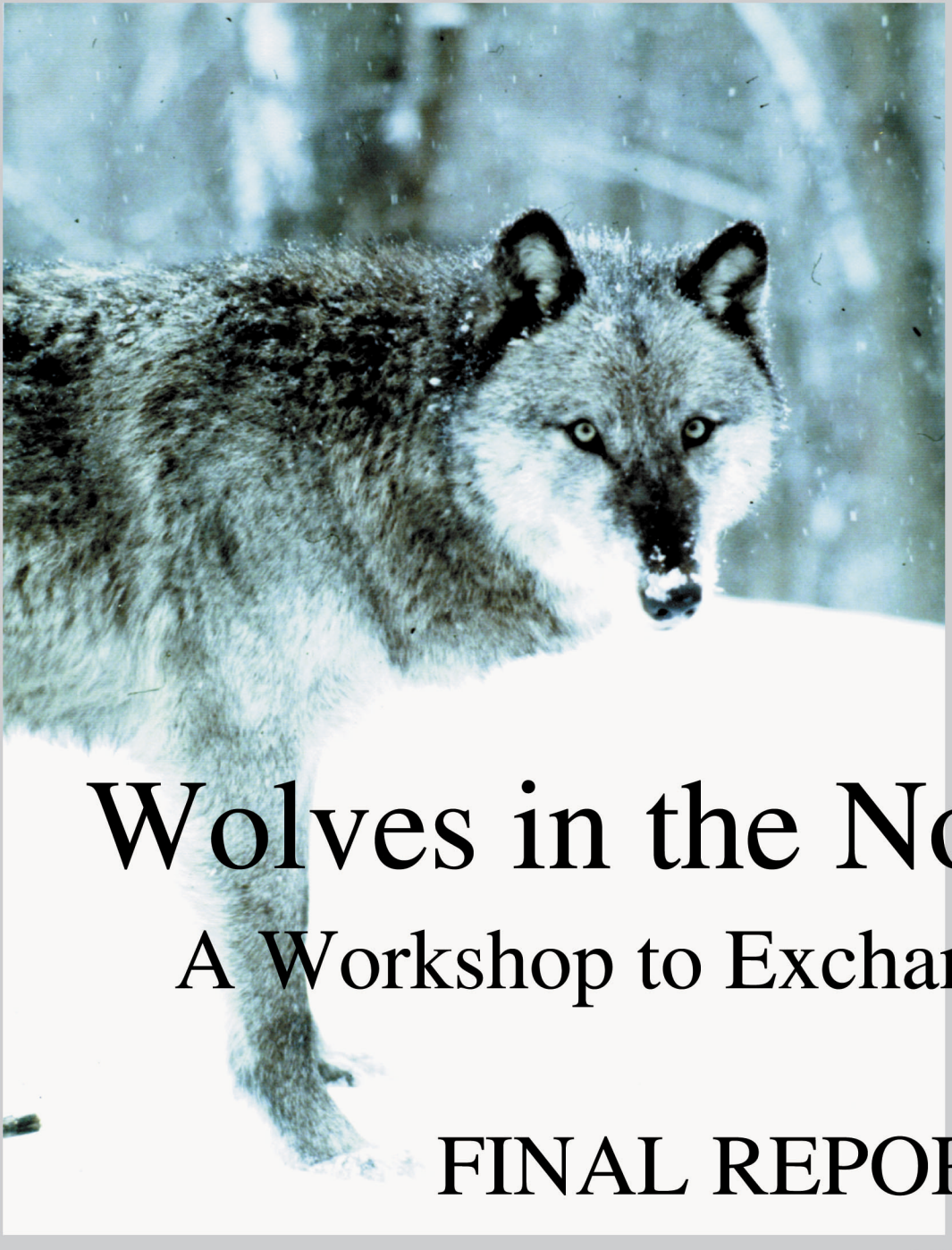

Wolves in the Northeast?

A Workshop to Exchange Views

FINAL REPORT

A Collaborative Workshop held 11-14 July 2000 in Rumford, Maine:

United States Fish & Wildlife Service
Defenders of Wildlife
Conservation Breeding Specialist Group (SSC/IUCN)

Wolves in the Northeast?

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Linnell Motel
Rumford, Maine
11 - 14 July, 2000

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A contribution of the IUCN/SSC Conservation Breeding Specialist Group in collaboration with the United States Fish & Wildlife Service and Defenders of Wildlife.

Cover art courtesy of Steve Oliver.

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EXECUTIVE SUMMARY

A. Introduction, Workshop Goal and Workshop Process

Introduction

Wolves (Canis lupus ssp.) historically were present in the Northeastern region of the United Staes and were contiguous with populations in Canada. They were exterminated from the region by direct human efforts as well as changes in habitat and prey availability by the late 1890's. Interest in restoration of the species to this region has been stimulated by the expansion of the populations in the Upper Great Lakes region, including Minnesota, Wisconsin, and Michigan, through protection and natural dispersal. Recovery of wolves in other parts of the United States has been initiated through release and reintroduction programs. The results of intensive investigation of the biological, habitat, landscape, and social factors, upon which a wolf recovery program in the Northeastern region of the USA would depend, have been published but support for an active reintroduction program in the region has been controversial. This workshop was organized to assist stakeholder deliberations on the feasibility and desirability for reestablishing wolf populations in the region. A variety of scenarios were considered and the many scientific and social issues were examined in the framework of developing a shared vision for the future of the region in terms of biological diversity, functioning ecosystems, and the needs and attitudes of the human population. This report presents the results of the workshop and provides recommendations for critical information needs and activities to assist the decision making process. It is important to note that participation in the PHVA did not imply support for wolf recovery but was rather an opportunity for people to share their views and expertise on relevant biological and sociological issues.

Workshop Goal

To move forward a process of public involvement – To provide a greater opportunity for public participation in the debate over wolf recovery in the Northeast.

Workshop Process

The workshop was organized at the request of the Defenders of Wildlife and the U S Fish and Wildlife Office of Endangered Species in the Northeast Region in collaboration with the Conservation Breeding Specialist Group (CBSG) of the Species Survival Commission of the World Conservation Union. To assure credible, fair, and independent conduct of the workshop and of the workshop results, CBSG was requested to design the workshop process, provide facilitation for the workshop, and to assemble and edit the report. Editing of the draft report was done with the assistance of the majority of the workshop participants. Outside review by non-participants was not part of the process. No content changes were made by the editors and the participants checked that accurate presentations were made of the work they had done during the workshop.

The workshop was conducted 11 – 14 July, 2000 in a pleasant resort facility in Rumford, Maine which provided an isolated economical working environment away from the offices of participants. It extended over 3 ½ days with all meals provided at the facility. There were 45 participants with most present the entire time of the workshop providing for sustained interactions and the benefits of full attention to the goal and process of the workshop. These participants, from more than 125 issued invitations, included state and federal wildlife agency personnel, industry and trapper representatives, environmental organizations representatives, US and Canadian scientists and field researchers with large carnivore experience, and CBSG personnel. Four states, Maine, Vermont, New Hampshire, and New York and the province of Quebec were represented. The CBSG team was led by Dr. U. S. Seal, Chairman of CBSG, facilitating the overall process. Participants and invitees are listed in the report.

Deliberation among all stakeholders was combined in mixed working groups to develop scenarios of possible and desired futures for wolves in the Northeast with technical and scientific analysis of the scenarios in terms of ecology, population biology, and possible management options. This was done using a combination of Future Search techniques, based on mixed stakeholder groups, with further technical analysis as scenarios were developed. The intent was that the technical information and analysis feed back into the deliberation process to assist broad evaluation of possible scenarios.

The first task in the workshop process was for each person to write their response to the following questions, introduce themselves, and read their response to the questions. This process allows for expression of individual responses without being immediately influenced by previous responses. The responses indicate potential areas of common ground and provides a first insight into the diversity of perceived issues present in the group. They also provide a check on whether the workshop deliberations respond to these concerns and issues when compared with the outcomes. These responses follow in Part B and the results from the workshop deliberations are in Part C of this section.

B. Personal Goals and Visions

What are your personal goals/expectation of this workshop?

1. A shared vision of the objectives and goals for wolf recovery in the northeast region.
2. Contribute my knowledge and experience expecting an elevated understanding of the issues by the attendees.
3. My goals for the workshop are (1) to hear and understand as many points of view on wolf recovery as time permits (2) encourage more discussions elsewhere.
4. To gather as much information concerning the ecological and social ramifications of wolf reintroduction to the NE!
5. I would like to more fully understand the spectrum of issues, concerns, and opportunities related to wolf conservation in the Northeast.
6. Objective review of the species in relation to the large canid that exists in the region today.

7. Produce a thoughtful assessment of large canid management options in the NE in the next 10 years.
8. I am attending because I'd like to hear what we know about wolves in the NE, why they disappeared and all the views (pro and con) about the return of the species.
9. My goal is to learn as much as possible from the other workshop participants so I can bring into better focus the biological and social issues on wolf recovery for the NE.
10. To gain a better understanding of the issues surrounding wolf reintroduction and its impact on the natural resource businesses of Maine.
11. To find out where the common ground is for a lot of the folks here today in order that everyone can actually recognize it.
12. To present my rationale for the reintroduction of wolves to Maine.
13. My goal is to evaluate (observe) the progression of the wolf reintroduction project in the NE and discuss the impacts of this project.
14. I am preparing a status report for the eastern wolf in Canada and I am interested in any information that might help me for the report.
15. To learn the scientific and sociological issues of all the stakeholders present, their feelings about wolves, particularly to the NE.
16. I would hope that this workshop could lead to a better understanding of the scientific and sociological factors needed for wolf restoration in the east.
17. Understanding the wolf recovery discussion. Solidify potential economic issues for dissertation.
18. Provide information on different canid types relevant for discussions at this meeting.
19. I would like to see progress in clarifying the issues that revolve around recovery in the NE: (1) taxonomic questions (gray wolf, coyote, Canadian wolf, red wolf), (2) socio-cultural issues impact or lack thereof on humans and society.
20. To gain more information from diversity of interests and to figure out how to proceed and work out compromises for best interest and restoration of wolves in the NE.
21. To learn more about what human responses to wolves are. To learn more about the biological factors.
22. To gain better perspective of the range of issues surrounding wolf conservation in the NE.
23. To get an idea of exactly how diverse opinions are on wolf recovery in the NE and how the process is evolving.
24. We're interested to hear what's going on. We're not necessarily opposed to wolves by any stretch of the imagination. We want to listen to what's happening.
25. To keep informed of the ongoing process.
26. To gather information and hear other people's thoughts and ideas.
27. To generate stakeholder input and increase dialogue on issue of potential wolf recovery.
28. To learn other's views of what the issues and concerns are regarding wolf recovery in the NE.
29. Personal and professional development re: the issues, problems, solutions, course of action re: wolf restoration in the NE and the establishment of partnerships to achieve some form or course of action or agreement.
30. To clearly define the relevant questions regarding wolf restoration and to define for answering them.

31. To acquire a better understanding of why wolves should be introduced to Maine.
32. To walk away with a clearer understanding of how various interest groups feel about wolf restoration in the NE.
33. Learn as much as I can. Gain insights - where do we stand where are we in wolf recovery. Come up with methodology - integrated approach - to wolf recovery (science, education, human dimension).
34. Identify the biological and social variables associated with feasibility of reintroducing wolves ensuing potential human-wildlife conflicts are addressed and considered.
35. To learn more about opportunities and concerns of reintroduction of wolves to the NE.
36. I want to learn about and observe this process so that I can use similar efforts at dealing with wolf management problems in my state.
37. Find out what the barriers are to wolf recovery in the NE and find solutions to these barriers. Learn/share information on wolves in the NE.
38. Gain more information on wolf issue and have people realize that working men and women and livelihood are affected by the types of decisions of animals protected by ESA.
39. My personal goal of this workshop is to learn all I can about this subject. So I can bring back a report to my organization. For better understanding of the subject.
40. I hope to observe the process, see how the discussions take place, content of material to be covered, and learn about the issues saving reintroduction of wolves in the NE.
41. To gain a better understanding of the diverse perspectives on wolf recovery.
42. My personal goal is that we look at wolf recovery as a remarkable opportunity and that we begin the careful biological and social study necessary for restoration.

Vision for the place of wolves in the Northeast region

1. A naturally occurring viable population of wolves
2. A) Restore food chain integrity and the top predator

   B) Fix what we put asunder
3. That the animal will be understood and allowed to occupy its appropriate niche in the region
4. To see wolves return to the northern forest ecosystem, better understood by an educated public and guaranteed to be under the long-term stewardship of appropriate managers (during and after recovery).
5. Naturally functioning predator-prey community compatible with sustainable economies and human attitudes
6. Would like to see wolves return, but their future is clouded by the presence of a coyote-wolf hybrid population
7. Wolves should be present only if they have returned without human intervention and no special habitat requirements should be required by landowners
8. Could be part of the NE wildlife if people want it, but if the sociological and economic constraints could be resolved.
9. The wolf could be part of the wildlife, but many sociological and ecological issues in the NE have to be considered before reintroducing this predator

10. To see wolves as a part of the ecological system in the north woods of Maine that will require farsightedness and citizen involvement
11. Would hope wolves can be restored to a limited zone where they can be permanently and adequately protected from illegal and hybridization with related species
12. Undetermined at this point
13. That wolves in some form will be present in the Northeast whether by natural processes or reintroduction
14. That wolves would be perceived as a an appropriate faunal component on the landscape by society whether or not they are what we now call E. coyote or are the animal that is north of the St. Lawrence
15. In Maine, to restore a natural balance that is out-of-whack and to revive Maine's wild heritage for my children's and grandchildren's generations and beyond
16. A widely dispersed population of small wolf packs, with fewer coyotes, over the next10-30 years.
17. Not convinced that there is a place for wolves in the future, given the attitudes of the public
18. To see the wolf as a presence in the Northeast and hopefully a more accepted one by the various stakeholders, with international cooperation.
19. If wolves are to be naturally present, would hope they would track the coyote movement in Maine, generally from west to east.
20. Support the concept of restoring wolves to the Northeast if we can adequately address biological, genetic, and social questions/ issues.
21. Eventual recovery of wolves if biologically based and sociologically acceptable, if possible, or reintroduction, to sustainable levels in the Northeast region.
22. To have a viable population in the Northeast that serves as an available reminder of our connection to the natural world and our need to live in concert with it.
23. Establishment of a self-sustaining population of wolves (if biologically feasible) that is generally accepted by the public as being part of the ecosystem.
24. That wolves are present or not, based on natural range expansion and genetic distinction issues.
25. Not sure that wolves have a place in this region and that reintroduction is the way to go; natural colonization is perhaps better, if they have a place.
26. I see wolves being able to emigrate from Canada to Maine, to move freely and interact (including interbreeding) with the eastern coyote population. In short, let natural processes occur.
27. Fully functional co-top predators (with humans) in wild areas, tolerated and controlled in non-wild areas.
28. A complicated issue which will require cooperation and input from all Federal, state, local, university, and private parties, if to be undertaken
29. If possible, a more complete healthier ecosystem in the NE
30. To see a viable population of wolves returned to the NE within the next 50 years.
31. Self-sustaining population of wolves that can be "managed" if needed (social, economic, etc)
32. Don't think that wolves will be established in the future as total support will not be there.

33. Not clear about the place of wolves in the NE region in the next 25 yrs. The population growth in our area is already causing several problems between people and wildlife. I would hope that we could co-exist.
34. That wolves re-inhabit the NE in the future as they once may have.
35. Wolf naturally restored as part of a fully-functioning ecosystem with full range of native wildlife; viable populations of wolves roam wild and free in wilderness habitat as well as co-exist in sustainably harvested forests and near more developed areas; welcomed back by the people of the NE.
36. That wolves are restored to the NE for the long-term as a natural vital predator in a healthy functional ecosystem; To ensure the wolf ample habitat capable of meeting its biological needs and its requirement for security from humans.
37. Wolves in the NE have an uncertain place and an uncertain future
38. To see wolves return to the region, but only after science is convinced that available habitat and prey base can support self-sustaining wolf populations, with the majority of public support.
39. In a few remote regions of the NE, wolves have replaced the eastern coyote as the summit predator and are accepted by those people that also share and use this habitat.
40. If wolves are meant to be here, they will have a place within the ecosystem.
41. To have the public comfortable with the idea of establishing wolves in the Northeast within 10 years.

C. Framework for Action: Summaries and Recommendations

Six themes that served as a basis for action planning derived from the search for common ground for the future were:

- **Biodiversity restoration**
- **Development of a land ethic**
- **Bioregional land-use planning**
- **Integration of science and planning**
- **Sustainable resource use and landscapes**
- **Cooperative governance**

Existing Mixed Working Groups chose the theme, from the above list, they wished to explore. Each of the six groups, based on the topics, were asked brainstorm strategies and initiatives to achieve the goal of the theme. Action steps were then developed for high priority items, including timelines, resources, and responsibilities. The summaries and recommendations from each of these working groups follow.

Biodiversity restoration

(Group 1)

We support parallel tracks being undertaken to restore and protect biodiversity in the Northeast, and recognize that biodiversity conservation is influenced by a wide range of factors. The factors pertinent to wolf recovery that our group chose to develop were species restoration, education and communication, and habitat management and protection.

The initial step in assessing whether recovery is ecologically and socially feasible is to establish a team to undertake a feasibility study and wolf recovery plan. Education and communication regarding wolves and wolf recovery should be directed at a wide range of interested stakeholders and the public at large as a critical component at both the feasibility assessment and recovery planning phases. In the case that wolf recovery is determined to be feasible, we recommend that action be taken to intensify education and communication efforts such that all interested and affected parties will be integrated into the dialogue and the decision making process.

Experience from other regions indicates that habitat availability, prey density, human attitudes, road density, and human population density are the most important factors affecting successful wolf recovery. If recovery is undertaken, we will need to address essential habitat protection and management issues (e.g., establishment of core wolf habitat, connectivity, road and trail use, conservation land acquisition, and implementation of special management actions necessary for wolves and their primary prey species—deer, moose, and beaver).

Working group members: Robert Chambers, Rene Lafond, Paula MacKay, Scott Darling, Michael Amaral, Sophie Czetwertynski and Gary Donovan.

Integration of Science and Planning in Northeast Wolf Recovery

(Group 2)

We see the role of science (biological, social, and economic) as gathering, analyzing and disseminating unbiased information. In this exercise we are trying to identify initiatives and strategies that will help determine the feasibility of wolf recovery in the Northeast. Wolf recovery actions that are assisted/driven by science include (in chronological order): feasibility assessment, recovery planning, and management and monitoring. We recommend establishment of citizens stakeholders committee, and identification of a federal NE Wolf Assessment team, to ensure maximum integration of science. Research and monitoring priorities include (in order of importance): economic impact assessment, sociological feasibility studies, and a biological feasibility assessment with emphasis on additional research on habitat modeling, genetics/taxonomy, and the ecological role of top canid predators in the northeast. Finally, a media specialist working for the citizens stakeholder group should be hired to ensure that scientific information gets fully disseminated and exchanged.

Working group members: Nina Fascione, Todd Fuller, Gerald Leggieri, Paul Nickerson, Mike Papsadora and Paul Wilson.

Sustainable Resource Use – Landscape

(Group 3)

We envision maintaining sustainable utilization of resources, with consideration of economic concerns, while minimizing human impact on wolves and their supporting wild ecosystems. In developing this vision, there is an assumption that all strategies and actions relate to wolf recovery, provided such recovery is deemed feasible. The three general strategies suggested in

achieving this vision are detailed below and not discussed in order of priority. However actions relating to the strategies are prioritized.

First, evaluation of current land use practices, and compatible land uses, in relationship to the potential for establishing wolf core areas and connective corridors. Pursuant actions, in order of importance, would involve gathering pertinent ecological and land use data, identifying and working with user groups to achieve appropriate land-use balance, identifying and resolving the concerns of such groups, maintaining landowner incentives, and identifying willing sellers. Second, encouraged continuation of sustainable resource use practices, including hunting, fishing, trapping, outdoor recreation, berry gathering, and use of wood products. This strategy would involve assembling and analyzing data on rates of sustainable resource use, development of pertinent educational materials, development of relationships with the news media to disseminate information, and establishment of contacts with user groups. Third, evaluation of positive and negative impacts to the economy from wolf recovery in the northeastern United States and adjacent southeastern Canada. Such would involve identifying issues that may be perceived to be affected by wolf recovery, identifying costs of recovery to local and state economies, identifying benefits of recovery, surveying to determine passive use values (satisfaction of knowing wolves are there), identifying ways to mitigate negative impacts through reimbursement, and evaluating monetary impact of policy changes (land regulations, tax changes, etc.).

Responsibility probably would be divided largely among federal and state agencies, universities, NGOs, and user groups. Necessary time for the various actions would range from 6 months to three years, though some processes would be ongoing. The over-all cost is estimated at $1,000,000.

Working group members: Joseph Ogrodowczyk, Ron Nowak, Kristin Deboer, Adrian Wydeven, and Bob Inslerman.

Governance

(Group 4)

The mission statement, strategies, action steps and evaluation measures were developed under the assumption that assessments have been completed prior to initiating the wolf recovery plan. Currently, not all stakeholders are in agreement with wolf recovery. The Maine Farm Bureau, a participant in this conference, remains opposed to the reintroduction of wolves in Maine and does not necessarily agree with all workshop findings. Complicating conflicting interests, multiple types of recovery or reintroduction plans, undetermined biological factors and apparent limited public involvement raise the question of is the “Cart being put before the horse”. Further dialogue, communication and public involvement must be undertaken to ensure the diverse interests and all interested parties (stakeholders) potentially affected by wolf recovery are adequately addressed, incorporated and considered. If, at that point, recovery is mutually and formally agreed upon, then the strategies we have outlined for governance, given recovery, are valid. We have also outlined a strategy for governance if no formal recovery program is adopted.

Working group members: Debi Davidson, Clark Granger, John McConnell, Peter Lawrence, others

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Education

(Group 5)

Probably the most significant and yet most challenging educational goal for acceptance of wolves in the Northeast *and* maintaining biodiversity or intact ecosystems is the need to create what we called an Aldo Leopold type of land ethic throughout our society. The first step towards intelligent tinkering is to maintain all the parts and we have not done this.

We believe that the best way to do this (over the long run) is to get this message out to children through the school system. Therefore, we proposed to develop a comprehensive educational curriculum regarding Leopold's land ethic philosophy. We recognized that educational systems throughout the NE currently have relationships with natural resource agencies, NGO's, environmental educators but there is nothing comprehensive. Our goal is to begin a dialogue with educational leaders in various states to work with them to create curriculum within each state that would include Leopold's land ethic. We hope to encourage Universities in the Region to have such a course as part of their core requirements as well.

Our two other goals were to 1) establish a collaborative process to discuss the feasibility of wolf recovery and to implement the results of the process and 2) Disseminate info on wolf/human conflict and the role of wolves in the ecosystem.

There were differences of opinion on the appropriate time for NGO's to become involved in compiling information on wolves with NGO's wanting to be involved up front and some natural resource agencies believing they should be part of the review process. There was also discussion on getting agencies more involved with wolf education. Resources continue to be an issue for any significant agency support for wolf educational programs. In some cases, even agency support for symbolic educational programs (Wolf Awareness Week) has been constrained by politics.

This discussion was divided between what was ideal for creating a land ethic through education and what we should do more immediately for wolves.

Working group members: Barry Burgeson, Ron Joseph, Kim Royar, Jody Jones, Jim Nelson, Wally Jakubas, Dick Leggett

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Bio-regional Land Use Planning

(Group 6)

The Northeast traditionally provided a functioning landscape with wolves and other large predators. Dramatic landscape changes have occurred throughout the region since European settlement. However, preliminary analyses suggest that adequate habitat exists today for wolves. Without measures in place we can anticipate more fragmentation and a potentially less functional landscape for wolves. The following assumptions portray a need for long-range system planning. We can expect changes in the next 25 years: more roads, sprawl, more people and increased tourism, all leading to greater fragmentation. More intensive forestry will likely occur and society will continue to demand sustainable industry. Global climate change is likely; therefore carrying capacity for wolves is likely to be altered. The Bio-regional Land Use Planning takes into account the above assumptions.

Working group members: Charlie Todd, Michael Morse, Ann MacMichaels, Peggy Struhsacker, Paul Paquet and Lyman Feero.

D. Plenary Discussion of Selected Concerns of Stakeholders Regarding Wolf Recovery

During the course of the CBSG workshop on wolf recovery in the Northeast, it became apparent that a number of stakeholders felt several issues were not being adequately addressed. Therefore, a discussion was held on the last day of the workshop to address these concerns. Three principal issues were chosen for discussion:

1. Deer populations in northern Maine range from 2 to 5 deer/mi^2, exist in areas with high snow accumulation, and are limited in size by the number of deer wintering areas in the region. Given these conditions, what impact would wolf predation have on deer in northern Maine or other jurisdictions with similar conditions?

2. What is the likelihood that wolves will stay in northern Maine, where deer densities are low and moose densities range from 1 to possibly 6 moose/mi^2, given that deer populations of 25 deer /mi^2 exist 100 miles or so to the south?

3. Given the ability of wolves to disperse long distances and the presence of abundant prey populations in southern Maine and New England, what management actions may be necessary to reduce human/wolf conflicts?

Responses

The representative from Quebec raised the following points regarding the prospect of having wolves south of the St. Lawrence.

- Currently, 93% of Quebec is occupied by wolves. In the area that is not occupied by wolves, Quebec has some of its highest moose and deer densities. Moose densities in the unoccupied area are around 1-2 moose/km^2. In western Quebec, where wolves are present, moose densities are < 0.6 moose/km^2. If wolves were to occur south of the St. Lawrence, moose and deer densities may decline to 1/4 or 1/5 of their current levels.

- South of the St. Lawrence, most people derive their income from forest related industries, agriculture, and wildlife and fisheries related activities (including big game hunting, salmon sport fishing and commercial fisheries). Potentially, wolves may hurt the economy of this region. People in this region are not interested in having wolves south of the St. Lawrence.

- If wolves were to become established south of the St. Lawrence, it may threaten the effort to rebuild the deer herd on the Gaspe Peninsula. Previously, this deer herd has declined because of severe winters and coyotes. In addition, there is a remnant caribou herd in this region that may be threatened by wolves.

- Quebec is against establishing wolves south of the St. Lawrence. Any effort to recover wolves in the Northeastern U.S. should be discussed and debated with Canadian provincial authorities.

Issue #1

Scientists at the workshop were in general agreement that deer and moose populations in northern Maine would decline in the presence of wolf predation. However, the degree that these populations would decline was uncertain. The need for more information on this topic was recognized.

Points brought out during this discussion included:

- In Quebec, snow accumulation and type (e.g., powder) is similar to Maine. Wolves appear to be able to tolerate deep powdery snows, although their movements are restricted. Sinking depths greater than 24 in. appear to impede the movements of wolves.

- Although wolf predation appears to have had little effect on deer in the Upper Peninsula of Michigan, most deer occur south of the heavy snow line, and deer wintering areas in this region are more prevalent than in Maine.

- The real question is not what will be the predation rate of wolves on deer but rather whether predation will be additive or compensatory to normal winter mortality rates.

- The presence of moose in northern Maine may decrease wolf predation on deer.

- By increasing the amount of deer wintering areas in the region, potentially enough deer could be produced for wolves and man.

Issue #2

There was general agreement among people commenting on this issue that wolves would initially stay in northern Maine despite higher deer denser to the south. However, given the ability of wolves to disperse long distances, it is inevitable that they will try to establish populations in other areas, unless specific management actions are taken to prevent this.

Points brought out during this discussion included:

- In Wisconsin, deer densities were not a major factor in where wolves became established. Wolves became established in areas with 6 to 7 deer/mi^2, when 30 miles away deer densities were 25 deer/mi^2. Selection of home ranges appeared to be more dependent on avoiding human conflict than deer densities.

- Deer and moose in northern Maine are naive to wolf predation. If wolves were present in northern Maine they would likely do quite well preying on these naive populations. Wolves in Yellowstone initially did very well when they had a naive elk population to prey on.

- Wolves can persist in areas with high human populations as long as people do not intentionally kill them.

- Over time wolves will disperse to more southerly (and northerly) areas.

Issue #3

The issue of managing a wide ranging wolf population, by far, elicited the greatest variety of responses. People directly involved with wolf management issues, highly recommended that all aspects of the management plan should be presented up front to the public to decrease the likelihood of litigation. Several people put forth the idea of having wolf exclusionary zones, where wolves would be removed by trapping, hunting, or as part of a nuisance control program. They felt that management plans with this option would make wolf recovery more acceptable to the general public. Other people did not want the movements of wolves restricted at all. Rather, they wanted to see wolves be free to fulfill their natural role in the ecosystem. Some participants felt it would not be worth restoring wolves if they were restricted to an "open air zoo".

Points brought out during this discussion included:

- The states need to say up front that trapping will be an important management tool for controlling wolf populations in order to avoid lengthy litigation. To make this form of management more acceptable to the general public, agencies need to inform the public on the role of trapping in today's society.

- Deals have to be made up front on the future management of wolves. Management plans need to structured to take into account what the situation will be 25 years into the future.

- Wisconsin is still waiting to see how well wolf exclusionary zones and wolf population control measures work.

- The USFWS would support reducing wolves in problem areas.

- Zones can be configured to allow for the trapping of depredating wolves and for proactive trapping to reduce human/wolf conflicts.

- In some areas of the country wolves may be over managed.

- In North Carolina, 13 years after the reintroduction of red wolves, deer hunters are some of the most ardent supporters of the reintroduction program. The deer population has remained stable or increased, and deer no longer act like cattle.

- The wolf may be a keystone predator.

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FINAL REPORT

Section 2
Workshop Chronology and Process

A. Workshop Organization

Framework for a future search conference

The WHOLE SYSTEM participates – a cross-section of as many interested parties as practical. That means more diversity and less hierarchy than is usual in a working meeting, and a chance for each person to be heard and to learn other ways of looking at the task at hand.

Future scenarios – for an organization, community or issue – are put into HISTORICAL and GLOBAL perspective. That means thinking globally together before acting locally. This feature enhances shared understanding and greater commitment to act. It also increases the range of potential actions.

People SELF-MANAGE their work, and use DIALOGUE – not "problem-solving" as the main tool. That means helping each other do the tasks and taking responsibility for our perceptions and actions.

COMMON GROUND rather than "conflict management" is the frame of reference. That means honoring our differences rather than having to reconcile them.

CBSG Conference Facilitators and working agreement

1. **Facilitators:** Ulie Seal, Onnie Byers, Phil Miller, Devra Kleiman, Kashka Kubzdela.

2. **Agreement on roles**:
   Facilitators: Set time and tasks, facilitate large group discussions, keep the purpose of the conference clear, and maintain the integrity of the conference design.
   Participants: Manage their own discussion groups, provide information and create meaning, imagine futures and propose ideas for action.

3. **Ground Rules*:*** All ideas are valid. Everything is written on flip charts. People actively listen to each other, observe time frames, seek common ground and action. Differences and problems are acknowledged – not "worked".

B. Workshop Chronology and Process

Tuesday

- Opening statements by Fascione and Nickerson
- Introductions, with each individual presenting their personal goals and expectations for the workshop and their vision for the place of wolves in the Northeast region
- Ten minute overview by Paul Wilson on genetics and taxonomy of NE wolves.
- Workshop Process Overview by Seal; development of mixed groups.
- Exploring our Past: Creating historical timelines for global, regional, and personal milestones.
- Exploring the Present – External: Brainstorming and creating a Group Mind Map of trends impacting on the health and resilience of the Northeast region and the possibility of wolf recovery.

- Exploring the Present – Internal: What are Stakeholder Groups doing now and what do need more of?
- Adrian Wydeven presentation on wolves in Wisconsin and landscapes in the Northeastern region.

Wednesday

- Explanation of group process and dynamics of group problem-solving and decision-making
- Paul Paquet presentation on results of study on potential for wolf reintroduction in the Adirondacks.
- Exploring the Future: Ideal visions of the social, economic and ecological future for the Northeast region in 25 years in the context of the potential presence of wolves (in mixed groups).
- Identification and priority-setting for set of themes central to each presentation by individual mixed groups; consolidation of themes in Plenary.
- Dan Harrison presents information on NE habitat evaluation and suitability for the NE; Michael Morse presents history and results from red wolf recovery program.
- Frameworks for Action: How do get there from here? Brainstorming strategies and initiatives within each group's theme.

Thursday

- Seal presents need for more detail/text in group reports; review of day's schedule; final report preparation process; assurance that all opinions would be represented in Final Report; discussion of current tasks of Groups; explanation of Action Steps and Courses of Action.
- Seal explains and directs exercise in process of Paired Rankings
- Interim Plenary Reporting on Strategies.
- Strategies, Actions, and Time Lines – Action Plans

Friday

- Completion of Final Reports from Working Groups
- Close

C. Workshop Task Sequence and Synopsis of Results

1. Personal Goal Statements for Workshop and Vision for the Place of Wolves in the Northeast Region (see Section 1).

Purpose: To survey the participants to survey the diversity of opinion within the group and to identify areas of common ground.

2. Focus on Past (see Section 4A)

Purpose: To develop a collective, global picture of the social, economic and ecological history of the Northeast Region. To develop a common vision of the future, it is useful to first construct a common vision of the past. To create a vision of the common past, each participant was asked to note memorable personal, global and local events that represent notable milestones, key events, and/or turning points in ecological and socioeconomic history of the world, this region, and the individuals in this room over the past 100 –150 years. This exercise was done for three timelines: 1) Personal milestones or events; 2) Global / National milestones or events; and 3) Northeast Region milestones, events, or turning points (see Section 4A for detailed responses).

Results or themes:

Personal - Most participants were younger than 65 years and many were born in rural areas or small towns, with families playing an important role in their upbringing. Changes in attitudes towards predators were featured, from an early anti-predator attitude due to hunting, fishing and trapping traditions, to a greater acceptance of predators in the natural ecosystem. There has also been a move from a utilitarian approach to wildlife and management issues, to an environmental and conservation consciousness, the latter following the social activism of the 1960s. Individuals described the progress of their professional careers, with an initial focus on single species management to a multi-disciplinary ecosystem approach. Many individuals expressed deep emotional connection and appreciation for the quality of the Northeast lifestyle and long-term interest in the outdoors.

Northeast – Natural resources have played a major role in the economy on the Northeast. The change-over to an industrial economy, with eventual greater freedom and time for recreation was emphasized, resulting in a recent escalation of the tourist industry. Other issues noted were a decline in the rural lifestyle, loss of traditional family units, an increase in human populations, loss of ties to the land, followed by an evolving awareness and appreciation of resource conservation, and the rise of diverse special interest groups and political activism. Accompanying these changes, were declines among some wildlife populations in the early part of the century followed by rebounding numbers after conservation programs were put in place. The period was dominated by constantly changing landscapes, with a recent loss of farmland and conversion to forest. There has been an increasing intensity of forest management and fragmentation of ownership of land and habitats. Most recently there has been greater environmental awareness and a better understanding of predator-prey relationships.

Global/ National Trends – There was early extirpation of large carnivores, and the development of protected areas. With the onset of the industrial society, there was a shift in population from rural to urban, resource depletion and increase in pollution. The predator wars occurred early in the century. The early advent of conservation thinking led to land protection, and an increase in the government's role and control. Eventually, we saw an increase in social activism, a connection between environmental pollution and wildlife conservation, and an increase in the ecology movement. Attitudinal shifts towards environment and predators became more positive, with a greater understanding of their role in the environment. There has also been

an increase in human values towards natural resources, a market-based approach to the environmental movement, and an increase in home rule advocacy and acting locally.

3. Focus on Present: Mind Map, Prouds/Sorries/Needs. (see Section 4B)

Mind Map

Purpose: To build a shared context of our concerns and priorities, the group created a "mind map" of all the trends currently affecting us and the role of wolves in the Northeast. The Central Topic of the Search on the Mind Map was: **"Trends Affecting The Possibility Of Wolf Recovery In The Northeast".** The mind map was created during a plenary group brainstorming session. After the mind map was completed, people then studied the mind map and placed dots on the trends they thought were most important.

Results: Trends receiving the most votes included: (see Section 4B for Results).

Prouds/Sorries/Needs

Purpose: The goal of this exercise was to explore stakeholder perceptions – and for shareholders to share those perceptions with one another and the group, in the context of the results from the Mind Map exercise. The stakeholders were asked to review the trends affecting the ability to create a healthy, resilient and sustainable social and economic system in the Northeast and to the factors affecting the possibility of wolf recovery in the NE, from their viewpoint. For this exercise the participants were grouped with others of their affinity group. The affinity groups included: 1) Federal staff, 2) Regional staff (states), 3) Environmental/ Conservation Organizations, 4) Landowners and industry, 5) Recreation and sports groups, and 6) Scientists/ Researchers.

Results: Issues raised include human population growth and changes in land use patterns, habitat fragmentation, forest management, the need to increase scientific knowledge of wolf taxonomy, the politicization of the ESA and increasing litigation, conflicts among existing resource uses, potential economic impact, and changing human attitudes with greater public involvement in decision-making. Also, factors affecting the potential for immigration and dispersal of wolves within the NE and from Canada, and saturation of the habitat by coyotes were seen as issues. The expectations and responsibilities of Federal and state agencies, ESA-based management decisions and changes in legal status of wolves were also cited.

4. Focus on Future: Image, Vision statement, Trends. (see Section 4C).

Visions of the Future

Purpose and Methods: To imagine an ideal future in which social, economic and ecological systems of the Northeast Region are healthy, resilient and sustainable and potentially include the presence of wolves. This was a two-part task. The results of this exercise were used as a basis to seek common ground among the participants on desired trends as a basis for developing action plans in the final stage of the workshop.

Method: Vision of an ideal social and ecological future for the Northeast Region in the context of the potential presence of wolves - Scenarios. The participants were asked to

imagine "you fell asleep and woke up to find yourself in this region in an ideal future (Worksheet # 6 and 7). The year is 2025, and everything has changed for the better. Describe what has changed in the ecology, economy and social order around you? How do know it has changed? List the transformations, impacts, accomplishments of this new world, with special reference to**:** ecology, social, economic, and legal factors**.** Pay attention to the Issues/ trends raised through the analysis of the present-day trends. Participants were then asked to brainstorm the major *barriers* that had to be overcome, and the *opportunities* worked with, and to choose a creative (or any) way to present the vision, as if it is was happening now.

Results: Vision scenarios – Six scenarios were presented by the groups (see Section 4C). A surprisingly strong set of common themes emerged in many creative presentations. This exercise had a powerful impact by communicating that there is a sharing of a common vision of how these people would like to see the Northeast region changed in favor of more natural landscapes and ecosystems, smaller communities, greater public involvement in decision-making, and a land ethic shared by the local population.

Common Ground for the Future

Purpose and Methods: Vision of an ideal society – Trends - To discover common ground for the future (Worksheet #9). This was a two-part task**. 1.** As scenarios (from the exercise above) are being presented, take note of desired themes, common ideas about the future – **what we want.** This is our potential common ground as we move forward to think about how to build the world of 2025, starting from the world of 2000. 2. Collect examples of ways to work towards it– **how we may do it.**

Results: The results from this effort were used in developing 6-8 themes within each group. Eventually, the individual group themes were consolidated into 6 themes during a Plenary Session. Groups were asked to maintain their unresolved differences. The six themes, that served as a basis for action planning, which emerged from this exercise were:

- **Biodiversity restoration**
- **Development of a land ethic**
- **Bioregional land-use planning**
- **Integration of science and planning**
- **Sustainable resource use and landscapes**
- **Cooperative governance**

5. Framework for Action: Summaries and Recommendations

Action Groups – Trends, Initiatives, Criteria, Priorities, and Actions

Purpose and Methods: Existing Mixed Working Groups chose the theme, from the above list developed in the last exercise, they wished to explore. Each of the six groups, based on the topics, were asked brainstorm strategies and initiatives to achieve the goal of the theme (Worksheet #10; Item #3), not necessarily considering wolves in the scenario. Action steps were then developed for high priority items, including timelines, resources, responsibilities, etc.

Wolves in the Northeast?

A Workshop to Exchange Views

Linnell Motel
Rumford, Maine
11 - 14 July, 2000

FINAL REPORT

Section 3
A Framework for Action: Consolidated Themes and Action Plans

Consolidated THEMES for Action Framework

1) Biodiversity restoration
Ecological systems, Desired systems, Ecosystem heath (clean air and water), Maintain viable populations of native species, Healthy and complete ecosystems, Cultural diversity

2) To develop a land ethic
Ecological literacy and generosity (human), Education on natural resource use and land ethics, Co-existence, Public education

3) Bioregional land use planning
Regional approach, Land issues (private, public, NGO, corporate, and native)

4) Integration of science and planning
Taxonomic issues, Actions driven by science and monitoring

5) Sustainable resource use- landscapes (G5)
Strong economy, Urban planning, Responsible use, Ecological and economic, Human resource use (reduce population growth)

6) Cooperative governance (G4)
Local control, cooperation, and tolerance, Cultural; Active decision-making and partnerships, Regulations and legalities

Group 1
Biodiversity restoration

Executive Summary

We support parallel efforts to restore and protect biodiversity in the Northeast, and recognize that biodiversity conservation is influenced by a wide range of factors. The factors pertinent to wolf recovery that our group chose to develop were species restoration, education and communication, and habitat management and protection..

The initial step in assessing whether recovery is ecologically and socially feasible is to undertake a feasibility study and develop a wolf recovery plan. Education and communication regarding wolves and wolf recovery should be directed at a wide range of interested stakeholders and the public at large as a critical component at both the feasibility assessment and recovery planning phases. In the case that wolf recovery is determined to be socially and biologically feasible, we recommend that action be taken to intensify education and communication efforts such that all interested and affected parties will be integrated into the dialogue and the decision making process.

Experience from other regions indicates that habitat availability, prey density, human attitudes, road density, and human population density are the most important factors affecting successful wolf recovery. If recovery is undertaken, we will need to address essential habitat protection and management issues (e.g., designation of core wolf habitat, connectivity, road and trail use, conservation land acquisition, and implementation of special management actions necessary for wolves and their primary prey species—deer, moose, and beaver).

Working group members: Robert Chambers, Rene Lafond, Paula MacKay, Scott Darling, Michael Amaral, Sophie Czetwertynski, Gary Donovan

The major theme of biodiversity restoration was divided into three major themes:

1. Species restoration and facilitated recolonization
2. Public Education
3. Habitat management and protection

Species Restoration

a) Appoint assessment team
Time to completion: July 2001
Cost: $0
Responsible for the development of the “wolf recovery” plan and will oversee a contract for a biological/social feasibility study.

i) Development of wolf recovery plan
The assessment team will be responsible for exploring all possibilities for wolf recovery in the Northeast. Assessment team's recommendations will only be acted on when results from the feasibility study are available.

Cost: $50 000/year for two years from USFWS
Time to completion: July 2003

ii) Feasibility study
-model wolf/prey and wolf/other predators interactions
-attitudinal surveys
-social/economic assessment
-habitat suitability
-consider taxonomy
-study ecological niche of current predators and historic predators

Time to completion: July 2004
Cost: $500 000

iii) If recovery is determined to be feasible, seek cooperation from landowners and state agency and begin to implement recovery plan recommendations. Range of actions could be from passive (such as maintaining habitat in a favorable condition for wolf occupancy through natural recolonization) to the active (translocation/reintroduction of wolves into predetermined core habitat in the northeast).

Time to completion: dependant upon recommendations from wolf recovery plan
Cost: $1,000,000

<u>Education and communication</u>

Phase I – Prior to feasibility study

A task force of approximately 5 people should be established to oversee education and communication. The charge of this team will be to develop a communication and education plan whose main purpose will be to promote education and informed discussion about wolf recovery. The task force should be comprised of US Fish and Wildlife Service, a representative from Quebec or Ontario, and scientists knowledgeable in wolf biology (possibly those that have experience with wolf recovery issues).

Time to completion: July 2004 (time of completion of feasibility study)
Cost: $250 000

Phase II – in the case that wolf recovery is deemed feasible

The task force for this phase should include US Fish and Wildlife Service at both the Federal and State levels, Scientists, NGOs, and representatives from the various stakeholder groups involved. Total membership on this task force should be limited to 7 people. A citizen's advisory committee should be established to inform the actions of the task force. The main charge will be to inform the public about all the issues involved in wolf recovery.

The principle audiences identified are:

- rural residents
- urban residents
- State/Provincial Fish and Wildlife agencies and scientists
- politicians
- stakeholder/special interest groups in the US and Canada (Sportsman, farmers, loggers, tourism, snowmobilers, off-road vehicle users, hikers/campers, landowners (citizens and corporations), educators, media)

Surveys need to be sent out to the audiences to identify opinions, interests and concerns that need to be addressed. Results of surveys can then be used to structure outreach material to best respond to individual needs.

The committee can utilize such tools as:

- Media (TV, radio, editorials)
- Websites
- Informational meetings
- School programs, curricula
- White papers/reports
- Surveys
- Field trips and exchange programs
- Exhibits
- Wolf tours

Some of these activities will likely be undertaken by various NGOs and interest groups.

Time to completion: ongoing as needed
Cost: $2,500,000 over 5 years and then ongoing as circumstances dictate

<u>Habitat management and protection in the case of wolf recovery</u>

We support parallel tracks being undertaken to restore and protect biodiversity as a whole, as these efforts will also serve to benefit wolf recovery. Conservation efforts should ideally focus on the terrestrial carnivore guild of which the wolf is a part. Wolves have been identified as a

keystone predator in the ecosystem, and wolf recovery should be examined within the context of all species, including prey species (specifically deer, moose, and beaver) in the community.

Responsible parties to oversee these actions should be a combination of:

-Federal wildlife agencies
-State wildlife agencies
-Forest Service

a) Establishments of core areas

Identify minimally roaded or roadless core areas need to be established. These areas may contain a continuum of land use conditions from sustainable forestry (with all seral stages) to wilderness. Additionally, as opportunities arise, additional land in core areas should be transferred to public ownership.

Actions necessary to achieve these goals can include:

-Conservation easements
-Full fee acquisition (private and public)
-Voluntary stewardship
-Management agreements
-Landowner cooperatives

Time to completion: Adequate core areas should be established before recovery efforts begin with an ongoing effort.
Cost: unknown/uncertain

b) Connectivity

We recognize the critical nature of connectivity for regional recovery of wolf populations however, this section is addressed by group #6.

c) Roads and Trails

Roads and trails are considered an indicator of wolf survival as they are an index of human activity and increase the potential for wolves to be killed by humans.

Given this, a precautionary approach should be taken in addressing roads and trails in the feasibility study, and, if recovery is determined to be feasible, during the recovery process.

Limiting public use of roads and trails may be necessary during the critical, initial phases of recovery when a small number of wolves comprise the population and the survival of individual animals is essential.

Who: oversight by USFWS
Time to completion: assessment as part of the feasibility study
Cost: included in feasibility study

d) Land acquisition

Public lands offer more conservation management possibilities than privately owned lands. Therefore, as opportunities arise from willing sellers, we should increase public land ownership within areas identified as having maximum potential and value for wolf occupancy. Priority should be given to acquiring land in core areas and lands connecting core areas.

The same actions described under core areas can be used to achieve this objective
Cost: uncertain (e.g. Maine bond $5 million/year over 10 years)

e) Identify and implement special management practices for target species

i) Areas surrounding wolf den sites are crucial to pup survival and are often reused from year to year. Therefore, a buffer zone should be observed around den sites and protected from major disturbances, especially during denning season (suggested range of protected area: minimally 1km-1mi). This protection should be mandatory on public lands with voluntary compliance on privately owned lands.

Who: landowner
Time to completion: ongoing after packs established
Cost: unknown (Federal or State compensation program on private lands for timber, etc.)

ii) Manage to increase the availability and quality of winter deer yards to maximize survival.

Who: State, US Forest Service and private landowner
Time to completion: presently ongoing
Cost: unknown

iii) Maintain wetland areas for beavers and moose and utilize available techniques to avoid removal of beavers.

Who: State, US Forest Service and private landowner
Time to completion: present and ongoing
Cost: unknown

iv) Maintain and improve the quality of riparian habitats.

Who: Federal and State, private landowner
Time to completion: present to ongoing
Cost: unknown

Group 2
Integration of science and planning in northeast wolf recovery

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Working group members: Nina Fascione, Todd Fuller, Gerald Leggieri, Paul Nickerson, Mike Papsadora and Paul Wilson)

Executive Summary

We see the role of science (biological, social, and economic) as gathering, analyzing and disseminating unbiased information. In this exercise we are trying to identify initiatives and strategies that will help determine the feasibility of wolf recovery in the Northeast. Wolf recovery actions that are assisted/driven by science include (in chronological order): feasibility assessment, recovery planning, and management and monitoring. We recommend establishment of citizens stakeholders committee, and identification of a federal NE Wolf Assessment team, to ensure maximum integration of science. Research and monitoring priorities include, in order of importance, economic impact assessment, sociological feasibility studies, and a biological feasibility assessment with emphasis on additional research on habitat modeling, genetics/taxonomy, the ecological role of top canid predators in the northeast. Finally, a media specialist working for the citizens stakeholder group should be hired to ensure that scientific information gets fully disseminated and exchanged.

TOPIC IDENTIFICATION

1. The research and monitoring activities that are priorities include:

Canid taxonomy
- Potential of hybridization of NE coyotes with wolves
- taxonomic status of canids throughout Eastern N. A.

Historic and current roles of wolves and coyotes as top predators
- Predator/prey relationships

Wolf habitat
- Fragmentation/connectivity
  distribution patterns of human activities
- predator/prey relationships
  prey abundance and distribution

Social Science/Human dimensions
- Public perceptions, knowledge and values
  identifying risks/dangers/concerns
  determining levels of knowledge
- Conflict resolution methodologies

Policy considerations
- US/Canada diplomacy and interactions
  management actions/philosophy in Canada
- State and federal law and policy implications

Economic considerations
- land use regulations
- cost/benefits to taxpayers (monetary and non-monetary)

2. The roles that scientists need to play in communicating science include:
Participation in the planning process and on citizen (and other) advisory committees
Establishment of an information clearinghouse/public relations center
- Relevant data and information must be cataloged and made available
- Important information must be disseminated in a targeted way

TOPIC PRIORITIZATION

We have two major topics – research and communicating science. Because neither is valid without the other, we did not prioritize these. Neither can be done w/o the other.

In order to prioritize research and monitoring tasks we conducted paired rankings:

Member - NF	PW	PN	TF	GL	MP	TOTAL	RANK
Economic	3	5	0	5	5	5	23	1
Social science	5	1	5	4	3	4	22	2
Wolf habitat	1	3	5	0	4	3	16	3
Canid taxon.	4	2	2	1	0	2	11	4
Hist & curr. roles	1	4	2	3	1	0	11	4
Policy	1	0	1	2	2	1	7	6

Note: Though not all participants had the group rank as their rank order, all group members were comfortable with the final rank.

OVERALL RECOMMENDATIONS

In order to make the best use of scientists and scientific information in the wolf recovery assessment process, it became clear to us that several organizational recommendations would be helpful.

Recommendation #1. There is a need for a stakeholder oversight committee on wolves to work w/scientists, provide input, oversee studies, etc. This committee should be comprised of approximately 20 individuals representing a full variety of stakeholder groups (e.g., many of the

groups who were represented at this workshop: state and federal agencies, NGO/environmental groups, timber, scientists, hunting, trapping, other recreation [e.g., snowmobiles], labor, agriculture, tourism, local government, Native Americans, landowners, Jane Q. Public [demographic representation]). Individuals' primary role is to share information with and represent their constituencies/stakeholders groups' viewpoints. A professional facilitator needs to be hired. The committee will meet frequently during feasibility planning (development of assessment plan, EIS, feasibility study, economic impact study, etc.), and continue to meet regularly into the future to visit important issues, review monitoring, and address new needs. Stakeholder committee meetings will include progress on scientific research and on the committee's activities, and will be open to the general public to allow them the chance to observe and provide input.

Recommendation #2. FWS will pull together what is traditionally called a recovery team for northeast wolf studies. However, because we don't know yet whether wolf recovery is biologically and/or socially feasible in the northeast, and the word "recovery" implies the FWS is definitely moving forward with recovery (i.e., before biological, economic and sociological studies are completed), we recommend that the FWS call this team (comprised of agency personnel, scientists and a few stakeholders) the "Wolf Assessment Team."

SPECIFIC ACTIONS/STRATEGIES/INITIATIVES

Research and Monitoring

<u>Rank #1. Economic considerations</u>

Action: Comprehensive economic impact study of potential wolf restoration in Northeast region (Maine, New Hampshire, Vermont and New York). Nearby Canadian Provinces, as well as other states (e.g., Massachusetts) might be examined for potential tourism benefits or harmful impacts, as well. Issues to be addressed include: land use, forest management, traditional uses (e.g., hunting, trapping, fishing, etc.), recreational access, new opportunities (e.g., tourism), costs and benefits to taxpayers, non-monetary aspects (i.e., contingent valuation - -how much is it worth to you to have wolves in your region/state?).

Responsibility (who is responsible for requesting the study, funding it, conducting it, monitoring it, disseminating results?): Someone from Northeast (e.g., Bill Rosen of Cornell, Tom Stevens/Joe O. of U. Mass., etc.) should conduct actual research. FWS/Defenders to follow up to ensure this gets underway. State agencies and stakeholder committee will have oversight (i.e., assess whether proposals are adequate and meet needs/questions of stakeholders – see recommendations, above). Funding will need to come from NGOs or the FWS. The scientists who conduct the research will have primary responsibility for disseminating the technical results and helping with making their findings more widely available; i.e., they will need to attend multiple meetings: stakeholders group, public meetings, etc.

Time Line for Completion: Two Years. Mandatory progress reports at appropriate intervals determined by stakeholders' group and state and federal agencies.

Resources: Study will cost upwards of $100,000. Sources might include federal appropriations, NGO funding, Fish and Wildlife Foundation.

Measurable Outcome: Report that meets the public's criteria (i.e., answers questions) that outlines economic costs/benefits of wolf restoration. As economic conditions are likely to change over time, on-going monitoring necessary to ascertain trends. Researchers must be willing to participate in stakeholder meetings and disseminate information to public on on-going basis

Rank #2. Public Values and Perceptions

Action: Sociological feasibility study = comprehensive human dimensions study of attitudes, knowledge, perceptions, values, and opinions about potential wolf restoration in Northeast region (Maine, New Hampshire, Vermont and New York; Canada and other states?). This entails a larger and more comprehensive study on human dimensions than a simple attitude survey. It must derive information useful for targeting educational opportunities and that will provide information that's most useful/needed by those responsible for considering wolf recovery, and the public.

Responsibility: Northeast researcher(s) should conduct the study (e.g., Cornell's Human Dimensions Unit or Allistair Bath). FWS and Defenders will follow-up to make sure this gets underway. Continuing evaluation and monitoring is essential. Same advisory group will have oversight and the research and reporting process will be open. The scientists who conduct the research will have primary responsibility for disseminating the technical results and helping with making their findings more widely available; i.e., they will need to attend multiple meetings: stakeholders group, public meetings, etc.

Timeline: Two years (same time frame as economic assessment).

Resources: Upwards of $100,000. Money needs to come through federal appropriations, NGOs or outside funder (e.g., Fish and Wildlife Foundation).

Measurable Outcome: Study that meets the public's expectations and that outlines public perceptions and values. As public opinion is inclined to change over time, on-going monitoring necessary to ascertain public trends. Researchers must be willing to participate in stakeholder meetings and disseminate information to public on on-going basis.

Ranks #3 and 4 (combined to recognize the need for a comprehensive Biological Feasibility Assessment) includes Wolf Habitat (Rank #3), Canid Taxonomy (Rank #4) and Historic and current roles of wolves and coyotes as top predators (Rank #4) as independent studies.

There is a need for a biological feasibility assessment that will examine all issues, including habitat fragmentation and connectivity, biomass of deer and moose regionally, effects of predation, coyote/wolf relationships, genetics, etc.

Wolf Habitat
Key issues: Much research already exists (e.g., Harrison, Mladenoff, Paquet). Some of the predator/prey and road density research, and more wolf habitat modeling (re: persistence, etc.) in particular, should be done. Changes in wolf habitat characteristics should continue to be monitored.

Canid Taxonomy/Hybridization
Key issues: Which wolf, if restored here, will NOT hybridize with coyotes? What wolf was here and what wolf can be put here? What was the wolf type(s) – eastern timber wolf (C. lycaon) and gray wolf (C. lupus) – and distributions within Maine historically? Determine through DNA analysis of historic northeastern US wolf samples (pre-coyote arrival). What can be put here? Identify closest wolf to historic type – e.g. Are Laurentide animals, the closest wolves to Maine, genetically similar to historic Maine wolves. If not, where is the closest source population? What should be here? For example, a predominantly moose predator that does not hybridize with resident eastern coyotes with possibility of connection to northern Canadian populations within Quebec. Genetic profiling will determine if potential source populations are hybridizing with neighboring eastern coyote populations. Connection, if wolves re-introduced, to be determined through genetic monitoring.

Historic, current, and future(?) roles of wolves and coyotes as top predators -

Key issues:
What were the historic prey distributions and what did wolves prey on? (get from records and literature).
What do coyotes prey on, and how do they behave, under different ecological circumstances?
Will re-introduced wolves prey exclusively on moose or will they prefer/seek out deer?
What % of prey species overlap might there be in diets of sympatric wolf and coyote populations?
What changes might occur in prey abundance and distribution, prey selection by wolves and coyotes, coyote and wolf distribution, and coyote and wolf numbers over time?

Responsibility: Habitat Modeling – P Paquet, Conservation Biology Institute (CBI); Genetics/Hybridization/Taxonomy – P Wilson, Trent University. Predator/Prey – D Harrison, University of Maine. Lead agencies and groups, i.e. Defenders of Wildlife and USFWS.

Time Lines: Two years.

Resources: $50,000 per project x 3 = $150,000

Measurable Outcome: Comprehensive assessment of the biological feasibility of restoring wolves to the Northeast that meets public and scientific expectations. As ecological conditions are likely to change over time, on-going monitoring necessary to ascertain trends. Researchers must be willing to participate in stakeholder meetings and disseminate information to public on on-going basis.

Rank #6 Policy Considerations.
Decision not to pursue policy since it is the domain of Group 4

Communicating Science

Action: Hire a media specialist who works for the stakeholders' committee who will make sure scientific information gets disseminated. They will create a web site, develop a clearing house of information, serve as PR Director and work with the press, TV, and radio interviews. They will ensure scientific studies are adequately reviewed by peer scientists and the stakeholders' committee. They will be responsible for helping scientists participate in dissemination of information to the public.

Responsibility: Lead agencies and groups, i.e. Defenders of Wildlife and USFWS.

Time Lines: On-going.

Resources: Committed Salary + resources to established media resources center $100-150,000/YEAR. FWS, NGOs (e.g., Defenders), private funding.

Measurable Outcome: recognized excellence in providing information services. Anyone who asks for information gets the best available in a timely manner. There is continued public awareness of progress of recovery assessment.

Group 3
Sustainable Resource Use – Landscape

Working group members: Joseph Ogrodowczyk, Ron Nowak, Kristin Deboer, Adrian Wydeven, and Bob Inslerman.

Executive Summary

We envision maintaining sustainable utilization of resources, with consideration of economic concerns, while minimizing human impact on wolves and their supporting wild ecosystems. In developing this vision, there is an assumption that all strategies and actions relate to wolf recovery, provided such recovery is deemed feasible. The three general strategies suggested in achieving this vision are detailed below and not discussed in order of priority. However actions relating to the strategies are prioritized.

First, evaluation of current land use practices, and compatible land uses, in relationship to the potential for establishing wolf core areas and connective corridors. Pursuant actions, in order of importance, would involve gathering pertinent ecological and land use data, identifying and working with user groups to achieve appropriate land-use balance, identifying and resolving the concerns of such groups, maintaining landowner incentives, and identifying willing sellers. Second, encouraged continuation of sustainable resource use practices, including hunting, fishing, trapping, outdoor recreation, berry gathering, and use of wood products. This strategy would involve assembling and analyzing data on rates of sustainable resource use, development of pertinent educational materials, development of relationships with the news media to disseminate information, and establishment of contacts with user groups. Third, evaluation of positive and negative impacts to the economy from wolf recovery in the northeastern United States and adjacent southeastern Canada. Such would involve identifying issues that may be perceived to be affected by wolf recovery, identifying costs of recovery to local and state economies, identifying benefits of recovery, surveying to determine passive use values (satisfaction of knowing wolves are there), identifying ways to mitigate negative impacts through reimbursement, and evaluating monetary impact of policy changes (land regulations, tax changes, etc.).

Responsibility probably would be divided largely among federal and state agencies, universities, NGOs, and user groups. Necessary time for the various actions would range from 6 months to three years, though some processes would be ongoing. The over-all cost is estimated at $1,000,000.

Theme: Sustainable Resource Use – Landscape

- Strong economy
- Land use planning
- Resource consumption
- Human population growth

Assumption: everything relates to wolf recovery if wolf recovery is deemed feasible.

Note: The following strategies are combined priorities from a list of more extensive priorities submitted 7/12/00. The strategies listed below are not in a prioritized order, but actions within the strategies are prioritized.

Strategy: Evaluate current land use practices and compatible land uses in relationship to the potential for maintaining suitable habitat, core areas and connective corridors for wolves.

Action: Gather existing data and identify further needs for potential Northeast wolf habitat by expanding on the type of ecological analysis done for the Adirondacks.

- **Responsibility/collaborators:** USFWS, state wildlife agencies, university scientists, NGO's.
- **Timeline:** Three years
- **Cost:** $250,000 - $300,000
- **Measurable Outcomes:** Feasibility study completed

Action: Identify and resolve concerns on major land use and outdoor recreation restrictions due to wolves. (Based on experience in other parts of the country [Gt. Lakes, northern Rockies, NC] there have been very few use restrictions)

- **Responsibility/collaborators:** All parties especially state and landowners.
- **Timeline:** 2 years
- **Cost:** $100,000
- **Measurable Outcomes:** MOU and case study report

Action: Work with stakeholder groups to achieve a balance for compatible uses of public and private land, working forests, wilderness, outdoor recreation and other uses.

- **Responsibility/collaborators:** USFWS, USFWS, NPS, State Agencies, NGO's,
- **Timeline:** Ongoing/continuous
- **Cost:** $200,000
- **Measurable outcomes:** Land use plans

Action: Maintain current landowner incentives keeping land in sustainable forest production and investigate the potential for additional incentives e.g. zoning, tax incentives, conservation easements," green" certification etc.

- **Responsibility/collaborators:** Various Federal agencies (NCRS, USDA, USFWS, LWCF), state agencies, NGO's, local government,
- **Timeline:** Ongoing/continuous
- **Cost:** $100,000.
- **Measurable outcomes:** Directory of incentives.

Action: Identify willing sellers and acquire lands, in full fee at fair market value for conservation purposes that could secure potential wolf habitat over the long term.

- **Responsibility/collaborators:** USFWS, USFWS, NPS, state agencies, NGO's
- **Timeline:** Ongoing/continuous
- **Cost:** $55,000 annually

- **Measurable outcomes:** Development of acquisition plans and annual updates.

Strategy: Encourage continuation of sustainable resource use practices including hunting, fishing, trapping, outdoor recreation, berry gathering, and use of wood products.

Action: Assemble and analyze information on current rates of sustainable resource users.

- **Responsibility/collaborators:** State resource agencies/landowners, universities, user groups
- **Timeline:** 1 year
- **Costs:** $50,000
- **Outcome:** Report/assemblage of information

Action: **Establish working relationships with user groups to develop methods to encourage compatible interaction with wolves.**

- Responsibility: State agencies, NGOs
- Timeline: Ongoing
- Costs: 50,000
- Outcome: Constructive relationship with 5 user groups.

Action: Develop education materials on sustainable resource use.

- **Responsibility/collaborators:** State resource agencies/universities, user groups.
- **Timeline:** 1 year
- **Costs:** $50,000
- **Outcome:** Pamphlets, workshop guidelines, etc.

- **Action:** Locate and foster relationships with the media to disseminate information **Timeline:** Ongoing/continuous
- **Costs:** $10,000 annually
- **Outcome:** 50 articles/news releases/interviews/feature stories.

Strategy: Evaluate positive and negative impacts to the economy from wolf recovery in the US northeast and southeast Canada.

Action: Identify the issues that major stakeholders (thru focus groups/surveys), that may perceive to be affected by wolf recovery.

- **Responsibility/collaborators:** Academics, NGO's. landowners, user groups, agencies
- **Timeline:** 1 year
- **Cost:** $50,000
- **Measurable outcomes:** Report on current concerns.

Action: Identify and estimate costs of wolf recovery to local, regional, state economies.
- **Responsibility/collaborators:** Academics, landowners, user groups
- **Timeline:** 1 ½ years.
- **Cost:** $30,000
- **Measurable outcomes:** Preliminary report

Action: Identify and estimate benefits of wolf recovery.
- **Responsibility/collaborators:** Academics, landowners, user groups.
- **Timeline:** 1 ½ years
- **Cost:** $30, 000
- **Measurable outcomes:** Preliminary Report

Action: Survey to determine passive use values of wolves i.e. the satisfaction of knowing wolves are there or not.
- **Responsibility/collaborators:** Academics, landowners, user groups.
- **Timeline:** 2 years
- **Costs:** $40,000
- **Outcome:** Report

Action: Identify ways to mitigate any negative impacts (transfer payments) i.e. wolf re-imbursement conservation fund, loss of jobs, market shifts (ecotourism).
- **Responsibility/collaborators:** Academicians, NGO's, user groups, land owners
- **Timeline:** 6 months
- **Cost:** $10,000
- **Outcome:** Recommendations

Action: Evaluate the monetary impact of various potential policy changes i.e. land use, tax incentives, outdoor recreation etc.
- **Responsibility/collaborators:** Academicians
- **Timeline:** 6 months
- **Cost:** $10,000
- **Outcome:** Recommendations

Group 4
Governance: Strategy/Overview

Working group members: Debi Davidson, Clark Granger, John McConnell, Peter Lawrence, others

	Reintroduction	**No Recovery**
A. Int/Nat.	Cooperative Efforts	No Action
B. Federal	USFWS-Leads ESA efforts Ensures human-wildlife conflict resolution & Mgmt. plan in place. Appropriate agencies Follow lead. Communication and public input process w/stakeholders, agencies etc.	No Action
C. Regional	Inter-Agency coordination/facilitation of recovery plan.	No Action
D. State	Participates in regional recovery plan, sets regulations, law enforcement Stakeholders: Farm Bureau, Timber, Livestock (Input RE: plan guidelines)	State Statutes
E. Tribal	Cooperate w/regional & State goals	Tribal statutes
F. Municipal	Follow State Goals	No Action
G. Private/Ind.	Public Meetings: input (acceptance/rejection) Voluntary compliance w/mgmt. Plan & aware of mgmt. plan, including: incentives/compensation for landowners & stakeholders.	Business as usual

Executive Summary:

The mission statement, strategies, action steps and evaluation measures were developed under the assumption that assessments have been completed prior to initiating the wolf recovery plan. Currently, not all stakeholders are in agreement with wolf recovery. The Maine Farm Bureau, a participant in this conference, remains opposed to the reintroduction of wolves in Maine and does not necessarily agree with all workshop findings. Complicating conflicting interests, multiple types of recovery or reintroduction plans, undetermined biological factors and apparent limited public involvement raise the question of is the "Cart being put before the horse". Further dialogue, communication and public involvement must be undertaken to ensure the diverse interests and all interested parties (stakeholders) potentially affected by wolf recovery are

adequately addressed, incorporated and considered. If, at that point, recovery is mutually and formally agreed upon, then the strategies we have outlined for governance, given recovery, are valid. We have also outlined a strategy for governance if no formal recovery program is adopted.

RECOVERY SCENARIO
Action Plan

A. International

Actions-

1. Emigration from US: Canada will notify US to relocate back to NE (until full recovery) Potential Canadian involvement in livestock depredation compensation plan; funds from special interest groups.
2. Immigration from Canada to US: Agreement w/Canada to establish, enhance and maintain movement corridors. Explore the potential to reduce take (#s) in Laurentide region by Canadians
3. Establish "Wolf Recovery" representative/point of contact: Information transfer. Collaborates with appropriate US or Canadian State, Federal, University, stakeholder and private representative.

Measurable-

1. Damage compensation plan in place. # wolves relocated. # wolves monitored. Viable population determination.

Time-

All actions must be identified in Mgmt. Plan prior to the initiation of recovery.

Budget-

Staff/Coordination meetings: $60,000/yr
Corridor Protection: $250,000 over 5 years
Mortality Reduction: $10,000 (cost of changing existing regulations)
Damage Compensation: $5,000/ yr.
Wolf Relocation:($7,500/animal)
Monitoring: $50,000
Materials:$25,000

Measurable Outcome:

Results in agreement to establish a coordinator who works is cooperation with other agency representatives prioritizing efforts towards the recovery of the wolf.

B. Federal

Actions-

1. USFWS

Prepares and initiates a detailed recovery action, including steps to identify appropriate actions to resolve and address human-wildlife conflicts, for the Northeastern Region complete with the appropriate public review process.

Time line - within 18 months of the approval of the recovery plan.

Budget- $200,000
Measurable Outcome - Completed plan with a decision notice.

2. Other Federal Agencies
Implement the above recovery plan within their areas of responsibility by developing pertinent management plans including monitoring.
Time line - within 12 months after the completion of the USFWS recovery action.
Budget - $50,000 per agency.
Measurable Outcome - documented management plans for every involved agency must be implemented within 24 months of developing their management plans. This will entail additional budget needs as implementation proceeds.

C. Regional

Definition of the Region encompasses the States and Provinces that have been identified as potential wolf habitat in the Northeast.

Actions-

1. Form a regional implementation group that will be responsible for:
   A. Oversight of the compatibility of recovery efforts within the region.
   B. Coordinates information exchange and timing of recovery efforts across the region.
   C. Resolves scheduling or implementation conflicts between operational agencies.

Time line - Becomes operational upon completion and acceptance of the Northeast recovery plan.
Budget - $20,000.00 per year
Measurable Outcome - Group is formed and functioning to coalition standards.

D. State

ACTIONS

1. Pass or revise enabling legislation.
Time line - As soon as possible
Budget - Unknown
Measurable Outcome - Appropriate legislation.

2. Serves as a forum to resolve local differences between stake holders and special interest groups.
Time line - ongoing
Budget - $20,000.00 per year.
Measurable outcome - relative peace!

3. Establishes and enforces State regulations. Regulations should be kept to a minimum allowing maximum management flexibility for private landowners.
Time line - Upon completion of the NE recovery plan.
Budget - $125,000.00 per year.
Measurable outcome - Completed set of regulations.

4. Provides relevant information and data as outlined in the recovery plan.
Time line - ongoing.
Budget - $30,000.00 per year.
Measurable outcome - timely provision of required data sets.

5. Tracks depredation within the state.
Time line - annually
Budget - $10,000.00 per year
Measurable outcome - Annual report.

6. Implements the portion of the recovery plan pertaining to that State.
Time line - annually
Budget - unknown but probably at or over $75,000.00 per year.
Measurable outcome - as required by plan.

E. Tribal

Actions

Cooperatively implements the agreed upon recovery plan Internally determines how to best regulate and otherwise comply with recovery objectives.

Time lines, budgets and measured outputs are unknown.

F. Municipal

Actions

Whenever applicable review and update municipal regulations and management direction that affects the agreed upon recovery plan. This may include rules governing hunting, off road vehicle use and other local ordinances.
Time line - ongoing
Budget - $15,000.00 per year.
Measured outputs - compatible regulations.

Conservation Commissions are involved in educational efforts regarding recovery.
Time line - ongoing
Budget - $2500.00 per town
Measured outputs - one presentation per town per year at a minimum.

G. PRIVATE LANDOWNERS

Actions

Voluntarily become familiar with the recovery effort and consider implementing the recovery goals in their land management operations. These goals should be non-regulatory. Incentives may be provided to landowners to manage for habitat enhancement. However, any suggested management practices should not be requisite of landowners. Livestock and pet depredation; and identified human health and safety issues may be verified, promptly addressed and compensated for under a well defined damage mitigation and incentive program.
Time line - ongoing
Budget - incentives

NON RECOVERY SCENARIO

ACTION PLAN

A. INTERNATIONAL

No recovery - no formal activities

B. FEDERAL

ACTIONS

No formal recovery in process. However - any natural recolonization would call for protection under the ESA. Thus the USFWS would become involved with protection and management at that time.

C. REGIONAL

ACTIONS

No actions necessary

D. STATE

ACTIONS
1. Should animals repopulate the state on their own, then state responsibilities under the ESA come into play. At that point, protection measures, meetings with stake holders and interest groups regarding management direction should take place. Time lines, budgets and measurable outputs will have to be set at that time.

E. TRIBAL

ACTIONS

None likely until tribal lands are occupied by returning animals.

F. MUNICIPAL

ACTIONS

None.

G. PRIVATE LANDOWNERS

ACTIONS

None - no new regulations, no incentives until such time as repopulation occurs.

Group 5
Education

Working group members: Barry Burgeson, Ron Joseph, Kim Royar, Jody Jones, Jim Nelson, Wally Jakubas, Dick Leggett.

Executive summary

Probably the most significant and yet most challenging educational goal for acceptance of wolves in the Northeast *and* maintaining biodiversity or intact ecosystems is the need to create what we called an Aldo Leopold type of land ethic throughout our society. The first step towards intelligent tinkering is to maintain all the parts and we have not done this.

We believe that the best way to do this (over the long run) is to get this message out to children through the school system. Therefore, we proposed to develop a comprehensive educational curriculum regarding Leopold's land ethic philosophy. We recognized that educational systems throughout the NE currently has relationships with natural resource agencies, NGO's, environmental educators but there is nothing comprehensive. Our goal is to begin a dialogue with educational leaders in various states to work with them to create curriculum within each state that would include Leopold's land ethic. We hope to encourage Universities in the Region to have such a course as part of their core requirements as well.

Our two other goals were to 1) establish a collaborative process to discuss the feasibility of wolf recover and to implement the results of the process and 2) Disseminate info on wolf/human conflict and the role of wolves in the ecosystem.

There were differences of opinion on the appropriate time for NGO's to become involved in compiling information on wolves with NGO's wanting to be involved up front and some natural resource agencies believing they should be part of the review process. There was also discussion on getting agencies more involved with wolf education. Resources continue to be an issue for any significant agency support for wolf educational programs. In some cases, even agency support for symbolic educational programs (Wolf Awareness Week) has been constrained by politics.

This discussion was divided between what was ideal for creating a land ethic through education and what we should do more immediately for wolves.

Part One - Brainstorming Possibilities

Mandatory 2-3 week field camp experience for jr. high students (agric. & natural resources, cross discipline-integrated)

Public acceptance of wolf recovery in the Northeast (disagreement in the group)

Develop a collaborative process to discuss the pros and cons of wolf recovery and to implement whatever results from the process

Develop an education & lobbying effort aimed at State legislators.

STRATEGIES:

1. Develop a comprehensive educational curriculum regarding Leopold's land ethic philosophy

Action items:
a) Develop a dialogue with state education leaders to develop and implement a land ethic curriculum into K through 12 classrooms.

Responsibility: State NR commissioner, environmental educational leaders to dialogue with Education Boards.
Resources: minimal
Outcome: Agreement to include a land ethic-based curriculum.
Time line: 1 year.

(Idea: develop 2-3 weeks of field camps in primary educational curricula co-developed by educators and natural resource professionals.)

b) Encourage colleges & universities to include Leopold's land ethic in their education core curriculum (with special attention to the education curriculum).
Responsibility: Natural Resource agency Commissioner, environ ed leaders, should dialogue with Education Commissioners to identify a suitable model.
Time Line: 5-10 years
Resources: University professors in collaboration with outside educators: $6000 to evaluate and produce a model. $2000 to publish a model, $10,000 to promote use model.
Outcome: Demonstrated revised curriculum resulting in students being exposed to the land ethic.

c) Colleges, universities, and natural resource organizations should establish teacher workshops for implementing Leopold's Land Ethic through mini courses for public speaking.

Responsibilities:
Univ & Info and Educational director of NR agency to collaborate to establish workshops.
NY and VT should invite Maine & NH info&ed to attend a portion of the existing teacher workshops.
Time line: 2 years
Resources: 1 staff person $46,000
Fee: $300/week could be subsidized
Measurable Outcome: Camp program operational in Maine New Hampshire (NY & VT already has a program).

2. Establish a collaborative process to discuss the feasibility of wolf recovery & to implement the results of the process

Action items:
a) Compile available information in a user-friendly format
Responsibility: State Agencies
Time line: 1 year
Resources: 1 person year
Cost: minimal
Measurable outcome: scientific product

b) Organize meetings for stakeholder groups (identify leaders in stakeholder groups to participate in the process) to exchange ideas
Responsibility: NGO's with cooperation from the state.
Time line: 2 years
Resources: $150,000
Outcome: 4-6 regional meetings, a leader from each group participates, meet with their constituents and legislators.

c) Stakeholder leaders maintain contact with their constituents to facilitate free flow of information and develop educational & lobbying effort aimed at state legislators

3. Disseminate info on minimizing wolf/human conflict and the role of wolves in the ecosystem.

a) Public outreach to increase wolf awareness

1. Promotion of courses taught by Defenders of Wildlife/ Maine Wolf Coalition
2. Natural Resource Agency Info&Education staff present wolf programs 3/year
3. Increase number of speakers for Wolf speaker Bureau.
4. Video & Slides reproduction 25 copies
5. Regular progress reports on recovery efforts

Responsibilities: NGO, agencies, and educational institutions

Time Line: beginning immediately with 3 years to completion
Funds: $26,000

Outcomes: Agency staff speak at least 3 times a year
25 speakers would be available for the Northeast to give wolf talks
wolf awareness week for every state in the NE
Living with Carnivores/Wolves brochure

b) Develop infrastructure sufficient to support a strong educational effort
-establish regional I&E programs that are built around existing environmental centers and regional offices.

-Identify user groups (e.g. hunting & trapping, hiking) to take a leadership role in land ethic education.

-Natural Resource agencies support NGO's in giving informational talks.

-Using environmental centers, address conflicts (real or perceived including:1) reduction in deer herd, 2) landowner conflicts, 3) livestock depredation, 4) land use conflicts, 5) trapping and others).

- Wolf management plan should incorporate I&E efforts that address human/wolf conflicts

- Develop multi-media presentations to reach wide audiences (target groups that have the greatest concerns e.g. farm bureau)

Responsibilities etc. Not addressed.

Group 6
Bio-regional Land Use Planning

Working group members: Charlie Todd, Michael Morse, Ann MacMichaels, Peggy Struhsacker, Paul Paquet, Lyman Feero

Executive summary

The Northeast traditionally provided a functioning landscape with wolves and other large predators. Dramatic landscape changes have occurred throughout the region since European settlement. However, preliminary analyses suggest that adequate habitat exists today for wolves. Without measures in place we can anticipate more fragmentation and a potentially less functional landscape for wolves. The following assumptions portray a need for long-range system planning. More intensive forestry will likely occur and society will continue to demand sustainable industry. Global climate change is likely; therefore carrying capacity for wolves is likely to be altered.

The following Bio-Regional Land Use Planning takes into account the above assumptions. Specific projects include: 1. to locate and identify data and evaluate data for compatibility and credibility look at temporal and spatial scale; 2. look for areas of conflict and see how the conflicts can be resolved using the results of the GIS; 3. alternative landscape designs that will accommodate both humans and wolves without losing sight of other species (relationship within carnivore guild and predator/prey relationships); and 4. establish and promote international collaborative in order to maintain a functional landscape across international jurisdictions.

Brainstorm initiative:

First and foremost open two way on going communication with the public on information on the need to gather the following needs:

E.g. Open houses, kitchen meetings, adult education

education will include the possibility of coexistence with wolves by using shared experiences from their peers in wolf areas, about habitat enhancements, restoration

-complete/refine existing biological inventory data in the entire Northeast (crossing international boundaries).

-then identify potential core areas, corridors through landscape analysis

-prioritize large parcels of potential core areas and of single ownership(private & corporate, public, ngos, native American)

- conduct a gap analysis for the NE to identify road densities, habitat types, human population's density

- index available prey source (deer, moose, deer) estimate biomass in potential suitable core areas.

-are there vulnerable prey populations, e.g. changing numbers and distribution of northern Maine deer and moose, Gaspe' caribou

-amount of public ownership needed and location with anchor parcels

- MOU's or Treaties with Canada, adjoini2ng states, corporations, native Americans ngos,

We need to itemize the potential limiting factors o n the landscape that are detrimental to wolf restoration. Natural biophysical and infrastructure

- major waterways, metropolitan areas, mountains, major highways

-other land management issues and/or conservation tools:

sprawl, inheritance tax, easements, tax incentives, co-op agreements

COURSE OF ACTIONS: GOALS

1. Based on best biological information regarding gray wolf ecology, complete and refine the existing habitat inventory for the entire Northeast region (Canada to US) which needs to be done to a finer scale 1:24,000.

All the layering will be interacting

a. GIS analysis

Wolf : use of the wolf as the umbrella species

Biological:

Potential core areas
Dispersal areas
Connectivity corridors
Prey densities and biomass estimates
Vulnerable prey areas

Geophysical

Mountains
Major waterways

Human Dimensions:

Social Infrastructure

Human demographics
Major transportation corridors
Landownership patterns
Existing conservation lands
Major roadways
Metropolitan areas
Decay model

Economics

Tourism (distribution of people on the landscape)

Need for numbers, intensity and uses of human on the landscape for future management needs concerns exist with increase use mountain biking, atv, snowmobiling, dog sledding (disease), rafting, kayaking. Increase tourism can increase disease possibilities for all wild species.

2. Landscape Design and Planning

Based on estimate of long-term PVA analysis for wolves. So where are we at and what is the uncertainty as to where we are now and where we will be. A fundamental principle of ecosystem management is that management should be adaptive, learning from experience and changing in response to new ideas, information and conditions. Ensure interjurisdictional planning and coordination and to engage the stakeholders and general public for input and comment.

Design a landscape plan to meet objectives ranking existing conservation lands, large unfragmented parcels, and private lands with existing optimal habitat.

Wherever feasible and appropriate, collaborate with similar ventures for landscape planning and stress multiple benefits, e.g. LURC, emerging policies for sprawl management, ecological reserve network

Prioritize alternate conservation measures before implementing regulations on private lands.

-Implement plan/s using full spectrum of conservation planning tools

Tools include informational guidelines and voluntary agreements, local & regional planning, management leases and conservation easements and land acquisitions

-Treaties, MOUs, MOA's with Canada, and adjoining states, corporations, private landowners, and Native Americans

SPECIFIC PROJECTS

1. Locate and identify data and evaluate data for compatibility and credibility look at temporal and spatial scale (Paul P. will supply specific model example)

Responsibility of USFWS to form team of academic, agency personnel and ngo's representatives
Timeline: 2 year
Collaborators: academic agency and ngo's
Measurable Outcome: Interpretation and disseminate information to public, stakeholders, federal, state and local agencies
Cost: More than you have
Notes: Add an incentive to getting data banks in a timely manner and do a nested approach to specific areas.

2. Look for areas of conflict and see how the conflicts can be resolved using the results of the GIS.
Responsibility: of team and other teams germane to the analysis and projecting into the future
Timeline: 3 months
Collaborators: academic agency and ngo's
Measurable Outcome: Multi layered maps that identify potential wolf habitat and areas of potential conflict with humans

3. Alternative landscape designs that will accommodate both humans and wolves without losing sight of other species (relationship within carnivore guild and predator/prey relationships)

Responsibility: team as listed above
Timeline:18 months
Collaborators: academics, agencies and NGOs
Measurable Outcome: Map based conservation plans for wolves
Notes: be aware of different models, PHVA that are integrated with the spatial analysis. Plans to be rated under a risk analysis and relate the uncertainty of the plans. Can be different inebriations of the plans due to future changes. Suggestion of stochastic or random event.

4. Establish and promote international collaborations in order to maintain a functional landscape across international jurisdictions. Examples to follow include Large Carnivore Conservation Initiatives (25 European nations), St. Lawrence International Waterway Commission (NY, QU), St. Croix International Waterway Commission (ME, NB), Lake Champlain Basin (VT, NY, QU).

Responsibility: team
Timeline: Ongoing
Collaborators: local, state, federal agencies and national/regional ngo's and academia.
Measurable Outcome: Signed MOUs, treaties

Wolves in the Northeast?

A Workshop to Exchange Views

Linnell Motel
Rumford, Maine
11 - 14 July, 2000

FINAL REPORT

Section 4
The Past, Present and Future

A. Understanding The Past – Timelines: Personal, Regional, and North American / Global

Personal Timelines

1930s Born
Born
1st movie

1940s Heard Peter and the wolf, Little red riding hood and three little pigs
Original boomer
Began interest in out of doors
RAI born
High school graduation
Became hunter, fisher and trapper
Early childhood in small ME community
Born

1950s Born
Immigrated from the Netherlands to the US
Development of lifelong interest in outdoors (hunting and trapping)
Took up hunting – anti-predator attitude
Born
Began trapping, graduation
Small town childhood –began hunting songbirds and fishing
Born
Taught appreciation for beauty: love of rural VT
Born in rural area
Born
Military service
Completed MS
Began professional career
Married
Born
Elvis lives!
Noticeable human impact on ecosystem
Wooden skis, rope tows
5 cent Ice cream cones, 12 cent movies
1st hunting license, drivers license

1960s Born
Summer in Wisconsin Youth Conservation Corps.
Elementary to high school – started hunting
Graduated high school, college
Started career
Awareness of diversity of opinions on issues

Global unrest begins to shape/change personal values
Began interest in outdoors/rural upbringing
College education in wildlife – game management
Woodstock
The draft
Anti-war and environmental protest movement
Woodstock
Student protest against Vietnam
Live in rural area, contact with wildlife, beginning fishing, hunting, trapping
Women's lib
Born and developed interest in wolves and wildlife by age of 5
Born
Children born
Born-Boston
Completed PhD
Began academic career
High school, college, marriage, children
Attended inner city schools-learned to appreciate human diversity
Readings, trapping and growing appreciation
Graduated high school
Graduated college
Military
Marriage

1970s High school degree, BS 4, MS
Wolf studies in MN and Alberta
Wildlife biology degree
High school, college, read A Sand County Almanac
More focused interest in trapping
Charter member – Col. County. Trappers
Trapper Training instructor (NYS)
Fur takers college
Voted for the 1st time
Degree in wildlife management
Employed by USFWS
Graduated wildlife
More ecological view ("wildlife" replaces "game")
Education: complete biological course
Explore other geographic areas besides HOME
Degree in range management – love, passion for Yellowstone
A decade of education, travel to West Coast, AK and Canada
Drew a high number in Vietnam draft
In school- studied wildlife
Wolf study in AK
Courage to express personal values
Divorce – to work

Married
Became a landowner in ME
1st hunting experience
Undergrad and "western experience"
MS degree, 3 kids, FWS career began, reviewed 1st wolf plan

1980s Job as wildlife manager
Wolf studies in MN
Awareness in biodiversity Issues/Concerns
Outstanding professional award
Gained appreciation for livestock/ranching concerns
B.A. in psychology – social work
Animal protection work and Greenpeace
Became responsible for beaver management
Project manager Morocco/Chad "wildlife"
Biology degree (B.S.)
1st permanent wildlife job (1980)
Continued professional career in Alaska (saw heard first wolves)
PhD in wildlife
Worked with captive wolf pack in zoo for 5 years
Married first time
Became taxpayer
Grad school – working-doing
Moved to NE
BA in Environmental Economics
Economic values became important – i.e. Health Insurance, making a good paycheck
Return to small ME community
Children born
Grad research
Agency experience
Research
Intensive work of eagles and peregrine falcons

1990s Retirement
Socio-economic consolidation
Move to NE
Promotions-politics-red tape-public involvement
Integration of social, economic, philosophical issues into wildlife science
Became WI wolf biologist (1990)
Integrated view of wildlife management (endangered, non-game, game, predators)
Began working on ES in the field
Research on wolves in Laurentide Reserve, Quebec
M.S. in environmental Science
National trappers P2P exchange to Russia
Held variety of NYSTA offices
Retired

Heart surgery
MSC/PhD graduate studies
First permanent job in wildlife after 20 years
Exposed to more integrated/ecosystem approaches to wildlife management
Began exploration of economic issues as a doctoral dissertation
Grad work/wildlife ecology
Conservation work and organic farming
NWRC Predator Research Facility Logan, VT
Reconnection with wolves and ecosystem management approaches
Spotted owl/wolf recovery surface as issue
Adopted daughter
Grad degree in conservation anthropology; began present job working on wolf issues
Reforming personal goals – maturation
Gaining respect from others
Child born
Return to college
Second marriage
Grandchildren
3 generations climb Katahdin
Maine wolf coalition
Participant in Maine moose hunt
Became NYDEC contact for wolf issues
Marriage/children born
Worked on wolf reclassification rule

Northeast Region Timeline

1900 1894: Adirondack Park established by New York State Constitution
1903: Wolf bounty in Maine ended (removed from Statutes of 1832 law)
Wolves extirpated, caribou declining, puma extinct
Maine deer limited to coast and rivers – decimated in some areas
Lynx numbers at historic low; low point in ME forest cover
Farm land abandonment in full swing
Extensive logging in Northeast forest
Paper making takes hold in Maine: River drives
Farms begin to be abandoned, especially in Vermont, New Hampshire, Massachusetts and southeast Maine: Reforestation of Northeast begins
White Mountain National Forest
Near extirpation of many wildlife species
Paper mills appear – committees formed, jobs

1910 Spruce budworm epidemic
Farm abandonment
Caribou declining
Fisher and marten at low numbers

Hunting and fishing camps

1920 Last wolf pelt recorded in New Brunswick in 1921
Caribou disappearing
?? Act passed – Eastern northern forests established
Robert Frost writes about natural values of Northeast
Maine woods privatized?
Recreation / tourism surpasses hay production revenue in New Hampshire
Baxter State park

1930 Great Depression
First "coydogs"
Deer protection
Reforestation
Government expenditures – public projects
Small farms dominate
CCC projects modify landscape
First coyotes in Maine
Subsistence lifestyle
Coyotes in the Northeast

1940 Eruption of deer herds
Loss of farms
Heyday of small game hunting
Moose increase
Deer increasing in northern and eastern Maine
Fisher and marten recovering
Wild turkey and other extirpates begin to be reintroduced (beaver, deer, etc.)
Emigration of human population accelerates
Bear status begins to shift from "varmint" to "big game"
Co-op wildlife units begin to be established in many northeastern states
Moose season closed
White pine harvested for war effort

1950 1954: Last wolf from Cherryfield, ME sent to National Science Museum in DC
First coyotes seen in Maine
1958: First coyote seen in New Brunswick
Coyotes established in northern Maine
Many bobcats in former lynx range
Deer numbers at high in northern and eastern Maine
Moose increase
Expansion of fisher and marten
Highway system built
Modern ski resort boom starts
Abundant early successional habitat and associated wildlife

1960 Population expansion
Suburbanization
Budworm outbreak starts: hard winters
Deer starting to decline in northern Maine
Influx of people from away – new attitudes
Large-scale industrial forestry in Maine woods increase
Development of lakeshores
Predator bounties stopped in Maine
Deer management programs begin to change
1967: Eastern timber wolf listed as Endangered in US
Ski resort boom
Coyote – wolf taxonomy studies
Coyotes appear

1970 Exponential growth of coyotes
Roading
Environmental regulations
Service economy
Moose increasing in northern Maine
Spruce budworm
Clearcuts
Adirondack Park Agency formed
Zoning
Clean Water Act
Eastern Timber Wolf Recovery Plan
1974: Eastern timber wolf listed under ESA
Increased road construction and access in forests / end of log drives
1973: Last log drive in Maine
Carnivore research programs accelerate in Maine
Deer decline in northern Maine
A decade of bad winter: deer decline, moose prosper, coyotes return in numbers
Environmental awareness – big issue
Turkey, eagle, peregrine falcon restored to northern New York
VT / NY / USFWS Cooperative formed
Wetlands Act passed in New York
First attempt by Defenders of Wildlife to establish wolves on White Mountain NF

1980 Territory saturation of coyotes
Growth of interest groups
Bear increase, moose expansion
Mechanical harvesting
Coyotes well established in Maine and Northeast
Persistent occasional "wolf" sightings from knowledgeable woods people
Bobcat declines in northern and eastern Maine
Increased road construction and access in forests / end of log drives
Forestry Practices Act scrutinized

Northern Forests Lands Act
Moose invade New York
Massive development
Moose hunting returns
"Condominiumization"
Increase in Maine deer population
Moose season opens in Maine
Deer declines in northern and eastern Maine
Public education changes negative attitudes toward wolves
Nongame programs established in states
Suburban sprawl escalates

1990 Salmon and lynx ESA
Economic expansion
Forestry referenda
Land use conflicts / sprawl
GIS studies of wolf habitat in Maine
Multiple use management
Increase access limitations to private lands
Wolf-like canid from Pisectaquis County and killed near Moosehead Dome
Forestry practices begin to be modified
Adirondack Park wolf studies
Wolf recovery movement begins in Northeast
Northern Forest Lands Council
Forestry regulations and referenda
"Fragmentation" concerns; moose and hare increase
Telecommuting
"Keyboard ecologists"
Public wants play a larger role in wolf management decisions
New canid taxonomies emerge
PPRC formed
Establishment of CREW
Reintroduction of river otters in western New York

North American / Global Community Timeline

1900 Industrialization and beginning of conservation (TR, Henry David Thoreau)
Predator Wars spread to western United States
First National Parks and Wilderness Areas protected
Cars and airplanes – mobile society
41 of 46 states adopt Roosevelt/Pindot Conservation Agenda (1907)
First powered flight
Format of state, federal wildlife agencies
By 1900, wolves extirpated throughout most of lower 48
Industrial Revolution

Lacey Act
Importance of wildlife in all day living/Subsistence/wolf elimination/livestock protection
Yellowstone established
Railroads lead to expansion of United States
Birth of Conservation Era, Forest Reserves, USFS 1905
Bureau of Biological Survey established – Predator Control
Theodore Roosevelt

1910 World War I
Migratory Bird Treaty
United States becomes global power
End of market hunting
ASM questions predator control
Taft/Wilson administrations put conservation on backburner
World War I
Predatory Animal and Rodent Control (predecessor to ADC) established by Congress
Automobile, World War I
First National Park
Restoration of large game animals

1920 American Soc. of Mammologists opposed federal predator control efforts in western US
Automobile leads to road building leads to suburbs
Depression
Charles Lindburg crosses Atlantic
Economic collapse in United States
More people in United States live in urban areas than rural
Women get the vote – social and environmental issues
Formation of CCC
Depression, Park Systems
Leopold begins career
Bounties
Sigurd Olsen conducted first ecological study of wolves in northern Minnesota

1930 Public works, i.e. CCC
ADC Act 1931 – federal funding for predator control
Aldo Leopold game management
Depression/Dust Bowl
1930 American Game Policy –wildlife profession established, wildlife restoration programs begin
TWS formed
Federal aid programs
Wolves disappeared from western United States
CCC

United States National Park Service adopts predator protection policy – first wolf preservation
First text in "game management" (Leopold)
Taylor Grazing Act
Conservation movement – bag limits
P-R Act

1940 Federal ADC program
World War II
Widespread use of pesticides and technology begin
Murie wolves of Mt. McKinley (1944)
Wolves colonized Isle Royale National Park
United States becomes dominant economic power
First academic wildlife programs
Rural electrification program
Atom bomb
World War II
World War II – women as wage earners
Industrialization
World War II – return of the "Industrial Revolution"
Sand County Almanac

1950 Interstate highway system - suburbs
Cold War
Last wolves killed off in West
Korean War
Population boom!
Levittown – suburbization
Research began on wolf ecology on Isle Royale and Algonquin Parks
Wolves protected in Wisconsin (1957)
Wolves become extinct in Wisconsin (1959)
United States economy shifts from Resource extraction to service orientation
35 wildlife NGO's
Ignorance of environmental pollution
Life gets a lot easier for majority
Korean War
Rock and roll
Rock and roll born!
Baby boomer born
Relative prosperity – "Leave It to Beaver"
Wolves extirpated in Yellowstone

1960 "Redbook"
Vietnam War

Clean Air/Water Acts
Leopold's essay on wolves
Rachel Carson – "Silent Spring"
Kennedy assassinated
Social/student unrest
Intensive farming
Reached the moon
Wolves reach lowest level in United States – only left in Minnesota (300-500)
Student activism – includes environmental agenda
Vietnam War
Technology advancement – wildlife st not a mean to survive
Eisenhower interstate system civil rights
"Quiet Revolution" in Quebec
Beatles arrive
First radio-tracking on large mammals
Space Race – technology
Ungulate overpopulations
A number of intensive wolf studies, e.g. Pimlott, Mech
Wolves of Isle Royale (Mech 1966)
"Silent Spring"

1970 Beginning of environmental preoccupation and wildlife protection
Earth Day
EPA/ESA 1973
Department of Energy
Gas crisis
Computerization
Cain/Leopold reports
The Wolf: Ecology of an Endangered Species (1970) David Mech
Earth Day
Environmental movement
End predator poison on federal lands
1974 North American Wildlife Policy
Red Wolf Reintroduction begins
Wolves recolonized Wisconsin
Watergate – government mistrust
Women's liberation
Women's lib
Alaska wolf controls received national attention
ESA
Vietnam War ends
Leopold commission on predator control
DDT banned
Alaska Native Interest Land Conservation Act (ANILCA)
Development of wolf depredation control program in Minnesota my federal government

1980 Wolves recolonized Michigan and Montana
Deregulation
Global markets surge
Rio de Janeiro – United Nations Environmental Summit
Agricultural Rural Development Act
Conservative/Anti-government movement
Conservation Biological movement awareness of biodiversity issues
More than 400 wildlife NGO's
Disintegration of USSR
Parvovirus hits world canid populations 1980-1985
Modern management practices
Computers buzz words; act locally/live globally
North American Free Trade Agreement
Nelson Mandela released; apartheid falls, along with Berlin Wall
Red wolf reintroduction
Growth in non-market economic values and measurement techniques
Massive development
"Heroification" of wolves
Public television
Berlin Wall
Sagebrush Rebellion/Wise Use Movement
Red Wolf reintroduction began in North Carolina (1987)
Minnesota wolf studies: Fritts, Mech, Fuller, Nelson

1990 Spotted Owl controversy – 30,000 lose jobs
Biodiversity treaty
CAPA (pending)
Internet: communications, high tech industry
More than 6,000,000,000
Wolf reintroductions in North Carolina, Yellowstone
Global economic expansion
First species recovered under ESA
Wolves reintroduced in Yellowstone and Idaho (1995)
Global climate change recognized
Wolves achieved recovery goals in western Great Lakes
More people in United States live in suburban areas than urban or rural
Human/wildlife conflicts escalate as human populations grow and wildlife populations restored
Significant technological changes (the web!)
Changes in value from society to individual = change in attitude about wildlife population vs. "animal"
Global economy – the internet
ESA controversy, conflicts, failure of Congress to fund/reauthorize

Genetic technology
Biodiversity management and ecosystem function
Break up of Soviet Union
Desert Storm
Murrah Building blown up in Oklahoma
Wolves recolonize France and Germany

Understanding the Past: Timeline Reports

Summary of the Personal Timeline - Group 1

1930s: few people born at this time. Most participants < 65 years

1940s: anti-predator attitude. Many people born in small towns

1950s: Development of hunting, fishing, trapping traditions and development of anti-predator attitude

1960s: Many professional careers in biology began at this time. Social activism in National politics and the environmental issues

1970s: Also mention of professional careers taking place. Travel. Social Service. People established roots in communities. Many people had their first exposure to work with wolves.

1980s: People began careers in conservation. Many moved into smaller communities. Increased awareness of wildlife and livestock/ranching issues.

1990s: Multidisciplinary approach to wildlife research. Graduate training in ecology. Beginning of work with wolf advocacy.

Few people from the group were born in the 1930's and 1940's and reflections from that time mostly reflect anti-predator attitudes. Most people were born in the 1950's and 1960's. The major trend reflected in people's comments includes a move from a utilitarian approach (hunting/trapping) to wildlife management and environmental issues. People's careers also went from single species management to a multidisciplinary approach, a progression that was facilitated with the advent of computers.

Link with other timelines:

-Most careers in wildlife research began after World War II.
-Social activism in the 1960's coincides with growth of general concern for environmental issues.
-Concern of the general public over natural resource conservation in the 1970's led to environmental protection laws.
-Species recovery was reflected in people's general attitudes and interest in natural resources.

Summary of the Personal Timeline - Group 2

Age: Born during 30s to 60s

Values: Tolerance of diversity of opinions
(Recognition of need for stakeholder involvement)

Career training: Lots of post-high school education

Interest in/experience with wolves and outdoors: Long-term

Personal experiences: Rural upbringings
Importance of families

Connections with global and NE –

Continually increasing conservation/environmental consciousness, both globally and locally

specific attention to detail to wildlife events in NE and environmental events globally

Summary of the Global/National Timeline – Group 3

Early 1900s:
- Advent of conservation thinking; conservation laws, land protection, government role and control, formation of National Parks.
- Becoming more of an industrial, mobile society
- Resource depletion w/increased industrialization.
- Predator wars; predators bad, predator elimination good.
- Increase in pollution w/industrial revolution.

Mid-1900s:
- Increase in social consciousness in the 1950's and 1960's.
- 1960's activitism: war protests, women's movements, sexual revolution/freedom, environmental activism, challenging government.
- Shift in population from rural to urban to suburban to second homes (wanting their own piece of "wilderness."
- Increased awareness/connection made between environmental pollution and wildlife conservation.

Late 1900s:
- Attitudinal shifts toward predators i.e. much more positive, understanding of their role in the environment.
- Increase in ecology movement/new "buzz words" e.g. biodiversity/communities.
- Market based approach to the environmental movement e.g. trading pollution credits.
- Increase in human values (non-market approach) toward natural resources e.g. comfort in knowing that a rain forest exists or a wilderness exists w/o any hope of ever visiting or using the resource.
- Increase in private property rights.
- Increase in home rule advocacy.

- More people thinking globally but acting locally.
- Global increase/interest in wolves (US, France, Spain, Italy, Poland, USSR).

Summary of the Global/National Timeline – Group 4

Industrialization/socialization changes throughout time

(Early) Big game prioritization, Carnivore (predator) extirpation
Protected areas

Urbanization (population increase) away from land

(60s) Resource users (richer society)

(70s + 90s) Conflict

Paralleled at state level

Summary of Northeast Region Timeline – Group 5

* Depleted Wildlife Populations in 1900

- Beginning of conservation movement
  - start of warden movement
  - land preservation
  - stricter laws and hunting regs

- Beginning of forest product industry
- Increase in roads 60' and 70's
- Increase in forest wildlife after 1949//deer after 1980
- Elimination of bounties
- Increased suburbinization sprawl/habitat fragmentation
- coyotes arrive in the northeast
- economy went from manufacturing and resource based to service/tourism
- Natural resources have played a role in New England's economy through the entire century
- Environmental awareness
  - rivers cleaner (clean water act etc.)
  - better understanding of predator /prey relationships
- forest fires not suppressed prior to 1950
- habitat events
  - loss of farmland

- conversion to forest
- spruce budworm
- loss of early successional habitat in southern Maine
- Wolves started showing up in Maine 1954?, 1991, 1996

Summary of Northeast Region Timeline – Group 6

Economic

- Increase (especially since 1940's) to industrial economy
- Economic growth for individuals accompanied by greater individual freedom & time for recreation, etc.
- escalation of tourism industry - hunting, skiing , snowmobiling, etc.

Social

-some overlap w/economic & ecological
- rural lifestyle diminishing with industrial development, suburban & urban areas
- loss of traditional family units and ties to "the land"
- increase in human populations (resident to region) as well as influx from tourism, second-home and overall mobility of society
- evolving awareness/appreciation of resource conservation following lessons of "what we've lost"
- rise of diverse, special interest groups and political activism

Ecological

- Declines among some wildlife populations (human influences) in early 1900's - rebounded following evolution of conservation programs
- Changing landscape in the northeast from widespread farmlands to woodlands and later losses to development
- increasing intensity of forest management and fragmentation of large ownership

B. Focus on the Present: Trends Affecting the Possibility of Wolf Recovery in the Northeast

The Mind Map

Purpose: To build a shared context of our concerns and priorities, the group created a "mind map" of all the trends currently affecting us and the role of wolves in the Northeast. The Central Topic of the Search on the Mind Map was: **"Trends Affecting the Possibility of Wolf Recovery in the Northeast".** The mind map was created during a plenary group brainstorming session. After the mind map was completed, people then studied the mind map and placed dots on the trends they thought were most important.

To convert it from a circular format, the mind map was typed in starting from a random point. Numbers and letters in square brackets represent the number and color of dots placed by a trend. The higher the number of dots, the greater the perceived importance of the trend.

- Difficulty for trappers to recognize wolves [1o, 1y]
- Negative public attitudes regarding predation control
- Declining attitudes among the public regarding trapping

- Saturation of habitat with coyotes
- Emergence of coyotes as top predator [1p, 10b]
- Willingness of public to accept coyotes as replacement
- How to identify wolf habitat [1g]

- Increasing scientific knowledge [4b, 4o, 3p, 3r, 2g, 1y]
  - Taxonomy [4b, 4o, 1p]
  - APW DNA data
  - Historical ecological role of wolf [2b, 1o]
  - Predator-prey relationships [1b]
  - Competition with other predators
  - Increasing knowledge of species/habitat relationships [1b]
  - Increasing evidence for wolves as key stone predator

- Public land protection [1o, 1p, 1r]
- Potential for increased land-use regulations

- Other wolf reintroduction programs in US [1p]

- Private ownership of north forests [5r, 3g, 1b, 1o]
  - Change of ownership
  - Increase use of tree plantations
  - Forest management implication of recovery of wolves [3g, 1r]
  - Wolf recovery used to stop logging [3g]
  - Potential for increased land-use regulations [1g]
  - Conservation (easements)

- Shipping traffic, state law seaway (dispersal ability) [1o]
- Increasing road traffic in region [1o]
- Increasing recognition of value of dispersal corridors

- Management and status of wolves in Canada [4o, 3p, 4b]
- International cooperation
- Impact of restoration of wolves in NE US on Canada [1b]
- International attention on US domestic conservation decisions in view of its intern. involvement

- Conflict with existing resource use [2b, 6o, 7p, 2y, 1g, 5r]
  - Willingness of consumptive uses to share prey [2o, 1p]
    - Fear of decimating deer populations
  - Increasing livestock-wolf conflicts [1o]
  - Decreasing prey populations
  - Wolf depredation on pets/hunting dogs

- ESA-based management decisions leading to personal/community economic hardship, jobs loss [3b, 3g]
  - Uncertainty regarding ESA-based decisions
- Economic opportunities of wolf recovery

- Involvement of Animal rights groups [1b, 1y]

- Conflicting/changing priorities (all stakeholder groups) [1o]
  - Urban/rural values

- Human population growth [2y, 1p, 2r]
- Increasing resource consumption [2o]
- Decreasing experience and first hand knowledge of nature

- Agencies ability to fund monitoring/depredation programs [3p, 3o]
- Increasing cost to tax payers [3g, 1b]
- Increasing agency expectations/responsibilities [1y, 1o, 2p]
- Declining revenues/resources
- Burdens of NEPA, FIA, GPRA, etc.

- Public concern regarding wolf/human interactions (killing of people by wolves) [1p, 1b]

- Increase in forest cover since extirpation of wolves
- Increase in prey populations [1p]
- Habitat fragmentation [2b]
- Increased interest in NE wilderness restoration
- Increased recognition of importance of connectivity [5r, 2o, 1b, 1p]

- Changing human attitudes - more favorable image of wolves [5r, 3p, 1o, 2b, 2g]
  - Polarization of conservation attitudes [1b]
  - Increased public understanding of carnivores
  - Sub-urbanization [1g]
  - Not-in-my-backyard syndrome
  - Increasing non-profit groups supporting wolves [1g]
  - Manipulation of information by the media

- Ongoing challenge in legal status under ESA (threatened) [4r, 2o, 1p]
- Increasing politicization of ESA [1y]
- Distrust of government among public [2g, 1p]
- State laws [1o]
- Use of nonessential, experimental designation
- Increasing litigation among environmental community vs. regional community (govt.) [1b]
- Difficulty in controlling wolf populations
- Difficulty in controlling human populations

- Increasing public involvement in decision making [3r, 4o, 1p, 2g, 3y]
- Political interference in management [1p, 1o]
- Management through ballot initiatives, court initiatives [2g]
- Decreasing public interest in preliminary discussions
- High public interest in final decision making
- Younger generation involvement and use of $$ for decision making

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Key to dot colors:

b = blue	Universities/Scientists (9)
g = green	Industry/Agriculture (11)
o = orange	Regional and State Employees (15)
p = pink	Federal Agencies/Staff Members (6)
r = red	Environmental/Conservation Organizations (8-9)
y = yellow	Sports and Recreation (7)

Mind Map Reports: Focus on the External Present

Stakeholder group discussions of trends affecting the possibility of wolf restoration in the Northeast region

I. ENVIRONMENTAL GROUPS

Trends (number of 'votes'):
Importance of habitat/connectivity (5)
Public land protection (4)
Change in legal status (4)
Change in human attitude (5)
Public involvement (3)
Private landownership (5)
Forest mgmt changes
Scientific knowledge (3)
Population growth (3)
Conflict with existing resources uses (5)

Grouping of trends or agreement
Trends
1. Habitat
   Public land protection
   Connectivity
   Private land ownership
   Forest management

2. Humans
   Change in attitudes
   Public involvement
   Conflict with existing resources
   Human population growth

3. Change in legal status

4. Scientific knowledge

1. Everything has common denominator of human driven issues. Science informs the work we do.

Human/political issues drive our work –social political

2. 2. What are we doing right now? Environmental Education (driven toward an objective) science, ethical, moral. Cultivating public involvement – promote use of science. conflict resolution, watch dogging and supporting when appropriate the ESA federal and state process
   -working with S.A.M

Lobby for Increase State and federal funds – fund scientific research – working toward positive habitat protection (conservation easement, certification, public lands acquisition, building on current public lands).

Regrets
Inability to dialogue effectively with key stakeholders groups (e.g. Sporting groups)

What you need as a group in order to pursue positive action:
- we need to develop a more cohesive vision of wolves and habitat
- we need more information re: taxonomic issues, historic conditions
- we need more cultural diversity in the conservation movement
- we need to inspire NE to make wolves and wildlife recovery a core value.

II. INDUSTRY/AGRICULTURE GROUP

❖ **Regulation**

- Overriding of the economic impact that occurs with regulation
- Litigation resulting from ESA listing brought forth by groups wanting additional restrictions and habitat areas
- Impacting ability to manage forest lands for their economic value and impact on farms and agriculture due to possible increase in livestock losses
- Overall costs to taxpayers and other stake holders. Those stakeholders can be hunting license holders, timberland land owners, etc, who may incur additional costs due to regulation and enforcement of new regulations

❖ **Scientific Knowledge**

- Taxonomy
- Historic ecological role
- Species habitat

❖ **Public Attitude**

- Need to keep public aware and involved in this process as they are also stakeholders

III. FEDERAL AGENCIES

Trends (number of 'votes')
Conflict with existing resource use (8)
Agency expectation & responsibilities (5)
Increasing scientific knowledge and taxonomy (4)
Management and status of wolves in Canada (3)
Changing human attitudes (3)
Public involvement in decision making (2)
Wolf-human interaction (2)

1. Deer and moose users/guides
   Timber harvest

Trappers
Snowmobile users
Livestock/domestic animals

Important because these are stakeholders most directly affected and they will/may oppose wolf recovery if their interests are compromised.

2. A. Important because we need to ensure that public expectations for wolf recovery is consistent with out Public Trust Responsibilities.
   B. After (a), do we have adequate staff and funds to meet our responsibilities:
      1. Env. Asst. / EIS
      2. Biol./ Social Feasibility/Economic Analysis
      3. Monitoring
      4. Problem Animal Control

3. Important because scientific knowledge will us determine the biological feasibility of undertaking wolf recovery in the NE US.

4. Important because management and status of wolves in Canada will strongly influence options available for recovery.

5. Important because human attitudes toward wolves will ultimately determine whether wolf recovery occurs

Issue 1.
What we are doing right now:
Develop proposals with 4(d) rule to allow flexible management. Open communications with states/NGOs, etc.

What we need to do.
Public hearing/solicit public comment
Increase research (NWRC) to answer questions re: conflicting resource uses

Issue 2.
What we are doing right now:
Informing public and asking for comments
Meeting with stakeholders
Outreach - fact sheets

What we need to do:
Improve/expand dialogue with all stakeholders.
Ensure agencies are prepared.....staff & funding.

Issue 3.
Scientific knowledge
What we are doing now:
Attending scientific meetings, symposia
Supported wolf tracking in Maine
Sent radio transmitters to Quebec

Developed better/humane trapping methods

What we need to do:
Increase science capabilities ($$ and people).
Keep abreast of new taxonomic treatments
Locate historic wolf specimens for DNA & morphometric analysis

Issue 4.
Management/status of wolves in Canada.

What are we doing now:
Provided transmitters for dispersal study.
Communicate with Provincial biologists (staff to staff)

What we need to do:
Formalize communication with CWS and provincial wildlife agencies.
Identify mutual goals and concerns.

IV. SPORTSMEN AND RECREATION GROUP

Trends affecting recovery:

1. Public involvement in decision-making, including ballot initiatives and court decisions:
In NY and Maine they hire lobbyists, and use trapper education, which is mandatory for new trappers. They also have advanced trapper seminars for experienced trappers. Also use educational and other resources of the National Trappers Association, e.g. for interacting with government. NY State Trappers Association and affiliates work with State Dept. of Environmental Conservation for joint trapping initiative program.

2. Land use and human population growth:
They do nuisance wildlife control and education. There is an ASK program which attempts to promote cooperation between landowners and sportsmen.

3. Increased scientific knowledge/ recognizing wolves:
Trapper education and knowledge gained from trappers in the field.

4. Politicization of ESA and politics:
They employ a lobbyist and use NTA lobbying resources and PACs.

5. Restoration of lynx and river otters:
They have done so in NY.

REGRETS:

- Inability to effectively get the message out to educate the public as much as we would like.
- Inadequate resources to educate the public or those in position to implement policy.

V. STATE STAKEHOLDER GROUP (New York, Vermont, New Hampshire, Maine, Province of Quebec)

Raw Dot Votes from Initial Mind Map

- State laws (1 dot)
- Public Involvement (4 dots)
  - Political intervention (1 dot)
- Increasing Scientific Knowledge (5 dots)
  - Taxonomy (4 dots)
  - Historical ecological role (1 dot)
- Public Land Protection (2 dots)
- Private ownership of private forests (1 dot).
- Shipping traffic (1 dot)
- Road traffic (1 dot)
- Management Status of Wolves in Canada (4 dots)
- Conflicts w/existing resource use (8 dots)
- Willingness of the consumptive users to share (2 dots)
- Conflicting or changing priorities of stakeholder groups (1 dot)
- Higher human population
  - Increased resource consumption (2 dots)
- Increased expectations of agencies and decreased funding (3)
- Recognition importance of connectivity (2 dots)
- Changing human attitudes (3 dots)
- Ongoing status in legal status of ESA (2 dots)
- Difficulty of trappers to recognize the differences between wolves and coyotes(1dot)

Combined Dot Votes (consolidation of trends)

- Conflict w/existing resource users (11 dots)
  - Willingness of consumptive of resource users to share
  - Difficulty of trappers to recognize difference
- Factors affecting immigration and dispersal (8 dots)
  - Shipping traffic
  - Road traffic
  - Management status of wolves in Canada
  - Habitat connectivity
- Changing human attitudes (7)
  - Increased expectations of agencies; decreased funding within agencies
  - Conflicting and changing priorities of stakeholders.
- Public involvement (6 dots)
  - State laws
  - Political intervention
- Increasing scientific knowledge (6)
- Taxonomy (4 dots)
- Ongoing change in federal legal status ESA (2 dots)

What state agencies are doing right

- **Public Involvement**
  - Public attitude survey (ME).
  - Good communication w/NGO's (ME, NH, VT, NY, Quebec).
  - Participatory in the wolf restoration process: member of the CAC, public presentations, articles, interviews, provided data for feasibility studies reports, supportive of Defenders Adirondack initiative (NY).
  - Communication w/other jurisdictions (ME, NY).

- **Political Intervention**
  - Discouraged legislature from passing anti-wolf restoration legislation (VT).

- **Public Education**
  - Coyote/wolf identification (ME)
  - Support wolf informational talks. (ME, NY)

- **Research/monitoring**
- Snow track counts (Maine)
- Follow-up on pubic sightings (VT, ME, NY, NH)
- Howling surveys (ME)
- Supporting genetic research (collecting coyote samples – ME, NY, Quebec)
- Harvest monitoring (Quebec)
- Ecological connectivity awareness (all NE states and Quebec)

What should state agencies do to pursue positive action
- Support increased genetic/taxonomic research (all NE states).
- Continue the dialog – maintain open communication.
- Continue monitoring public attitudes.
- Continue to participate in the public process.
- Continue to maintain the authority to maintain/manage wildlife species if and when warranted.
- Support research on the impact of wolves on prey species.
- Find funding sources.

VI. SCIENTIST GROUP

Trends of concern of group:

- Saturation of habitat by coyotes (5)
  - Emergence of coyotes as top predator (3)
  -How to ID wolf habitat (1)

- Increasing scientific knowledge (3)
  -historical ecological role of the wolf (3)
  -predator prey relationships (1)
  -taxonomy (4)
  -knowledge of species/habitat relationships (1)

- Public land protection (0)

-Potential for land use regulation (1)

- Private ownership of northern forest (1)

- Management and status of wolves in Canada (4)
  -impact of restoration of wolves in the northeast on Canada

- Conflicts with existing resource use (2)

- ESA-based management decisions (3)

- Involvement of animal rights groups (1)

- Human population growth (0)
  -Resource consumption (0)
    -experience-first-hand knowledge of nature (1)

- Agency expectations/responsibility (0)
  -cost to taxpayers (1)

- Public concern regarding wolf-human interaction (1)

- Increase in forest cover since extirpation of wolf (0)
  -habitat fragmentation (2)
  -recognition of importance of connectivity (1)

- Changing human attitudes (2)
  -polarization of conservation attitudes (1)

- Ongoing challenge to legal status under ESA (0)
  -litigation - environment vs. US government (1)

Trends of concern can be summarized as:

Biological (total of 23)

1) Coyotes (13 total)
   -Potential of hybridization with wolves (5)
   -role as top predator (4)
   -taxonomy (4)
   -Genetic status in Canada (1)

2) Wolf habitat
   -historical role of wolves (3)
   -how to identify wolf habitat (2)
   -Fragmentation/connectivity (3)
   -predator/prey relationship (1)

Social

1) Attitudes
   -risks/danger (1)
   -polarization (1)
   -user conflicts +animal rights (3)
   -Attitudes and experience (3)

2) Policy
   -US/Canada costs and benefits
   -Management in Canada (2)
   -ESA policy and litigation

2) Economics
   -land use regulations (1)
   -private ownership (1)
   -cost to taxpayers (monetary and non-monetary) (1)

What this sector is doing right??

Biological (coyotes) a lot of work needs to be done, particularly on the Laurentide reserve, the closest population. As for wolf habitat and its components research has significantly advanced (habitat issues) except for the historical role of wolves where there is much information needed. (Overall grade C).

Social Attitudes - (Grade=C) There is information on public opinions but much of it is old and does not apply to the areas we are considering.

Policy - There have been no international talks (much work is needed). Little advancement in policy issues (Grade=D)

Economics - Although economic studies have been done, they do not apply directly to this area (Grade=D)

What we would like the sector to do:

As a group our goal is to generate knowledge to promote information.

There is need of work in all of these sectors and the major constraint is funding.

C. Exploring the future: A vision, common ground and unresolved issues

Group 1.

Vision of an ideal social, economic, and ecological future for the Northeast Region

1) Ecology

-Clean air
-Clean water
-Native species
-Ecological processes maintained across the landscape
-Global climate fluctuations unaffected by humans
-Scientists would be playing a similar role to the one they have presently (help us achieve our ecological vision) in guiding actions based on sound scientific information and their actions would be governed by social policy
-Science and conservation biology will play a more important role in public policy
-Continual learning and adapting takes place through adaptive management and links scientists, mangers and citizens

2) Economy

-Only ecologically and economically sustainable forestry, farming, and other natural resources
-Fair access to food and other necessities
-Bioregional food systems
-Sustainable communities in more concentrated settlements
-Use of renewable energy (change from petroleum based industry)

3) Social

-No crime
-No greed
-Cooperative behavior
-No corrupt political leaders
-Reduced human population
-Sense of place and community
-Land ethic
-Cultural equity
-Gender equity
-Respectful treatment of animals
-Mutual respect/tolerance
-A more holistic approach to governance that is not primarily growth driven but takes ecological values into consideration

-Cultural values: diversity, equity, cooperation, humanity, respect

Barriers:

-Globalization
-Human population growth
-Growth economy is dominant
-Sprawl
-Petroleum-based energy/transportation
-Lack of cooperation
-Greed-profit motive at all cost
-Cultural inequalities
-Overcoming utilitarian philosophies

Common ground for the future:

	Theme	How
1)	Clean environment	Legislation, education, corporate al. liability, research on clean methods
2)	Biodiversity Restoration	Habitat restoration including wildlife reserves – natural and evolutionary processes, species reintroduction, exotics management
3)	Bioregional land use planning	Land use planning councils, incentives for stewardship
4)	Cooperative governance	Interagency/NGO/citizen/interest groups national/international/corporate councils
5)	Land ethic	Education, institutionalization via curricula, sensitivity training, incentives, models,
6)	Renewable Energy	Research, incentives, removal of subsidies for non-renewable energy, anti-trust
7)	Sustainable resource use	Research (natural resource inventories), education, incentives, market reform, modification of practices, removal of subsidies for unsustainable practices
8)	Community-based settlement patterns	Anti-sprawl, incentives, education, zoning, urban renewal

9)	Integration of science and planning	Citizen advisory committees, interdisciplinary education
10)	Tolerance/respect	Education, "good" parenting
11)	Shifting growth paradigm	Goods reflect true cost, tax laws (global to local)
12)	Human population and ecological carrying capacity	Education, family planning, scientific discourse/public discourse

Reduction of themes and prioritization:

1st: Biodiversity restoration
2nd: Land Ethic
3rd: Bioregional land use planning + Integration of science and planning
4th: Integration of science and planning
5th: Sustainable resource use
6th: Cooperative governance

Unresolved issues:

-role of management/wilderness/wilderness
-native biodiversity (temporal scale?)

Theme for group 1: Biodiversity restoration

List of current initiatives:

<u>Group 2</u>

1) Human population growth stable
e.g. No permit/limit needed to climb Mt. Katahdin

2) Ecological considerations are part of everyday life
e.g., green living a fact of life

3) Land management greatly improved
e.g., sustained yield, green certified

4) Food chain integrity top to bottom/ecosystem health
e.g., wolves doing fine, no health advisories

5) Full quality employment
e.g., no crime

6) Social equity
e.g., no crime

7) No land use restrictions
e.g., no postings, no lawsuits

Ecological

- Great
- Groovy; all biologists fully employed, land management excellent
- Clean air, sustainable forest management, species restoration
- Prominent, primary role; full public oversight
- Both science and traditional knowledge used to gather knowledge; use adaptive management/integrate public participation and oversight
- Collaborative committees of scientists, managers and citizens
- Ongoing information acquisition and exchange in combination with adaptive management

Social/Economic/legal

- Governance less responsive to special interests and big money, more responsive to citizenry (and collaborative committees); campaign reform, diverse governing bodies, remove laws that have disincentives/more with incentives and positive contributions; open government, more dialog, more, good information (information pipeline)
- Integrated, involved, responsive, more grassroots
- Support (technological and financial) – decision-making at the local level where appropriate
- Increasing quality of life of employees, enhancing loyalty to employees (and vice-versa), good neighbor to community; full quality employment
- All of them; recognize and honor diversity of opinions, values and input
- Mix – diverse; size – lower; distribution – leave it generally the same, revise on a small scale.

Major barriers

1) Individualism – me attitude; Assumption of rights
2) Lack of Education
3) Special interest
4) Existing laws
5) Excessive/conspicuous consumption/materialism
6) Resistance to change
7) Dependence on technology
8) Voter apathy

Common Ground for the Future

Common ideas/theses/goals

Human population
Sustainable resources
Healthy environment
Regulations
Biological and cultural diversity
Local control
Public vs. private
Strong economy
Cooperation/tolerance

Examples of ways to work toward them – actions

Education/information
Increased communication/networking
Increased knowledge
Change laws
Economic incentives
Vote/participation

<u>Unresolved differences:</u>

Land use regulation/lawsuits
- Forestry
- Trapping
- Hunting
- Snowmobiling
- Roads

i.e., desire for overprotection of wildlife and habitat

e.g. Massachusetts law prohibiting trapping

Impact of livestock depredation
Is human safety a factor?

Group 3

ECOLOGY

WOLVES: Viable functioning wolf packs exist across all large wildland areas throughout the Northeast; Lone dispersing wolves can readily cross forested areas and protected wildlife corridors; Wolves persist genetically and demographically.

BIODIVERSITY: Full range of native wildlife restored, along with wolves. System of connected wilderness preserves established across the Northeast.

ECOSYSTEM INTEGRITY: Clean air, clean water can be drunk from any source.

SOCIAL

WOLVES: Wolves have become a symbol of the Northeast, humans come to accept and learn to coexist with wolves; wolves become part of the landscape and are not controversial

ATTITUDES: Change relationship to land to one of respect, not exploitation
Strong Educational system where children learn to respect ecosystems

RESOURCE USE: Reduced human population and resource consumption
Transportation is primarily by foot and bike; atv's and snowmobiles go extinct

LAND STEWARDSHIP: Balance of public and private ownership of land
Balance of development, agriculture, forestry, and wilderness

GOVERNMENT: Decisions are made by the people, not corporations; big money out of politics; adequate funding for wolf and ecosystem restoration and supported by international cooperation

ECONOMIC: Prices reflect true costs, account for externalities

SCIENTIFIC: State agencies adequately funded to annually survey population of wolves

LEGAL: Wolves highly protected by landowners allowed to defend pets and livestock.

BARRIERS:

Judicious application of laws
Education of the public
Information on true costs of products, accounting for externalities
Societal recognition of value of ecosystem health and desire to protect more wilderness, corridors, etc.

Acceptance of importance of state and federal government roles, and coordination in between
Agreement on taxonomy, identity of historic species
People's reluctance to accept land use regulations
Lack of understanding about the value of preserved public land

Common Ground for the Future:

Ecological: We desire a healthy ecosystem complete with native wildlife species and natural processes, clean air and water. This would be achieved by establishing a system of wildland cores and corridors, implementing ecosystem management, and balancing the needs of wildlife and people across the landscape.

Social: We desire a future in which human impact on the land is reduced, by reducing human population, implementing sound urban planning, and prioritizing the needs of the Earth in our decision-making.

Education: We desire an ecologically literate citizenry that understands their role in nature, and practices and respect and generosity for all life.

Economic: We desire an economic system of exchange incorporating the sustainable use of resources, especially in forestry, agriculture.

Political: Involve the public in making decisions through validating all perspectives, through a holistic process and increase communication.

Unresolved Issues:

Amount of public wilderness needed in the Northeast.
Degree to which wolves need to be managed.
Taxonomic issues
Economic evaluation of the impact resulting from the wolf recovery
Degree to which wolves will be socially accepted
Bi-national cooperation with Canada.

Group 4

Ideal Future Scenario

We have a vision of a matrix of providing forest land spreading from New York through New England into the maritime provinces. This land base will provide habitat that supports a diverse wildlife community, a healthy economy, and recreational opportunities, and provide voluntary incentives for maintaining private lands as open space.

Ecology

We have maintained a habitat base that provides the potential for maintaining an ecological community that includes large predators, including wolves. We hope to retain the species that were present in the northern forest at the turn of the century (year 2000), and will continue to provide opportunity for recovery of wolves.

Scientists will play a lead role, guided by public input, in making management recommendations to landowners and decision makers to maintain specific habitat components needed to retain biodiversity.

Social/Economic/Legal

Greater regionalization of governance, and public-private partnerships replacing regulation. Federal role in population management would decrease, but role as a coordinator of state efforts would increase. State agencies will retain lead role of governance, focused on cooperative oversight of land management with private interests.

Forest industry lands are providing the backbone of the habitat matrix, through a combination of incentives and integrated resource management.

Cultural

Society's interests in economic and resource sustainability are being honored, through retaining a balance of landowner and public needs.

Major Barriers

Potential versus Action on wolf recovery
Linear thinking
Weak minds
Compromising individual agendas to reach consensus
Individual histories provide different time-lines of reference (regressing to status in 1950s)
Thinking outside of the "status quo"

Themes Based on Plenary Presentations

Taxonomic issues
Public acceptance any proposed management actions/education
-a viable contingency plan for human-wildlife conflicts should be part of that process.
economic and ecological sustainability
maintain land base and habitat potential for desired species
Regional approach
Improved governance: flexibility, ecological awareness, integrated resource management with incentives across all ownership; Partnership vs. regulation
Actions fed by science and monitoring

Unresolved Issues within our working group

-Fundamental Opposition to Reintroduction (1), versus Wait for Action Until Taxonomic Issues are Resolved (1), versus wait until Taxonomic Issues and Public Acceptance (2), more information on taxonomy, niche relationships, and need public acceptance (1),

Action Items

Taxonomy
- Integrated, regional studies involving collaboration combining morphologic and genetic analyses.
  - Behavioral studies
  - pen studies
  - free ranging, including questions on coyote vs. wolf depredation
- Generate consensus report in 5 years (2005)

Niche questions
- Historical niche and distribution
- Niche of current coyote/hybrid compared to historical niche.
- Potential for hybridization and canid exclusion.

Public Acceptance
- Contingency plan to deal with human-wildlife conflicts is needed.
  - Education
  - Compensation
  - Verification
  - Mitigation guidelines
- Systematic dissemination of Science (Taxonomic and Niche) to the public and decision makers.

Identify habitat requirements and potential impacts on current land uses (to the public)

Identify potential impacts on recreation (hunting, snowmobiling, etc)

Develop public participation process.

Group 5

Radio skit

WOLF (Jody): Welcome to WOLF. We are here today to discuss the new Shire that has just been formed, the Acadian Forest Shire. (A map of the new Shire is shown around the room.)

You can see- N. Urban dump Shire and our new Shire.

Our first guest is newly elected governor of the Acadian Forest Shire, Chief Joseph. Chief Joseph, what is your vision for the future in this newly-formed Shire?

CHIEF JOSEPH: My vision is to have a new Nation – "Acadian Forest Shire". This nation will have boundaries based on rivers, forests, and mountains – boundaries the wolves, caribou, and lynx have known for millions of sunsets. We formed this new nation because my people are as diverse as the rich biological landscape from which we derive our living. In order to facilitate the sustained use of our natural resources, from this day forward, Chief Joseph will double funds every 5 years to continue our innovative Educational System to teach our young people to live in harmony with our proud new Nation. My top education priority is the emphasis on population control. Only 1 child per family will be permitted. To ensure that children learn to play and interact with one another, as Governor, I'm insisting that houses must be clustered in designated regions of the Nation. This will preserve more wild areas while reducing the drain on our ability to provide services – busing, fire protection, etc.

WOLF (Jody): Thank you Chief Joseph. Let's hear more on the educational process and move to our next guest. Professor Jim is a world-renowned educator and a leader in the field of NR Education. Welcome, Professor Jim.

What role did education play to help make this radical transformation and what is the continuing role of education in this new Shire?

PROFESSOR JIM: Twenty years ago a commitment was made to promote the development of a natural resource ethic in education from kindergarten to college. We started with summer institutes and college for teachers in which we promoted learning about science and management of natural resources and in depth discussions of human roles and ethics (the Leopold ethic). Chief Joseph has endorsed this approach and promises continued support.

WOLF (Jody): Thank you for your continued insight. I'd like to move to our celebrity. We are honored to have a biologist with us today, for many of our viewers, he needs no introduction.

To what do you attribute your new celebrity status?

WALLY: Ever since our environmental education programs started 20 years ago, people really began to appreciate the work that wildlife biologists do. Today, as you know, Leopold's land ethic is a household word and everyone lives by these principles. With this kind of attention to natural systems, people can't help being enamored with wildlife biologists.

WOLF (Jody): How has this new public attitude affected your new job or life?

WALLY: I can't begin to tell you how this has affected my life. After almost an entire career of living below the poverty line, I finally am reaping the rewards. I finally have a fishing boat and drive a new solar power flying pick-up. In short, money is no longer an issue. Job wise, there is much less controversy over predator issues. Would you believe it? For the first time in 50 years, there is no coyote snaring any where in the Shire.

WOLF (Jody): How has the new political boundary affected wildlife?

WALLY: Good question, Jody. Let me just use the eastern coywolf (*Canis soupus*) as an example.

With the new boundaries, we now have free movement between the former jurisdictions of NY, Maine, Quebec, and New Brunswick. This has allowed the coywolf population to expand to twice the level it was when these jurisdictions were fragmented. There is also freer gene flow, which allows natural evolutionary processes to occur. I'll be the first to admit some people are a little worried about the sharp decline in the deer population, but as you know, in our society, we accept extinction as long as it is a part of a natural process.

WOLF (Jody): Thank you for your valuable time. We next have a farmer from the Shire… Dick, How has his event influenced your farming activities?

Dick: Our local organization of landowners and managers has incorporated the needs of all wildlife in our farming and land use practices. We recommend the planting of excess crops for the wildlife, as well as leaving some of the land fallow. We are communicating with the wildlife biologists in the new Shire to implement these changes.

WOLF (Jody): Thank you. Our last guest is from the Acadian Forest Tree Inc. How will this affect the management of your corporation?

WE DON'T HAVE THE PIECE FROM THE CORPORATE PERSON…

WOLF (Jody): That's all we have time for. I want to thank the guests. I for one am looking forward to the New Future as a citizen of the Akadian Forest Shire.

END

Group 6

Vision of an Ideal Social, Economic and Ecological Future For The Northeast Region.

1. Ecology /Wildlife /wolves
coexistence - well distributed wolves
a functional, working landscape
viable source population in southern Canada
working forest with a full compliment of native species
an area along the St. Lawrence providing the opportunity to support human +/- wolves
natural bridge across the St. Lawrence has taken place (biblical proportions)
natural top predator
natural processes/ patterns in place
recreational opportunity in place
an independent functioning wildlife management agency
a clear understanding of canine genetics
cooperation and better communication between all stakeholders
increase in environmental awareness of the public
non- controlling wildlife agency that is more supported in role
full tolerance of predators
high quality of life for wolves
a green economic balance base in place
adequate incentives for private landowners to maintain suitable wildlife habitats across a functional landscape
no monetary burden on landowners
sharing of benefits from corporation of resources from public land
a greater understanding of a loving, giving universe that gives us all we need
a reduction of urban sprawl and a move back to the village center
a stable human population

Un monde ideal pour le Nord-Est

It's a pretty good zoo, and still quite new, and the people who run it are proud of it too. But if I ran the zoo, said the loup, I would make a few changes that's what I would do, I would run wild and free, unpersecuted by any agency,

We wolves have the woods and abundant prey, with an understanding public that let's us have our way
En attendant le jour ou je serai de retour, dans la foret ma presence dependra de votre tolerance,
My existence and cost to the landowners are lost, they welcome us here and toast us with deer.
Southern Canada has wolves galore, and the path to the northeast is along the shore,
A natural occurrence has eliminated the fence and created a bridge over the St. Lawrence,
Canids will be what we want to be and we won't be preoccupied by taxonomy.
Did we come from the north, did we come from the east, who knows where we came from, we live here in peace.
Villages are where people will be, their numbers have stabilized for once finally.

People have changed the use of the zoo, they live it and love it without abuse too.
Business and recreation are what they should be, in between corridors of connectivity.
The people who study are still the gurus, but for all their insight they still pick-up poos.
The loving universe has given us all that humans need, understanding, cooperation and lack of greed.
It may not have bars buts its under the stars, its green, healthy and very large. Its full of bears, wolves and moose, just like a zoo, but most importantly people live here too.
We now live in a place fit for man and beast, the land of our dreams - the Woodsy Northeast.
We don't want to be tourist, but we need to disperse before you stone us for reciting this verse and before you take us away in a hearse.

Themes

Common Ground for the Future - Group Tasks

a. 1.providing for functional landscape and ecosystem characterized by the presence of top predator e.g. Native plants and wildlife species

2. human acceptance of coexistence with wolves- changing of attitudes

3. private lands issues

4. cooperation and coordination among agencies and public need to work across jurisdictions

5.education to entire public - ecological conscience/land ethic

b. Ways to work toward future goals

Providing for functional landscape and ecosystem characterized by the presence of top predator.

- education & involvement of landowners with other shareholders in land planning
- peer pressure -teach by example
- cooperative agreements

Human acceptance of coexistence

- more educated public about wolves
- assure public wolves will not be a burden

- share examples of areas that co-existence of prospective of all shareholders

Private lands issue

private/corporate/native american/ngos

- use other strategies before regulations
- separate strategies for corp vs. small landowners
- monetary incentives for private landowners to increase biodiversity

-cooperative agreement

Education of ecological conscience/land ethic

- dissemination of information to landowners
- teaching natural systems in elementary/secondary schools

Unresolved - TAXONOMY

- natural recovery

Wolves in the Northeast?

A Workshop to Exchange Views

Linnell Motel
Rumford, Maine
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Section 5
Workshop Presentations

Presentations during Workshop

Genetics and Taxonomy of NE Wolves, Paul Wilson: Genetic evidence supports a close genetic relationship between the eastern Canadian wolf and the red wolf. Furthermore, the evolutionary history of these wolves is independent of the gray wolf, *Canis lupus*, and supports a divergence between 150,000-300,000 years ago from coyotes, *C. latrans*. The eastern Canadian wolf/red wolf has been proposed for re-classification to *C. lycaon* based on earlier taxonomic classification. These findings indicate the presence of three modern North American *Canis* species: coyotes (*C. latrans*), gray wolves (C. *lupus*) and the eastern timber wolf (*C. lycaon*). There is no evidence of significant natural interbreeding between the gray wolf and coyote while there is genetic evidence that *C. lycaon* can hybridize with both coyotes and gray wolves. Four *Canis* types have been genetically characterized in Ontario: the Algonquin-type wolf representative of C. lycaon; the "Tweed wolf" similar to the eastern coyote and representative of C. latrans x lycaon; a *C. lycaon* x *lupus* canid in northeastern and northwestern Ontario; and *C. lupus* in the boreal regions of the province. The Tweed wolf/eastern coyote extends from southern Ontario into New York, New Brunswick and presumably southern Quebec, Maine and other New England states. The *C. lycaon* x *lupus* type extends from the upper Great Lakes region in Ontario, into Manitoba, Quebec and potentially into Minnesota, Michigan and Wisconsin. More specific to the northeastern US states, the following describes the historic *Canis* type, prior to extirpation, and the existing canis within the northeast. Historic hide samples from the 1800s, predating the arrival of coyotes to the region, from the Adirondacks, NY and Penobscot County, Maine originated from C. lycaon eastern wolves and not *C. lupus*. The existing canid type is the eastern coyote (*C. latrans* x *lycaon*) – a larger version of its western counterpart – that contains genetic material from the eastern wolf. These results have potential implications on the type of wolf that may be recommended for recovery efforts in the northeastern US.

Potential for reintroduction in the Adirondacks, Paul Paquet: As reported, ecological conditions in the Adirondacks dictate against a successful reintroduction of gray wolves. A small population might exist for 50 years. However, we should not confuse existence with persistence. The latter implies perpetuity, which we believe is the unstated objective of most reintroductions. Even if conditions were correct for the establishment of wolves, the issue of which canid species originally occupied the Adirondack Park is unresolved. Recent evidence strongly suggests that red wolves were endemic and the current dominant canid is a coyote hybrid. We believe that if gray wolves were never present, or existed only in low numbers, or as occasional visitors, then introduction of the species would be inappropriate. From an ecological perspective the functional niche of a summit predator may be more important than which species fills the role. At present, that trophic position is putatively occupied by a hybrid canid.

Red wolf recovery program, Michael Morse: The red wolf (*C. rufus*) was considered extinct in the wild. The USFWS captured the remaining red wolves from E. Texas and Western Louisiana in the 1970s. Captive breeding programs started to increase the number of wolves in existence. The release of captive-born wolves into the wild in North Carolina began in the late 1980s. The present status is that there are about 100 wolves in the wild (all wildborn), of which 63 are radio-collared. A PHVA was conducted in April 1999. Hybridization with coyotes was considered the primary threat. An Adaptive Management Plan was developed after the PHVA with the strategy of capturing coyotes in North Carolina, conducting surgical sterilization and re-releasing the animals in an effort to reduce or stop the flow of coyote genes into the free-ranging red wolf population. There is a 3-5 year evaluation period now ongoing to assess the success of the coyote sterilization plan. One point pertinent to the NE wolf recovery issue is that no land use restrictions were placed on private landowners throughout the entire red wolf recovery program.

Wolf recovery in Wisconsin, Adrian Wydeven: Wolves disappeared from Wisconsin in the 1950s due to intense human exploitation. Wolves returned to Wisconsin in the mid-1970s and were listed as endangered by the state in 1975. In 1989, the Wisconsin DNR developed a wolf recovery plan that recommended downlisting to threatened once wolves remained above 80 wolves for 3 years. The state wolf population has been monitored by radiotelemetry, snowtrack surveys, and howl surveys since 1979. The wolf population declined from 21-27 in the early 1980s to 15 in 1985 when parvovirus hit. From 1985 to 2000, the wolf population grew from 15 wolves to 250 wolves. In 1999, wolves were downlisted from endangered to threatened by state status. A new wolf management plan established in 1999 set 250 wolves outside Indian Reservations as the level for delisting, and 350 wolves as a long-term management goal. Long-term management would include zone management for wolves, cooperative habitat management, depredation control and reimbursement, providing education on wolves, regulating wolf-dog hybrids, and volunteer programs. The wolf population in 2000 consisted of 66 packs occupying 20 Wisconsin counties and included 239-249 wolves outside of Indian reservations (statewide population is 249-259). For information on the potential for wolf recovery in the NE via dispersal from SE Canada, see p. 177 in the Briefing Book.

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Section 6
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Section 7
Workshop Invitation and Invitation List

Insert Workshop Invitation here

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