SMALL ANIMAL USE OF WILDLIFE UNDERPASSES

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SMALL ANIMALS AND CONNECTIVITY

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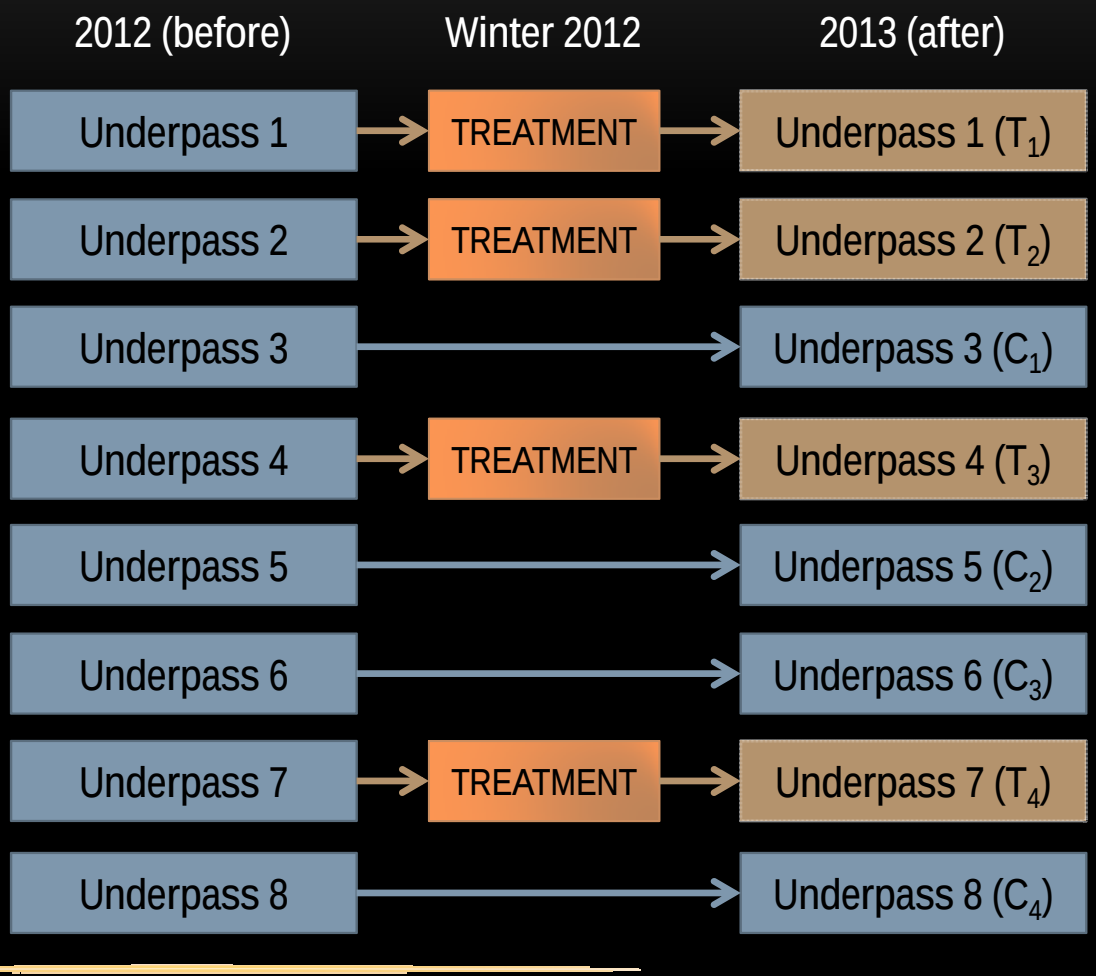
OBJECTIVES AND APPROACH

Questions:

- Is large animal use a good indicator or small animal use?
- Which small animal species, of those in the surrounding area, use the underpasses?
- Does adding structure inside underpasses enhance small animal use?



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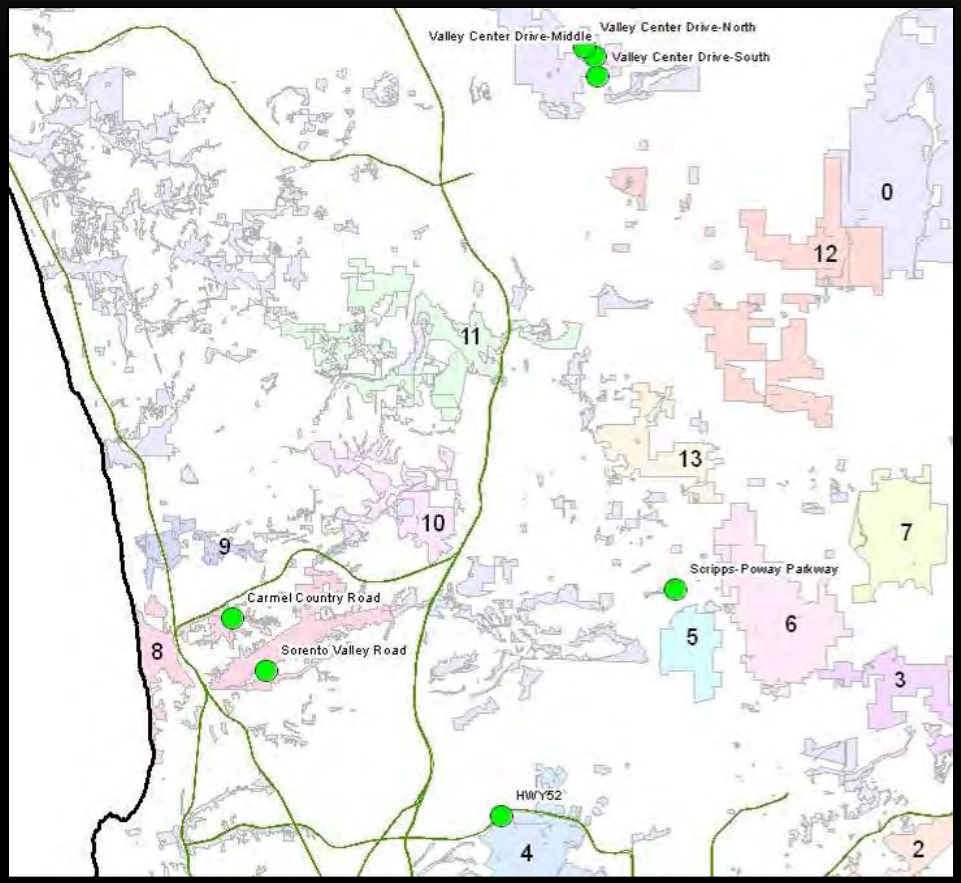
STUDY SITES



- 8 tunnels with cameras
  - SR-52 at Mission Trails (1)
  - Sorento Valley (1)
  - Carmel Country Road (2)
  - Scripps-Poway Parkway (1)
  - Valley Center Road (3)
- Tunnels
  - No roads
  - No riparian (water)

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VALLEY CENTER ROAD

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SCRIPPS POWAY PARKWAY

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HIGHWAY 52

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CARMEL COUNTRY ROAD

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SORRENTO VALLEY ROAD (LOPEZ CANYON)

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CAMERAS

- Reconyx PC800 HyperFire
  - IR flash
- Manufacturer
  - Increased sensitivity
  - Decreased focal length
- Placed close to the ground
  - Approx. 2 inches
- Trigger Mechanisms:
  - Motion Detection
  - Time Lapse

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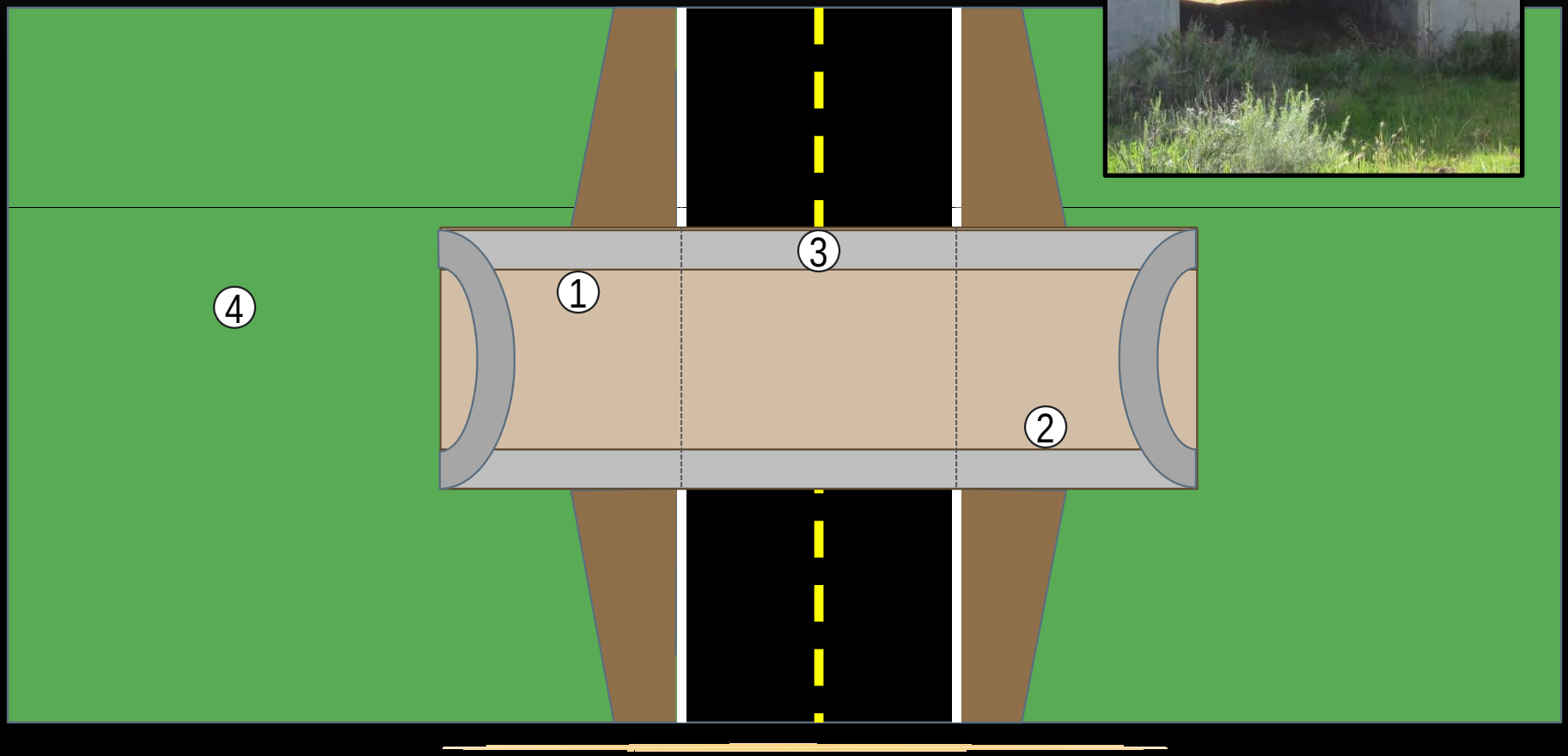
CAMERA PLACEMENT



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CAMERA INSTALLATION

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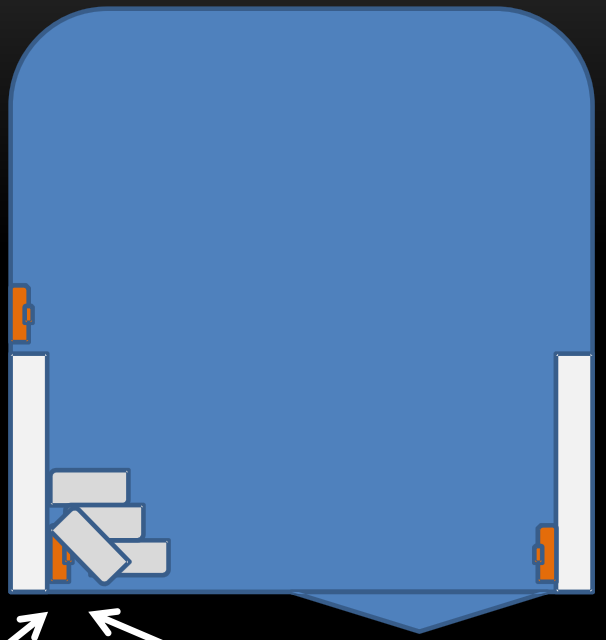
TREATMENT



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PROGRESS SO FAR

- Installation:
  - Interior cameras: 5/15 – 7/2
  - Exterior cameras: 5/16 – 8/15
  - 26 cameras currently deployed
- Challenges with external cameras
- Total: 998,419 images, 350.9 GB (as of 9/20/12)
- At SPP: 96,693 images 34.9 GB (as of 9/20/12);
  - > 11,000 motion detection images with animals (incl. humans)
  - About 10% are motion detection

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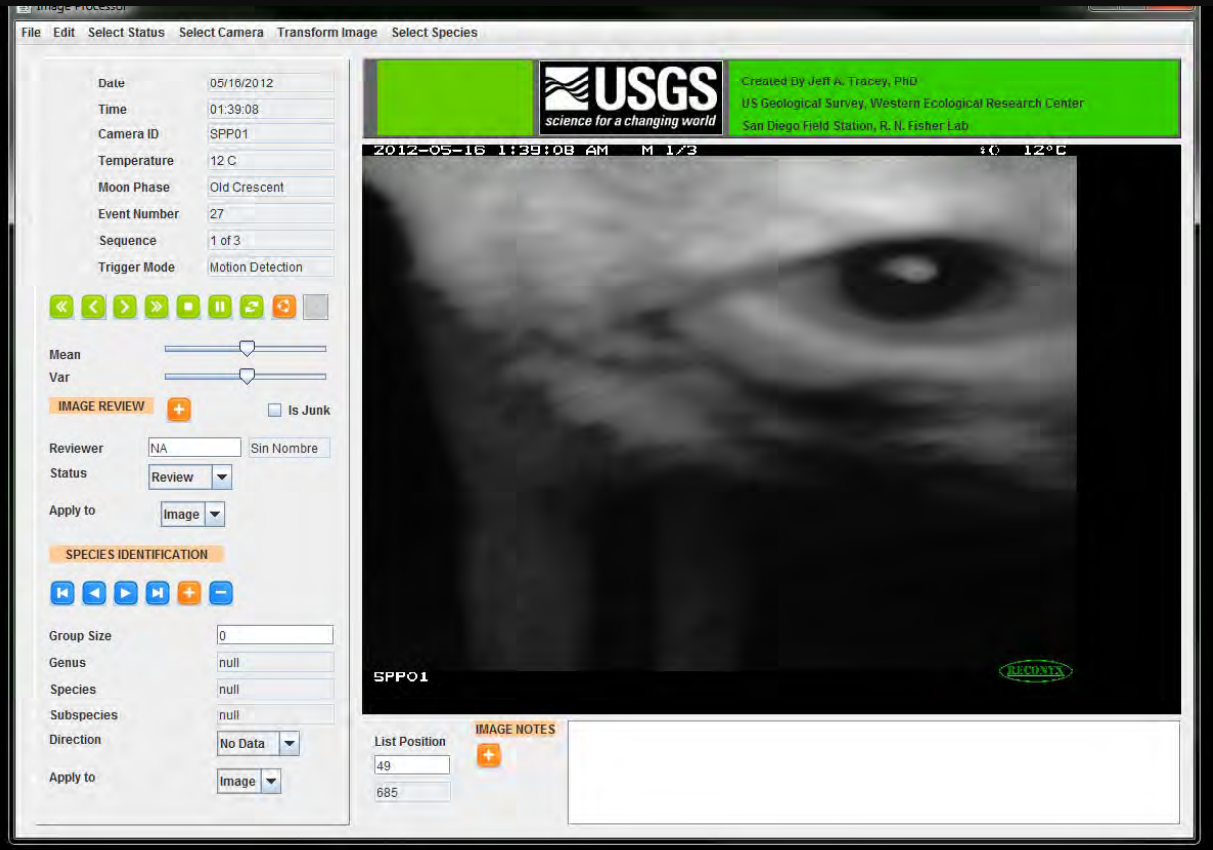
IMAGE PROCESSING



"Scanimals"

Logo Ideas?

- Java Program (in β testing; that is, *not ready for release*)

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WHAT THE IMAGE PROCESSING PROGRAM DOES

- Preprocess Images
  - Extract metadata
  - Copy image to working folder with unique name
  - Add entry in data structure
- Select Subsets of the Images
- View, navigate, animate, transform images
- Assign an evaluation status to images
- Assign species identification to images from pull-down menu
  - Menu created from CSV file of species data
  - Carlton made our list
- Export data to CSV files
  - Later to Access and/or MySQL?

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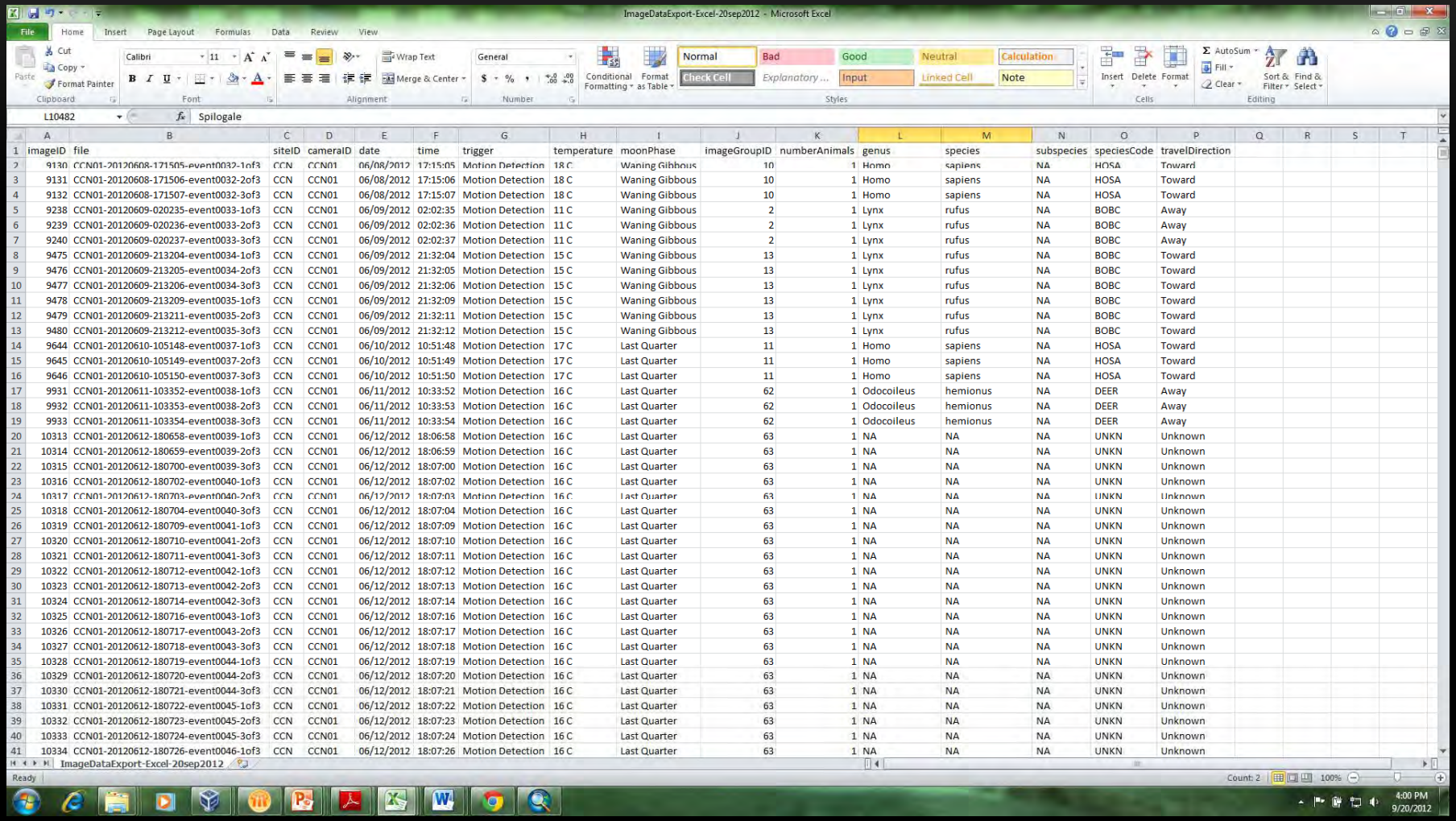
DATA EXPORT



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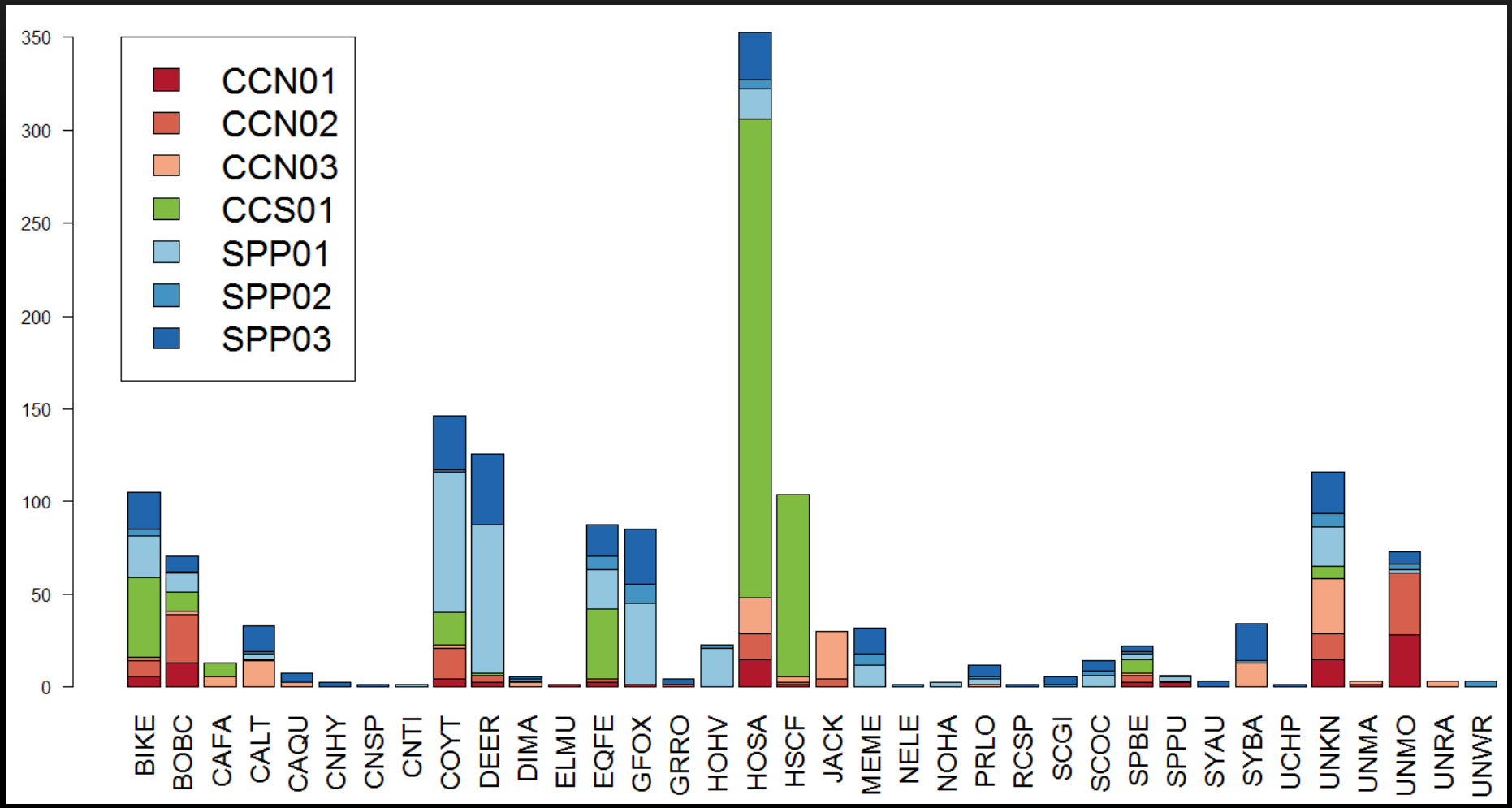
DATA SUMMARY FROM THREE SITES



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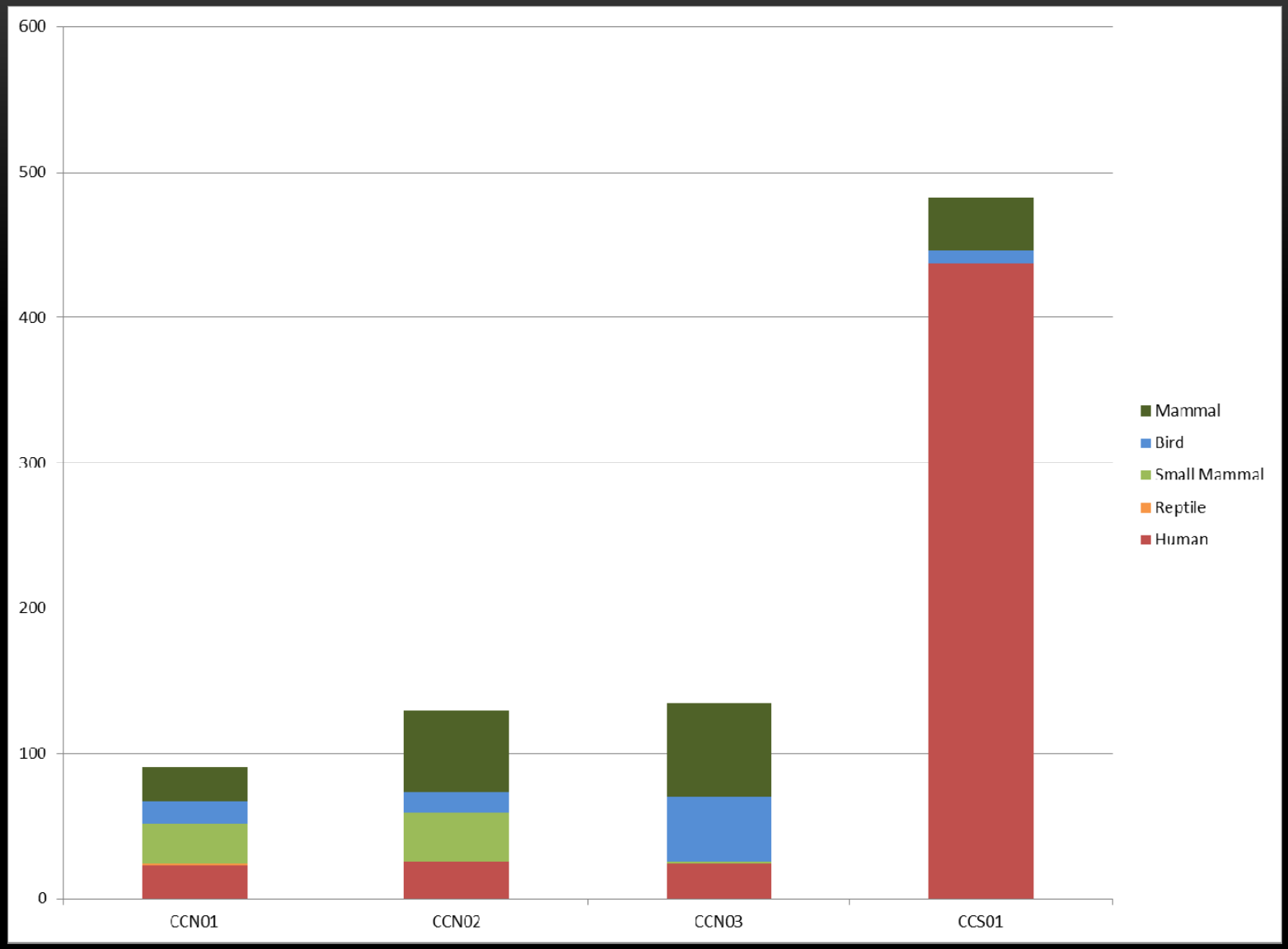

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SMALL ANIMALS

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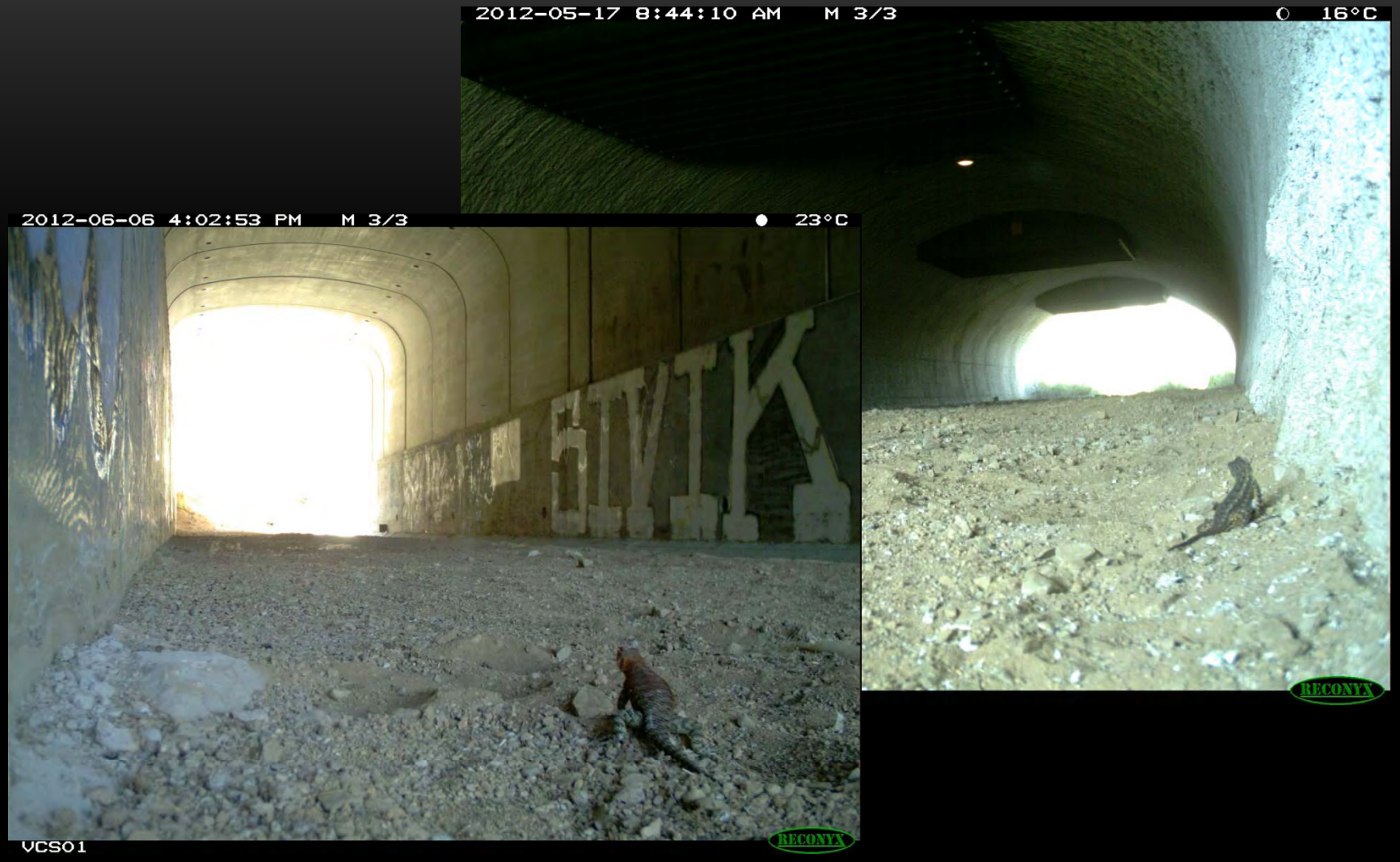

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LARGER ANIMALS

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HUMAN USE

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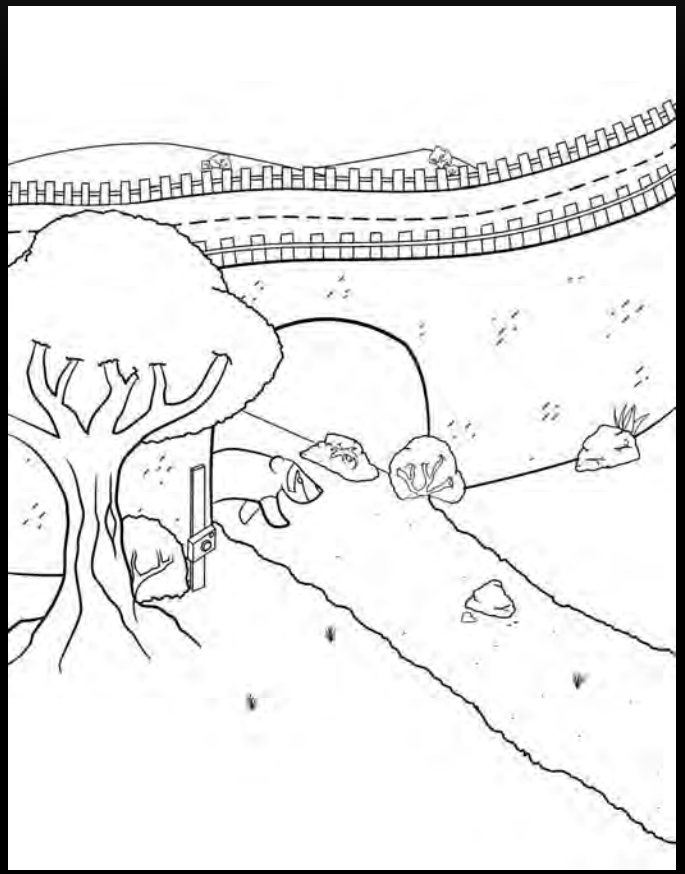
WHAT'S COMING UP NEXT

- Shutdown cameras for the winter
- Put structures in treatment underpasses and allow animals to become habituated
- Resume data collection in the spring
- Image processing…including time lapse images
- Data analysis
- Report results

QUESTIONS



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