

Wildlife Camera Data Management Saguaro National Park



Problems with Wildlife Cameras Data

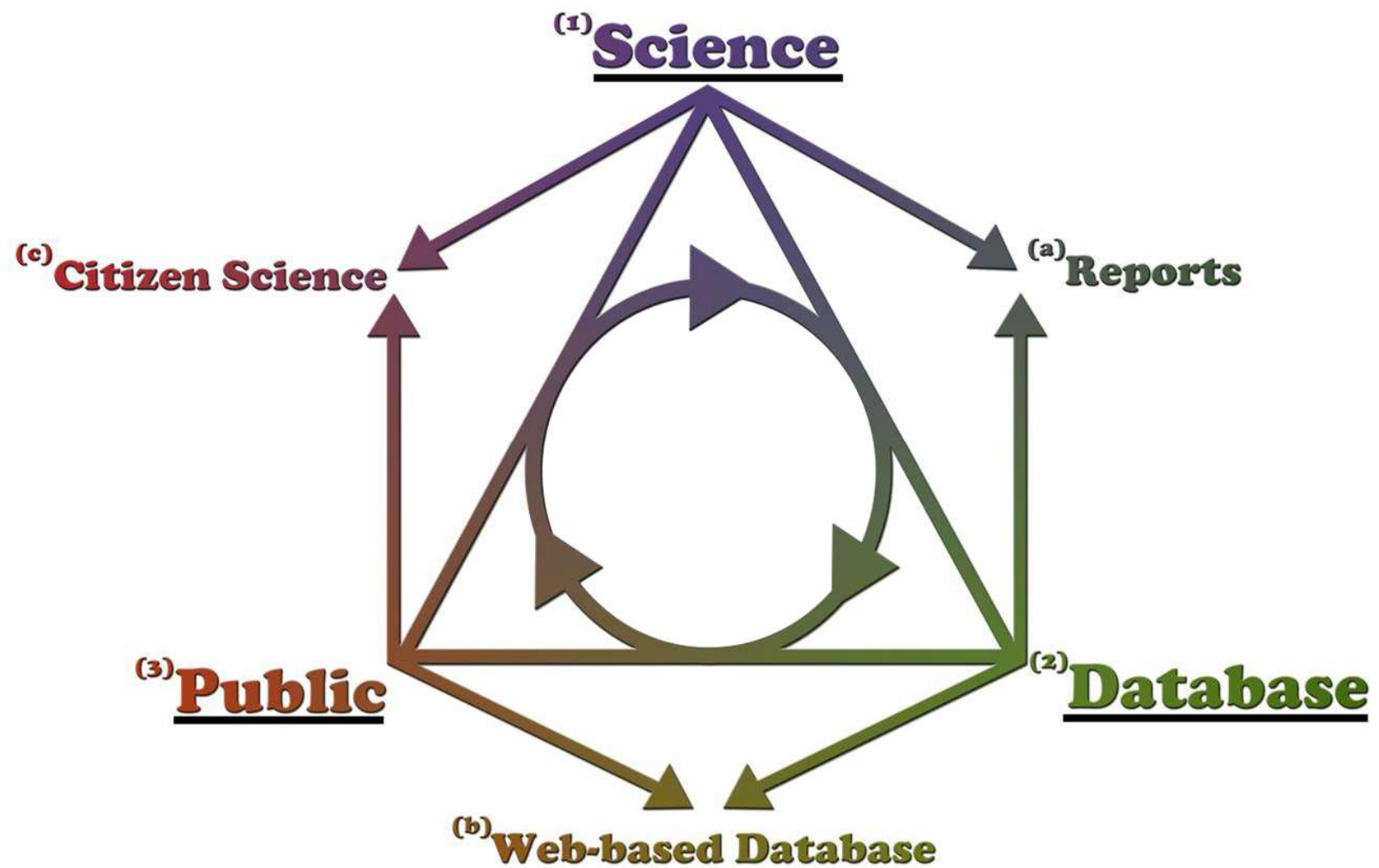
- Only as good as the study design
- The size of the data sets
- Difficulty of finding specific photos
- Quality control
 - correct identification
 - correct location, etc.
- Difficulty of sharing data



See the End Before You Start

- Starts with the study design
- Understanding the cost and benefits to camera selection, study design, and study duration
- Predict how one decision affects other aspects of the study
 - Burst mode creates more photos, takes more time to edit, more storage
 - 1:1 ratio

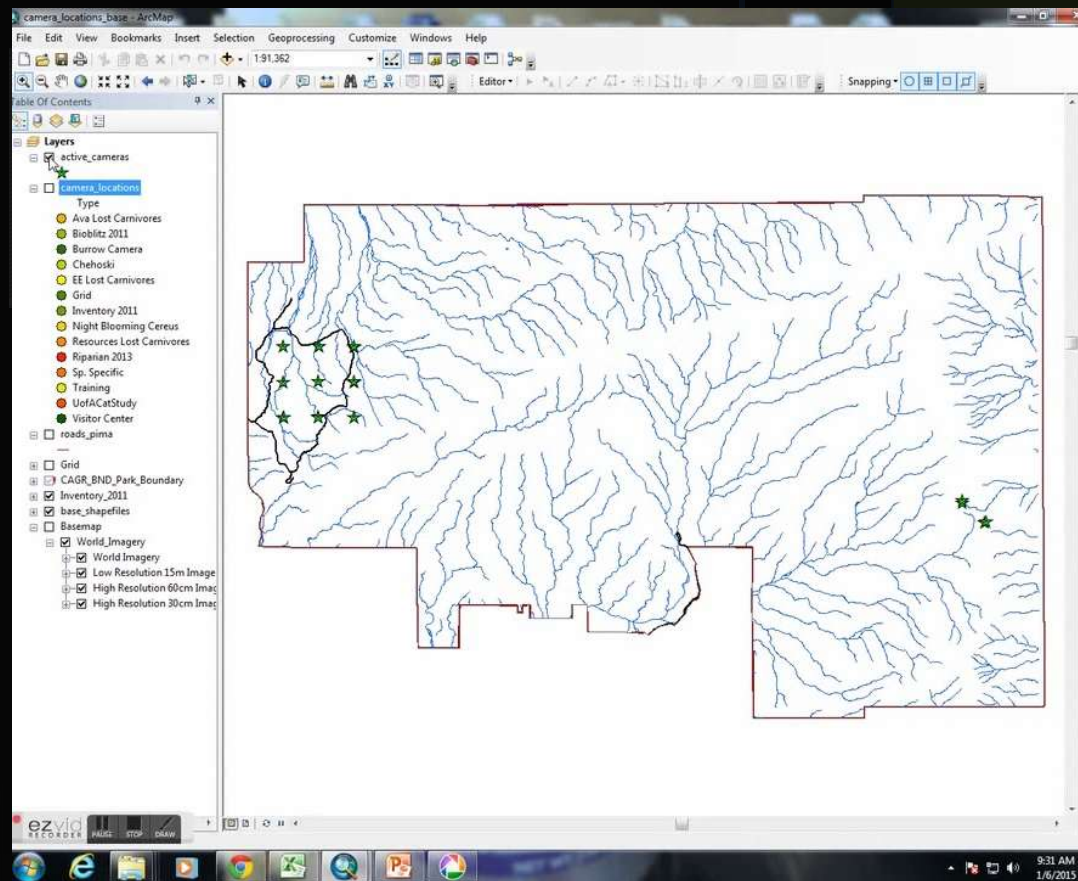
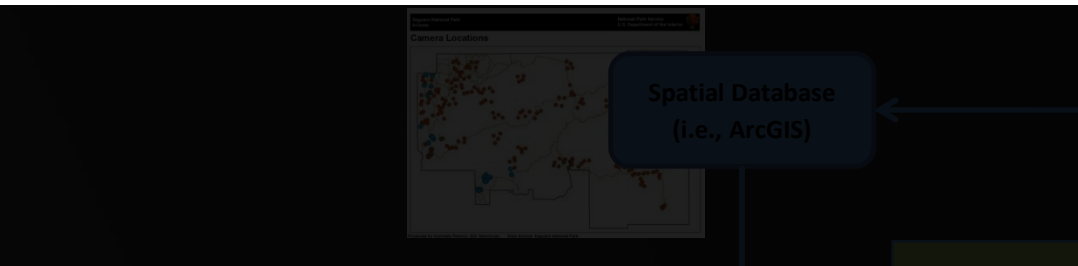




Metadata Based Database

- Store information in the photos themselves
- Photos become searchable and can be displayed geographically instantly
- Extract and export information
- Send photo datasets and plugs into existing systems
- Sharing data





Data Subset
Dataset

Spatial Database
(i.e., ArcGIS)

Field Work
Field Crews

Wildlife Cameras

Project 1

Project 2

Project 3

Strata 1

Strata 2

Plot 1

Plot 2

Plot 3

Plot 4

Plot 5

Camera Location 1

Camera Location 1

Camera Location 1

Camera Location 1

Camera Location 1

Camera Location 2

Camera Location 2

Camera Location 2

Camera Location 2

Camera Location 2

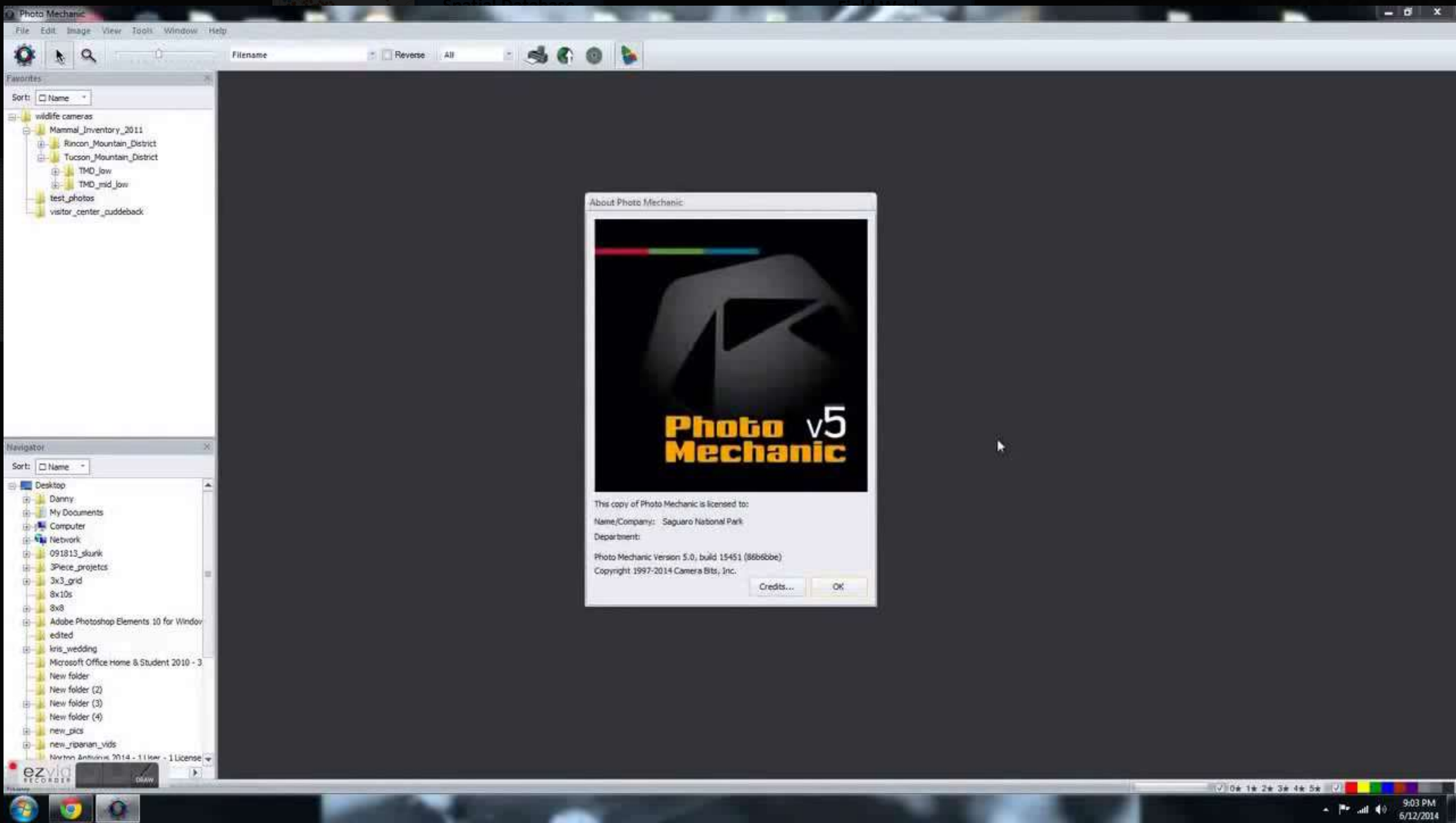
Camera Location 3

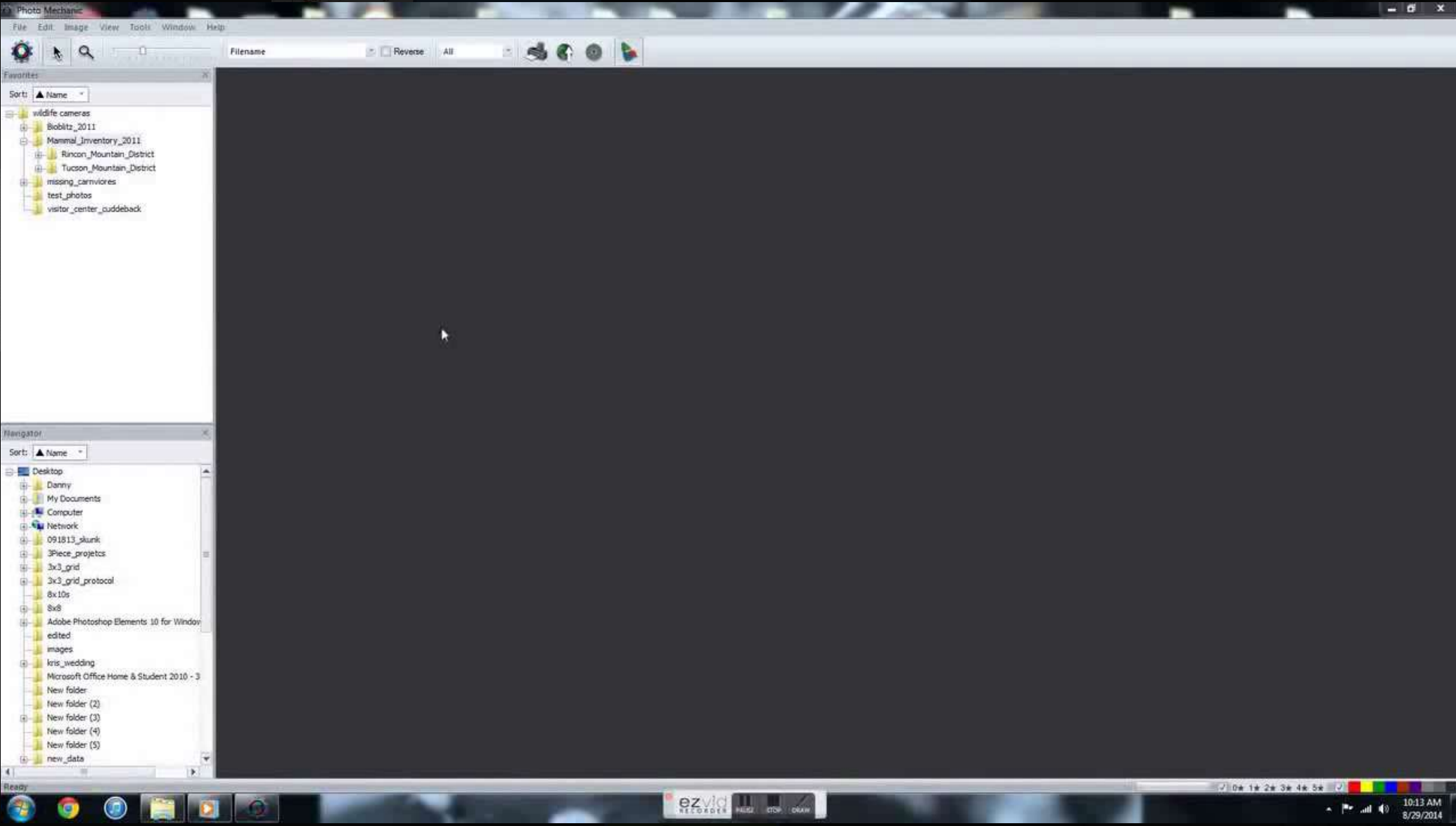
Camera Location 3

Camera Location 3

Camera Location 3

Camera Location 3





Dataset



Search
Layers
History
View
Tools
Window
Help

Camera Location

Tour Guide

Imagery Date: 10/2/2013 12°S 53°E 3560823.48 m N elev 5156 ft eye alt 10.36 mi

Google earth

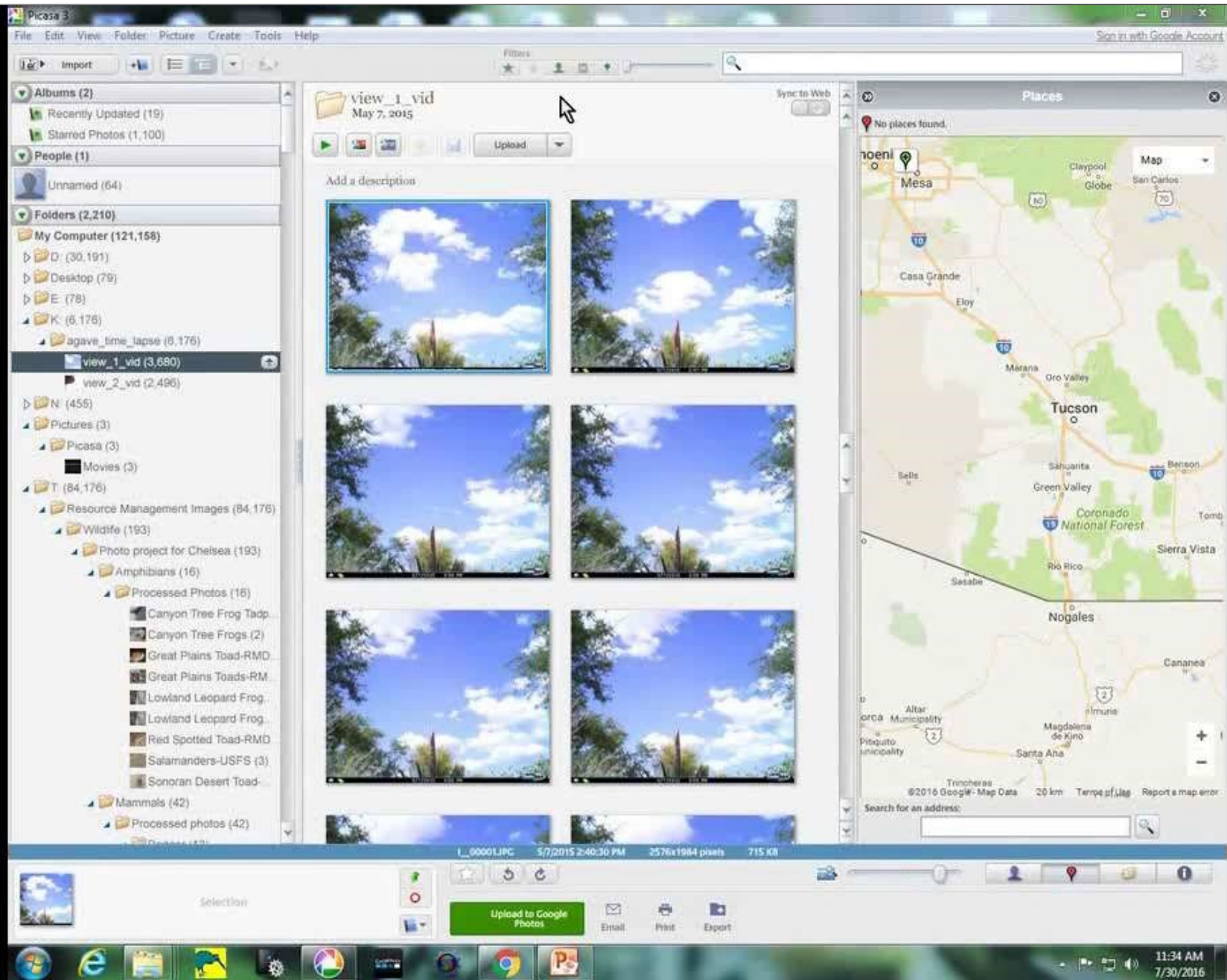
Picasa – viewing photos

Search, display and map...

- by study
- by location
- by species
- or by any other data you add to photo

*Video – UA/Pima county
bobcat study data example*



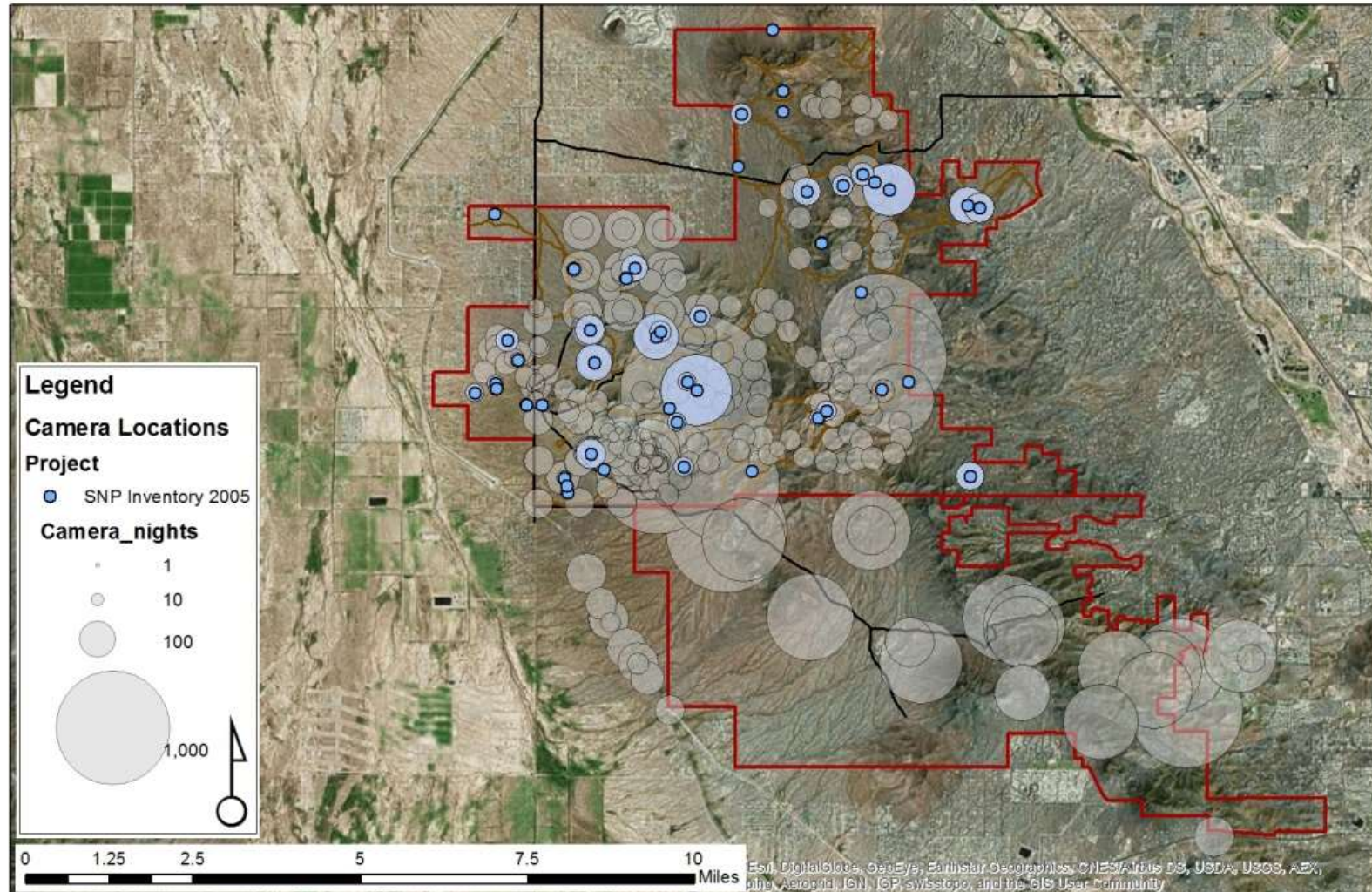


Saguaro National Park
Arizona

National Park Service
U.S. Department of the Interior



Lost Carnivores of the Tucson Mountains - SNP Inventory 2005



Produced by: Nic Perkins

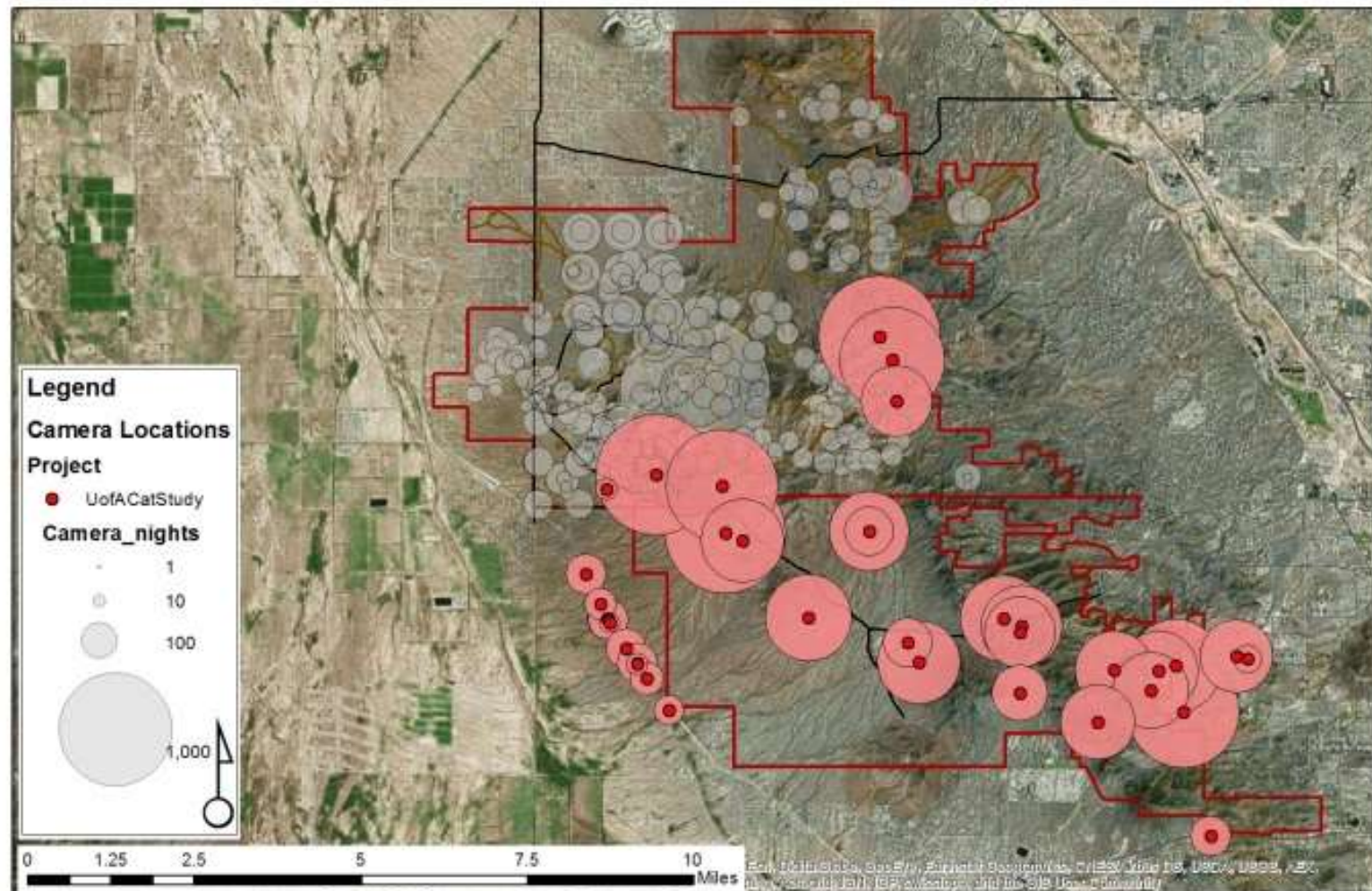
Date: 4/15/2015

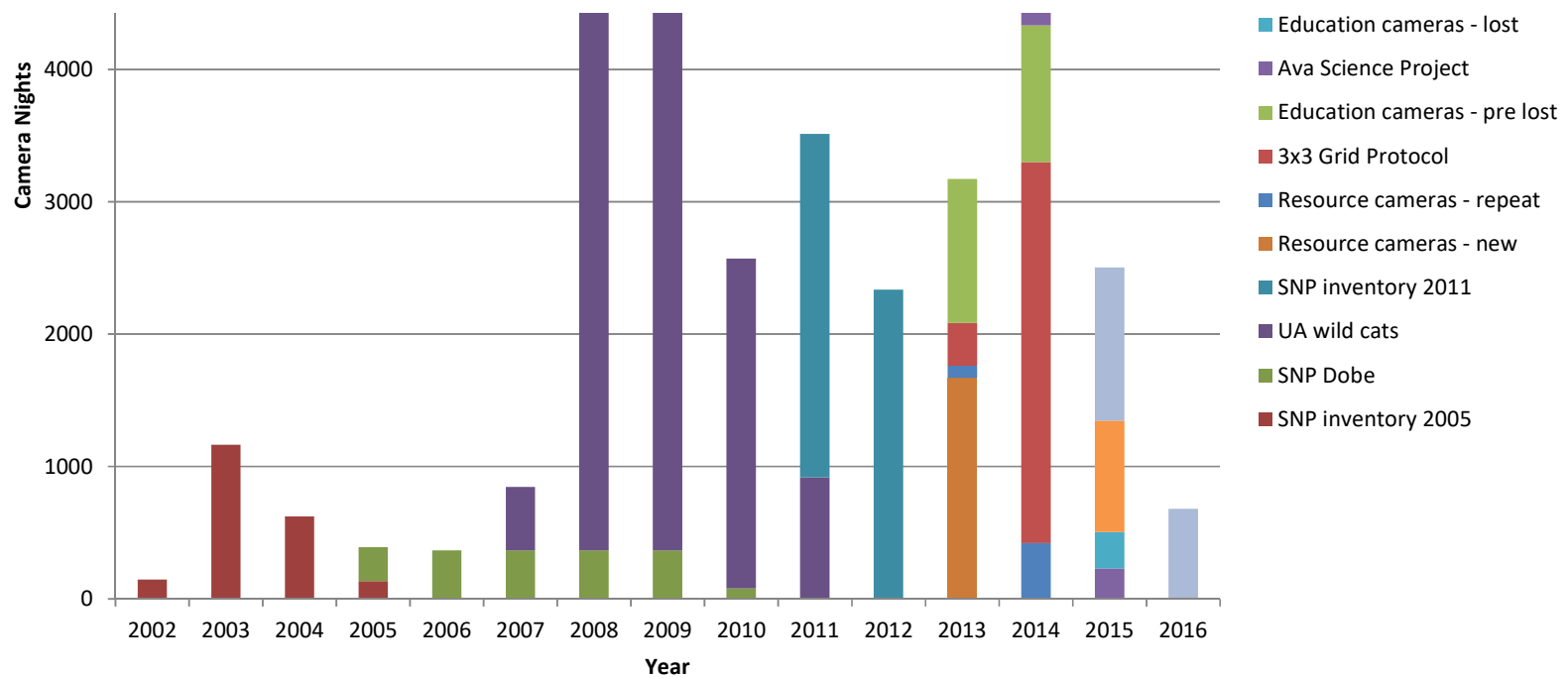
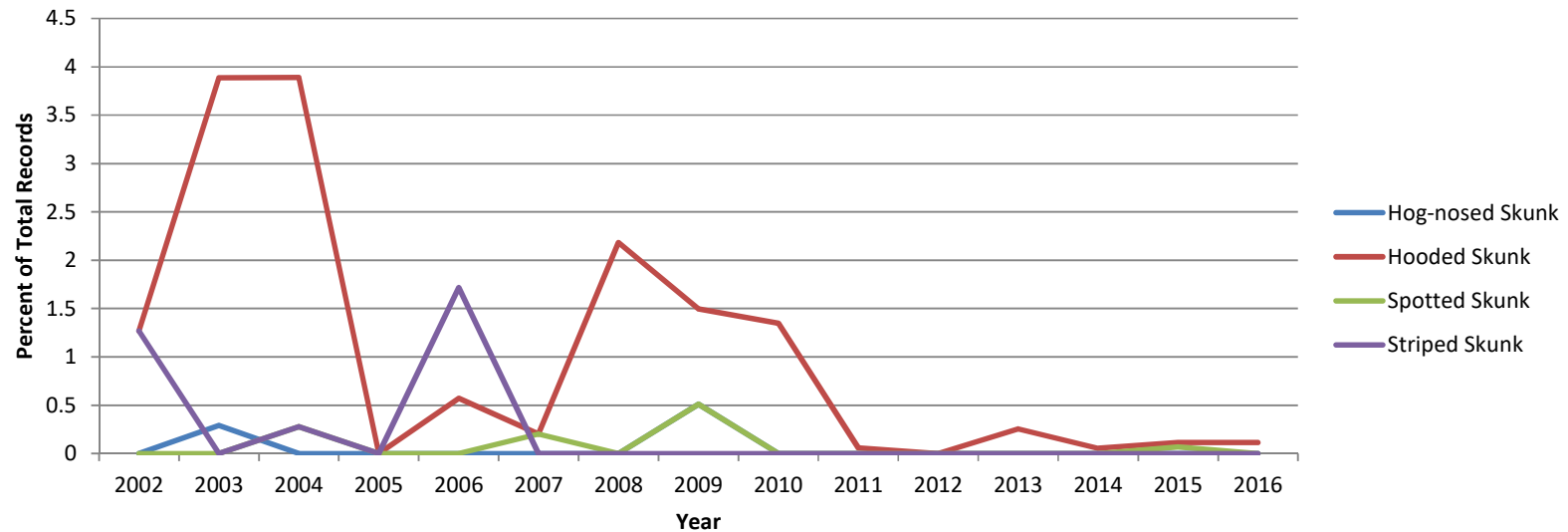
Saguaro National Park
Arizona

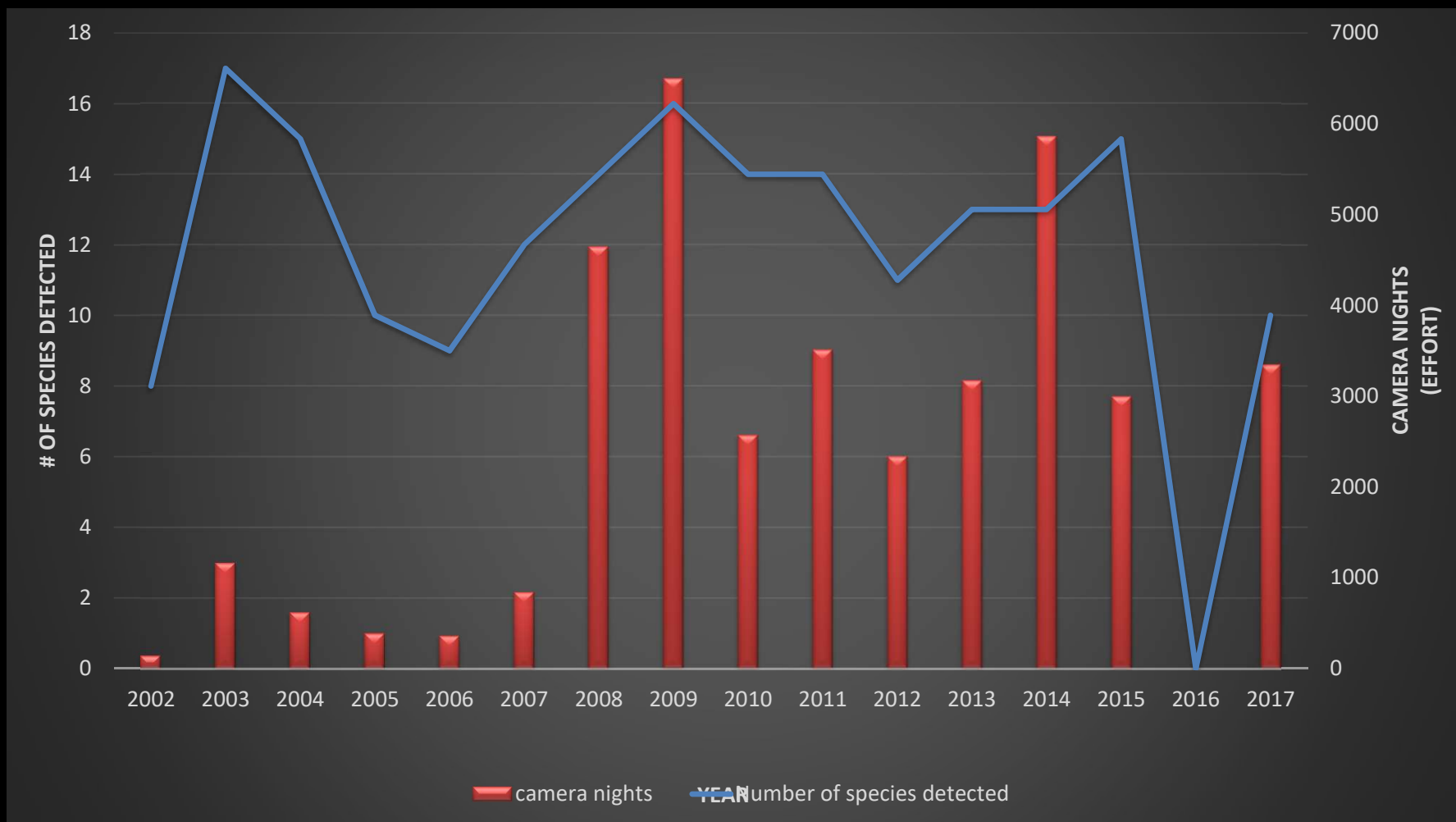
National Park Service
U.S. Department of the Interior



Lost Carnivores of the Tucson Mountains - UofA Cat Study







Cons

- Photo Mechanic isn't intuitive
- Folder Structure is flexible but does require thought
- No magic stat button
- Have to have access to the photos (hard drive)



Other Thoughts

- Train your people and then train them again
- What does the future hold
- Social Media



Saguaro National Park Antelope Jackrabbit



Antelope Jackrabbit (*Lepus allenti*) is large and gangly. They have long, thin front legs and large hind feet. The Antelope jackrabbit's tail is short that has no black stripe on top. Its side has a contrasting brownish tan upperside and white underside. The ears have a white halo around the edges and no black tips.

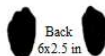
Found in both districts of Saguaro National Park. Less common in the Tucson Mountains, where they are associated with the lower bajada and prefer sandy soils. More common in the Rincon Mountains where they are found in flat, open areas adjacent to washes. Antelope jackrabbits are nocturnal and crepuscular. They are usually solitary except mothers with young.

Tracks are long and wide.

Front paws are slightly offset side by side and they fall behind the back paws.



Photo Credit: Susan Ryan



Back
6x2.5 in

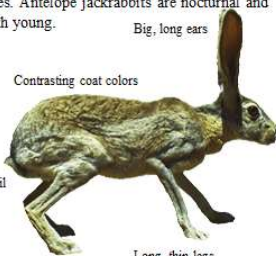


Front 1.5
in long



Short tail

Contrasting coat colors



Long, thin legs

Big, long ears

Scat is hard, dry and woody. It is light brown in color or moist green depending on the food it eats.

Saguaro National Park Black-Tailed Jackrabbit



Black-Tailed Jackrabbit (*Lepus californicus*) has a long tail with a distinct black stripe that extends from the back down to the tip of the tail. Ears have black tips and black halo around edges. Fur is gray-brown throughout.

Common throughout both the Rincon and Tucson Mountains. In the Rincon Mountain District black-tailed jackrabbits are found in open areas of lower elevations. In the Tucson Mountain District found in the lower bajada and on rocky slopes. During the day black-tailed jackrabbits will rest in shade.

Scat is **spherical shaped pellets**. Large clusters found in places it has been feeding or returning to repeatedly. Vegetation in pellets.



Photo Credit: Oanhon, dazumunivabloggers.com



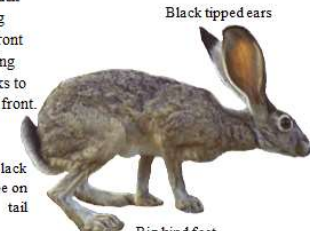
Back
5.5x2.5 in



Front
2.5x1.75 in

Oval shaped tracks. Back legs swing through front legs causing back tracks to appear in front.

Black stripe on tail

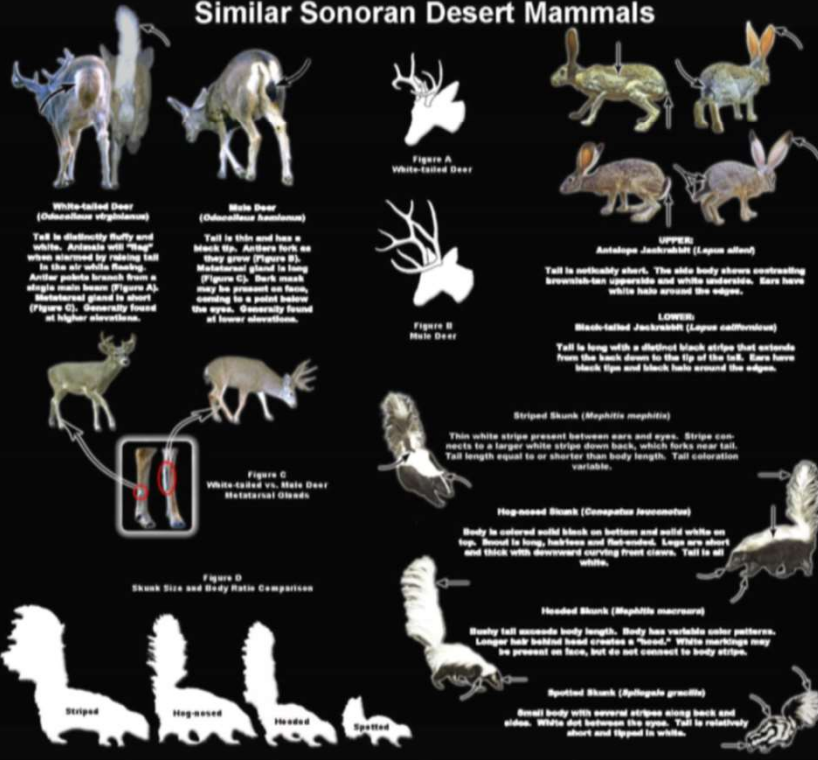


Big hind feet

Black tipped ears



Distinguishing Characteristics: Similar Sonoran Desert Mammals



Hooded Skunk (*Mephitis macroura*)

vs. Striped Skunk (*Mephitis mephitis*)

vs. Hog-nosed Skunk (*Conepatus leuconotus*)

Primary Identifying Features:

Color Morphs

Although coloring does vary within species, there are recognizable patterns

Tail Length

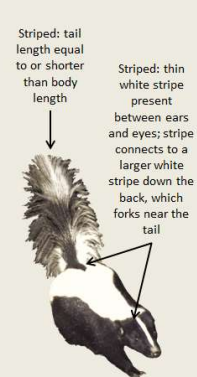
Tail to body ratio is important to consider when distinguishing between species

Body Shape

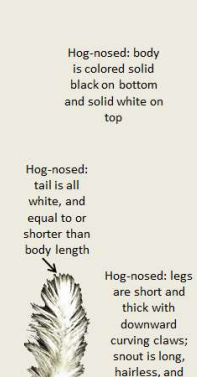
Overall body shape and size can reveal much about a skunk's identity, as well



Hooded: coloration highly variable; white markings may be present on face, but will not connect to body stripe



Striped: has the largest body and greatest total length of the four Sonoran Desert skunks



Hog-nosed: legs are short and thick with downward curving claws; snout is long, hairless, and flat-ended

White-tailed Deer (*Odocoileus virginianus*)

vs. Mule Deer (*Odocoileus hemionus*)

Primary Identifying Features:

Tail

Tail is the most distinct and common feature used to differentiate White-tailed and Mule deer



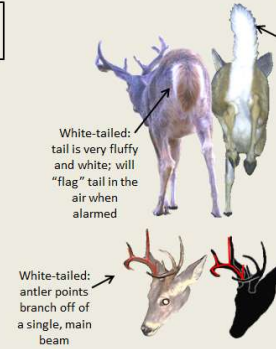
White-tailed: tail is very fluffy and white; will "flag" tail in the air when alarmed



Mule: tail is thin and has a black tip

Antler Shape

In some seasons, antler shape can be easily used to distinguish species of male deer



White-tailed: antler points branch off of a single, main beam



Mule: antlers have two main beams, which fork evenly as they grow

Metatarsal Glands

Located on the outside of the hind leg, the length of this gland varies between species



White-tailed: short metatarsal gland



Mule: long metatarsal gland

Saguaro Wildlife Cameras

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Mountain Lion (*Puma concolor*)

[mountain lion](#) Actions ▾

March 22, 2012

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[PICT0002.AVI](#) (0:15) Actions ▾ | [View video](#)



Mountain Lion

Mountain Lion underside. Mountain Lion chin, and small legs, large round

Mountain Lion the western h Mountain Lion habitat type, Lions are also

Mountain Lion jaguars. But

than to true lions. This being evident in the fact that Mountain Lions cannot roar due to the lack of the specialized larynx and hyoid apparatus that occurs in the bigger cats, and that the overall appearance of the mountain lion more closely resembles that of the domesticated cat. Typical noises Mountain Lions make are low pitched hisses, growls, purrs, and chirps and whistles, many of which are

Saguaro National Park Mountain Lion

The elusive mountain lion is the most powerful predator at Saguaro National Park. It is found in both districts. They have the ability to kill prey larger than themselves and can leap 20 feet (6.1 m) or more! Their jaws are so strong that they can bite through the shells of adult desert tortoises, something no other predator in the Sonoran Desert can do.

To view more photos and to learn about our remote wildlife camera project, go to <http://saguwildcams.shutterfly.com/> or scan the QR code with your smart phone or tablet to jump straight there.



Post Details

Reported stats may be delayed from what appears on posts X

Details

Video



NEGATIVE FEEDBACK

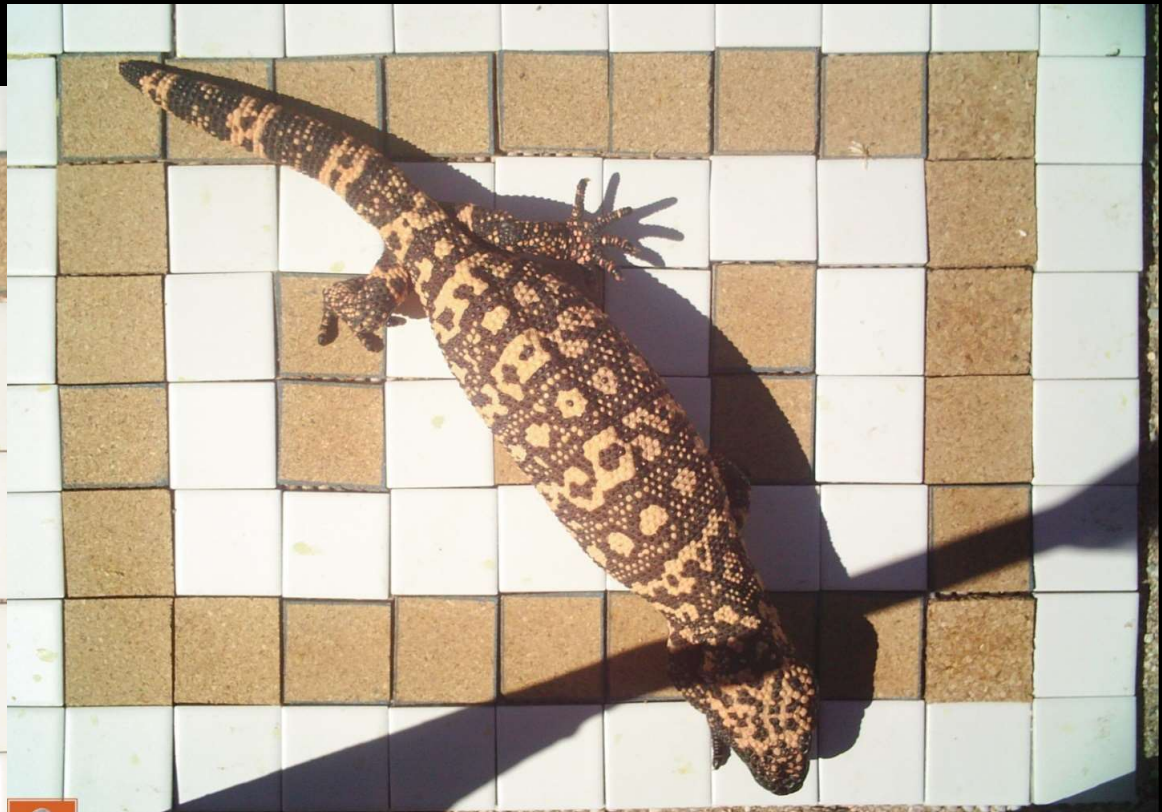
1,023 Hide Post

0 Report as Spam

134 Hide All Posts

5 Unlike Page





Camera Name 82°F27°C



04-20-2016 09:48:53



Camera Name 89°F31°C



04-22-2016 10:10:11

SAGUARO





6/17/2016 11:52 PM



ground_squirrel

ground_squirrel