Mitigating Vehicle Collisions with Large Wildlife

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Standing in for Chuck Hulsey, Regional Wildlife Biologist – Strong
Maine Department of Inland Fisheries and Wildlife
Conserve, protect and enhance fish and wildlife resources
What Do We Do?
How Many ‘Inland’ Fish and Wildlife Species are in Maine?

>15,000

- Invertebrates (15,000)
- Amphibians (18)
- Birds (423)
- Fish (39)
- Mammals (61)
- Reptiles (17)

Less than 100 of these species are hunted or fished
Regional Wildlife Biologist’s Role

- Implement and administer wildlife programs within an assigned area of the state
- 7 Regions A–G
- Wildlife Management Districts 1–29
Collection of age, sex, and physical condition data from hunter harvests
Manage Species at Social Carrying Capacity

How many is just right?
Manage Department Properties
Habitat Management
Management of Rare, Threatened, and Endangered Species

Jonathan Mays tracking northern black racers

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Assess Species Abundance and Distribution
Manage Threatened and Endangered Species

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Animal Damage Control
Environmental Review
Handling Injured and Orphaned Wildlife

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Landscape Planning Assistance
Top Ten Species Stressors

1. Lack of knowledge
2. Habitat Shifting or Alteration
3. Fishing & Harvest of Aquatic Resources
4. Agricultural & Forestry Effluents
5. Temperature Extremes
6. Invasive Species & Diseases
7. Industrial & Military Effluents
8. Housing & Urban Areas
9. Recreational Activities
10. Roads & Railroads
Top Ten Habitat Stressors

- Invasive Species & Diseases
- Habitat Shifting or Alteration
- Roads & Railroads
- Housing & Urban Areas
- Commercial & Industrial Areas
- Recreational Activities
- Domestic & Urban Waste Water
- Industrial & Military Effluents
- Agricultural & Forestry Effluents
- Utility & Service Lines
Species and Habitats Affected by Transportation

- Inverts (15%)
- Fish (26%)
- Reptiles (45%)
- Amphibians (50%)
- Mammals (5%)
- Habitats (45%)
Wildlife–Vehicle Collisions

• Public Safety
• Property Damage
• Impact on Wildlife
  – Mitigation in Maine
Sources of Wildlife Mortality

- Disease
- Starvation
- Predation
- Legal Hunting
- Poaching
- Pollution
- Accidents
  - Natural
  - Anthropogenic
Road Mortality

- Turtles
- Black Bears
- White-tailed Deer
- Moose
Road mortality high biological concern

- Up to 20 years sexual maturity, few natural predators on adults
- Can withstand high losses of nests and hatchlings
- Adult mortality = population collapse
- Roads fragment habitat
Black Bear

Road mortality low biological concern
• Robust population
• Abundant habitat
• High cub survival
• Excellent parenting
• Den Nov-April
• Deliberate travelers
• Highest bear densities=low road densities

• Breed age 3-5
• Population 24-36,000
White-tailed deer

Road mortality moderate biological concern

Sexual mature 1-2 years

1-2 young per year

Winter limits population

Collisions significant near wintering areas.
Highest rate of collisions spring and fall; loss of adult doe and fawn(s)
Deer Wintering Areas

Strong fidelity to trails and road crossings

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Supplemental winter feeding by public increases road mortality

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Moose

Road mortality moderate biological concern

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Sexually mature at 3.5 years

1-2 young per year

Cows are excellent parents = high calf survival

Wolves only predator on adults. Moose survive by standing their ground and facing their adversary. This survival behavior makes them vulnerable to vehicle strikes.

Jonathan Parker
Large bulls are highly valued for hunting and viewing

First regulated season in 1830

Hunting seasons off and on until 1936

No hunting 1936 to 1980, then 700 permits
Permit by lottery since then. 2080 permits in 2017
Permits are allocated by WMD

Harvest is a tool to achieve road safety objectives

This varies by WMD

Other objectives: viewing and hunt quality; maintain min 17% mature bulls

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Drastic changes in timber harvesting associated with the spruce budworm epidemic of the mid-1970s-early 80s created extensive high-quality moose habitat. The population responded.
Low fidelity to trails.

Winter in young mixed-wood stands

Summer in shallow wetlands. Aquatic vegetation high in minerals.

Minerals critical to antler growth and lactating cows.
Heavy moose use May-July to consume salt in mud and plants spread on roads to reduce snow and ice.

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Interagency Collaboration: Keeping People and Wildlife Safe
Collision Mitigation in Maine

• Moose–car collision in The Forks 1988

• MaineDOT and MDIFW work closely together on outreach and mitigation

• Formation of MaineDOT and MDIFW Large Animal Crash group led by Duane Brunell
MaineDOT support and promotion of Northeast Wildlife/Transportation Conferences

MaineDOT role in including large animal collisions in Driver Training

PUBLIC OUTREACH – MaineDOT development of seasonal PSAs, brochures, posters, and handouts
Applied Actions

- Roadside vegetation management by MaineDOT
- Deployment of more effective signage
- Use of reflectors and wide stripes to help motorists see moose
- Barriers by MaineDOT from natural material on–site to dissuade moose from entering ROW
- Mapping and Assessment of Roadside moose wallows by MDIFW in Region D – 2000 & 2015
A Few Maine Mitigation Case Studies
MaineDOT – MDIFW
Joint effort to designate the bounds of Deer Wintering Areas
More Effective Messaging

BRAKE FOR MOOSE
IT COULD SAVE YOUR LIFE
HUNDREDS OF COLLISIONS

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Wildlife crashes happen anywhere, anytime — but be especially alert:

- From dusk till dawn
- Driving through forested or rural areas
- When you see one deer or moose, they tend to travel in a group, so there are often more animals nearby

If a crash is unavoidable...

- Apply the brakes
- Let up on the brakes just before impact
- Aim to hit the tail end of the animal if possible
- Duck to minimize injury

Watch for the reflection of headlights in the eyes of a deer. Because moose are taller, headlights don’t reflect in their eyes. Instead, be on the lookout for a tall silhouette.
Research: Is it easier to change driver or animal behavior?
Animal Vehicle Collision (AVC) Reduction Strategies

Strategic Highway Safety Plan
Proactive Approach: Maintain Connectivity
Connectivity in Action
Connectivity in Action
MDIFW Region D
Moose Wallow
Surveys in 2000 and 2015

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Surveys identified the most hazardous stretches with high use moose wallows.

Deployed motion-activated sign and tightly defined activity corridor.
Near hazardous stretch of wallows - wide stripes to give illusion of narrower road and maybe slower speeds

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Take Home Messages

- One size does not fit all
- Collaboration is key
Thank you! Discussion.....

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