Lights, Camera, Action!

Using Wildlife Cameras for Conservation

Pete Steckler

NHACC Annual Meeting
November 5, 2022

Northeast Conservation Services

Outline

- Why use Wildlife Cameras?
  - For Wildlife Crossings
  - For Land Protection
  - Supporting the Protection of Wildlife Corridors
- Wildlife Cameras: the basics
  - Equipment
  - Settings
  - Setup
- Questions/Discussion (ASK ALONG THE WAY!)

Bushnell
NHFO-031 30,69 In 64°F
05-14-2020 17:27:03

Bushnell
NHFO-031 29,91 In 53°F
11-15-2018 16:

Bushnell
NHFO-031 30,61 In 1°F
12-19-2016 11:11:5

Bushnell
NHFO-031 30,47 In 19°F
12-29-2018 19:48:57

Bushnell
TNC-007 30.08In→ 33°F
11-09-2020 22:02:45

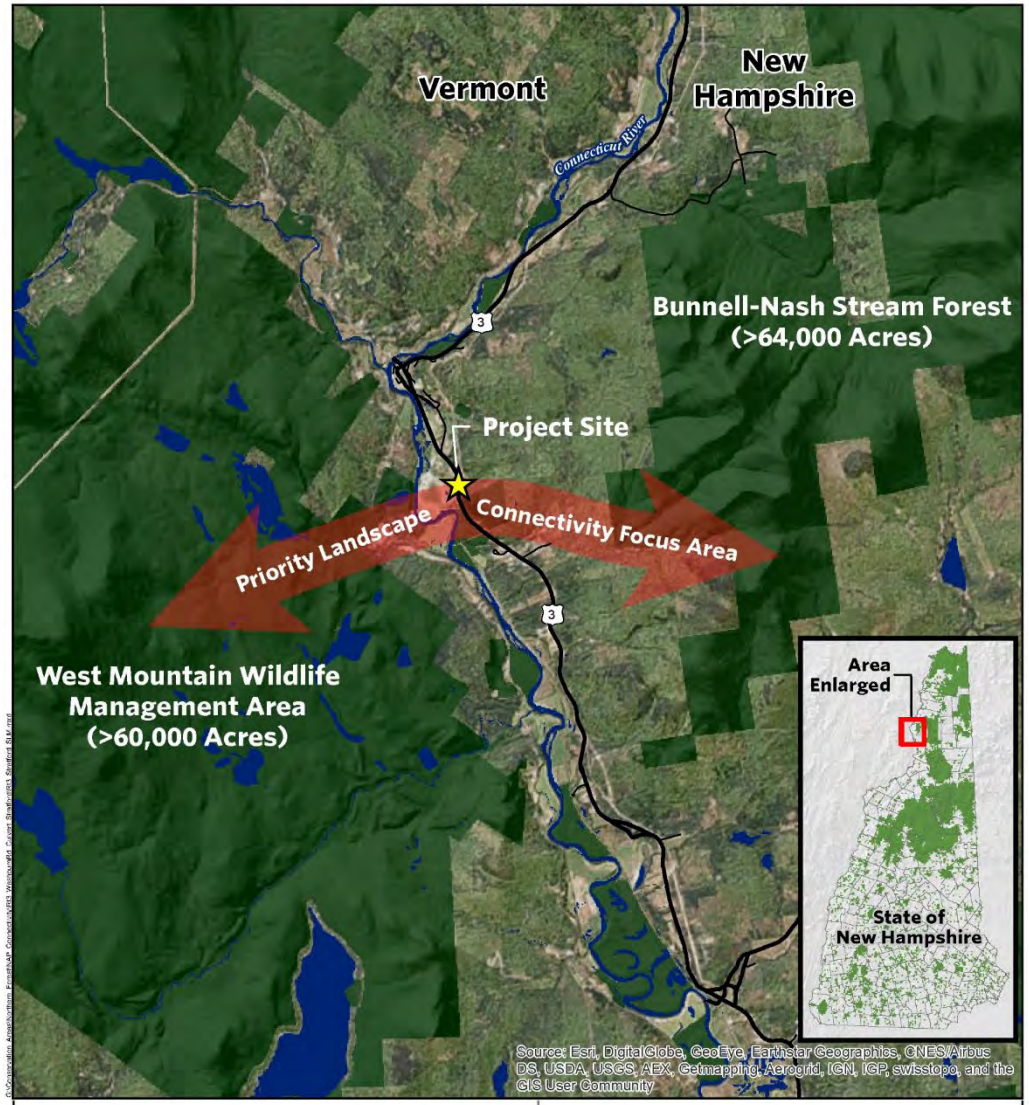
Bushnell
TNC-007 29.56In 35°F
11-16-2020 15:14:20

Bushnell
TNC-007 29.81In→ 73°F
05-08-2021 12:17:41

Bushnell
TNC-007 30.13In 51°F
08-27-2021 06:21:24

Bushnell
TNC-007 29.71In↓ 70°F
09-06-2021 14:11:03

Bushnell
TNC-007 30.34In↑ 59°F
08-16-2022 07:54:27



Legend

- Project Site Location
- Conservation/Public Land
- Surface Water
- State Road
- Local Road

N
W E
S

0 4,000 8,000
Feet

Project Site Location and Conservation Context

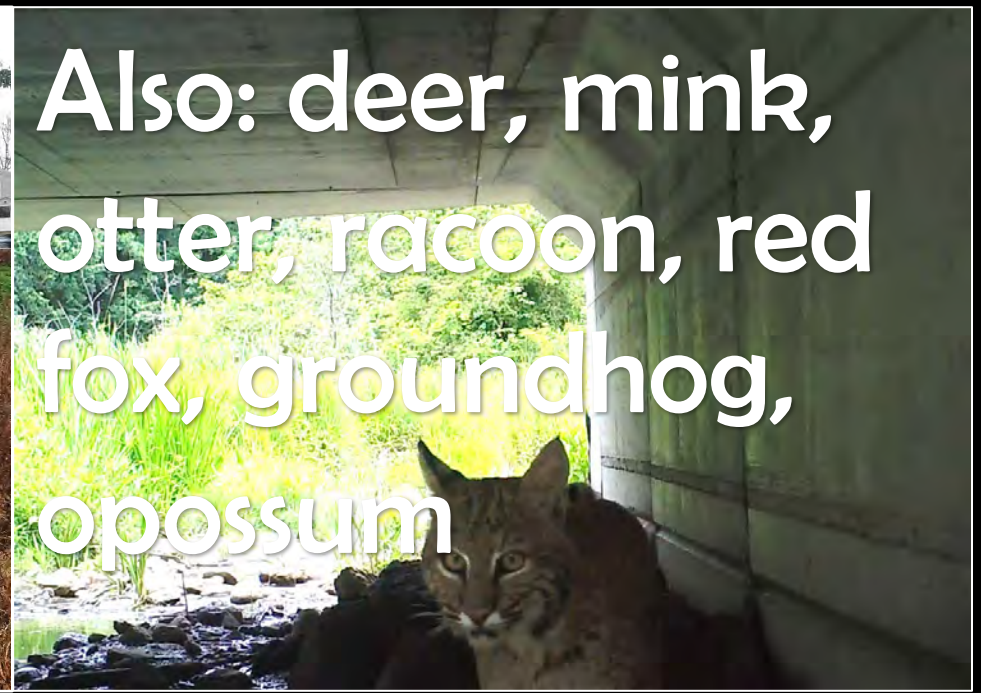
US Route 3 Culvert Replacement

**Stratford,
New Hampshire**

Created: May 9, 2017
Data Source: NH GRANIT, TNC & Esri

Before

After


Also: deer, mink, otter, racoon, red fox, groundhog, opossum

KOBELCO
NEW HOLLAND

NEWMARKET

Wildlife Camera Studies in Vermont

Bearly Squeezing

Bushnell
TNC-025 29.45 In→ 68℉
09-02-2015 18:00:37

Bushnell
TNC-025 29.45 In→ 68℉
08-10-2015 18:36:33

Bushnell
TNC-025 29.45 In→ 68℉
08-10-2015 18:36:36

Bushnell
TNC-025 29.63 In↓ 62℉
07-24-2016 10:50:02

Bushnell
TNC-025 29.37 In→ 50℉
10-18-2016 16:52:05

Bushnell
TNC-025 29.37 In→ 50℉
10-18-2016 16:52:29

Bushnell
TNC-025 29.45 In↓ 59℉
06-23-2016 12:11:44

Bushnell
TNC-025 29.39 In→ 59℉
05-11-2015 16:56:54

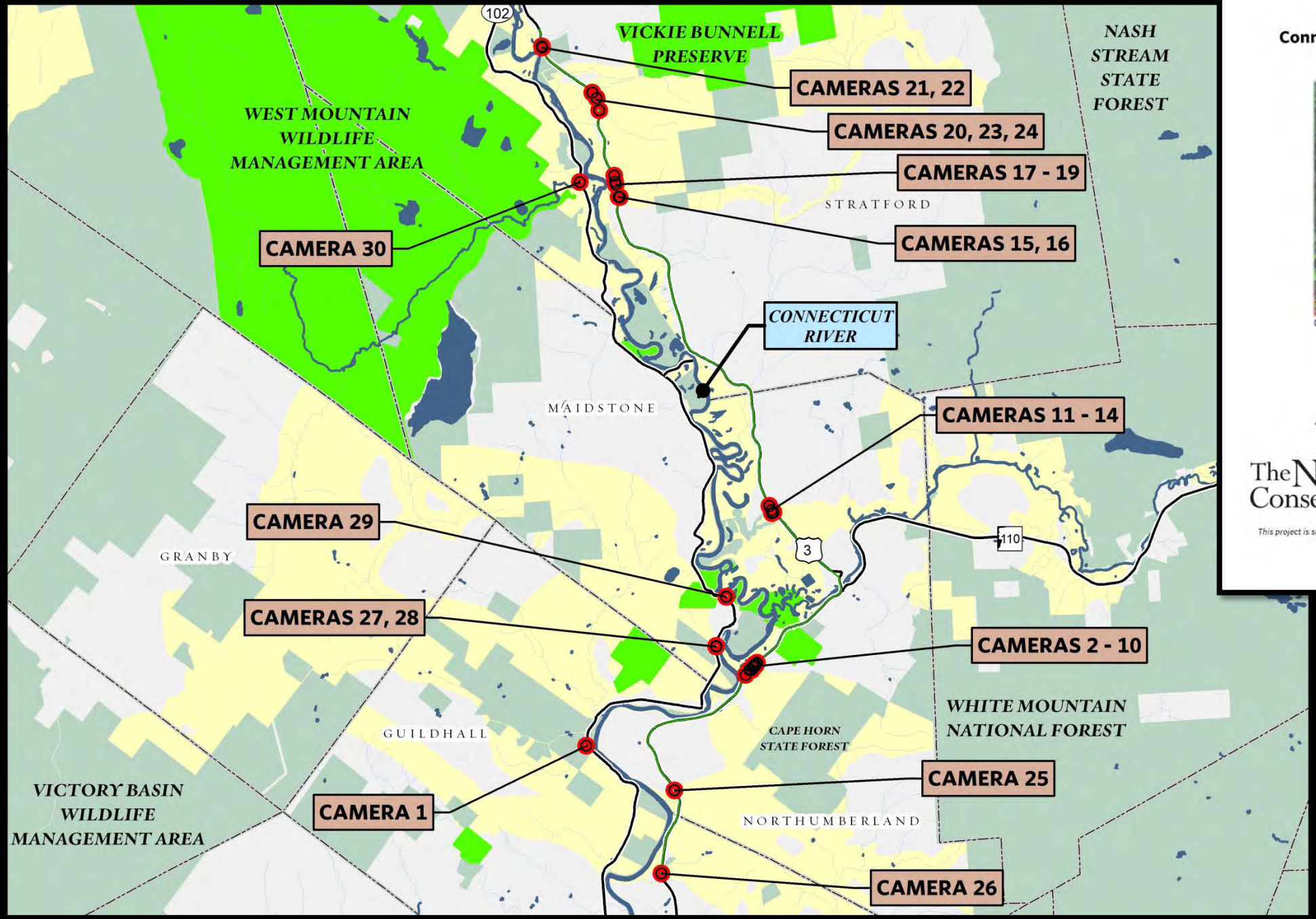
Bushnell
TNC-025 29.40 In→ 64℉
05-30-2015 22:06:01

Large Culverts w/ Fencing:

48” round culvert

Summation of Wildlife Passage at Road Crossings Thanks to Wildlife Cameras

Size Class	Structure	Species
Small underpass	Pipe, box, and arch culverts; 3-6’ wide and < 8’ height	Mink, otter, long-tailed weasel, groundhog, raccoon, skunk, fox, fisher, bobcat, coyote, black bear, Canada lynx, pine marten
Medium underpass	Larger culverts between 5’ and 8’ width and >8’ height	SAME AS ABOVE + **deer**
Large underpass	Bridge spans, large culverts > 10' wide, > 8’ high	SAME AS ABOVE + **moose**



Camera Trapping to Advance Wildlife Connectivity Implementation in Coos County, NH

A report to the SCC Conservation Grant Program

April 22, 2016

Conducted by:

Peter Steckler, The Nature Conservancy, NH Chapter

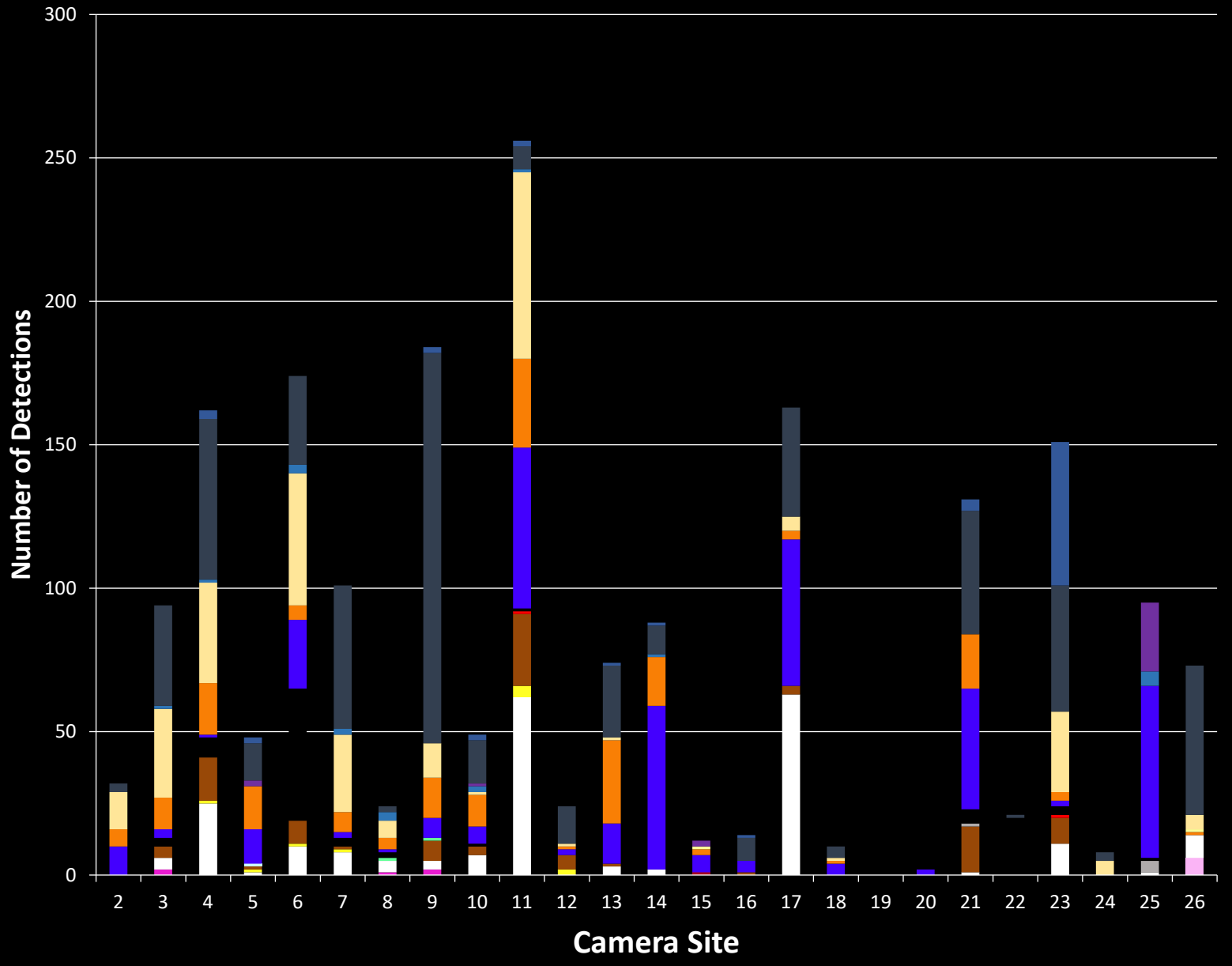
Arianna Spear & Timothy Norton, University of New Hampshire Interns

The Nature Conservancy

LIVE FREE OR DIE NH SCC HAMPSHIRE

This project is supported by funds from the sale of the Conservation License Plate (Moose Plate) through the NH State Conservation Committee grant program.

Species Detections by Site



Understanding Wildlife Corridors

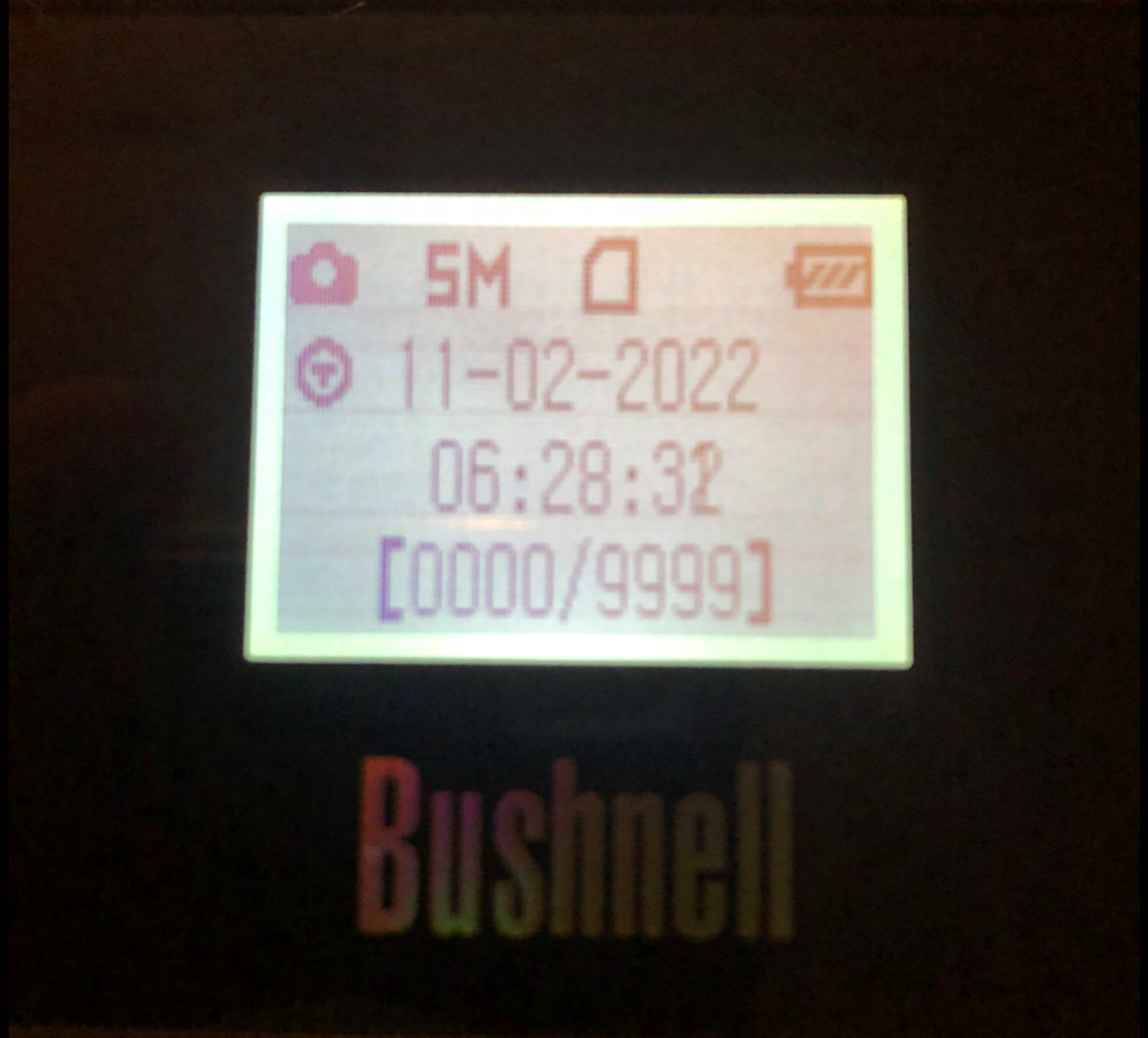
Wildlife Camera Equipment Basics

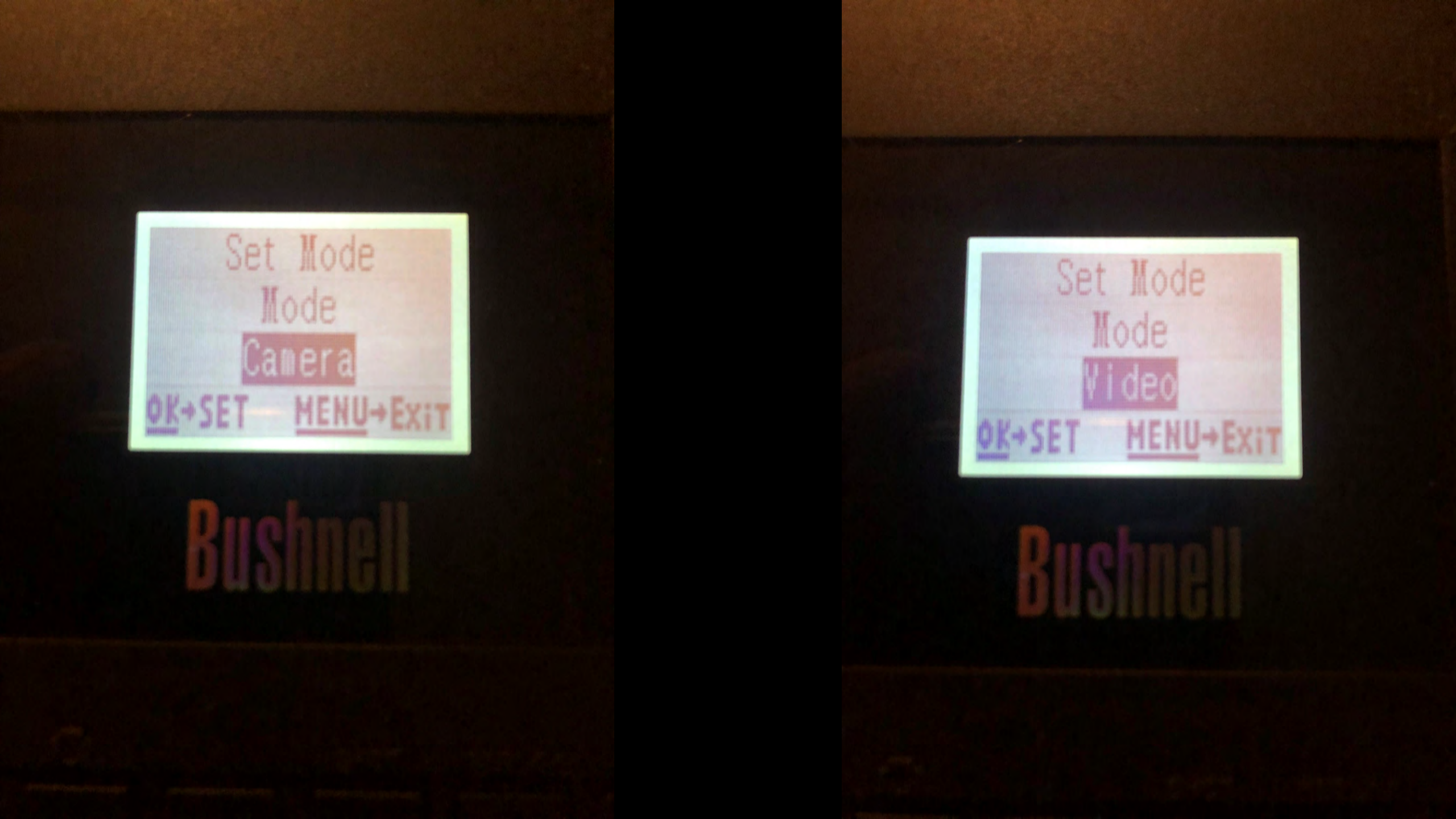
- Camera
- Lock Box
- Cable Lock (+ keys!)
- SD Card (2)
- Batteries (Lithium)
- Fastening hardware
  - Lag bolts + drill with bit
  - Strap (caution!)

- Equipment bag with WD-40, bolt cutters, hatchet/ loppers/machete, SD Card reader

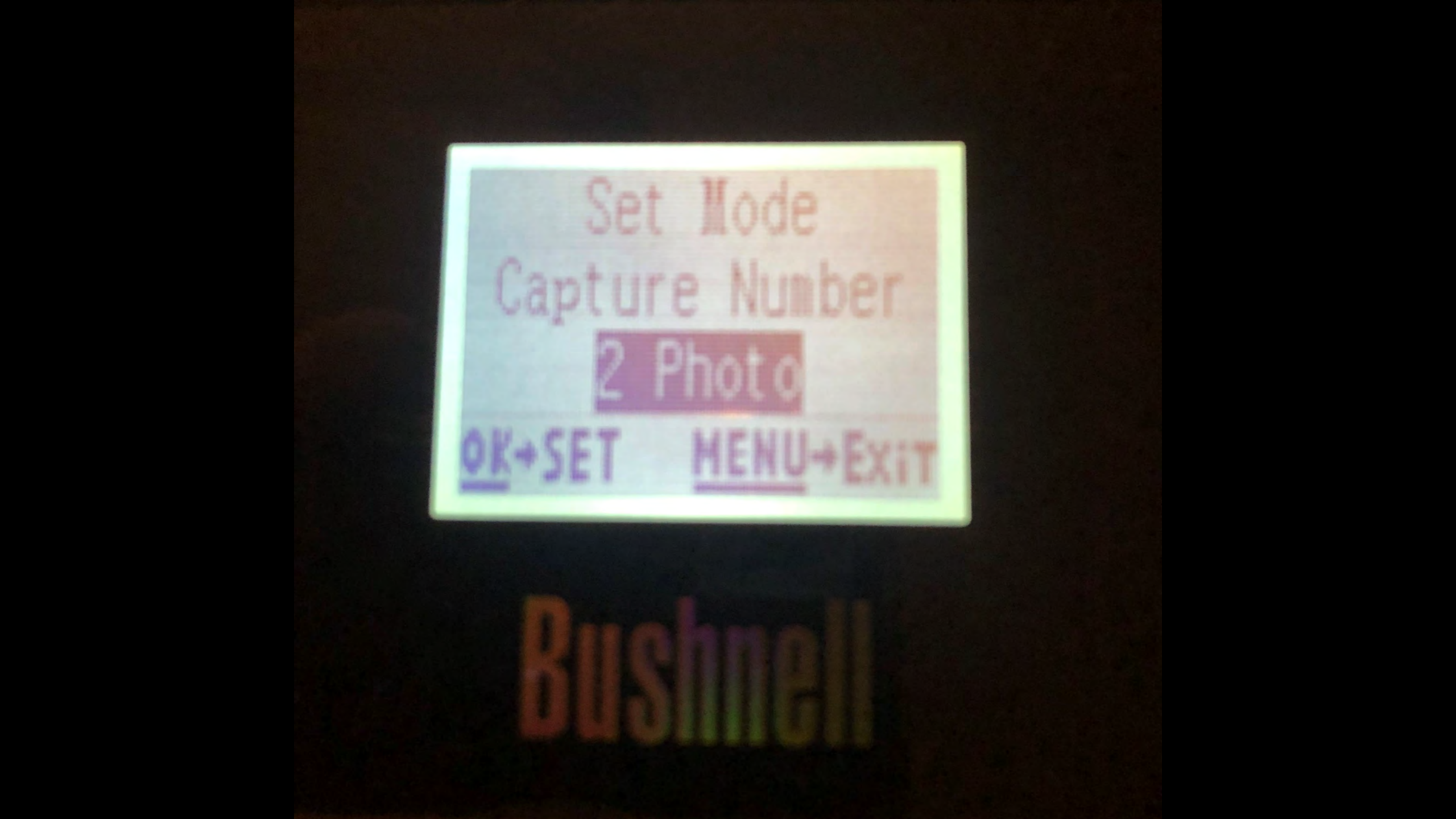
Wildlife Camera Basics

SETTINGS


5M
11-02-2022
06:28:32
[0000/9999]
Bushnell


Set Mode
Mode
Camera
OK→SET MENU→Exit
Bushnell
Set Mode
Mode
Video
OK→SET MENU→Exit
Bushnell

Set Mode
Image Size
5M Pixel
OK→SET
MENU→Exit
Bushnell


Set Mode
Capture Number
2 Photo
OK→SET
MENU→Exit
Bushnell

Set Mode
LED Control
High
OK→SET
MENU→EXIT
Bushnell

Set Mode
Camera Name
Input
OK→SET
MENU→Exit
Bushnell

Set Mode
Video Size
1280x720
OK→SET
MENU→Exit
Bushnell

Set Mode
Video Length
30S
OK→SET
MENU→EXIT
Bushnell

Set Mode
Interval
1S
OK→SET
MENU→Exit
Bushnell

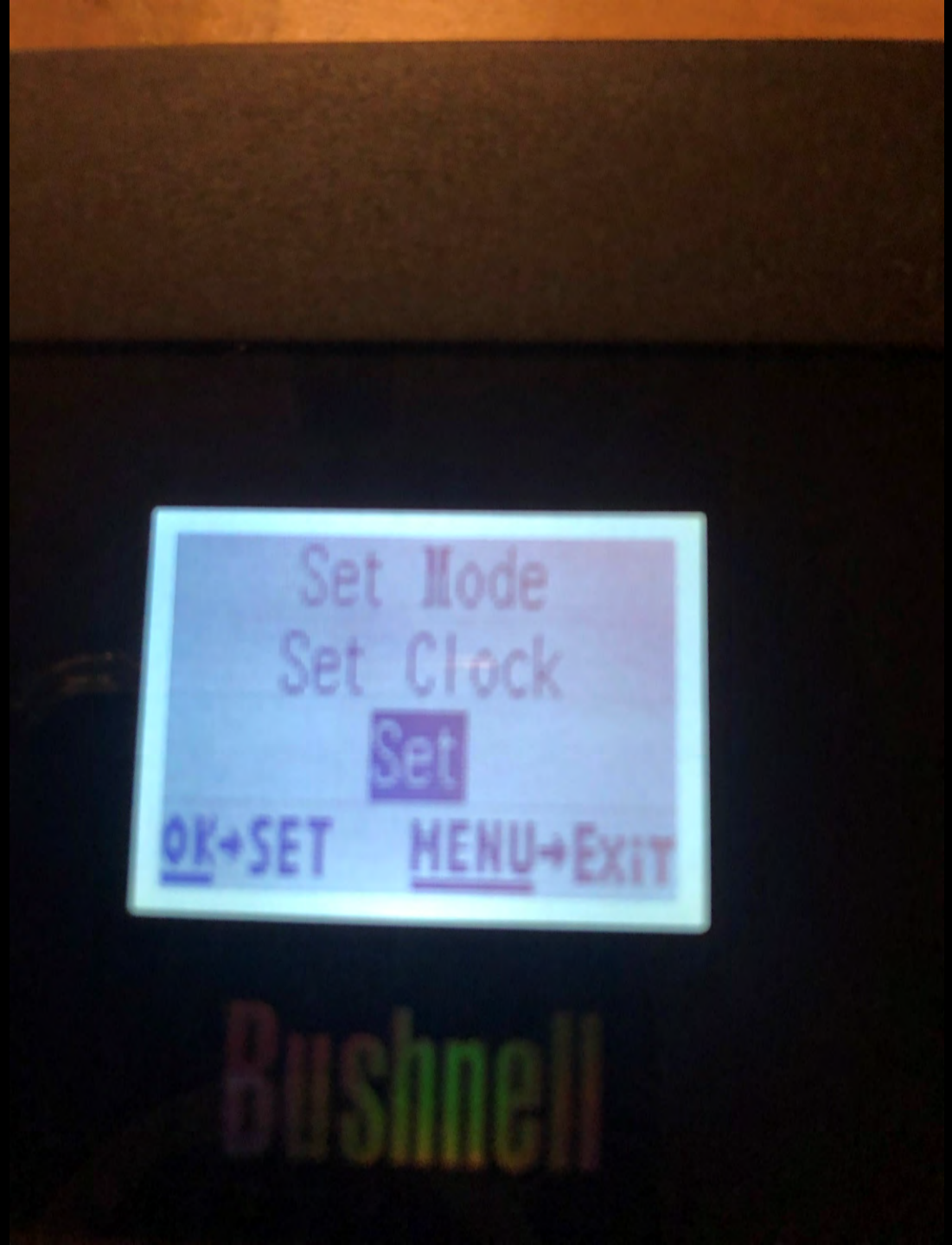
Set Mode
Sensor Level
Auto
OK→SET
MENU→Exit
Bushnell

Set Mode
NV Shutter
High
OK→SET
MENU→Exit
Bushnell

Set Mode
Camera Mode
24hrs
OK→SET
MENU→EXIT
Bushnell

Set Mode
Format
Execute
OK→SET
MENU→Exit
Bushnell

Set Mode
Time Stamp
On
OK→SET
MENU→Exit
Bushnell


Set Mode
Set Clock
Set
OK→SET
MENU→EXIT
Bushnell

Set Mode
Field Scan
Off
OK→SET
MENU→Exit
Bushnell

Set Mode
Coordinate Input
Dfi
OK→SET
MENU→Exit
Bushnell

Set Mode
Video Sound
On
OK→SET
MENU→Exit
Bushnell

Wildlife Camera Basics

SETUP

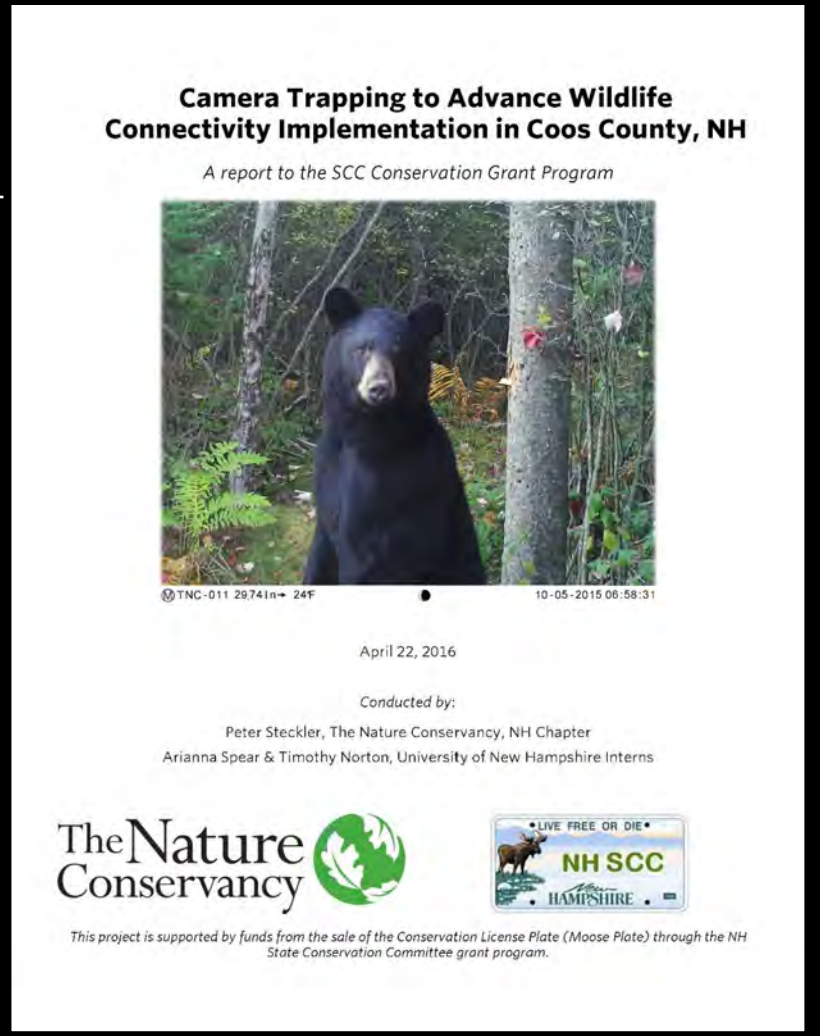
What are your data collection goals?

Approach

- **Site Identification**
  - **Site Diversity**
- **Site Permissions**
- **Constraints:**

  → Mounts, vegetation, false trigger management, theft avoidance
- **Photo Cataloging**

  File Name, Date, Time, Air Pressure, Temperature (Fahrenheit), Moon Phase, Species (Common Name), Confidence, Number of Animals, Direction of Movement, Weather, Cataloger Name, Comments



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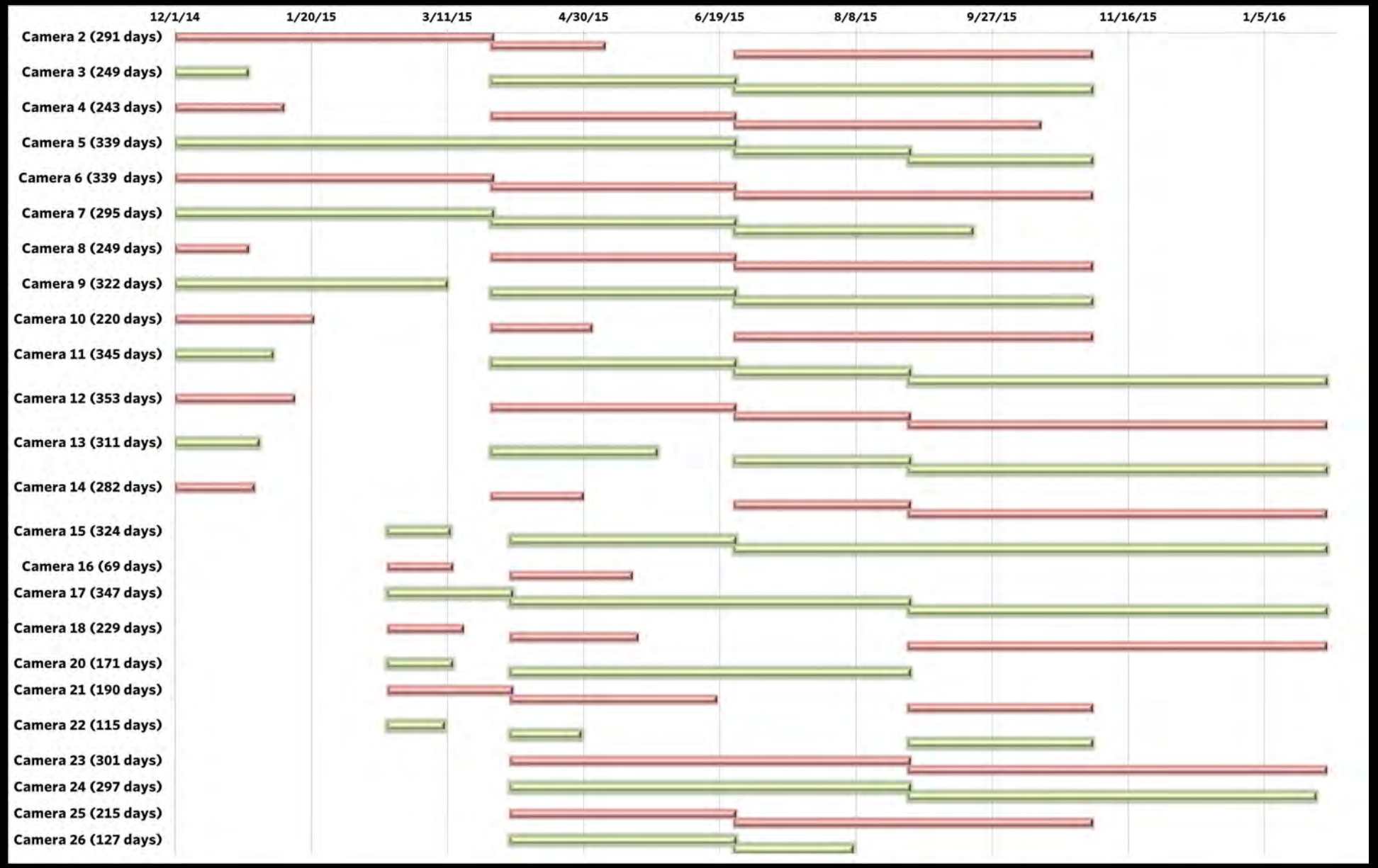
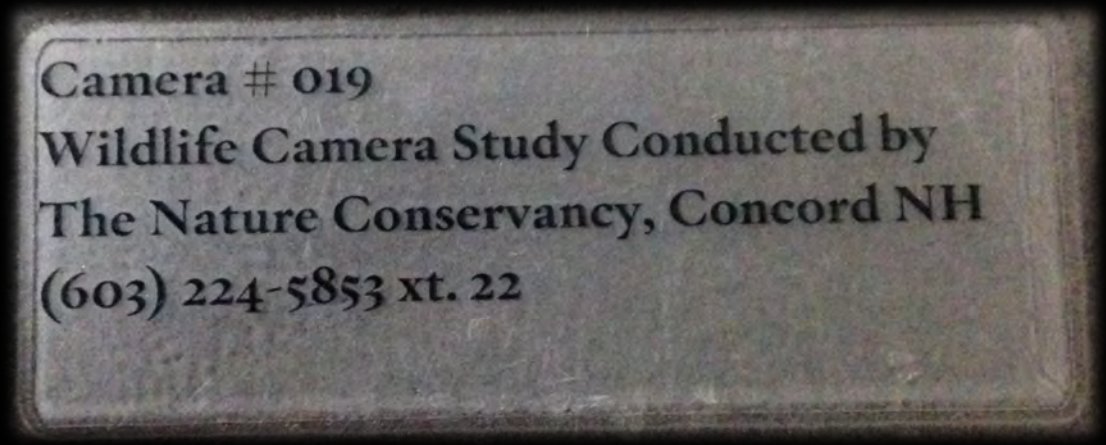
Learning as you go



Wildlife Cameras: Lessons Learned! (1)

Label your equipment!

- **Camera number on each:**
  - **Camera**
  - **Lockbox**
  - **SD card**
  - **Key**
- **Your contact information**



Wildlife Cameras: Lessons Learned! (2)

- **Camera setup – take your time and to get the shot you want!**

Wildlife Cameras: Lessons Learned! (3)

- Where to setup?
- Camera settings
  - Sensitivity (false triggers)
  - Flash (under/over exposure)
- Challenges

Wildlife Cameras: Lessons Learn! (4)

- **Data Processing**

File Name	Date	Time	Pressure	Temp	Moon	Species	Confidence	# of Animals	Direction	Weather	Cataloger	Comments
04010115	04/01/15	9:21	29.06	35	Gibbous	gray squirrel	Confident	1	SE		Tim	
04010117	04/01/15	20:56	29.09	15	Gibbous	coyote	Moderate	1	NW		Tim/Pete	
04020123	04/02/15	6:49	29.1	3	Gibbous	gray squirrel	Confident	1	SE		Tim	
04040132	04/04/15	3:00	28.52	30	Full	snowshoe hare	Confident	1	NW		Tim	
04040135	04/04/15	6:13	28.49	32	Full	snowshoe hare	Confident	1	NW		Tim	
04050141	04/05/15	8:15	28.92	21	Gibbous	gray squirrel	Confident	1	SE		Tim	
04060148	04/06/15	0:51	29.16	15	Gibbous	red fox	Confident	1	SW		Tim/Arianna	
04070151	04/07/15	3:17	29.16	26	Gibbous	snowshoe hare	Confident	1	NW		Tim	
04070157	04/07/15	11:59	29.32	48	Gibbous	gray squirrel	Confident	1	NW		Tim	
04080160	04/08/15	7:12	29.4	15	Half	gray squirrel	Confident	1	S		Tim	
04090175	04/09/15	5:40	29.3	21	Half	bobcat	Confident	1	W		Tim/Pete	
04100178	04/10/15	6:41	28.91	30	Half	gray squirrel	Confident	1	NW		Tim	
04110181	04/11/15	13:16	28.82	33	Crescent	gray squirrel	Confident	1	NW		Tim	
04120187	04/12/15	7:33	29.14	24	Crescent	gray squirrel	Confident	1	NW		Tim	
04120190	04/12/15	8:15	29.23	39	Crescent	gray squirrel	Confident	1	NW		Tim	
04130196	04/13/15	2:08	29.2	21	Crescent	raccoon	Confident	1	E		Tim	
04130202	04/13/15	3:05	29.21	21	Crescent	snowshoe hare	Confident	1	NW		Tim	

Thank You!

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Northeast Conservation Services