

Wildlife Hazards to Aviation and Mitigation Techniques

ICAO CAR/SAM Regional Bird/ Wildlife
Hazard Prevention Committee Meeting and
Conference, Asuncion, Paraguay

November 6th, 2013

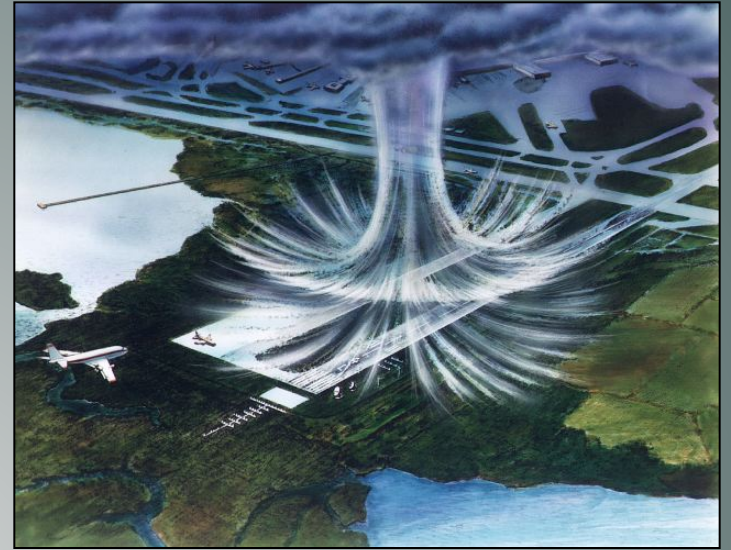
John R Weller



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Safety Hazards



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WHY IS AIRPORT WILDLIFE HAZARD MANAGEMENT IMPORTANT?

COST OF WILDLIFE STRIKES:
\$957 million/year in U.S.
\$2 billion/year Worldwide



WILDLIFE STRIKES TO CIVIL AIRCRAFT IN THE UNITED STATES 1990-2009



FEDERAL AVIATION ADMINISTRATION
NATIONAL WILDLIFE STRIKE DATABASE
SERIAL REPORT NUMBER 16

REPORT OF THE ASSOCIATE ADMINISTRATOR OF AIRPORTS
OFFICE OF AIRPORT SAFETY AND STANDARDS
AIRPORT SAFETY & CERTIFICATION
WASHINGTON, DC

2010



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Airport Wildlife Challenges: Increasing human population



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Airport Wildlife Challenges: Increasing wildlife populations

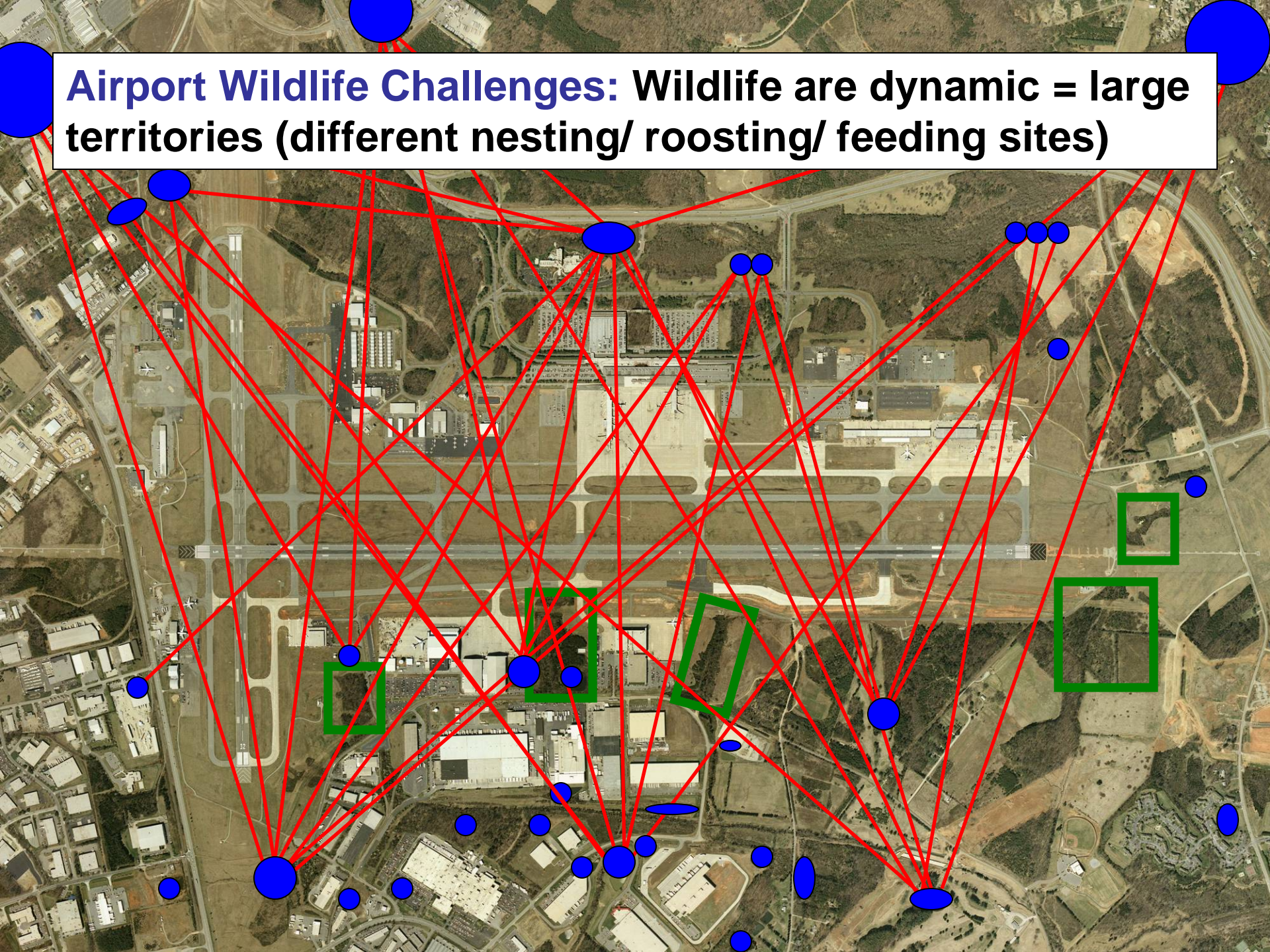


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Airport Wildlife Challenges: Wildlife rapidly habituate to harassment/ frightening techniques



Airport Wildlife Challenges: Wildlife are dynamic = large territories (different nesting/ roosting/ feeding sites)



Airport Wildlife Challenges: Airports have limited funding
(particularly General Aviation airports)



Airport Wildlife Challenges: Public and employees sensitive to killing of wildlife



Wildlife Use of Airports

FOOD



PERSIMMON AND RABBIT
HAIR SCAT (COYOTE)



Report Strikes: <http://wildlife.mitigation.com>
Bird Strike Committee US



WATER



COVER



TRAVEL CORRIDOR

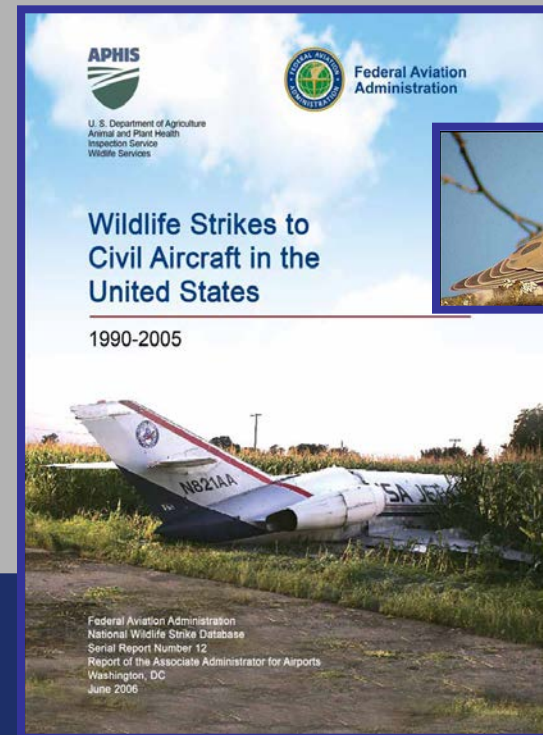
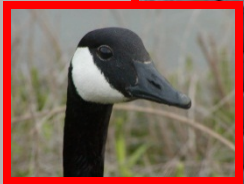
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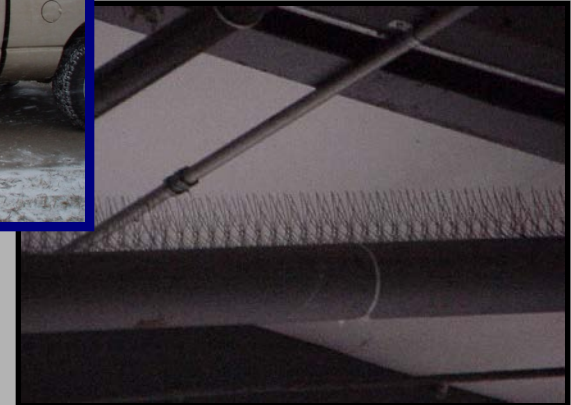
Direct Hazards



Indirect Hazards



Techniques to Manage Wildlife Hazards at Airports



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Management of Wildlife Hazards

Proactive measures

Modify / Remove Attractants
Exclude Wildlife

Reactive Measures

Repel/Disperse Wildlife
Remove Wildlife
(lethal or nonlethal)



Techniques

Non-lethal

- Habitat management
- Repellants
- Exclusion
- Laser
- Pyrotechnics
- Trap and relocate
- Dogs
- Falconry



Lethal

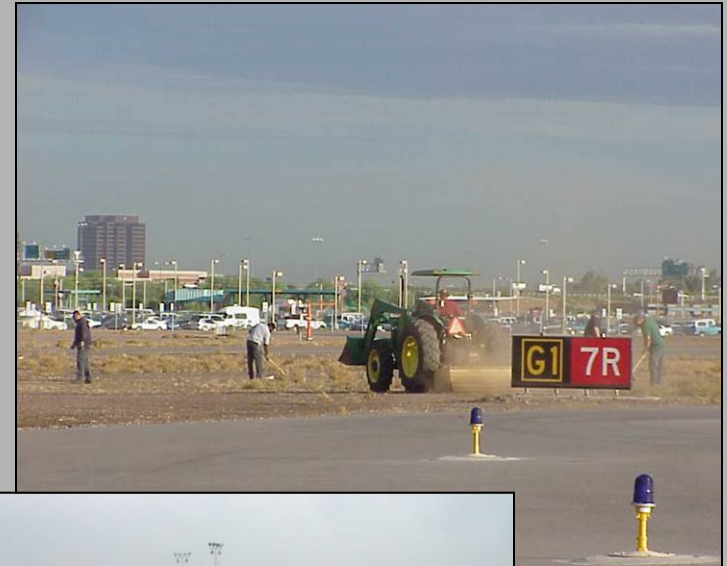
- Toxicants
- Trapping (euthanize)
- Shooting



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Habitat Modification

Mowing



Grade Improvement



Grass Attractants

- Fescue Trials -



Persimmon



Tree/ shrub Removal



Pyracanthas



Forest Stand
inside perimeter
fence



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General Maintenance

A photograph of an airport tarmac. In the background, a large white airplane with yellow accents is visible, with the text "Worldwide Service" and "Synchronizing the world of commerce" on its side. In the foreground, a white birdhouse with a red roof and a circular entrance hole is hanging from a tree branch. The tree has green and yellowing leaves, some with small brown berries. The sky is a pale, hazy blue.

DO NOT feed wildlife

Cover garbage cans and dumpsters

Pick up trash and litter

Remove dead animals

**Proper construction
reduces wildlife use
of storm water
ponds**



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Clear Waterways / Drainages

• Beaver dam



Offsite Habitat Modification



FAA Advisory Circular
150/5200-33a
***Wildlife attractants on and
near airports***



Bird Repellants

Methyl-anthranilate

– Rejex-it

Anthraquinone

– FlightControl



•Techniques to capture birds – Alpha Chloralose

- Used for capture
- For use ONLY by certified WS applicators
- Certified by FDA for use on:
 - Waterfowl
 - Coots
 - Pigeons
 - Ravens



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Pest Control

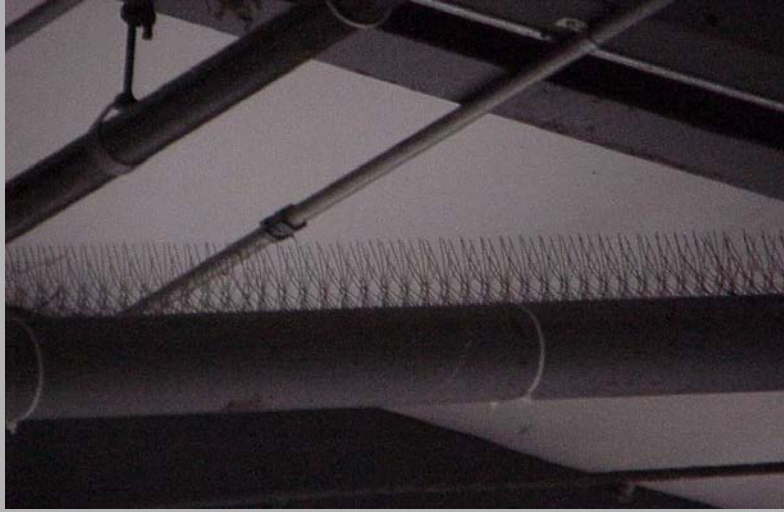
Deterrents and Lethal

- 3-Chloro-4-methylbenzenamine hydrochloride
- Acetaminophen
- Caffeine
- Carbon
- Citric acid
- Corn oil (egg oiling)
- Methiocarb
- Propiopromazine hydrochloride
- Sodium monofluoroacetate
- Sodium nitrate
- Sodium cyanide
- Strychnine alkaloid
- Zinc phosphide (rodent control)
- DRC 1339
 - Blackbirds
 - Pigeons
- Avitrol
 - Sparrows/pigeons

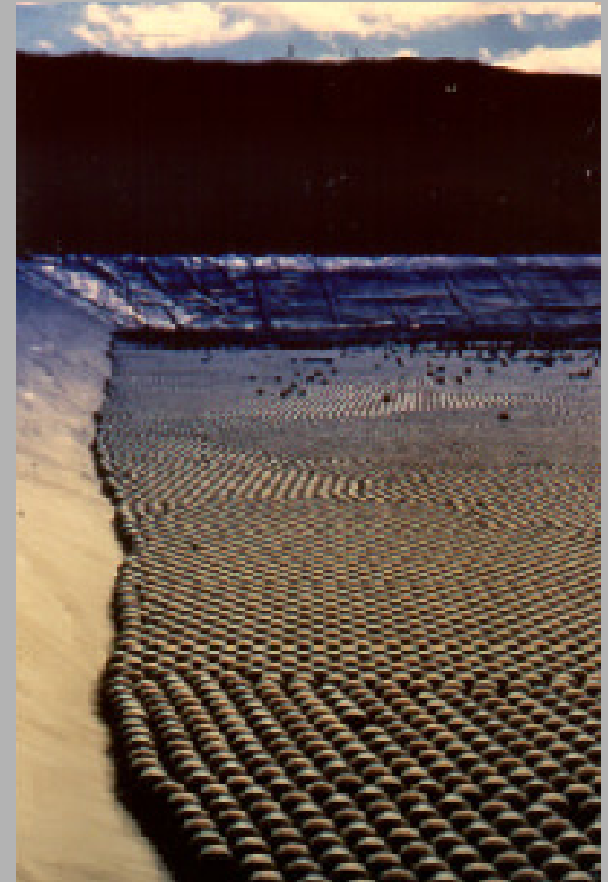


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Exclusion



**Metal
spiking**



**Bird balls-Covering
ditches and ponds**

**Bird
netting**



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Exclusion



Metal wire
or coils



“Daddy-long-legs”



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GOOD FENCE = EXCLUSION



BAD FENCE = NO FENCE





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The Avian Dissuader

•SEA Technology, Inc.

- Adjustable beam size at ranges from 25 to 500 yards.
- Class III-B laser
- Works well with waterfowl, wading birds



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Visual repellents-Sight & Motion

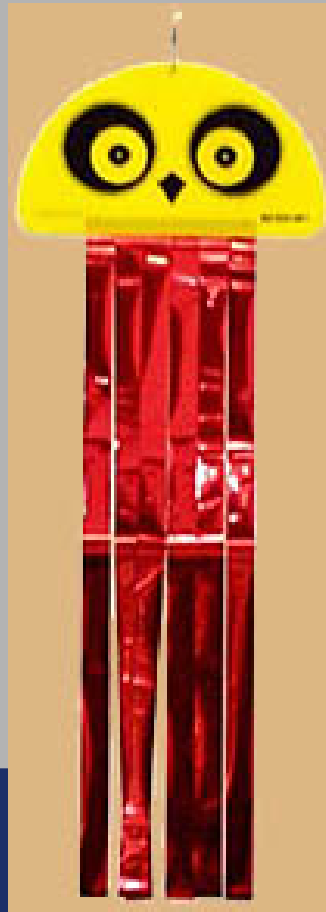


Scary Man

Scarecrows



Combination
Eyes & Mylar



Evil Eye balloons

Mylar tape



Effigies have limited success



**Taxidermy Vulture
effigy disperses
roosting vultures**



Pyrotechnics



Bangers/screamers – manual



Gas cannon - timer

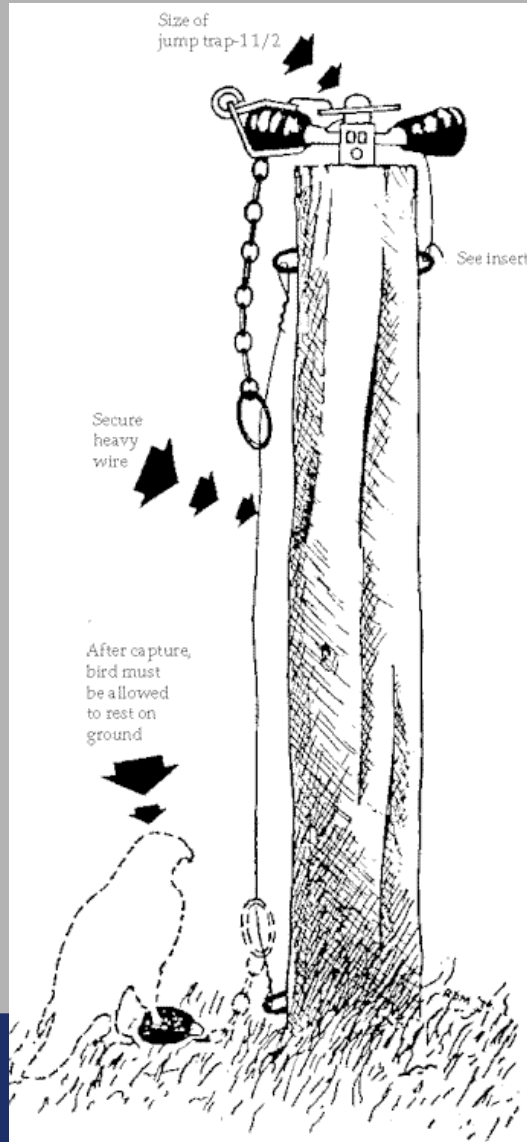


Harassment Techniques



Trapping

Pole trap



Bal chatri trap



Trap and relocation from airport



Raptors and other “sensitive” species



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Trapping- Lethal Removal



Feral hogs



Pigeons

Canada geese during molt



Shooting



Summary

Variety of techniques to manage wildlife and their attractants at airports

Best to use an integrated approach:

- **Habitat management as foundation**
- **Non-lethal techniques**
- **Lethal control to remove hazardous wildlife and enhance non-lethal repellent techniques**

