



Dealing with Nuisance Birds Around Schools

Center of Expertise for School IPM

IPM Refresher



- Integrated Pest Management (IPM) is a smarter, usually less costly option for effective pest management in the school community.
- A school IPM program employs common sense strategies to reduce sources of food, water and shelter for pests in your school buildings and grounds.
- IPM programs take advantage of all pest management strategies, including the judicious use of pesticides.

IPM Basics



Pesticides

Physical & Mechanical Control

Cultural & Sanitation Practices

Education & Communication

School IPM Key Concepts

- Inspection, monitoring and identification of pests
- Pest prevention and avoidance through exclusion and sanitation
- Treatments minimize impacts on health and the environment
- Everyone has a role - custodians, teachers, students, principals, and pest management professionals



Benefits of School IPM

- **Smart:** addresses the root cause of pest problems
- **Sensible:** provides a healthier learning environment
- **Sustainable:** better long-term control of pests
- **Savings:** may reduce energy and pest management costs over time



Presenters



Mark Hardin

- IPM Specialist, Howard Co. (MD) Public School System
- Previously Entomologist and IPM Coordinator, Smithsonian Institution
- Co-author of numerous scientific publications



Dan Lisenko

- Grounds and Maintenance Mgr., Manatee Co. (FL) School District
- Licensed Commercial Pest Control Operator for 30 years
- Aerial mosquito control and playground safety certifications



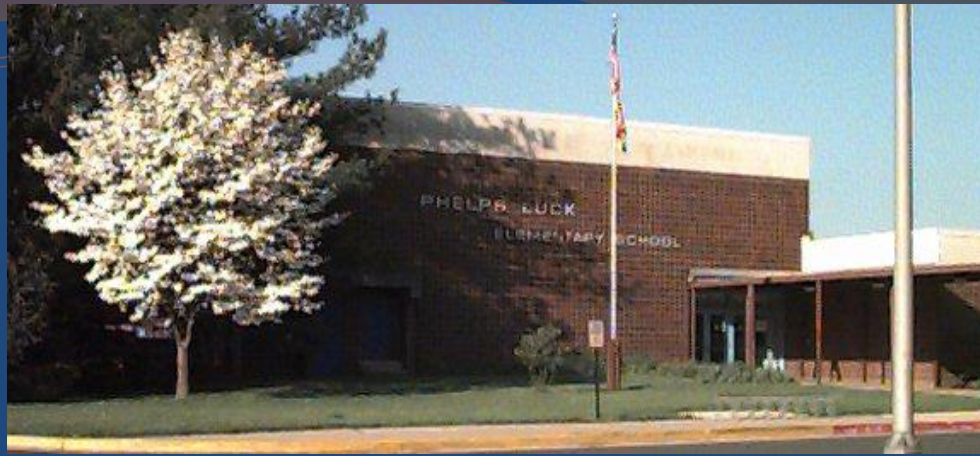
Lynn Braband

- Sr. Extension Assoc. NYS Community IPM program at Cornell Univ.
- Assists NY schools and municipalities in IPM implementation
- Certified Wildlife Biologist and author of numerous journal articles



Marcia Anderson

- EPA's Center of Expertise for School IPM
- PhD in Environmental Management



Mark R. Hardin
IPM Specialist
Howard County Public
School System

Only Three Non-Native Bird Species may be physically controlled by removal of individual Birds or Occupied Nests

English Sparrow



European Starling

Rock Dove or Pigeon



Nesting native, migratory species require permits to be moved



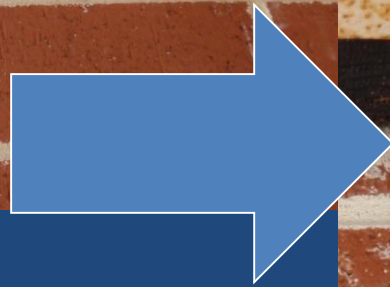
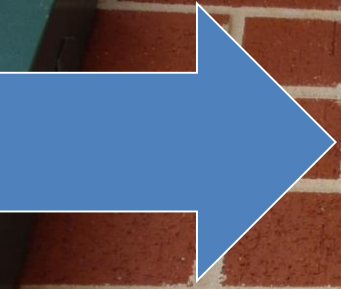
Building design may encourage roosting behavior in Birds



Hollow Lettering and Open Pipes Often Provide Nesting Sights for Birds



Relatively Small Gaps in Structures Provide Entry for Nesting





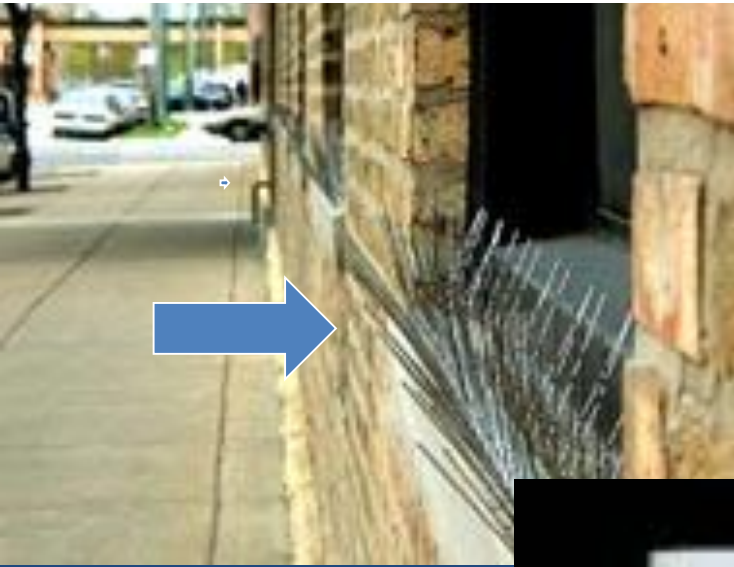
Hollow, Pliable, Metal Soffits, etc. Allow Nesting Birds to Push into Gaps



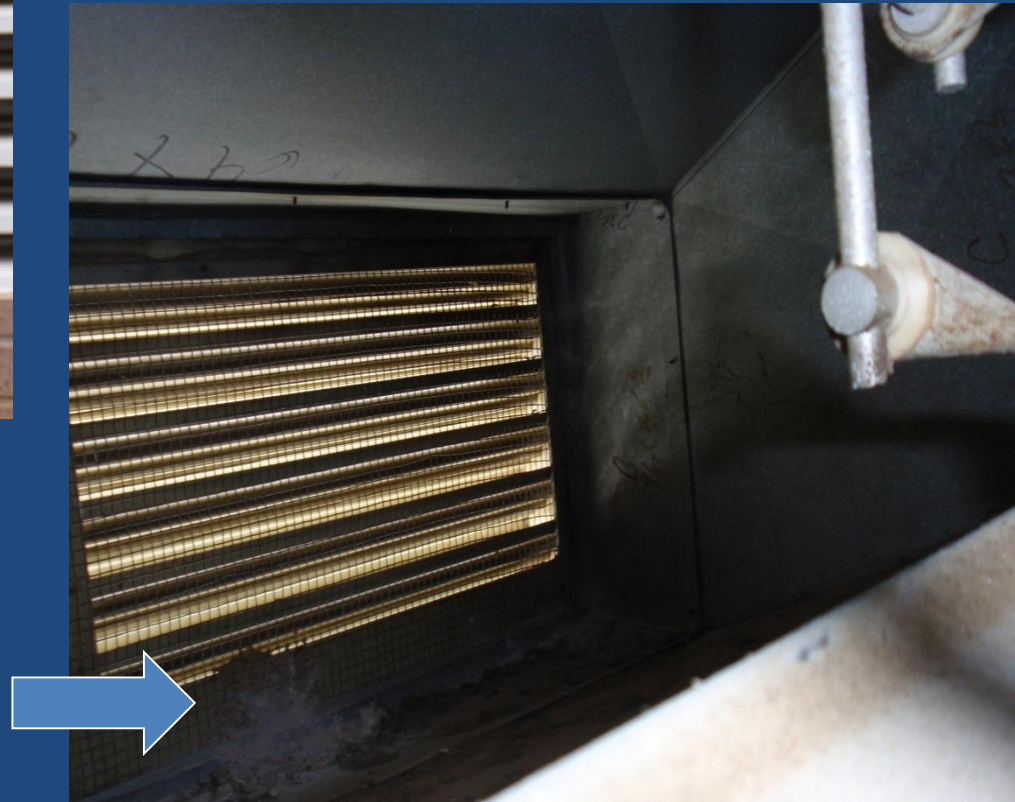
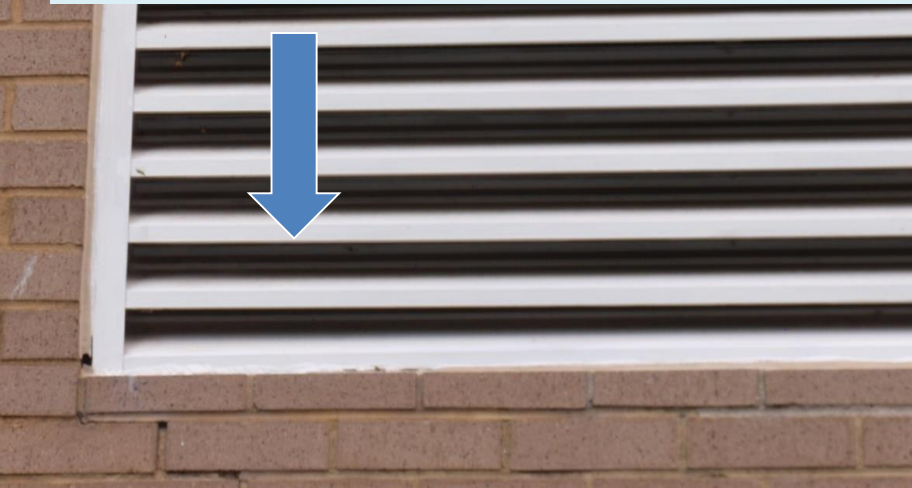
Many Materials are Available to Exclude Bird Nesting



Many Types of Products are Available to keep birds out or off Structures



Screening air intakes can prevent Nesting Behavior



Proper Installation Will Determine Success or Failure



Rooftop Air Vents Need to be Screened and Inspected





Alan Walker photo



Visual Deterrents













Eric Eaton photo

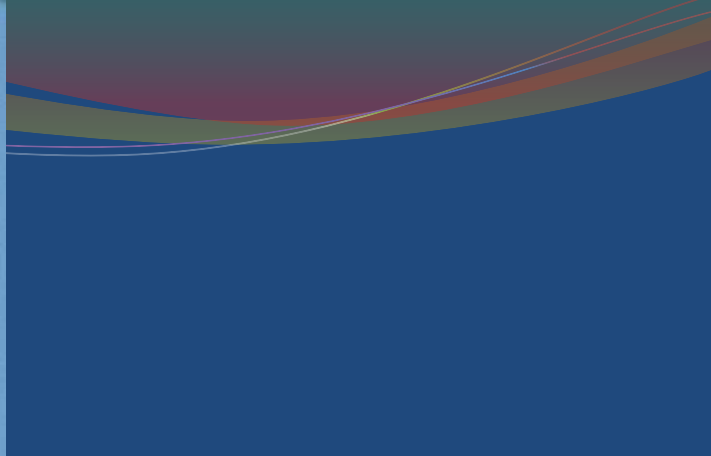


Vultures were taking over the roof of one of our High Schools





Eric Eaton Photo







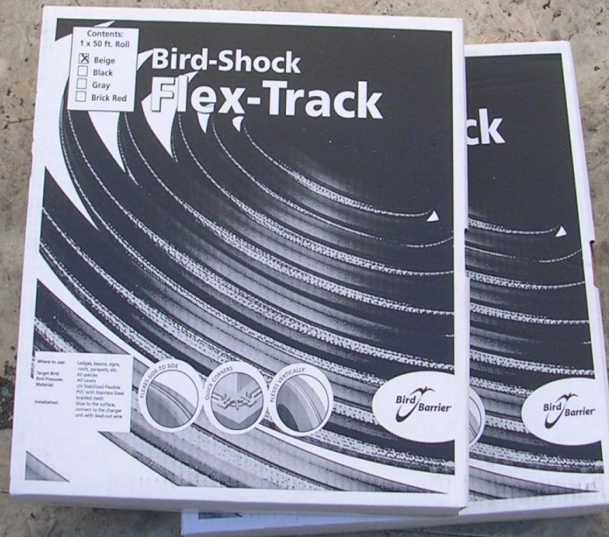


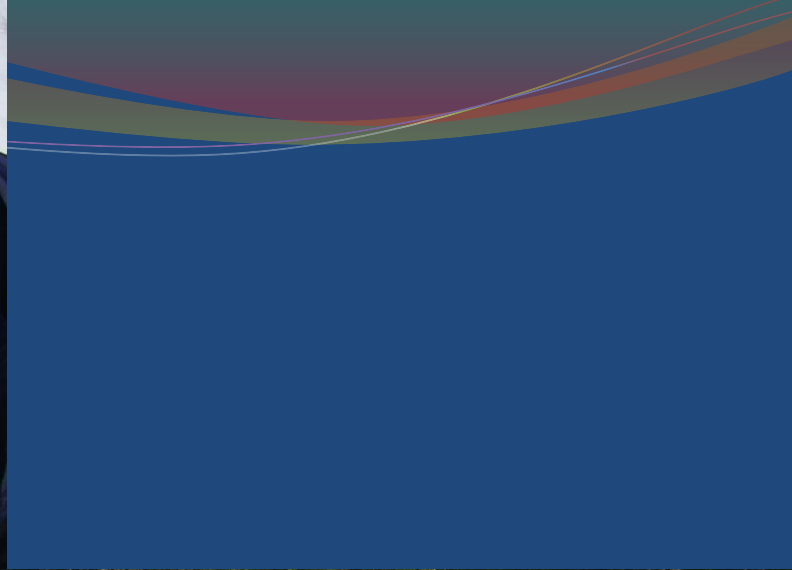
Attempts to Repair Vulture Damage to the Roof Had Failed





Electric track is a non-lethal option for vulture control











NUISANCE BIRDS

Seagulls, Pigeons, & Vultures

Dan Lisenko
Grounds and Maintenance Manager
Manatee County Public Schools, Florida

MAIN CONCERNS:

- * ROOST AREAS
- * SANITATION
- * SAFETY

*The following slides will break down each issue & possible resolutions to the problems.

Identification & familiarity of laws that govern types of species is imperative.



ROOST AREAS



1. Covered play areas, walkways, stairways, outdoor auditoriums, building ledges.
2. Exposed Beams
3. Pipes: plumbing, air conditioning, drainage
4. Areas that are on properties not owned by the School District



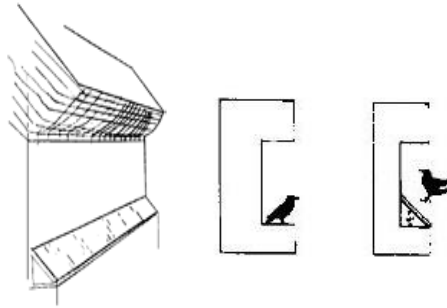
**PROBLEM:
PIGEONS ROOSTING IN THE
HURRICANE SHUTTERS**



Roost Area Solution:

- Spiking





Roost Area Solutions:

- Aluminum wedges

PROBLEM: ROOSTING UNDER COVERED AREAS



**PROBLEM:
ROOSTING UNDER COVERED AREAS**



Solution

- Netting





PROBLEM: BIRDS ROOSTING ON LIGHTS AND MECHANICAL FIXTURES

Bird Feces Problems:

- Sanitary issue
- Safety issues
- Mechanical operation issue

Roosting Area Solution

- Spiking





PROBLEM: OVERHEAD BUILDING ROOSTING

The key to success to reduce roosting is to not allow birds to become comfortable roosting in that area.

Roosting Area Solution:

- **Shock track installation**





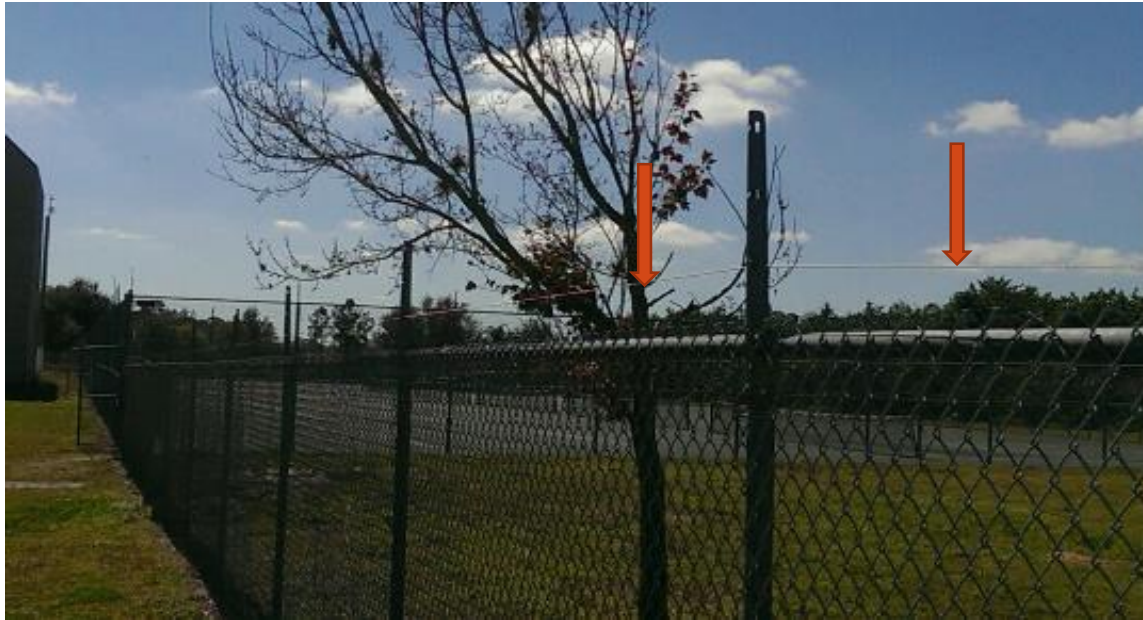
THE PROBLEM **(LOOKOUT BELOW...)**



Roosting Area **Solution:**

- Versatility of shock track in unusual or tricky locations





The key to success to reduce roosting is to not allow birds to become comfortable roosting in that area.

ROOST AREA SOLUTION REVIEW

1. Netting
2. Aluminum wedges
3. Spiking
4. Hot Foot paste
5. Electric bird tracking
6. Guide wire (fishing line, light gauge wire)
7. Effigies
8. Grape Spray
9. Laser



VULTURE IN EFFIGY EFFORT



Did it
work?





AGRICULTURE LAB AND BLACK VULTURES



Vultures were getting on the backs of pigs in our agriculture program





THE PROBLEM: OSPREY NESTING ON FIELD LIGHTS

Cannot turn on field lights due
to Osprey nests



Solution:

- Work with F & W
- Obtain Permits
- Erect new nesting platform adjacent to lights





SAFETY ISSUES

- Seagulls taking food out of children's hands (getting pecked)
- Stairways become slippery and hazard because of waste

SANITATION



- Roost areas such as covered walkways, covered play areas where birds were roosting and actually defecating on children standing below.
- Heavily used areas had residue left behind from bird defecation. Tables, benches, handrails, sidewalks, stairway walls.

Bird Feces Health Issues

- Histoplasmosis
- Psittacosis
- Rabies
- *C. neoformans*
- See the National Institute for Occupational Safety & Health (NIOSH) for more information.





PROBLEM: NESTING AND BIRD DEBRIS

- Droppings
- Nesting materials
- Mites
- Mechanical failures



SANITATION TIPS

- Pressure wash areas on daily basis during times of high use
- Modify outdoor dining plans to move students inside and reduce interaction
- Implement waste system with tight fitting lids and remove any open trash containers
- Inspect livestock watering sources and make any modifications to reduce bird consumption
- Increase livestock feed waste and storage program to reduce waste and food options for nuisance birds



Wild Bird Program Cost

Overview: Over 50 schools, and 46,000 students

▪ Installation Costs:

- Netting- \$8,500- \$9,500 (6-10 yr. lifespan)
- Wedges- \$10,000 (no maintenance)
- Osprey- \$1,000 (permit); \$3,500 (platform)

Maintenance Costs:

- * Bird Track- \$2,500- \$4,500 per track (yearly)
- * Vulture work- \$5,000

* Budget funds have been made available by having a good team of management, directors, and risk management on board.

FINANCIAL IMPACT

Budget ranges for county wide pest exclusion:

2011- \$150,601.12

2012- \$163,066.50

2013- \$34,083.26

2014- \$22,782.95

2015- \$65,000.00





SUMMARY OF TIPS FOR SUCCESS

1. Address concerns quickly- Get budget
2. Build partnerships with Nuisance vendors, USDA, Fish & Wildlife
3. In-depth discussions and partnerships with the school staff
4. Partnerships with neighboring property owners



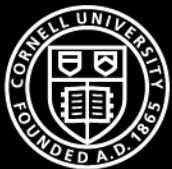
Dealing with Geese around Schools (with notes on gulls)

Lynn Braband
NYS IPM Program of Cornell
University



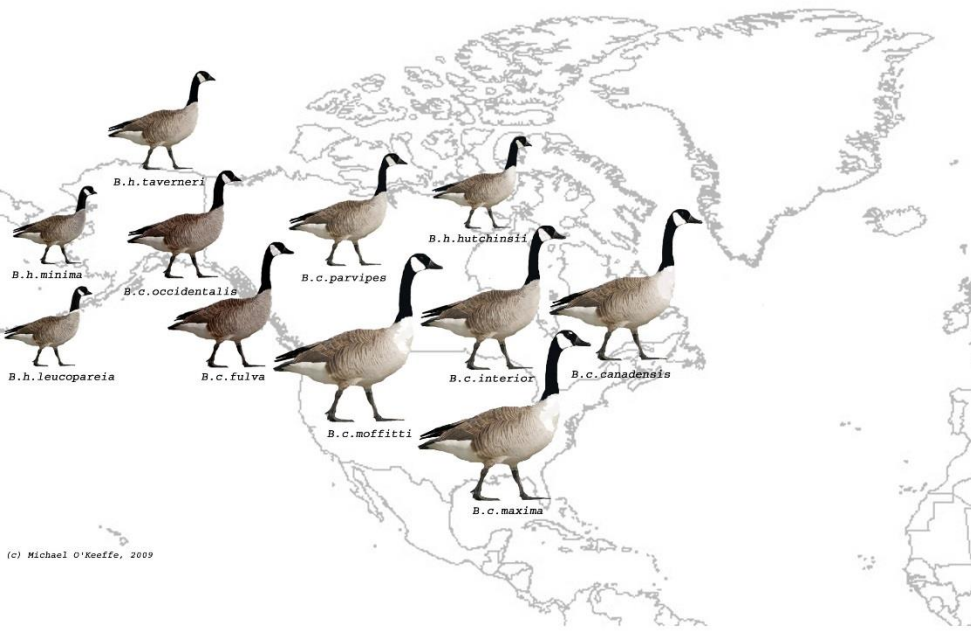
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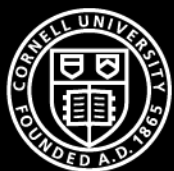
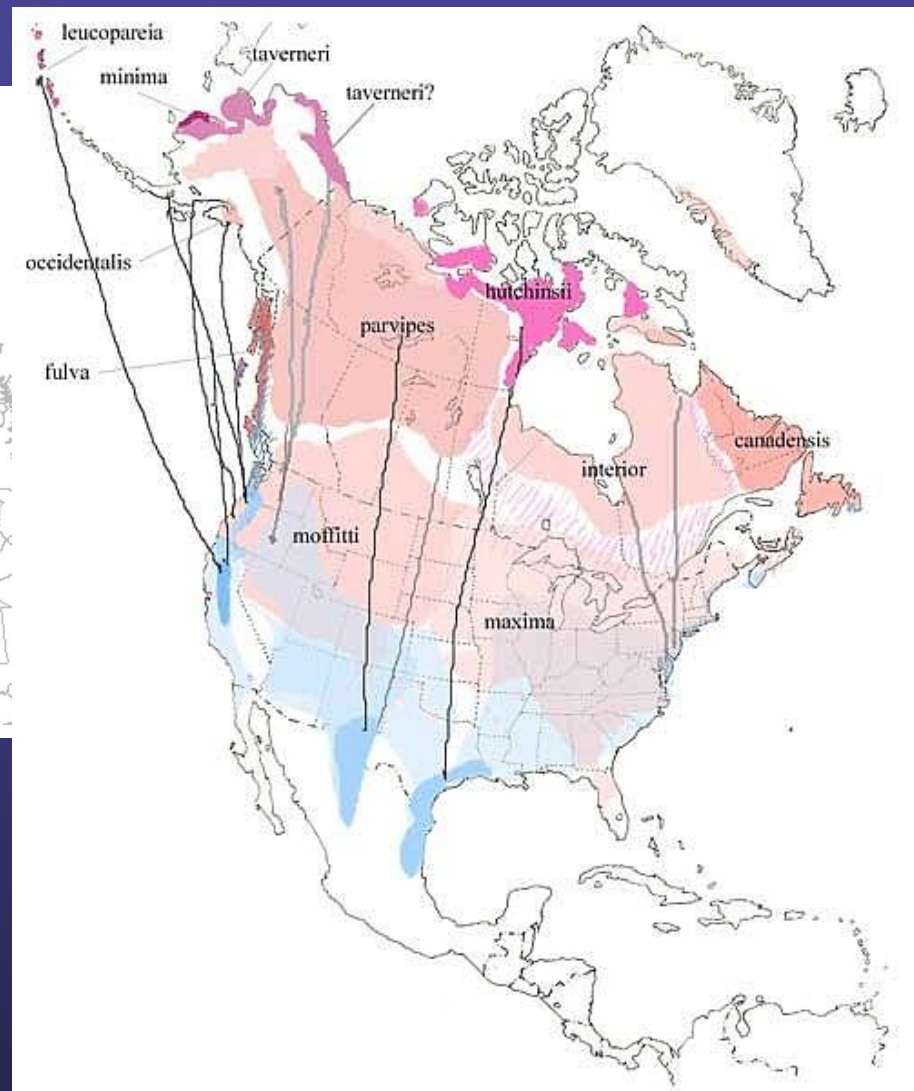


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(c) Michael O'Keefe, 2009



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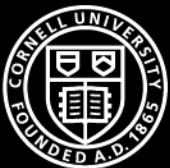
Giant Canada Goose

Nearly extirpated and
considered extinct in 1950s

Rediscovered in Minnesota
and an intensive
reintroduction program in
Mississippi Flyway began.



Population now numbers
close to 2 million



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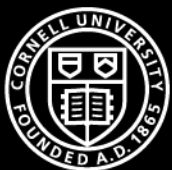


Natural History

As a whole, Canada geese closely associated with aquatic habitats.

Also found in high tundra, edges of deserts, and remote prairies.

Main requirements are: open area with wide view and a nearby body of water.

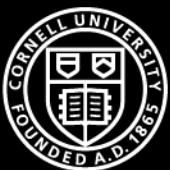


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Problems

- Fecal deposits
- Water quality
- Disease transmission
- Turf damage
- Traffic hazards
- Noise
- Feathers during molt
- Aggression



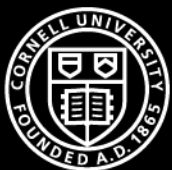
Canada Goose Conflicts

Conflicts are common when geese congregate in large numbers – especially in public parks/golf courses.

- Common with residential geese.

Geese produce large amounts of feces that create many problems.

1 adult goose = \geq 1b of feces daily



Canada Goose Conflicts

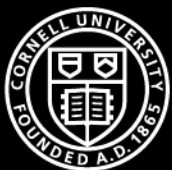
Grassy areas and
sidewalks of parks can
quickly become covered
by waste.

Discourage people from
using areas.

Slipping Hazard

Potential health hazard

Clean-up costs



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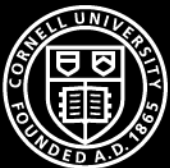
Canada Goose Conflicts

Accumulated feces also harm water bodies.

Can create oxygen depletion and over-nutrication.

May also spread fecal coliform bacteria.

Can result in closures of water sources and swimming areas.



Canada Goose Conflicts

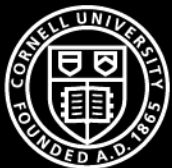
Turf damage:

- Parks, lawns, golf courses, athletic fields can become messy, trampled, even denuded.



Canada Goose Conflicts

Nesting geese may attack people/pets that come to close to nest/goslings.



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Community Issue

<http://wildlifecontrol.info/pubs/Documents/Goose/Managing%20Canada%20Geese.pdf>

Managing Canada Geese in Urban Environments

A Technical Guide

Arthur E. Smith, Scott R. Craven, and Paul D. Curtis

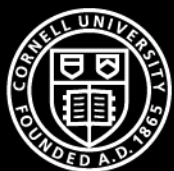
A publication of Cornell Cooperative Extension,
the University of Wisconsin,
The Jack H. Berryman Institute, Utah State University, and
The Wildlife Society, Wildlife Damage Management Working Group



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Community Issue

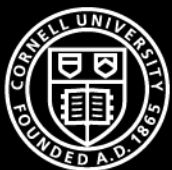


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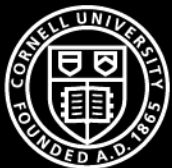
Management Techniques

- Repellents
- Feeding bans
- Exclusion
- Habitat modification
- Lethal control
- Round-ups
- Reproductive control
- Harassment



Integrated Pest Management

- Systematic use of a variety of techniques is usually the most effective



Chemical Repellents

Methyl anthranilate &
anthraquinone products

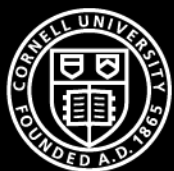
Originally, apply directly on
turf or water

MA aerosol (fogger)

Availability varies by state

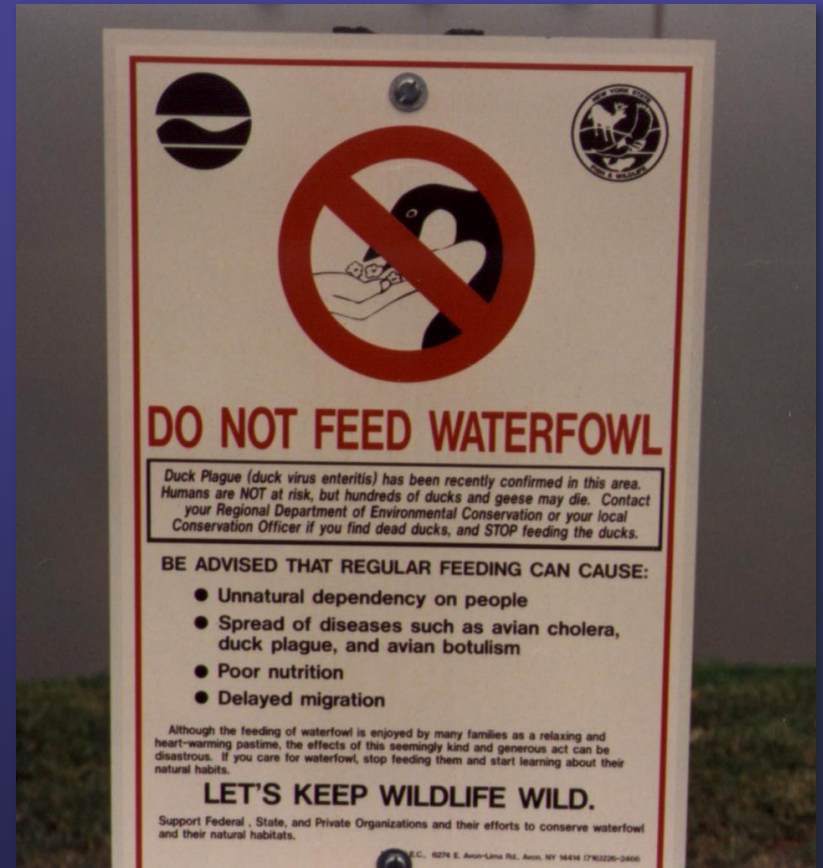
Certified applicator

Repeated applications often
necessary: \$\$\$



Feeding Bans

- Educational outreach
- Need to be enforced



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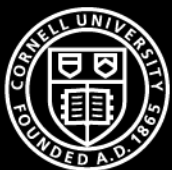


Exclusion

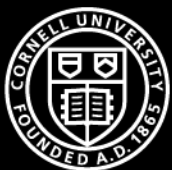
Most effective on small ponds and shorelines of larger water bodies

Exclusion: fence/barrier at least 1 foot high along water's edge.

- Hedge of dense vegetation also effective and more aesthetically pleasing.
- Stone wall/large rocks
- High/vertical bank
- Wire fence



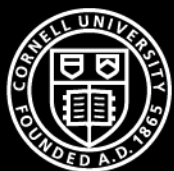
Pond Grid Wires



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Parallel Lines



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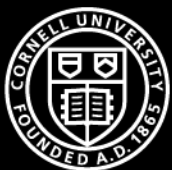


Habitat Modification

- Allowing grasses to grow to a higher length can also help discourage Canada goose grazing.
- Geese prefer short grasses where it is easier to access the shoots of the plants.
- Avoid fertilizing as much as possible.
- Plant less-palatable grass species – geese show a preference for Kentucky bluegrass; dislike tall fescue.

DILEMMA

- Tall grass can also obscure views of approaching predators.
- Low maintenance natural meadows or wildflower areas prevent grazing.



Habitat Modification

- Planting trees in open areas can also limit views of potential threats.
 - Also makes it more difficult for geese to take flight, because they gain altitude slowly.
- Trees with dense canopies and large rocks (2'+) near water edge hinder goose landings and takeoffs.
- Plant ground cover species in sensitive areas:
 - geese will not eat common periwinkle, Japanese pachysandra, and English ivy.



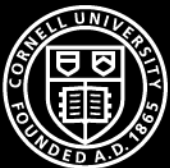
Lethal Control

Protected by migratory bird treaty act.

Outside of hunting seasons & regulations,
permit needed.

Contact state wildlife agency or state office
of USDA-APHIS-Wildlife Services.

No legal toxicants.

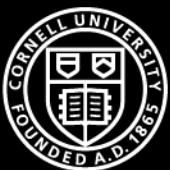


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Reproductive Control

- Adults
(OvoControl G®)
**NO LONGER
AVAILABLE**
- Eggs: permit MAY
be required.



US FWS Goose Nest and Egg Registration Site

<https://epermits.fws.gov/ercgr/gesi.aspx>

Resident Canada Goose Registration
Version P1.4

Welcome to the Resident Canada Goose Nest and Egg Registration Site. If you are a landowner, homeowner's association, public land manager, or local government in the lower 48 states or the District of Columbia, you may register at this site for federal authorization to destroy resident Canada goose nests and eggs on property under your jurisdiction.

You must register each year prior to taking nests and eggs. You must register between January 1 and June 30 of the year in which the nests and eggs will be destroyed. You must also enter the individual names of employees or agents who may conduct the work on your behalf. You must be at least 18 years of age to register.

Each registrant must return to this site by October 31 to report the number of nests with eggs which were destroyed, for each month and location county. You must report even if you conducted no activity. You will not be able to register for future seasons if you have an outstanding report after 12/31 of the present year..

Please note that some states do not participate in this registration program or have additional or stricter requirements. It is very important that you review the list of State Agency Contacts and Information link below to determine whether you should proceed with registration.

[User's Guide](#)
[Frequently Asked Questions](#)
[Management of Canada Goose Nesting](#)
[Text of Regulation](#)
[State Agency Contacts and Information](#)
[Summary Data](#)

New User [Click here](#)
to select applicant type and create a login, password, and account profile.

Existing User Login

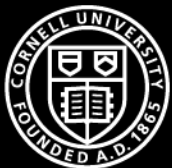
Required fields are indicated with a red asterisk *

User Login ID

Password

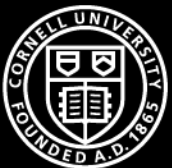
Forgot User Login ID or Password?

System Requirements: Pages are best viewed at 640 x 480 resolution with Internet Explorer 5.0 or higher. Cookies and JavaScript must be enabled. To view or print online documents, you



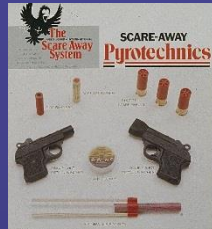
Round Ups

- Permit required.
- Euthanasia
- Translocation



Harassment Techniques

Pyrotechnics



Abatement falconry



Lasers



Remote controlled boats/cars



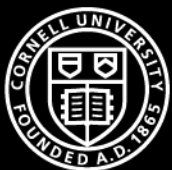
Distress calls



Miscellaneous



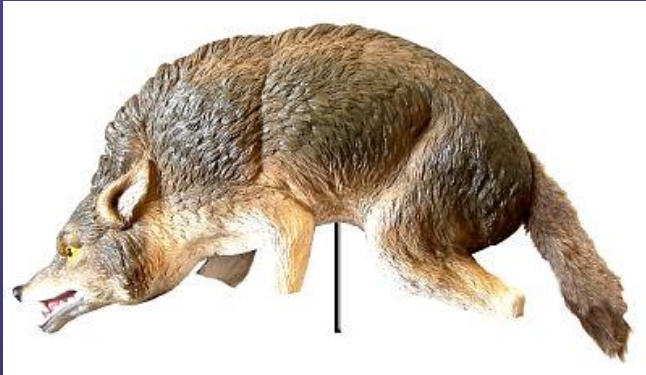
Dogs



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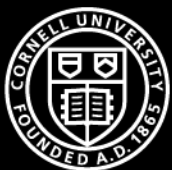


Harassment Techniques



Cornell University Research: Techniques Evaluated

- Border collie
- Pyrotechnics
- High-powered laser
- Remote controlled boat
- Strobe light
- Distress call device

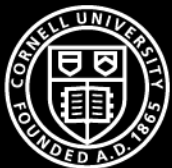


Cornell University Research: Most Effective

Dogs during the
day



Lasers at
night



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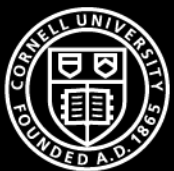


Delaying habituation

- Movement
- Install/Uninstall
- Incorporate reinforcement (Israel's yellow scarecrows)



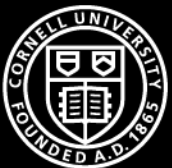
Ring-billed Gulls



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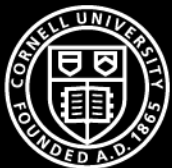
Feeding Bans



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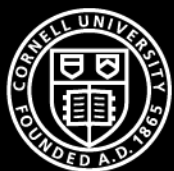
Grid and Parallel Lines



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Heli-kites

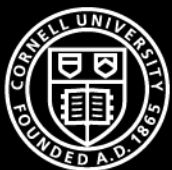


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Cornell University Research: Bird Damage to Small Fruit Crops

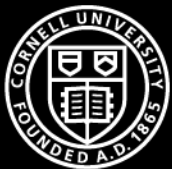
Air dancers



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Thank You for Your Attention



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Questions?

For More Information:

www.epa.gov/pestwise
school.ipm@epa.gov | 844-EPA-SIPM

