

# MAINE STATE LEGISLATURE

The following document is provided by the  
**LAW AND LEGISLATIVE DIGITAL LIBRARY**  
at the Maine State Law and Legislative Reference Library  
<http://legislature.maine.gov/lawlib>



Reproduced from electronic originals  
(may include minor formatting differences from printed original)

# A Report to the Joint Standing Committee on Inland Fisheries & Wildlife



## L.D., 823 -- Resolve, To Create an Effective Deer Habitat Enhancement and Coyote Control Program

The working group's findings, recommendations and draft legislation

Submitted by:  
Roland D. Martin, Commissioner  
December, 2007

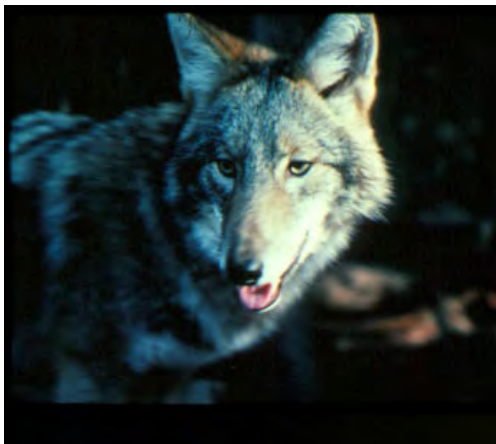
## 1) Introduction

Many people, residents and non-residents alike, are “passionate” about Maine’s white-tailed deer. Some are hunters who enjoy deer hunting; others enjoy watching deer graze in a chopping, or are simply surprised by the doe and fawn that venture across the family’s backyard. Maine deer are widely loved and appreciated by the public, and so, provoke strong feelings, opinions, and debates. There is no doubt that deer hunting and deer watching are greatly enjoyed in Maine -- and both are important contributors to the state’s economy and to the wildlife management programs of the Department of Inland Fisheries & Wildlife [MDIFW].



The Department has the responsibility of managing Maine’s deer population to ensure a healthy, secure population for both viewing and hunting, but at a balance that is mindful of other biological, social, and economic considerations.

Deer populations in northern and eastern Maine are very low; in many areas, the deer population is less than 5 deer/square mile. This is compared with deer densities of between 15-20 deer/ square mile in central and southern Maine. Such population densities are below the Department’s long-term population goals for deer in northern and eastern Maine [Appendix 2F]; they are also greatly below the desires and expectations of resident and non-resident deer hunters, guides and outfitters, business owners located in Maine’s rural economy, and those who enjoy watching deer. The public is frustrated by low deer numbers, and it is demanding an upturn in the population.



There are several inter-related factors that are likely causing low deer numbers in northern and eastern Maine. These include: the diminished quality of many deer wintering areas, predation [by both coyote and black bear], illegal hunting, and the impact of legal doe harvest during the regular archery deer season and the youth deer hunting day.

Low deer populations in northern and eastern Maine are problems that have been intensifying for more that fifteen years. In 1993 the Department convened a committee to review options that would result in an increase in the Downeast deer population [Appendix 3]. Low deer numbers were also topics considered in

2000 by the Department’s Big Game Public Working Group [Appendices 2A-H] – more about this group and the Department’s species planning process is discussed below.

## 2) Deer Management Planning

In 1999, the Department convened a Big Game Public Working Group to develop goals and objectives that would guide deer management [as well as the management of moose, bear, and coyote] for the period 2000 – 2015. The Big Game Working Group was a stakeholder group

having diverse interests in deer [Appendix 2D]. The group considered deer management issues for several months and recommended a series of deer management goals and objectives that covered the entire state, including northern and eastern Maine [Appendix 2F].

Prior to convening the working group, the Department prepared the *Deer Assessment*, an exhaustive review and analysis of all that is known about Maine deer; this assessment outlined the history of deer management in Maine and the current status of the population, habitat, and biological knowledge [Appendix 2C]. Once convened, the working group used the *Deer Assessment* to guide its development of deer management goals and objectives – the goals are broad statements of management direction, but the objectives establish timelines and are specific and measurable. The working group developed goals and objectives within the following broad sideboards: deer may not be put in jeopardy of extirpation, and they may not be managed in a manner that degrades habitat. Based on the deer management goals and objectives established by the working group [Appendix 2F], the Department prepared the *Deer Management System*, which outlines how it will determine if it is meeting management objectives and what management actions it will take if the objectives are not being met.



The Department followed an identical species-planning process for the eastern coyote [Appendices 3B-F] and for the black bear [Appendix 3H]

### 3) Background

#### a. Creation of the Northern and Eastern Deer Task Force

In response to the public's intense interest and concern for the condition and future of the deer herd in eastern and northern Maine, Roland D. Martin, Commissioner, Dept. of Inland Fisheries & Wildlife, established the Northern and Eastern Maine Deer Task Force in April, 2007. The Commissioner charged the group to: 1] characterize the status and condition of the deer population in northern and eastern Maine; 2] review ways to enhance deer wintering habitat in northern and eastern Maine; 3] review coyote management policies; and 4] submit "workable" recommendations to him for his consideration.

The Northern and Eastern Maine Deer Task Force consisted of 11 members:

Matt Libby, chair	Maine Professional Guides Association
Gene Dumont, co-chair	Inland Fisheries & Wildlife, Wildlife Management Section Supervisor
Tom Doak	Small Woodland Owners' Association of Maine
Don Dudley	Maine Trapper's Association
Rich Hoppe	Inland Fisheries & Wildlife, regional biologist, Ashland
Lee Kantar	Inland Fisheries & Wildlife, deer biologist
Gerry Lavigne	Sportsman's Alliance of Maine
Tom Schaeffer	Inland Fisheries & Wildlife, regional biologist, Jonesboro
Brian Smith	Maine Bowhunters Association
Sally Stockwell	Maine Audubon Society
Pat Strauch	Maine Forest Products Council

Sandy Ritchie, Habitat and Special Projects Biologist, Inland Fisheries & Wildlife, and Mark Stadler, Director, Wildlife Division, Inland Fisheries & Wildlife, provided technical support to the task force. When Gene Dumont retired from state service in August, 2007, Ritchie and Stadler shared the co-chair responsibilities. In addition to the above, several individuals from the public and various employees of forest landowners / managers attended task force meetings. A summary of each task force meeting and a list of those who attended can be found in Appendices 2-9..

**b. LD 823, 'Resolve, To Create an Effective Deer Habitat Enhancement and Coyote Control Program.'**



Throughout the first session of the 123<sup>rd</sup> Legislature, legislators considered the public frustration with low deer numbers and public concerns about coyote predation on deer. The Joint Standing Committee on Inland Fisheries & Wildlife initially prepared a Resolve directing the Dept. of Inland Fisheries and Wildlife "To Create an Effective Coyote Control Program." This Resolve directed the Commissioner of Inland Fisheries & Wildlife to review the Department's existing coyote control program and to establish methods of controlling the coyote population and to set goals to manage the coyote populations; it also required that the Commissioner report his findings and recommendations...to the Joint Standing Committee

on Inland Fisheries & Wildlife by December 30, 2007. Based on the Commissioner's findings, the Joint Standing Committee on Inland Fisheries & Wildlife reserved the right to submit legislation related to the report to the Second Regular Session of the 123<sup>rd</sup> Legislature. [Appendix 1A]

Upon further consideration of the several factors possibly contributing to low deer numbers in northern and eastern Maine, the Joint Standing Committee amended and expanded the scope of its initial Resolve:

**LD 823, 'Resolve, To Create an Effective Deer Habitat Enhancement and Coyote Control Program.'**

**Sec. 1 Deer habitat enhancement and coyote control program. Resolved:** *That the Commissioner of Inland Fisheries & Wildlife shall establish a working group to review existing programs and efforts related to creating, enhancing and maintaining critical deer habitats in the State and reducing predation of deer by coyotes. In reviewing the programs and efforts, the working group shall look for ways to improve and increase wintering habitat for deer and for ways to increase the survivorship of deer on a year-round basis. The working group shall also establish methods of controlling coyote populations and set goals to manage the coyote populations; and be it further*

**Sec. 2 Report. Resolved:** *That the Commissioner of Inland Fisheries & Wildlife shall report the working group's findings, recommendations and draft legislation to the Joint Standing Committee on Inland Fisheries & Wildlife by December 30, 2007. The Joint Standing Committee on Inland Fisheries & Wildlife may submit legislation related to the report to the Second Regular Session of the 123<sup>rd</sup> Legislature. [Appendix 1B]*

The enactment of LD 823 occurred after Commissioner Martin had established the Northern and Eastern Maine Deer Task Force; however, the Commissioner's Task Force and its members

where to become the working group identified in LD 823. Given this transition, throughout the remainder of this report references to the Northern and Eastern Maine Deer Task Force and the LD 823 working group will be considered interchangeable.

The report that follows constitutes the working group's findings, recommendations, and proposed legislation.

#### 4) Summary of Working Group Meetings

The working group met eight times over the course of the spring, summer, and fall of 2007, investing more than 30 hours in discussing the many factors likely contributing to low deer numbers and developing a series of recommended strategies to rebuild deer populations [Appendices 2-9]. The first several of these meetings were dedicated to "fact-finding." The working group reviewed and considered information and data presented by the Department, forest landowners and managers, Maine Forest Service, Land Use Regulation Commission, University of Maine, Cooperative Fish & Wildlife Research Unit, U.S. Fish & Wildlife Service, New Brunswick Dept. of Natural Resources, and others. Much of this information concerned four broad areas:

- The Department's deer population estimate and its deer population goals / objectives;
- the impacts of coyote and bear predation on deer, the role of predator control to protect deer, and the effectiveness of predator control in rebuilding a deer population;
- the influence of the diminished quality of many deer wintering areas, cooperative deer wintering area management versus land-use zoning, the role of deer wintering areas in rebuilding a deer population, and the observation that many deer wintering areas are currently not used by over-wintering deer; and
- the impact of illegal hunting and of legal doe harvest during the regular archery deer season and the youth deer hunting day in contributing to low deer numbers.



To fully appreciate and understand the working group's recommended strategies, it is important to 1] provide an overview of the data and information that the working group reviewed and considered and then to 2] provide a summary of the group's discussions. This overview is presented below [see also Appendices 2-9].

##### 1st Meeting – May 23, 2007

1. Task Force Charge -- Commissioner Martin told the task force members that there has been a great deal of interest and concern for the condition and future of the deer herd in Downeast and northern Maine. The Task Force will focus on the issues surrounding deer management in these areas, and offer recommendations on a variety of deer management issues. Specifically, the Task Force is to: characterize the status and condition of the deer population in northern and eastern Maine; review ways to enhance deer wintering habitat in northern and eastern Maine; review coyote management policies; and submit recommendations within 60 days.

2. Review of IF&W's Deer Management -- The majority of the meeting was devoted to a discussion of the Department's deer management program including a review of the following [Appendices 2C-H]:

- Deer Assessment
- 1999 Big Game Public Working Group
- Issues and Concerns Raised by the Big Game Working Group
- Deer Management Goals and Objectives Considerable discussion focused on the goals and objectives, specifically the long-term objective in the north and Downeast areas to *increase deer wintering habitat to 8% (9-10% Downeast) of the land base to ensure sufficient wintering habitat to accommodate a post hunt population of 10 deer/ m<sup>2</sup> (15 deer/m<sup>2</sup> Downeast) by 2030 (or sooner)*. Some Task force members expressed concern about the need to tie ourselves to actual numbers but rather a goal simply to increase the deer population in these areas. Others believed we needed an objective that was measurable so that we, to the best of our knowledge, could determine where we were in relation to our objective and to measure progress. Though never fully resolved, we reached general agreement to consider the goals and objectives as targets....
- Feasibility Statements
- Problems and Strategies



3. Previous Downeast Deer Committee Reports -- In 1993 MDIFW convened a committee to review options that would result in an increase in the Downeast deer population. A copy of the 1993 report was provided to the Task Force and discussed [Appendix 3I].

4. Issues, Concerns, and Other Specific Items from Task Force Members – Additional opportunity was provided for Task Force members to ask questions about MDIFW's deer management program and get their input on how they wanted to proceed with future meetings. The group decided to focus on two primary areas of concern: 1) mortality/predation and 2) habitat and agreed to devote the next meeting to mortality/predation.

The minutes of the first meeting and all of the documents provided to the working group are found in Appendix 2.

## **2nd Meeting – June 12, 2007**

This meeting was devoted to a discussion of deer mortality, especially coyote predation.

1. Identification of Issues and Concerns Associated with Deer Management in Maine – At the second meeting Task Force members developed a list of their deer management issues and concerns:

### **Habitat**

- adequate mechanisms to maintain/sustain shelter
- loss of high quality deer wintering areas (DWAs)
- transitioning forests – moving among age classes
- connectivity of wintering habitat
- suboptimal DWA habitat resulting in poor deer condition and/or mortality
- difficulty in determining winter carrying capacity

- changes on the landscape that may favor some species (e.g., coyotes) over others
- are we making the right sivilcultural recommendations for DWAs?
- recent trend in industrial forestland ownership changes
- concerns about proposed LURC zoning rules (12% of the land base)

#### Predation/Mortality

- fawn mortality by black bear
- coyote predation
- poaching



#### Deer Goals and Objectives

- practicality of achieving Big Game Working Group goals and objectives [Appendix 2F]
- costs of achieving the goals and objectives – who is responsible?
- multiple species management conflicts (bear, moose, etc.)

#### Use and Demand

- temporary closures (WMDs) to hunting
- unmet demand for hunting opportunity (social and economic implications)
- bowhunting / youth – consistency in doe harvest regulations

#### Miscellaneous

- credible deer census
- good data to base decisions on
- weather-related changes that will affect the future
- changes / improvements to access – public access is at unprecedented levels, affects on habitat and predation

#### 2. Review of Materials Provided to the Task Force

- Coyote Issues and Concerns Raised by the 1999 Big Game Working Group – The Big Game Working Group raised a number of issues and concerns prior to developing goals and objectives for coyotes [Appendices 3B-F].
- Gerry Lavigne's Report to the 117th Maine Legislature: A Study of Eastern Coyotes and their Impact on White-tailed Deer in Maine [Appendix 3G]
- Bear Management Goals and Objectives – Concerned about the potential impact of bear predation on deer, especially newborn fawns in Downeast Maine, the 1999 Big Game Working Group developed an objective for WMD 29 (now WMD 27/28) to increase the traditional hunting and trapping effort on bears within the existing season framework to reduce fawn mortality by 15% by (date - to be determined by IF&W) [Appendix 3H].
- Washington County Deer Population Committee Report – In 1993 a committee was formed to review options for increasing the deer population in Washington County. Regional Wildlife Biologist Tom Schaeffer summarized the committee's findings [Appendix 3I].



3. Summary of Coyote Research in Maine, New Brunswick, and Nova Scotia – Dan Harrison, Professor of Wildlife Ecology at the University of Maine, presented a PowerPoint program highlighting coyote research in Maine, New Brunswick, and Nova Scotia.

4. Overview of MDIFW's Incidental Take Plan

5. Tools and Methods Available to Target Coyotes – Sgt. Dave Craven, a game warden with extensive trapping and snaring experience discussed several tools and methods to target coyotes and offered his observations on coyote control.

The minutes of the second meeting and all of the documents provided to the working group are found in Appendix 3.

### **3rd Meeting – July 9, 2007**

This meeting was devoted to a discussion of deer wintering habitat issues. The Task Force invited several professional experts to help with this discussion and assessment.

1. Mapping 30 Years of Forest Cover Change in Northern Maine: Preliminary Analyses – Bill Krohn, Leader of the Cooperative Fish and Wildlife Research Unit and Ph.D. students Kasey Legaard and Erin Simons discussed their research as part of an ongoing cooperative project with Dan Harrison to evaluate trends in forest harvest patterns and consequent changes in lynx and marten habitat quantity and distribution. Kasey's PowerPoint presentation informed the task force of the ongoing retrospective study of harvest patterns and a summary of the broad trends they have observed from preliminary analyses.

2. Overview of the 2005 Maine Forest Service Biennial Forest Report to the 122<sup>nd</sup> Legislature – Chris Martin from the Maine Forest Service provided a summary of forest condition from the *2005 Biennial Report on the State of the Forest and Progress Report on Forest Sustainability Standards* [Appendix 4B].



3. Review of WMD 5 DWAs (as a sample of northern Maine) – Danielle D'Auria from MDIFW's Habitat Group presented a comparison of historic deer wintering areas in Wildlife Management District 5 and areas currently protected (either via LURC, Natural Resources Protection Act, or under cooperative management agreements) in the WMD. The historic DWA layer was created by digitizing areas known to be used by deer in the winter over the past 50 years. These areas were often identified by flight and were hand drawn on paper maps, which were then free-form digitized using GIS. Where areas from different

years overlapped, they were merged into one polygon. All major waterbodies were clipped out of the polygons, in an effort to capture only the land area used by deer.

In WMD 5 there were 172,521 acres of deer wintering areas. Currently, 68,573 acres are in some sort of protection: 22,591 (LURC), 861 (NRPA), and 45,121 (cooperative agreements).

4. LURC DWA Policy – Fred Todd with the Maine Land Use Regulation Commission discussed LURC's policies concerning DWA issues [Appendix 4C].

5. IFW Proposed LURC P-FW Zoning Criteria Changes – Mark Stadler suggested deferring this topic to a future discussion of recommendations to increase Maine’s deer population.

6. New Brunswick Department of Natural Resources DWA Issues – Rod Cumberland and Scott Makepeace

The minutes of the third meeting and all of the documents provided to the working group are found in Appendix 4.

#### **4th Meeting – August 2, 2007**

Drawing from the information and discussion from the previous meetings, the task force began developing its recommended strategies for increasing the deer population in northern and eastern Maine.

1. Lingering Questions and Clarifications re: Deer Issues & Concerns – The task force once again discussed aspects of deer habitat, predation, and how to define a deer wintering area.

#### 2. Additional Habitat Information / Modeling

- Seven Islands – John Cashwell presented a map of WMD 5 on which Seven Islands took MDIFW’s historical DWA data and developed a map of “Deer Cover Suitability”. IFW’s goal is 8% of the land base. Currently, Seven Islands’ areas that are either zoned or protected by policy approximates 8% of land base. With policy and P-FW, Seven Islands is accounting for ~6.5% of the WMD.



- JD Irving – John Gilbert told the task force that as a landowner, JD Irving has been reluctant to manage DWAs for several reasons. John presented an overview of these reasons. DI has a lot of conforming cover (70 SW, CC>50%, >35ft tall) that is not in P-FW or agreements. 9% of the land in Maine is in DWA protection, but deer aren’t in all areas. He concluded by stating that he is a strong believer in the shifting mosaic theory and a proponent of cooperative management rather than zoning.

3. Develop Strategies to Address Deer Management Issues and Concerns – As requested by the Task Force and to serve as a springboard for discussions, MDIFW developed a list of strategies that address problems and issues effecting deer herd growth in northern and eastern Maine. The strategies include everything heard in Task Force meetings as well as other initiatives over the years, and was organized into two time frames: a short term from now until 2025 and a long term from 2025 and beyond. [Appendix 6B]

The remainder of the meeting was devoted to a review of the strategies identified by MDIFW with an opportunity for Task Force members to suggest additional strategies.

The minutes of the fourth meeting and all of the documents provided to the working group are found in Appendix 5.

- 5th Meeting – September 4, 2007**
- 6th Meeting – September 20, 2007**
- 7th Meeting – October 17, 2007**
- 8th Meeting – November 14, 2007**

During the final four meetings, the working group continued to discuss deer management options and to work together to arrive at common, recommended strategies to increase the deer herd. They made considerable progress. Nevertheless, a close reading of the minutes of these meetings [Appendices 6-9] reveals that there was lively debate among task force members concerning several of the proposed strategies. In particular, the strategy dealing with the cooperative management of deer wintering areas proved to be the most provocative; a close second was the group's deliberations regarding the strategy for coyote control. At the conclusion of the eighth meeting, the task force had assimilated the information from the previous meetings into a series of recommended strategies. It must be noted that although these recommended strategies seek to represent a consensus of the task force wherever possible, in the case of the "predation" and "habitat" strategies, they represent the majority recommendation [Appendix 9B].

Following the meeting, the Department slightly edited the group's recommended strategies and sent this "next-to-final" draft to the task force for final review and the opportunity to provide the Department with any additional comments or thoughts. The Department requested that we receive these by 12/21/2007, but accepted all comments that came in, even after the deadline. These comments are presented and discussed in Section 5.

After the final meeting, Matt Libby sent the following note to task force members.

*"I want to thank all that participated in the discussions this summer and fall. The meetings brought biological 'learning' to some of us laymen and brought some real world layman "reality" to the professionals. I believe we did the best we could in this "short" time. Common ground as we found all too often is very uncommon. The fact remains that we all wanted to succeed in helping to provide more deer to northern and eastern Maine in the future through collaborative efforts.*



*"I thank the professionals in the forestry and the biological fields for trusting each other both now and in the future to get this done. I thank the users; Audubon, Guides, Trappers, Bow Hunters, and Sportsmen for their time, concern and willingness to try yet another avenue to recapture our heritage of a healthy deer herd. This group, remember was convened to improve the deer herd in northern and eastern Maine.*

*" We all have put a lot on the line in our trust of the landowners to implement this program on their lands. Historically of course, sportsmen and landowners have fought many of the same battles here. We all want to keep it as a healthy working forest where wildlife and forestry can not only co-exist, but flourish.*

*"The success of this program will be in the forthcoming working groups details, the swift implementation of the guidelines and well publicized semi-annual reports on the condition of the big woods and whitetails. Predator control in and around wintering deer yards will play a key role in jump starting the whitetail herd. Positive publicity on the effectiveness of this effort will encourage sportsmen to help.*

*“Please read over the draft and make any additions or deletions, but please remember the 8 meetings, the people there and the final goal: To improve the deer herd.*

*“Thank you and I look forward to working with you all again.”*

## **5) Final Task Force Recommendations**

[continued on next page]

## 5) Final Task Force Recommendations

Below, in Microsoft Word's track changes format, are final review comments submitted to the Department by task force members.

### Recommendations to the Commissioner of the Maine Department of Inland Fisheries in Wildlife for Increasing the Deer Herd in Northern and Downeast Maine

Developed by the Northern and Eastern Maine Deer Task Force  
Fall 2007

#### Short-term Strategy [now – 2025]

##### Deer population

The Task Force recommends that:

1. Maine Department of Inland Fisheries and Wildlife (MDIFW) and forest landowners implement the cooperative habitat management recommendations outlined below to maintain deer populations in balance with carrying capacity of the existing winter habitat and to gradually increase deer populations to fill the improving winter habitat carrying capacity.

Population goals need to be established in consideration of the balance between biological and economic factors and updated research information.

2. MDIFW convene a species planning working group **that includes landowners** to integrate the separate population and habitat management goals for deer, moose, bear, marten, and lynx into a unified set of habitat goals for northern and eastern Maine.
3. MDIFW identify areas of high road mortality and work with the Maine Department of Transportation to identify strategies to reduce deer/vehicle collisions, such as improved signage, driver education, etc.
4. MDIFW increase its efforts to educate the public about reasons not to feed deer especially in areas with **a high incidence** of road mortality.

Comment [s1]: Stockwell

Deleted: with

Comment [s2]: Kleiner

Deleted: high numbers

##### Habitat

The Task Force believes that cooperative efforts between landowners and MDIFW, rather than land-use zoning, is the preferred option for addressing deer management concerns in northern and eastern Maine.

The Task Force believes that cooperative efforts between landowners and MDIFW remain a valuable option for addressing deer management concerns in northern and eastern Maine.

**Comment [ms3]:** Stockwell suggested rewrite of preceding text. She comments -- I am uncomfortable with saying cooperative efforts are preferable, but totally comfortable saying they remain a valuable option. I hope this wording still captures the spirit of what we discussed.

No changes to the P-FW standards are recommended at this time. However, LURC zoning will remain the baseline tool to conserve deer wintering areas (DWAs) on landownerships that do not participate in cooperative habitat initiatives.

**Comment [s4]:** Kleiner

**Comment [s5]:** Stockwell

**Deleted:** who

**Deleted:** voluntary

It also believes that a biologically sound landscape-level management approach / strategy to DWA habitat management is ecologically sound and preferred.

The Task Force recommends that:

1. During the life of the “short-term strategy” period, MDIFW establish the Northern and Eastern Maine Deer Task Force to oversee and guide the implementation of the recommended strategies contained in this report to the Commissioner. In addition, MDIFW will convene the Deer Task Force at least annually to review process, evaluate progress in improving deer populations, update and refine goals with on-going research information, and consider economic factors.
2. MDIFW, Maine Forest Products Council (MFPC), and the Small Woodland Owners Association of Maine (SWOAM), take the lead in developing DWA management guidelines for review by other members of the Deer Task Force. DWA management guidelines will be shared with all forest landowners. MFPC and SWOAM will promote and encourage the implementation of these DWA management guidelines among their members and will educate new members about the program and encourage their participation. MDIFW will work with other major landowners.
3. MDIFW share historic and current deer use maps and information with landowners as a reference point for deer activity.
4. MDIFW and forest landowners work together to identify and map those areas where deer are currently wintering.
5. Forest landowners use this information [2, 3, and 4 above] on where deer are currently wintering, the DWA maps, and the management guidelines to implement a cooperative, landscape-level DWA management effort. The initial focus of this DWA management effort should be directed toward managing deer in locations where they are currently wintering, using and matching this information to the management objectives of the landowner.

**Comment [s6]:** Stockwell

**Deleted:** continued evaluation of

**Comment [s7]:** Kleiner, Stockwell

**Comment [s8]:** Kleiner

**Deleted:** its

**Comment [s9]:** Stockwell

Examples of concepts to be further evaluated and refined by the working group include.

- o Zoned DWAs not being used by deer (inactive) – Evaluate the role these yards will play in future deer recovery efforts or if a yard should be removed from zoning.
- o DWAs being used by deer (active) regardless of zoning status – Evaluate the possibility of holding winter cover in active stands as a

**Comment [s10]:** Kleiner

bridge to a “shifting mosaic” or sustainable flow of available winter cover desired in the long-term strategy. (For landowners with existing cooperative agreements, the total deer wintering area acreage must not exceed the existing P-FW and cooperative-agreement acres. Any addition of new areas used by deer will be balanced by a reduction in P-FW and/or cooperative-agreement areas not being used by deer.)

Comment [ms11]: Strauch

6. MDIFW identify and notify the small forest landowners in the organized and unorganized towns in northern and eastern Maine when they have important deer wintering area habitat on their ownership; provide them with the DWA management guidelines; and develop mechanisms for them to receive DWA management technical assistance. [This technical assistance may include the following: MDIFW regional biologist landowner assistance; NRCS programs such as EQIP, WHIP; MFS cost-share programs; and consulting foresters trained by MDIFW to assist with DWA management.]  
In locations where DWAs span both organized and unorganized townships, MDIFW will work with local communities to promote the cooperative DWA management program.
7. MDIFW, sportsmen, landowners, and the Maine Legislature explore the feasibility/desirability and methods for offering positive incentives to encourage landowners to manage for DWA habitat on their lands [Requires legislation].
8. MDIFW, sportsmen, landowners, and the Maine Legislature explore the feasibility of using public funds to acquire key tracts of deer wintering habitat through fee acquisition, land swaps, or conservation easements to reach habitat objectives.

Deleted: MDIFW train

Comment [s12]: Stockwell

Comment [s13]: Stockwell

Deleted: MDIFW and MFPC landowners have determined DWA management is needed and the area spans

## Predation

The Task Force recommends that:

1. MDIFW establishes a Deer Predation Working Group to review and update MDIFW’s current coyote control policy. The working group will include representatives from MDIFW, Maine Trappers Association (MTA), Maine Professional Guides Association (MPGA), Maine Audubon, Sportsman’s Alliance of Maine (SAM), University of Maine (UMO), MFPC, and SWOAM. The working group will be charged with considering the:
  - a. methods of coyote control [such as Animal Damage Control (ADC) winter coyote control focused at DWAs being used by deer; directed den hunting during spring – early summer; or other ideas developed by that working group];
  - b. tools and devices to be used [foot-hold traps, neck snares, body-gripping restraining devices, hounding, shooting over bait, den hunting, or other techniques]; and
  - c. the procedures by which, when, and where MDIFW will deploy ADC agents. The policy and procedures developed by that working group must adequately consider and minimize impacts to non-target species

Comment [ms14]: Smith, SAM

Deleted: poison,

Deleted:

especially threatened and endangered species. It is recommended that this policy include the principles of adaptive management so that the policy may evolve as new information becomes available.

The working group recommends that priority be given to directed coyote control in those areas with over-wintering deer that are being actively managed under the provisions of the management guidelines outlined above.

The working group recommends that priority be given to directed coyote control in those areas with over-wintering deer that are being actively managed under the provisions of the management guidelines outlined above and where there are documented predation problems from coyotes.

**Comment [ms15]:** Stockwell suggested addition to above text She comments -- I believe we discussed the importance of only using this approach where there are known problems and that this was especially important to some of the regional biologists

2. MDIFW extends the current coyote night-hunting season to run from 16 December through 30 August, annually. **[Requires legislation]**

MDIFW **evaluates the need and consequences of reducing the** bear population in northern and eastern Maine during the short-term strategy period to allow the deer population to recover [reduced fawn predation] and consider accomplishing this by **increasing the length of the bear season [Requires agency rule-making], increasing the bear bag limit [Requires legislation], reinstating the spring bear hunt [Requires legislation] with a "cub law," or other strategies appropriate to achieve the desired population reduction. Any decision must be integrated with the work of the species planning work group established above (Deer Population, 2).**

**Comment [s16]:** Stockwell

**Deleted:** reduces

**Comment [s17]:** Kleiner

**Comment [s18]:** Stockwell

**Deleted:** reinstating the spring bear hunt with a "cub law," increasing the bear bag limit, increasing the bear-hunting season, or other strategies appropriate to achieve the desired population reduction.¶

## Research

The Task Force recommends that:

1. MDIFW, MFPC, SWOAM, Cooperative Forestry Research Unit (CFRU), Cooperative Fish and Wildlife Research Unit (CFWRU), UMO, and other appropriate stakeholders establish a Deer Research Working Group to augment deer management informational gaps. Such topics may include the following:
  - o Assess and improve science on DWA management, especially at the landscape scale.
  - o Review and **improve** MDIFW's ability to estimate deer density.
  - o Impact of winter feeding on deer and DWAs.
  - o Importance of corridors to DWAs and deer movement.
  - o Changing deer migration patterns and deer use of non-traditional wintering areas.
  - o Economic analysis of costs of DWA management to forest landowners.
  - o Sources of fawn mortality and their impacts.

**Comment [s19]:** Kleiner

**Deleted:** possibly



## Funding

The Task Force recommends:

1. MDIFW, sportsmen, landowners, and the Maine Legislature investigate sources of public funding for monitoring and reporting on the program to evaluate effectiveness.
2. MDIFW, sportsmen, landowners, and the Maine Legislature investigate sources of funding (public and private) for research and development efforts to improve knowledge about deer populations and habitat impacts, relationships, and trends.
3. The Maine Legislature considers using a portion of the Land for Maine's Future funds to acquire DWAs.

## Hunting

The Deer Task Force recommends:

1. When a Wildlife Management District (WMD) in northern or eastern Maine is designated as 'bucks-only" for the regular firearms deer hunting season, this bucks-only provision should also apply to all other deer hunting seasons in that WMD [Requires legislation].
2. If through time, the collective recommendations contained in this report are not achieving an increase in deer numbers, MDIFW should consider
  - a. other hunting-related options to reduce deer harvests in northern and eastern Maine while still retaining opportunity; such might include road closure systems, trophy hunting programs, etc. [Requires agency rule-making],
  - b. reducing the length of the deer hunting seasons in northern and eastern Maine, and lastly [Requires agency rule-making],
  - c. closing northern and eastern Maine to all deer hunting [Requires agency rule-making].
3. If MDIFW determines that the illegal kill of does during the hunting seasons is undermining efforts to increase deer numbers, then it should consider reducing the length of the deer hunting seasons in northern and eastern Maine; and if that also fails, then MDIFW should consider closing northern and eastern Maine to all deer hunting [Requires agency rule-making].
4. Filling existing Warden Service district vacancies.
5. Increasing Warden Service surveillance of deer hunters.

- 6. Increasing fines and penalties associated with illegal kill of any deer [Requires legislation].

Comment [s20]: Stockwell

Deleted: female

- 7. Increasing use of Operation Game Thief and offer substantial rewards for information regarding illegal deer hunting in northern and eastern Maine, especially female deer.

## Education and Outreach

The Deer Task Force recommends:

- 1. MDIFW, Maine Trappers Association (MTA), Maine Professional Guides Association (MPGA), and others collaborate to provide seminars on coyote trapping, hunting, and control, and ways to limit capture of nontarget species, especially threatened and endangered species.
- 2. MDIFW “train” forest landowners in the concepts of DWA management and procedures to collect data on deer and DWA field observations [ deer populations, habitat, and predation; what to look for and how to record and enter the observations into a database]. Foresters will assist MDIFW with the collection of information about over-wintering deer and DWA information necessary for DWA management.
- 3. MDIFW and forest landowners, through the Certified Logger Program, work together to promote communication and interaction between biologists, foresters, and loggers regards deer management and DWA identification and management.

Comment [s21]: Stockwell

## Increase MDIFW Capacity to Manage DWAs

The Deer Task Force recommends:

- 1. MDIFW consider the reallocation of existing MDIFW funds and staff to accomplish DWA management objectives.
- 2. MDIFW, sportsmen, landowners, and the Maine Legislature identify and create new funding sources for DWA management and additional MDIFW staff to accomplish DWA management objectives.

Comment [s22]: Kleiner

Formatted: Bullets and Numbering

Formatted: Indent: Left: 18 pt

Deleted: <#>MDIFW, sportsmen, landowners, and the Maine Legislature identify and create new funding sources for DWA management and additional MDIFW staff to accomplish DWA management objectives.¶

¶ <#>MDIFW consider the reallocation of existing MDIFW funds and staff to accomplish DWA management objectives.¶

Formatted: Bullets and Numbering

## Appendix 1

### Legislative Resolves and Press Release

---

- Appendix 1A      LD 823, Item 1: Resolve, To Create an Effective Coyote Control Program
- Appendix 1B      LD 823, Item 2: Resolve, To Create an Effective Deer Habitat Enhancement and Coyote Control Program
- Appendix 1C      Commissioner Martin's Letter Inviting Stakeholder Representatives to participate in a Special Northern and Eastern Maine Deer Management Task Force
- Appendix 1D      Deer Task Force Press Release

## Appendix 1A

### **Resolve, To Create an Effective Coyote Control Program**

**Sec. 1 Coyote control program. Resolved:** That the Commissioner of Inland Fisheries and Wildlife shall review the existing coyote control program. In reviewing the program, the commissioner shall establish methods of controlling the coyote population and set goals to manage the coyote population; and be it further

**Sec. 2 Report. Resolved:** That the Commissioner of Inland Fisheries and Wildlife shall report the commissioner's findings and recommendations under section 1 to the Joint Standing Committee on Inland Fisheries and Wildlife by December 30, 2007. The Joint Standing Committee on Inland Fisheries and Wildlife may submit legislation related to the report to the Second Regular Session of the 123rd Legislature.

#### **SUMMARY**

This resolve directs the Commissioner of Inland Fisheries and Wildlife to review the existing coyote control program. The commissioner shall report the commissioner's findings and recommendations to the Joint Standing Committee on Inland Fisheries and Wildlife by December 30, 2007. The Joint Standing Committee on Inland Fisheries and Wildlife may submit legislature to the Second Regular Session of the 123rd Legislature.

## Appendix 1B

### **Resolve, To Create an Effective Deer Habitat Enhancement and Coyote Control Program**

**Sec. 1 Deer habitat enhancement and coyote control program. Resolved:** That the Commissioner of Inland Fisheries and Wildlife shall establish a working group to review existing programs and efforts related to creating, enhancing and maintaining critical deer habitat in the State and reducing predation of deer by coyotes. In reviewing the programs and efforts, the working group shall look for ways to improve and increase wintering habitat for deer and for ways to increase the survivorship of deer on a year-round basis. The working group shall also establish methods of controlling coyote populations and set goals to manage the coyote populations; and be it further

**Sec. 2 Report. Resolved:** That the Commissioner of Inland Fisheries and Wildlife shall report the working group's findings, recommendations and draft legislation under section 1 to the Joint Standing Committee on Inland Fisheries and Wildlife by December 30, 2007. The Joint Standing Committee on Inland Fisheries and Wildlife may submit legislation related to the report to the Second Regular Session of the 123rd Legislature.

## Appendix 1C

### Commissioner Martin's Letter Inviting Stakeholder Representatives to Participate in a Special Northern and Eastern Maine Deer Management Task Force

April 23, 2007

Matt Libby  
PO Box 810  
Ashland, ME 04732

Dear Matt:

As you know, there is a great deal of interest and concern for the condition and future of the deer herd in northern and eastern Maine. There has been much discussion about the causes, the solutions, and potential of success in any changes to deer management in these areas. As with many contentious issues that cause frustration, there are many passionate opinions about the correct course of action that the Department should take.

I would like to invite you, or a representative, to participate in a special northern and eastern deer management task force that I will form to discuss several issues and develop recommendations. Specifically, I would like the task force to:

- 1) Characterize the status and condition of our deer populations in northern and eastern Maine.
- 2) Review ways to enhance deer wintering habitat in northern and eastern Maine.
- 3) Review coyote management policies.
- 4) Submit recommendations within 60 days.

These invitations are going to a small group, in order to be flexible and mobile when it comes to making recommendations in a short period of time. I am assigning Rich Hoppe, our Wildlife Biologist from Region G in Ashland and Gene Dumont, our Regional Wildlife Supervisor to be members of this task force. I am also assigning our deer biologist, Lee Kantar to provide technical assistance to this task force.

Please let me know if you, or someone you designate, will be able to participate. I am anticipating that this effort will take 2-4 meetings over the 2 months to complete. As soon as I hear from all invitees, we can schedule the first meeting.

Thank you, in advance, for your interest in deer management in Maine.

Sincerely,

Roland D. Martin  
Commissioner

## Appendix 1D

### Deer Task Force Press Release

For More Information, Please Contact:  
Mark Latti  
Department of Inland Fisheries and Wildlife  
[mark.latti@maine.gov](mailto:mark.latti@maine.gov)  
207-287-6008  
pager 818-9617  
fax 207-287-6395  
284 State Street  
41 State House Station  
Augusta, ME 04333

For Immediate Release

May 7, 2007

#### **Commissioner Convenes Regional Deer Task Force**

AUGUSTA, Maine -- IFW Commissioner Roland D. Martin announced today the creation of a northern and eastern deer task force that will discuss deer management and develop recommendations for deer management in those regions.

"There is a great deal of interest and concern for the condition and future of the deer herd in Downeastern and Northern Maine," said Martin, "This task force will focus on the issues surrounding deer management in these areas, and offer recommendations on a variety of deer management issues."

The task force is comprised of ten people representing various organizations. Included in the group are three IFW Wildlife Biologists: Regional Wildlife Biologist Rich Hoppe of Ashland, Regional Wildlife Supervisor Gene Dumont, and Lee Kantar, Department Deer Biologist. Among the people and organizations who also will be part of the task force are Matt Libby of the Maine Professional Guides Association and owner of Libby's Camps; Don Dudley of the Maine Trappers Association; Brian Smith of the Maine Bowhunters Association; Gerry Lavigne of the Sportsman's Alliance of Maine; Sally Stockwell of Maine Audubon; Pat Strout of the Maine Products Council; and Tom Doak of Small Woodlot Owners Association of Maine (SWOAM).

Among the charges of the task force will be to characterize the status and condition of our deer populations in northern and eastern Maine; review ways to enhance deer wintering habitat in northern and eastern Maine; review coyote management policies; and submit recommendations within 60 days.

The task force will meet two to four times over the next eight weeks, then they will submit recommendations to Commissioner Martin.

## **Appendix 2**

### **Meeting #1 – May 23, 2007**

---

Appendix 2A	Summary of Meeting #1
Appendix 2B	Overview of Maine's Strategic Planning Process
Appendix 2C	White-tailed Deer Assessment and Strategic Plan, 1997
Appendix 2D	1999 Big Game Working Group Membership List
Appendix 2E	White-tailed Deer Management Issues and Concerns
Appendix 2F	White-tailed Deer Management Goals and Objectives 2000-2015
Appendix 2G	Feasibility Statements for White-tailed Deer Goals and Objectives
Appendix 2H	Problems and Strategies for White-tailed Deer Management in Maine



## Appendix 2A

<h1 style="margin: 0;">Northern and Eastern Maine Deer Task Force</h1> <p style="margin: 0;">Meeting #1 May 23, 2007 MDIFW Headquarters, Bangor 12:30 – 4:30 p.m.</p>			
<b>Facilitator:</b>	Matt Libby, Chair Gene Dumont, MDIFW	<b>Note Taker/Recorder:</b>	Andrea Erskine – Recorder Sandy Ritchie – Meeting Summary
<b>Next Meeting:</b> <span style="color: red;">June 12, 2007; 10:30 a.m. – 2:30 p.m. (lunch provided)</span>			
<b>Participants:</b>	<p><b>Task Force Members:</b> Matt Libby, Chair, Maine Sporting Camp Owners Association; Tom Doak, Small Woodland Owners Association of Maine; Pat Strauch, Maine Forest Products Council; Gerry Lavigne, Sportsman’s Alliance of Maine; Sally Stockwell, Maine Audubon; Brian Smith, Maine Bowhunter’s Association; Don Dudley, Maine Trappers Association; Lee Kantar, MDIFW Deer Biologist; Rich Hoppe, Regional Wildlife Biologist, Region G; and Gene Dumont, Wildlife Management Section Supervisor.</p> <p><b>MDIFW:</b> Commissioner Martin, Andrea Erskine, Sandy Ritchie.</p> <p><b>Observers:</b> Gordon Mott, Mike Dann (Seven Islands Land Company)</p>		
<b>Action Items:</b>	<ul style="list-style-type: none"> <li>• Provide an electronic link to the Deer Management System.</li> <li>• MDIFW provide a map of deer wintering areas in the north and Downeast.</li> <li>• MDIFW provide a legislative summary of deer and coyote related bills.</li> <li>• MDIFW clarify language for deer goals and objectives regard deer/mi<sup>2</sup> and % of land base to ensure sufficient wintering habitat.</li> </ul>		
<b>Agenda – Summary of Meeting Highlights</b>			
<p>The Department is recording each Task Force meeting; however the intent of this summary is to capture the highlights rather than provide a detailed transcript.</p> <p><b>1. Welcome and Introductions</b> - Commissioner Martin welcomed members of the Northern and Eastern Maine Deer Task Force (Task Force) and thanked them for participating. Task Force members, Department staff, and guests introduced themselves.</p> <p><b>2. Task Force Charge</b> - Commissioner Martin indicated that there has been a great deal of interest and concern for the condition and future of the deer herd in Downeast and northern Maine. This Task Force will focus on the issues surrounding deer management in these areas, and offer recommendations on a variety of deer management issues. Specifically, the Task Force is to:</p> <ul style="list-style-type: none"> <li>○ characterize the status and condition of the deer population in northern and eastern Maine;</li> <li>○ review ways to enhance deer wintering habitat in northern and eastern Maine;</li> <li>○ review coyote management policies; and</li> <li>○ submit recommendations within 60 days.</li> </ul> <p>The task force will meet two to four times over the next eight weeks before submitting recommendations</p>			

to Commissioner Martin.

In addition, an amendment to a legislative resolve (LD 823 “Resolve, to Create an Effective Deer Habitat Enhancement and Coyote Control Program”) in the 123<sup>rd</sup> Maine State Legislature requires the Commissioner of Inland Fisheries and Wildlife to establish a working group to review existing programs and efforts for creating, enhancing, and maintaining critical deer habitat in the State and reducing predation of deer by coyotes. The Department must report findings and recommendations to the Joint Standing Committee on Inland Fisheries and Wildlife by December 30, 2007. The Fish and Wildlife Committee may submit legislation to the Second Regular Session of the 123<sup>rd</sup> Legislature.

The Task Force inquired as to how their role related to the working group established in the legislative resolve and whether they in fact would be one in the same. The Commissioner indicated that was unclear at this point. He encouraged the Task Force to think outside the box and to develop recommendations that were doable including draft legislation, rule changes, and Department policies.

**3. Review of IF&W’s Deer Management Program** - Since 1968 MDIFW has aggressively pursued development and refinement of wildlife species assessments and implementation of comprehensive programs that support publicly-derived management goals and objectives. The majority of the meeting was devoted to a discussion of the Department’s deer management program including a review of the following:

- **Deer Assessment** – the deer assessment compiles everything we know about deer including biological characteristics of the species that are important to its management; history of regulations and regulatory authority; past management; past goals and objectives; current management; historic, current, and projected habitat and population conditions for deer; and past, current, and projected use and demand of the species and its habitat. The most recent version of the Deer Assessment was developed by Gerry Lavigne in 1999. An assessment informs stakeholders, establishes common ground, and is the biological sideboards used by a public working group to develop goals and objectives.
- **1999 Big Game Public Working Group (BGWG)** - A meaningful evolution in Maine’s planning process has been an expansion of public involvement in the development of management goals and objectives within the biological sideboards of a the species assessment. In 1999 MDIFW convened a public working group the develop goals and objectives for deer, bear, moose, and coyote. The composition of the working groups was structured to ensure representation of a variety of interests (sportsmen’s groups, environmental groups landowners, tourism groups, concerned citizens, outspoken critics, etc.) as well as a geographical mix. Every effort was made to keep the group balanced. Members of the Big Game Working Group gave freely of their time and advice and provided an essential element to the development of Maine’s deer management plan.
- **Issues and Concerns Raised by the Big Game Working Group** – The BGWG raised a number of issues and concerns associated with deer management in the state, which were generally grouped into 4 categories: population and management (including predator control), habitat, deer damage (central and southern Maine), and use opportunity.
- **Deer Management Goals and Objectives** – Both short and long-term management goals and objectives for deer were developed by the Big Game Working Group for the period 2000-2015. These goals and objectives were adopted by the Fish and Wildlife Advisory Council (a 10-member citizen’s advisory council) on February 22, 2001 and have comprised the foundation of the agency’s deer management program since.

- **Feasibility Statements** - After the working group develops goals and objectives, the Department evaluates them based on 1) desirability, 2) feasibility, 3) capability of the habitat, and 4) possible consequences. This report is shared with the working group, and if warranted, the working group modifies the goals and objectives before the Department presents them to its Fish and Wildlife Advisory Council for adoption.
- **Problems and Strategies** – In addition, the Department and the working group identify a number of associated problems and potential strategies of managing toward the goals and objectives.

A final step in the Department's species planning process is the development of a Management System, which is a blueprint for working towards the goals and objectives. The Deer Management System, developed by MDIFW and reviewed by MDIFW and outside experts, identifies data needs, data analyses, and management actions. It undergoes regular evaluation and review and is designed to be dynamic and adaptive.

With the exception of the Management System (Department to provide an electronic link), copies of all of the aforementioned materials were provided to the Task Force prior to being discussed at the meeting. The meeting provided an opportunity for general discussion and answering questions.

Considerable discussion focused on the goals and objectives, specifically the long-term objective in the north and Downeast areas to *increase deer wintering habitat to 8% (9-10% Downeast) of the land base to ensure sufficient wintering habitat to accommodate a post hunt population of 10 deer/ m<sup>2</sup> (15 deer/m<sup>2</sup> Downeast) by the 2030 (or sooner)*. Some Task force members expressed concern about the need to tie ourselves to actual numbers but rather a goal simply to increase the deer population in these areas. Others believed we needed an objective that was measurable so that we, to the best of our knowledge, could determine where we were in relation to our objective and to measure progress. Though never fully resolved, we reached general agreement to consider the goals and objectives as targets and would develop recommendations considering the whole gamut of issues and tools available to us.

**4. Previous Downeast Deer Committee Reports** – In 1993 MDIFW convened a committee to review options that would result in an increase in the Downeast deer population. A copy of the 1993 report and a subsequent Department memo were provided to the Task Force and discussed.

**5. Issues, Concerns, and Other Specific Items from Task Force Members** – Additional opportunity was provided for Task Force members to ask questions about MDIFW's deer management program and get their input on how they wanted to proceed with future meetings. The group decided to focus on two primary areas of concern: 1) mortality/predation and 2) habitat and agreed to devote the next meeting to mortality/predation.

## **6. Next Meeting**

- When: Tuesday, June 12 from 10:30 a.m. – 2:30 p.m. (lunch provided)
- Where: First floor conference room at MDIFW in Bangor
- Meeting Topic: A discussion of deer mortality, especially predation by coyotes.
- Suggested Invited Presenters:
  - Dan Harrison – University of Maine Wildlife Professor
  - Mark McCollough – U.S. Fish and Wildlife Service
  - Ken Elowe – MDIFW
  - Sgt. Dave Craven – Maine Warden Service
  - Rod Cumberland – New Brunswick Deer Biologist
  - Dave Tobey – Animal Damage Control agent, trapper and snarer

## Appendix 2B

### Overview of Maine's Strategic Planning Process

#### Comprehensive Planning for Wildlife: The Maine Experience

Sandy Ritchie  
Wildlife Planner

Maine Department of Inland Fisheries and Wildlife

**History of Maine Experience** - The Maine Department of Inland Fisheries and Wildlife (MDIFW) initiated comprehensive planning in 1968 and has refined and expanded the process with each planning update. Initial plans were quite rudimentary; department biologists crafted species management goals and objectives that were reviewed by a 9-member public steering committee and a citizen's Advisory Council. In 1985, the department embarked on a major effort to entrust the public with establishing long term, species management objectives, and required the public to entrust the department with developing management actions to meet the objectives.

**Species Driven** – Maine's planning process is species driven. Strategic plans are developed for individual species (spotted turtle, black racer, Tomah mayfly) or groups of species (migratory shorebirds, passerines, island nesting seabirds). Ultimately, MDIFW intends to develop plans for all game and endangered and threatened species, as well as other species of special management concern (more than 90 individual species and groups of species). To date, we are nearly half way there. The process is the same, regardless of species status.

For nongame species with no immediate management concern, Maine has initiated a broad-based approach to habitat conservation called *Beginning with Habitat*. This project is a collaborative effort of private and public organizations including MDIFW, Maine Natural Areas Program, Maine State Planning Office, U.S. Fish and Wildlife Service, Maine Audubon Society, Southern Maine Regional Planning Commission, and the Wells National Estuarine Research Reserve. *Beginning with Habitat* is based on a landscape, or regional, model developed with the assistance of the University of Maine Cooperative Wildlife Research Unit and is focused on conservation of wildlife habitats in southern and central Maine. The foundation of this approach is to encourage towns to:

- conserve riparian habitats through effective implementation of the current Shoreland Zoning regulations,
- conserve identified special wildlife and plant habitats through resource protection zoning and other conservation tools, and
- maintain large blocks of forest and grassland habitats by maintaining rural areas and encouraging concentration of development.

**Public Working Groups Set Management Direction** – A meaningful evolution in Maine's planning process has been an expansion of public involvement in the development of management goals and objectives within the biological sideboards of a species assessment

prepared by department biologists<sup>[1]</sup>. The species assessment develops informed stakeholders and establishes common ground.

The composition of working groups is structured to ensure representation of a variety of interests (sportsmen's groups, NGOs, landowners, tourism groups, concerned citizens, outspoken critics, etc.) as well as a geographical mix. Every effort is made to keep the group balanced. Members of working groups give freely of their time and advice and provide an essential element to the development of species management plans.

The department conducts working group meetings in a manner designed to encourage active participation by group members while minimizing participation by department staff. Ground rules, agreed to by participants, seek to understand and respect others' perspectives, maximize participation, and move the process forward. A facilitator, often the department's planner, conducts each meeting, although occasionally a facilitator from outside the agency is hired.

Meetings are opened with a department overview of the assessment for each species, followed by a discussion of the issues and concerns the working group believes are important to the management of that species or species group. Questions, issues and concerns, and the resulting goals and objectives are recorded and displayed during the course of the meeting. Subsequently, the Department distributes a meeting summary and related materials to all working group members.

After the working group develops goals and objectives, the Department evaluates them based on 1) desirability, 2) feasibility, 3) capability of the habitat, and 4) possible consequences, and identifies a number of associated problems and potential strategies of managing toward the goals and objectives. These reports are shared with the working group, and if warranted, the working group modifies the goals and objectives before the Department presents them to a 10-member citizen's Advisory Council for adoption. Once adopted, the goals and objectives become the Wildlife Division's "marching orders".

Management systems, developed by department biologists, document how the department will reach the goals and objectives by clearly defining data collection protocol, analyses, and interpretation. They also establish rules-of-thumb that drive management actions. These systems undergo regular evaluation and peer review allowing them to be dynamic and adaptive.

In summary, Maine's strategic planning process recognizes the department's legal mandates, public expectations, and the department's ability to meet those mandates and expectations. Public involvement occurs during all stages of the process:

- species experts from outside the agency review the species assessment;
- a public working group develops management goals and objectives;
- goals and objectives are presented to a 10-member citizen's Advisory Council for approval;
- publicly-derived goals and objectives are the foundation of management systems which are reviewed by technical experts from outside the agency;
- management actions may necessitate public informational meetings; and

---

<sup>[1]</sup> The assessment, a compilation of everything that we know about a particular species, critically reviews current and past management, goals and objectives, habitat, population size, and use and demand for hunting, trapping, and other wildlife-associated recreation. A final element of the assessment is a discussion of future projections for habitat, population size, and use and demand for the resource.

- rulemaking proceedings require public hearings and input from a citizen's Advisory Council.

Although not perfect, the process has proven to be exceedingly beneficial to the department and to the public it serves over the 18 years the process has been in effect.

Appendix 2C

**White-tailed Deer Assessment and Strategic Plan 1997**

By: Gerald Lavigne  
Department of Inland Fisheries and Wildlife  
Augusta, ME  
May, 1999

(View a copy of the assessment at  
<http://www.maine.gov/ifw/wildlife/species/plans/mammals/whitetaileddeer/speciesassessment.pdf>)

## Appendix 2D

### 1999 Big Game Working Group

(Black Bear, Eastern Coyote, Moose, and White-tailed Deer)

#### Invited Participants

<b>Name</b>	<b>Affiliation</b>
Vaughn Anthony*	Sportsman's Alliance of Maine
John Banks	Penobscot Nation (Alternate)
Toni Blake*	Moosehead Lake Region Chamber of Commerce
Wayne Bosowicz*	Maine Professional Guides Association
Harold Brown*	Fish and Wildlife Advisory Council
Barry Burgason	Forest Products Council (Alternate)
Debra Davidson*	Defenders of Wildlife
Gary Donovan*	Forest Products Council
Rocky Freda*	Bethel Area Chamber of Commerce
Dr. Kathleen Gensheimer	Maine Lyme Disease Working Group (Alternate)
Dale Goodman	Maine Professional Guides Association (Alternate)
John Greene*	Deer Depredation Impacts
Vaughn Haines*	Northern Maine Representative
Don Helstrom	Maine Professional Guides Association (Alternate)
Senator Leo Keiffer*	Legislative F&W Committee
Senator Marge Kilkelly	Legislative F&W Committee
Eleanor LaCombe*	Maine Lyme Disease Working Group (Alternate)
Skip Lisle*	Penobscot Nation
Jill Martel*	Maine Sporting Camp Association (Alternate)
Cathie McBreairty*	Moose Vehicle Collisions
Omer McBreairty	Moose Vehicle Collisions (Alternate)
Jack McPhee*	Maine Sporting Camp Association
John Miller*	Southern Maine Representative
Roger Milligan*	Eastern Maine Representative
Bill Nicholas	Passamaquoddy Nation
Mickey Noble*	Western Maine Representative
John Olsen	Maine Farm Bureau
Ellen Peters	Fish and Wildlife Advisory Council
Dr. Peter Rand*	Maine Lyme Disease Working Group
Jeff Romano	Small Woodlot Owners Association
Michael Rovella*	Maine Bowhunters Association
Sally Stockwell	Maine Audubon
Norman "Skip" Trask*	Maine Trappers Association

\*Active participants



## Appendix 2E

### **White-tailed Deer Management Issues and Concerns**

*Raised by the 1999 Big Game Working Group, December 16, 1999*

#### Population/Management

- Current management is good, deer numbers are good, any-deer permit system is working.
- Need to consider geographic differences in the deer population. Northern and eastern Maine are still problem areas.
- Consider more predator control in downeast Maine.
- Concerned about the quality of bucks and low deer numbers in northern Maine.
- Put more emphasis on increasing the deer herd in eastern Maine. Conduct more research in order to determine what factor(s) are suppressing the deer herd in the downeast area.
- Interactions between deer and bear, moose, and coyote.
- Don't manage all areas of the state the same way.
- Manage for quantity rather than quality, central Maine is okay.

#### Habitat

- Need greater emphasis on locating all deer wintering areas.
- Logging operations are harvesting too much spruce-fir forests and are affecting deer winter survival in some parts of the state.
- Habitat changes in northern Maine are negatively affecting deer.

#### Deer Damage/Impacts

- Deer are becoming too abundant in central and southern Maine resulting in damage to habitat, crops, ornamentals, and other property.
- Concerns about the impact of high deer densities on forest regeneration, vehicle collisions, and the risk to human health (Lyme disease, etc.).

#### Use Opportunity

- Need to balance hunting opportunity between firearms hunters and other hunting groups (archers, muzzleloaders).
- Maximize hunting opportunities in certain areas instead of managing for trophy bucks.
- Increase the length of the muzzleloading season and allow extra deer.
- Concerns about posted land and firearm discharge ordinances creating obstacles to effective regulation and management of deer populations.
- Hunting and viewing opportunity is important, including quality and quantity of deer available, availability of mature (trophy) deer, and ensuring a quality experience.

## Appendix 2F

### White-tailed Deer Management Goals and Objectives 2000-2015

*Adopted by MDIFW Commissioner and Advisory Council  
February 22, 2001*

#### Wildlife Management Districts 1-11

- Short-term Goal:** Provide hunting and viewing opportunity for white-tailed deer, while preventing over-browsing of deer wintering habitat.
- Short-term Objective:** Bring the deer population to 50 to 60% of the carrying capacity of the wintering habitat by the year 2004, then maintain at that level.
- Long-term Goal:** Increase hunting and viewing opportunity for white-tailed deer, while preventing over-browsing of deer wintering habitat.
- Long-term Objective:** Increase deer wintering habitat to 8% of the land base to ensure sufficient wintering habitat to accommodate a post hunt population of 10 deer/mi<sup>2</sup> by the year 2030 (or sooner), and then maintain as for the short-term objective.

#### Wildlife Management Districts 12, 13, 14 and 18

- Short-term Goal:** Provide hunting and viewing opportunity for white-tailed deer, while preventing over-browsing of deer wintering habitat.
- Short-term Objective:** Bring the deer population to 50 to 60% of the carrying capacity of the wintering habitat by the year 2004, then maintain at that level.
- Long-term Goal:** Increase hunting and viewing opportunity for white-tailed deer, while preventing over-browsing of deer wintering habitat.
- Long-term Objective:** Increase deer wintering habitat to 9 to 10% of the land base to ensure sufficient wintering habitat to accommodate a post hunt population of 15 deer/mi<sup>2</sup> (when on summer range) by the year 2030 (or sooner), and then maintain as for the short-term objective.

#### Wildlife Management Districts 19, 27, 28 and 29

- Short-term Goal:** Provide hunting and viewing opportunity for white-tailed deer, while preventing over-browsing of deer wintering habitat.
- Short-term Objective:** Bring the deer population to 50 to 60% of the carrying capacity of the wintering habitat by the year 2004, then maintain at that level.
- Long-term Goal:** Increase hunting and viewing opportunity for white-tailed deer, while preventing over-browsing of deer wintering habitat.
- Long-term Objective:** Increase deer wintering habitat to 9 to 10% of the land base to ensure sufficient wintering habitat to accommodate a post hunt population of 15 deer/mi<sup>2</sup> (when on summer range) by the year 2030 (or sooner), and then maintain as for the short-term objective.

Wildlife Management Districts 16, 17, 22, 23, and 26

- Goal:** Balance the desire for deer hunting and viewing opportunity with the need to reduce negative impacts of deer from browsing damage, collisions with motor vehicles, and potential risk of Lyme disease.
- Objective:** Bring the post hunt deer population to 20 deer/mi<sup>2</sup> (or no higher than 60% of Maximum Supportable Population) by 2004, then maintain.

Wildlife Management Districts 15, 20, 21, 24, 25, and 30

- Goal:** Balance the desire for deer hunting and viewing opportunity with the need to reduce negative impacts of deer from browsing damage, collisions with motor vehicles, and potential risk of Lyme disease.
- Objective:** Bring the post hunt deer population to 15 deer/mi<sup>2</sup> (or no higher than 60% of Maximum Supportable Population) by 2004, then maintain.

## Appendix 2G

### Feasibility Statements for White-tailed Deer Goals and Objectives

Prepared by: Gerald Lavigne  
January 2000

#### Wildlife Management Districts 1-11 (Northern Maine)

**Short-term Goal:** Provide hunting and viewing opportunity for white-tailed deer, while preventing over-browsing of deer wintering habitat.

**Short-term Objective:** Bring the deer population to 50 to 60% of the carrying capacity of the wintering habitat by the year 2004, then maintain at that level.

**Long-term Goal:** Increase hunting and viewing opportunity for white-tailed deer by increasing deer wintering habitat to potentially support 10 deer /mi<sup>2</sup> on summer range.

**Long-term Objective:** Increase deer wintering habitat to 8% of the land base to ensure sufficient wintering habitat to accommodate a post hunt population of 10 deer/mi<sup>2</sup> by the year 2030 (or sooner), and then maintain as for the short-term objective.

The two-tiered goal and objective statements recognizes that availability of wintering habitat is the primary obstacle to increasing deer populations on a sustainable basis. Winters are characteristically severe for deer in these WMDs. As a result, deer are highly dependent on wintering habitat for survival nearly every year.

Desirability: There is widespread support for increasing the deer population in WMDs 1-11. Deer hunting is an important component of the rural economy of northern and western Maine. During the past 20 years, there has been an egress of hunters from this part of the state, largely in response to declining deer populations. Over the long term, restoration of deer populations could attract more deer hunters and watchers to WMDs 1-11.

Feasibility: Attainment of short-term goals can readily be accomplished using the Any-Deer permit system. However, we may find it difficult gaining hunter support for the doe harvests necessary to stabilize deer populations at their current low densities.

To attain the long-term goal of 10 deer /mi<sup>2</sup> on summer range, deer populations would be increased by 1.5 to 5x current densities on summer range (Table 18). This would require a corresponding increase in the quantity of wintering habitat. Accomplishment of this goal will require a substantial Department commitment to find socially acceptable ways of protecting and enhancing deer wintering habitat. Since most of this habitat is privately or corporately owned, landowner support for the deer wintering habitat program is essential to its success (this applies statewide).

Since spruce-fir inventory is expected to decline for another 10 years, the deer wintering area program must overcome the increased demand for spruce-fir timber products over the next several decades. We are likely to experience a net loss of deer wintering areas statewide

during the next decade. After that time, re-growth of spruce fir forests should accelerate, providing an opportunity to increase our wintering habitat base. If winters continue to moderate, effects of this wintering habitat loss should be less of an obstacle to maintaining the current deer population.

Capability of Habitat: Attainment of short-term goals of maintaining the deer herd "in balance" with existing wintering habitat implies limiting deer density at 50 to 60% of the carrying capacity of deer wintering habitat. Using antler beam diameter of yearling bucks as a guide, deer populations in WMDs 7 to 10 are already at this target carrying capacity (Table 18), while deer in WMDs 1 to 6 and WMD 11 are still below this level. However, we are uncertain if yearling buck antler size is an adequate index to winter carrying capacity, particularly where winters are very severe (WMDs 1-6).

During recent winters, regional biologists have noted heavy browsing, including bark stripping in several major DWAs. In some locations, deer are using hardwood-dominated stands in the periphery of major DWAs during deep snow conditions, to a greater extent than they formerly did. Both the heavy browsing, and use of hardwood sites during recent severe winters suggests deer in WMDs 1-6 may also be at or above 50 to 60% of the carrying capacity of deer wintering areas. Beginning in 1998, we initiated doe harvests designed to stabilize deer populations in WMDs 1 to 11. This management strategy will likely continue, unless research on the relationship of northern Maine deer to winter carrying capacity indicates other strategies (e.g., increasing or decreasing herd size) should be pursued. We also recognize that browsing by locally abundant moose populations near major DWAs between May and December may negatively affect forage availability to deer in these wintering habitats.

Given current wintering conditions, a population of 10 deer /mi<sup>2</sup> on summer range in WMDs 1-11 would require nearly 780,000 acres (1,217 mi<sup>2</sup>) of deer wintering habitat (Table 7), or 7.8% of the area of these WMDs. The current known area of deer wintering habitat in WMDs 1 to 11 is 258,600 acres (404 mi<sup>2</sup>), or 2.6% of the area of these WMDs. Hence, attaining the long-term deer population goals in northern and western Maine may require an additional one-half million acres of deer wintering habitat. Prior to the mid 1970's, deer wintering habitat comprised 10 to 12% of the area of northern and western Maine.

Since summer range can support >60 deer /mi<sup>2</sup> at K in WMDs 1-11, deer populations at proposed long-term goal of 10 /mi<sup>2</sup> would not negatively impact vegetation, and individual deer would remain in excellent reproductive and physiological condition.

Possible Consequences: Attainment of the short-term goal will result in increased opportunity for harvest of antlerless deer, as populations are stabilized. However, continued loss of wintering habitat over the next decade will result in lower deer populations and harvests.

Harvests of antlerless deer would not be warranted when abnormally severe wintering conditions occur in northern and western WMDs. In northern WMDs, doe harvest regulation alone may not fully counteract high winter losses following severe winters. Populations will still decline, although not to the same degree as when doe harvests are not curtailed.

If long-term population goals are achieved, allowable harvests in WMDs 1-11 would be substantially higher than is currently possible (Table 18). Deer harvest to stabilize populations of 10 deer /mi<sup>2</sup> in WMDs 1 to 11 would approximate 12,400 deer /year compared to 5,500 deer harvested /year (or less) currently. Projected harvests at goal attainment may prove to be conservative. If improved quantity and quality of wintering habitat results in better over-winter

survival, harvest necessary to stabilize the herd will be correspondingly higher.

Attainment of long-term population goals in northern and western Maine would result in increased hunting success rate (Tables 6 and 18). Projected success rates, when the deer population is 10 deer /mi<sup>2</sup>, are unrealistically high for heavily wooded habitats in Maine. A reasonable estimate for hunter success in these WMDs would be roughly 25%. If winter habitat was increased to proposed levels, a net increase in hunting effort or predation would be required to stabilize deer populations at 10 deer /mi<sup>2</sup> in WMDs 1-11.

When at goal (10 deer /mi<sup>2</sup>), deer density may be at the threshold where transmission of brainworm to moose occurs more regularly. This may affect natural mortality rate of moose, and therefore, allowable moose harvest. In addition, maintaining a greater proportion of WMDs 1-11 in mature coniferous forest would adversely affect overall carrying capacity for moose. Higher deer populations, when at goal, would also impact browse available to moose and hare.

#### Wildlife Management Districts 12, 13, 14 and 18 (Western Mountain Foothills)

**Short-term Goal:** Provide hunting and viewing opportunity for white-tailed deer, while preventing over-browsing of deer wintering habitat.

**Short-term Objective:** Bring the deer population to 50 to 60% of the carrying capacity of the wintering habitat by the year 2004, then maintain at that level.

**Long-term Goal:** Increase hunting and viewing opportunity for white-tailed deer, while preventing over-browsing of deer wintering habitat.

**Long-term Objective:** Increase deer wintering habitat to 9 to 10% of the land base to ensure sufficient wintering habitat to accommodate a post hunt population of 15 deer/mi<sup>2</sup> (when on summer range) by the year 2030 (or sooner), and then maintain as for the short-term objective.

**Desirability:** Comments similar to previous section

**Feasibility:** As with more northerly WMDs, attainment of the short-term goal can readily be accomplished by regulating the antlerless deer harvest. Attainment of the long-term goal would require an increase in deer population by 1.15 to 2x among the 4 WMDs (Table 18).

**Capability of Habitat:** Current deer populations in WMDs 12 to 14 and 18 range from 8 to 13 deer /mi<sup>2</sup> (Table 18). Based on yearling antler size, deer populations in each of these WMDs is currently between 50 and 60% of Maximum Supportable Population (MSP). Winters in these WMDs are shorter and less severe than more northerly WMDs. Because winters are typically less severe, higher deer densities can be sustained in wintering habitat (Table 7). This allows us to manage for a higher, long-term summer density in WMDs 12 to 14 and 18 than would be possible in the north. Since the carrying capacity of summer range exceeds 60 deer /mi<sup>2</sup>, attainment of 15 deer /mi<sup>2</sup> on summer range in these WMDs would not negatively impact vegetation or deer productivity and physiological condition.

Attainment of long-term goals in WMDs 12 to 14 and 18 would require nearly 220,000 acres (337 mi<sup>2</sup>) of wintering habitat, or 9.4% of the landbase in these WMDs (Table 18). Historical quantity of deer wintering habitat approximated 10 to 15% of the landbase in this part of the state. Current inventory of deer wintering habitat in these WMDs is incomplete, particularly for

WMD 14. Current known inventory of deer wintering habitat in these WMDs is roughly 94,000 acres or 4.1% of the landbase.

Possible Consequences: Attainment of short-term goals would result in a slight increase in antlerless harvest, as doe harvests are increased to stabilize populations at current density.

When long-term goals are attained, allowable deer harvest would approximate 5,750 deer, which is substantially higher than current (1997) harvests (3,500 deer; Table 18). As with northern WMDs, deer harvests which stabilize the deer population at 15 deer /mi<sup>2</sup> in WMDs 12 to 14 and 18 may be higher than projections given in Tables 6 and 18, if attainment of high quality wintering habitat results in improved over-winter survival of deer.

Projected hunter success rates when long-term population goals are reached (Table 18) for WMDs 12 to 14 and 18 are unrealistically high (i.e., >25%), suggesting a net increase in hunters (or predation) would be required to stabilize deer populations at 15 /mi<sup>2</sup>.

Comments pertaining to competition with moose (see WMDs 1-11) apply here as well.

#### Wildlife Management Districts 19, 27, 28, and 29 (Downeast Maine)

**Short-term goal:** Provide hunting and viewing opportunity for white-tailed deer, while preventing over-browsing of deer wintering habitat.

**Short-term Objective:** Bring the deer population to 50 to 60% of the carrying capacity of the wintering habitat by the year 2004, then maintain at that level.

**Long-term goal:** Increase hunting and viewing opportunity for white-tailed deer, while preventing over-browsing of deer wintering habitat.

**Long-term Objective:** Increase deer wintering habitat to 9 to 10% of the land base to ensure sufficient wintering habitat to accommodate a post hunt population of 15 deer/mi<sup>2</sup> (when on summer range) by the year 2030 (or sooner), and then maintain as for the short-term objective.

Desirability: Deer populations in the Downeast region have dropped dramatically since peak abundance in the late 1940's. As deer populations decreased, hunters shifted to more favorable parts of the state. The Downeast economy is highly dependent on its natural resources. The added revenue that improved hunting opportunity would bring to this area of the state would be highly valued. Hence, increasing deer populations in WMDs 19, 27, 28 and 29 is highly desirable.

Feasibility: Attainment of the short-term goal would require an increase in the deer population in WMDs 19, 27, 28, and 29. Although the quantity of available wintering habitat is far below what was available prior to 1975, current deer populations in these WMDs appear to be below what the current inventory of wintering habitat can support. Increasing local deer populations in this area will require a reduction in adult doe annual losses, and/or an increase in early survival of fawns (recruitment). Since these WMDs already have been subjected to bucks-only hunting since 1983, improving doe or fawn survival cannot be achieved by regulating the legal harvest alone. Successful attainment of the short-term goal in WMDs 19, 27, 28, and 29 may require achieving a significant reduction in illegal kill, road-kill, predation on adult does, and predation on young fawns. Since the relative importance of the above mortality factors is unknown, it is



difficult to predict how much effort at reducing these losses will result in a positive response in the deer population.

Capability of the Habitat: Based on the antler development of yearling bucks, deer in WMDs 19, 27, 28, and 29 are currently below MSP (Table 18). Hence, current wintering habitat can accommodate more deer. Although we are not closely monitoring browsing trends in Downeast DWAs, we generally have not noted examples of excessive browsing or bark stripping there. Moreover, winters are typically mild in this part of the state; recently they have been below average in severity. Severe winters occur only once or twice per decade.

To attain the long-term goal of 15 deer per mi<sup>2</sup>, deer populations would be 2 to 5x current population density on summer range (Table 18). Since the summer range in WMDs 19, 27, 28, and 29 can support at least 60 deer /mi<sup>2</sup> (at summer K), attainment of the long-term population goal would not negatively impact vegetation, or deer productivity and physiological condition.

Attainment of the long-term population goal would require nearly 200,000 acres (309 mi<sup>2</sup>) of deer wintering habitat, or 9.4% of the landbase of WMDs 19, 27, 28, and 29. Current inventory of deer wintering habitat is among the lowest in the state: about 33,000 acres (51 mi<sup>2</sup>) or 1.5% of the landbase. Prior to 1975, deer wintering habitat comprised 10 to 15% of the landbase Downeast.

Possible Consequences: Large-scale efforts to reduce deer losses to predation will be met with opposition from stakeholders who oppose predator control.

Attainment of the short-term goal will result in higher deer harvest and hunting opportunity. Potential harvest, when the long-term goal is achieved, would be dramatically higher (4,500 deer) than current deer harvests (1,450 deer; Table 18). As with other WMDs, potential harvests will be higher than those projected in Table 18, if wintering habitat quality improves along with wintering habitat quantity.

Comments pertaining to competition with moose (see WMDs 1-11) apply here as well.

#### Wildlife Management Districts 16, 17, 22, 23, and 26 (Central Maine)

**Goal:** Balance the desire for deer hunting and viewing opportunity with the need to reduce negative impacts of deer from browsing damage, collisions with motor vehicles, and potential risk of Lyme disease.

**Objective:** Bring the post hunt deer population to 20 deer/mi<sup>2</sup> (or no higher than 60% of Maximum Supportable Population) by 2004, then maintain.

Desirability: Deer populations are thriving in central Maine. Since 1983, deer populations have responded to reduced doe harvests and mild to moderate wintering conditions, enabling significant progress toward achieving population objectives set in 1985 (deer population at 50 to 60% of MSP).

Deer in WMDs 16, 17, 22, 23, and 26 accommodate a significant amount of hunting opportunity. Deer harvests are now higher in these central Maine WMDs than during most former decades this century.

As the deer population increased in these districts, so too did concerns regarding increased

road-kills, crop damage, excessive browsing of ornamental plantings, and risk of humans contracting Lyme disease. Note: Human cases of Lyme disease are currently non-existent or very rare in these WMDs. Although the most serious negative impacts of the central Maine deer population are occurring where hunting access is limited and deer are more abundant, central Maine deer populations may soon increase to the point where nuisance complaints are more numerous and widespread.

The population objectives selected for WMDs 16, 17, 22, 23, and 26 reflect a desire to accommodate a substantial demand for deer hunting while holding nuisance complaints within reasonable bounds.

**Feasibility:** Attainment of the population goal for central Maine WMDs will require stabilizing or reducing current populations (Table 18). Since deer populations have continued to increase since 1997, herd reductions probably will be necessary to achieve the goal in all central Maine WMDs. This will require substantial allocations of Any-Deer permits. Whether or not we will be successful at reducing local deer populations to desired densities will depend upon hunter willingness to kill antlerless deer, and upon sufficient access to hunt deer. Landowner willingness to accommodate hunting is essential to controlling deer population growth in WMDs 16, 17, 22, 23, and 26 (this applies statewide).

**Capability of Habitat:** Attainment of 20 deer per mi<sup>2</sup> in central Maine WMDs would keep the herd below 50% of MSP (Table 18). Existing wintering habitat can easily accommodate this population, given prevailing mild winters. However, current wintering habitat may be insufficient to accommodate this population during severe winters (once per decade when our Winter Severity Index exceeds 70). Winter habitat selection by deer in central and southern Maine is poorly understood. Applying winter habitat standards developed for deer in northern WMDs to southern Maine WMDs may result in an under-estimate of winter habitat actually used by deer.

**Possible Consequences:** Initially, antlerless deer harvests in WMDs 16, 17, 22, 23, and 26 will increase substantially, as deer populations are stabilized or reduced to 20 deer /mi<sup>2</sup>. For the past 15 years, doe harvests have been curtailed to promote slow population growth. However, deer harvests needed to maintain deer at 20 /mi<sup>2</sup> at goal in central Maine WMDs (16,050) will be slightly less than current (1997) harvests (17,600 deer; Table 18). This would be true for antlered bucks as well as antlerless deer. Since deer populations in central Maine WMDs would be held below 50% of MSP, harvests generally will be less than maximum sustained yield.

Overall deer harvests in central Maine WMDs could be increased while at goal densities if previously under-hunted land becomes available for harvest. Hence, programs designed to improve hunter access can contribute to satisfying the demand for hunting opportunity, while simultaneously reducing nuisance deer populations and increasing the deer harvest.

When the proposed population goals are achieved for central and southern Maine, we expect a slightly lower deer harvest. Although fewer deer will be harvested, hunter success rates will increase during the next 15 years, if trends in hunter participation continue to decline.

#### Wildlife Management Districts 15, 20, 21, 24, 25, and 30 (Southern and Coastal Maine)

**Goal:** Balance the desire for hunting and viewing opportunity with the need to reduce negative impacts of deer from browsing damage, collisions with motor vehicles, and potential risk of Lyme disease.

**Objective:** Bring the post hunt deer population to 15 deer/mi<sup>2</sup> (or no higher than 60% of Maximum Supportable Population) by 2004, then maintain.

Desirability: Southern and coastal WMDs support Maine's highest human population densities. During the past 30 years, residential sprawl in this part of the state has significantly impacted our ability to access and control local deer populations. Deer habitat in WMDs 15, 20, 21, 24, 25, and 30 is a highly heterogeneous patchwork, within which deer densities range from <10 deer /mi<sup>2</sup> to 100 or more deer /mi<sup>2</sup>. Both deer density, and the level of negative impacts from deer browsing, road-kill, and Lyme disease risk are inversely related to deer hunting access. From the standpoint of minimizing negative impacts of deer, attainment of the population goal of 15 deer /mi<sup>2</sup> throughout WMDs 15, 20, 21, 24, 25, and 30 is highly desirable.

Feasibility: Attaining the goal of 15 deer /mi<sup>2</sup> in southern and coastal Maine WMDs would require dramatically higher deer harvests over a number of years in those areas which are now under-hunted or un-hunted. Gaining hunting access for the purpose of deer removal and population reduction will require a great deal of cooperation between the Department, municipalities, individual landowners, and hunters. Overcoming negative perceptions about hunters and killing of deer will be a necessary, but difficult task in southern Maine. In some instances, legislation would be required to legalize deer hunting on several islands and mainland sanctuaries that have been closed to deer hunting since the early part of this century.

Capability of Habitat: Deer in localized parts of WMDs 20, 21, 24, 25, and 30 are near the maximum supportable population, i.e. 100 deer /mi<sup>2</sup>. Attainment of the goal of 15 deer /mi<sup>2</sup> would ensure that the population throughout southern and coastal Maine remains well below carrying capacity.

Winters are rarely severe in this part of Maine. When a severe winter occurs, existing wintering habitat would not be sufficient to accommodate the current population. Hence, winter losses would be high throughout the area.

Possible Consequences: Achievement of the population goal would minimize human conflicts with deer, particularly in those parts of WMDs 15, 20, 21, 24, 25, and 30 where deer populations are now excessive.

Failure to gain support for deer population regulation by hunting (controlled or recreational) will lead to increased demands for more expensive (and in some cases, less effective) non-traditional methods of deer population control (e.g., trap and transplant, sharpshooting, fertility control). Projected estimates of deer harvest for southern Maine WMDs when at goal vs. current harvest (Table 18) significantly under-estimates true harvest potential. Harvest estimates presented in Table 18 do not include the deer harvest that would become available when previously closed land is open to hunting, nor does it include the substantial deer harvest necessary to bring deer density from 50 to 100 deer /mi<sup>2</sup> down (over time) to 15 deer /mi<sup>2</sup>. Similarly, estimates of deer hunting success in WMDs 20, 21, 24, 25, and 30 are biased low.

There is a danger, when allocating increased hunting opportunity, that buck quality will be adversely impacted, and deer populations will decline in areas where hunting access is patchy. Allocating greater numbers of Any-Deer permits to control deer on 1,000 mi<sup>2</sup>, when only 250 mi<sup>2</sup> is open to deer hunting, will result in over-harvest on huntable land, while failing to impact deer over the larger, inaccessible area. This may already be occurring in WMDs 20, 21, and 24.

### Statewide Overview

Attainment of proposed deer population (long-term) goals in each of Maine's 30 WMDs would result in a deer population which is within 15 to 55% of maximum supportable populations, and would approximate a wintering herd of nearly 384,000 deer, or 13 /mi<sup>2</sup>. Allowable deer harvest at target population would exceed 46,000 deer annually. Hunting success would exceed 20% in all WMDs, and a net increase in deer hunters would be required to achieve desired harvests in northern and eastern WMDs. Wintering habitat requirements for the 384,000 wintering deer would be approximately 1.7 million acres, or 9.1% of the landbase, overall.

Table 6. Deer population, harvest, and hunter success objectives to be achieved in Maine by 2030, by Wildlife Management Districts.

Wildlife Management District	Population Target (% of MSP) <sup>a</sup>	Wintering Population Size at Target <sup>b</sup>		Allowable Harvest <sup>c</sup> At Target	Potential Hunting Success Rate <sup>d</sup> % At Target
		Number	Number/Mi <sup>2</sup>		
1	55	14,150	10	1,100	64
2	55	11,750	10	900	59
3	55	9,300	10	800	25
4	55	19,600	10	1,350	51
5	55	15,450	10	950	37
6	55	13,800	10	1,350	23
7	55	13,650	10	1,100	43
8	55	20,400	10	1,800	36
9	55	9,500	10	850	33
10	55	8,850	10	850	28
11	55	16,650	10	1,450	25
12	55	14,050	15	1,450	38
13	55	8,500	15	900	38
14	55	11,900	15	1,250	37
15	48	14,950	15	2,300	26
16	50	14,350	20	2,450	28
17	43	27,250	20	4,500	29
18	55	19,500	15	2,150	26
19	55	17,500	15	1,650	38
20	62	9,000	15	2,100	23
21	51	7,300	15	1,850	24
22	44	10,400	20	2,100	26
23	32	18,250	20	3,050	25
24	25	4,150	15	1,050	24
25	49	7,250	15	1,400	20
26	43	11,150	18	1,650	25
27	55	12,250	15	1,350	34
28	55	12,400	15	1,100	51
29	55	7,300	15	650	41
30	15	3,000	15	1,200	50
State Sum		383,550	13	46,650	30

<sup>a</sup> Percent of Maximum Supportable Population, ie. the maximum number of deer that can survive in that WMD, given the amount of wintering habitat available in 2030.

<sup>b</sup> Assumes area of deer habitat in WMD will be same as area in 1997.

<sup>c</sup> Yield of bucks, given current rates of hunting effort for bucks. Harvest among antlerless deer is that number which stabilizes the population when at target.

<sup>d</sup> Assumes hunter density approximates those listed in Table 17. Success rates above 25% are probably not feasible. WMDs with potential success >25% require an influx of hunters to achieve harvest potential.

Table 7. Amount of wintering habitat required to support target population objectives, by Wildlife Management Districts in Maine, by 2030.

Wildlife Management District	Target Wintering Population <sup>a</sup> Number of Deer	Deer/Mi <sup>2</sup> Habitat	Optimum Stocking in Wintering Habitat Maximum		Projected Wintering Conditions <sup>b</sup>		Wintering Habitat Required			
			Deer-Days Use	Wintering Density (Deer / mi <sup>2</sup> )	WSI	Yarding Period (Days)	Acres/ Deer	Total Acres	Total Mi <sup>2</sup>	Percent of WMD
0	14,150	10	15,000	110	88	135	5.8	82,070	128	9.0
2	11,750	10	15,000	120	87	125	5.3	62,275	97	8.2
3	9,300	10	15,000	125	84	120	5.1	47,430	74	7.9
4	19,600	10	15,000	110	85	135	5.8	113,680	178	9.1
5	15,450	10	15,000	125	79	120	5.1	78,795	123	8.0
6	13,800	10	15,000	125	79	120	5.1	70,380	110	8.0
7	13,650	10	15,000	135	73	110	4.7	64,155	100	7.3
8	20,400	10	15,000	120	79	125	5.3	108,120	169	8.3
9	9,500	10	15,000	140	71	105	4.5	42,750	67	7.1
10	8,850	10	15,000	160	70	100	4.3	38,055	59	6.7
11	16,650	10	15,000	160	70	100	4.3	71,595	112	6.7
12	14,050	15	15,000	160	70	100	4.0	56,200	88	9.4
13	8,500	15	15,000	160	70	100	4.0	34,000	53	9.4
14	11,900	15	15,000	160	70	100	4.0	47,600	74	9.3
15	14,950	15	15,000	160	70	100	4.0	59,800	93	9.3
16	14,350	20	15,000	160	70	100	4.0	57,400	90	12.5
17	27,250	20	15,000	160	70	100	4.0	109,000	170	12.5
18	19,500	15	15,000	160	70	100	4.0	78,000	122	9.4
19	17,500	15	15,000	160	70	100	4.0	70,000	109	9.3
20	9,000	15	15,000	160	70	100	4.0	36,000	56	9.3
21	7,300	15	15,000	160	70	100	4.0	29,200	46	9.4
22	10,400	20	15,000	160	70	100	4.0	41,600	65	12.5
23	18,250	20	15,000	160	70	100	4.0	73,000	114	12.5
24	4,150	15	15,000	160	70	100	4.0	16,600	26	9.4
25	7,250	15	15,000	160	70	100	4.0	29,000	45	9.3
26	11,150	18	15,000	160	70	100	4.0	44,600	70	11.3
27	12,250	15	15,000	160	70	100	4.0	49,000	77	9.4
28	12,400	15	15,000	160	70	100	4.0	49,600	78	9.4
29	7,300	15	15,000	160	70	100	4.0	29,200	46	9.4
30	3,000	15	15,000	160	70	100	4.0	12,000	19	UNK
Statewide	383,550	13						1,700,000	2,658	9.1
Sum										

<sup>a</sup> Population to be achieved and maintained by the year 2030, as set forth in Table 6.

<sup>b</sup> For WMDs 1 to 11, assumes winters between 1999 and 2030 will average the same level of severity as those from 1980-98. For WMDs 12 to 30, assumes some winters will approximate WSI of 70 (moderate to severe conditions), thereby requiring sufficient winter carrying capacity for moderately restrictive yarding conditions spanning 100 days. See Table 12.

Table 18. Summary of objective vs. current deer population, wintering habitat, harvest, and hunter success.

Wildlife Management District	Percent of MSP		Wintering Deer /mi <sup>2</sup>		Wintering Habitat (% of WMD)		Harvest to Stabilize		Hunter Success Rate %	
	Current 1997	Target	Current 1997	Target	Current Known	Target Required	Current 1997	Target	Current 1990-96	Potential <sup>a</sup>
1	42	55	5.7	10	3.0	9.0	651	1,100	26	64
2	47	55	2.6	10	2.2	8.2	218	900	11	59
3	36	55	1.8	10	1.8	7.9	129	800	3	25
4	43	55	4.6	10	1.9	9.1	543	1,350	18	51
5	45	55	7.0	10	2.6	8.0	641	950	17	37
6	31	55	3.1	10	1.4	8.0	438	1,250	4	23
7	55	55	7.3	10	2.9	7.3	789	1,100	24	43
8	51	55	5.1	10	2.1	8.3	762	1,800	14	36
9	56	55	2.9	10	2.1	7.1	236	850	8	33
10	57	55	3.9	10	3.2	6.7	330	850	8	28
11	43	55	5.5	10	5.5	6.7	829	1,450	12	25
12	58	55	10.1	15	2.4	9.4	943	1,450	16	38
13	50	55	13.3	15	3.3	9.4	817	900	23	38
14	52	55	8.0	15	1.1	9.3	610	1,250	16	37
15	53	48	16.2	15	3.2	9.3	2,485	2,300	18	26
16	48	50	19.2	20	9.5	12.5	2,335	2,450	16	28
17	48	43	22.0	20	8.7	12.5	4,904	4,500	21	29
18	51	55	7.8	15	7.4	9.4	1,158	2,150	9	26
19	42	55	2.7	15	1.2	9.3	236	1,650	4	38
20	45	62	10.6	15	5.1	9.3	1,519	2,100	12	23
21	47	51	13.9	15	4.7	9.4	1,780	1,850	15	24
22	44	44	19.8	20	10.8	12.5	2,250	2,100	13	26
23	47	32	25.8	20	14.2	12.5	3,902	3,050	19	25
24	45	25	27.5	15	1.9	9.4	2,027	1,050	25	24
25	41	49	12.6	15	9.5	9.3	1,221	1,400	9	20
26	47	43	19.6	18	5.7	11.3	1,720	1,650	12	25
27	47	55	9.0	15	1.9	9.4	737	1,350	10	34
28	44	55	3.9	15	2.0	9.4	250	1,100	5	51
29	41	55	5.0	15	1.0	9.4	212	650	5	41
30	UNK	UNK	UNK	15	UNK	UNK	UNK	1,200	UNK	50
Statewide	-	-	8.7		4.0	9.1	34,672	46,650	14	30

<sup>a</sup>Success Rates above 25% are probably not feasible. WMDs with potential success >25% require an influx of hunters to achieve harvest potential.

## Appendix 2H

### Problems and Strategies for White-tailed Deer Management in Maine

Prepared by: Gerald Lavigne  
January 2000

The following list describes broad-scale problems that have been identified during the drafting of the assessment, or during discussions with the working group. The potential list of problems that need to be overcome to attain deer objectives may be incomplete. Thoughtful review by the working group of problem statements and potential strategies to overcome identified problems will help ensure success of this strategic planning effort. Note that the finer details of setting doe harvest quotas are already accomplished using the Deer Population Management System.

**Problem:** Area of wintering habitat used by deer is not fully quantified.

Strategy 1: Standardize methods used to inventory DWAs among all regions.

Strategy 2: Refine and maintain a deer wintering habitat database to track progress toward attaining long-term DWA objectives.

**Problem:** Proportion of the landbase in functioning wintering habitat in most WMDs is below long-term objective.

Strategy: Develop a comprehensive habitat initiative to increase the deer wintering area resource.

**Problem:** We need unambiguous indices describing relationship of deer to their winter carrying capacity.

Strategy 1: Conduct research to identify which indices are most useful/affordable in monitoring deer density relative to winter carrying capacity.

Strategy 2: Implement a monitoring program designed to ensure deer remain in balance with wintering habitat.

**Problem:** Fifteen years of bucks-only hunting has failed to achieve significant increases in some Downeast WMDs. Deer are to be increased to 50 to 60% of winter carrying capacity.

Strategy 1: Conduct the research necessary to identify and prioritize those factors limiting deer recovery in downeast WMDs.

Strategy 2: Implement a deer population recovery program Downeast.



**Problem:** Hunter demographics may be changing, thereby impeding attainment of deer harvest prescriptions.

Strategy 1: Intensify surveys designed to monitor deer hunting participation among WMDs, on a yearly basis.

Strategy 2: Develop initiatives to increase deer hunting participation among younger residents of Maine and/or non-residents.

Strategy 3: Develop initiatives to better distribute hunter effort where needed to accomplish necessary harvest levels, or to minimize conflicts with landowners.

**Problem:** Human tolerance to negative impacts of deer varies in time and place.

Strategy 1: Periodically survey landowner attitudes toward deer population and its impacts.

Strategy 2: Implement a program designed to monitor deer roadkill trends and landowner complaints of deer browsing damage.

**Problem:** The relationship between deer density and human risk of Lyme disease is not completely understood.

Strategy 1: Conduct research needed to determine relationship between deer density and human risk of Lyme disease.

Strategy 2: Re-evaluate deer population objectives in light of research findings.

**Problem:** Access restrictions limit our ability to regulate deer populations.

Strategy 1: Conduct landscape-level research to determine land ownership/deer hunter access patterns in central and southern WMDs.

Strategy 2: Implement a program designed to increase deer hunting access on privately owned land.

Strategy 3: Implement a program designed to increase town government support of deer hunting programs where deer are above population objectives.

Strategy 4: Use legislative and rule-making authorities to open towns and individual sanctuaries currently closed to deer hunting.

Strategy 5: Address Warden Service concerns that some landowners are misusing deer depredation permits.

Strategy 6: Develop a Departmental policy clarifying the conditions under which non-traditional methods of deer control will be permitted.

**Problem:** Lack of funding and staffing to address research (data gathering) and management needs.

Strategy: Actively seek support for sufficient additional staff and financial resources to address research (data gathering) and management needs. Reallocating existing staff and financial resources is not feasible, as it would prevent achieving management goals and objectives for other species.

## Appendix 3

### Meeting #2 – June 12, 2007

---

Appendix 3A	Summary of Meeting #2
Appendix 3B	Eastern Coyote Assessment, 1999
Appendix 3C	Eastern Coyote Management Issues and Concerns
Appendix 3D	Eastern Coyote Management Goals and Objectives 2000-2015
Appendix 3E	Feasibility Statements for Eastern Coyote Goals and Objectives
Appendix 3F	Problems and Strategies for Eastern Coyote Management in Maine
Appendix 3G	Report to the 117 <sup>th</sup> Maine Legislature: A Study of Eastern Coyotes and Their Impact on White-tailed Deer in Maine
Appendix 3H	Bear Management Goals and Objectives
Appendix 3I	1993 Downeast Deer Committee Report

## Appendix 3A

<h1 style="margin: 0;">Northern and Eastern Maine Deer Task Force</h1> <p style="margin: 5px 0 0 0;">Meeting #2 June 12, 2007 MDIFW Bangor Headquarters 10:30 a.m. – 2:30 p.m.</p>			
<b>Facilitator:</b>	Matt Libby, Chair Sandy Ritchie and Gene Dumont, MDIFW	<b>Note Taker/Recorder:</b>	Becky Orff – Recorder Sandy Ritchie – Meeting Summary
<b>Next Meeting: July 9, 2007; 10:30 a.m. – 2:30 p.m. (lunch provided)</b>			
<b>Participants:</b>	<p><b>Task Force Members:</b> Matt Libby, Chair, Maine Sporting Camp Owners Association; Tom Doak, Small Woodland Owners Association of Maine; Pat Strauch, Maine Forest Products Council; Gerry Lavigne, Sportsman’s Alliance of Maine; Sally Stockwell, Maine Audubon; Brian Smith, Maine Bowhunter’s Association; Don Dudley, Maine Trappers Association; Lee Kantar, MDIFW Deer Biologist; Rich Hoppe, Regional Wildlife Biologist, Region G; Tom Schaeffer, Regional Wildlife Biologist, Region C; and Gene Dumont, Wildlife Management Section Supervisor.</p> <p><b>MDIFW:</b> Becky Orff, Ken Elowe, Mark Stadler, Sandy Ritchie, Sgt. Dave Craven.</p> <p><b>Observers/Presenters:</b> Gordon Mott, Barry Burgason (Huber Resources), Mike Dann (Seven Islands), and John Cashwell (Seven Islands), and Dan Harrison (UMaine)</p>		
<b>Action Items:</b>	<ul style="list-style-type: none"> <li>• Is there any information that addresses bear reduction and its effect on deer?</li> <li>• Follow-up with Rod Cumberland of New Brunswick re their deer situation especially regards habitat and winter severity.</li> <li>• Dave Craven to provide video of newer models of snares.</li> </ul>		
<b>Agenda – Summary of Meeting Highlights</b>			
<p>The Department is recording each Task Force meeting; however the intent of this summary is to capture the highlights rather than provide a detailed transcript.</p> <p><b>1. Identification of Issues and Concerns Associated with Deer Management in Maine</b> – At our first meeting we reviewed the deer issues and concerns raised by the 1999 Big Game Working Group but wanted to give the Task Force the opportunity to brainstorm their own list to ensure completeness. Issues and concerns were recorded on a series of flip charts and included the following:</p> <p style="margin-left: 20px;"><u>Habitat</u></p> <ul style="list-style-type: none"> <li>○ adequate mechanisms to maintain/sustain shelter</li> <li>○ loss of high quality deer wintering areas (DWAs)</li> <li>○ transitioning forests – moving among age classes</li> </ul>			

- connectivity of wintering habitat
- suboptimal DWA habitat resulting in poor deer condition and/or mortality
- difficulty in determining winter carrying capacity
- changes on the landscape that may favor some species (e.g., coyotes) over others
- are we making the right sivicultural recommendations for DWAs?
- recent trend in industrial forestland ownership changes
- concerns about proposed LURC zoning rules (12% of the land base)

#### Predation/Mortality

- fawn mortality by black bear
- coyote predation
- poaching

#### Deer Goals and Objectives

- practicality of achieving Big Game Working Group goals and objectives
- costs of achieving the goals and objectives – who is responsible?
- multiple species management conflicts (bear, moose, etc.)

#### Use and Demand

- temporary closures (WMDs) to hunting
- unmet demand for hunting opportunity (social and economic implications)
- bowhunting / youth – consistency in doe harvest regulations

#### Miscellaneous

- credible deer census
- good data to base decisions on
- weather-related changes that will affect the future
- changes / improvements to access – public access is at unprecedented levels, affects on habitat and predation

Meeting #2 was devoted to a discussion of deer mortality, especially coyote predation. Other issues and concerns identified above will be discussed in subsequent meetings.

## **2. Review of Materials Handed Out to the Task Force**

- **Coyote Issues and Concerns Raised by the 1999 Big Game Working Group** – The Big Game Working Group raised a number of issues and concerns prior to developing goals and objectives for coyotes.

#### Population/Control

- Can we reduce coyotes to such an extent that the deer population can increase?
- How far does one go to manipulate one species in favor of another?
- Poisoning, shooting, and trapping on a broad scale in other parts of the coyote's range has not worked.
- How would the presence of wolves affect the coyote population?
- Continue existing local control programs, at least until the effectiveness of these

programs is determined.

- Need greater coyote control adjacent to deer wintering areas.
- It is not feasible to control the coyote population over large areas.

### Use

- Need to develop better information concerning hunting and trapping effort (voluntary reporting system, eliminate tagging fees).
  - Develop programs to promote coyote as a game species rather than a nuisance: allow hunting on Sundays, expand night hunting opportunities, and institute a September trapping season.
- **Gerry Lavigne's Report to the 117<sup>th</sup> Maine Legislature: *A Study of Eastern Coyotes and their Impact on White-tailed Deer in Maine***
- Prey selection by coyotes is opportunistic: they will consume whatever food is currently available, including carrion and fruits.
  - White-tailed deer comprise a significant portion of coyote diets in Maine, particularly during winter and the spring denning period.
  - Coyote predation is considered an important component of early losses among newborn fawns in summer.
  - Coyote predation on deer may be of sufficient magnitude in some parts of the state to contribute to population declines and/or impede deer population recovery.
  - Effects of coyote predation are most damaging in parts of the state in which: 1) wintering habitat quality has been severely reduced; 2) winters tend to be severe; and 3) alternate prey are less available.
  - The real obstacle to attaining a higher deer population in more than half the state is the declining quality and quantity of wintering habitat for deer.
  - Coyote control is most effective where it is focused and specific problem animals are targeted.
  - Large scale control efforts (i.e. from a bounty) are not a viable option for achieving higher deer populations. Unless a bounty system can remove more than 70% of the coyote population annually, and prevent rapid recolonization by dispersing juveniles, real suppression of coyote populations can never be achieved.
  - Control is all about reducing the coyote population to a level that has an effect on deer. The smaller the area, the more realistic the chances to achieve.
- **Bear Management Goals and Objectives** – Concerned about the potential impact of bear predation on deer, especially newborn fawns in downeast Maine, the 1999 Big Game Working Group developed an objective for WMD 29 (now WMD 27/28) to increase the traditional hunting and trapping effort on bears within the existing season framework to reduce fawn mortality by 15% by (date - to be determined by IF&W).
- **Washington County Deer Population Committee Report** – In 1993 a committee was formed to review options for increasing the deer population in Washington County. Regional Wildlife Biologist summarized the committee's findings.
- Illegal hunting and hunting methods were identified as one of the limiting factors negatively affecting the deer population – illegal activities that were exacerbated by several warden district vacancies.

Status: Warden vacancies have since been filled.

- Habitat condition, particularly winter shelter, was considered to be the most important factor limiting any meaningful increase in deer numbers in Washington County. The following actions were recommended:

- Identify historic DWAs and work with landowners to develop watershed management plans that incorporate DWAs and riparian travel corridors.

Status: Staff developed plans but they were never fully adopted.

- Promote herbaceous seeding of winter logging roads, log landings, stream crossings, etc. to provide high quality spring forage.

Status: Ongoing standard operating practice.

- Encourage winter harvest operations, particularly if near DWAs to make browse available to deer.

Status: Ongoing standard operating practice

- Prioritize NRPA zoning of high and moderate DWAs in organized towns in Washington County.

Status: Annual aerial surveys have been planned, but the lack of wintering conditions has precluded completion in some years.

- Encourage Moosehorn NWR to implement a long-term deer winter shelter management strategy for the Baring and Edmunds Units.

Status: Working with the refuge recently.

- Continue to use the Animal Damage Control Program and available funding to monitor and resolve predation on deer while confined in DWAs.

Status: Was ongoing until funds for ADC activities were suspended in 2003.

- Recommended that the penalty for killing a doe deer illegally be increased as a deterrent.

Status: Legislation passed.

- Recommended that archery regulations parallel firearms regulations in bucks only restrictions.

Status: The recommendation has been advocated, but there has been no sponsoring legislation to date.

- Consider closing Washington County to deer hunting.

Status: Frequently discussed, but there has been no action to date.

**3. Summary of Coyote Research in Maine, New Brunswick, and Nova Scotia** – Dan Harrison, Professor of Wildlife Ecology at the University of Maine, presented a powerpoint program highlighting coyote research in Maine, New Brunswick, and Nova Scotia. A summary of Dan's presentation follows.

- Coyotes have their greatest effect on fawns and recruitment. Even at relatively low densities, coyotes will still feed their pups deer fawns.
- Coyote predation on deer can be buffered by alternative foods such as snowshoe hare. It is a very complex, community-level response.
- Coyotes, snowshoe hare, other predators, winter weather, and habitat are all interacting in a very complex way.
- There is no evidence that coyotes respond numerically to deer abundance in eastern North America; therefore, the effects of coyotes on deer is greatest at the extremes of their range where climate, snow depth, bears, and other predators contribute to deer densities.
- If we took coyotes off the landscape, Dan doesn't know whether the deer population would be higher given habitat issues and bear predation.
- Bear population increases in boreal forests that are being harvested.
- The numbers do not support widespread coyote control as an effective management tool because of a number of compensatory factors (rigid land tenure systems, territorial, monogamous, non pack forming, poor cooperative foragers, aggressive, first year dispersal).
- Removal of territorial residents in DWAs can create social chaos – the majority of the population is non-territorial and non-breeding during winter.
- Most coyotes captured in the winter are only temporary residents of a DWA. Territories seem to stay stable regardless of the removal of adult animals – dispersing animals fill in.
- What is motivating coyotes to move in the winter is not about food. They are looking for territories and achieving population reduction is going to be difficult.
- Population modeling has suggested that with 63% of adult females breeding and average litter sizes of 7.6, annual survival of adult females would need to be reduced to less than 20% to maintain a stable population. Observed values for adult female survival range from 55-90%, and Maine is near the higher end of adult survival. Twelve coyotes were removed from one study area without any loss of breeding females or a breeding territory.
- History has demonstrated that widespread coyote control simply doesn't work.
  - From 1937-1970 federal ADC programs played the coyote numbers game.
  - \$30 million expended each year.
  - Average of 83,000 coyotes killed each year.
  - Widespread effects on non-target species.
  - 3 Blue Ribbon Committees reported no longterm effects, poor cost benefit, and adverse ecological effects.

**4. Overview of MDIFW's Incidental Take Plan** – In response to an active lawsuit from the Animal Protection Institute, MDIFW recently submitted an Incidental Take Plan (ITP) in conjunction with an application from the Department to the U. S. Fish and Wildlife Service for a Section 10 permit under the Endangered Species Act to absolve the Department and its agents from liability in the event of incidental take of Canada lynx or bald eagles in Maine that may occur as a result of Maine's trapping program. A timetable for a resolution of Maine's ITP is not known. An ITP for Maine's snaring program, previously in development, has been put on hold pending a decision with the trapping ITP.

**5. Tools and Methods Available to Target Coyotes** – Sgt. Dave Craven, a game warden with extensive trapping and snaring experience discussed several tools and methods to target coyotes and offered his observations on coyote control.



- He is not advocating for widespread coyote control, but he can cite several examples of anecdotal information where coyote control can be effective.
- When you take away a regulated predator control program, you open the door to people taking matters into their own hands.
- There are a number of studies that refute some of the points in Dan Harrison's presentation.
- Habitat in Washington County is underutilized, and limited funds are well spent even if only a few deer are saved.
- We need to pursue ITPs, obtain good equipment, and operate humanely with well qualified individuals.
- Newer models of snares hold promise.
- Ram power snares have kill times approximating 4 minutes.
- M44s are very canine-specific as opposed to snares.
- Spring and summer is the easiest time of the year to kill offending coyotes. It takes some training and use of dogs at the densite.
- Rich Hoppe mentioned that shooting coyotes over bait seemed to be gaining popularity in the north. Dave indicated that it can't replace a focused effort to control offending animals.

## **6. Next Meeting**

- When: Monday, July 9 from 10:30 a.m. – 2:30 p.m. (lunch provided)
- Where: First floor conference room at MDIFW in Bangor
- Meeting Topic: A discussion of habitat, especially wintering habitat.
- Suggested Invited Presenters:
  - Bill Krohn, Leader Cooperative Fish and Wildlife Research Unit and Kasey Legaard, UMaine graduate student
  - MDIFW Habitat Group
  - Don Mansius, Maine Forest Service
  - Fred Todd, Land Use Regulation Commission
- Materials Needed
  - MDIFW's Deer Habitat Management System
  - 2005 Maine Forest Report
  - Proposed LURC DWA zoning criteria

Appendix 3B

**Eastern Coyote Assessment 1999**

By: Walter Jakubas  
Department of Inland Fisheries and Wildlife  
Bangor, ME  
June, 1999

(View a copy of the assessment at  
<http://www.maine.gov/ifw/wildlife/species/plans/mammals/easterncoyote/speciesassessment.pdf> )

## Appendix 3C

### Eastern Coyote Management Issues and Concerns

*Raised by Working Group October 28, 1999*

#### Population/Control

- Can we reduce the coyote population to such an extent that the deer population can increase downeast and in northern Maine?
- How far does one go to manipulate one species in favor of another?
- Poisoning, shooting, and trapping on a broad scale in other parts of the coyote's range has not worked.
- How would the presence of wolves affect the coyote population?
- Continue existing local control programs, at least until the effectiveness of these programs is determined.
- Need greater coyote control adjacent to deer wintering areas.
- It is not feasible to control the coyote population over large areas.
- Coyotes can play a useful role in controlling the deer population in areas where it is desirable to maintain or reduce the deer population to prevent or control the spread of Lyme disease.

#### Use

- Need to develop better information concerning hunting and trapping effort. Develop a voluntary reporting system. Eliminate tagging fees.
- Develop programs to promote coyote as a game species rather than a nuisance: allow hunting on Sundays, expand night hunting opportunities, and institute a September trapping season.

## Appendix 3D

### **Eastern Coyote Management Goals and Objectives 2000 – 2015**

*Adopted by the MDIFW Commissioner and Advisory Council  
February 22, 2001*

#### For Wildlife Management Districts Where the Deer Population is at or Above Long-term Management Goals for Deer

**Goal:** Provide hunting and trapping opportunity for coyotes.

**Objective:** Maintain existing hunting and trapping opportunities while allowing the coyote population to fluctuate naturally.

#### For Wildlife Management Districts Where the Deer Population is Below Long-term Management Goals for Deer

**Goal:** Provide hunting and trapping opportunity for coyotes.

**Objective:** Implement local coyote control where coyote predation is suspected to be limiting long-term goals for deer; otherwise, allow the coyote population to fluctuate naturally.

## Appendix 3E

### **Feasibility Statements for Eastern Coyote Goals and Objectives**

Prepared by: Walter J. Jakubas  
July 18, 2001

#### For Wildlife Management Districts Where the Deer Population is at or Above Long-term Management Goals for Deer

**Goal:** Provide hunting and trapping opportunity for coyotes.

**Objective:** Maintain existing hunting and trapping opportunities while allowing the coyote population to fluctuate naturally.

**Desirability:** Many hunters, trappers, and outdoor enthusiasts take advantage of the recreational opportunities associated with coyotes (e.g., hunting, trapping, nonconsumptive enjoyment). By maintaining existing hunting and trapping opportunities, we will provide consumptive users of coyotes considerable opportunity to pursue their interests. At the same time, the level of opportunity for nonconsumptive users to see and listen to coyotes will not be diminished. Coyotes readily compensate for normal hunting and trapping losses by increasing their reproductive rates. The promotion of coyote hunting and trapping opportunities may shift public attitudes from a focus on managing coyotes as nuisance animals, to managing them as game animals. Opposition to maintaining existing hunting and trapping opportunities may come from anti-hunting and trapping advocates. By allowing coyote populations to fluctuate naturally, coyotes will continue to function as important predators in Maine's ecological communities. However, some deer hunters may not be satisfied with "allowing the coyote population to fluctuate naturally".

**Feasibility:** Maintaining existing hunting and trapping opportunities in areas where the deer population is at or above its current management goal (primarily central and southern Maine) will be dependent on maintaining access to private lands for hunters and trappers. In addition, sufficient open-space will need to be maintained to allow these activities. The Department will need to increase public awareness on the detrimental effects of posted-land and promote the maintenance of open-space. Proportionally, fewer people are taking up hunting than in previous generations. By promoting different forms of coyote hunting (hunting with dogs, night hunting, and competitive hunts), the Department will help counteract any attrition in the number of coyote hunters. Recent passage of anti-trapping initiatives in other states (i.e., Arizona, Colorado, Massachusetts, and California) is indicative of a growing anti-trapping sentiment among the general public. Unless public education efforts on the positive aspects of trapping are increased in Maine, residents of this state may follow national trends and increasingly look unfavorably upon trapping.

**Capability of Habitat:** Coyote densities are not directly dependent on habitat conditions in the state. Rather, coyote densities are determined by space requirements and prey availability. The Department's ability to achieve this objective will not be restricted by the capability of the

habitat to support coyotes.

**Possible Consequences:** If current hunting and trapping opportunities are maintained for coyotes, those people who participate in these activities should be satisfied. This should help maintain license revenues and bring income to people who are directly or indirectly associated with these activities. Maintaining coyote hunting and trapping opportunities will let the public address nuisance problems caused by specific coyotes. However, it will be nearly impossible to reduce the coyote population for an extended period of time by using traditional hunting and trapping methods. Anti-hunting and trapping advocates may use coyote hunting and trapping as an example of why hunting and trapping, in general, should not be allowed. Coyote hunting often involves the use of dogs to chase coyotes, and coyotes are trapped using foothold traps. Hunting with dogs and the use of foothold traps have been targeted by these groups in the past. By allowing coyote populations to fluctuate naturally, coyotes will continue to function as important predators in Maine's ecological communities. However, some deer hunters may want the coyote population reduced.

#### For Wildlife Management Districts Where the Deer Population is Below Long-term Management Goals for Deer

**Goal:** Provide hunting and trapping opportunity for coyotes.

**Objective:** Implement local coyote control where coyote predation is suspected to be limiting long-term goals for deer; otherwise, allow the coyote population to fluctuate naturally.

**Desirability:** In northern and downeast Maine, coyote control has been a high profile agenda for some segments of the public for a number of years. Local coyote control may involve several forms of lethal coyote removal (i.e., trapping, hunting, and snaring). However, the Department has responded to calls for local coyote control primarily through a coyote-snaring program. Continuing coyote control will allow the public to have a hand in trying to alleviate predation pressure on deer. By allowing the public to participate in coyote control, proponents of coyote control may be satisfied that the Department is acting upon their request to relieve predation pressure on deer. However, it is not known whether the current snaring program, or other forms of coyote control, has any effect on increasing local or regional deer numbers. By continuing the coyote control program, the public may perceive the Department implicitly believes the control program has a strong biological basis, when in fact, the biological benefits of coyote control are unknown. Snaring is controversial because other wildlife or pets may be incidentally killed, and snares must be properly deployed to ensure that they humanely kill coyotes. Consequently, continuation of the snaring program may be undesirable, in that anti-trapping groups may use it to build public sentiment against snaring and trapping in general. In addition, the general public may become critical of the program if a high profile species, such as lynx or bobcat, is killed in a snare.

**Feasibility:** The implementation of local coyote control will depend on the willingness of the public to participate in coyote control, public attitudes towards the various forms of coyote control, and restrictions on coyote control where there is a likelihood of incidentally killing other wildlife (e.g., lynx, bobcat, and deer). Although some segments of the public are very vocal in support of the snaring program, the number of people willing to snare coyotes is not high. Currently, the Department contracts with experienced snarers to kill coyotes in areas where deer predation is perceived to be a serious problem. Even with contract snarers, it will be

difficult to find enough snarers to adequately cover all of the potential problem areas in downeast and northern Maine. The Department will need to encourage other forms of coyote control and continue to offer incentives and training for people wishing to snare coyotes. Conflicts may arise between people wanting to hunt coyotes with hounds, and snarers. For local coyote control to be effective, coyote control must be maintained in an area throughout the period when deer are most vulnerable to predation. Coyotes are highly mobile, and a significant segment of the coyote population is non-territorial. If local coyotes are removed from an area, dispersing coyotes can quickly fill the void. Coyote control must also be maintained year after year to decrease coyote predation rates on deer; otherwise, an area where a large number of coyotes were removed one winter, will be occupied by coyotes again the following winter. The potential public backlash from incidentally killing other wildlife or pets may be sufficient to threaten the snaring program. Currently, the Department is working with snarers to minimize the chance of a bobcat, lynx, eagle, or dispersing wolf being caught in a snare. These efforts need to continue to have a successful snaring program. It will also be essential for the Department to work with snarers to ensure that the most humane methods are used to snare coyotes. In addition, the public may become concerned about using snares or hunting with hounds to kill coyotes.

Capability of Habitat: Coyote densities are not directly dependent on habitat conditions in the state. Rather, coyote densities are determined by space requirements and prey availability. The Department's ability to achieve this objective will not be restricted by the capability of the habitat to support coyotes.

Possible Consequences: If coyote control is implemented, a segment of the public will feel that they are helping the local deer herd and reducing the number of coyotes. If adequate coyote control measures are maintained in an area, winter mortality rates for deer may decrease. However, the possibility exists that the removal of territorial coyotes may allow additional non-territorial coyotes into an area, and exacerbate the deer predation problem. The Department will need to address conflicts between user groups that are interested in controlling local coyote populations using different methods. In particular, hunters that use dogs to chase coyotes are concerned about their dogs getting caught in snares. Although areas in which snares are set are required to be clearly marked, a dog chasing a coyote may travel a long distance from where it initially encountered a coyote and be exposed to snares the hunter is not aware of. If the public finds certain methods of coyote control socially unacceptable, political pressure may develop to end or alter the Department's current coyote control program. If such opposition develops against coyote control, it may reflect negatively against the Department and decrease public acceptance for hunting or trapping, in general.

## Appendix 3F

### **Problems and Strategies for Eastern Coyote Management in Maine**

Prepared by: Walter J. Jakubas  
July 18, 2001

**Problem 1:** Areas to trap and hunt coyote may decrease in the future, as a result of urban sprawl, population growth, and a desire by the public to post private land as being closed to these activities.

Strategy 1.1: Work with towns to ensure that sufficient "open-space" is maintained for traditional activities like hunting and trapping.

Strategy 1.2: Provide information to town planning boards, and to the general public, on the wildlife management problems that occur when too much land is closed to hunting and trapping.

**Problem 2:** The number of people trapping and hunting may decline in the future.

Strategy 2.1: Actively participate in programs that introduce hunting and trapping to children and the non-hunting/trapping public.

**Problem 3:** Some people have a negative perception of trapping, hunting with dogs, and snaring.

Strategy 3.1: Give and encourage public presentations that address hunting and trapping in today's society.

Strategy 3.2: Produce and distribute information on how to improve the selectivity and humaneness of snares and traps (e.g., Best Management Practices program for trapping).

Strategy 3.3: Inform the public about the steps the Department has taken to ensure that trapping and snaring is being done selectively and humanely as possible.

Strategy 3.4: Work cooperatively with Maine trappers and snarers to improve trapping and snaring techniques.

**Problem 4:** We do not know whether coyote control is effective in reducing deer winter mortality rates.



Strategy 4.1: Review existing documentation and interview wildlife biologists about the behavioral effects (i.e., immigration of other coyotes into vacated territories, establishment of new territories by nomadic coyotes, coyote densities in non-territorial situations, and changes in predation rates) of removing territorial coyotes.

Strategy 4.2: Conduct research that would document the effect of coyote control on deer mortality and recruitment, coyote population dynamics, and coyote social behavior.

**Problem 5:** Incidental wildlife may be killed or injured during coyote control operations.

Strategy 5.1: Continue producing and distributing information to people interested in coyote control that would help them avoid incidental captures and recognize when high profile, non-target species are in the area.

Strategy 5.2: Identify areas in the state where there is a high probability of killing non-target species that are of special concern to the Department, and construct special coyote control regulations for those areas.

**Problem 6:** People hunting coyotes with dogs are concerned about their dogs becoming caught in snares.

Strategy 6.1: Make available region-wide maps of where snares have been set, so houndsmen can evaluate the risks to their dogs.

Strategy 6.2: Designate areas in northern or downeast Maine where only dogs and hunting can be used for coyote control.

## Appendix 3G

REPORT TO THE 117<sup>TH</sup> MAINE LEGISLATURE  
PURSUANT TO LD 793 12 MRSA

A STUDY OF EASTERN COYOTES AND THEIR IMPACT  
ON WHITE-TAILED DEER IN MAINE

By GERALD R. LAVIGNE  
WILDLIFE BIOLOGIST  
MAINE DEPARTMENT OF INLAND FISHERIES AND WILDLIFE  
AUGUSTA, ME

DECEMBER 1995

## EXECUTIVE SUMMARY

This report was compiled as mandated by LD 793, which required the Department of Inland Fisheries and Wildlife (IF&W) to “conduct a study to determine the impact that coyotes have on deer, and to propose recommendations to encourage the harvest of coyotes”.

The eastern coyote became established throughout Maine during the 1960's and 1970's, as part of an eastward population expansion from states and provinces to the west. Slightly larger than their western U.S. counterparts, coyotes inhabiting Maine average 30 to 45 lbs. as adults, with maximum weights of about 65 lbs. occurring rarely. Maine's coyote population is roughly 10,000 to 16,000; they average 11 to 18 per township at maximum density. Social organization among eastern coyotes centers around the adult breeding pair, their current-year offspring and, sporadically, other un-related associates. The adult breeding pair is monogamous, and they defend an annual home range averaging 20 mi<sup>2</sup> in Maine. Breeding takes place in February, 2-10 pups are born in April, and these young are tended in dens until early July. Reproductive rates are highly flexible among coyotes, depending on food availability, and/or availability of vacant breeding territories.

Prey selection by coyotes is opportunistic: they will consume whatever food is currently available, including carrion and fruits. White-tailed deer comprise a significant portion of coyote diets in Maine, particularly during winter and the spring denning period. Under the right circumstances, coyotes hunting in groups are adept at killing deer, including individual deer which are in good physical condition. Predation by coyotes ranks 2<sup>nd</sup> among mortality factors affecting adult deer annually in Maine; this accounts for nearly 30% of total annual deer losses. Coyote predation is also considered an important component of early losses among newborn fawns in summer.

Coyote predation on deer may be of sufficient magnitude in some parts of the state to contribute to population declines and/or impede deer population recovery. Effects of coyote predation are most damaging in parts of the state in which: 1. wintering habitat quality has severely reduced; 2. winter tend to be severe; and 3. alternate prey are less available. In northern, western and eastern sections of Maine, inadequate wintering habitat is the primary factor limiting deer populations. There, high predation rates by coyotes are the symptoms, not the cause of deer population problems. In central and southern sections of Maine, habitat quality is better, and we have been able to sustain adequate deer populations despite predation losses to coyotes. In all parts of Maine, allowable harvest to hunters has been reduced (using the Any-Deer permit system), in part, to accommodate losses to coyotes and a host of other mortality factors.

Maine offers the most liberal recreational trapping and hunting opportunities for coyote of any state/province in eastern North America. Coyotes may be hunter year-round; they may be night-hunted from January through April. There is a 7-day early trapping season, followed by a 64-day regular trapping season. Coyotes may be snared in January and February in Maine's unorganized towns under IF&W direction. Finally, IF&W may direct qualified cooperators to remove coyotes by trapping, snaring or hunting in any town as part of the Animal Damage Control (ADC) program.

Hunting, trapping and ADC activities account for less than 2,000 coyotes annually. Juvenile coyotes comprise the overwhelming majority of coyotes killed. This coyote harvest represents less than 12% of the coyote population annually. Real suppression of coyote populations would require removal of 70% of the coyote population annually. Because of rapid recolonization of vacated territories by dispersing juveniles, coyotes are capable of re-populating large areas in

less than two years. For these reasons, large scale control efforts (i.e. from a bounty) would fail, while depleting scarce financial resources.

Specific recommendations are offered relating to: 1. refining the focus of the Animal Damage Control Program; 2. focus on improvement of wintering habitat for deer; and 3. avoidance of bounty programs.

## Introduction

This report was compiled as mandated by LD 793, which required the Department of Inland Fisheries and Wildlife (IF&W) to “conduct a study to determine the impact that coyotes have on deer, and to propose recommendations to encourage the harvest of coyotes”. Since this study was to be accomplished in less than six months, and since the 117<sup>th</sup> Maine Legislature did not appropriate funds for this work, we were not able to conduct new research on deer-coyote interactions. Rather, I relied on the body of research which already exists on this subject in Maine, and the northeastern U.S. and Canada to provide the basis for this report. As such, this report is instead, a synthesis of existing information on deer-coyote ecology as it currently relates to management of these species by IF&W. Supporting references appear as superscripted numbers in the text; reference sources appear in the Literature Cited section.

## Coyote Origins, Distribution and Population

The eastern coyote (*Canis latrans*) currently inhabits all towns in Maine, except most offshore islands.<sup>1</sup> Rumors to the contrary, coyotes were not introduced to Maine by humans. They appeared in Maine during the late 1960's and early 1970's as part of a general range expansion across the northern U.S. and southern Canada which probably began in the 1920's.<sup>2</sup> It is noteworthy that coyotes colonized regions west of Maine prior to the late 1960's; that they expanded their range into eastern New Brunswick in the late 1970's, and then into Nova Scotia, Cape Breton Island, and even Newfoundland in the mid to late 1980's.<sup>3</sup>

Eastern coyotes are slightly larger than the western subspecies from which they originated. There is strong evidence that coyotes inter-bred with gray wolves (*Canis lupus*) in southern Canada as the coyote population gradually expanded eastward.<sup>4</sup> Hence, the introduction of wolf genes resulted in larger overall size among eastern coyotes. Body weight of eastern coyotes ranges from 30 to 45 lbs among most adults in fall and winter; juveniles commonly range from 20 to 35 lbs at this time.<sup>5</sup> Eastern coyotes rarely exceed 50 lbs; the record for Maine is about 65 lbs. By contrast, gray wolves range from 70 to 120 lbs as adults.<sup>6</sup>

Direct estimates of coyote population size are lacking for Maine or any other location in the northeast. Population estimates used by IF&W for planning purposes were calculated using assumptions for coyote home range size, litter size and dispersal rate derived from prior research, and extrapolated to all areas of the state.<sup>1</sup>

As such, we estimate that 10,000 to 16,000 coyotes inhabit Maine, the latter number being the autumn peak. Given that there are 30,000 mi<sup>2</sup> of coyote habitat in Maine, this would represent a density of 3 to 5 coyotes per 10 sq. mi., or 11 to 18 within a typical Maine township.

IF&W does not utilize indices to detect regional or annual variations in coyote abundance. Nevertheless, opinions regarding the relative abundance of this species are commonly voiced by hunters and other outdoors enthusiasts. Whether or not these opinions have a basis in fact, we do not know. Monitoring the registered harvest of coyotes is a poor index to coyote

abundance, since harvest rate is largely influenced by factors which are unrelated to coyote abundance.

### Coyote Social Organization and Reproduction

Coyotes social organization centers around family groups consisting of a mated pair of adults, and their offspring which are less than one year of age.<sup>7</sup> The adult pair maintain and defend a home range which averages 15 to 20 sq. mi. in size. In addition to the family group, these home ranges may also be occupied by one to several juveniles (between one and two years old) which have dispersed earlier from their natal home range elsewhere. Dispersal in eastern coyotes commonly occurs in fall and winter; individual coyotes may disperse up to 400 miles from natal home ranges. A high dispersal rate among juvenile coyotes ensures that breeding territories vacated by the death of former occupants are quickly re-populated.

Coyotes do not form stable packs in the manner of gray wolves.<sup>7</sup> However, coyotes may form aggregations beyond the adult pair and surviving pups in winter, particularly when they are hunting large prey, such as white-tailed deer (*Odocoileus virginianus*).<sup>8</sup> This aspect of coyote behavior is poorly understood, and it merits careful research.

Coyotes are capable of breeding prior to one year of age, although few individuals do so.<sup>9</sup> Established breeders are monogamous; most mating occurs in February, and pups are born in April after a gestation period of 63 days. Litter size among eastern coyotes is highly variable, ranging from 2 to 10 pups, and averaging 5 or 6. Age at first breeding, litter size and pup survival rate are each dependent on the availability of breeding territories and an adequate forage supply. Increasing the availability of food or reducing competition for breeding home ranges will both tend to increase the reproductive rate of coyotes. The former situation may occur during severe winters, when deer are more vulnerable to predation. The latter may occur when coyote mortality increases sufficiently to depopulate individual breeding territories.

Coyote pups are dependent on the breeding pair for all of their food requirements from birth until abandonment of dens in early summer.<sup>10</sup> This places high demands on the adult pair to provide a large quantity of prey for the developing litter from mid-April until early July. For this reason, breeding pairs of coyotes tend to hunt larger prey items such as deer until pups are able to forage, at least in part, for themselves.<sup>11</sup>

### Coyote Harvest and Natural Mortality

Natural mortality among coyotes typically is high. Early losses among pups are dependent on the amount and quality of food brought in by the adult pair. Once they emerge from dens, pups and dispersing juveniles are vulnerable to a variety of hazards such as accidents, diseases, malnutrition, road-kill, and hunting/trapping. Many of these mortality factors are density dependent. For example, high losses to trapping may increase survival of juvenile coyotes in winter by reducing competition for relatively scarce prey. Hence, an increase in one form of coyote mortality may cause a compensatory reduction in mortality to other causes.

There is a relatively high turnover rate in Maine coyote populations.<sup>12</sup> First-year mortality among juveniles is roughly 40%, while that for older individuals is probably below 30%. Most coyotes in any given population are less than 3 years of age, although a rare few individuals may attain 10 to 12 years.<sup>13</sup>

In Maine, the eastern coyote is accorded the status of an exploited furbearer; they may be harvested by hunting, trapping and snaring. In regulating the various seasons on coyotes, IF&W seeks to maximize recreational hunting and trapping opportunities, while minimizing the risk of over-harvesting non-target species (e.g. bobcat, fisher, and fox), or protected species which are vulnerable to mortality (e.g. bald eagles).

Maine maintains the most liberal hunting and trapping seasons on coyote in the northeast. Coyotes may be hunted with or without dogs year-round, except for Sundays.<sup>14</sup> We provide a 7-day early trapping season for coyote (and fox) in October. In addition, coyotes may be trapped during a 64-day land trapping season during October to December. During January and February, coyotes may be taken with body snares in Maine's unorganized towns by certified trappers who pursue this activity under the direction of IF&W personnel. We also maintain a night-hunting season on coyotes from January 1 to April 30 to facilitate coyote harvest by predator callers. Finally, IF&W maintains a pool of volunteer and paid agents under the auspices of the Animal Damage Control (ADC) program. ADC agents may be directed to remove specific coyotes from any location in the state, where coyotes are perceived to be causing excessive losses among wintering deer, or livestock (predominantly sheep).<sup>15</sup>

Coyotes taken by recreational hunting and trapping must be registered and tagged. Animals taken by ADC agents must be reported to IF&W for accounting purposes. During the past 15 years, the combined take of coyotes from hunting, trapping, and ADC work ranged from 944 to 1,600 coyotes. While it is likely that some coyotes are never tagged or reported, the total of man-induced mortalities of coyotes in Maine probably is less than 2,000 coyotes annually. This represents 12% of the peak autumn population of coyotes in Maine. It is noteworthy that 80% of the coyotes which are trapped in autumn are pups, and that the fall trapping seasons account for the lion's share of the total harvest of coyotes.<sup>13</sup> Therefore, man-induced coyote losses in Maine selectively target the age class (juveniles) which is most likely to succumb to natural causes anyway. Conversely, that segment of the coyote population which is most responsible for successful reproduction (breeding pairs) appears to be less vulnerable to mortality from trapping in autumn (and possibly to winter snaring as well).<sup>13</sup>

### Coyote Food Habits

Coyotes are primarily carnivores, although they readily incorporate soft mast such as blueberries, raspberries, chokecherries and apples into their diet, when available.<sup>16</sup> Coyotes are adaptable and efficient predators; they also readily consume animal carrion and refuse where available. Coyotes consume a wider variety of foods in fragmented, human-dominated habitats than in heavily forested regions where the variety of potential prey species (and carrion) are greatly reduced.

In Maine, coyotes rely heavily on white-tailed deer and snowshoe hare (*Lepus americanus*) to satisfy their annual dietary requirements. Reliance on these two species appears to be greatest in parts of Maine dominated by industrial timberland (northern, western and eastern Maine).<sup>7</sup> Relative vulnerability of deer and hare is related to coyote and deer mobility in snow. When snow is shallow, coyotes readily hunt and consume snowshoe hares. However, when coyote and deer mobility is hampered by deep snow, coyotes reduce hunting effort on hares and concentrate on deer. Based on studies of coyote scats, deer may comprise 50 to 80% of coyote diets in winter.<sup>16</sup>

Although coyotes will readily kill deer which are debilitated by old age, malnutrition and disease, coyotes are by no means restricted to killing the "misfits" in a deer population. In a 12-year

statewide study of winter losses in Maine,<sup>17</sup> we found that only 15% of the 873 deer killed by coyotes in winter were severely malnourished. The majority of deer killed by coyotes were in good physical condition, based on the status of fat reserves. In addition, all age classes of deer, and both sexes, were nearly equally vulnerable to predation by coyotes.

Coyotes which hunt in groups of 2 or more individuals appear to be more successful at killing deer than coyotes which hunt alone.<sup>8</sup> Hence, the aggregations of coyotes we sometimes observe in and near deer wintering areas may be an adaptation to hunting large prey. Whether or not an individual deer is vulnerable to predation by coyotes may depend less on its age, sex, or nutritional status, but rather on its ability to escape a chase involving 2 or more coyotes engaged in a coordinated pursuit.<sup>17</sup> Therefore, factors which impede rapid escape would reduce a deer's odds for survival. Such factors include glare ice, deep snow, crusted snow, impeding vegetation (e.g. dense spruce-fir thickets which are difficult to traverse), and a lack of extensive escape trails in wintering areas. The latter factor may be particularly important. Deer wintering areas which have been extensively logged may pre-dispose deer to higher winter losses. Extensive mortality of spruce and balsam fir during the spruce-budworm epidemic during the 1970's and 1980's may have created similar conditions.<sup>18</sup> Such extensive alterations in deer wintering habitat may: 1. reduce the area occupied by wintering deer; and 2. increase the energetic costs of making and maintaining escape trails (because snow depths are greater where the softwood canopy has been removed). Both of these effects would reduce the ability of deer to thwart pursuit by coyotes by increasing the likelihood of getting "bogged down" in deep snow. Finally, there may be an optimum density below which deer become increasingly vulnerable to predation by coyotes. Creation of extensive trail networks in a deer wintering area requires considerable energy expenditure by deer. Wintering areas populated by only a few deer lack well-maintained, extensive trail systems. Hence, deer in under-populated wintering areas may be more vulnerable to losses to coursing predators such as coyotes.<sup>19</sup>

During most snow-free times of the year, coyote dependence on deer decreases, while utilization of smaller prey, and fruits increases. Analysis of coyote scats in late summer and fall in Maine suggested deer comprised 20% to 30% of coyote diets.<sup>16</sup> However, at least in the predominately forested parts of Maine, deer comprised up to 90% of diets consumed by breeding pairs of coyotes and their dependent pups during May and June.<sup>11</sup> This diet included newborn fawns and adult deer. Since little deer carrion is typically available in late spring and early summer, these deer largely represent predation losses. Little is known about the dynamics of coyote predation on deer during snow-free times of the year.

Our deer herd, which averaged 250,000 in early autumn, sustained a loss of 75,000 deer to all causes over the past year (1995). Based on an analysis of annual losses in the statewide deer herd during 1990-94,<sup>20</sup> predation by coyotes accounts for nearly 30% of annual losses among deer which are  $\geq 4$  months of age. Of the 75,000 total mortality, about 22,000 deer were estimated to have been killed by coyotes. Among other leading causes of mortality were legal hunting (25,000 deer), unreported illegal hunting (12,500 deer), and road-kills (4,000 deer). Most losses to coyotes ( $> 17,500$  deer) likely occurred during winter.<sup>20</sup>

In addition to predation on deer older than 4 months, coyotes may be an important source of mortality among newborn and very young fawns.<sup>11</sup> Each year during 1990-94, Maine's 95,000 white-tailed does produced at least 117,000 fawns. Yet, within 4 months, only 74,000 remained alive. Hence early fawn mortality averaged 37% or 43,000 fawns. The rate of early fawn mortality is higher today than was the case in the 1950's, prior to the establishment of coyotes in Maine. During 1990-94, about 20% (9,000 fawns) of the early losses of fawns less than 4 months old were attributable to coyote predation.<sup>20</sup>

The above projections were compiled for the statewide population. The contribution of coyote predation relative to other factors likely varies regionally in Maine. Generally, coyote predation comprises a smaller fraction of total losses in central and southern regions where: 1. alternate prey and carrion is more readily available; 2. wintering habitat for deer is more abundant and of better quality; 3. less severe winters prevail; and 4. deer populations are higher, and hence are better able to absorb predation losses.

### Impact of Coyotes on Deer Populations

Deer are subjected to a wide array of mortality factors. The list includes hunting (legal, illegal, and wounding loss), road-kill, other accidents (e.g. falls on ice, drowning, even lightning strikes!), predation (from coyotes, dogs, black bears, bobcats, even by foxes and fishers on newborn fawns), malnutrition, disease, and “old age” maladies.<sup>20</sup> No one of these loss factors can be considered apart from the rest when we evaluate the impact of mortality on the deer population.<sup>21</sup> What matters is whether the sum of these various losses exceeds the number of fawns produced to replace older deer which have died (referred to as “recruitment”). During years when total losses exceeded recruitment, the herd declined. When recruitment exceeded adult losses, the herd grew. On those rare occasions when mortality and recruitment were balance, the herd stabilized.

When deer populations are held well below what the habitat will support, most causes of mortality in the herd are additive.<sup>22</sup> In other words, an increase in one cause does not cause a decrease in another. When losses are additive, an increase in one cause results in an increase in total losses.

In contrast, when deer populations are at or near a maximum for that habitat, many forms of mortality are compensatory.<sup>22</sup> That is, an increase in one mortality factor is matched by a decrease in another form of mortality. Deer maintained at the maximum limit of their summer food supply compete for scarce food resources. Such deer are thin, and a significant proportion of the herd is susceptible to malnutrition losses in winter. Under this scenario, an increase in deer mortality to hunting, for example, would cause a corresponding reduction in the number of deer which later die from malnutrition.

During the past 25 years, Maine’s deer herd has remained well below the carrying capacity of its summer habitat.<sup>23</sup> It follows that most losses, including deer losses to coyotes, were additive in nature. Since few adult deer in summer are demonstrably debilitated either from poor nutrition or from injury or disease, most such losses to coyotes during the snow-free time of the year are additive. In addition, the finding that total losses of young fawns in summer was higher after coyote establishment in Maine than previously, suggest that coyote predation on newborn fawns is an added drain on the herd’s ability to replace losses to adult deer.

Unfortunately, interpretation of winter deer losses to coyotes is not so clear-cut. On the surface of it, the finding that: 1. coyote predation was the leading cause of winter deer mortality during 1978-89; and 2. that most deer selected by coyotes were still in “good” physical condition suggests an additive loss to the herd.<sup>24</sup> In practice, however, this may only be partially true. Since 1970, the amount and quality of wintering habitat has declined markedly, particularly in northern, eastern and western Maine townships.<sup>19</sup> While that habitat base was eroding (through logging and spruce-budworm mortality), predation by coyotes was the predominant mortality factor.<sup>24</sup> Regardless of the existence of coyotes in Maine, there is no question that the winter carrying capacity for deer in at least half of the state of Maine is much lower today than was the case 25 years ago. If there were no coyotes, winter losses to malnutrition would have gradually



increased wherever yarding habitat was degraded. Under this scenario, however, the herd may have taken many more years to adjust to its new (lower) carrying capacity.

There is little doubt that the establishment of coyotes has complicated deer management in Maine and the northeastern U.S. Depending on the magnitude of other herd losses, coyote predation can contribute to total losses which exceed the herd's ability to maintain stable populations. Then too, the additional mortality to the annual crop of newborn fawns caused by coyote predation today reduces the ability of the herd to rebound whenever high losses to adult deer occur.

It is likely that coyotes played a role in the deer population declines which occurred first in the 1970's in Quebec and Maine, and in the 1980's in New Brunswick and Nova Scotia. Also inherent in these herd declines were a reduction in winter habitat quality and an initial failure to reduce total losses of deer (primarily by regulating doe harvests) to levels which the herd could sustain. In Maine, the implementation of the Any-Deer permit system was designed to bring adult doe losses down to levels which each regional population could sustain.<sup>21,25</sup> In the absence of coyotes, annual hunter harvests would certainly be higher, but deer populations in eastern, western and northern Maine would still have declined from levels we enjoyed 25 to 35 years ago. It is also important to note that, in any part of the state, severe winters will periodically inflict heavy winter losses on the herd. However, sustained predation by coyotes during subsequent winters may retard herd recovery back to the long-term carrying capacity of the wintering habitat.

Most locations in central and southern parts of Maine support sizeable deer populations while sustaining respectable deer harvests,<sup>26</sup> and while absorbing ongoing predation by coyotes. This is possible because: 1. deer populations remain high enough to readily absorb coyote losses; 2. doe harvests are tailored to balance out total losses vs. fawn production; 3. wintering habitat is relatively abundance and of good quality; and 4. severe winters are infrequent. If each of these conditions remain unchanged, IF&W can manage for an abundant, harvestable deer resource indefinitely. However, in the remainder of the state, major improvements in sustainable deer populations will only occur when, and if, the quantity and quality of wintering habitat increases.

### Feasibility of Coyote Control

Since coyotes do impact deer populations to varying degrees in Maine, the idea of reducing coyote populations to increase deer is popular among deer hunters. Aside from ethical considerations surrounding the killing of one species to favor another, long-term suppression of coyote populations over large areas is not biologically achievable using traditional hunting and trapping techniques. The coyote evolved with a high and changeable reproductive rate as well as the ability to quickly fill vacant territories by dispersal of juveniles. Both are superb strategies which evolved among coyotes to counter the effects of high mortality rates.

Suppression of coyote populations in Maine would require an annual removal in excess of 70% of the peak autumn population.<sup>27</sup> In the first year, that would require a human-induced mortality of more than 7,000 to 11,000 coyotes.<sup>1</sup> This level of coyote removal has never been achieved in the open rangelands of the Western U.S., even when poisons were legal for coyote control. In heavily forested Maine, our annual harvests of <2,000 coyotes are a far cry from the harvest level which is required to cause coyote numbers to decline.

Major alterations in harvest strategies for coyote which increase IF&W's financial and manpower commitments, or which divert these resources from other necessary functions while also failing to provide long-term suppression of coyote populations, cannot reasonably be justified. Therefore, coyote bounty systems, however popular among some members of the public, cannot be recommended as a viable option to increase either the deer population or hunter harvests of deer in Maine.

It may, however, be feasible to intensively remove enough coyotes from small areas to temporarily reduce their impact on deer. In fact, some of our ADC cooperators who snare coyotes in winter may temporarily reduce coyote predation in some individual deer wintering areas. However, these small locations appear to be quickly repopulated with coyotes, since there are usually as many coyotes available for capture during the next yarding season. Therefore, any positive effects of coyote removal remains localized within a small areas and are temporary at best.

### Recommendations

The following recommendations are offered for consideration by the Maine Legislature.

1. Inland Fisheries and Wildlife's Animal Damage Control (ADC) Program should be examined relative to removal of coyotes in winter. Currently, IF&W expends approximately 10-15% of its ADC annual budget directly on coyote control efforts. This includes contracts with trained ADC trappers that snare during winter months in deer yards, and hourly wages and mileage reimbursements for ADC trappers responding to local or temporary deer yard impacts by coyotes. These coyote control efforts now total approximately \$5,000 to \$15,000 annually, depending on the severity of the winter, the identification of areas with higher coyote impacts, and the availability of ADC trappers trained in the use of snares.

It may be desirable to focus ADC efforts away from areas where the deer population is already thriving or away from areas where depleted wintering habitat cannot support higher deer numbers. Coyote control efforts should also be avoided in areas where deer cannot be hunted. Therefore, efforts could be directed at areas most likely to see a benefit. Inland Fisheries and Wildlife is currently working towards redirecting the funded portion of our snaring program (as opposed to the opportunities for recreational snaring) towards areas where deer may benefit most from local, temporary reductions in coyote numbers.

2. Recognize that the real obstacle to attaining a higher deer population in more than half of the state is the declining quality and quantity of wintering habitat for deer. A real opportunity exists to improve long-term carrying capacity for deer if we can find an efficient way to protect and enhance a minimum of 1.5 million acres of deer wintering habitat, statewide.<sup>28</sup> Committing state funds and effort toward habitat conservation would, in the long-run, be far more cost-effective than engaging in widespread coyote killing campaigns.

Currently, the Wildlife Division is working with several large industrial landowners to plan, on a landscape or watershed basis, for maintaining and enhancing deer wintering cover. This approach allows a cooperative management philosophy that will provide for deer and other wildlife in areas many times larger than traditionally zoned deer yards.

IF&W will continue to expand its efforts for cooperative management arrangements on a landscape basis with all willing landowners.

3. Coyote boundaries are not a viable option for achieving higher deer populations. Unless a bounty system can remove more than 70% of the coyote population annually, and prevent rapid re-colonization from surrounding states and provinces, real suppression of coyote populations can never be achieved. Also, bounties are not directed and do not remove the animals that may be causing the greatest impact. Animal damage control efforts are always most effective when the specific problem animals are targeted.

## Literature Cited

1. Hilton, H. 1986. Eastern coyote assessment – 1986. Pages 524-562 *in* Planning for Maine's inland fish and wildlife. Vol. I, Part 1.3. Species assessments and strategic plans. Maine Department of Inland Fisheries and Wildlife, Augusta, ME.
2. Hilton, H. 1992. Coyotes in Maine: a case study. Pages 183-194 *in* Boer, A. H., eds, Ecology and management of the eastern coyote. Wildlife Research Unit, University of New Brunswick, Fredericton, N. B., Canada.
3. Moore, G. C. and G. R. Parker. 1992. Colonization by the eastern coyote. Pages 23-37 *in* Boer, A. H., ed., Ecology and management of the eastern coyote. Wildlife Research Unit, University of New Brunswick, Fredericton, N. B., Canada.
4. Wayne, R. K. and N. Lehman. 1992. Mitochondrial DNA analysis of the eastern coyote: origins and hybridization. Pages 9-22 *in* Boer, A. H., ed., Ecology and management of the eastern coyote. Wildlife Research Unit, University of New Brunswick, Fredericton, N. B., Canada.
5. Richens, V. B. and R. D. Hugie. 1974. Distribution, taxonomic status and characteristics of coyotes in Maine. *J. Wildl. Manage.* 38:447-454.
6. Burt, W. H. and R. L. Grossenheider. 1976. A field guide to the mammals. Houghton Mifflin Co., Boston, MA. Pp 70-72.
7. Harrison, D. J. 1992. Social ecology of coyotes in northeastern North America: relationships to dispersal, food resources, and human exploitation. Pages 53-72 *in* Boer, A. H., ed., Ecology and management of the eastern coyote. Wildlife Research Unit, University of New Brunswick, Fredericton, N. B., Canada.
8. Hilton, H. 1978. Systematics and ecology of the eastern coyote. Pages 210-228 *in* Beckoff, M., ed., Coyotes: biology, behavior, and management. Academic Press, Inc., Boston, MA.
9. Chambers, R. E. 1992. Reproduction of coyotes in their northeastern range. Pages 39-52 *in* Boer, A. H., ed., Ecology and management of the eastern coyote. Wildlife Research Unit, University of New Brunswick, Fredericton, N. B., Canada.
10. Harrison, D. J. and J. R. Gilbert. 1985. Denning ecology and movements of coyotes in Maine during pup rearing. *J. Mammal.* 66:712-719.
11. Harrison, D. J. and J. A. Harrison. 1984. Foods of adult Maine coyotes and their known-aged pups. *J. Wildl. Manage.* 48:922-926.
12. Harrison, D. J. 1986. Coyote dispersal, mortality and spatial interactions with red foxes in Maine. Ph.D. Thesis, University of Maine, Orono, ME. 109pp.
13. Hunt, J. H. 1980. Analysis of biological data. Progress Report, Job 106, W-69-R-10. Department of Inland Fisheries and Wildlife, Augusta, ME. 6pp.

14. Anon. 1995. Maine Hunting and Trapping Regulations Summary. Department of Inland Fisheries and Wildlife, Augusta, ME. 48pp.
15. Anon. 1993. Administrative Policy Regarding Nuisance Wildlife. DP-E.5. Department of Inland Fisheries and Wildlife, Augusta, ME. 16pp.
16. Dibello, F. J., S. M. Arthur, and W. B. Krohn. 1990. Food habits of sympatric coyotes, red foxes and bobcats in Maine. *Can. Field Nat.* 104:403-408.
17. Lavigne, G. R. 1992. Sex/age composition and physical condition of deer killed by coyotes during winter in Maine. Pages 141-159 *in* Boer, A. H., ed., Ecology and management of the eastern coyote. Wildlife Research Unit, University of New Brunswick, Fredericton, N. B., Canada.
18. Messier, F., C. Barrette, and J. Huot. 1986. Coyote predation on a white-tailed deer population in southern Quebec. *Can. J. Zool.* 64:1134-1136.
19. Lavigne, G. R. 1991. Wintering Habitat Requirements [of white-tailed deer]. Appendix II *in* Anon 1990. Deer habitat management system and database. Department of Inland Fisheries and Wildlife, Augusta, ME. 70pp.
20. Lavigne, G. R. (in prep). Population and Mortality Characteristics of Maine's Deer Herd. Maine Fish and Wildlife Magazine, Department of Inland Fisheries and Wildlife, Augusta, ME.
21. Lavigne, G. R. 1995. Deer Management in Maine: What's it all About? Maine Fish and Wildlife Magazine. Fall 1995, 6pp.
22. McCullough, D. R. 1979. The George Reserve Deer Herd, University of Michigan Press, Ann Arbor, MI. 271pp.
23. Lavigne, G. R. 1986. Deer assessment – 1985. Pages 245-321 *in* Planning for Maine's Inland Fish and Wildlife, Vol. I, Part 1.3, Species Assessments and Strategic Plans. Department of Inland Fisheries and Wildlife, Augusta, ME.
24. Lavigne, G. R. 1992. Winter mortality and physical condition of white-tailed deer in Maine, 1969-89. Final Report, Project W-67-R-170. Department of Inland Fisheries and Wildlife, Augusta, ME. 30pp.
25. Anon. 1989. Deer Population Management System and Database. Department of Inland Fisheries and Wildlife, Augusta, ME. 401pp.
26. Anon. 1995. Wildlife Division Research and Management Report. Department of Inland Fisheries and Wildlife, Augusta, ME. 70pp.
27. Connolly, G. E. 1978. Predator control and coyote populations: a review of simulation models. Pages 327-346 *in* Beckoff, M., ed., Coyotes: biology, behavior, and management. Academic Press, Inc., Boston, MA.
28. Anon. 1990. Deer Habitat Management System and Database. Department of Inland Fisheries and Wildlife, Augusta, ME. 20pp.

## Appendix 3H

### **Black Bear Management Goals and Objectives 2000 – 2015**

*Adopted by MDIFW Commissioner and Advisory Council  
February 22, 2001*

#### Wildlife Management Districts 1-23 and 25-28<sup>1</sup>

**Goal:** Provide hunting, trapping and viewing opportunity for bears.

**Objective 1:** Stabilize the bear population by 2005 at no less than current (1999) levels, through annual hunting and trapping harvests.

**Objective 2:** Create information and education programs by 2002 that target specific audiences and promote traditional hunting and trapping methods as valid and preferred tools to manage black bear populations in Maine.

**Objective 3:** Create information and education programs by 2002 that target specific audiences and promote public tolerance of bears in Maine.

#### Wildlife Management District 29

**Goal:** Provide hunting, trapping and viewing opportunity for bears.

**Objective 1:** Increase the traditional hunting and trapping effort on bears within the existing season framework to reduce fawn mortality by 15% by (date - to be determined by IF&W).

**Objective 2:** Create information and education programs by 2002 that target specific audiences and promote traditional hunting and trapping methods as valid and preferred tools to manage black bear populations in Maine.

**Objective 3:** Create information and education programs by 2002 that target specific audiences and promote public tolerance of bears in Maine.

---

<sup>1</sup> Wildlife Management Districts 24 and 30 have high human populations and fragmented forests that are largely unsuitable as bear habitat. Consequently, the public working group did not develop goals and objectives for these districts.

## Appendix 3I

### 1993 Downeast Deer Committee Report

In 1993, the Maine Department of Inland Fisheries and Wildlife formed a committee to review options that would result in an increase of the deer population in DMD 17. Committee members included:

Sgt. Francis Reynolds  
Sgt. Mike Marshall  
Tom Schaeffer  
Ken Elowe  
Rich Dressler  
Mark Stadler  
Gerry Lavigne  
Gary Donovan

The Downeast Deer Committee developed a number of recommendations and Regional Wildlife Biologist Tom Schaeffer summarizes the Downeast Deer Recommendations and their current (2007) status below:

#### Personnel needs:

Warden district vacancies were identified as an issue in DMD 17. Since that time, warden districts have generally been consistently filled without any significant number or persistent vacancies. Currently, one strategic district (Wesley) has been vacant since last fall. With regards to any special or focused "additional enforcement assistance during late summer and early fall," I am not aware of any provision that was implemented.

#### Habitat:

Habitat condition, particularly winter shelter, was considered to be the most important factor limiting any meaningful increase in deer numbers in Washington County. DMD 17 can be characterized as having expansive areas of regeneration with relatively small inclusions of isolated conifer shelter. Budworm, hemlock looper, accelerated wood harvesting has dramatically reduced the carrying capacity of DMD 17 to support the number of deer demanded by residents of this region. The following actions are recommended:

- a. *Identify historic deer wintering areas and work with landowners to develop watershed management plans that incorporate these areas. These plans should promote riparian travel corridors to available shelter and timber stand improvement techniques to accelerate growth of regenerated softwood stands.*

Region C Wildlife Division staff developed a Deer Habitat Management Proposal in March of 1995 (copy provided previously) which originally proposed four "Habitat Focus Areas" that were based on historical deer wintering area records, but were large enough to manage habitat for annual requirements of deer. Similar in origin to areas that have been recently managed under cooperative agreements with corporate landowners, the concept was broadened to cooperatively develop various silvicultural and other

management treatments (regulations, enforcement, habitat, predation, etc.) on defined areas as test/demonstration sites to determine if deer populations could be increased, and the influence of various factors on those changes. These proposals were taken to corporate landowners who eventually decided not to participate.

- b. *Promote herbaceous seeding of winter logging roads, log landings, stream crossings, etc. to provide high quality spring forage.*

Region C Wildlife Division staff have advocated for applied and appropriate herbaceous seeding with both private and corporate landowners including commercial blueberry growers and forest managers. Herbaceous seeding is considered SOP now for many land managers in controlling erosion and minimizing impacts from various land use practices. Regional wildlife staff continues to recommend seed mixtures that feature both palatable and nutritious forage where appropriate. Consultations and assistance have been provided to large scale efforts that include, as an example, Project Share road and stream crossing restoration efforts associated with downeast rivers, Downeast Lakes Land Trust timber management plan, Washington County Conservation Association (WCCA) efforts for habitat improvement projects along 80+ miles of new BHE powerline ROW, etc.

- c. *Encourage forest harvest operations in the winter, particularly if near deer wintering areas in order to make browse available to deer.*

This is nearly a standard recommendation for timber harvest operations in DWAs, and one that has been implemented both in recent management efforts both in currently zoned and historic DWAs where we have had management input.

- d. *Prioritize NRPA zoning (rating) of High and Moderate DWAs in organized towns in DMD 17.*

Annually developed plans for aerial surveys of DWAs have included WMDs 27 and 28, which comprise that which was formerly DMD 17. In most years, annual DWA aerial surveys have not materialized due to the lack of sustained and/or variable wintering conditions. A concerted effort was made during one winter that was characterized by continuous, restrictive conditions, and major watersheds in the DMD were flown to locate DWAs. It should be noted that there are other means by which DWAs in organized towns have either been NRPA rated, maintained, and/or managed including the environmental review process with either state and/or municipal regulatory authorities, review of Forest Operations Notifications and ensuing consultations with land owners/managers, and advocate that private, concerned stakeholders become active and participate in their town's comprehensive planning / ordinance development process that recognizes and incorporates deer wintering and other wildlife habitats into open space and other non- or low-developed areas.

- e. *Encourage the Refuge Manager at Moosehorn National Wildlife Refuge to implement a long-term DWA shelter management strategy in both the Edmunds and Baring Units.*

This topic was just recently the topic of communications between Moosehorn's resident wildlife biologist, MDIFW's deer biologist, and Region C Regional Wildlife Biologist. The Refuge is currently in the process of developing the 15-year segment of their "Comprehensive Conservation Plan," and are soliciting input by biologists from WRAS



and Region C. Both Lee Kantar and I have responded favorably and will be working with the Refuge to further develop management strategies on the Baring (20,000 acres) and Edmunds (9,000 acres) Units.

It should be noted that other efforts at maintaining and enhancing winter habitat have occurred during this period which were not specifically identified by the committee ... such as MDIF&W working with land management corporations overseeing investment based land holdings to alter harvest prescriptions on previously identified but currently unzoned (and lightly or non-populated) DWAs, as well as recent efforts to formalize cooperation between non-corporate landowners (State Department of Conservation, Passamaquoddy Tribe, Downeast Lakes Land Trust, MDIF&W, etc.) to prioritize riparian habitat management featuring, where site appropriate, contiguous softwood stands that provide winter shelter and travel corridor values on a landscape level.

#### Predation:

*Continue to utilize the Animal Damage Control program and available funding to monitor and resolve winter predation on deer in DWAs*

Until its suspension after the winter of 2003, the ADC program was actively implemented in Region C.

#### Statutes:

*Recommendation by Warden Service to increase penalties for the illegal taking of does as a deterrent.*

Legislation advocated by Washington County Conservation Association (WCCA), sponsored by Senator Raye, passed by 122nd Legislature and became effective in fall 2006 (limited to Washington County only).

#### Regulations:

- a. *Recommendation that archery regulations parallel firearm regulations in bucks only restrictions.*

This provision recently advocated by WCCA, as well as restricting youth day to bucks only, but no sponsored legislation to date.

- b. *Discussion on possible closing of season in DMD 17.*

This has been a topic of frequent discussion downeast for the past 20 years. Scientific theory would suggest that hunting bucks only should not limit reproductive capability of the deer herd, and that such an action would punish the licensed, law-abiding hunter to hopefully dampen or nearly eliminate illegal take of does. Practical application, at least suggested by experience in New Brunswick, would seem to suggest that deer population increase and possible recovery could very well be shortened by such an action.

## **Appendix 4**

### **Meeting #3 – July 9, 2007**

---

- Appendix 4A Summary of Meeting #3
- Appendix 4B 2005 Biennial Report on the State of the Forest and Progress Report on Forest Sustainability Standards
- Appendix 4C Land Use Regulation Commission's Policies Concerning Deer Yard Issues
- Appendix 4D Deer Habitat Management System

## Appendix 4A

<h1 style="margin: 0;">Northern and Eastern Maine Deer Task Force</h1> <p style="margin: 0;">Meeting #3 July 9, 2007 MDIFW Bangor Headquarters 10:30 a.m. – 2:30 p.m.</p>			
<b>Facilitator:</b>	Matt Libby, Chair Sandy Ritchie and Gene Dumont, MDIFW	<b>Note Taker/Recorder:</b>	Sandy Ritchie – Recorder Sandy Ritchie – Meeting Summary
<b>Next Meeting:</b> August 2, 2007; 10:30 a.m. – 2:30 p.m. (lunch provided)			
<b>Participants:</b>	<p><b>Task Force Members:</b> Matt Libby, Chair, Maine Sporting Camp Owners Association; Tom Doak, Small Woodland Owners Association of Maine; Pat Strauch, Maine Forest Products Council; Gerry Lavigne, Sportsman’s Alliance of Maine; Sally Stockwell, Maine Audubon; Mac Dudley, Maine Bowhunter’s Association; Don Dudley, Maine Trappers Association; Lee Kantar, MDIFW Deer Biologist; Rich Hoppe, Regional Wildlife Biologist, Region G; Tom Schaeffer, Regional Wildlife Biologist, Region C; and Gene Dumont, Wildlife Management Section Supervisor.</p> <p><b>MDIFW:</b> Ken Elowe, Mark Stadler, Sandy Ritchie, Danielle D’Auria, Mark Caron, Arlen Lovewell, Al Starr.</p> <p><b>Observers/Presenters:</b> Gordon Mott, Barry Burgason (Huber Resources), Mike Dann (Seven Islands), John Cashwell (Seven Islands), David Dowe (Prentiss &amp; Carlisle), Chris Martin (Maine Forest Service), Kasey Legaard (UMaine), Erin Simons (UMaine), Bill Krohn (Maine Cooperative Fish and Wildlife Research Unit), Fred Todd (LURC), Tim Scott (Orion Timberlands), Rod Cumberland (New Brunswick Natural Resources), and Scott Makepeace (New Brunswick Natural Resources)</p>		
<b>Action Items:</b>	<ul style="list-style-type: none"> <li>• Overlay DWAS in WMD 5 with covertime maps from Huber, Seven Islands, JD Irving, and Orion to assess cover status.</li> <li>• MDIFW develop an initial list of strategies as a springboard for developing recommendations to increase the deer population in northern and eastern Maine.</li> </ul>		
<b>Agenda – Summary of Meeting Highlights</b>			
<p>The Department is recording each Task Force meeting; however the intent of this summary is to capture the highlights rather than provided a detailed transcript.</p> <p><b>1. Mapping 30 Years of Forest Cover Change in Northern Maine: Preliminary Analyses</b> – Bill Krohn, Leader of the Cooperative Fish and Wildlife Research Unit and Ph.D. students Kasey Legaard and Erin Simons discussed their research as part of an ongoing cooperative project with Dan Harrison to evaluate trends in forest harvest patterns and consequent changes in lynx and marten habitat quantity and distribution. Kasey’s powerpoint presentation informed the task force of the ongoing retrospective study of harvest patterns and a summary of the broad trends they have observed from preliminary analyses.</p>			

Conclusions:

- Coniferous forest area has decreased and deciduous/mixed forest area has increased between 1975 and 2004.
- “Mature” coniferous forest (uncut since 1975) is increasingly fragmented.
- Results are preliminary, pending completion of map accuracy assessment.
- Study area is *part* of northern Maine.
- Not designed as a study of deer habitat – Cannot assume that a map of “mature” coniferous forest is itself a surrogate of a map of suitable winter habitat.

**2. Overview of the 2005 Maine Forest Service Biennial Forest Report to the 122<sup>nd</sup> Legislature** – Chris Martin from the Maine Forest Service provided a summary of forest condition from the *2005 Biennial Report on the State of the Forest and Progress Report on Forest Sustainability Standards*. Highlights of Chris’ presentation as well as the Executive Summary of the report follow:

- Maine’s forest inventory has stabilized over the last several years at 275 million cords – 87% more than the 1950s.
- Harvesting has stabilized at just over 500,000 acres per year, with a total harvest of just over 6 million cords per year.
- Partial harvest methods dominate forest management, accounting for fewer than 60% of harvest acreage. Shelterwood harvesting accounts for 36% of harvest acreage. Clearcutting now accounts for less than 5% of harvest acreage, a significant decline over the last 15 years.
- The composition of Maine’s forest stands is approximately 1/3 softwood and 2/3 hardwood.
- Maine’s forest stands are roughly evenly divided between sawtimber, poletimber and seedlings/sapling size stands.
- From 1982-2003 softwood timberland acreage in Piscataquis County has declined from 1,482,287 to 959,733. Potential acreage of deer winter cover has declined from 693,537 to 321,274 (Doesn’t consider patch size or juxtaposition. Based on FIA attributes, basal area, and stocking densities.).

**3. Review of WMD 5 DWAs (as a sample of northern Maine)** – Danielle D’Auria from MDIFW’s Habitat Group presented a comparison of historic deer wintering areas in Wildlife Management District 5 and areas currently protected (either via LURC, Natural Resources Protection Act, or under cooperative management agreements) in the WMD. The historic DWA layer was created by digitizing areas known to be used by deer in the winter over the past 50 years. These areas were often identified by flight and were hand drawn on paper maps, which were then free-form digitized using GIS. Where areas from different years overlapped, they were merged into one polygon. All major waterbodies were clipped out of the polygons, in an effort to capture only the land area used by deer.

In WMD 5 there were 172,521 acres of deer wintering areas. Currently, 68,573 acres are in some sort of protection: 22,591 (LURC), 861 (NRPA), and 45,121 (cooperative agreements).

**4. LURC DWA Policy** – Fred Todd with the Maine Land Use Regulation Commission discussed LURC’s policies concerning DWA issues (Appendix E was distributed at the meeting).

**5. IFW Proposed LURC P-FW Zoning Criteria Changes** – Mark Stadler suggested deferring this topic to a future discussion of recommendations to increase Maine’s deer population.

**6. New Brunswick Department of Natural Resources DWA Issues** – Rod Cumberland and Scott Makepeace described New Brunswick’s experience with deer management in the province.

- As a result of a significant deer population decline, New Brunswick has closed the northern third of the province to deer hunting for 13 years following several years of bucks-only hunting. They now have a limited, restricted hunt in parts of the area.
- 80% of deer in New Brunswick are found associated with 2-3 major river valleys and agricultural/private lands.
- Harvest is one-third of what it was in 1980.
- New Brunswick is growing all of their zones to carrying capacity. Goal is for a harvest of 15,000 deer province-wide.
- New Brunswick doesn't practice predator control and never has.
- DWA habitat on private lands – no regulations, no control. The province has worked with a couple of marketing boards to develop management plans, but none have been formally adopted.
- DWA habitat on crown lands – in the late 1980s New Brunswick developed a spatial analysis depicting where deer existed on the landscape. 270,000 ha (8-9% of crown lands) was designated as deer wintering area. Beginning in 1992 a licensee was required to develop a DWA management plan in order to harvest timber. The intent of the management plan was to maximize the amount of moderate and severe winter habitat and to supply deer with food. Limited harvesting has occurred on crown lands. Long rotations are promoted, but deer response has not been the same across all crown lands.
- Land base in wintering habitat has not been the answer in New Brunswick. New Brunswick's advice is that there will "be other houses we need to get in order" in addition to habitat. New Brunswick has many acres of DWA habitat that don't have any deer in them.

#### **7. Additional Issues and Concerns Warranting Discussion**

- Further conversations with Dan Harrison about coyotes and opportunities for "expert" rebuttal.
- Agreement on a definition of a Deer Wintering Area.
- Maintaining connectivity within and between DWAs.
- Concern was expressed about the amount of work and commitment demonstrated by this Task Force being lost if another separate group is formed to address the legislative resolve.

#### **8. Next Meeting**

- When: Thursday, August 2, from 10:30 a.m. – 2:30 p.m. (lunch provided)
- Where: First floor conference room at MDIFW in Bangor
- Meeting Purpose: Begin developing recommendations for increasing the deer population in northern and eastern Maine (to include a summary of major problems and issues and agreement on a goal/target).
- Materials Needed – It was suggested that MDIFW provide an initial list of strategies from which to start developing recommendations.

Appendix 4B

**The 2005 Biennial Report on the State of the Forest  
and  
Progress Report on  
Forest Sustainability Standards**

Report to the  
Joint Standing Committee of the  
122<sup>nd</sup> Legislature on  
Agriculture, Conservation and Forestry  
29 December 2005

Department of Conservation  
Maine Forest Service  
Forest Policy and Management Division  
22 State House Station  
Augusta, Maine 04333  
[www.maineforestservice.org](http://www.maineforestservice.org)

(View a copy of the report at  
[http://www.maine.gov/doc/mfs/pubs/pdf/2005sof\\_full\\_rpt.pdf](http://www.maine.gov/doc/mfs/pubs/pdf/2005sof_full_rpt.pdf))

## Appendix 4C

### **Land Use Regulation Commission's Policies Concerning Deeryard Issues**

Twice the Commission has comprehensively reviewed and discussed its deer wintering area program in response to specific concerns and changes affecting the program. No other aspect of the Commission's programs has elicited such singular attention over the years, a measure of the value of the affected resources to all parties.

The first review, undertaken in 1981, resulted in a document which set forth the Commission's policies regarding a number of issues associated with the deeryard zoning program. The second review was initiated in 1988. It resulted in a policy document addressing a number of issues and several rule changes.

The findings of these two reviews have been integrated and updated and are presented below.

#### **The Taking Issue**

In 1980, the Commission's deer wintering area zoning program was constitutionally challenged in court. After examining all of the constitutional issues involved, the Maine Supreme Judicial Court upheld the concept of using zoning to protect wildlife populations and the Commission's deer wintering area zoning in particular.

#### **Burden on Landowners**

The Commission's review of the deeryard program included extensive consideration of whether restrictions on the level of activity permitted in P-FW zones create an undue burden for landowners. The Commission recognizes that the harvesting of trees within P-FW Subdistricts carries higher administrative and operating costs than comparable operations in M-GN zones, and that removal restrictions limit the short-term return from these areas. Nevertheless, it finds that deer and timber management are not mutually exclusive and that these costs are neither excessive nor unjustified. The Commission acknowledges that many deeryards do not represent ideal situations with respect to management many are even-aged, overmature, or both. But productive timber management in deeryards is possible with proper planning. Unfortunately, many landowners have not availed themselves of the various options provided by the deeryard program, such as harvesting by plan agreement, harvesting by LURC permit, or harvesting under a long-range management plan.

Not finding existing management options inflexible or overly limiting, the Commission does not consider zoning additional acreage unduly burdensome. Nonetheless, it recognizes that there are bound to be cases in which harvesting in excess of I&FW guidelines is justified based on special site conditions or other factors. It encourages landowners to utilize the permitting process to seek approval for harvesting in these cases.

The Commission recognizes the special economic hardships which, under particular circumstances, may be caused by rigid adherence to deer yard zoning criteria and cutting prescriptions, particularly for the small landowner. Accordingly, the Commission accepts that it has an important role to play in striking a reasonable balance between the needs of deer and

the needs of landowners. In seeking to strike that balance in a fair way, the Commission will exercise care to prevent any landowner from being unduly burdened for the protection of the deer resource.

The Commission will be responsive to concerns expressed about undue economic hardship and will determine, on a case by case basis, whether a particular deer yard zone is necessary and reasonable in terms of its benefits to the public as against its economic or other burdens on the landowner. Thus, in cases where an unfair or unreasonable burden on a landowner is shown, the Commission will reconsider and, where appropriate, remove all or part of the deer yard zoning.

Having considered a variety of other approaches to responding to potential economic hardship issues caused by deer yard zoning, the Commission believes this case-by-case weighing process is the only one which allows for reasonable flexibility and responsiveness where needed without creating arbitrary and rigid rules for responding to economic hardship problems. In sum, the Commission believes that making the process more flexible and less rigid, rather than the opposite, is the proper response to this concern. This response, coupled with the other policies articulated below should provide a fair deer yard program without imposing unreasonable economic hardships on landowners.

### **The Budworm Problem**

The budworm outbreak of the 1970's and early 1980's created a conflict between the public's desire to protect important resources such as deer yards and the landowner's legitimate interest in salvaging budworm infested timber. This conflict was particularly acute because areas which comprise the best deer shelter tend to be composed of dense, even-aged over-mature spruce and fir, the very forest components which are most susceptible to budworm. The Commission decided that it will not require the protection of deer cover which is composed of stands of dead or dying trees, even though these may be of some continuing benefit in protecting deer. In most such instances, the Commission will allow cutting of deer shelter areas. However, in cases where dead and dying trees are a relatively small component of a stand which otherwise is reasonably healthy, the Commission may decide to restrict harvesting so as to avoid destruction of the value of the residual stand as deer shelter.

### **Administrative Burdens in Managing Deer Yards**

There have been isolated instances where landowners have complained of significant costs and delays in awaiting approvals for cutting in deer yards. In response, the Commission streamlined its administrative processes and relies upon the wildlife biologists of the Department of Inland Fisheries and Wildlife to work out an acceptable cutting agreement in the field with the landowner in a timely manner. If landowners experience administrative problems or delays with this system, the Commission or its staff should be so informed immediately so that efforts may be made promptly to expedite the process.

### **Deer Yard Zoning Criteria**

The criteria used by LURC to identify deer yards have been the subject of much discussion but little criticism. The only significant criticism has been that, in focusing on protection of currently used deer yards, the Commission has not provided for the identification and protection of deer yard needs 10 to 20 years into the future. However, extending the program to cover



prospective- deer yards would be speculative and impractical. Moreover, experts indicate that deer tend to yard up in the same areas year after year. Accordingly, the Commission's program will remain focused on currently used and needed deer yards, while recognizing that, if circumstances change and deer alter their yarding habits over time, the Commission should remain flexible in altering deer yard zones accordingly.

In 1990, the Commission added a number of informational requirements to the criteria for applying protective zoning to proposed deeryards. The additional information is used to provide a broader context in which to consider individual rezoning proposals - to enable a determination that the new zone is necessary and thus more appropriate than the current zone.

The Commission also considered whether other issues should be addressed in the rezoning criteria. Landowners feel that the economic and management impacts of deeryard rezoning proposals should be reflected directly in the rezoning criteria. The Commission recognizes the costs associated with its regulation of deeryard zones. It also recognizes the costs associated with unregulated use of resources. In the case of deeryards, these would include the decline in deer population caused by the unrestricted harvesting of deeryards and economic losses associated with the decline in passive and active recreation revolving around deer. Rather than evaluate costs to the landowner against costs to society on a case-by-case basis as part of each rezoning application, the Commission has factored these considerations into the standards governing activities in deeryards which allow continuing timber management of deeryards.

The Commission believes this is the appropriate approach to economic considerations, excepting perhaps cases involving protection zoning which encompasses most of a small ownership, for two reasons. First, the determination of what constitutes an unacceptable economic burden is a very complex, and somewhat subjective, calculation. Second, the Commission had difficulty envisioning a case in which unrestricted timber management could justifiably override deer management, thus it anticipated denying a rezoning proposal on that basis only as a rare exception to the rule.

The Commission also contemplated whether to incorporate consideration of the impact of deeryard rezonings on the wood supply in the rezoning criteria. It resolved that establishment of a limit on the amount of land that can be included within the P-FW Subdistrict in LURC jurisdiction was the most appropriate means of addressing this issue. This limit and the details of its application are described later in this document.

### **Deeryard Cutting Prescription Criteria**

The cutting prescriptions for deer yards, as provided under the guidelines of the Department of Inland Fisheries and Wildlife (IF&W), generally appear to allow for a reasonable degree of cutting on a sustained yield basis balanced with a reasonable degree of long term deer yard protection. In the past, however, there has been some confusion regarding how the cutting prescriptions are arrived at. In response to the Commission's request, IF&W has developed and made available written guidelines regarding management of deer wintering areas which are the basis for developing cutting prescriptions.

### **Future Study Needs**

The Commission wishes to encourage studies by IF&W and others on the effects on the deer herd of various deer yard management techniques, including alternative cutting prescriptions. The Commission recognizes that such studies will necessarily take a number of years and

require a long term commitment. As such studies get underway and yield results, the Commission wishes to be informed of their progress.

The Commission also encourages additional studies by IF&W to identify other wildlife values of deer yards as well as other significant wildlife and fishery habitats appropriate for P-FW zoning protection.

## **Deeryard Rezoning Process**

In 1990, the Commission made some changes to the deeryard rezoning process. These changes were designed to promote cooperation and coordination between IF&W and the landowner, while providing equal opportunities for evaluation of the suitability of an area for deeryard zoning. Landowners are either given the opportunity to attend IF&W's ground survey of an area under consideration as a deeryard, or they are granted the right to petition the Commission for reconsideration of a deeryard rezoning if they have information suggesting that zone criteria were not met. This approach is designed to give landowners equal opportunity to evaluate the scientific basis for the proposed zone, and minimize factual disputes by promoting exploration of an area by both parties at the same time.

## **Scope of the Deeryard Rezoning Program**

Landowner concerns with the deeryard program have focused on the rezoning of land from Management Districts to Protection Subdistricts. These concerns were precipitated in large part by the addition of considerable new acreage to the deeryard program. In the latter part of the 1980's, IF&W believes that additional deeryards are needed to support the deer population in LURC jurisdiction. The discovery and documentation of new deeryards by IF&W support this contention. The Commission believes that an increase in the acreage of zoned deeryards is justified. Deer are valued highly by people in this state and their wintering habitat should be provided a reasonable level of protection. At the same time, given the uncertainties associated with a species living at the northern edge of its range and the need to reasonably consider other needs, such as the wood supply provided by these areas, the Commission is persuaded to define the scope of the deeryard protection program by establishing that zoned deeryard acreage shall not exceed 3.5% of each Deer Management District. A 3.5% cap allows for considerable, but not unlimited, expansion of the program.

The Commission recognizes that the 3.5% cap does not reflect IF&W's estimate that 5% of the landbase will be used for winter shelter by the target deer population. Nevertheless, the Commission's mandate is different from IF&W's, and directs it to provide for the multiple use of resources in its jurisdiction. The cap reflects the Commission's feeling that protection of deeryard acreage to a level of 3.5% most appropriately balances competing uses of a highly valued land resource. If the limit is reached in a particular Deer Land Use Plan Management District, the rezoning process will focus on replacing lower priority deeryards with higher priority deeryards.

## **Permanence of P-FW Zones**

In 1990, the Commission established a clearer process for reviewing the status of deeryards that are believed to be no longer used by deer. It felt the standard for removal should be strict because the deeryard program is designed to be a long-term habitat protection program, but recognized that removal of land from the P-FW designation is appropriate in some cases.

Therefore, the removal criteria specify that a deeryard must not have been used by deer for ten years to qualify for removal. If this criteria is met, IF&W and the landowner will be given the opportunity to present cases to the Commission regarding the appropriateness of retaining P-FW zoning, and the Commission will make the final decision. Alternatively, a deeryard zone may be removed without extensive documentation of no use if both IF&W and the landowner agree that removal of land from the P-FW designation is appropriate.

Appendix 4D

**DEER HABITAT MANAGEMENT SYSTEM AND DATABASE**

January 1990

Maine Department of Inland Fisheries & Wildlife  
Wildlife Resource Assessment Section  
Cervid Project  
and  
Regional Wildlife Management Section

(View a copy of the assessment at  
<http://www.maine.gov/ifw/wildlife/species/plans/mammals/whitetaileddeer/habitatmanagement.pdf> )

## **Appendix 5**

### **Meeting #5 – September 4, 2007**

---

Appendix 5A      Summary of Meeting #4

## Appendix 5A

<b>Northern and Eastern Maine Deer Task Force</b> <b>Meeting #4</b> <b>August 2, 2007</b> <b>MDIFW Bangor Headquarters</b> <b>10:30 a.m. – 2:30 p.m.</b>			
<b>Facilitator:</b>	Matt Libby, Chair Mark Stadler and Sandy Ritchie, MDIFW	<b>Note Taker:</b>	Sandy Ritchie
<b>Next Meeting: Tuesday, September 4, 2007 from 10:30 a.m. – 2:30 p.m. (lunch will be provided)</b>			
<b>Participants:</b>	<p><b>Task Force Members:</b> Matt Libby, Chair, Maine Sporting Camp Owners Association; Tom Doak, Small Woodland Owners Association of Maine; Barry Burgason Maine Forest Products Council; Gerry Lavigne, Sportsman’s Alliance of Maine; Sally Stockwell, Maine Audubon; Brian Smith, Maine Bowhunter’s Association; Don Dudley, Maine Trappers Association; Lee Kantar, MDIFW Deer Biologist; Rich Hoppe, Regional Wildlife Biologist, Region G; Tom Schaeffer, Regional Wildlife Biologist, Region C; and Mark Stadler, Wildlife Division Director.</p> <p><b>MDIFW:</b> Sandy Ritchie, Arlen Lovewell.</p> <p><b>Observers/Presenters:</b> John Cashwell (Seven Islands), John Gilbert (JD Irving), Mike Dann (Seven Islands), Tim Scott (Orion Timberlands), Gordon Mott, George Motta (SFT), Bill Sylvester (Clayton Lake Woodlands),</p>		
<b>Action Items:</b>	<ul style="list-style-type: none"> <li>• Ritchie to provide a hard copy of Don Dudley’s comments to the Task Force.</li> </ul>		
<b>Agenda – Summary of Meeting Highlights</b>			
<p>The intent of this summary is to capture meeting highlights not provide a detailed transcript.</p> <p><b>1. Introductions and Opening Remarks</b></p> <p>Mark Stadler thanked Gene Dumont for his efforts in leading the first three Task Force Meetings. With Gene’s retirement, Mark will take over facilitating the group’s work with assistance from Sandy Ritchie.</p> <p>Mark distributed an email from Commissioner Martin in which the Commissioner indicates that there is a high probability that this Task Force will transition into the legislatively mandated Working Group that will “review existing programs and efforts for creating, enhancing and maintaining critical deer habitat in the State and reducing predation of deer by coyotes”. The Commissioner would like the Task Force to complete its work before making any final decision.</p> <p>Sandy Ritchie provided summaries of Meetings 1 and 2 via email and indicated that hard copies were available on request. A summary of Meeting #3 was distributed at the meeting.</p>			

## 2. Lingering Questions and Clarifications re: Deer Issues & Concerns

### Habitat:

- 10 deer/mi<sup>2</sup> (north) and 15 deer/mi<sup>2</sup> (downeast) are targets we are trying to achieve but we are not going to be dogmatic about it - Mark Stadler.
- How does IFW calculate deer/mi<sup>2</sup> and how accurate is it?  
A sex and age kill model is derived from harvest data - Lee Kantar. Population objectives come from MDIFW's Habitat Management System in which we assume wintering deer are in DWAs for a certain number of days of winter based on a winter severity index, number of deer for stocking levels (about 6 acres/deer), then we determine how many deer on summer range can be forced into DWAs. It is possible to have 10 deer/ mi<sup>2</sup> if 8% of the area is in deer wintering habitat - Gerry Lavigne.
- How do we measure where we are in relation to our goal?  
It gets back to Lee's sex and age kill model derived from harvest data - Gerry Lavigne. We also have other indices that we look at, such as: road kill, buck kill (#bucks killed per 100 mi<sup>2</sup>), antler beam diameters, etc. - Lee Kantar.
- Have we looked at hunter effort?  
Hunter effort is important to the sex and age kill model. Past response rate to hunter surveys has been poor. The agency is looking at ways to improve response rate, including a web based survey - Lee Kantar.
- What is our level of confidence in, for example, a 3 deer/mi<sup>2</sup> estimate?  
Probably within + or - 1 to 2 deer/ mi<sup>2</sup>. It is consistent as a trend estimate. Can improvements be made? Absolutely - Lee Kantar.

Mark Stadler suggested putting this discussion into a parking lot for further discussion later in the afternoon.

### Predation:

- Don Dudley relayed his experience with coyote predation, questioning some of the points in Dan Harrison's earlier presentation. Don believes that meaningful predator control is needed. He agrees that we need sufficient DWAs but added that we also need to reduce predation. Don has several suggested strategies that he will discuss later this afternoon. A hard copy of Don's comments will be provided to the group.
- Matt Libby had several questions concerning Dan's presentation and felt that we had little opportunity to probe further with Dan. Furthermore, there was never an opportunity for presentations to refute some of Dan's findings.
- Gerry Lavigne recounted experiences in Algonquin Provincial Park in Quebec and in Michigan and Minnesota – something is going on with deer predation in remote areas vs deer predation in more settled areas. Predation is higher in the more remote areas and less so in the more settled areas, probably in part due to humans killing predators. We can't simply make assumptions on published literature alone – need ongoing research.
- Lee Kantar agrees that predation is an issue but so is habitat (both winter and nonwinter).

- John Cashwell inquired as to whether deer transfer information generationally? Are we in a period of time with less severe winters and pressure that may be changing information transfer and behavior among deer? Who is teaching who to go where and when?
- Rich Hoppe indicated that we need to go back and look at what we had historically and how that has changed in the Portage/Ashland area. The Mosquito Brook area was lost but is coming back today. Greenup is happening 3-4 weeks earlier and extending 3-4 weeks later into the season in some areas. Probably many variables are at play.
- Tim Scott said that since 2002, Dan Glidden (retired Game Warden and longtime trapper) feels there has been a decline in the deer population in the Portage area despite the fact that there has been no harvesting in this area.
- Sally Stockwell made three points: 1) from a biological/ecological perspective wolves act differently than coyotes so we need to be careful about making comparisons; 2) we all agree that coyotes play a role but the question remains as to how effective control methods are; and 3) she is concerned about capturing nontargets with any type of predator control program.

Deferred further predation discussion to later in the afternoon.

#### Defining a Deer Wintering Area:

- Lee Kantar indicated that we use one definition of core winter habitat – the LURC definition (occurrence of forest stands that are composed of over 50 percent conifer stems and contain a conifer crown closure of over 50% with predominate tree heights of over 35 feet). At our last meeting, MDIFW presented an analysis designed to quantify the amount of potential deer wintering area using FIA stand data to determine the acreage in each county and statewide that meets LURC's DWA criteria. Lee noted that we didn't change the definition of core winter habitat to do the analysis, rather we used attributes in the FIA data that "approximate" what winter cover would look like. Gerry Lavigne added that a DWA becomes a DWA only when deer occupy it.
- Barry Burgason noted that there is a continuum of cover in a DWA.

### **3. Additional Habitat Information / Modeling (John Cashwell and John Gilbert)**

#### Seven Islands – John Cashwell

- John Cashwell presented a map of WMD 5 on which Seven Islands took MDIFW's historical DWA data [red=cooperative agreements outside Seven Islands, orange = LURC PFWs, light green = historical areas covered by Seven Islands self-management policies with IFW, and Seven Islands-owned areas shaded in gray (~30%)]. Seven Islands developed a map of "Deer Cover Suitability". IFW's goal is 8% of the land base. Currently, Seven Islands' areas that are either zoned or protected by policy approximates 8% of land base. With policy and P-FW, Seven Islands is accounting for ~6.5% of the WMD.
- Gerry Lavigne noted that Seven Islands seems to be near the 8% land base that we are striving for. Are the deer occupying these areas? What is the condition of the areas?
- Mike Dann asked when we are talking 8%, what are we talking? Is it 8% in winter cover OR is it a combination of nonconforming and core? Gerry Lavigne stated that it was a combination of both - a mix of core habitat and stands in various stages of regeneration.



- Where are the deer? Gerry indicated that in the 1990s our modeling indicated ~6-7 deer/mi<sup>2</sup>.
- Tim Scott – haven't had a lot of winters recently that have forced deer into DWAs and to travel great distances. Often find them near active harvests.
- John Cashwell – Is reverting back to historical deer wintering areas the appropriate response or has deer behavior and the transfer of information among deer changed enough over time that relying on historical areas is no longer appropriate? He believes there have been changes in deer habit as well as habitat.

JD Irving – John Gilbert

As a landowner, JD Irving has been reluctant to manage DWAs for several reasons:

Landowner Considerations: managing DWAs has financial implications for private landowners.

- Increased road costs (more required and more expensive to build in narrow ROWs)
- Higher harvesting costs due to reduced volumes per pmh. Have to pay contractors a 20+% bonus to harvest a DWA.
- Reduced harvest volumes. Actual 2006 data from Irving Woodlands LLC shows:
  - Regular forest = 35.7 cu ft / yr
  - DWA = 14.3 cu ft / yr
  - Difference of 715,000 cu ft / yr at a cost to buy of \$2,700,000. Does not represent lost sales revenue for finished product.

Financial Considerations:

- Lost volume – stands which start at 90+ percent crown closure may have only 1/3 the volume left in them when they reach the lower extent of the DWA habitat window.
- Lost future gains in AAC – investment in silviculture in DWAs is not prudent (2 times the growth rate for pre-commercial thinning and 4 times for planting).
- Increased management costs – office and field time spent on DWA management plans can be extensive and expensive.
- Financial stability – corporate borrowing power for mill modernization negatively influenced by declining AAC.

On the 1.3 million acres JD Irving manages in Maine:

- Almost 590,000 acres of softwood (70% or better softwood component)
  - 72,000 acres of pre-commercial thinning
  - 40,000 acres of plantation
  - 144,000 acres of natural regeneration
  - 332,000 acres of standing timber, 70% of which has a 50% crown closure or better
- 81,600 acres in cooperative DWA agreements (6%)
- 41,100 acres in zoned DWAs (3%)
- 18,850 Maine Natural Areas Program
- 10,900 acres in Unique Areas

John is a strong believer in the shifting mosaic theory. JDI has a lot of conforming cover (70 SW, CC>50%, >35ft tall) that is not in P-FW or agreements.

Not much acreage has been managed in DWAs despite wood opportunity. Plan to do more in the future.

JDI also has forecasted future lynx habitat (15-20 year projections).

Proponent of cooperative management rather than zoning.

Province of New Brunswick requires extensive modeling looking at a number of scenarios – more than necessary.

9% of the land in Maine is in DWA protection, but deer aren't in all areas. There is probably a bit more hardwood than there should be. "Maybe if you build it, they don't come."

Plantations (black, white, red, and norway spruce) show promise as deer wintering cover – dense canopy closure and initially little if any browse. Herring bone road network from harvests provide browse as those areas regenerate (no reseeding necessary). Plantations should come online in a big way in the next few years. Rotation: PCT at age 28, 35, 45 with final harvest at age 55.

**4. Develop Strategies to Address Deer Management Issues and Concerns** – As requested by the Task Force and to serve as a springboard for discussions, MDIFW developed a list of strategies that address problems and issues effecting deer herd growth in northern and eastern Maine. The strategies include everything heard in Task Force meetings as well as other initiatives over the years, and was organized into two time frames: a short term from now until 2025 and a long term from 2025 and beyond. Mark indicated that it was the agency's desire that all stakeholders would embark on this cooperative venture.

The remainder of the meeting was devoted to a review of the strategies identified by MDIFW with an opportunity for Task Force members to suggest additional strategies that follow:

Structure and Organization:

- Include an Introductory section to include background information and a discussion of limitations

Habitat:

- Factor in small landholdings / landowner responsibilities
- Flexibility under Forest Practices Act
- Use of financial and other types of incentives
- Recognition of everyone's responsibility as well as that of the landowner
- DWAs – is there still a role for state acquisition or state payment for easements (IFW, DOC, LMF, etc.)? Management by the state for deer and benefits to other species as well. How would this fit into a shifting mosaic model? Riparian rights to a watershed.
- Funds/incentives for landowners to develop DWA plans

Mortality / Predator Control:

- If we do predator control, employ adaptive management strategies
- Bobcat seasons – why is the season set the way it is, shifting prey base to turkeys? Don Dudley doesn't think bobcats are having any effect on deer in his area. Bobcat population has dropped as coyote population has increased. Downeast hunters have switched to coyotes.
- Extend coyote night hunting year round (except for illumination period)
- Promote trapping of coyotes
- Promote coyotes as a big game species
- Extend coyote season
- Aggressive predator control system and subsequent monitoring to determine effectiveness.
- Concern about impacts to nontargets with any type of predator control

- Efforts to reduce female road mortality

#### Hunting:

- Closure of selected areas in some WMDs (WMD 5 or Katahdin Lake) (~4 townships) for comparison to adjacent huntable areas.
- Loss in nonresident hunting revenues

#### Research Needs:

- Migratory habits
- See Cooperative Forestry Research Unit (CFRU) recommendations - CFRU Deer Management Working Group First Meeting – Barry Burgason distributed minutes, which identified a number of research questions and described a CFRU field trip and Munsungan Conference.
- How important are corridors?
- Is the learned behavior different today than in the past. Deer seem to be relocating themselves. As a result of changing behavior, can we ever go back to the way it was?
- What impact has winter feeding had on DWAs (drawing deer out of areas). Can we use feeding to lure them back into areas. Look at Quebec and New Brunswick.

#### Education and Outreach:

- Educate foresters/ resource managers/ landowners about deer habits, management, DWAs. Foresters log what they see and could provide valuable information integrated into their data gathering. Engage foresters in survey activities or anecdotal information. Eyes in the woods re fawns seen, etc.
- Bear predation – accompany Department personnel on spring trap lines to learn about bear predation
- Promote hunting and trapping of coyotes among user groups
- Encouragement / incentives for loggers – Certified Loggers Program

#### Funding and Capacity:

- IFW Staffing Needs / New Funds / Reallocation of Existing Funds

#### Miscellaneous:

- IFW needs to get state management of lynx ASAP – tie in with ESA is affecting our ability to manage deer and other species.

### **5. Where do we go from here?**

- Mark Stadler suggested two more meetings at most. Group would prefer to keep it to one.
- Task Force to develop a list of recommendations and quantify them as much as possible. We would also provide a list of other options considered but not recommended and for what reason.
- Mark asked industry folks if there was a mechanism or entity (MFPC for example) that would decide that they wanted to participate in this effort. Barry Burgason: still wouldn't get all to participate. Tom Doak: there still would be lands that are in the north and downeast that are not industrial forest lands. We're not going to get everybody on board, some landowners may just want to zone. We shouldn't worry about it and work with those who are willing. Mark Stadler agreed that we won't be able to get everyone on board.
- John Gilbert – strategies need to have an economic cost to landowners attached to them. No net loss (possible changes to FPA).

- Stadler – Is it appropriate to develop shorter term strategies now and defer long term strategies to a later date once we have the opportunity to evaluate success? Sally Stockwell – need to do both.
- John Gilbert – to get landowner commitment, we need to have management based on science. He would recommend shorter term strategies heavy to research to answer questions. Need to be able to explain to landowners why we have areas of conforming cover yet don't have deer. It's hard to convince a landowner to hold onto areas that are empty.
- Tom Schaeffer prefers a corridor / watershed approach – a small area may be part of a greater system that is dynamic and moves over time. Would prefer a prioritization of sections of watersheds as opposed to individual wintering areas.
- Sally Stockwell – we've tried a cooperative approach via cooperative agreements that hasn't always worked. Why haven't they worked in the past and why should we believe that it will be any different now. Mark Stadler – from IFWs perspective they did work until lands started shifting hands and new landowners were either not committed to the approach or didn't understand it. Gerry Lavigne – the incentive before was being green. That is no longer an incentive for some companies today. Need a broader suite of incentives.

**6. Next Meeting** – Tuesday, September 4, 2007 from 10:30 am- 2:30 pm (lunch provided).

## **Appendix 6**

### **Meeting #5 – September 4, 2007**

---

- Appendix 6A      Summary of Meeting #5
- Appendix 6B      Potential Strategies to Increase the Deer  
Population in Northern and Eastern Maine (A Working  
Draft)

## Appendix 6A

<h1 style="margin: 0;">Northern and Eastern Maine Deer Task Force</h1> <p style="margin: 0;">Meeting #5 September 4, 2007 MDIFW Bangor Headquarters 10:30 a.m. – 2:30 p.m.</p>			
<b>Facilitator:</b>	Matt Libby, Chair Mark Stadler and Sandy Ritchie, MDIFW	<b>Note Taker:</b>	Sandy Ritchie
<b>Next Meeting:</b> <span style="color: red;">September 20, 2007 from 10:30-2:30 at the Bangor Motor Inn Conference Center.</span>			
<b>Participants:</b>	<p><b>Task Force Members:</b> Matt Libby, Chair, Maine Sporting Camp Owners Association; Barry Burgason Maine Forest Products Council; Tom Doak, Small Woodland Owners Association of Maine, Pat Strauch, Maine Forest Products Council, Gerry Lavigne, Sportsman’s Alliance of Maine; Sally Stockwell, Maine Audubon; Don Kleiner, Maine Bowhunter’s Association; Rick Hill, Maine Professional Guides Association, Dana Johnson, Maine Trappers Association; Lee Kantar, MDIFW Deer Biologist; Rich Hoppe, Regional Wildlife Biologist, Region G; Tom Schaeffer, Regional Wildlife Biologist, Region C; and Mark Stadler, Wildlife Division Director.</p> <p><b>MDIFW:</b> Sandy Ritchie</p> <p><b>Observers:</b> John Gilbert (J.D. Irving), Tim Scott (Orion Timberlands)</p>		
<b>Action Items:</b>	<ul style="list-style-type: none"> <li>• Distribute most recent ADC policy and SOP. Also include BMPs.</li> </ul>		
<b>Agenda – Summary of Meeting Highlights</b>			
<p>The intent of this summary is to capture meeting highlights not provide a detailed transcript.</p> <p><b>1. Introductions and Opening Remarks</b></p> <p>Mark Stadler summarized the four meetings to date. We now have a complete cataloguing of all the ideas that have been generated to date (both historically and within the Task Force). The Commissioner is looking for recommendations that are doable along with any constraints and strategies for overcoming constraints.</p> <p>Mark suggested going through the al a carte list of ideas (attached), determine which were doable, and for those deemed doable develop goals and measurable objectives.</p> <p>Mark also indicated that the Task Force will likely morph into the legislatively mandated working group.</p> <p><b>2. Went through the list of strategies (see attachments).</b></p> <p><b>3. Next Meeting:</b> September 20, 2007 from 10:30-2:30 at the Bangor Motor Inn Conference Center. Lunch will be provided.</p>			

## Appendix 6B

### **Potential Strategies to Increase the Deer Population in Northern and Eastern Maine**

(A Working Draft Incorporating Discussion and Comments from Deer Task Force Meetings #4 and #5)

Introduction  
Set the stage  
Provide background

MDIFW and individual forest landowners would begin a cooperative venture seeking to manage forest stands across northern and eastern Maine so that they can be maintained in a “shifting mosaic” or sustainable flow of available winter cover necessary to maintain a deer population of 10 deer/mi<sup>2</sup> or 15 deer/mi<sup>2</sup> in northern or eastern Maine, respectively. These densities are goals toward which the cooperative venture will strive; they will be evaluated periodically and are subject to modification via adaptation management.

Assessment of intermediate success toward the long-term goal will be determined every five years and will be based on 1] MDIFW’s estimate of deer population density [deer/mi<sup>2</sup>] and 2] on an assessment of the quality and quantity of winter habitat across the landscape which will be maintained by the forest landowners and provided to MDIFW.

Because of current forest stand conditions, this venture would be accomplished in two stages:

#### **Short-term strategy [now – 2025]**

##### **Deer population**

- Maintain deer populations in balance with carrying capacity of winter habitat; goal of gradually increasing population to fill the improving winter habitat carrying capacity; goal of arriving at 10 deer/ mi<sup>2</sup> in northern Maine and 15 deer/mi<sup>2</sup> in eastern Maine by 2025.
- Relocate deer to northern and eastern Maine.

Recommendation: Agreed this option was not doable.

Discussion:

- It would be a nightmare.
- Survival rate for relocated animals (especially ungulates) can be as low as 20%.
- Very costly.
- Concern about moving diseases around.

- There are reasons N and W Maine don't have deer (habitat, predation, etc.).
- Reduce doe road mortality [implications of winter feeding on deer road mortality].

Recommendation: Group felt this issue was worth pursuing. MDIFW would identify areas of high road mortality and work with the Maine Department of Transportation to identify strategies to reduce deer/vehicle collisions, such as improved signage, driver education, etc.

Discussion:

- How? Discussed whether strategies used for moose would work for deer. Questionable whether strategies were working for moose.
- Has been done in some regions, but DOT is slow in responding.
- Gerry has long believed that every deer and moose vehicle collision can be avoided. Caused by 4 factors: driver inattention, negligence, not understanding deer behavior, and driving beyond the reach of the headlights. Quite a lot of accidents are by multiple offenders. Need driver education using a driver simulator – for new drivers and repeat offenders.
- Make winter feeding of deer illegal unless sponsored or directed by MDIFW.

Recommendation: MDIFW will increase its efforts to educate the public about reasons not to feed deer especially in areas with high numbers of road mortality.

Discussion:

- Matt suggested that it would be illegal to feed deer without a permit. Others felt that by allowing a permit we would be condoning feeding.
- People don't understand why this is not a good idea. We can educate until we are blue in the face...people think they are helping the deer.
- Until we have a catastrophic event, we can probably never make feeding deer illegal.
- How much of an impact is winter feeding having on the deer population? Especially in high impact road mortality areas?
- How does this interact with herbaceous seeding guidelines?
- Feeding deer exacerbates the malnutrition problem and increases losses to predation. It draws deer away from natural wintering areas, bringing deer into more populated areas, often resulting in deer/human conflicts.

## **Habitat**



Maine Forest Products Council presented its draft recommendations to the Deer Task Force and discussion and comments followed (presented in blue text, see separate pdf document).

Concerns continued to be expressed about lands changing hands.

Tim Scott indicated that an “agreement” coordinated with the MFPC is more palatable to landowners than an agreement with the state.

Landowners would like to look at landscape level conservation for several species, similar to work done with lynx, but with no written agreements. Landowners fear written agreements – they fear the loss of volume and monetary benefits. MFPC is a fairly cohesive group and can bring landowners along.

Gerry Lavigne – Would there be a deer population goal or a % of the landbase that landowners would be required to maintain?

How do you keep a positive incentive in light of all the other landowner priorities?

Sally Stockwell was unable to attend the September 20 meeting but relayed her comments regards habitat via a phone conversation with Sandy Ritchie. Sally indicated that we all can agree on some level that winter habitat is a limiting factor for deer in Maine, and voluntary agreements are not working consistently. Maine Audubon recommends starting with a formal zoning program for highest value DWAs (a minimum number of areas that would support the existing population and allow for herd growth) using the proposed new P-FW standards. If a landowner(s) wanted to enter into an agreement then the zoning would be dropped once the agreement was in place. There would also need to be an agreement regards monitoring on an annual basis and a process for agreement renewal.

MFPC – Landowners are opposed to zoning. Landowners recognize they have responsibilities but are very resistant to zoning.

Tom Doak asked if the current amount of area in P-FW was adequate to support the existing deer population. Lee indicated that he would need to look at the data. It was difficult to say.

- DWAs not being used by deer – begin and complete regeneration of forest stands so that they can be integrated into the “shifting mosaic” or sustainable flow of available winter cover desired in the long-term strategy. [During this period, care must be taken not to reduce suitable cover in these yards to the point that the recovering deer population is constrained by lack of cover.]
- DWAs being used by deer – maintain as much winter cover as possible; “triage” all forest stands: “hold” cover stands that will survive through the current cutting cycle; commence appropriate silvicultural treatments for those stands can not survive until the next cutting cycle with objective of integrating them into the “shifting mosaic” or sustainable flow of available winter cover desired in the long-term strategy.
- MDIFW will provide forest owners w/ all DWA polygons.
- Conduct timber harvesting during winter to the greatest extent possible

- Conduct herbaceous seeding of high quality deer forage in all forest openings adjacent to DWAs being used by deer. [Broader herbaceous seeding efforts?]
- MDIFW initiate winter feeding as necessary to promote deer population growth.
- Provide incentives to landowners to prepare DWA management plans. Provide benefits, incentives to landowners to conduct DWA management. State payment to landowners for conducting DWA management. [How to fund landowner incentives?]
- Increase “flexibility” of the Forest Practices Act to create incentives for landowners to engage in DWA management.
- State acquisition of DWAs in fee or by conservation easement; Land for Maine’s Future, other?
- No net loss in “annual allowable cut.”

### **Predation**

- Coyotes – directed ADC winter coyote control focused at DWAs being used by deer; directed den hunting during spring – early summer, w/ SOP yet to be determined. [Tools: foot-hold traps, neck snares, body-gripping snares, poison, hounding, shooting over bait, den hunting, other techniques?] Commit to conduct necessary control – do it well – review success – employ adaptive management.

#### Recommendation:

MDIFW to re-implement a directed, focused (WMDS where coyotes having an impact, WSI, DWAs) ADC program to control coyotes (winter activity, and late winter/spring denning) in priority DWAs where coyote predation is an issue.

The program shall consider all acceptable and appropriate tools including: foot-hold traps, body-gripping snares, cable foot snares, shooting over bait, den hunting, and use of hounds (?).

The program would be developed with input from a Working Group that would review existing policy, BMPs, tools, etc., modify policy as appropriate, review a list of tools (to include list above), and implement the program.

Guidance: minimize take of non-targets, zero tolerance for E/T species, and humane.

#### Discussion:

- Matt Libby suggested that we charge MDIFW and “experts” to design an ADC program.
- If we go that route, Sally wanted to see sideboards (minimize nontargets, zero tolerance on lynx, humane because it is a social issue).

- Dana Johnson – scientific evidence shows that each one of these methods is effective and humane when done using BMPs – no tool should be taken off the table, even neck snares. At some point, maybe neck snares could be considered.
- Mark described the last focused, directed winter ADC program and indicated that he thought it was a good model. If the group agrees and we want to maintain a directed winter coyote control program, what tools/methods would we want to use (with the understanding that the Commissioner would consider that neck snares are not doable)?
- Tom Doak questioned the need that the Task Force identify all tools and methods, rather defer to MDIFW.
- Mark indicated he would prefer some discussion re body gripping snares.
- Gerry Lavigne – failure of previous program was in part because some within IF&W didn't endorse the program. Need adaptive management and to set up some demonstration areas on several scales. Science needs to be done on some level, and MDIFW needs to have the lead role.
- Dana Johnson - MTA believes that all tools need to be available, all tools are covered under BMPs.
- Tom Schaeffer – need to recognize that if we eliminate the use of the snare, all other methods will require a 24-hour tend. A 24-hour tend takes away MDIFW's ability to strategically deploy agents and will require greater resources to reimburse agents for expenses. Tom doesn't support eliminating the tool because of money, if we think the tool is appropriate and effective.
- Coyote control (directed ADC effort) vs. increased recreational trapping/hunting (statewide or focused in east and north).
- Dana Johnson – coyote control needs to be done aggressively, year after year.
- Sally Stockwell – need to ensure a low incidental take of nontargets, zero tolerance for lynx take.
- Dana Johnson - MDIFW needs adequate personnel (ADC Program Director and Furbearer Biologist) and resources to make it happen or it won't be doable.
- Is it doable for MDIFW to reactivate its ADC program? Yes. Will it be adequately funded? Dana Johnson – It should be done by professionals in DWAs.
- Dana Johnson - denning is effective if you can get them early (March to early April), but it can be difficult to locate dens (easier in south than north and east).
- Sally Stockwell – denning would not be socially acceptable if young were being orphaned (not an Audubon issue, simply asking the question).
- Gerry – is it a hurdle for MDIFW to defend denning re foxes and endangered species vs. coyotes to increase deer for sportsmen and women.

- Designate coyote as a “big game” species. [Eliminate](#)
- Promote coyote trapping. [Eliminate](#)
- Promote coyote hunting; promote coyote hunting w/ hounds. [Eliminate](#)
- Extend coyote trapping season. [Eliminate](#) (concern for the take of other species MDIFW is concerned with)
- Further expansion of coyote night-hunting season. [Eliminate](#) (law enforcement issues re night hunting deer)
- Institute a coyote bounty. [Eliminate](#). There is a better way to monitor coyote harvest. MDIFW has yet to develop a Coyote Management System.
- Impacts on other species. [Consider for all recommendations and strategies developed.](#)
- Bear – review bear management goals and objectives v. deer management goals and objectives; reduce the bear population in northern and eastern Maine during the short-term strategy period [reinstate the spring bear hunt, increase bag limit, other.]

[Recommendation: Bear predation on fawns is as detrimental to deer herd growth as coyote predation. Department will reconvene the Bear Working Group to consider reducing bear populations in areas where bear predation is affecting deer and consider:](#)

[Reducing the bear population in “X” WMDs by “X” by “when”.](#)

[Adding additional week\(s\) to the baiting season.](#)

[Reviewing the issues associated with spring bear hunting and consider options for reinstating spring bear hunting \(prohibit harvest of sows with cubs, depredation permit in selected WMDs\).](#)

Discussion:

- Bear management goals and objectives are in apparent conflict with deer goals and objectives.
- There will be a lot of resistance to reducing the bear population (and bear hunting opportunity) among the guiding industry.
- Increase the bait hunt by 1 week.
- Spring bear hunt is a higher hurdle to cross because of social pressures. Consider prohibiting shooting sows with cubs.
- Interactions among species – consider for all strategies developed.
- Bobcat – CITES; extend bobcat hunting and/or trapping season. [Eliminate](#)

- Fisher -- Eliminate

## **Hunting**

### Recommendation:

For any WMD that was bucks only, it would be bucks only for all methods of hunting.

If other recommendations fail, consider closing northern and eastern Maine to all deer hunting (if problems with illegal kill during hunting seasons and only after a reduction in the number of weeks is considered).

If through time and by adaptive management we find that the above recommendations are not working, consider other hunting-related options to reduce harvests while still retaining opportunity (road closure systems, trophy hunting programs, others).

- Eliminate the harvest of all female deer: youth deer hunt, archery, regular firearm, black powder deer seasons. [Reword as above.](#)
- Possibly close northern and eastern Maine to all deer hunting, if problems with illegal kill during hunting seasons. [Only consider if other recommendations fail. First consider a reduction in the number of weeks before a complete closure.](#)
- If landowners are paying a financial cost to increase the deer population, why shouldn't hunters and camp owners? Outfitters would probably leave and not return.
- Establish a four town sanctuary for deer where no deer hunting will occur [similar to the town closures for marten] to assess impact of hunting; this area could also be used to conduct the various research proposals suggested in "Research." Mark indicated MDIFW had no money for research. Eliminate.
- Road closure system.
- Trophy hunt program.
- Poaching
- Fill existing WS district vacancies.
- Increase WS surveillance of deer hunters
- Increase fines and penalties associated with illegal kill of female deer.
- Increase use of *Operation Game Thief* and offer substantial rewards for information regarding illegal deer hunting in northern and eastern Maine, especially female deer.

## **Education and Outreach**

- MDIFW, MTA, MPGA, others collaborate to provide seminars on coyote trapping and hunting.
- MDIFW “train” forest landowners in concepts of DWA management: what to look for, what to record and enter into database; collection of anecdotal data re: deer, habitat, predation; foresters assist MDIFW w/ collection of deer and DWA information necessary for DWA management.
- MDIFW would provide forest landowners with DWA management BMPs for use in the management of DWA polygons.
- MDIFW and forest landowners work together to promote communication and interaction between biologists, foresters, loggers re: deer management, DWA identification and management; engage Certified Logger Program.

### **Research**

- Assess and improve science on DWA management.
- Improve MDIFW’s ability to estimate deer density.
- Impact of winter feeding on deer and DWAs.
- Importance of corridors to DWAs and deer movement.
- Changing deer migration patterns and deer use of non-traditional wintering areas. [Deer wintering around towns and the apparent abandonment of traditional DWAs.]
- Economic analysis of costs of DWA management to forest landowners.
- Sources of fawn mortality and their impacts.

### **Increase MDIFW Capacity to manage DWAs**

- Identify and create “new” funding sources for DWA management; and provide additional MDIFW staff to accomplish DWA management project
- Reallocation of existing MDIFW funds, staff to accomplish DWA management

### **Land-Use Zoning**

Submit MDIFW’s proposed modifications to P-FW standards to LURC.

### **Collaboration w/ the U.S. Fish & Wildlife Service**

- Collaborate w/ the USFWS to address implications of the federal endangered species act and federal oversight and jurisdiction on MDIFW’s DWA management options.

**Long-term strategy [2025 into the future]**

Yet to be Determined

**Deer population**

**Habitat**

**Predation**

**Hunting**

**Poaching**

## **Appendix 7**

### **Meeting #6 – September 20, 2007**

---

Appendix 7A      Summary of Meeting #6

Appendix 7B      Potential Strategies to Increase the Deer Population in  
Northern and Eastern Maine (A Working Draft)



## Appendix 7A

<b>Northern and Eastern Maine Deer Task Force</b> <b>Meeting #6</b> <b>September 20, 2007</b> <b>Bangor Motor Inn &amp; Conference Center</b> <b>10:30 a.m. – 2:30 p.m.</b>			
<b>Facilitator:</b>	Matt Libby, Chair Mark Stadler and Sandy Ritchie, MDIFW	<b>Note Taker:</b>	Sandy Ritchie
<b>Next Meeting:</b> <span style="color: red;">October 17, 2007 from 10:30-2:30 at the Bangor Motor Inn Conference Center.</span>			
<b>Participants:</b>	<p><b>Task Force Members:</b> Matt Libby, Chair, Maine Sporting Camp Owners Association; Tom Doak, Small Woodland Owners Association of Maine, Pat Strauch, Maine Forest Products Council, Gerry Lavigne, Sportsman's Alliance of Maine; Don Kleiner, Maine Bowhunter's Association; Rick Hill, Maine Professional Guides Association, Dana Johnson, Maine Trappers Association; Lee Kantar, MDIFW Deer Biologist; Rich Hoppe, Regional Wildlife Biologist, Region G; Tom Schaeffer, Regional Wildlife Biologist, Region C; and Mark Stadler, Wildlife Division Director.</p> <p><b>MDIFW:</b> Sandy Ritchie</p> <p><b>Observers:</b> Barry Burgason Maine Forest Products Council; John Gilbert (J.D. Irving), Tim Scott (Orion Timberlands)</p>		
<b>Action Items:</b>	<ul style="list-style-type: none"> <li>• Pat Strauch to send Sandy Ritchie a copy of MFPC's recommendations.</li> </ul>		
<b>Agenda – Summary of Meeting Highlights</b>			
<p>The intent of this summary is to capture meeting highlights not provide a detailed transcript.</p> <p><b>1. Introductions and Opening Remarks</b></p> <p>Mark Stadler summarized the five meetings to date and reiterated that the Commissioner is looking for recommendations that are doable along with any constraints and strategies for overcoming constraints.</p> <p>Mark suggested continuing to review the al a carte list of ideas (attached), determine which were doable, and for those deemed doable develop goals and measurable objectives.</p> <p>The Maine Forest Products Council also asked for some time to present their recommendations.</p> <p><b>2. Went through the list of strategies (see attachments).</b></p> <p><b>3. Next Meeting:</b> <u>October 17, 2007 from 10:30-2:30 at the Bangor Motor Inn Conference Center</u> (lunch will be provided). The purpose of this meeting will be to continue our discussion of the deer habitat recommendations, and then move to consider the last of the suggested strategies developed this summer.</p>			

## Appendix 7B

### **Potential Strategies to Increase the Deer Population in Northern and Eastern Maine**

(A Working Draft Incorporating Discussion and Comments from Deer Task Force Meetings #4, #5, and #6)

Introduction  
Set the stage  
Provide background

MDIFW and individual forest landowners would begin a cooperative venture seeking to manage forest stands across northern and eastern Maine so that they can be maintained in a “shifting mosaic” or sustainable flow of available winter cover necessary to maintain a deer population of 10 deer/mi<sup>2</sup> or 15 deer/mi<sup>2</sup> in northern or eastern Maine, respectively. These densities are goals toward which the cooperative venture will strive; they will be evaluated periodically and are subject to modification via adaptation management.

Assessment of intermediate success toward the long-term goal will be determined every five years and will be based on 1] MDIFW’s estimate of deer population density [deer/mi<sup>2</sup>] and 2] on an assessment of the quality and quantity of winter habitat across the landscape which will be maintained by the forest landowners and provided to MDIFW.

Because of current forest stand conditions, this venture would be accomplished in two stages:

#### **Short-term strategy [now – 2025]**

##### **Deer population**

- Maintain deer populations in balance with carrying capacity of winter habitat; goal of gradually increasing population to fill the improving winter habitat carrying capacity; goal of arriving at 10 deer/ mi<sup>2</sup> in northern Maine and 15 deer/mi<sup>2</sup> in eastern Maine by 2025. [MFPC proposes to replace this bullet with:](#)

[1\) MDIFW and forest landowners implement the cooperative habitat management recommendations outlined below to maintain deer populations in balance with carrying capacity of the existing winter habitat and to gradually increase deer populations to fill the improving winter habitat carrying capacity.](#)

[Population goals need to be established in consideration of the balance between biological and economic factors and updated research information.](#)

[2\) MDIFW convene a species planning working group with landowners to integrate the separate population and habitat management goals for deer, moose, bear, marten, and lynx into a unified set of habitat goals for northern and eastern Maine.](#)

Discussion:

GL: problem with generalized language is that it doesn't prevent individual landowners from taking the deer population to zero.

MS: In essence MFPC plan is for a shifting mosaic developed in conjunction with MDIFW with a number of DWA management guidelines. Need consensus on what it is we are trying to manage for. We need to have a hard discussion of this concept and decide if we want to make it a recommendation to the Commissioner.

- Relocate deer to northern and eastern Maine.

Recommendation: Agreed this option was not doable.

Discussion:

- It would be a nightmare.
- Survival rate for relocated animals (especially ungulates) can be as low as 20%.
- Very costly.
- Concern about moving diseases around.
- There are reasons N and W Maine don't have deer (habitat, predation, etc.).
- Reduce doe road mortality [implications of winter feeding on deer road mortality].

Recommendation: Group felt this issue was worth pursuing. MDIFW would identify areas of high road mortality and work with the Maine Department of Transportation to identify strategies to reduce deer/vehicle collisions, such as improved signage, driver education, etc.

Discussion:

- How? Discussed whether strategies used for moose would work for deer. Questionable whether strategies were working for moose.
- Has been done in some regions, but DOT is slow in responding.
- Gerry has long believed that every deer and moose vehicle collision can be avoided. Caused by 4 factors: driver inattention, negligence, not understanding deer behavior, and driving beyond the reach of the headlights. Quite a lot of accidents are by multiple offenders. Need driver education using a driver simulator – for new drivers and repeat offenders.
- Make winter feeding of deer illegal unless sponsored or directed by MDIFW.

Recommendation: MDIFW will increase its efforts to educate the public about reasons not to feed deer especially in areas with high numbers of road mortality.

## Discussion:

- Matt suggested that it would be illegal to feed deer without a permit. Others felt that by allowing a permit we would be condoning feeding.
- People don't understand why this is not a good idea. We can educate until we are blue in the face...people think they are helping the deer.
- Until we have a catastrophic event, we can probably never make feeding deer illegal.
- How much of an impact is winter feeding having on the deer population? Especially in high impact road mortality areas?
- How does this interact with herbaceous seeding guidelines?
- Feeding deer exacerbates the malnutrition problem and increases losses to predation. It draws deer away from natural wintering areas, bringing deer into more populated areas, often resulting in deer/human conflicts.

## **Habitat**

Maine Forest Products Council presented its draft recommendations to the Deer Task Force and discussion and comments followed (presented in blue text, see separate pdf document).

Concerns continued to be expressed about lands changing hands.

Tim Scott indicated that an "agreement" coordinated with the MFPC is more palatable to landowners than an agreement with the state.

Landowners would like to look at landscape level conservation for several species, similar to work done with lynx, but with no written agreements. Landowners fear written agreements – they fear the loss of volume and monetary benefits. MFPC is a fairly cohesive group and can bring landowners along.

Gerry Lavigne – Would there be a deer population goal or a % of the landbase that landowners would be required to maintain?

How do you keep a positive incentive in light of all the other landowner priorities?

Sally Stockwell was unable to attend the September 20 meeting but relayed her comments regards habitat via a phone conversation with Sandy Ritchie. Sally indicated that we all can agree on some level that winter habitat is a limiting factor for deer in Maine, and voluntary agreements are not working consistently. Maine Audubon recommends starting with a formal zoning program for highest value DWAs (a minimum number of areas that would support the existing population and allow for herd growth) using the proposed new P-FW standards. If a landowner(s) wanted to enter into an agreement then the zoning would be dropped once the agreement was in place. There would also need to be an agreement regards monitoring on an annual basis and a process for agreement renewal.

MFPC – Landowners are opposed to zoning. Landowners recognize they have responsibilities but are very resistant to zoning.

Tom Doak asked if the current amount of area in P-FW was adequate to support the existing deer population. Lee indicated that he would need to look at the data. It was difficult to say.

- DWAs not being used by deer – begin and complete regeneration of forest stands so that they can be integrated into the “shifting mosaic” or sustainable flow of available winter cover desired in the long-term strategy. [During this period, care must be taken not to reduce suitable cover in these yards to the point that the recovering deer population is constrained by lack of cover.]
- DWAs being used by deer – maintain as much winter cover as possible; “triage” all forest stands: “hold” cover stands that will survive through the current cutting cycle; commence appropriate silvicultural treatments for those stands can not survive until the next cutting cycle with objective of integrating them into the “shifting mosaic” or sustainable flow of available winter cover desired in the long-term strategy.
- MDIFW will provide forest owners w/ all DWA polygons.
- Conduct timber harvesting during winter to the greatest extent possible
- Conduct herbaceous seeding of high quality deer forage in all forest openings adjacent to DWAs being used by deer. [Broader herbaceous seeding efforts?]
- MDIFW initiate winter feeding as necessary to promote deer population growth.
- Provide incentives to landowners to prepare DWA management plans. Provide benefits, incentives to landowners to conduct DWA management. State payment to landowners for conducting DWA management. [How to fund landowner incentives?]
- Increase “flexibility” of the Forest Practices Act to create incentives for landowners to engage in DWA management.
- State acquisition of DWAs in fee or by conservation easement; Land for Maine’s Future, other?
- No net loss in “annual allowable cut.”

### **Predation**

- Coyotes – directed ADC winter coyote control focused at DWAs being used by deer; directed den hunting during spring – early summer, w/ SOP yet to be determined. [Tools: foot-hold traps, neck snares, body-gripping snares, poison, hounding, shooting over bait, den hunting, other techniques?] Commit to conduct necessary control – do it well – review success – employ adaptive management.

### **Recommendation:**

MDIFW to re-implement a directed, focused (WMDS where coyotes having an impact, WSI, DWAs) ADC program to control coyotes (winter activity, and late winter/spring denning) in priority DWAs where coyote predation is an issue.

The program shall consider all acceptable and appropriate tools including: foot-hold traps, body-gripping snares, cable foot snares, shooting over bait, den hunting, and use of hounds (?).

The program would be developed with input from a Working Group that would review existing policy, BMPs, tools, etc., modify policy as appropriate, review a list of tools (to include list above), and implement the program.

Guidance: minimize take of non-targets, zero tolerance for E/T species, and humane.

Discussion:

- Matt Libby suggested that we charge MDIFW and “experts” to design an ADC program.
- If we go that route, Sally wanted to see sideboards (minimize nontargets, zero tolerance on lynx, humane because it is a social issue).
- Dana Johnson – scientific evidence shows that each one of these methods is effective and humane when done using BMPs – no tool should be taken off the table, even neck snares. At some point, maybe neck snares could be considered.
- Mark described the last focused, directed winter ADC program and indicated that he thought it was a good model. If the group agrees and we want to maintain a directed winter coyote control program, what tools/methods would we want to use (with the understanding that the Commissioner would consider that neck snares are not doable)?
- Tom Doak questioned the need that the Task Force identify all tools and methods, rather defer to MDIFW.
- Mark indicated he would prefer some discussion re body gripping snares.
- Gerry Lavigne – failure of previous program was in part because some within IF&W didn’t endorse the program. Need adaptive management and to set up some demonstration areas on several scales. Science needs to be done on some level, and MDIFW needs to have the lead role.
- Dana Johnson - MTA believes that all tools need to be available, all tools are covered under BMPs.
- Tom Schaeffer – need to recognize that if we eliminate the use of the snare, all other methods will require a 24-hour tend. A 24-hour tend takes away MDIFW’s ability to strategically deploy agents and will require greater resources to reimburse agents for expenses. Tom doesn’t support eliminating the tool because of money, if we think the tool is appropriate and effective.

- Coyote control (directed ADC effort) vs. increased recreational trapping/hunting (statewide or focused in east and north).
- Dana Johnson – coyote control needs to be done aggressively, year after year.
- Sally Stockwell – need to ensure a low incidental take of nontargets, zero tolerance for lynx take.
- Dana Johnson - MDIFW needs adequate personnel (ADC Program Director and Furbearer Biologist) and resources to make it happen or it won't be doable.
- Is it doable for MDIFW to reactivate its ADC program? Yes. Will it be adequately funded? Dana Johnson – It should be done by professionals in DWAs.
- Dana Johnson - denning is effective if you can get them early (March to early April), but it can be difficult to locate dens (easier in south than north and east).
- Sally Stockwell – denning would not be socially acceptable if young were being orphaned (not an Audubon issue, simply asking the question).
- Gerry – is it a hurdle for MDIFW to defend denning re foxes and endangered species vs. coyotes to increase deer for sportsmen and women.
- Designate coyote as a “big game” species. [Eliminate](#)
- Promote coyote trapping. [Eliminate](#)
- Promote coyote hunting; promote coyote hunting w/ hounds. [Eliminate](#)
- Extend coyote trapping season. [Eliminate \(concern for the take of other species MDIFW is concerned with\)](#)
- Further expansion of coyote night-hunting season. [Eliminate \(law enforcement issues re night hunting deer\)](#)
- Institute a coyote bounty. [Eliminate. There is a better way to monitor coyote harvest. MDIFW has yet to develop a Coyote Management System.](#)
- Impacts on other species. [Consider for all recommendations and strategies developed.](#)
- Bear – review bear management goals and objectives v. deer management goals and objectives; reduce the bear population in northern and eastern Maine during the short-term strategy period [reinstate the spring bear hunt, increase bag limit, other.]

[Recommendation:](#) Bear predation on fawns is as detrimental to deer herd growth as coyote predation. Department will reconvene the Bear Working Group to consider reducing bear populations in areas where bear predation is affecting deer and consider:

[Reducing the bear population in “X” WMDs by “X” by “when”.](#)

[Adding additional week\(s\) to the baiting season.](#)

Reviewing the issues associated with spring bear hunting and consider options for reinstating spring bear hunting (prohibit harvest of sows with cubs, depredation permit in selected WMDs).

Discussion:

- Bear management goals and objectives are in apparent conflict with deer goals and objectives.
- There will be a lot of resistance to reducing the bear population (and bear hunting opportunity) among the guiding industry.
- Increase the bait hunt by 1 week.
- Spring bear hunt is a higher hurdle to cross because of social pressures. Consider prohibiting shooting sows with cubs.
- Interactions among species – consider for all strategies developed.
- Bobcat – CITES; extend bobcat hunting and/or trapping season. **Eliminate**
- Fisher -- **Eliminate**

## **Hunting**

### **Recommendation:**

For any WMD that was bucks only, it would be bucks only for all methods of hunting.

If other recommendations fail, consider closing northern and eastern Maine to all deer hunting (if problems with illegal kill during hunting seasons and only after a reduction in the number of weeks is considered).

If through time and by adaptive management we find that the above recommendations are not working, consider other hunting-related options to reduce harvests while still retaining opportunity (road closure systems, trophy hunting programs, others).

- Eliminate the harvest of all female deer: youth deer hunt, archery, regular firearm, black powder deer seasons. **Reword as above.**
- Possibly close northern and eastern Maine to all deer hunting, if problems with illegal kill during hunting seasons. **Only consider if other recommendations fail. First consider a reduction in the number of weeks before a complete closure.**
- If landowners are paying a financial cost to increase the deer population, why shouldn't hunters and camp owners? Outfitters would probably leave and not return.
- Establish a four town sanctuary for deer where no deer hunting will occur [similar to the town closures for marten] to assess impact of hunting; this area could also be used to



conduct the various research proposals suggested in “Research.” Mark indicated MDIFW had no money for research. Eliminate.

- Road closure system.
- Trophy hunt program.
- Poaching
- Fill existing WS district vacancies.
- Increase WS surveillance of deer hunters
- Increase fines and penalties associated with illegal kill of female deer.
- Increase use of *Operation Game Thief* and offer substantial rewards for information regarding illegal deer hunting in northern and eastern Maine, especially female deer.

### **Education and Outreach**

- MDIFW, MTA, MPGA, others collaborate to provide seminars on coyote trapping and hunting.
- MDIFW “train” forest landowners in concepts of DWA management: what to look for, what to record and enter into database; collection of anecdotal data re: deer, habitat, predation; foresters assist MDIFW w/ collection of deer and DWA information necessary for DWA management.
- MDIFW would provide forest landowners with DWA management BMPs for use in the management of DWA polygons.
- MDIFW and forest landowners work together to promote communication and interaction between biologists, foresters, loggers re: deer management, DWA identification and management; engage Certified Logger Program.

### **Research**

- Assess and improve science on DWA management.
- Improve MDIFW’s ability to estimate deer density.
- Impact of winter feeding on deer and DWAs.
- Importance of corridors to DWAs and deer movement.
- Changing deer migration patterns and deer use of non-traditional wintering areas. [Deer wintering around towns and the apparent abandonment of traditional DWAs.]
- Economic analysis of costs of DWA management to forest landowners.

- Sources of fawn mortality and their impacts.

### **Increase MDIFW Capacity to manage DWAs**

- Identify and create “new” funding sources for DWA management; and provide additional MDIFW staff to accomplish DWA management project
- Reallocation of existing MDIFW funds, staff to accomplish DWA management

### **Land-Use Zoning**

Submit MDIFW’s proposed modifications to P-FW standards to LURC.

### **Collaboration w/ the U.S. Fish & Wildlife Service**

- Collaborate w/ the USFWS to address implications of the federal endangered species act and federal oversight and jurisdiction on MDIFW’s DWA management options.

### **Long-term strategy [2025 into the future]**

Yet to be Determined

**Deer population**

**Habitat**

**Predation**

**Hunting**

**Poaching**

## **Appendix 8**

### **Meeting #7 – October 17, 2007**

---

- Appendix 8A      Summary of Meeting #7
- Appendix 8B      Recommendations to the Commissioner of IF&W for  
Increasing the Deer Herd in Northern and Downeast  
Maine (A Working Draft)

## Appendix 8A

<b>Northern and Eastern Maine Deer Task Force</b> <b>Meeting #7</b> <b>October 17, 2007</b> <b>Bangor Motor Inn &amp; Conference Center</b> <b>10:30 a.m. – 2:30 p.m.</b>			
<b>Facilitator:</b>	Matt Libby, Chair Mark Stadler and Sandy Ritchie, MDIFW	<b>Note Taker:</b>	Sandy Ritchie
<b>Next Meeting: November 14, 2007 from 10:30 a.m. – 2:30 p.m. at MDIFW's Bangor Headquarters</b>			
<b>Participants:</b>	<p><b>Task Force Members:</b> Matt Libby, Chair, Maine Sporting Camp Owners Association; Tom Doak, Small Woodland Owners Association of Maine, Pat Strauch, Maine Forest Products Council, Gerry Lavigne, Sportsman's Alliance of Maine; Don Kleiner, Maine Bowhunter's Association; Rick Hill, Maine Professional Guides Association, Don Dudley, Maine Trappers Association; Lee Kantar, MDIFW Deer Biologist; Rich Hoppe, Regional Wildlife Biologist, Region G; Tom Schaeffer, Regional Wildlife Biologist, Region C; and Mark Stadler, Wildlife Division Director.</p> <p><b>MDIFW:</b> Sandy Ritchie</p> <p><b>Observers:</b> Barry Burgason (Huber Resources); John Gilbert (J.D. Irving), Tim Scott (Orion Timberlands), Tim Dupont (Northwoods Management LLC)</p>		
<b>Action Items:</b>	<ul style="list-style-type: none"> <li>○ Mark Stadler will check on the intent of the legislative resolve pertaining statewide and report back to the Task Force.</li> <li>○ Mark Stadler to check with Ken Elowe to see if the language prohibiting use of snares pertains to all cable restraining devices. A lot of states don't call them snares rather body gripping restraining devices.</li> </ul>		
<b>Agenda – Summary of Meeting Highlights</b>			
<p>The intent of this summary is to capture meeting highlights not provide a detailed transcript.</p> <p><b>1. Introductions and Opening Remarks</b></p> <p>Commissioner Martin indicated to Matt Libby that this Deer Task force will transition into the Working Group to address the legislative resolve. As to how this will happen, Mark Stadler stated that the recommendations proposed by this group from the al a carte list of strategies will be used as the basis for the report to the legislature. Mark will likely develop the report consisting of a bit of background and the recommendations that will form the body of the report. Meeting summaries and additional materials will be contained within a series of appendices.</p> <p>The first (and possibly only) meeting of the legislative Working Group will likely be to officially adopt the recommendations generated by the Task Force.</p> <p>Tom Doak asked if the resolve required anything more to consider than has been addressed by the</p>			

Task Force to date.

Gerry Lavigne read a copy of the resolve, which in part specifically calls for setting population objectives for coyotes and methods to control coyotes:

*That the Commissioner of Inland Fisheries and Wildlife shall establish a working group to review existing programs and efforts related to creating, enhancing and maintaining critical deer habitat in the State and reducing predation of deer by coyotes. In reviewing the programs and efforts, the working group shall look for ways to improve and increase wintering habitat for deer and for ways to increase the survivorship of deer on a year-round basis. The working group shall also establish methods of controlling coyote populations and set goals to manage the coyote populations; and be it further that the Commissioner of Inland Fisheries and Wildlife shall report the working group's findings, recommendations and draft legislation under section 1 to the Joint Standing Committee on Inland Fisheries and Wildlife by December 30, 2007. The Joint Standing Committee on Inland Fisheries and Wildlife may submit legislation related to the report to the Second Regular Session of the 123<sup>rd</sup> Legislature.*

We discussed whether it was the intent of the resolve that it pertain statewide. If so, we may want to discuss whether DWAs are necessary in southern Maine. Mark Stadler will check on the legislative intent and report back to the Task Force.

## **2. Trapping Lawsuit Consent Decree**

The Animal Protection Institute (API) filed suit against MDIFW alleging that the Department's regulated trapping program was in violation of the Endangered Species Act (ESA) regarding take of bald eagles and lynx. MDIFW is liable under ESA re take of T/E species, and there has been a series of ongoing discussions re lawsuit. Judge Woodcock (Federal District Court in bangor) indicated that he was inclined to find that take was occurring. Requirements excerpted from the consent decree include:

By whatever regulatory means are necessary, including, if necessary, emergency rulemaking procedures, Commissioner Martin shall, prior to October 14, 2007 impose the following restrictions on trapping activities conducted in WMDs 1, 2, 3, 4, 5, 6, 8, 9, 10, and 11

- a. Commissioner Martin shall prohibit the use of all foothold traps (also known as leghold traps) that have an inside jaw spread of more than 5 3/8 inches, except that such traps with an inside jaw spread of more than 5 3/8 inches may be used if they are set so as to be fully or partially covered by water at all times. Commissioner Martin shall require that foothold traps that are permitted (that is, those with an inside jaw spread of 5 3/8 inches or less) be equipped with at least one chain swivel.
- b. Commissioner Martin shall prohibit the use of cage traps which have an opening of more than 13 inches in width or more than 13 inches in height. The Commissioner may permit cage traps of any size to be used (1) for wildlife research and survey activities; (2) for the removal of animals that are causing damage to property; or (3) to capture bear.
- c. Commissioner Martin shall keep in effect the regulation currently in effect on the date this Decree is entered that prohibits foothold and killer-type traps from being set within 50 yards of bait that is visible from above and that permits bait to be used for trapping only if it is completely covered to prevent it from being seen from above, and is covered in such a way as to withstand wind action and other normal environmental conditions. Bait is defined as

animal matter including meat, skin, bones, feathers, hair or any other solid substance that used to be part of an animal. This includes live or dead fish. For the purposes of this paragraph, bait does not include animal droppings (scat), urine or animals, dead or alive, held in a trap as the result of lawful trapping activity.

- d. Commissioner Martin shall keep in effect the regulation currently in effect on the date this Decree is entered that prohibits the setting, placing and tending of any killer-type trap unless set completely underwater or at least 4 feet above the ground or snow level in the manner described in paragraph (e) below, except that killer-type traps with an inside jaw spread not to exceed 5 inches may be permitted under the following conditions: (1) when set so as to be partially covered by water at all times, or (2) when set under overhanging stream banks, or (3) when used as blind sets. For purposes of this paragraph, a blind set is defined as any set designed to catch a wild animal, without the use of bait, lure or visible attractor, by intercepting the animal as it moves naturally through its habitat. Bait, lure and visible attractor do not include animal droppings (scat) or urine.
- e. Killer-type traps set at least four feet above ground or snow level may be permitted by Commissioner Martin for use in Wildlife Management Districts 1, 2, 3, 4, 5, 6, 8, 9, 10 and 11 so long as such traps are affixed to a pole or tree that is at an angle of 45° or greater to the ground and that is no greater than 4 inches in diameter at 4 feet above the ground or snow level.
- f. Commissioner Martin shall not permit the use of snares for any purpose other than to catch beaver and bear unless and until IF&W obtains an Incidental Take Permit explicitly authorizing additional uses of snares.
- g. Commissioner Martin shall recommend to trappers that they not set on the ground foothold traps with an inside jaw spread of more than 5 inches that are otherwise authorized by paragraph 5(a) unless such traps are equipped with offset jaws.

The following shall apply state-wide:

- a. Commissioner Martin shall maintain a telephone hotline which will be staffed seven days a week, 24 hours per day, during trapping season. Trappers shall be made aware of the hotline and will be advised that they are to call the hotline in the event that a lynx is incidentally captured. When the hotline staff receive a report of an incidentally captured lynx, they shall either dispatch an IF&W employee to the scene to assist in the assessment and release of the lynx, or, if an IF&W employee is not available, shall advise the trapper on how to assess the lynx for any injuries and safely release the lynx.
- b. If any lynx sustains an injury as a result of an incidental trapping, Commissioner Martin shall direct IF&W to be responsible for the rehabilitation of the lynx and for release back into the wild once rehabilitation is complete. In consultation with veterinarians, IF&W shall, by the time the trapping season starts on October 14, 2007, implement and distribute to its staff specific guidelines detailing when a lynx should receive veterinarian attention. Commissioner Martin shall inform API and the Intervenor in writing of any lynx rehabilitation efforts made pursuant to this paragraph.
- c. By the start of the trapping season on October 14, 2007, Commissioner Martin shall establish a network of qualified veterinarians and animal rehabilitators who IF&W can call upon as needed to provide care for injured lynx. Commissioner Martin shall inform API and the

Intervenors in writing of the identity of those veterinarians and animal rehabilitators who may be called upon by IF&W.

- d. Commissioner Martin shall direct IF&W to investigate each incidental lynx trapping and will advise the United States Fish and Wildlife Service ("USFWS"), API, and the Intervenors regarding the details of each trapping incident and provide the relevant support and documentation. The Commissioner shall provide to API and the Intervenors only those documents and information that are deemed to be public within the meaning of Maine's Freedom of Access Act, 1 M.R.S.A. §§ 401-411, and shall provide said information to API and the Intervenors within 14 days of becoming aware of an incident in which a lynx has been incidentally trapped.
- e. Commissioner Martin shall continue to prohibit the intentional trapping and hunting of lynx.

MDIFW continues to work with the USFWS re an Incidental Take Permit (ITP), and anything that is put in place as a result of the ITP will supersede the consent decree.

Gerry Lavigne: What is impact on coyote trapping? Don Dudley indicated that it was simply a retooling of traps to 175s, which are adequate for bare ground trapping. The consent decree is more problematic for trappers trapping in the north under snow conditions. In short, the decree won't put trapping out of business.

Barry Burgason: How will the consent decree affect lynx capture? Will fewer lynx get caught in the smaller traps? Don Dudley believes that when we get an ITP it will contain much of the language in the consent decree. He's not sure if it will reduce the take of lynx. It does, however, preserve trapping. Trapping with a 175 in snow will be difficult and could affect coyote control in DWAs.

Don Dudley: Does the language prohibiting use of snares pertain to all cable restraining devices? A lot of states don't call them snares rather body gripping restraining devices. Mark will check with Ken Elowe.

Matt Libby: Is there an opportunity to develop a strategy that would petition for the delisting of lynx. Don Dudley: based on discussions he was involved in reference the lawsuit, delisting the lynx is probably not doable.

Gerry Lavigne: MDIFW now has data on lynx in Maine that we didn't have at the time of listing – somebody needs to convince the Service that they need to look at the listing criteria in light of new information.

Landowners agree that delisting lynx is worth doing but realize it is going to take a lot of time.

Tom Doak: Recovery Plan will need to be developed and a population viability analysis should demonstrate that lynx are o.k. in Maine. This may be an easier and cheaper way to go.

Mark Stadler: Predation is only one piece of the problem affecting deer, and though the consent decree might affect the control of coyotes by winter trapping there are other options we could consider.

### **3. Went through the list of strategies**

Continued our discussion on habitat. Where on the continuum do we want to be and how can we

establish trust and a nature of cooperation?

Gerry Lavigne expressed concern that companies will fail to give wildlife values consideration if wildlife doesn't "pay" for itself.

Pat Strauchj: MFPC's concept doesn't preclude MDIFW from developing cooperative agreements with willing individual landowners. It needs to be voluntary and it needs to be given some time.

Matt Libby: What do we do with landowners who don't want to cooperate?

Tim Scott: Need incentives. Need to make landowners feel good about what they are doing.

Tom Doak: Need to have some way to judge progress. Zoning option is not preferred, but if you have a particularly uncooperative landowner in a critical area, it could be used.

Lee Kantar: Can we address the Forest Practices Act?

Tom Doak: Options are already built into the act in the form of variances to benefit wildlife.

Don Kleiner: Favors a cooperative approach but doesn't want to give up zoning using existing standards.

Tom Doak: Seems like most are in favor of a cooperative approach but want to see verification that it is working.

**Recommendations from Maine Forest Products Council:** Pat Strauch presented recommendations from the Maine Forest Products Council, and the remainder of the meeting was devoted to a review and discussion of the recommendations. Recommendations from MFPC are denoted in black and recommended changes and discussion items are indicated in blue.

The working group believes that cooperative efforts between landowners and MDIFW, rather than land-use zoning, is the preferred option for addressing deer management concerns in northern and eastern Maine. [General agreement from Task Force members.](#)

It also believes that a landscape-level management approach / strategy to DWA habitat management is ecologically sound and preferred. In addition it feels that the MFPC-MDIFW lynx [protocol](#) serves as a template for this deer management effort. [Agreement from Task Force members. Add that any approach needs to be biologically sound re deer.](#)

[Gerry Lavigne: Scale of DWA management needs to fit into the scale that deer are ecologically oriented to. A landscape level approach needs to be scaled down to something that relates to deer \(watershed, etc.\). Needs to be biologically sound in relation to deer.](#)

[Tom Schaeffer. What is MFPC-MDIFW lynx protocol? Pat Strauch: ongoing commitment to monitor habitat conditions for species, continue research, etc., report to USFWS and MDIFW annually. No signed agreement.](#)

The working group recommends that:

- 6) MDIFW, MFPC, and SWOAM, will take the lead in developing DWA management guidelines for review by other members of the Deer Task Force. ~~With any other appropriate advisors stakeholders establish a "deer wintering area working group for~~



~~northern and eastern Maine” to develop~~ DWA management guidelines ~~that~~ will be shared with all forest landowners. MFPC ~~and SWOAM~~ will educate new members about the program and encourage continued participation. MDIFW will work with other major landowners.

What about landowners who are not members of MFPC? Maine Audubon? Who are the right groups for developing guidelines for DWAs?

Mark Stadler: Maybe a two-tier approach: guidelines developed by MDIFW, MFPC, and SWOAM then taken out to other interested members of the Deer Task Force for review.

Tom Doak: Tom’s commitment is to work with small landowners toward the same end.

2) MDIFW will share historic and current deer use maps and information with landowners as a reference point for deer activity. Agreed by Task Force members.

3) Forest landowners would use the best information they have available on where deer are currently wintering, the DWA maps, and the guidelines to implement a cooperative, landscape-level DWA management effort. The focus is on managing deer in locations that they are actively using and matching this information to the management plan objectives of the landowner for the region. PC Proposed Recommendations to the Deer Wintering Area Task Force Report DRAFT – October 17, 2007 Examples of concepts to be further evaluated ~~by landowners and their current management plans~~ and refined by the working group include. Agreed by Task Force members.

Don Kleiner: Can we incorporate what hunters/guides are seeing in the field?

Lee Kantar: Need to quantify deer use over a period of time.

Gerry Lavigne: Judge core or periphery.

Pat Strauch: Intent is to focus efforts on areas being used by deer.

Zoned DWAs not being used by deer (inactive)– Evaluate the role these yards will play in future deer recovery efforts. Agreed

DWAs being used by deer (active) regardless of zoning status– Evaluate the possibility of holding winter cover in active stands as a bridge to a “shifting mosaic” or sustainable flow of available winter cover desired in the long-term strategy. Agreed

MDIFW and MFPC to establish an MDIFW will convene the Deer Task Force annually to review process, to evaluate progress in improving deer populations, update and refine goals with on-going research information, and continued evaluation of economic factors. Agreed

4) MDIFW identify and notify the small forest landowners in the organized and unorganized towns in northern and eastern Maine that they have important deer wintering area habitat (huge undertaking for MDIFW, will need some level of prioritization, work with consulting forestry community, SWOAM assistance); provide them with the DWA management guidelines; and develop mechanisms for them to receive DWA management technical assistance. [MDIFW regional biologist landowner assistance; NRCS programs such as EQIP, WHIP; MFS cost-share programs; MDIFW train consulting foresters to assist with DWA management; other?]

In locations where MDIFW and MFPC landowners have determined DWA management is needed and the area spans both organized and unorganized townships, MDIFW will work with local communities to incorporate their planning into the cooperative program. ~~And ensure zoning restrictions are not promoted.~~

Mark Stadler: standard Beginning with Habitat (BwH) message is that the DWA layer is planning quality, needs close scrutiny, and is not suitable for zoning. A lot of ground truthing would need to be done before BwH DWA data would be suitable for zoning.

Mark Stadler: First cut of areas would be areas in northern and eastern Maine where we know deer are wintering.

5) MDIFW & user groups (including the Maine Legislature) should explore the feasibility/desirability and methods for offering positive incentives to encourage landowners to manage for DWA habitat on their lands. **Agreed.**

Don Kleiner: What about using Land for Maine Future funds for easements?

6) (Legislature) Examine opportunities for compensating landowners for financial investment in holding DWA acreage for periods of time (i.e. easements or leases with willing seller provisions.) **Agreed.**

Tom Doak: Need to acknowledge that there is a cost to the landowner for having a DWA on their property (Tom can provide for some thoughts). "DWA checks" are unlikely.

**Combine 5&6 – IFW and Technical Committee to do brainstorming then involve legislature – need to include in the discussion why (Tom provide language re cost to landowner).**

### **Predation – Additive to previous Deer Task Force recommendation.**

The working group recommends that:

Priority be given to directed coyote control in those DWAs areas with over-wintering deer that are being actively managed under the provisions of the management guidelines outlined above. **Agreed.**

The effects of predation by bear on deer are also recognized. **Agreed.**

### **Research**

The working group recommends that:

- MDIFW, MFPC, SWOAM, CFRU, CFWRU, UMO, and other appropriate stakeholders establish a "deer research working group" to identify research topics that augment info gaps. ~~Necessary for the implementation of appropriate, science based deer population and deer habitat management.~~ (rework) Such topics may include the following:
  - Assess and improve science on DWA management, especially at the landscape scale.
  - Improve MDIFW's ability to estimate deer density. **Rework**
  - Impact of winter feeding on deer and DWAs.
  - Importance of corridors to DWAs and deer movement.

- Changing deer migration patterns and deer use of non-traditional wintering areas. [Deer wintering around towns and the apparent abandonment of traditional DWAs.]
- Economic analysis of costs of DWA management to forest landowners.
- Sources of fawn mortality and their impacts.
- Krohn work up map re super species.

Lee Kantar: Need to include an estimate of cost.

Tom Doak: Include areas where knowledge is lacking. These suggestions would help inform decisions.

Gerry Lavigne: Compare this list with Problems and Strategies identified in the 1999 Big Game Working Group.

*Need to incorporate recent CFRU discussions about research proposals.*

### **Land-Use Zoning**

The working group recommends that:

MDIFW and landowners of DWAs should embark on the cooperative habitat management recommendations outlined above and do not recommend changes in LURC P-FW standards. [Move this sentence to first paragraph at the top of Habitat.](#)

Don Kleiner: Don't throw away the zoning tool.

How do we successfully preserve the land base (DWAs occupied by deer but where landowners don't want to cooperate)?

For non-MFPC members who are uncooperative – pursue zoning.

For MFPC members who are uncooperative – MFPC will work with members to encourage cooperation.

4. **Next Meeting: November 14, 2007 from 10:30 a.m. – 2:30 p.m. at MDIFW's Bangor Headquarters.** The purpose of this meeting will be to finish our discussion of the deer habitat recommendations, and then move to wrap-up the last of the suggested strategies developed this summer.

## Appendix 8B

# Recommendations to the Commissioner of the Maine Department of Inland Fisheries in Wildlife for Increasing the Deer Herd in Northern and Downeast Maine

Developed by the Northern and Eastern Maine Deer Task Force  
Fall 2007

The following recommendations were developed and agreed to by Deer Task Force members at Meetings 4 (August 2, 2007), 5 (September 4, 2007), 6 (September 20, 2007), and 7 (October 17, 2007). Strategies highlighted in yellow will be addressed at our next meeting on November 14, 2007.

### Short-term Strategy [now – 2025]

#### Deer population

The Task Force recommends that:

1. Maine Department of Inland Fisheries and Wildlife (MDIFW) and forest landowners implement the cooperative habitat management recommendations outlined below to maintain deer populations in balance with carrying capacity of the existing winter habitat and to gradually increase deer populations to fill the improving winter habitat carrying capacity.

Population goals need to be established in consideration of the balance between biological and economic factors and updated research information. [GL: Current estimates of desired deer density and wintering habitat estimates to support them stay in place as goals.](#)

2. MDIFW convene a species planning working group with landowners to integrate the separate population and habitat management goals for deer, moose, bear, marten, and lynx into a unified set of habitat goals for northern and eastern Maine.
3. MDIFW identify areas of high road mortality and work with the Maine Department of Transportation to identify strategies to reduce deer/vehicle collisions, such as improved signage, driver education, etc.
4. MDIFW increase its efforts to educate the public about reasons not to feed deer especially in areas with high numbers of road mortality.

#### Habitat

The Task Force believes that cooperative efforts between landowners and MDIFW, rather than land-use zoning, is the preferred option for addressing deer management concerns in northern and eastern Maine. No changes to the P-FW standards are recommended [at this time](#). [However, LURC zoning will remain the baseline tool to preserve DWAs on land ownerships who do not participate in voluntary habitat initiatives.](#)

It also believes that a biologically sound landscape-level management approach / strategy to DWA habitat management is ecologically sound and preferred. ~~[In addition it feels that the MFPC MDIFW lynx protocol serves as a template for this deer management effort.](#)~~

The Task Force recommends that:

1. MDIFW, MFPC, and SWOAM, take the lead in developing DWA management guidelines for review by other members of the Deer Task Force. DWA management guidelines will be shared with all forest landowners. MFPC will educate new members about the program and encourage continued participation. MDIFW will work with other major landowners.
2. MDIFW share historic and current deer use maps and information with landowners as a reference point for deer activity.
3. Forest landowners use the best information they have available on where deer are currently wintering, the DWA maps, and the guidelines to implement a cooperative, landscape-level DWA management effort. The focus is on managing deer in locations that they are actively using and matching this information to the management plan objectives of the landowner.

Examples of concepts to be further evaluated and refined by the working group include.

- Zoned DWAs not being used by deer (inactive) – Evaluate the role these yards will play in future deer recovery efforts.
  - DWAs being used by deer (active) regardless of zoning status – Evaluate the possibility of holding winter cover in active stands as a bridge to a “shifting mosaic” or sustainable flow of available winter cover desired in the long-term strategy.
  - MDIFW will convene the Deer Task Force annually to review process, evaluate progress in improving deer populations, update and refine goals with on-going research information, and continued evaluation of economic factors.
4. MDIFW identify and notify the small forest landowners in the organized and unorganized towns in northern and eastern Maine that they have important deer wintering area habitat on their ownership; provide them with the DWA management guidelines; and develop mechanisms for them to receive DWA management technical assistance. [MDIFW regional biologist landowner assistance; NRCS programs such as EQIP, WHIP; MFS cost-share programs; MDIFW train consulting foresters to assist with DWA management; other?]

In locations where MDIFW and MFPC landowners have determined DWA management is needed and the area spans both organized and unorganized townships, MDIFW will work with local communities to promote the cooperative DWA management program.

5. MDIFW, user groups, and the Maine Legislature explore the feasibility/desirability and methods for ~~a) offering positive incentives to encourage landowners to manage for DWA habitat on their lands. and b) compensating landowners for financial investment in holding DWA acreage for extended periods of time, such as easements or leases with willing seller provisions.~~
6. Explore the feasibility of using public funds to acquire key tracts of deer wintering habitat through fee acquisition, land swaps, or conservation easements to reach habitat objectives.

## Land-Use Zoning

The Task Force recommends:

1. MDIFW and landowners of DWAs embark on the cooperative habitat management recommendations outlined above and do not recommend changes in LURC P-FW standards. (Note: I think we decided to omit this section and rework into the opening paragraph of the Habitat Section).

## Predation

The Task Force recommends that:

1. MDIFW establishes a Deer Predation Working Group to review and update MDIFW's current coyote control policy. The working group will include representatives from MDIFW, Maine Trappers Association, Maine Professional Guides Association, Maine Audubon, Sportsman's Alliance of Maine, University of Maine, MFPC, and SWOAM, (others?). The working group will be charged with considering the:
  - a. methods of coyote control [such as ADC winter coyote control focused at DWAs being used by deer; directed den hunting during spring – early summer; or other ideas developed by that working group];
  - b. tools and devices to be used [foot-hold traps, neck snares, body-gripping snares, poison, hounding, shooting over bait, den hunting, or other techniques]; and
  - c. SOP by which, when, and where MDIFW will deploy ADC agents. The policy and procedures developed by that working group must adequately consider and ~~address minimize~~ impacts to non-target species especially threatened and endangered species. It is recommended that this policy include the principles of adaptive management so that the policy may evolve as new information becomes available.

The working group recommends that priority be given to directed coyote control in those areas with over-wintering deer that are being actively managed under the provisions of the management guidelines outlined above.

2. MDIFW extends the current coyote night-hunting season to run from 16 December through 30 August, annually.
3. MDIFW reduces the bear population in northern and eastern Maine during the short-term strategy period to allow the deer population to recover [reduced fawn predation] and consider accomplishing this by reinstating the spring bear hunt with a “cub law,” increasing the bear bag limit, increasing the bear-hunting season, or other strategy appropriate to achieve the desired population reduction.

## Research

The Task Force recommends that:

1. MDIFW, MFPC, SWOAM, CFRU, CFWRU, UMO, and other appropriate stakeholders establish a Deer Research Working Group to augment deer management informational gaps. Such topics may include the following:
  - Assess and improve science on DWA management, especially at the landscape scale.
  - Improve MDIFW’s ability to estimate deer density. [rework](#)
  - Impact of winter feeding on deer and DWAs.
  - Importance of corridors to DWAs and deer movement.
  - Changing deer migration patterns and deer use of non-traditional wintering areas.
  - Economic analysis of costs of DWA management to forest landowners.
  - Sources of fawn mortality and their impacts.

## Funding

The Task Force recommends:

1. Investigating sources of public funding for monitoring and reporting on the program to evaluate effectiveness.
2. Investigating sources of funding (public and private) for research and development efforts to improve knowledge about deer populations and habitat impactors, relationships, and trends.
3. Consider a portion of LMF funds be directed toward DWAs.

## Hunting

The Deer Task Force recommends:

1. For any WMD that was bucks only, it would be bucks only for all methods of hunting.
2. If other recommendations fail, consider closing northern and eastern Maine to all deer hunting (if there are problems with illegal kill during hunting seasons and only after a reduction in the number of weeks is considered).
3. If through time and by adaptive management we find that the above recommendations are not working, consider other hunting-related options to reduce harvests while still retaining opportunity (road closure systems, trophy hunting programs, others).

Fill existing Warden Service district vacancies.

Increase Warden Service surveillance of deer hunters.

Increase fines and penalties associated with illegal kill of female deer.

Increase use of Operation Game Thief and offer substantial rewards for information regarding illegal deer hunting in northern and eastern Maine, especially female deer.

## Education and Outreach

- MDIFW, MTA, MPGA, others collaborate to provide seminars on coyote trapping and hunting.
- MDIFW “train” forest landowners in concepts of DWA management: what to look for, what to record and enter into database; collection of anecdotal data re: deer, habitat, predation; foresters assist MDIFW w/ collection of deer and DWA information necessary for DWA management.
- MDIFW would provide forest landowners with DWA management BMPs for use in the management of DWA polygons.
- MDIFW and forest landowners work together to promote communication and interaction between biologists, foresters, loggers re: deer management, DWA identification and management; engage Certified Logger Program.

## Increase MDIFW Capacity to Manage DWAs

- Identify and create “new” funding sources for DWA management; and provide additional MDIFW staff to accomplish DWA management project
- Reallocate existing MDIFW funds and staff to accomplish DWA management



### **Collaboration w/ the U.S. Fish & Wildlife Service**

- Collaborate w/ the USFWS to address implications of the federal endangered species act and federal oversight and jurisdiction on MDIFW's DWA management options.

## Appendix 9

### Meeting #8 – November 14, 2007

---

- Appendix 9A      Summary of Meeting #8
- Appendix 9B      Recommendations to the Commissioner of IF&W for  
Increasing the Deer Herd in Northern and Downeast  
Maine

## Appendix 9A

<h1 style="margin: 0;">Northern and Eastern Maine Deer Task Force</h1> <p style="margin: 0;">Meeting #8 November 14, 2007 MDIFW Bangor Headquarters 10:30 a.m. – 2:30 p.m.</p>			
<b>Facilitator:</b>	Matt Libby, Chair Mark Stadler and Sandy Ritchie, MDIFW	<b>Note Taker:</b>	Sandy Ritchie
<b>Next Meeting:</b>			
<b>Participants:</b>	<p><b>Task Force Members:</b> Matt Libby, Chair, Maine Sporting Camp Owners Association; Tom Doak, Small Woodland Owners Association of Maine, Pat Strauch, Maine Forest Products Council, Gerry Lavigne, Sportsman's Alliance of Maine; Don Kleiner, Maine Bowhunter's Association; Sally Stockell, Maine Audubon; Lee Kantar, MDIFW Deer Biologist; Rich Hoppe, Regional Wildlife Biologist, Region G; Tom Schaeffer, Regional Wildlife Biologist, Region C; and Mark Stadler, Wildlife Division Director.</p> <p><b>MDIFW:</b> Sandy Ritchie</p> <p><b>Observers:</b> John Gilbert (J.D. Irving), Jerry Poulin (Wagner Forest Management), Mike Dann (Seven Islands)</p>		
<b>Action Items:</b>			
<b>Agenda – Summary of Meeting Highlights</b>			
<p>The intent of this summary is to capture meeting highlights not provide a detailed transcript.</p> <p><b>1. Introductions and Opening Remarks</b></p> <p>Mark Stadler reviewed the handouts as a result of Meeting #6. Mark announced Lee's promotion to WMS Section Supervisor effective November 5.</p> <p>Continued discussing and developing habitat recommendations:</p> <p>Mark Stadler, Sandy Ritchie, and Lee Kantar met with WMS staff on Thursday, November 8 to review the habitat component of the recommendations. Lee briefed the Task Force on the results/comments from that meeting, specifically comments that bolstered and clarified the collaborative effort between MFPC, SWOAM, and MDIFW (see Lee's suggested changes to the italicized text below are <u>underlined</u>)</p> <p style="text-align: center;"><i>The Task Force recommends that:</i></p> <ol style="list-style-type: none"> <li>1. MDIFW, MFPC, and SWOAM, take the lead in developing <u>additional</u> DWA management guidelines for review by other members of the Deer Task Force. DWA</li> </ol>			

*management guidelines will be shared with all forest landowners. MFPC will educate new members about the program and encourage continued participation. MDIFW will work with other major landowners.*

2. *MDIFW share historic and current deer use maps and information with landowners as a reference point for deer activity.*
3. *In collaboration with MDIFW, Forest landowners use the best information they have available on where deer are currently wintering, the DWA maps, and guidelines, as referenced above, to implement a cooperative, landscape-level DWA management effort. The focus is on managing deer in locations that they are actively using and matching this information to the management plan objectives of the landowner.*

*Management issues requiring further evaluation and refinement by the working group include.*

- *Zoned DWAs not being used by deer (inactive) – Evaluate the role these yards will play in future deer recovery efforts.*
- *DWAs being used by deer (active) regardless of zoning status – Evaluate the possibility of holding winter cover in active stands as a bridge to a sustainable level of available winter cover desired in the long-term strategy. Furthermore that there be no net loss of currently used winter shelter (excluding allowable cutting practices under PFW plan agreements) and that the associated parties continue to work cooperatively towards conserving additional amounts of winter cover available to deer to work towards achieving WMD deer density goals.*
- *MDIFW will convene the Deer Task Force annually to review process, evaluate progress in improving deer populations, update and refine goals with on-going research information, and continued evaluation of economic factors.*

#### Discussion:

Item #1: addition of the word “additional” – we currently have DWA guidelines for a whole suite of activities in DWAs that was developed in cooperation and consultation with landowners over time, and the word “additional” was added to allow for adaptive management. **Agreed to strike “additional” and reword to .....“take the lead in updating DWA management guidelines.....”.**

Item #3: Gerry Lavigne: the devil is in the details, what does this mean, and how will it work? What does “collaboration” mean? Mark Stadler: guidelines would be applied in areas where deer are currently wintering whether the area was zoned or not. Gerry Lavigne: without a written agreement, we are relying on blind trust that landowners will be using BMPs to grow the deer herd in light of other financial, economic, other pressures. Where is the accountability. Sally Stockwell shared the concern about accountability.

Sally suggested starting with zoned DWAs and if a landowner wanted to enter into a cooperative agreement with MDIFW they could opt out of zoning.

Gerry Lavigne: we lack a competitive, positive incentive to grow deer. Unless we state a level we

want to grow the deer herd to, there will be no incentive for landowners to work toward. Timber is too valuable to reserve for deer, and unless there is a glut of spruce/fir in the future, there will be no incentive to manage for deer. Will IFW still internally maintain deer population objectives developed by the 1999 Big Game Working Group? It is an injustice to people of Maine not to have a socially optimal and biologically justifiable target to work toward. Companies should not have to bear the cost. The agreement process should be one of several options. There should be mechanisms for the state to acquire land or for the state to pay for lost opportunity for managing longer rotations. Where is the incentive to go from 2-8% using BMPs or by any means?

Tom Doak: the existing zoning standard will still be in place, but no changes to the P-FW standards are recommended.

Pat Strauch: Are there some creative ways we can identify that are not restricted by zoning?

Gerry Lavigne: Bottomline historically for SAM is that it is not responsible to strive for 2 deer/sqmi when historically some of this area supported 20 deer/ sqmi. We're only asking for half that.

Pat Strauch: Can we start building a recovery? You're not going to get it by threatening landowners with zoning?

Gerry Lavigne: What will the incentive be for landowners to hold onto a marketable piece of timber for 20-30 years in order to manage it for deer? There is none.

John Gilbert: Landowners want to manage on a landscape basis (riparian zones, connecting corridors) not just deer. Need to formulate a short term plan to get through this habitat trough. Most companies want a steady supply of wood for their mills (no peaks or troughs) and want long range planning and predictability. There needs to be a bit of a carrot as well as a stick.

Matt Libby: Islands of cover serve no purpose. We need to have connectivity. Need to have trust.

Rich Hoppe: Things are working great with JD Irving, but he is concerned that as lands continue to change hands coupled with landowner intent there are a lot of unknowns. Need to insure accountability.

Pat Strauch: Fundamental principle is that landowners are interested in growing trees. That is not changing. Longterm investment in owning lands for growing trees is still very viable.

Gerry Lavigne: We are not as far off as everyone thinks. Everything proposed under habitat stays, but we need more. We need an integrated package.

- Need to retain zoning for those who don't cooperate
- IFW needs to identify Goals & Objectives with an estimate of the amount of habitat necessary to support the G&O.
- IFW needs a mechanism to acquire key habitat thru some means (acquisition, easements, etc.)

Don Kleiner: If we work cooperatively and the land gets cut, it will be too late to zone the area, and we will be hurting for the next 30 years.

Pat Strauch: Landowners are not cut and run people. They can't be and survive in this business. Landowners have a lot to lose if this doesn't work.

John Gilbert: Auditors are checking their programs. If they lose their certification (which includes wildlife criteria) they lose their markets (in this case Home Depot).

Matt Libby: He is not concerned about working with people at this table, but we do need leverage for those not willing to cooperate.

Mark Stadler: We can keep current zoning in effect, but with the current standards very little area could be zoned under current conditions. We cannot meet the current LURC standards across the landscape. Stands are so patchy and swiss cheesy that we they don't meet cover standards, use standards, etc. Two checks in 10 is also difficult to meet. Gerry Lavigne: that will change as softwood stands increase in the future.

Pat Strauch: Landowners are interested in a multi-species approach to manage. The incentive is that with a little bit of planning and more resources, DWA management can be compatible with timber harvesting.

Pat Strauch: The biggest change that has occurred is with the Forest Practices Act (FPA) – creating partial harvests that provide as much habitat for some species compared with clearcuts.

Don Kleiner: Is it appropriate to recommend that the FPA is not working as well as we would like? We're wrestling with the details but maybe the system is broken.

Mark Stadler: FPA was developed to be a clearcut and regeneration bill and not a wildlife management bill. Wildlife Division has commented on FPA in the past. The major issue we need to resolve concerns issues of trust and accountability. We need to get past this.

Tom Schaeffer: Would the group support an interim protection/provision similar to the old LURC P-4s? The landowner would be required to hold the area until a better strategy could be developed.

Mark Stadler: Regards accountability, we have heard 1) interim protection provisions, 2) frequent regional meetings to review progress.

Tom Doak: We need an understanding of where deer are wintering today. He thought IFW had that information.

Rich Hoppe: Northern Maine has had 4 uncharacteristically mild winters in a row making flights difficult, and deer have not always been confined to DWAs.

Mark Stadler: Do we agree that for those landowners who indicate positively that they are willing to enter into this cooperative venture we would move forward. For landowners not interested, we could zone or adopt some sort of interim provisional zoning standard.

John Gilbert: There are not many management options for DWAs < 100 acres. Concerned also for "no net loss".

Pat Strauch: Agrees that we need a verification process, frequent meetings at least initially to evaluate progress. [Group agreed \(some tentatively\).](#)

Don Kleiner: What happens if the process breaks down, and landowners either don't want to participate or violated the guidelines/BMPs?

Mark Stadler: The Task Force would determine what was working and what was not. How would we deal with landowners that either don't want to cooperate or violate the guidelines or BMPs? It will be very easy to assess in the short term whether or not it is working. Together the foresters, biologists, and wardens have a pretty good handle as to where deer are wintering.

Gerry Lavigne: We need to look at where deer are wintering together with where timber harvesting is planned to determine whether things are working. Tom Schaeffer: That is why he was looking at some interim protection standard until further evaluation could be completed and protection strategies developed.

Pat Strauch: Where is the fire? Who is being uncooperative? He was under the impression that cooperative agreements on lands that now have new landowners are still being honored. Rich Hoppe acknowledged that to be true.

Gerry Lavigne: We need to meet objectives consistently across the landscape.

Mark Stadler: There is a level of accountability that hasn't been talked about here. Landowners are making a good faith effort in front of the legislature, and the legislature will likely hold them accountable if it fails.

Gerry Lavigne: Can we tie cooperation and demonstrated cooperation and proficiency to certification recognition and sanctioning people who don't.?

Sally Stockwell to Pat Strauch: If you firmly believe that most landowners are going to cooperate then what is the harm in providing a zoning stick if the don't? Pat is concerned about establishing precedent and making it easier to zone in the future. The stakes are very high in moving forward with this to the legislature. Failure might impose more draconian measures than in the past.

Sally Stockwell: Suggestion for moving forward: 1) MDIFW incorporate comments heard today into the document for review by the Task Force or 2) prepare a minority report indicating that some favored use of a stick and others did not.

Mark Stadler: Indicated that we had quite a spirited discussion with the WMS concerning the recommendations, but when all was said and done they decided that it was an important enough issue that we were willing to take the risk.

John Gilbert: He still has concerns about the second bullet "no net loss" and "conserving additional amounts of winter cover."

Mark Stadler: Summarized issues we need to resolve before adjourning:

- 1) What if landowners don't participate or violate guidelines and BMPs? Tom Doak: suggested that we acknowledge that it was discussed at length, was of great concern, and that we even considered interim zoning, but we decided to defer further consideration to let the cooperative venture move forward and be evaluated. [Leave unresolved for now and revisit.](#)
- 2) Put a funding mechanism in place to protect via acquisition, easement, or swap pre-identified, high priority DWAs to add permanently to our DWA base without burdening the landowner. [#6 added to recommendations.](#)
- 3) Underlined text in Lee's handout. [Agreed that parties will strive to retain winter shelter across the](#)

landscape in similar amount and quality to what exists today and consider options for capturing acreage as it regenerates to work toward attaining WMD goals.

**2. Next Meeting:** None planned at this point.



## Appendix 9B

# Recommendations to the Commissioner of the Maine Department of Inland Fisheries in Wildlife for Increasing the Deer Herd in Northern and Downeast Maine

Developed by the Northern and Eastern Maine Deer Task Force  
Fall 2007

### **Short-term Strategy [now – 2025]**

#### **Deer population**

The Task Force recommends that:

1. Maine Department of Inland Fisheries and Wildlife (MDIFW) and forest landowners implement the cooperative habitat management recommendations outlined below to maintain deer populations in balance with carrying capacity of the existing winter habitat and to gradually increase deer populations to fill the improving winter habitat carrying capacity.

Population goals need to be established in consideration of the balance between biological and economic factors and updated research information.

2. MDIFW convene a species planning working group with landowners to integrate the separate population and habitat management goals for deer, moose, bear, marten, and lynx into a unified set of habitat goals for northern and eastern Maine.
3. MDIFW identify areas of high road mortality and work with the Maine Department of Transportation to identify strategies to reduce deer/vehicle collisions, such as improved signage, driver education, etc.
4. MDIFW increase its efforts to educate the public about reasons not to feed deer especially in areas with high numbers of road mortality.

#### **Habitat**

The Task Force believes that cooperative efforts between landowners and MDIFW, rather than land-use zoning, is the preferred option for addressing deer management concerns in northern and eastern Maine. No changes to the P-FW standards are recommended at this time. However, LURC zoning will remain the baseline tool to conserve deer wintering areas (DWAs) on land ownerships who do not participate in voluntary habitat initiatives.

It also believes that a biologically sound landscape-level management approach / strategy to DWA habitat management is ecologically sound and preferred.

The Task Force recommends that:

1. During the life of the “short-term strategy” period, MDIFW establish the Northern and Eastern Maine Deer Task Force to oversee and guide the implementation of the recommended strategies contained in this report to the Commissioner. In addition, MDIFW will convene the Deer Task Force at least annually to review process, evaluate progress in improving deer populations, update and refine goals with on-going research information, and continued evaluation of economic factors.
2. MDIFW, Maine Forest Products Council (MFPC), and the Small Woodland Owners Association of Maine (SWOAM), take the lead in developing DWA management guidelines for review by other members of the Deer Task Force. DWA management guidelines will be shared with all forest landowners. MFPC will promote and encourage the implementation of these DWA management guidelines among its members and will educate new members about the program and encourage their participation. MDIFW will work with other major landowners.
3. MDIFW share historic and current deer use maps and information with landowners as a reference point for deer activity.
4. MDIFW and forest landowners work together to identify and map those areas where deer are currently wintering.
5. Forest landowners use this information [2, 3, and 4 above] on where deer are currently wintering, the DWA maps, and the management guidelines to implement a cooperative, landscape-level DWA management effort. The focus of this DWA management effort should be directed toward managing deer in locations where they are currently wintering, using and matching this information to the management objectives of the landowner.

Examples of concepts to be further evaluated and refined by the working group include.

- Zoned DWAs not being used by deer (inactive) – Evaluate the role these yards will play in future deer recovery efforts.
  - DWAs being used by deer (active) regardless of zoning status – Evaluate the possibility of holding winter cover in active stands as a bridge to a “shifting mosaic” or sustainable flow of available winter cover desired in the long-term strategy.
6. MDIFW identify and notify the small forest landowners in the organized and unorganized towns in northern and eastern Maine when they have important deer wintering area habitat on their ownership; provide them with the DWA management guidelines; and develop mechanisms for them to receive DWA management technical assistance. [This technical assistance may include the following: MDIFW regional biologist landowner assistance; NRCS programs such as EQIP, WHIP; MFS cost-share programs; and MDIFW train consulting foresters to assist with DWA management.]

In locations where MDIFW and MFPC landowners have determined DWA management is needed and the area spans both organized and unorganized townships, MDIFW will work with local communities to promote the cooperative DWA management program.

7. MDIFW, sportsmen, landowners, and the Maine Legislature explore the feasibility/desirability and methods for offering positive incentives to encourage landowners to manage for DWA habitat on their lands.
8. MDIFW, sportsmen, landowners, and the Maine Legislature explore the feasibility of using public funds to acquire key tracts of deer wintering habitat through fee acquisition, land swaps, or conservation easements to reach habitat objectives.

## **Predation**

The Task Force recommends that:

1. MDIFW establishes a Deer Predation Working Group to review and update MDIFW's current coyote control policy. The working group will include representatives from MDIFW, Maine Trappers Association (MTA), Maine Professional Guides Association (MPGA), Maine Audubon, Sportsman's Alliance of Maine (SAM), University of Maine (UMO), MFPC, and SWOAM. The working group will be charged with considering the:
  - a. methods of coyote control [such as Animal Damage Control (ADC) winter coyote control focused at DWAs being used by deer; directed den hunting during spring – early summer; or other ideas developed by that working group];
  - b. tools and devices to be used [foot-hold traps, neck snares, body-gripping restraining devices, poison, hounding, shooting over bait, den hunting, or other techniques]; and
  - c. the procedures by which, when, and where MDIFW will deploy ADC agents. The policy and procedures developed by that working group must adequately consider and minimize impacts to non-target species especially threatened and endangered species. It is recommended that this policy include the principles of adaptive management so that the policy may evolve as new information becomes available.

The working group recommends that priority be given to directed coyote control in those areas with over-wintering deer that are being actively managed under the provisions of the management guidelines outlined above.

2. MDIFW extends the current coyote night-hunting season to run from 16 December through 30 August, annually.
3. MDIFW reduces the bear population in northern and eastern Maine during the short-term strategy period to allow the deer population to recover [reduced fawn predation] and consider accomplishing this by reinstating the spring bear hunt with a "cub law,"

increasing the bear bag limit, increasing the bear-hunting season, or other strategies appropriate to achieve the desired population reduction.

## **Research**

The Task Force recommends that:

1. MDIFW, MFPC, SWOAM, Cooperative Forestry Research Unit (CFRU), Cooperative Fish and Wildlife Research Unit (CFWRU), UMO, and other appropriate stakeholders establish a Deer Research Working Group to augment deer management informational gaps. Such topics may include the following:
  - Assess and improve science on DWA management, especially at the landscape scale.
  - Review and possibly improve MDIFW's ability to estimate deer density.
  - Impact of winter feeding on deer and DWAs.
  - Importance of corridors to DWAs and deer movement.
  - Changing deer migration patterns and deer use of non-traditional wintering areas.
  - Economic analysis of costs of DWA management to forest landowners.
  - Sources of fawn mortality and their impacts.

## **Funding**

The Task Force recommends:

1. MDIFW, sportsmen, landowners, and the Maine Legislature investigate sources of public funding for monitoring and reporting on the program to evaluate effectiveness.
2. MDIFW, sportsmen, landowners, and the Maine Legislature investigate sources of funding (public and private) for research and development efforts to improve knowledge about deer populations and habitat impactors, relationships, and trends.
3. The Maine Legislature considers using a portion of the Land for Maine's Future funds to acquire DWAs.

## **Hunting**

The Deer Task Force recommends:

1. When a Wildlife Management District (WMD) in northern or eastern Maine is designated as "bucks-only" for the regular firearms deer hunting season, this bucks-only provision should also apply to all other deer hunting seasons in that WMD.

2. If through time, the collective recommendations contained in this report are not achieving an increase in deer numbers, MDIFW should consider
  - a. other hunting-related options to reduce deer harvests in northern and eastern Maine while still retaining opportunity; such might include road closure systems, trophy hunting programs, etc.,
  - b. reducing the length of the deer hunting seasons in northern and eastern Maine, and lastly,
  - c. closing northern and eastern Maine to all deer hunting.
3. If MDIFW determines that the illegal kill of does during the hunting seasons is undermining efforts to increase deer numbers, then it should consider reducing the length of the deer hunting seasons in northern and eastern Maine; and if that also fails, then MDIFW should consider closing northern and eastern Maine to all deer hunting.
4. Filling existing Warden Service district vacancies.
5. Increasing Warden Service surveillance of deer hunters.
6. Increasing fines and penalties associated with illegal kill of female deer.
7. Increasing use of Operation Game Thief and offer substantial rewards for information regarding illegal deer hunting in northern and eastern Maine, especially female deer.

### **Education and Outreach**

The Deer Task Force recommends:

1. MDIFW, Maine Trappers Association (MTA), Maine Professional Guides Association (MPGA), and others collaborate to provide seminars on coyote trapping, hunting, and control.
2. MDIFW “train” forest landowners in the concepts of DWA management and procedures to collect data on deer and DWA field observations [ deer populations, habitat, and predation; what to look for and how to record and enter the observations into a database]. Foresters will assist MDIFW with the collection of information about over-wintering deer and DWA information necessary for DWA management.
3. MDIFW and forest landowners, through the Certified Logger Program, work together to promote communication and interaction between biologists, foresters, and loggers regards deer management and DWA identification and management.

### **Increase MDIFW Capacity to Manage DWAs**

The Deer Task Force recommends:

1. MDIFW, sportsmen, landowners, and the Maine Legislature identify and create new funding sources for DWA management and additional MDIFW staff to accomplish DWA management objectives.
2. MDIFW consider the reallocation of existing MDIFW funds and staff to accomplish DWA management objectives.

## **Appendix 10**

### **Comments from the Deer Task Force**

---

- Appendix 10A Maine Audubon Society
- Appendix 10B Sportsman's Alliance of Maine
- Appendix 10C Maine Forest Products Council
- Appendix 10D Maine Bowhunters Association
- Appendix 10E Maine Trappers Association

## Appendix 10A

### Maine Audubon Comments

Hi Sandy and Mark –

Please find my suggested changes on attached document. Some are simple edits to improve grammar and readability. Others are changes that better reflect my recollection of our last discussion. A few changes highlighted in yellow better reflect concerns I have raised before but couldn't figure out how to put in words on the spot at our last meeting. These are changes I feel must be made before I can sign on to the final document.

Thanks for all your hard work on this and have a great holiday.

Sally

### Recommendations to the Commissioner of the Maine Department of Inland Fisheries in Wildlife for Increasing the Deer Herd in Northern and Downeast Maine

Developed by the Northern and Eastern Maine Deer Task Force  
Fall 2007

#### Short-term Strategy [now – 2025]

##### Deer population

The Task Force recommends that:

1. Maine Department of Inland Fisheries and Wildlife (MDIFW) and forest landowners implement the cooperative habitat management recommendations outlined below to maintain deer populations in balance with carrying capacity of the existing winter habitat and to gradually increase deer populations to fill the improving winter habitat carrying capacity.

Population goals need to be established in consideration of the balance between biological and economic factors and updated research information.

2. MDIFW convene a species planning working group that includes landowners to integrate the separate population and habitat management goals for deer, moose, bear, marten, and lynx into a unified set of habitat goals for northern and eastern Maine.

**Comment [s1]:** As originally written, suggests the working group would be comprised of only IFW and landowners I don't think that's what we intended



3. MDIFW identify areas of high road mortality and work with the Maine Department of Transportation to identify strategies to reduce deer/vehicle collisions, such as improved signage, driver education, etc.
4. MDIFW increase its efforts to educate the public about reasons not to feed deer especially in areas with high numbers of road mortality.

## Habitat

The Task Force believes that cooperative efforts between landowners and MDIFW remain a valuable option for addressing deer management concerns in northern and eastern Maine. No changes to the P-FW standards are recommended at this time. However, LURC zoning will remain the baseline tool to conserve deer wintering areas (DWAs) on land ownerships who do not participate in cooperative habitat initiatives.

**Comment [s2]:** I am uncomfortable with saying cooperative efforts are preferable, but totally comfortable saying they remain a valuable option. I hope this wording still captures the spirit of what we discussed. I couldn't come up with the right words for this at our last meeting so I offer them now.

It also believes that a biologically sound landscape-level management approach / strategy to DWA habitat management is ecologically sound and preferred.

The Task Force recommends that:

1. During the life of the "short-term strategy" period, MDIFW establish the Northern and Eastern Maine Deer Task Force to oversee and guide the implementation of the recommended strategies contained in this report to the Commissioner. In addition, MDIFW will convene the Deer Task Force at least annually to review process, evaluate progress in improving deer populations, update and refine goals with on-going research information, and consider economic factors.
2. MDIFW, Maine Forest Products Council (MFPC), and the Small Woodland Owners Association of Maine (SWOAM), take the lead in developing DWA management guidelines for review by other members of the Deer Task Force. DWA management guidelines will be shared with all forest landowners. MFPC and SWOAM? will promote and encourage the implementation of these DWA management guidelines among its members and will educate new members about the program and encourage their participation. MDIFW will work with other major landowners.
3. MDIFW share historic and current deer use maps and information with landowners as a reference point for deer activity.
4. MDIFW and forest landowners work together to identify and map those areas where deer are currently wintering.
5. Forest landowners use this information [2, 3, and 4 above] on where deer are currently wintering, the DWA maps, and the management guidelines to implement a cooperative, landscape-level DWA management effort. The initial focus of this DWA management effort should be directed toward managing deer in locations where they are currently wintering, using and matching this information to the management objectives of the landowner.

**Comment [s3]:** I don't think "continued evaluation" is grammatically correct with the rest of the sentence.

Examples of concepts to be further evaluated and refined by the working group include.

- Zoned DWAs not being used by deer (inactive) – Evaluate the role these yards will play in future deer recovery efforts.
  - DWAs being used by deer (active) regardless of zoning status – Evaluate the possibility of holding winter cover in active stands as a bridge to a “shifting mosaic” or sustainable flow of available winter cover desired in the long-term strategy.
6. MDIFW identify and notify the small forest landowners in the organized and unorganized towns in northern and eastern Maine when they have important deer wintering area habitat on their ownership; provide them with the DWA management guidelines; and develop mechanisms for them to receive DWA management technical assistance. [This technical assistance may include the following: MDIFW regional biologist landowner assistance; NRCS programs such as EQIP, WHIP; MFS cost-share programs; and consulting foresters trained by MDIFW to assist with DWA management.]

In locations where DWAs span both organized and unorganized townships, MDIFW will work with local communities to promote the cooperative DWA management program.

7. MDIFW, sportsmen, landowners, and the Maine Legislature explore the feasibility/desirability and methods for offering positive incentives to encourage landowners to manage for DWA habitat on their lands.
8. MDIFW, sportsmen, landowners, and the Maine Legislature explore the feasibility of using public funds to acquire key tracts of deer wintering habitat through fee acquisition, land swaps, or conservation easements to reach habitat objectives.

## **Predation**

The Task Force recommends that:

1. MDIFW establishes a Deer Predation Working Group to review and update MDIFW's current coyote control policy. The working group will include representatives from MDIFW, Maine Trappers Association (MTA), Maine Professional Guides Association (MPGA), Maine Audubon, Sportsman's Alliance of Maine (SAM), University of Maine (UMO), MFPC, and SWOAM. The working group will be charged with considering the:
  - a. methods of coyote control [such as Animal Damage Control (ADC) winter coyote control focused at DWAs being used by deer; directed den hunting during spring – early summer; or other ideas developed by that working group];
  - b. tools and devices to be used [foot-hold traps, neck snares, body-gripping restraining devices, poison, hounding, shooting over bait, den hunting, or other techniques]; and
  - c. the procedures by which, when, and where MDIFW will deploy ADC agents. The policy and procedures developed by that working group must adequately consider and minimize impacts to non-target species especially threatened and endangered species. It is recommended that this policy include the principles of

adaptive management so that the policy may evolve as new information becomes available.

The working group recommends that priority be given to directed coyote control in those areas with over-wintering deer that are being actively managed under the provisions of the management guidelines outlined above and where there are documented predation problems from coyotes

**Comment [s4]:** I believe we discussed the importance of only using this approach where there are known problems and that this was especially important to some of the regional biologists

2. MDIFW extends the current coyote night-hunting season to run from 16 December through 30 August, annually.
3. MDIFW evaluate the need and consequences of reducing the bear population in northern and eastern Maine during the short-term strategy period to allow the deer population to recover [reduced fawn predation] and consider accomplishing this by reinstating the spring bear hunt with a “cub law,” increasing the bear bag limit, increasing the bear-hunting season, or other strategies appropriate to achieve the desired population reduction. Any decision must be integrated with the work of the species planning work group mentioned above (Deer Population #2).

**Comment [s5]:** It's my recollection that we all agreed any change to the bear hunting strategy must be tied back into the bear population goals and looked at within a multi-species management context I actually thought we did away with this one, but I'm comfortable keeping it in as long as it's connected back to the species planning work group

## Research

The Task Force recommends that:

1. MDIFW, MFPC, SWOAM, Cooperative Forestry Research Unit (CFRU), Cooperative Fish and Wildlife Research Unit (CFWRU), UMO, and other appropriate stakeholders establish a Deer Research Working Group to augment deer management informational gaps. Such topics may include the following:
  - o Assess and improve science on DWA management, especially at the landscape scale.
  - o Review and possibly improve MDIFW's ability to estimate deer density.
  - o Impact of winter feeding on deer and DWAs.
  - o Importance of corridors to DWAs and deer movement.
  - o Changing deer migration patterns and deer use of non-traditional wintering areas.
  - o Economic analysis of costs of DWA management to forest landowners.
  - o Sources of fawn mortality and their impacts.

## Funding

The Task Force recommends:

1. MDIFW, sportsmen, landowners, and the Maine Legislature investigate sources of public funding for monitoring and reporting on the program to evaluate effectiveness.
2. MDIFW, sportsmen, landowners, and the Maine Legislature investigate sources of funding (public and private) for research and development efforts to improve knowledge about deer populations and habitat impactors, relationships, and trends.
3. The Maine Legislature considers using a portion of the Land for Maine's Future funds to acquire DWAs.

## Hunting

The Deer Task Force recommends:

1. When a Wildlife Management District (WMD) in northern or eastern Maine is designated as 'bucks-only' for the regular firearms deer hunting season, this bucks-only provision should also apply to all other deer hunting seasons in that WMD.
2. If through time, the collective recommendations contained in this report are not achieving an increase in deer numbers, MDIFW should consider
  - a. other hunting-related options to reduce deer harvests in northern and eastern Maine while still retaining opportunity; such might include road closure systems, trophy hunting programs, etc.,
  - b. reducing the length of the deer hunting seasons in northern and eastern Maine, and lastly,
  - c. closing northern and eastern Maine to all deer hunting.
3. If MDIFW determines that the illegal kill of does during the hunting seasons is undermining efforts to increase deer numbers, then it should consider reducing the length of the deer hunting seasons in northern and eastern Maine; and if that also fails, then MDIFW should consider closing northern and eastern Maine to all deer hunting.
4. Filling existing Warden Service district vacancies.
5. Increasing Warden Service surveillance of deer hunters.
6. Increasing fines and penalties associated with illegal kill of any deer.
7. Increasing use of Operation Game Thief and offer substantial rewards for information regarding illegal deer hunting in northern and eastern Maine, especially female deer.

Comment [s6]: My notes show we agreed on "any" deer, not just females

## Education and Outreach

The Deer Task Force recommends:

1. MDIFW, Maine Trappers Association (MTA), Maine Professional Guides Association (MPGA), and others collaborate to provide seminars on coyote trapping, hunting, and control, and ways to limit capture of nontarget species, especially threatened and endangered species
2. MDIFW “train” forest landowners in the concepts of DWA management and procedures to collect data on deer and DWA field observations [ deer populations, habitat, and predation; what to look for and how to record and enter the observations into a database]. Foresters will assist MDIFW with the collection of information about over-wintering deer and DWA information necessary for DWA management.
3. MDIFW and forest landowners, through the Certified Logger Program, work together to promote communication and interaction between biologists, foresters, and loggers regards deer management and DWA identification and management.

**Comment [s7]:** I don't think we discussed this here, but my additions are consistent with what we discussed under the goals of the predator control section I feel strongly this needs to be included here as well

### **Increase MDIFW Capacity to Manage DWAs**

The Deer Task Force recommends:

1. MDIFW, sportsmen, landowners, and the Maine Legislature identify and create new funding sources for DWA management and additional MDIFW staff to accomplish DWA management objectives.
2. MDIFW consider the reallocation of existing MDIFW funds and staff to accomplish DWA management objectives.

## Appendix 10B

### Sportsman's Alliance of Maine Comments

#### Sportsman's Alliance of Maine 205 Church Hill Road Augusta, ME 04330

January 9, 2008

The report and recommendations of DIF&W's Deer Task Force are endorsed by the Sportsman's Alliance of Maine. We appreciated the opportunity to participate in the Task Force through our representative, Gerry Lavigne.

Gerry has prepared supplementary comments which we hope will be attached to the Task Force Report, along with this letter that summarizes our position on these critically important issues.

There is something for everyone to like and to dislike in this report. Some will be unhappy that the Task Force has focused on a voluntary system to protect deer wintering area. Others will recognize that this system is beefed up in many ways – including with a commitment from the Maine Forest Products Council to actively encourage participation by its members - and complemented by DIF&W's commitment to pursue the zoning option for landowners who fail to participate in the voluntary program.

SAM recognizes that protection of wintering habitat is a long term strategy which will not deliver a substantial increase in the deer herd in the short term.

In the short term, the Task Force report offers an aggressive program to reduce predation of deer by coyotes and bears. The methods recommended for reducing bear populations will be controversial. But nearly all will agree on the recommendations on coyotes.

Reducing coyote predation holds the most promise for immediate improvement in the deer population and those recommendations must be implemented immediately. We urge and expect DIF&W to move quickly and aggressively to protect deer in the regions of the state where populations have plummeted.

It is also apparent that Maine needs to rethink its management plans for moose, deer, and bear, in a comprehensive way that addresses the impacts of each species on the others, and creates a plan that recognizes the biological limitations of managing these species while optimizing recreational and economic opportunities.

In the past we have failed to do this. For example, we may need a new strategy that maximizes hunting and economic opportunities for moose and bear while understanding that deer

populations will remain below our goals. It is also unnecessary and counterproductive to maintain coyote populations at their maximum levels as we are doing today.

SAM appreciates the effort that was put into the Task Force report and looks forward to working with all interests as the recommendations are implemented.

George Smith, SAM Executive Director

---

Supplementary Comments Regarding The Deer Task Force Recommendations To The Commissioner Of The Inland Fisheries and Wildlife Department.

Prepared for The Sportsmans Alliance of Maine (SAM)

By: Gerry Lavigne

January 5, 2008

### Introductory Comments

The Northern and Eastern Maine Deer Task Force was convened by the Department of Inland Fisheries and Wildlife (DIFW) as a preliminary step toward complying with LD 823 during the first regular session of the 123 Maine Legislature. LD 823 was a SAM bill sponsored by Rep. Herb Clark. When submitted, LD 823 was intended to direct the DIFW to re-establish a coyote control program, which the Dept had allowed to lapse for 4 years. In its work session, the Legislative Fish and Wildlife Committee wisely amended LD 823 to direct DIFW to also address wintering habitat problems and other factors that affect deer survival in eastern and northern Maine. The resulting statute passed by the 123 Maine Legislature is summarized as follows: "Deer habitat enhancement and coyote control program: Resolved: That the Commissioner of Inland Fisheries and Wildlife shall establish a working group to review existing programs and efforts relating to creating, enhancing, and maintaining critical deer habitat in the State and reducing predation of deer by coyotes. In reviewing the programs and efforts, the working group shall look for ways to improve and increase wintering habitat for deer and for ways to increase survivorship of deer on a year-round basis. The working group shall also establish methods of controlling coyote populations and set goals to manage the populations. The working group shall report its findings and recommendations to the Joint Standing Committee on Inland Fisheries and Wildlife by December 30, 2007. The Joint Standing Committee on Inland Fisheries and Wildlife may submit legislation related to the report to the Second Regular Session of the 123<sup>rd</sup> Legislature."

Deer populations in eastern and northern Maine have been declining for 30 years and currently exist at record low numbers over large areas. As deer populations declined, so have hunting opportunity and economic activity over fully half the state. Deer hunting in Maine annually generates at least \$200 million in economic activity, but less and less of that money is finding its way into rural towns in eastern and northern Maine as the deer population continues to dwindle. Deer hunters who reside in the northern half of the state are becoming increasingly frustrated by diminishing deer hunting opportunities there, and they are losing patience with DIFW's inability to restore deer populations to some semblance of its former abundance.

Deer herds in northern and eastern Maine have declined because annual deer losses have consistently exceeded fawn recruitment. A number of factors contribute to this situation, not the least of which include severe winters, loss of wintering habitat, predation by coyote and black bear, and human-caused losses (hunting, illegal kill, and vehicle collisions).

Since the early 1980s, the DIFW has focused primarily on harvest management (including efforts to reduce illegal kill) as the primary means to reduce overall deer losses. It is readily apparent by now that regulating doe harvests alone has not been adequate to enable deer populations to recover. DIFW must also reverse the loss of wintering habitat that has plagued the region for 3 decades. Equally important, the Dept must also reduce the effects of coyote and black bear predation on deer mortality and fawn recruitment. Failure to address the region's wintering habitat and predation problems will only ensure continued low deer populations in eastern and northern Maine well into the future.

The recommendations developed by the Northern and Eastern Maine Deer Task Force represent our best efforts to address ongoing problems facing deer populations in that part of the state. There are no guarantees for success, and DIFW will find accomplishing all of the recommendations challenging at best, in light of current budgetary and political realities. In addition, improving the wintering habitat base will require the sustained cooperation of eastern and northern Maine's timberland owners. Hunters and Maine citizens may also be called upon to support public acquisition of important deer wintering habitat to some degree.

Restoration of deer populations in eastern and northern Maine will take time. Improvement in the wintering habitat base will take decades, as Maine's vast spruce-fir forests again grow to a size and condition that shelters deer in winter. Other elements of our plan can and should be implemented immediately. The most notable of these would be establishment of the Deer Predation Working group and re-activation of the Dept's legislatively mandated Animal Damage (coyote) Control Program.

Perhaps one of the biggest challenges facing successful restoration of deer populations in eastern and northern Maine will be maintaining Dept commitment and resolve over time. Success will depend on the agency's willingness to commit staff time and resources to the effort. It is also essential to get real "buy-in" to the effort at all levels of the agency, from the Commissioner on down. Finally, this commitment must transcend successive administrations, since the habitat initiatives will take decades to accomplish, and also because predation control will require annual attention.

Brief comments regarding specific recommendations from SAM's perspective are presented below. Comments are listed in the same order as major headings found in the recommendations text.

## Deer Population

Eight years ago, DIFW established population objectives of 10 to 15 deer per sq. mi. for eastern and northern Maine. Current populations are about 2 to 5 deer per sq. mi. In 2000, these population objectives were the recommendation of a broad array of stakeholders who share an interest in deer. Stakeholders included hunting interests, non-hunters, large and small landowners, commercial interests, and others. At that time, deer population objectives were considered both socially desirable and biologically attainable, if the quantity of wintering habitat could be increased to about 8 or 9% of the land base in eastern and northern Maine over time.

These population objectives and wintering habitat acreages are not excessive for this part of Maine. During periods (e.g., pre 1970) when a greater proportion of Maine forests consisted



of mature spruce and fir and hemlock, eastern and northern Maine deer populations exceeded 20 deer per sq. mi., and they occupied at least 10 to 12% of the land base during winter.

Mature softwood forest that is suitable for sheltering deer during winter currently is in short supply. Less than 5% of the land base is currently wintering deer, and some of that is in poor silvicultural condition. For many timber companies, some of the most marketable softwood timber in their inventories exists in traditional deer wintering areas. This creates tremendous pressure on these companies to conduct timber harvests in deer yards. Timber management in regulated deer yards is costly. It often requires special restrictions on the type and amount of timber to be cut, small acreages, frequent entry to harvest timber, and limited time to accomplish the work (winter harvests). Given the above, we understand why timber companies are reluctant to commit to managing a larger proportion of their ownership as deer wintering habitat. Society gains the benefit of higher deer populations, while private landowners bear most of the costs. Yet, the Dept will not achieve its deer objectives unless wintering habitat is restored to 8 or 9% of the land base.

Forests that were cut in the 1970s and 1980s will soon be attaining size and type conditions that will again shelter deer. Forest planners predict that a large amount of previously cut forest acreage in eastern and northern Maine will transition to the pole-stage spruce, fir and hemlock stands that shelter deer in winter. This transition in forest age is the natural result of regrowth, and it will take place within a decade. As the stock of maturing softwood timber increases, there may be less conflict between the need to sell timber vs. the need to delay timber harvests in deer wintering areas, for many timberland owners. When inventories of softwood timber are higher, timberland owners may be more likely to find harvestable acreage outside of deer wintering areas, than is currently the case. In the interim, the DIFW would be wise to develop strategies designed to mitigate the high costs of deer yard management for private landowners. DIFW should also ensure that our existing deer wintering areas are protected and not lost during the next decade.

It would be tempting for DIFW to abandon its deer population objectives and to settle for less, as some have suggested. We urge the Dept. to stay the course and to continue to work to increase deer wintering habitat over time, as opportunities arise. However, should the Dept. choose to convene a species planning group to integrate the separate population and habitat goals for deer, moose, bear, marten and lynx, as recommended by the Deer Task Force, the Dept. must broaden the stakeholder list to include all pertinent stakeholders (including SAM), not just timberland owners.

## Habitat

DIFW has long recognized the importance of wintering habitat protection to maintain healthy deer populations in eastern and northern Maine. However, the Dept. has yet to develop the right set of strategies to succeed over the long term. Cooperative agreements with timberland owners have been tried in the late 1950s and 1960s, as well as more recently (1990s to the present). Early rounds of deer yard cooperative management clearly failed. So too have some more recent attempts.

Protection of wintering habitat using land-use zoning under LURC has been the primary tool used by the Dept. in the unorganized towns of Maine since the mid 1970s. This option has not proven sufficient to protect an adequate amount of wintering habitat, nor has zoning under

LURC consistently proven effective in maintaining habitat quality, and/or persistent occupation by wintering deer over the long term.

In the organized towns, the Dept. uses a non-regulatory approach to encourage towns to protect deer yards from development, using the Beginning With Habitat Program. The Dept. relies on town planning to ensure deer yard protection on a voluntary basis. In some cases, the Dept. has entered into cooperative agreements with private timberland owners for deer yard management in some organized towns in the region.

The DIFW works closely with staff within the Dept. of Conservation, Bureau of Parks and Lands to ensure that deer wintering areas are adequately managed on state-owned land.

The Task Force has recommended an additional and different type of cooperative effort to protect and manage deer wintering habitat. This program relies on information sharing between DIFW and cooperating landowners to identify and delineate existing deer wintering areas. Landowners and the Dept. will jointly develop guidelines for deer wintering area management, but landowners will be free to implement these guidelines without direct supervision or oversight by Dept. biologists. Landowners will be expected to manage existing deer yards within the context of their own corporate decision-making regarding timber growth and sales on their ownership. Management plans for individual deer yards will be the sole responsibility of landowners. Guidelines will utilize a “landscape approach” to maintaining an adequate inventory of deer wintering habitat. SAM can bring an important perspective and expertise to the table, when the Dept. develops its deer yard management guidelines. Hence, we urge the Dept. to include a representative from SAM on its deer yard management committee.

While we applaud this effort to resolve deer wintering area management problems of the past, SAM has some lingering reservations about its potential for success. The concept is currently only vaguely outlined, and we would like to see greater attention to the fine details of a venture of this nature. We are unsure how many of the large timberland owners will be willing to participate in this program. We would like to see a mechanism to validate adequate compliance with the program by cooperators, since non-compliance means loss of wintering habitat. Conversely, SAM encourages the Dept. to find ways to reward landowners who truly embrace this cooperative venture. This could be accomplished through positive publicity, or through some formal certification program.

We have some doubts that this type of cooperative venture can actually lead to an increase in the acreage of protected deer wintering habitat at a time when mature softwoods are in short supply. Expensive deer yard management simply cannot compete with larger-scale timber harvest strategies without some form of subsidy to the landowner. However, as the supply of merchantable softwood timber emerges on these lands over the next few decades, a cooperative program of this type may well prove viable.

Finally, we believe it is important for DIFW to retain all available strategies to protect deer wintering habitat in the near term, and not to rely on just one. We further encourage DIFW to develop other strategies to encourage increased availability and retention of wintering habitat for deer. Potential strategies could include purchase of timber management easements to cover the increased costs of deer yard management, and possibly fee acquisition of strategically located deer wintering areas from willing sellers.

## Predation

Deer population recovery in eastern and northern Maine is clearly being hampered by DIFW's inability to reduce predation losses. While it is tempting to blame our low deer populations solely on the loss of quality wintering habitat, there is ample evidence that deer density is being held below optimal levels within existing wintering habitat in many areas. Severe winters are a fact of life in eastern and particularly northern Maine. Even in the best quality wintering areas, severe wintering conditions featuring deep, unsupportive snow will lead to high losses to predation. At these times, coyotes are able to kill healthy adult does and bucks, in addition to old, weak, or malnourished individuals. Faced with high predation losses and diminished recruitment of fawns, our eastern and northern Maine deer populations have dwindled in recent decades, despite very conservative deer harvests.

Deer populations with high fawn production and survival can withstand considerable adult mortality. Conversely, populations with low fawn survival and recruitment cannot withstand even limited losses among adults without declining or being limited at low densities. DIFW studies have demonstrated that eastern and northern Maine does produce abundant fawns, but early fawn survival is lower than among deer in central and southern Maine. In eastern and northern Maine, only half the fawns born in June survive their first six months. This low level of recruitment cannot replace many adult losses. As a result, adult mortality too often exceeds fawn recruitment on an annual basis, despite DIFW's best efforts to reduce the impact of hunting mortality on the herd.

Based upon limited Maine studies, but augmented by recent research data in Nova Scotia, New Brunswick, Quebec, New York, and Pennsylvania, it is apparent that predation is the leading cause of early fawn mortality in forested habitats similar to eastern and northern Maine. Furthermore, these studies found that coyotes and black bears are responsible for most predation losses, and the two species take about the same proportion of the fawn crop. Coyotes select young fawns and adult deer in June as a means of feeding hungry pups. Larger prey like deer are more efficient than mice and hare in provisioning coyote litters. Black bear seem to need a protein "fix" soon after emerging from their dens. At this time, bears readily seek carrion, and they will target live deer fawns and moose calves when available.

Coyote populations are typically abundant in eastern and northern Maine, particularly where high hare populations afford coyotes an alternate food source at times when deer are less vulnerable. Bear populations have been increasing in this region as well, partially in response to abundant forage in recently-cut forests, and also in response to conservative harvests over the past quarter century. Conceivably, managing for lower bear populations and reducing coyote density during late spring could lead to increased deer fawn survival and recruitment. Higher deer recruitment, in turn, could facilitate herd recovery in eastern and northern Maine.

SAM strongly supports the Task Force recommendations for reducing predation losses. We encourage the DIFW to convene the Deer Predation Working group immediately, and to deploy a re-constituted Animal Damage Control (ADC) Program this winter and spring (2008). SAM supports extending the coyote night-hunting season to cover late December and the summer months. We believe it is crucial to extend ADC and other coyote control activities into the early summer to maximize the probability of reducing coyote density during the fawning season. SAM also recognizes the need to reduce bear density in eastern and northern Maine as a means of improving fawn survival. Although a spring bear hunt will be controversial, SAM believes the Dept. should explore this option. Unlike an expansion of the fall hunt, a spring bear hunt would reduce density primarily among male bears without unduly jeopardizing females and dependent offspring.

SAM believes that the scale of the Dept's ADC program in the past was too limited and it did not receive consistent support within the agency. We encourage the Dept. to elevate the status of the ADC program, and to consider its successful implementation on a par with its deer harvesting programs. We further encourage the Dept. to provide a full time staff biologist to coordinate ADC and deer wintering area management programs. We are fully cognizant of the Dept's budgetary constraints. Yet, we are also confident that successful deer recovery in eastern and northern Maine will re-invigorate both local economies and Dept. revenues. Now is the time to invest in programs that could facilitate deer recovery in the northern half of Maine. This must be a top priority, even if other projects have to be set aside.

Finally, we note that the Deer Task Force failed to tackle one directive of LD 823. There is a provision directing the working group to: "establish methods of controlling coyote populations and set goals to manage the populations." While the Task Force clearly deferred discussion of control methods to the proposed Deer Predation Working Group, the task of goal-setting was never addressed. This is unacceptable, because serious efforts at predator control require the same attention to harvest intensity, data collection, and monitoring of efficacy as is required for other big game management.

The Dept. requires the use of management systems to guide harvest and other management actions for most hunted and trapped species, as well as for many non-hunted species. Yet, no management system has ever been implemented for eastern coyotes, since the Dept. initiated the management system approach 23 years ago! SAM believes the DIFW is long overdue for creating a management system for coyote that will guide recreational harvest, ADC activities, and public outreach, as these activities pertain to achievement of clearly defined population objectives. We urge the Dept. to accomplish this task without delay, and with the scientific competency it accords other important wildlife.

### Research

SAM supports any research that can lead to better understanding of the factors currently limiting deer in eastern and northern Maine. We are also keenly aware that the Dept. has very little funding that it can devote to research at this time. We encourage the Dept. to aggressively pursue outside funding opportunities. We also encourage the agency to implement adaptive management experiments that can provide new information, while simultaneously pursuing attainment of population objectives. For example, the Dept. could design coyote or bear control experiments on limited areas to determine what level and types of control are needed to result in a measurable improvement in fawn survival.

### Funding

SAM fully supports the Task Force recommendations to improve DIFW's ability to fund these deer wintering area management and predator control recommendations. We welcome any opportunity to discuss funding options with the Dept.

### Hunting

SAM believes the Dept. should allocate as much deer hunting opportunity as the deer population can safely sustain. We also support Dept. efforts to provide special deer hunting opportunities to our youth. However, if there is a biological need to minimize antlerless deer harvests in a given area, SAM will support the use of “bucks-only” hunting during all hunting seasons in that area.

However, SAM opposes Dept. consideration of road closures, trophy hunting programs, season reductions, and especially season closures, as a means of reducing overall deer losses at this time. We believe the Dept. cannot clearly demonstrate that these drastic measures will actually reduce illegal losses of antlerless deer. We also are concerned that season reductions and closures would cause hunters to move to open areas, thereby negatively impacting deer populations and landowner relations elsewhere.

## Education and Outreach

SAM fully supports the Deer Task Force recommendations relating to education and outreach for both deer yard management and coyote harvest and control activities. We further believe the Dept. can play a key role in promoting coyote hunting as a commercial sporting activity, as they did for black bear hunting in the 1970s. We also believe the Dept. can take a more positive approach toward private groups that sponsor coyote contests and the like, rather than attempting to derail such events.

## Increase DIFW Capacity To Manage DWAs

SAM fully supports these recommendations. However, we believe there is a similar need to fully fund and staff the predator control program, as detailed in the Predation Section.

## Appendix 10C

### Maine Forest Products Council Comments

**From:** PStrauch [mailto:PStrauch@maineforest.org]  
**Sent:** Friday, December 21, 2007 4:41 PM  
**To:** Stadler, Mark  
**Cc:** MFPC Admin Asst (SMcCarthy)  
**Subject:** FW: Deer Task Force DRAFT Recommendations  
**Importance:** High

Mark,

I'll just cut and paste a couple of comments that I have received, I think they are more clarifying in nature than new ideas. I'll work on these next week and see if there are some simple word changes that will help clarify.

Have a great Christmas! Patrick

1. Maine Department of Inland Fisheries and Wildlife (MDIFW) and forest landowners implement the cooperative habitat management recommendations outlined below to maintain deer populations in balance with carrying capacity of the existing winter habitat and to gradually increase deer populations to fill the improving winter habitat carrying capacity. **There has to be a cap on this. In some Wildlife Management Zones deer population numbers haven't been above 5 deer per sq mile since 1976 (see attached graphs). The 10 deer / mi<sup>2</sup> in the back of IF&W's mind may never happen even with unlimited habitat availability and should the landowner be responsible to bring population numbers to levels that may never have been attained. We must really insist that the sentence highlighted below is followed and is supported by good research.**

**Population goals need to be established in consideration of the balance between biological and economic factors and updated research information.**

\*\*\*\*\*

- DWAs being used by deer (active) regardless of zoning status – Evaluate the possibility of holding winter cover in active stands as a bridge to a “shifting mosaic” or sustainable flow of available winter cover desired in the long-term strategy. **(For landowners with existing co-operative agreements, the total area must not exceed the existing PF-W and co-op totals. Any addition of new areas used by deer will be balanced by a reduction in PF-W and Co-op areas not being used by deer)**

Patrick Strauch  
Executive Director  
Maine Forest Products Council  
(207) 622-9288

## Appendix 10D

### Maine Bowhunters Association Comments

#### Recommendations to the Commissioner of the Maine Department of Inland Fisheries in Wildlife for Increasing the Deer Herd in Northern and Downeast Maine

Developed by the Northern and Eastern Maine Deer Task Force  
Fall 2007

#### Short-term Strategy [now – 2025]

##### Deer population

The Task Force recommends that:

1. Maine Department of Inland Fisheries and Wildlife (MDIFW) and forest landowners implement the cooperative habitat management recommendations outlined below to maintain deer populations in balance with carrying capacity of the existing winter habitat and to gradually increase deer populations to fill the improving winter habitat carrying capacity.

Population goals need to be established in consideration of the balance between biological and economic factors and updated research information.

2. MDIFW convene a species planning working group with landowners to integrate the separate population and habitat management goals for deer, moose, bear, marten, and lynx into a unified set of habitat goals for northern and eastern Maine.
3. MDIFW identify areas of high road mortality and work with the Maine Department of Transportation to identify strategies to reduce deer/vehicle collisions, such as improved signage, driver education, etc.
4. MDIFW increase its efforts to educate the public about reasons not to feed deer especially in areas with high incidence of road mortality.

Deleted: numbers

##### Habitat

The Task Force believes that cooperative efforts between landowners and MDIFW, rather than land-use zoning, is the preferred option for addressing deer management concerns in northern and eastern Maine. No changes to the P-FW standards are recommended at this time. However, LURC zoning will remain the baseline tool to conserve deer wintering areas (DWAs) on land ownerships that do not participate in voluntary habitat initiatives.

Deleted: who



It also believes that a biologically sound landscape-level management approach / strategy to DWA habitat management is ecologically sound and preferred.

The Task Force recommends that:

1. During the life of the “short-term strategy” period, MDIFW establish the Northern and Eastern Maine Deer Task Force to oversee and guide the implementation of the recommended strategies contained in this report to the Commissioner. In addition, MDIFW will convene the Deer Task Force at least annually to review process, evaluate progress in improving deer populations, update and refine goals with on-going research information, and continued evaluation of economic factors.
2. MDIFW, Maine Forest Products Council (MFPC), and the Small Woodland Owners Association of Maine (SWOAM), take the lead in developing DWA management guidelines for review by other members of the Deer Task Force. DWA management guidelines will be shared with all forest landowners. MFPC and SWOAM will promote and encourage the implementation of these DWA management guidelines among ~~their~~ members and will educate new members about the program and encourage their participation. MDIFW will work with other major landowners.
3. MDIFW share historic and current deer use maps and information with landowners as a reference point for deer activity.
4. MDIFW and forest landowners work together to identify and map those areas where deer are currently wintering.
5. Forest landowners use this information [2, 3, and 4 above] on where deer are currently wintering, the DWA maps, and the management guidelines to implement a cooperative, landscape-level DWA management effort. The focus of this DWA management effort should be directed toward managing deer in locations where they are currently wintering, using and matching this information to the management objectives of the landowner.

Deleted: its

Examples of concepts to be further evaluated and refined by the working group include.

- o Zoned DWAs not being used by deer (inactive) – Evaluate the role these yards will play in future deer recovery efforts or if a yard should be removed from zoning.
  - o DWAs being used by deer (active) regardless of zoning status – Evaluate the possibility of holding winter cover in active stands as a bridge to a “shifting mosaic” or sustainable flow of available winter cover desired in the long-term strategy.
6. MDIFW identify and notify the small forest landowners in the organized and unorganized towns in northern and eastern Maine when they have important deer wintering area habitat on their ownership; provide them with the DWA management guidelines; and develop mechanisms for them to receive DWA management technical assistance. [This technical assistance may include the following: MDIFW regional biologist landowner assistance; NRCS programs such as EQIP, WHIP; MFS

cost-share programs; and MDIFW train consulting foresters to assist with DWA management.]

In locations where MDIFW and MFPC landowners have determined DWA management is needed and the area spans both organized and unorganized townships, MDIFW will work with local communities to promote the cooperative DWA management program.

7. MDIFW, sportsmen, landowners, and the Maine Legislature explore the feasibility/desirability and methods for offering positive incentives to encourage landowners to manage for DWA habitat on their lands.
8. MDIFW, sportsmen, landowners, and the Maine Legislature explore the feasibility of using public funds to acquire key tracts of deer wintering habitat through fee acquisition, land swaps, or conservation easements to reach habitat objectives.

## **Predation**

The Task Force recommends that:

1. MDIFW establishes a Deer Predation Working Group to review and update MDIFW's current coyote control policy. The working group will include representatives from MDIFW, Maine Trappers Association (MTA), Maine Professional Guides Association (MPGA), Maine Audubon, Sportsman's Alliance of Maine (SAM), University of Maine (UMO), MFPC, and SWOAM. The working group will be charged with considering the:
  - a. methods of coyote control [such as Animal Damage Control (ADC) winter coyote control focused at DWAs being used by deer; directed den hunting during spring – early summer; or other ideas developed by that working group];
  - b. tools and devices to be used [foot-hold traps, neck snares, body-gripping restraining devices, poison, hounding, shooting over bait, den hunting, or other techniques]; and
  - c. the procedures by which, when, and where MDIFW will deploy ADC agents. The policy and procedures developed by that working group must adequately consider and minimize impacts to non-target species especially threatened and endangered species. It is recommended that this policy include the principles of adaptive management so that the policy may evolve as new information becomes available.

The working group recommends that priority be given to directed coyote control in those areas with over-wintering deer that are being actively managed under the provisions of the management guidelines outlined above.

2. MDIFW extends the current coyote night-hunting season to run from 16 December through 30 August, annually.
3. MDIFW reduces the bear population in northern and eastern Maine during the short-term strategy period to allow the deer population to recover [reduced fawn predation] and consider accomplishing this by increasing the bear-hunting season, increasing

the bear bag limit, reinstating the spring bear hunt with a “cub law,” or other strategies appropriate to achieve the desired population reduction.

Deleted: increasing the bear bag limit, increasing the bear-hunting season,

## Research

The Task Force recommends that:

1. MDIFW, MFPC, SWOAM, Cooperative Forestry Research Unit (CFRU), Cooperative Fish and Wildlife Research Unit (CFWRU), UMO, and other appropriate stakeholders establish a Deer Research Working Group to augment deer management informational gaps. Such topics may include the following:
  - o Assess and improve science on DWA management, especially at the landscape scale.
  - o Review and improve MDIFW’s ability to estimate deer density.
  - o Impact of winter feeding on deer and DWAs.
  - o Importance of corridors to DWAs and deer movement.
  - o Changing deer migration patterns and deer use of non-traditional wintering areas.
  - o Economic analysis of costs of DWA management to forest landowners.
  - o Sources of fawn mortality and their impacts.

Deleted: possibly

## Funding

The Task Force recommends:

1. MDIFW, sportsmen, landowners, and the Maine Legislature investigate sources of public funding for monitoring and reporting on the program to evaluate effectiveness.
2. MDIFW, sportsmen, landowners, and the Maine Legislature investigate sources of funding (public and private) for research and development efforts to improve knowledge about deer populations and habitat impactors, relationships, and trends.
3. The Maine Legislature considers using a portion of the Land for Maine’s Future funds to acquire DWAs.

## Hunting

The Deer Task Force recommends:

1. When a Wildlife Management District (WMD) in northern or eastern Maine is designated as ‘bucks-only’ for the regular firearms deer hunting season, this bucks-only provision should also apply to all other deer hunting seasons in that WMD.
2. If through time, the collective recommendations contained in this report are not achieving an increase in deer numbers, MDIFW should consider
  - a. other hunting-related options to reduce deer harvests in northern and eastern Maine while still retaining opportunity; such might include road closure systems, trophy hunting programs, etc.,
  - b. reducing the length of the deer hunting seasons in northern and eastern Maine, and lastly,
  - c. closing northern and eastern Maine to all deer hunting.
3. If MDIFW determines that the illegal kill of does during the hunting seasons is undermining efforts to increase deer numbers, then it should consider reducing the length of the deer hunting seasons in northern and eastern Maine; and if that also fails, then MDIFW should consider closing northern and eastern Maine to all deer hunting.
4. Filling existing Warden Service district vacancies.
5. Increasing Warden Service surveillance of deer hunters.
6. Increasing fines and penalties associated with illegal kill of female deer.
7. Increasing use of Operation Game Thief and offer substantial rewards for information regarding illegal deer hunting in northern and eastern Maine, especially female deer.

## **Education and Outreach**

The Deer Task Force recommends:

1. MDIFW, Maine Trappers Association (MTA), Maine Professional Guides Association (MPGA), and others collaborate to provide seminars on coyote trapping, hunting, and control.
2. MDIFW “train” forest landowners in the concepts of DWA management and procedures to collect data on deer and DWA field observations [ deer populations, habitat, and predation; what to look for and how to record and enter the observations into a database]. Foresters will assist MDIFW with the collection of information about over-wintering deer and DWA information necessary for DWA management.
3. MDIFW and forest landowners, through the Certified Logger Program, work together to promote communication and interaction between biologists, foresters, and loggers regards deer management and DWA identification and management.

## Increase MDIFW Capacity to Manage DWAs

The Deer Task Force recommends:

1. MDIFW consider the reallocation of existing MDIFW funds and staff to accomplish DWA management objectives.
- 2.
3. MDIFW, sportsmen, landowners, and the Maine Legislature identify and create new funding sources for DWA management and additional MDIFW staff to accomplish DWA management objectives.

Formatted: Bullets and Numbering

Deleted: <#>MDIFW consider the reallocation of existing MDIFW funds and staff to accomplish DWA management objectives.¶

## Appendix 10E

### Maine Trappers Association Comments

Mark,

I have reviewed the Deer Task Force Draft, and I feel comfortable with the draft. Realizing that with current constraints ( political, API settlement, etc ) we will be limited in our actual workable strategies. I want to thank you and Sandy, as you did an excellent job keeping the task force focused and directed.

Donald Dudley  
MTA Rep  
Deer Task Force

## Appendix 11

### Task Force Recommendations that Require Legislation or Rule-making

---

#### **Recommendations that require rules:**

Predation # 3 - increasing the length of the bear season -- page 15 of Report

Hunting # 2 - a/b/c – options to reduce deer harvests -- page 15 of Report

Hunting # 3 – options to reduce illegal take of does -- pages 15 and 16 of Report

#### **Recommendations that require legislation:**

Habitat # 7 – landowner incentives -- page 13 of Report

Predation # 2 – increasing coyote night-hunting season -- page 14 of Report

Predation # 3 - spring bear hunt -- page 14 of Report

Predation # 3 - increasing bear bag limit -- page 14 of Report

Hunting # 1 – “bucks only” applied to all deer hunting seasons -- page 15 of Report

Hunting # 6 – increasing penalties for illegal kill of deer -- page 16 of Report