

SNAPSHOT NY

A Community-Based Statewide Wildlife Monitoring Project



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Wildlife Monitoring in NYS

- NYS DEC – state agency managing wildlife
- Monitoring methods
 - Harvest reports
 - Public sightings
 - Systematic surveys (biologists and technicians)
 - Live trapping
 - Camera trapping
- Many monitoring methods can introduce bias, are time consuming, costly, and labor intensive



New York Furbearer Sighting Survey

Photos from left to right: Weasel (photo by Dale Robert); Gray fox (photo by Dale Robert); Bobcat (photo by Scott Smith)

The Bureau of Wildlife wants to learn more about the occurrence and distribution of various furbearers throughout New York. Visit the [Furbearers](#) page (link leaves survey) to read profiles for various species, including physical traits and tips for identifying them.

Use this form to report sightings of:

- **bobcat, fisher, fox squirrel, gray fox, marten, otter, snowshoe hare, and weasel** in upstate New York (Westchester County and north; DEC Regions 3 through)
- **beaver, gray fox, otter, weasel, mink, coyote, and skunk** in New York City and Long Island (DEC Regions 1&2)

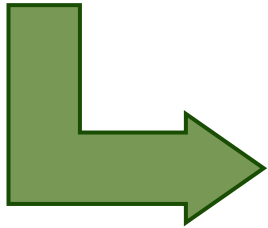
Please note that survey responses are not monitored in real time. If you have a question on identification or would like a response to a question, please email wildlife@dec.ny.gov.



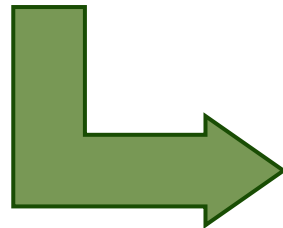
Monitoring Goals



The NYSDEC wanted to more *accurately* estimate population changes for wildlife *across the state*.



Detect 25% decline in abundance of a species of interest over a 5-year period.



How many sites need to be surveyed to detect said decline?



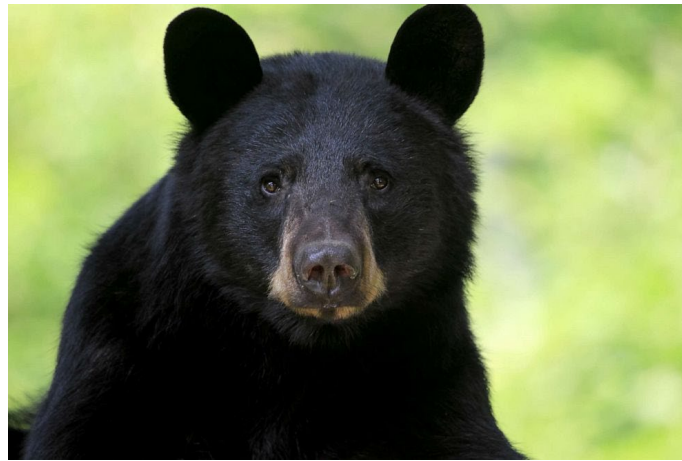
Cornell University

Spatially Explicit Power Analysis

- Cornell University research scientists (Twining and Fuller) conducted a power analysis for occupancy-based monitoring.
- Simulated population changes for species representing a variety of home ranges and detectability.



American marten
High detectability
Small home range



American Black bear
Mid detectability
Large home range



Bobcat
Low detectability
Medium home range

Simulation and Power Analysis Results

Requirement: Statistical power ≥ 0.80

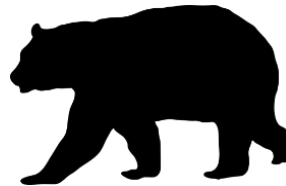
Number of sites required:

Detect 25% pop decline over 5
years
(initial population size= 1000)



320 sites

Detect 25% pop decline over 5
years
(initial population size=5000)



960 sites

Detect 25% pop decline over 5
years
(initial population size=1000)



2,020 sites

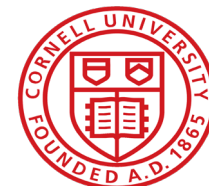
Project Development

The problem:

- Not enough staff/time/resources to sample that many sites.
- Private lands permissions are time consuming/not reliable.
- Over 60% of NYS is privately owned.

The solution:

- Develop a hybrid system for monitoring mammals and other wildlife statewide.
 - State surveys – NYS Department of Environmental Conservation
 - Citizen science surveys – managed by Cornell University



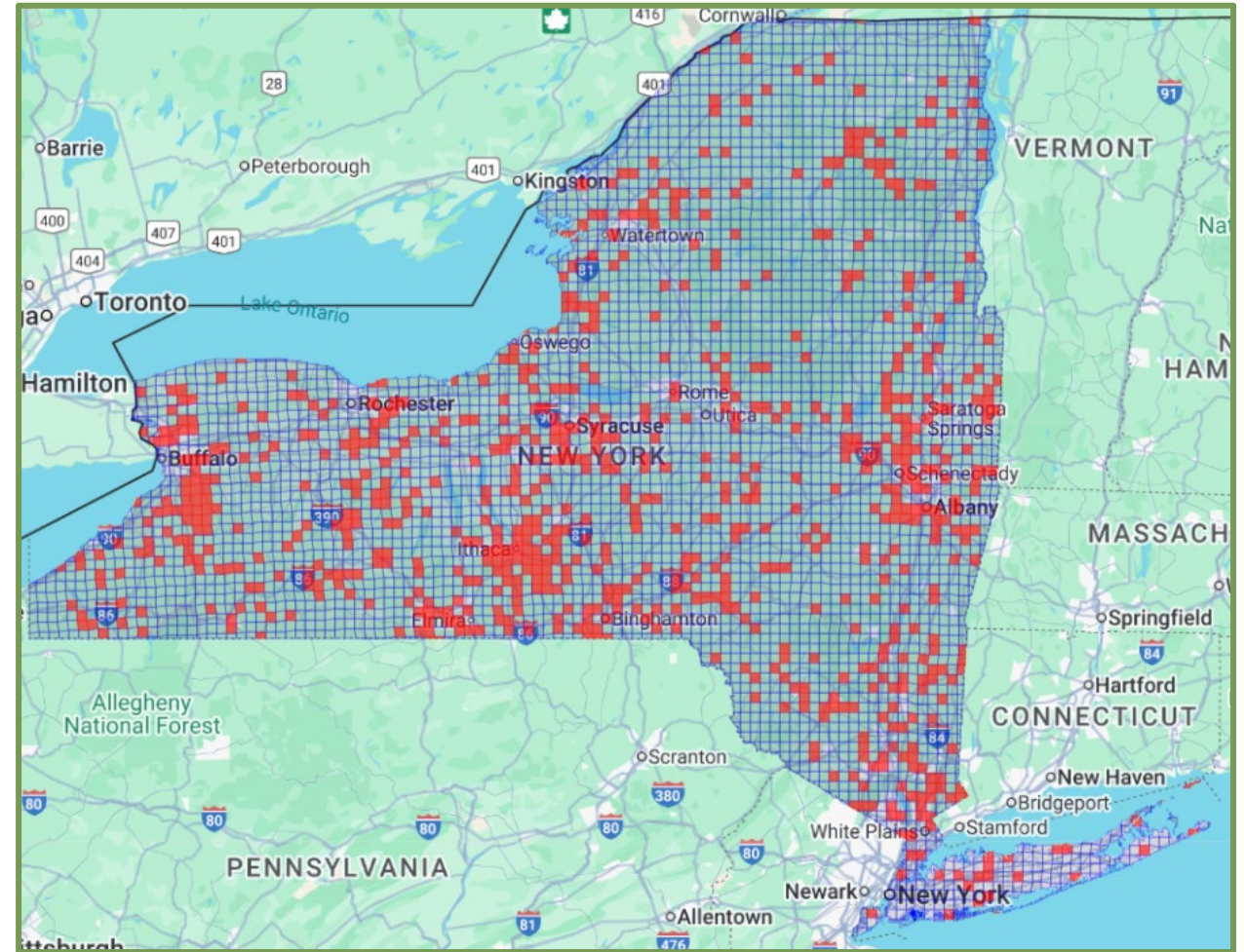
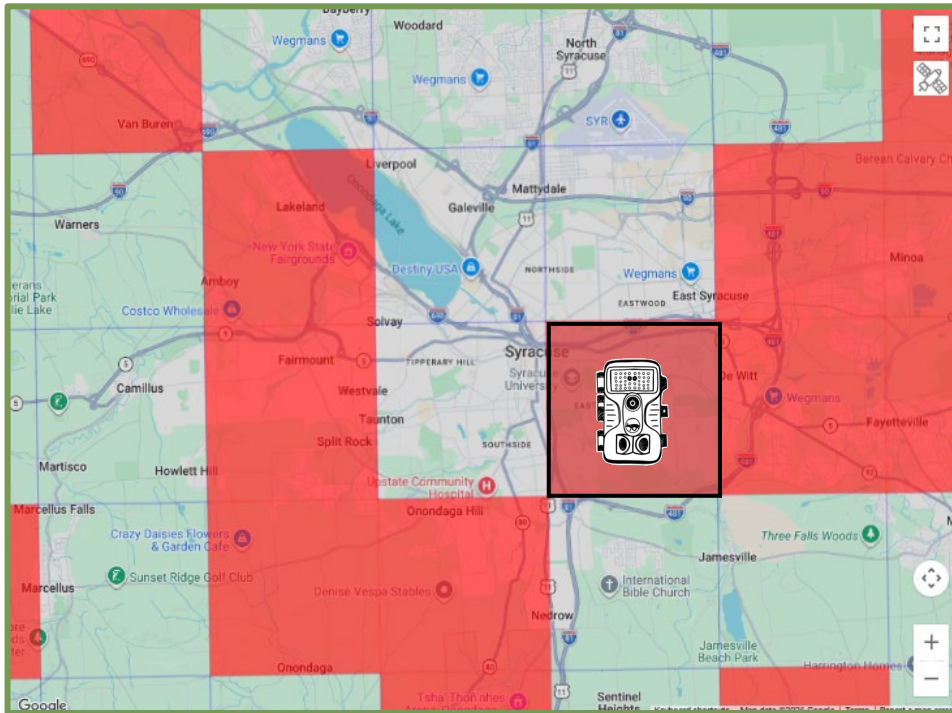
Snapshot NY objectives

1. Collect trail camera images of mammals and other wildlife from across NYS on both public and privately owned lands
2. Engage volunteers in wildlife data collection and educate the public about NYS wildlife
3. Expand the knowledge of the status of mammals and other wildlife in NYS
4. Track population changes/trends over time to inform conservation and management decisions



Study design- Citizen scientists

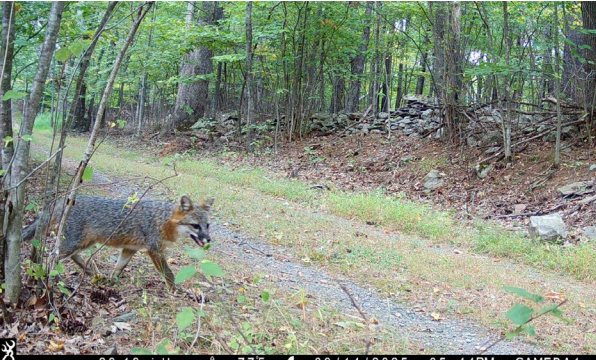
- Divided state into 4,532 grid cells
- Each grid cell 30 x 30 km
- One participant per grid cell
- One camera per participant



Species of interest

Species		
High	Medium	Low
Bear	Coyote	Opossum
Bobcat	Gray Fox	Porcupine
Deer	Hare	Raccoon
Fisher	Red Fox	Skunk
Marten*	Weasels	Squirrels
Moose*		
Turkey		

*Species not a priority in southern zone



What kind of data does Snapshot NY collect?

Metrics

- Occupancy
- Population trends over time
- Sex ratios
- Juvenile/adult ratios
- Distribution
- Abundance/Density*

*for certain species



Management applications

- Data visualization
- Set annual tag allocations
- Develop management plans
- Inform habitat management
- Modify:
 - Bag limits
 - Season length
 - Open/close units

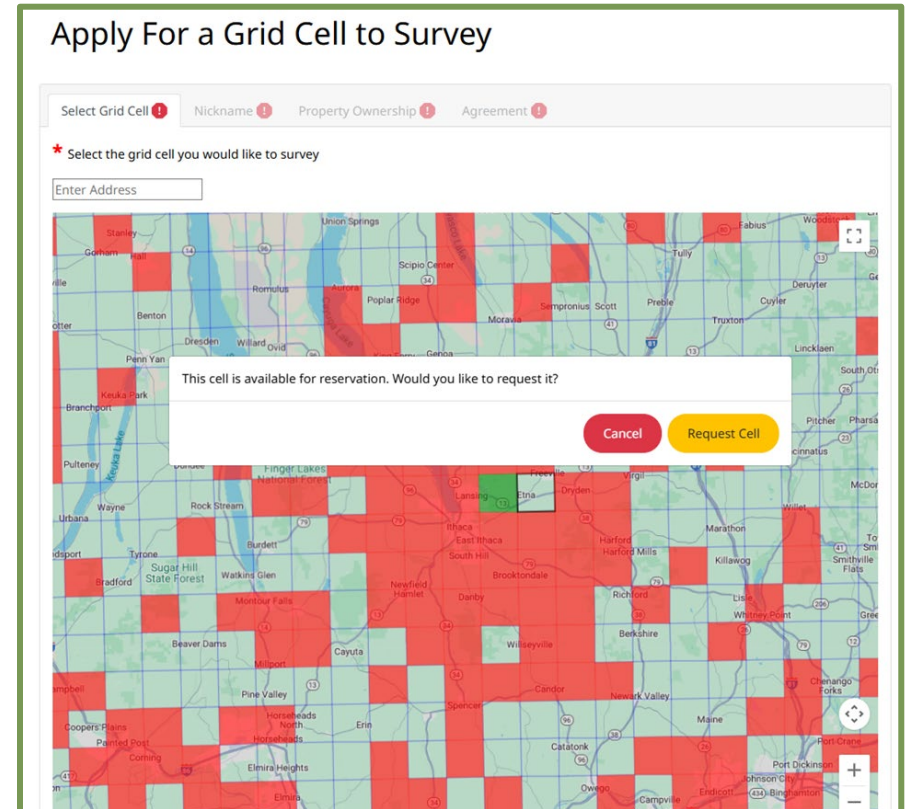
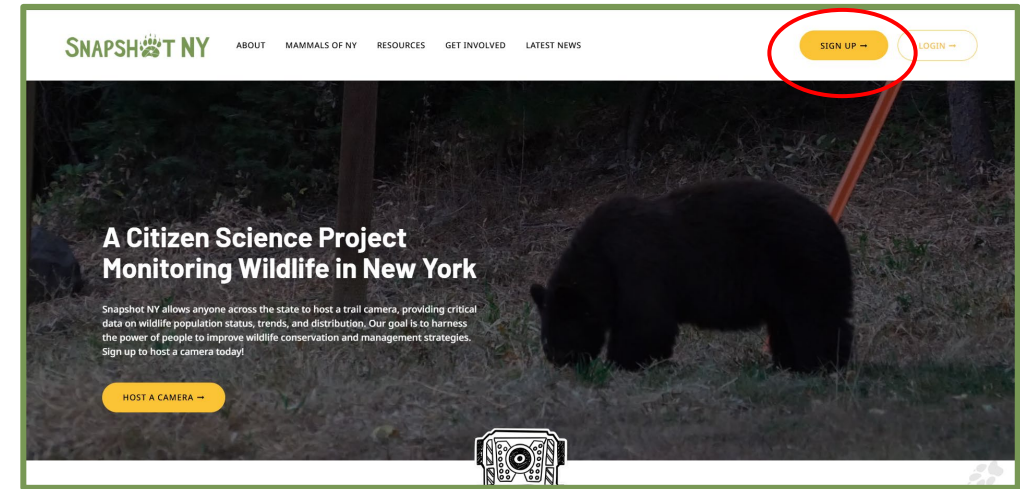
What's the process?

Sign up for an account!

- Sign up at www.snapshotny.org
- Fill out your profile information

Select a grid cell

- ~4500 cells to choose from
- Use map to find your location
- Waitlist feature



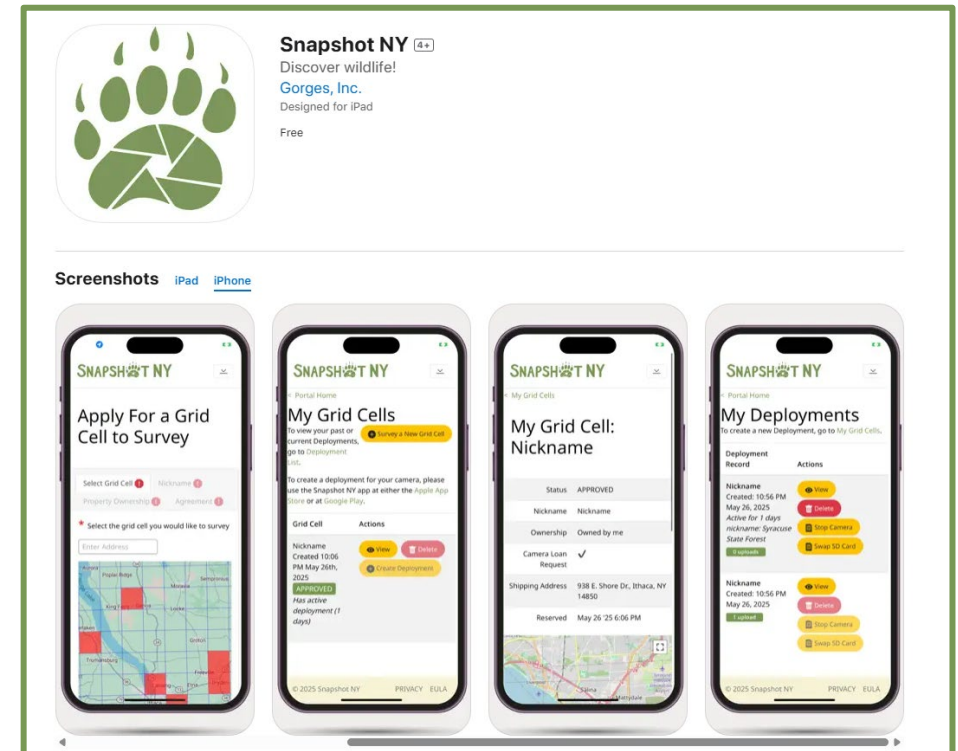
What's the process?

Pick a spot
to place the
camera

- Trails, streams, forest
- Medium sized tree
- 30-50 ft of clearing
- Face camera North

Record in
our custom-
built app

- Create camera
“deployment”
- Date, time, GPS location,
camera brand etc.



What's the process?

Retrieve the SD card

- Check on camera
- Put in a new SD card

Upload photos to website

- Go to account portal
- Upload the folder of images



My Deployments

To create a new Deployment, go to [My Grid Cells](#).

campus

Created: 12:02 PM Jun 10, 2025

Active for 2 days nickname: htgfd

0 uploads

View

Delete

Stop Camera

Swap SD Card

Upload Photos

campus

Created: 12:01 PM Jun 10, 2025

0 uploads

View

Delete

Stop Camera

Swap SD Card

Upload Photos

campus

Created: 1:22 PM Jun 4, 2025

View

Delete

Stop Camera

Swap SD Card

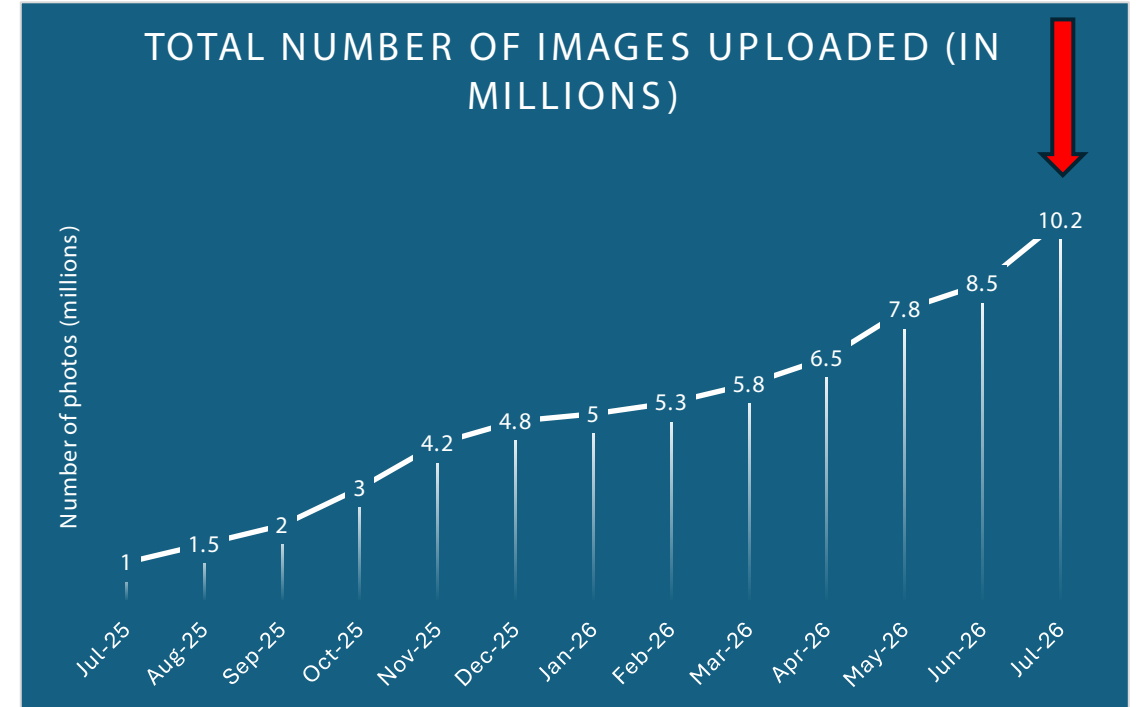
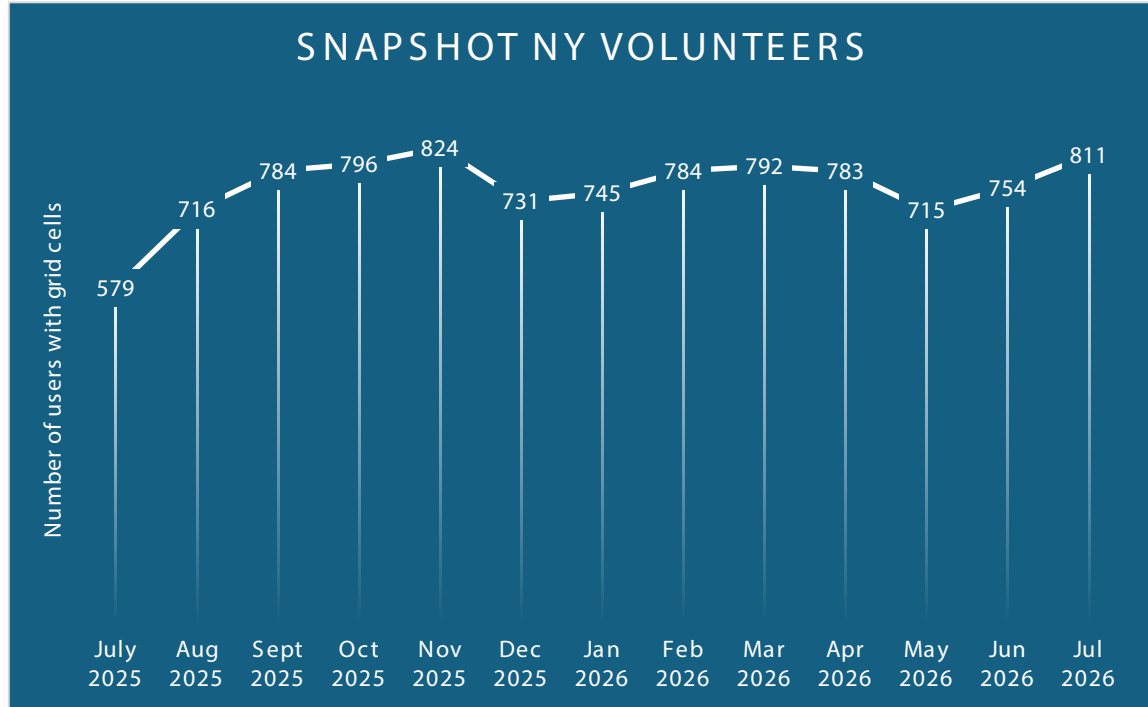
Upload Photos

Loan-a-camera program

- Includes: A Reconyx, Browning or Bushnell camera, lock box, cable and key, tree strap, 2 SD cards, initial set of lithium batteries.
- As well as a folder with a welcome letter, protocol, quick guides, a drawstring bag, sticker and pen!

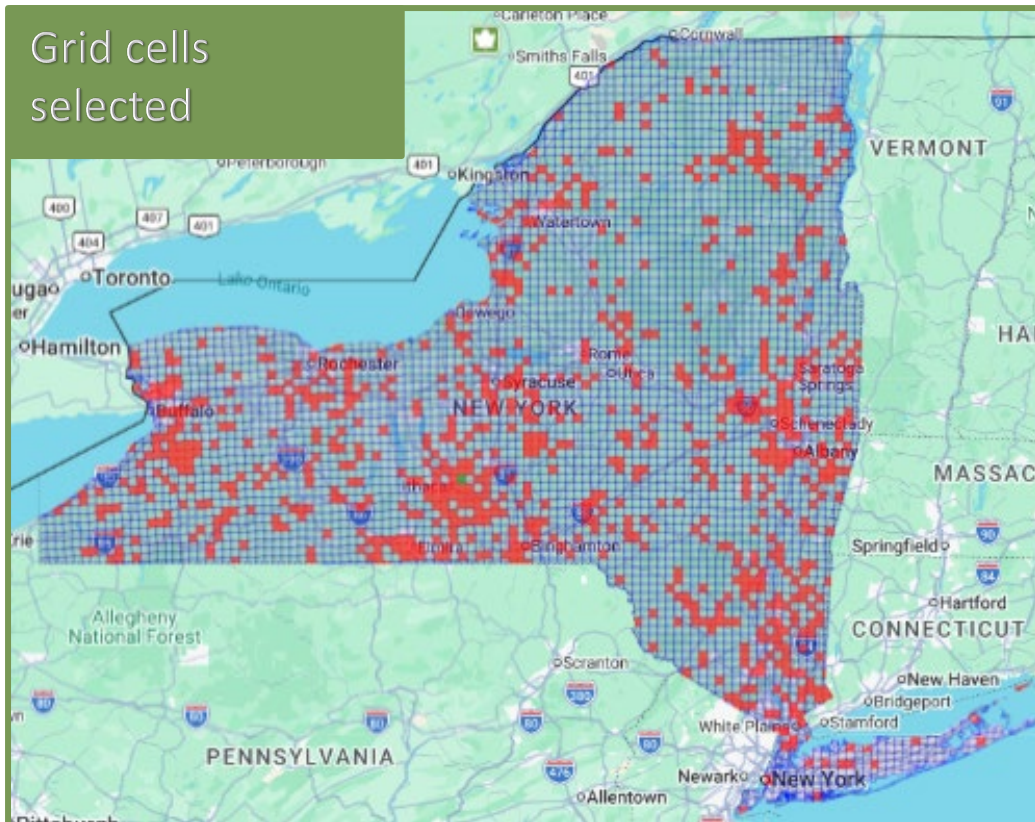


Volunteer participation

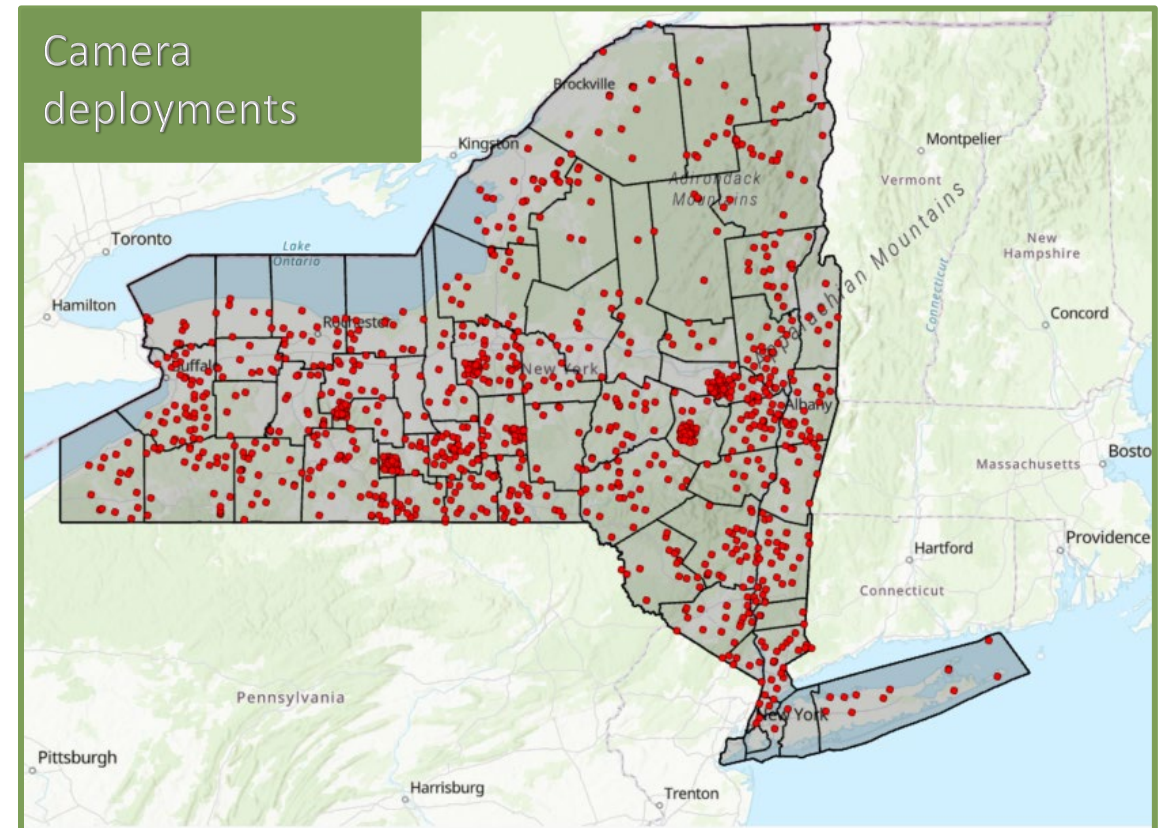


Current status

- Officially launched 6/23/25
- 844 grid cells selected

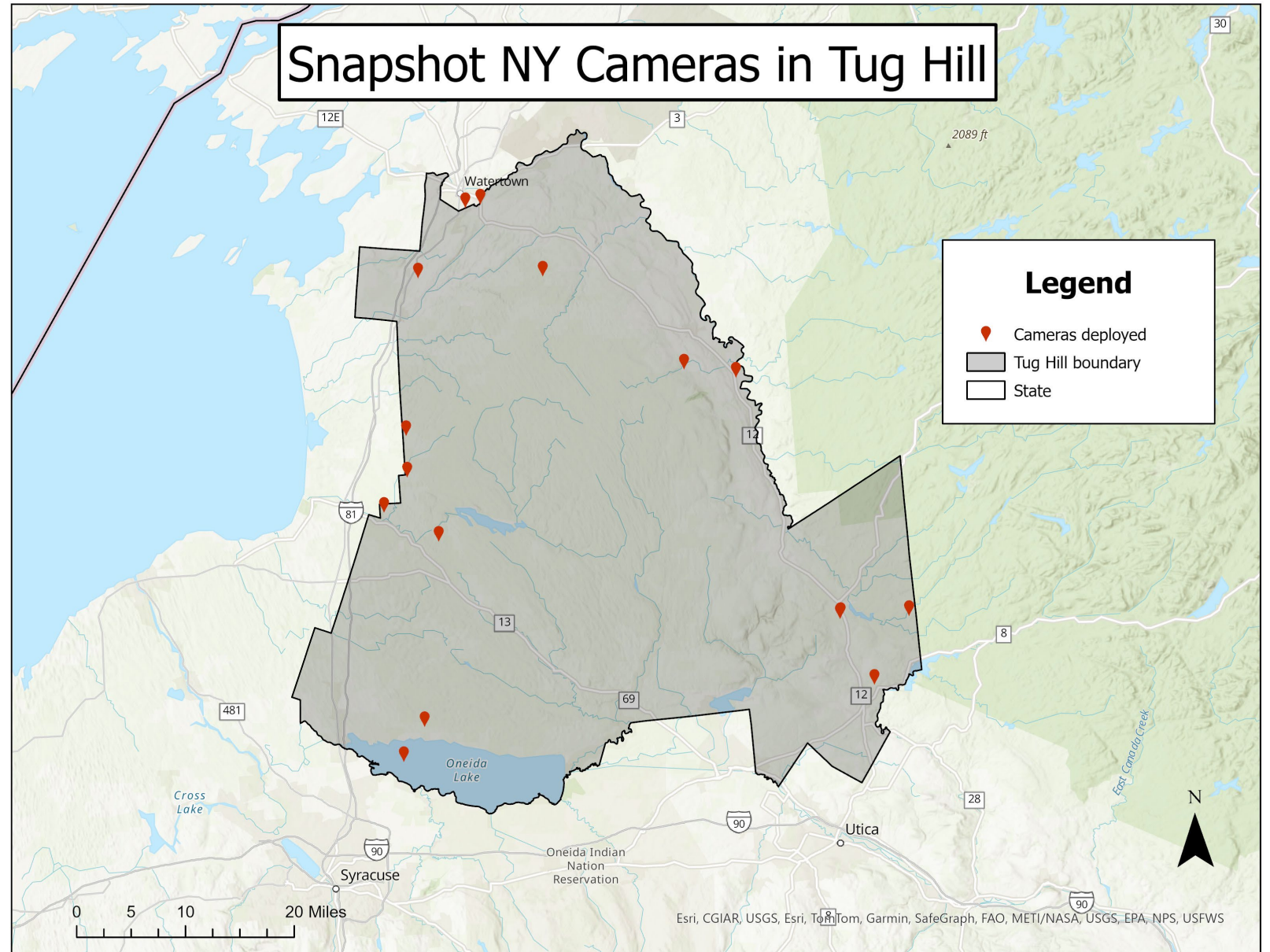


- 392 camera loans sent
- Cameras deployed in 60/62 counties



Live in the Tug Hill region?

Help us fill the gaps!

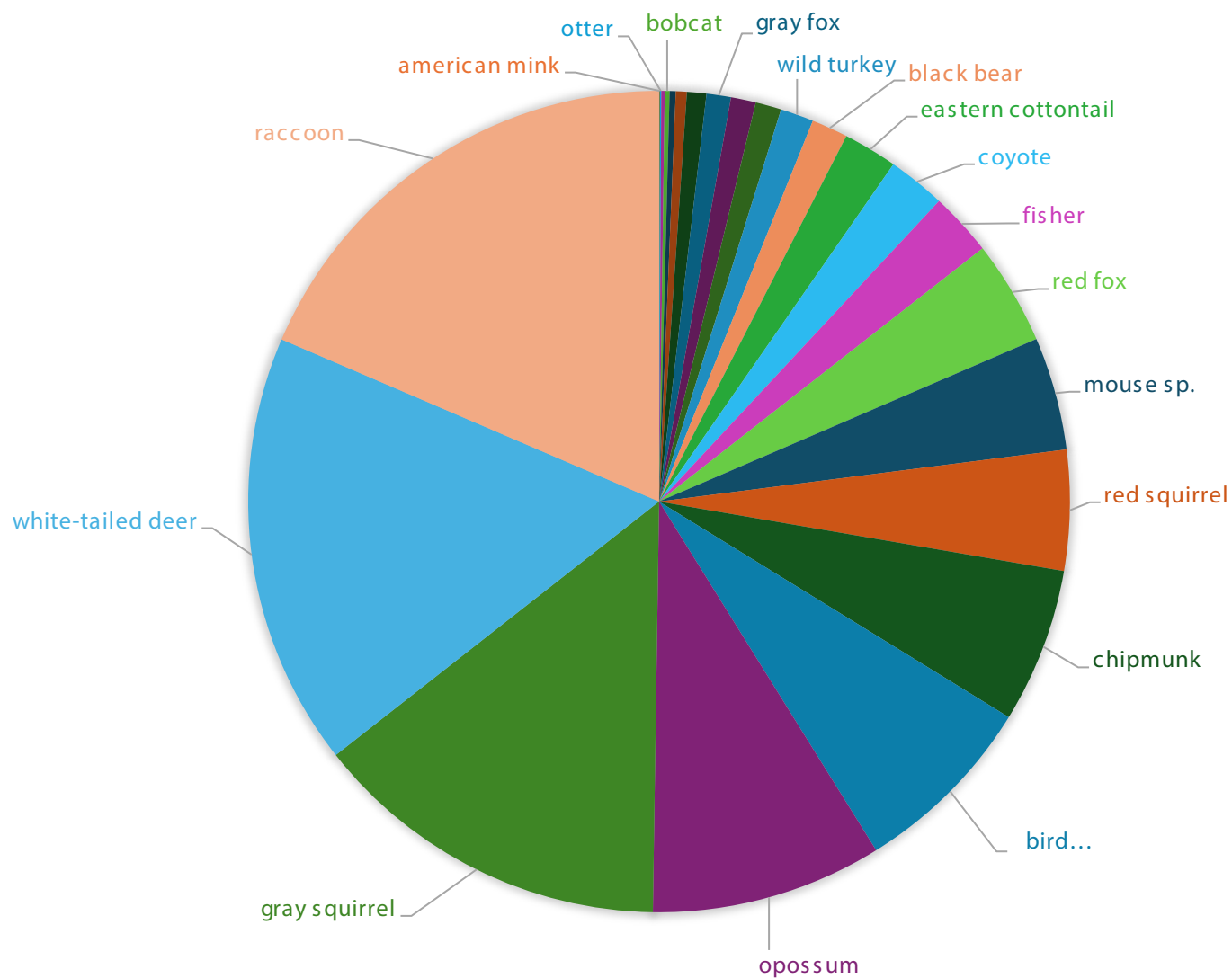


Species detected (~25)

American black bear, American mink, bobcat, coyote, Eastern chipmunk, Eastern cottontail, Eastern gray squirrel, flying squirrel sp, fisher, fox squirrel, gray fox, Moose, North American beaver, North American porcupine, North American red squirrel, river otter, raccoon, red fox, snowshoe hare, striped skunk, Virginia opossum, weasel, white-tailed deer, wild turkey, woodchuck



Total independent detections



Species	Detections (delta 60 min)
beaver	3
american mink	4
muskrat	6
otter	15
flying squirrel	43
bobcat	61
squirrel	77
weasel	139
groundhog	246
gray fox	309
skunk	316
north american porcupine	327
wild turkey	421
black bear	460
eastern cottontail	685
coyote	732
fisher	803
red fox	1320
mouse sp.	1433
red squirrel	1525
chipmunk	1961
bird sp.	2366
opossum	2931
gray squirrel	4566
white-tailed deer	5491
raccoon	5972



Raccoon

61°F 08/30/2025 10:23PM CAMERA1



Fisher

STEALTH CAM 06:14AM 08/05/2025



Red fox

45°F 08/30/2025 07:05AM CAMERA1



Great Blue Heron

63°F 08/16/2025 09:27AM CAMERA1



Raccoon family

54°F 08/21/2025 05:47AM CAMERA1



American Black Bear

29.22 inHg 44°F 09/01/2025 06:11AM CAMERA1



North American Porcupine

57°F 13°C 09-28-2025 00:30:58



Coyote

54°F 2025-10-03 3:11:06 PM M 3/5



Wild Turkey

54°F 2025-10-03 3:11:06 PM M 3/5



Gray fox

50°F 09/18/2025 12:07AM CAMERA1

Red fox



66 F

08/10/2025 10:47PM

Wild turkey



59 F

TRAILCAM03

05/19/2026 05:30AM

American black bear



53 F

TRAILCAM01

08/27/2025 02:01AM

American black bear cubs



69 F

TRAILCAM01

07/12/2025 07:02AM

Barred Owl



44 F

TRAILCAM03

04/26/2026 11:45PM

Black squirrel



CameraslamS

21 F 3:00

2025-11-11 09:50:34

Coyote



48 E

TRAILCAM03

06/04/2026 02:10AM

Bobcat



71 F

TRAILCAM01

08/21/2025 05:43PM

White-tailed deer



57 F

TRAILCAM03

06/23/2026 12:08PM

Workflow + future steps



Use MegaDetector and DeepFaune New England to classify camera photos



Manually review low confidence images



Clean camera deployment data



Create occupancy and abundance models



Goal: Fill a majority of grid cells



Goal: Create a dashboard with project stats (public)



Goal: Expand project staff and collaborations



Acknowledgments

- Snapshot NY volunteer scientists!
- The New York State Department of Environmental Conservation
 - Funding for this project was provided by Federal Aid in the Wildlife Restoration Grant W-173-G.
- The Snapshot NY working group (NYSDEC)
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- Todd Kautz, Big game biologist, NYSDEC
- Kelly Perkins, Research Support Specialist, Cornell University
- Haley Turner, PhD student, Cornell University
- Angela Fuller, NYCFWRU lead, USGS, Cornell University



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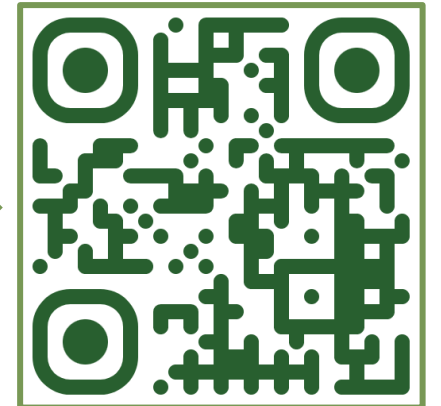
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[snapshot.ny](https://www.tiktok.com/@snapshot.ny)



Scan for
website



Interested in participating? Want to purchase your own camera?

We have a partnership with Browning cameras to provide discounted rates for Snapshot NY-ers!

Contact Holly Parr if interested!

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