

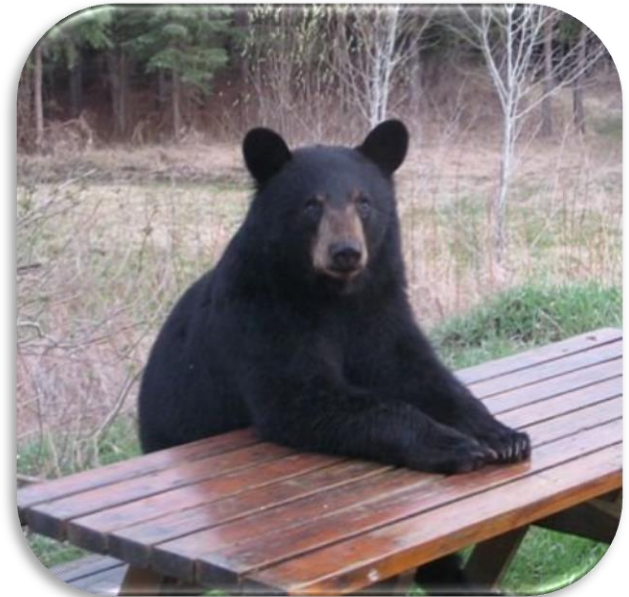
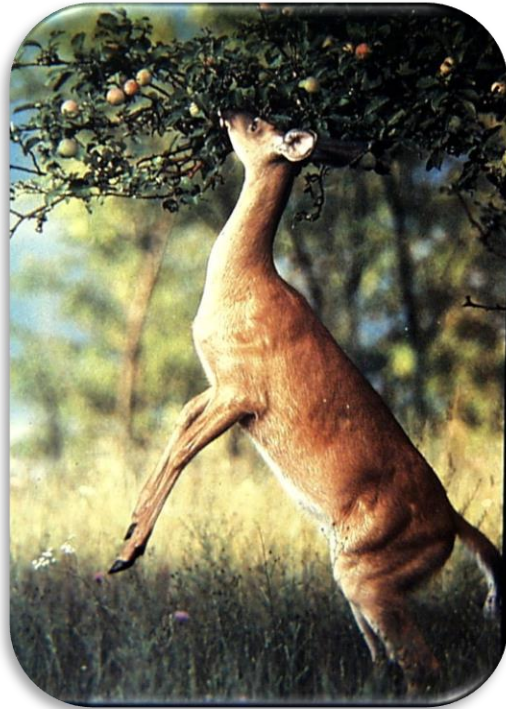
# Best Practices to Reduce Wildlife Damage

An Ecological Approach to Wildlife Stewardship

Mike Fargione, Cary Institute of Ecosystem Studies  
October 14, 2020



# Conflicts Between Wildlife and Humans



# Damage Mitigation Options

## Non-lethal Controls:

Repellents and scare devices

Physical Barriers

Habitat Manipulation (site less attractive for pest)

## Lethal controls:

Direct Population Control (trapping, shooting, toxicants)

Indirect Population Control (biological control, encouragement of predators)

# Remove or Take Nuisance Animals in NY

<http://www.dec.ny.gov/animals/81531.html>

Nuisance Wildlife - perceived as a threat to human health or safety, or is persistent and perceived as an annoyance.

Damaging Wildlife - actually damages property

Mammals Commonly Causing Conflicts (in alphabetical order)  
See Definition of "Nuisance" and "Damaging"

Animal	Take if a Nuisance	Take if Damaging Property	Take if Threatening Public Safety
<b>Bats</b>	Please contact a <a href="#">DEC Wildlife Office</a> or a <a href="#">NWCO</a> when dealing with bats. Some bat species are protected and require experts to identify them. For some helpful tips on safely removing a bat from your home, visit the <a href="#">little brown bat</a> webpage		
<b>Beaver</b> (More information on handling beaver conflicts)	DEC permit needed - refer to <a href="#">note 3</a>	DEC permit needed - refer to <a href="#">note 3</a>	n/a
<b>Black Bear</b> (More information on handling bear conflicts)	DEC permit needed	If destroying livestock or an apiary, no permit is necessary to take a black bear; however, you must promptly notify the nearest Environmental Conservation Officer (ECO) to make arrangements for delivering the carcass ( <a href="#">find an ECO near you</a> ). Also, DEC may issue a permit for a landowner to take if there is proof that the bear is causing property damage	DEC may issue a permit for a landowner to take if there is proof that the bear is threatening public welfare or safety.
<b>Bobcat</b>	DEC permit needed	DEC permit needed	n/a
<b>Chipmunk</b>	Yes	Yes	n/a
<b>Coyote</b> (More information on handling coyote conflicts)	DEC permit needed	Yes	DEC may issue a permit for a landowner to take if there is proof that the coyote is threatening public welfare or safety
<b>Deer</b>	DEC permit needed	DEC permit needed	n/a

# Relocation of Wildlife Causing Damage in NY

May be able to live-trap and release on the same property.

May be able to trap and euthanize depending on species.

Cannot trap and release damaging wildlife off your property.

Contact nuisance wildlife control agent for release elsewhere.

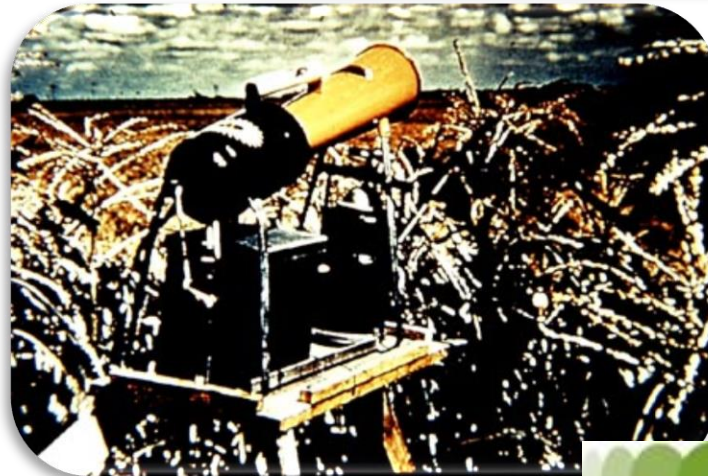


# Management of Wildlife Damage

Multiple “culprits” will mean multiple controls may be needed.



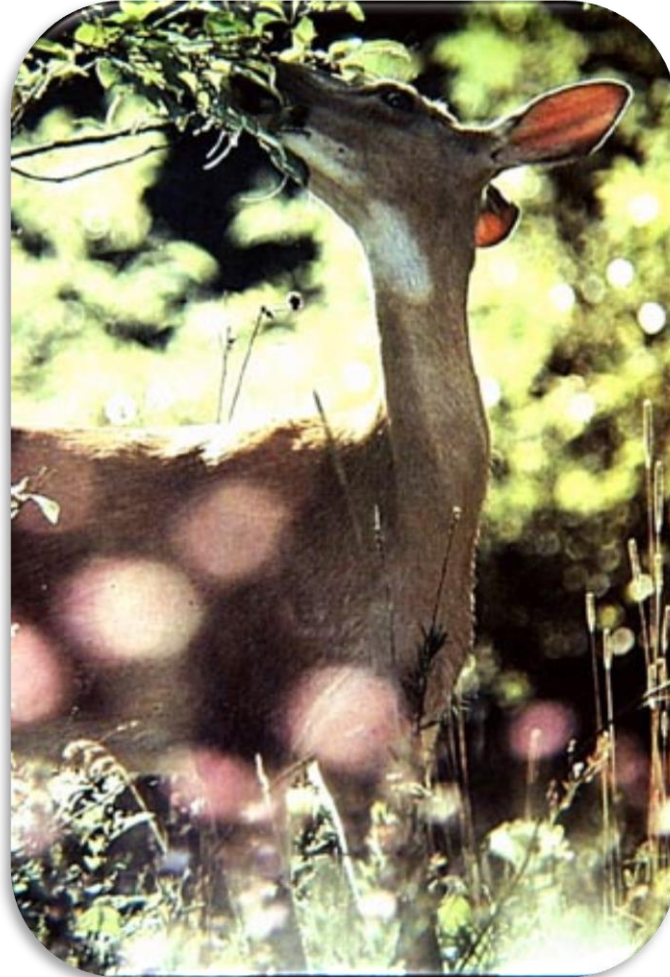
Local ordinances and “good neighbor relations” may restrict control options!



# Apply Controls Early - Don't Let Wildlife Learn Bad Habits!



# Deer Damage Control





# Recognizing Deer Damage



# Damage Intensity Depends upon Deer “Pressure”

Pressure increases with:

- Increasing number of animals
- Reduction in alternative foods



# Status of Deer under NY Law

May be hunted during regulated season by licensed hunter.

Otherwise, NYSDEC permit is needed to kill deer that are causing a nuisance, property damage, or threatening public safety.



# Cultural Practices and Habitat Manipulation

- Eliminate food or attractive habitat near homes.
- Clean farming (“fence to fence”).
- Providing alternative food sources (trap crops or supplemental feeding).
- Use plants deer are less-likely to browse.

# Repellent Characteristics:

- Repellency based on odor, taste or both.
- Most effective in research trials: soap and egg-based.
- Not all are effective.
- Can cause plant damage under certain conditions.
- Must be willing to accept some deer damage.
- Less effective as deer pressure increases.



# Keys to Successful Use of Repellents

- Apply prior to start of damage
- Reapply after product weathering or re-growth
- Don't expect miracles!



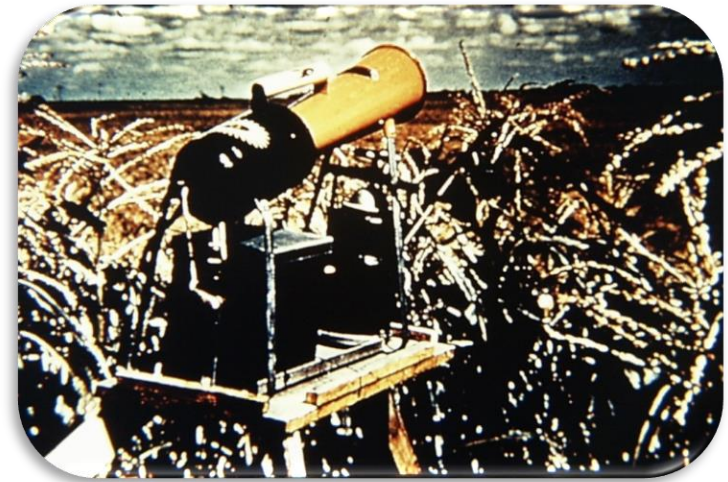
# “Home Remedies”

- Examples - human hair, soap bars, egg mixes, Milorganite, blood meal, garlic, mothballs .....
- Greater variability in effectiveness.
- Not recommended as not tested for efficacy or harm to plants or applicators (may be illegal if off-label).
- Reducing one problem may cause another!



# Scare Devices

- Lights
- Noise-makers including ultrasound
- Moving objects



## Keys to Success

- Rotate and/or combine devices
- Relocate frequently
- Effective short-term if at all



# Physical Barriers

- Individual plant protectors: tubes, wire cages, netting, bud caps – economical on small areas or high-value plantings.



# Electric Fences

- Safe to humans, pets and wildlife when properly installed.
- Less expensive than woven wire but less reliable control.
- Electric fences are psychological not physical barriers.
- Need to provide clear visual zone outside fence for training.
- Most problems are related to inadequate grounding or operator error.
- May have to euthanize animals that learn how to negotiate the fence.



# Most Effective Deer Damage Control: 8' Woven Wire Fence



# “Deer Fencing In The Hamptons”



# Gates Are A Necessity And Must Be Closed!



Gate  
alternative =  
cattle guard



# Preventing Bear Damage



Photo: J. Rubbo

# Bear damage can be costly, particularly to homeowners, bee hives, fruit trees and sweet corn!

## Living with Bears



© Alan L. Bauer

*In New York State, people and black bears often live in the same areas. With frequent bear encounters nearly inevitable, it's important to know how to handle such encounters safely.*

[https://www.dec.ny.gov/docs/wildlife\\_pdf/livingwithbears.pdf](https://www.dec.ny.gov/docs/wildlife_pdf/livingwithbears.pdf)



<https://ento.psu.edu/outreach/extension/insect-image-gallery/all-images/bear-damage-to-honey-bee-apiary.jpg>



<https://www.youtube.com/watch?v=1jABjyQOX-Q>



[www.dec.ny.gov/images/wildlife\\_images/bbgarbage.gif](http://www.dec.ny.gov/images/wildlife_images/bbgarbage.gif)

## Bears Are:

- Curious
- Intelligent

## Feeding Bears:

- Encourages bold and aggressive behavior.
- Creates problem bears.
- Is unhealthy for bears



Source: <http://www.dec.state.ny.us/website/reg5/r5bears.html>



## Status of Bears under NY Law

May be hunted during regulated season by licensed hunter.

DEC may issue permit to kill nuisance animals, animals destroying property or those proven to threaten public welfare or safety.

Individuals may kill a bear without permit if destroying livestock or an apiary, but must promptly notify NYSDEC Conservation Officer.

# Preventing Bear Damage



Electric fencing is the most effective way to prevent damage to beehives and other high-value properties. Baited fences work most effectively.



# Preventing Bear Damage



- Good sanitation and removal of all food sources will discourage bears from visiting homes and yards:
- Birdseed – delay feeding birds till late fall and stop in March before bears come out of dens. Otherwise, don't leave out overnight. Don't store on your screen porch!
- Garbage – place in bear-proof container or tightly sealed in an outbuilding. Dispose frequently.
- Pet food – don't leave pet food out overnight.

# Beaver Damage



Beaver activity can result in:

- Flooding of woodlands and agricultural lands.
- Flooding of roads, septic systems and outbuildings.
- Clogging of culverts and increased danger of flooding.
- Felling of ornamental and fruit trees.



# Status of Beaver under NY Law

May be trapped during regular season by licensed trapper.

Cannot disturb a beaver's dam, house or den without a written permit from NYSDEC.

NYSDEC may issue permits for the removal of nuisance beavers and beaver dams.

It is illegal to change, modify, or disturb the course, channel or bed of Class C(T) water or higher class without permit.

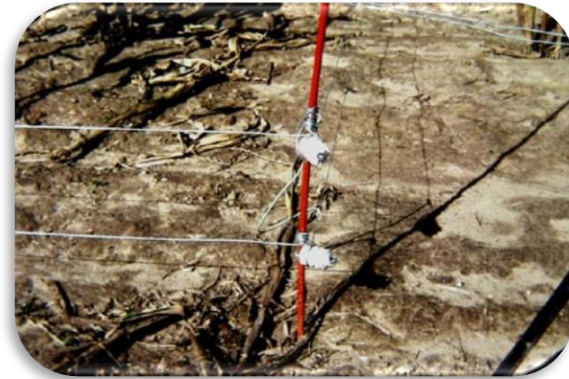
In other words, multiple permits may be necessary depending on your activities.



# Individual Plant Protective Devices

Wrap with 36" tall wire or plastic fencing, or roofing felt held in place with string or wire.

Groups of trees can be protected with a 36" tall wire fence or with a 3-wire electric fence at 4" intervals.

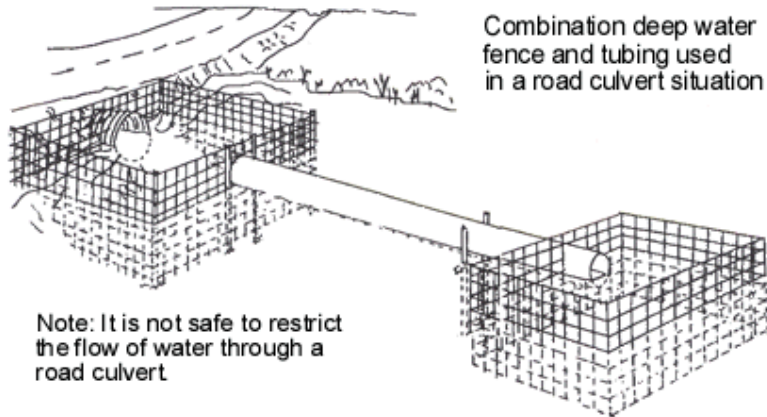


## Water Level Control Devices (WLCD)

The sound and feel of running water attract and cause beaver to build or repair dams. WLCD are designed to muffle the sound of escaping water and make water flow almost undetectable.

WLCD are adequate solutions for limited applications (NYSDEC reported they were suitable for 3% of NY beaver problems addressed in 1993)

WLCD require significant time and expense to build, install and maintain. They should only be used under appropriate conditions.



# Preventing Beaver Damage

## Removing beaver:

The most practical solution is the removal of nuisance animals by trapping during the regular annual trapping season.

Outside the open trapping season, NYSDEC can issue permits to landowner to destroy beaver and their structures.

Nuisance control agents can trap; possibly remove/relocate.

## Removing beaver dams:

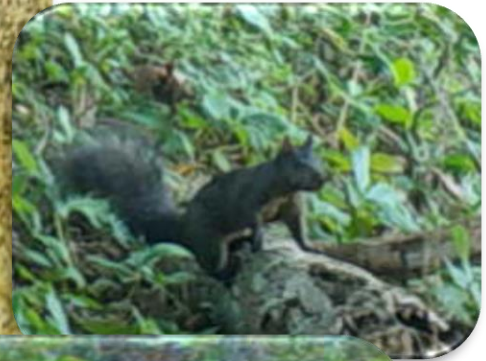
Beaver will quickly rebuild dams if the animals are not removed prior to its destruction.

## Removing beaver lodges:

Destroying an occupied lodge seldom caused beaver to vacate a pond. Lodge removal after the beaver have been trapped may discourage reoccupation. However, lodges are valuable habitat for other wildlife.



# Other Mammal Damage

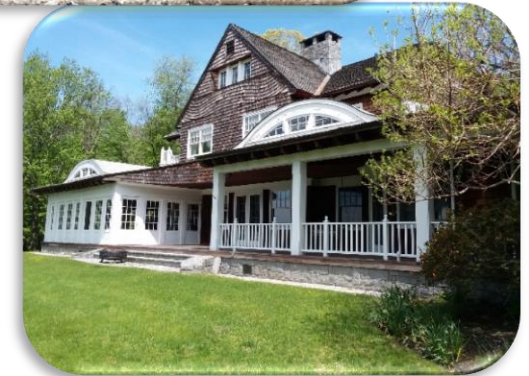




# Rodent Damage

## Non-Lethal Controls:

- Habitat modification – clean cultivation, herbicide strips, close mowing, eliminating cover and alternate foods.
- Wire guards around specimen plants.
- Encourage predation – nest boxes, perches.
- Repellents for bulbs.
- Properly maintain buildings.



# Mulches Retain Moisture but Provide Habitat for Voles



# Rodent Damage Mitigation

## Lethal Controls:

- Structural toxic baits – not for outside buildings.
- Agricultural toxic baits – very limited label uses.
- Snap or box-type traps.

# Rabbit/Woodchuck/Raccoon Damage Mitigation

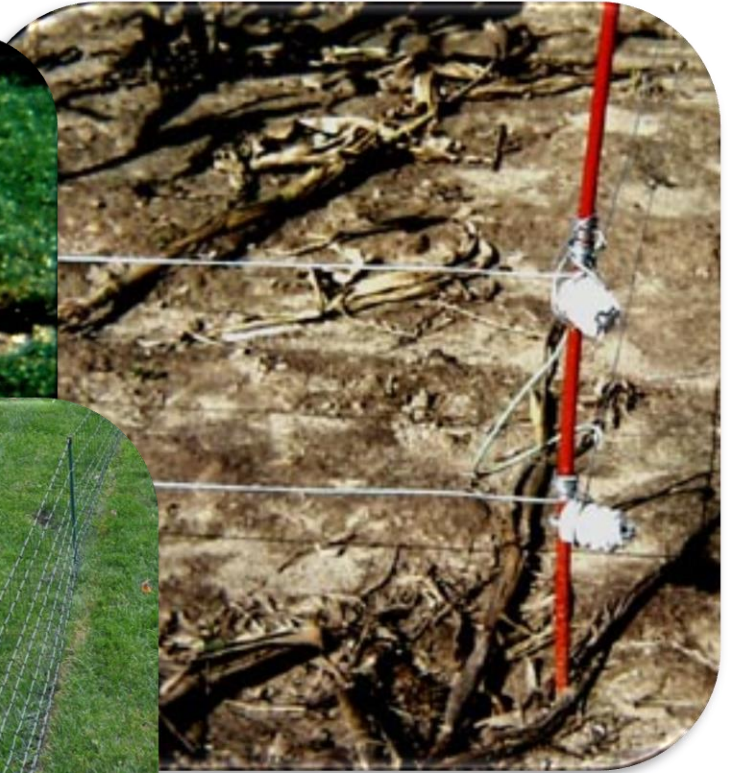
## Non Lethal Controls:

- Habitat management (mowing, removing brush piles or overgrown areas.
- Appropriate fence designs.
- Repellents

## Lethal Controls (per regulations):

- Sport hunting
- Shooting
- Trapping





## More information:

<http://wildlifecontrol.info/publications/cornell-publications>

<http://wildlifecontrol.info/publications/penn-state-publications>

[https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa\\_reports/ct\\_wildlife+damage+management+technical+series](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_reports/ct_wildlife+damage+management+technical+series)

<http://icwdm.org/>

<https://wildlifehelp.org/>