I. Tomlinson)
- Sonoita/Elgin (A. Bunting, L. Fisher)
- Mesquite management (A. Rutherford, S. Jones)
- Kentucky camp/mining (John Weiss)
- Pronghorn Antelope (Dickens, McMillen, Fisher)
- Sacaton grasslands/youth education (C. In-Albom, S. McFarlin, L. Fisher)

Our sponsors

- Cienega Watershed Partnership
- Empire Ranch Foundation
- Pima County Natural Resources, Parks, and Recreation
- Pima County Attractions and Tourism
- French National Center for Scientific Research (CNRS)
- Santa Cruz Valley National Heritage Area
- Bureau of Land Management
- Udall Center for Studies in Public Policy



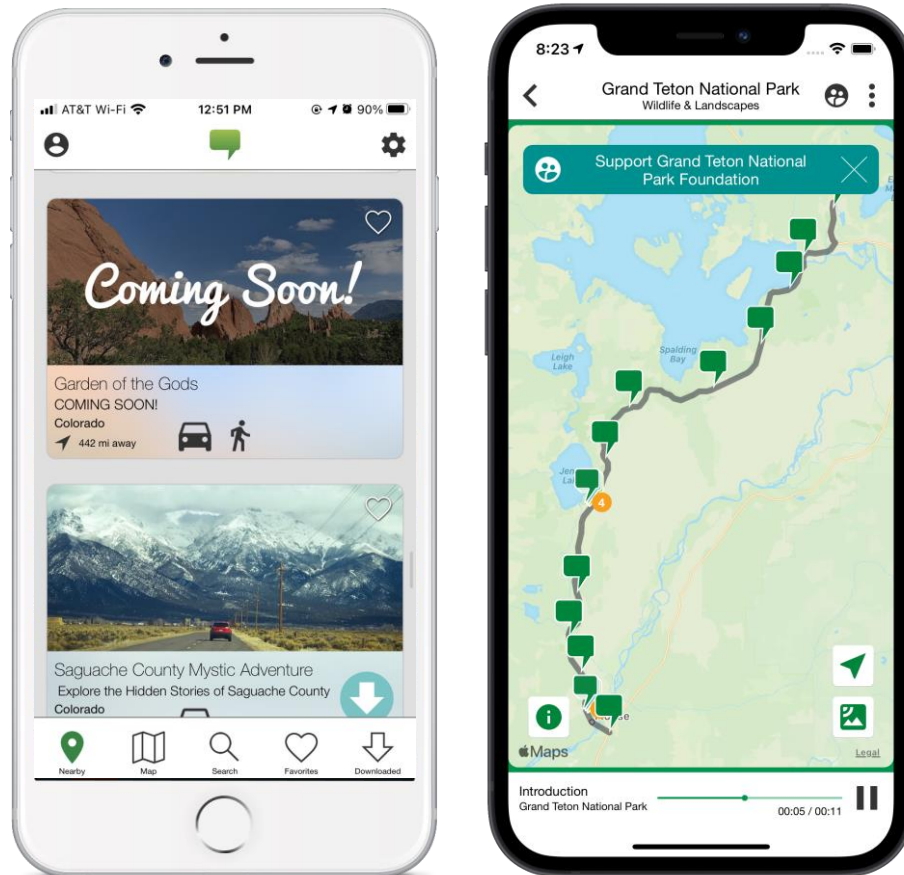
SANTA CRUZ VALLEY
NATIONAL HERITAGE AREA



THE UNIVERSITY OF ARIZONA
UDALL CENTER
for Studies in Public Policy

What is TravelStorys?

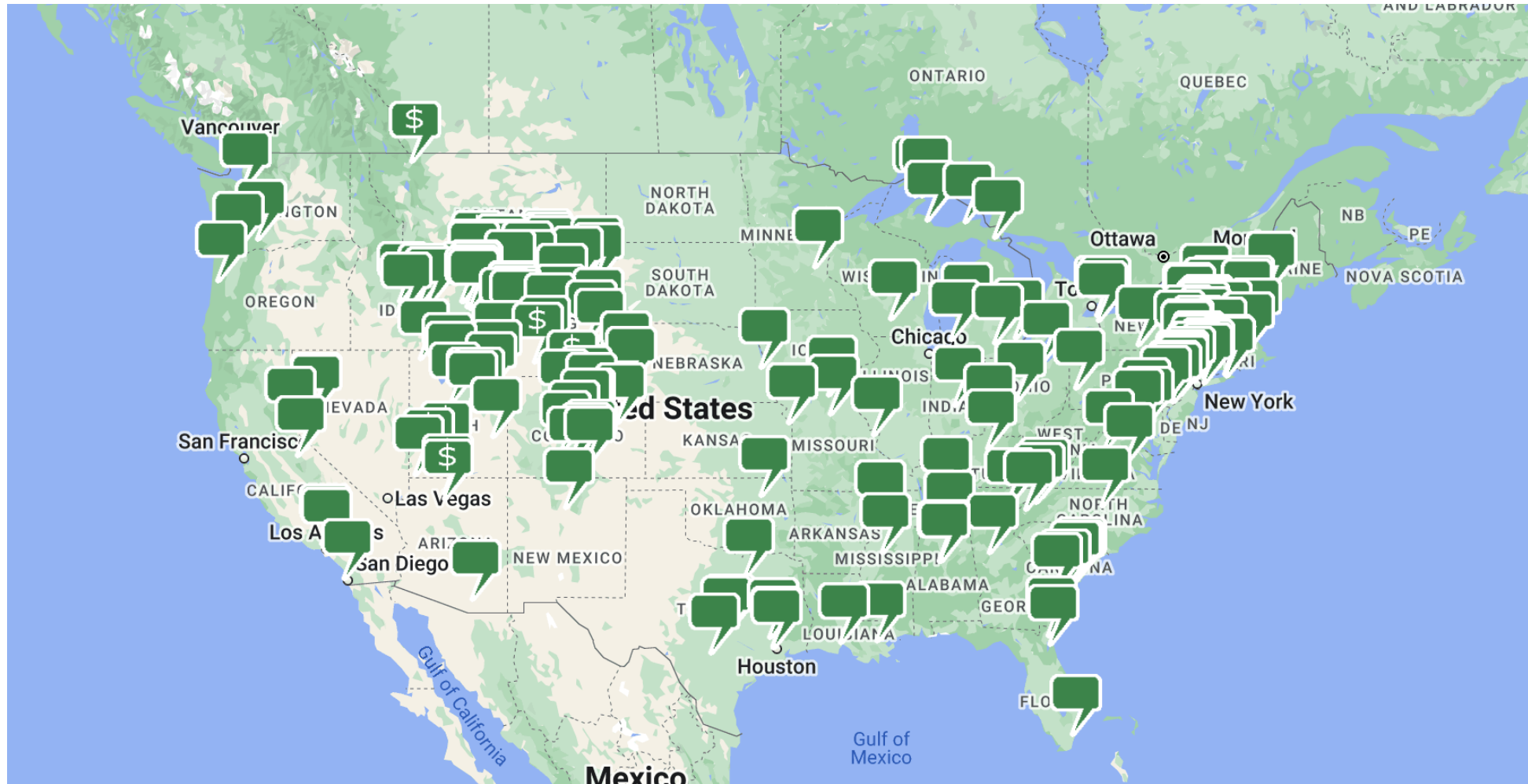
A mobile app platform that delivers GPS-triggered audio content on location.



Turns your phone into a tour guide

Tour Network

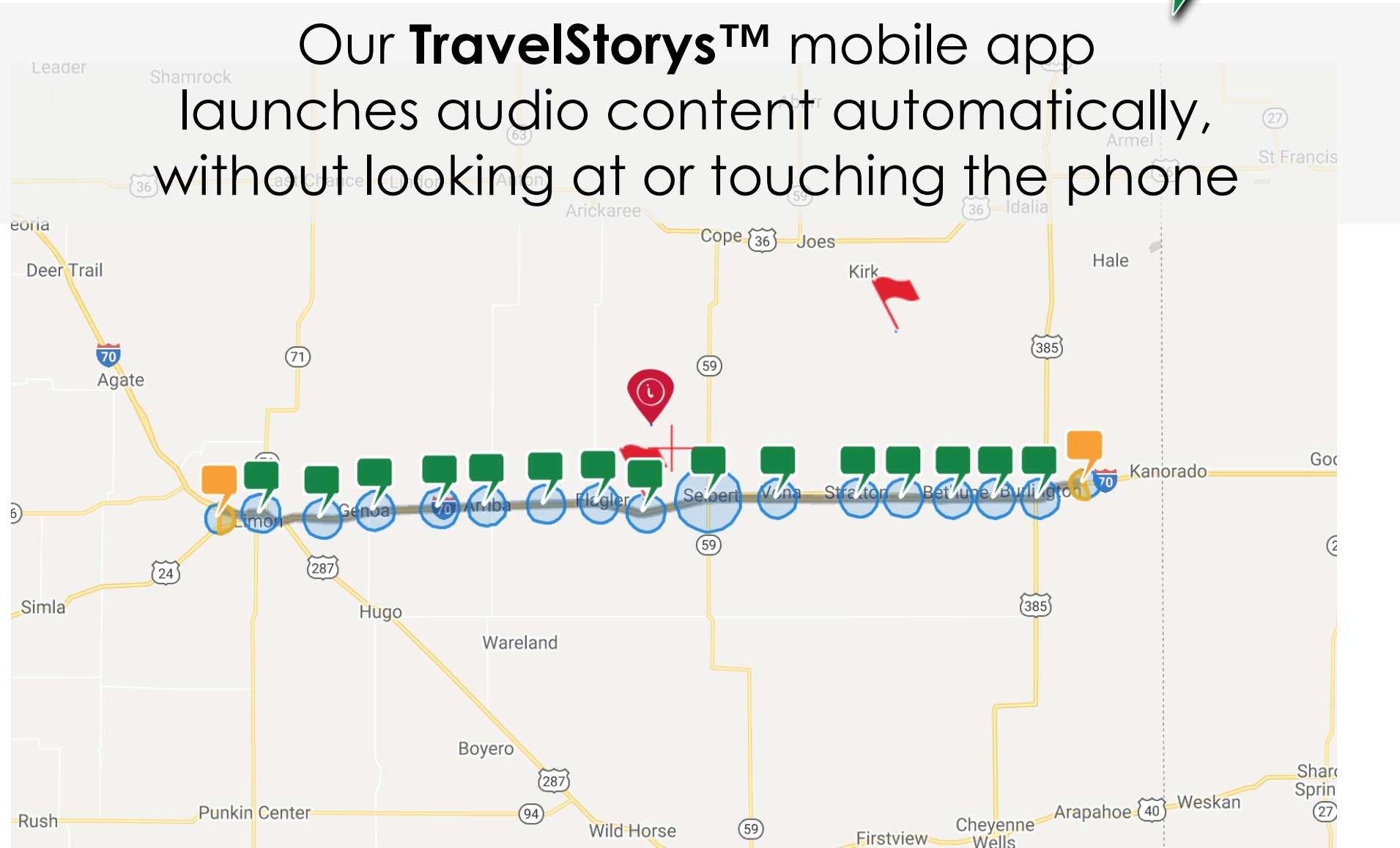
238 tours and counting



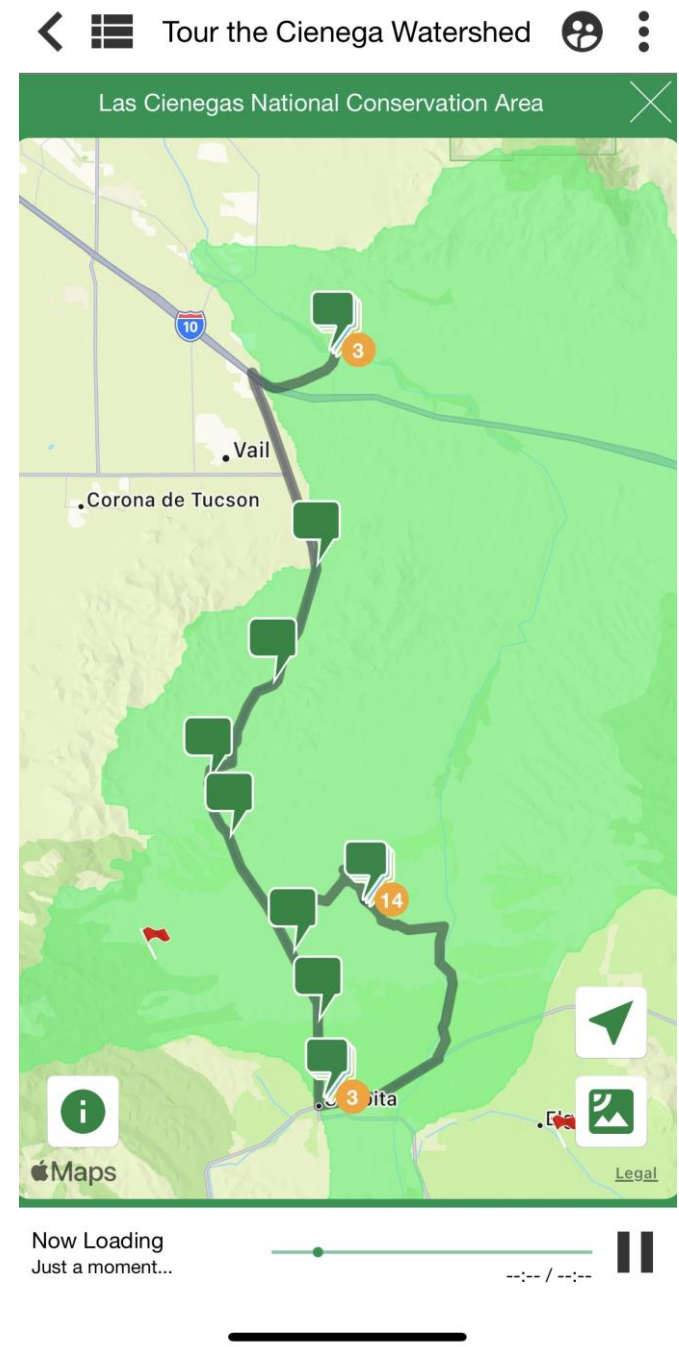
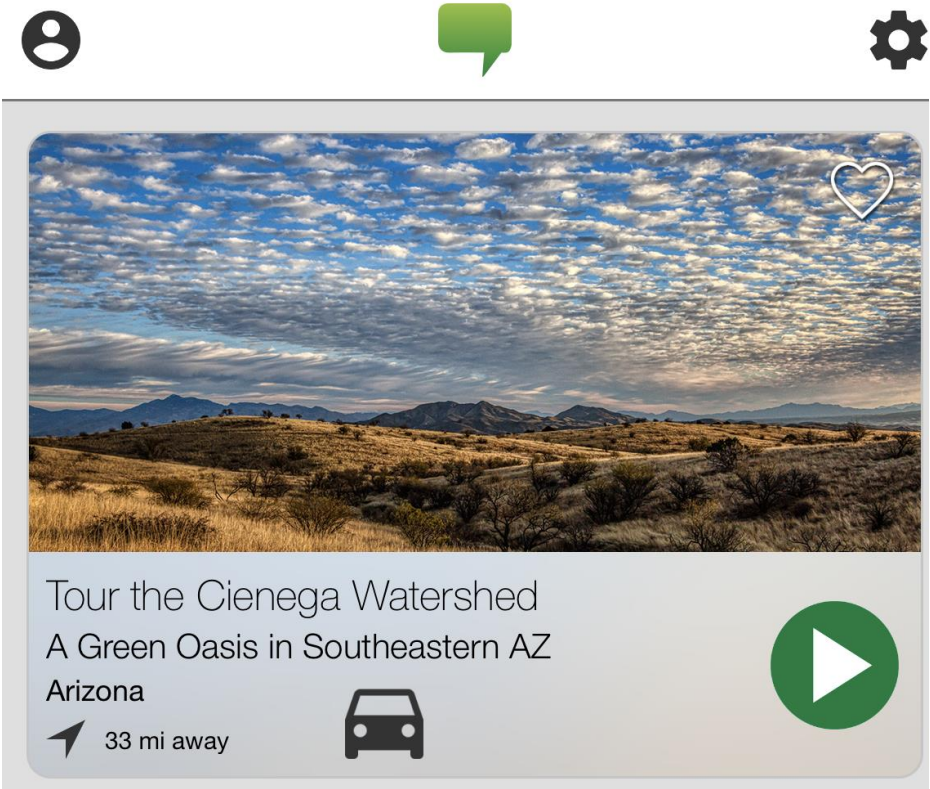
How We Do It



Our **TravelStorys™** mobile app launches audio content automatically, without looking at or touching the phone



The Virtual Tour



Tour the Cienega Watershed

Sponsored by [Cienega Watershed Partnership](#)



Location: Arizona



Travel Type: Driving



Trip Time: 2 hours



Language:

Explore this tour with the TravelStorys App

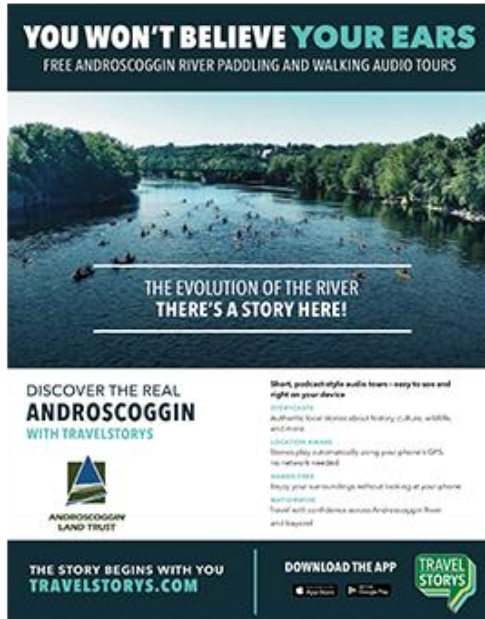


- <https://travelstorys.com/tours/tour-the-cienega-watershed>

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Questions?