



Dealing with Wildlife: Raccoons, Skunks, Moles, Voles, & Geese

2019 OTF Conference & Trade Show and OSU Green Industry Short Course

Marne Titchenell, Extension Program Specialist – Wildlife
School of Environment & Natural Resources

CFAES

 THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

1

CFAES

Living with Wildlife




2

CFAES

Living with Wildlife


- Land cover changes
- Wildlife are adaptive
- We are providing resources...



3

CFAES

What's Yours is Mine, Right?



4

CFAES

Steps for Managing Wildlife Damage


- 1) Identify the species responsible
- 2) Understand the species habitat needs
- 3) Make cost-effective decisions
 - Bring damage down to a tolerable level
- 4) Employ management options
 - Often involves persistence, commitment, and continual monitoring



5

CFAES

Options for Managing Wildlife Damage

Trapping	
Hunting	
Exclusion	
Pesticides	
Scare Tactics	
Habitat Modification	

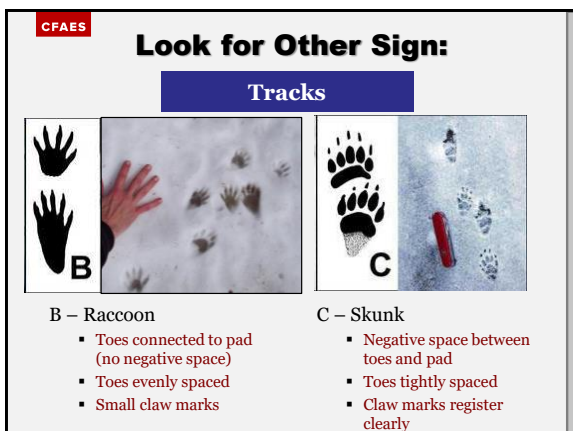
6



7



8



9



10



11



12

CFAES

Is relocation allowed?



- **Raccoons, skunks, opossum, beaver, fox, and coyote**
 - Must be released on-site or euthanized to prevent potential disease transmission
 - Can not be relocated
- **Squirrels (trees squirrels, groundhog, chipmunk), moles, voles, shrews, mice, rats, mink, muskrat, and rabbits**
 - Can be euthanized, released on-site, or relocated.
 - If relocated, must be outside in the city/village of capture and with permission of the recipient landowner

13

CFAES

List of Nuisance Wild Animal Control Trappers by County









www.wildohio.gov

Search 'Nuisance Trappers'

14

CFAES

WHO IS THE CULPRIT?

Moles	Voies
	
	
	

15

CFAES

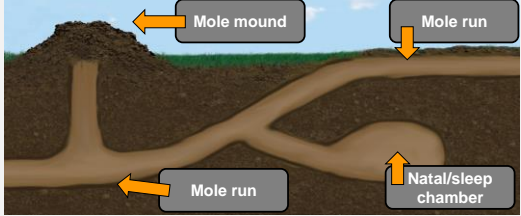
Is it a Mole or a Vole?

Mole	Vole
<ul style="list-style-type: none"> • Insectivore (worms, beetles, grubs) • 3 species in Ohio <ul style="list-style-type: none"> • Eastern mole most common 	<ul style="list-style-type: none"> • Rodent (plant material) • 4 species in Ohio, two are common, AKA meadow mice <ul style="list-style-type: none"> • Meadow and Woodland vole

16

CFAES

Mole Ecology




- Consumes 3/4 body weight daily
 - 15 feet of tunnel/hour
- 3-5 moles/acre = average density
- Single litter in May, 4-5 young

17

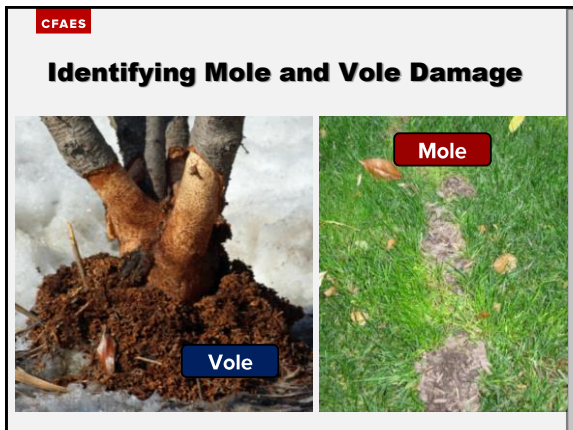
CFAES

Vole Ecology

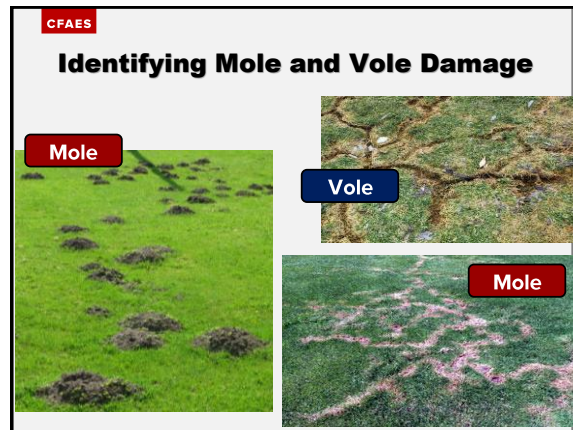


- Prolific breeder
 - Every 3 weeks from March-November
 - Target populations fall-winter
 - 4-6 young/litter (up to 11)
 - Sexual maturity after 25-40 days
- Densities of 10-100/acre are common
 - Cyclic populations
 - Population monitoring

18



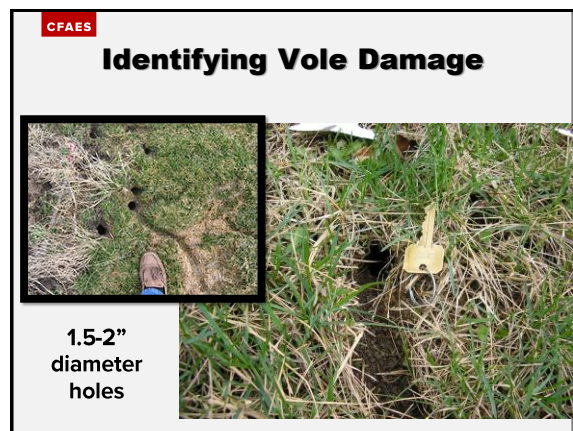
19



20



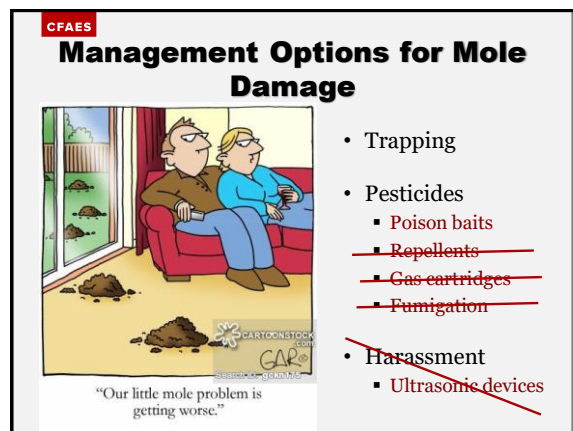
21



22



23

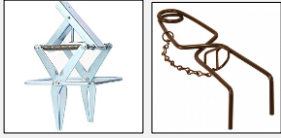



24

CFAES

Trapping Moles

- Several types of traps
 - Harpoon, choker loop, scissor jaw
 - NoMole, Moleinator, Victor Out O' Sight
- All are lethal and effective.






Use multiple traps and trap active, straight feeding runs near soil surface.

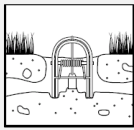

25

CFAES

Follow Directions for each Trap

- NoMole & Moleinator placed inside runs
- Scissor-jaw traps straddle the run
 - Harpoon
- Cover the hole to keep light out
- Wear gloves





26

CFAES

Mole Pesticides – Toxic Baits

- Most poison baits can be used in residential areas, golf course, around homes, and other non-crop grassy areas.
 - Always read the label!
- Must be applied below ground.
- Place in straight, active runs.
- Secondary toxicity concerns
 - "Dogs, cats, and other predatory and scavenging mammals and birds might be poisoned if they feed up on animals that have eaten this bait."






27

CFAES

Mole Pesticides – Toxic Baits



- Granular/pellet baits
 - Zinc phosphide, diphacinone
 - Limited effectiveness
- Worm/Grub-shaped bait
 - Bromethalin - Talpirid, Victor Moleworms
 - Bait in the form of worm or grub
 - Anecdotal reports of success
- Gel bait
 - Kaput, Molex, Bonide

28

CFAES

Is it a Mole or a Vole?

Mole

- Insectivore (worms, beetles, grubs)
- 3 species in Ohio
 - Eastern mole most common

Vole




- Rodent (plant material)
- 4 species in Ohio, two are common, AKA meadow mice
 - Meadow and Woodland vole

29

CFAES

Quick Quiz!

Is this a vole?

30

CFAES

Management Options for Vole Damage




- Habitat Modification
- Exclusion
- Trapping
- Pesticides
 - Repellents
 - Toxic baits

31

CFAES

Vole Habitat Modification

- Reduce/eliminate ground cover
 - Landscape grasses
 - Mulch
 - Grass/weeds around trees
 - Grasses cut short into fall
 - Increases predator access
- Remove attractive cover & food sources
 - Straw bales, boards, etc.
 - Bird feeders
 - Fruit drop (especially if using poison baits)



32

CFAES

Vole Exclusion and Repellents

- Exclusion
 - Hardware cloth cylinders
 - 1/4 - 1/8" mesh, 12" tall
 - Use on young trees with grass/weed control
- Repellents
 - Hot pepper, predator urine
 - Short term protection

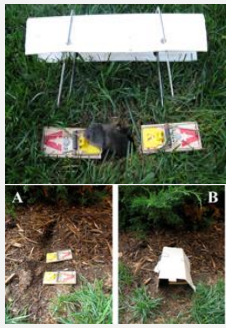


33

CFAES

Vole Trapping

- ID active areas
 - Cut grass blades/vegetation in runs or around holes
- Snap traps – expanded trigger (use dozens) or multiple catch traps
 - Hit population hard = longer recovery time
- Place directly inline with vole runs
 - Cover traps to prevent non-target captures
- Most effective for smaller areas **or** in conjunction with toxic baiting

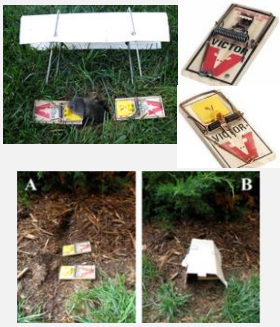


34

CFAES

Trapping Voles

- ID active areas
 - Cut grass blades/vegetation in runs or around holes
- Snap traps – expanded trigger (use dozens) or multiple catch traps
 - Hit population hard = longer recovery time
 - More traps over short time period
- Place directly inline with vole runs or on either side of hole
 - Covered with 1 gallon plastic plant pots with entrance hole
 - Stake the traps to the ground



35

CFAES

Vole Pesticides – Toxic Baits

No toxic baits are available for use in edible gardens or crops.

- Warfarin (anticoagulant), Bromadiolone, Bromethalin
 - Must be used within 50-100 of building/residence with a bait station
- Application best in fall
 - After breeding season
 - Gather food for winter
- Other toxic baits are restricted use



36

Vole Pesticides – Toxic Baits

- Other toxic baits:
 - Zinc phosphide
 - Anticoagulants
- Specific site restrictions
 - Non-residential
 - Bare ground restrictions
 - Bait stations required
- Special care must be taken to avoid non-target species exposure
- Pre-bait to increase bait acceptance



37

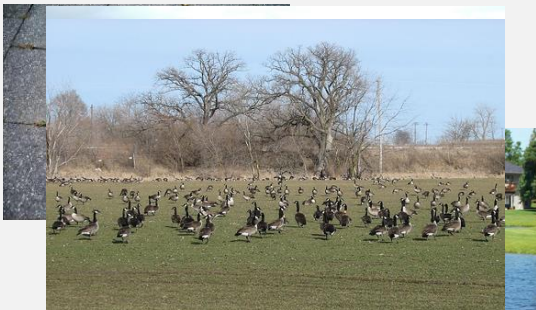
Remember to be Safe.

- Wear appropriate safety equipment
 - Glove when handling traps or pesticides
- Wash hands after handling traps
- Avoid setting traps in areas with high pet and human traffic
- Don't set traps unless you can check them daily.
- READ THE LABEL.



38

WHO IS THE CULPRIT?



39

The Canada Goose

- Giant Canada goose
 - Commonly nests throughout the state
 - 11-13 pounds on average
 - 'Resident geese'
 - Limited to no migration patterns
- Migratory Bird Treaty Act



40



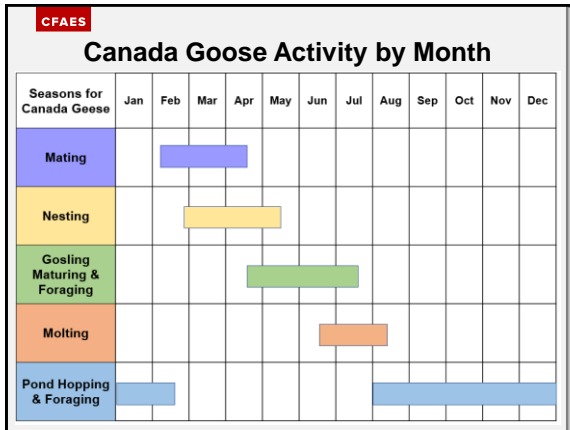
41

Canada Goose Habitat and Biology

- Open land, green vegetation, permanent water source
 - Very adaptive
- Establish nesting territories Feb-March
- Young imprint on birthplace
- Flightless period end of June – July
 - Goslings no flight April - July
 - Adults molting



42




43

CFAES

Habitat Modification

- Modify food source
 - NWSG over CSG (parks, community green spaces)
 - Less desirable turf grasses
 - Tall fescue
 - Let grass grow taller
 - 7-14" (airfields)
 - Make it taste bad
 - Use of repellents

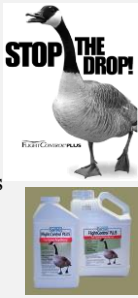


44

CFAES

Repellents For Geese

- Repellents registered for use on geese:
 - **Methyl anthranilate**
 - Taste repellent (grape)
 - **Anthraquinone**
 - Taste repellent (give a stomachache)
- Rain resistant
- Rarely cost-effective over large areas
 - AQ - \$200/ac; MA - \$600/ac
- Proven successful at small scales
- Inexpensive in the short-term



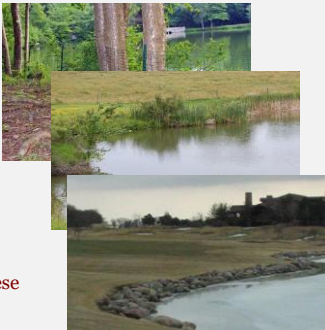
45

CFAES

Habitat Modification and Exclusion

Make water less attractive/accessible:

- Fences
- Plant barriers
- Steep banks
- Rock barriers
- Remove attractants
 - Domestic ducks/geese
 - Mute swans



46

CFAES

Harassment Techniques

- Start early - early Feb.
- Harassment ineffective once nest is built
- Use other management options at the same time
 - Other harassment techniques, population management, habitat modification, etc..
- These techniques often require persistence, patience, and commitment




47

CFAES

Harassment Techniques

- **Dogs**
 - Allow dogs daily access to birds
 - 4-6 times/day for weeks to months
- **Visual deterrents**
 - Green lasers and lights (Away with Geese)
 - Predator effigies
 - Move daily
 - Use prior to nest establishment
 - Remote control devices
- **Noise makers**
 - Screammers, bangers, shell crackers
 - Often take 2-3 weeks
 - Permits required
 - Firework & ATF storage compliance



48

CFAES

Population Management

- Hunting is the single best option to employ...if you can.
 - Removes birds
 - Will increase success of other harassment techniques
- Migratory Bird Treaty Act
 - Can remove nest if no eggs or chicks present
- When you need a permit:**
 - Out of season hunting permits
 - Egg addling** – loss of development
 - Goose round-ups** – during flightless period




49

CFAES

Education and Outreach

- Becoming more and more important in urban areas
 - Residents responding to round-ups




Canada Goose Hall of Shame
10/16/2017 10:00 am ET | Updated on 12/22/2017

Photo: geese in Monroeville, PA as banded for the goose club.

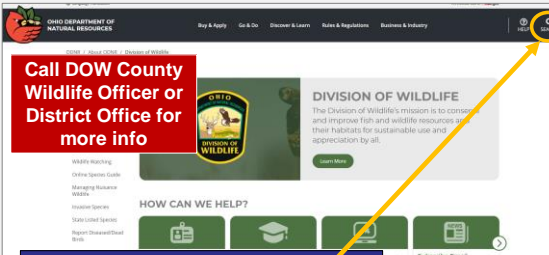
1. Monroeville, PA. Residents have started both a Facebook page and petition to try to convince city officials not to carry out a roundup of a small population of geese this month.

50

CFAES

Goose Damage Permit

Available March 11 – August 31



Call DOW County Wildlife Officer or District Office for more info


www.wildohio.gov
 Search 'Goose Damage Permit'

51

CFAES

Strategies for Managing Goose Conflicts

- Timing is critical - before nesting!
- Create a tool bag!
 - There is no "magic bullet"
- Be persistent, patient, and committed
- Make the area unattractive to the birds





The most successful plans aim to reduce goose numbers to a tolerable level, geese are here to stay, so don't set impossible goals.

52

CFAES

Canada Goose Fact Sheets



53

CFAES

All Resources Posted at:



THEWILDSIDE@OSU
 News, Education, and Conversations on Ohio Wildlife
u.osu.edu/wildside

54

Thank you!

Marne Titchenell
OSU Extension
Wildlife Specialist
titchenell.4@osu.edu
614-292-0402



Raccoon Wars