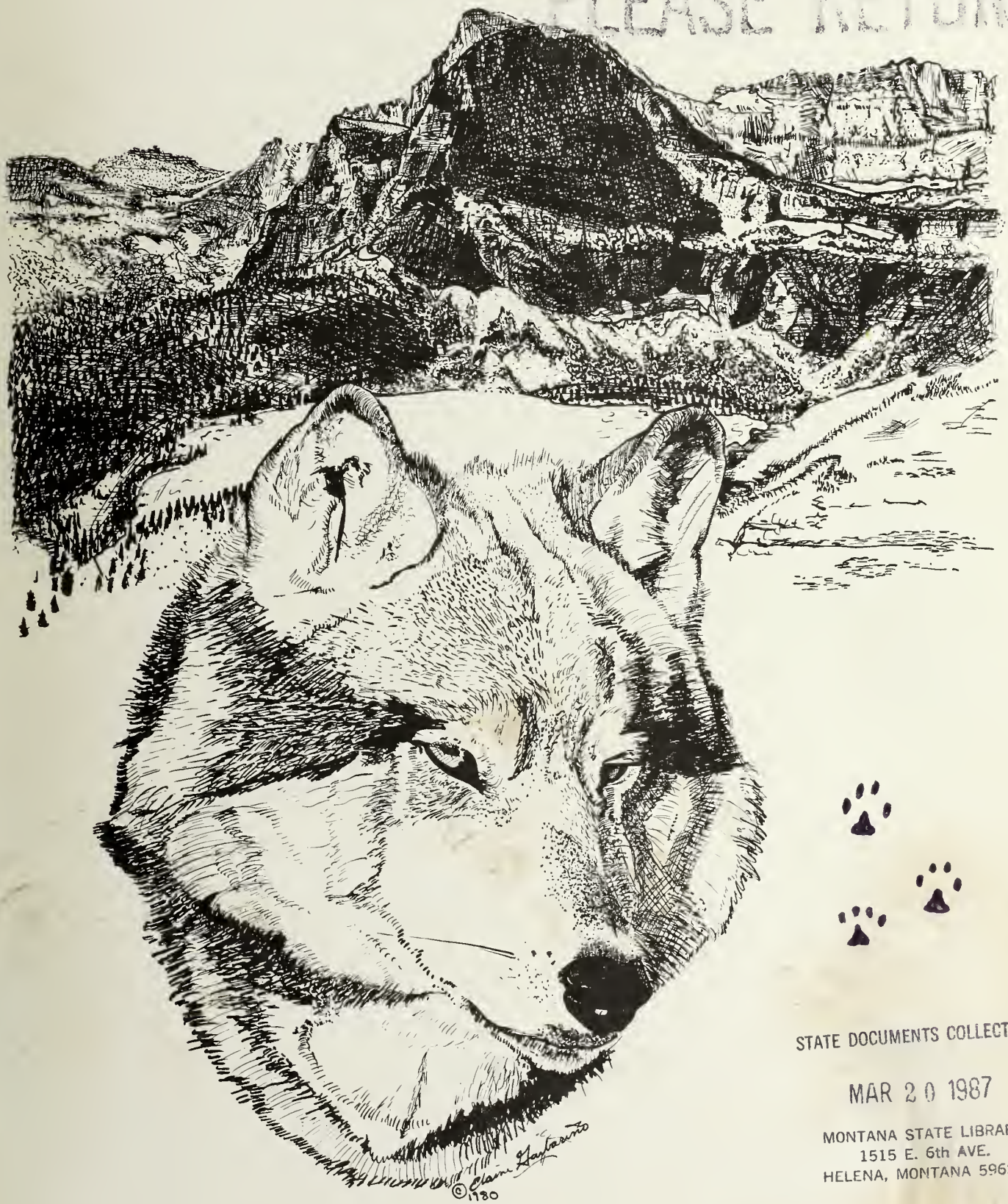
Northern Rocky Mountain Wolf Recovery Plan



NORTHERN ROCKY MOUNTAIN WOLF

RECOVERY PLAN

Prepared by the
Northern Rocky Mountain Wolf Recovery Team

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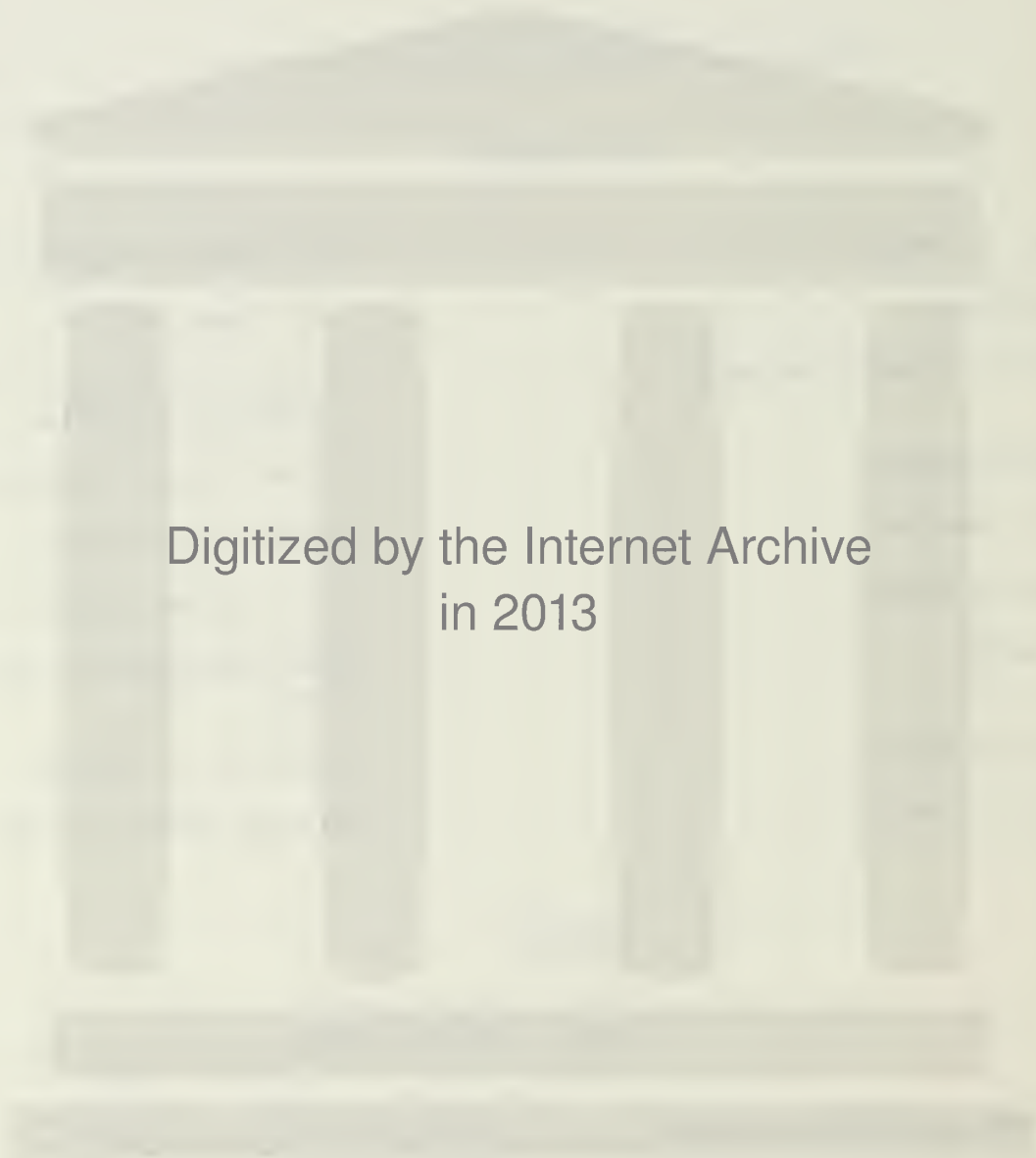
APPROVED

Date May 28, 1980

U.S. Fish and Wildlife Service

Acting Director



This is the completed Northern Rocky Mountain wolf recovery plan. It has been approved by the U.S. Fish and Wildlife Service. It does not necessarily represent official positions or approvals of cooperating agencies and it does not necessarily represent the views of all recovery team members, who played the key role in preparing this plan. This plan is subject to modification as dictated by new findings and changes in species status and completion of tasks assigned in the plan. Goals and objectives will be attained and funds expended contingent upon appropriations, priorities, and other budgetary constraints.

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PREFACE

The Northern Rocky Mountain Wolf (NRMW) Recovery Plan proposes and outlines the steps necessary for the re-establishment and maintenance of viable populations in portions of its former range where feasible. The protection of the scattered remnants, and the mechanisms necessary to resolve conflict situations are of paramount importance to attain this goal. Taxonomic questions will have to be settled prior to specific plans for re-establishment by re-introduction. Identification of essential habitat and species requirements needs further investigation. For these reasons the plan is general in scope and does not discuss specific re-establishment areas. The reality is that there will be few places where viable wolf populations can be re-established and maintained within the former range of NRMW.

The recovery team has addressed itself only to the situation in the contiguous United States, recognizing that there are wolves across the border in Canada adjacent to some of the areas we discuss. The plan is intended to provide direction and coordination for efforts toward recovery of at least two viable NRMW populations in the lower 48 states.

Since the Act clearly provides an avenue for state leadership in endangered species recovery, we have retained state responsibility for a majority of plan items. Each agency may accept or reject its recommended duties in wolf recovery. Should a given agency reject a recommended duty, we would revise responsibility assignments accordingly.

We wish to express our particular appreciation to John Weaver, not only for use of his study results, but for his considerable contribution as an observer at team meetings. We also appreciate the participation of Glen Cole, Dick Norell, Bill Cook, Joe Helle, L. D. Mech, and others.

PART I

INTRODUCTION

The Northern Rocky Mountain wolf (*Canis lupus irremotus*) is one of 32 subspecies or geographic races of the gray wolf occurring around the world (Mech 1970), 24 of which originally inhabited North America (Hall and Kelson 1959). Although there is a trend among taxonomists to recoginize fewer subspecies of wolves, the Northern Rocky Mountain wolf is still considered a distinct subspecies by the U.S. Fish and Wildlife Service (1973).

The Northern Rocky Mountain wolf (NRMW) occurred historically throughout the eastern third of Washington and Oregon, all of Idaho, all but the northeastern third of Montana, the northern two-thirds of Wyoming, the Black Hills of South Dakota, the southern third of Alberta and the southeast corner of British Columbia (Fig. 1). Presently (Fig. 2), its range has been greatly reduced to scattered sightings centered in western Montana, and northwestern Wyoming. In 1973 the Northern Rocky Mountain wolf was listed by the U.S. Secretary of Interior as an endangered species. In 1978 the entire species was listed as endangered throughout the lower 48 states (except Minnesota) and Mexico. However, this plan only deals with the subspecies *irremotus*. Wolves have been protected in Montana since 1975, and in Idaho since 1977. Wyoming currently (1978) classifies wolves as predators, although the Endangered Species Act protects them notwithstanding state law.

Historical Range

During the latter half of the 19th century, buffalo hunters, settlers, and others decimated the herds of buffalo and other ungulates that roamed this area and were prey for wolves. Concurrent with the decline in native ungulates was an increase in numbers of domestic livestock. This shift

occurred very rapidly and it was not surprising then that wolves turned to alternate prey, thereby coming in direct conflict with man. Some "buffalo hunters" became "wolfers," bounties were initiated by local governments and ranchers, and the federal government hired professional trappers. Some wolves became notorious livestock killers (Curnow 1969) and large bounties were offered for their capture. These wolves, by becoming accustomed to domestic stock as their prey, created fear and hatred against all wolves.

Wolves inhabited the Yellowstone area in unknown but seemingly low densities during the latter 1800's but were subject to early exploitation (1870's) and later control (1914-1926) triggered by a noticeable population increase in northeast Yellowstone about 1912. During 1914-1926, a minimum of 136 wolves, including about 80 pups, were killed. Post-whelping populations of 30-40 wolves may have occurred around 1920. After wolf control within the Park ceased (1926), 35 "probable" reports involving 58 large canids were recorded 1927-1966. Observations of singles or pairs constituted 83 percent of the reports, most of which came from the northeast and northwest areas of the Park. Resident wolf packs did not persist after the 1930's (Weaver 1978). Glacier National Park was created in 1910, but active predator control programs, including strychnine poisoning, occurred until the early 1930's (Singer 1975a).

Records of wolves taken by government trappers in this region have been extracted from U. S. Fish and Wildlife Service files and examined. Apparently, through 1926, wolves were taken regularly and in fair numbers, but in the past 50 years only occasional individuals have been taken. The peak of control efforts, particularly with strychnine, occurred in

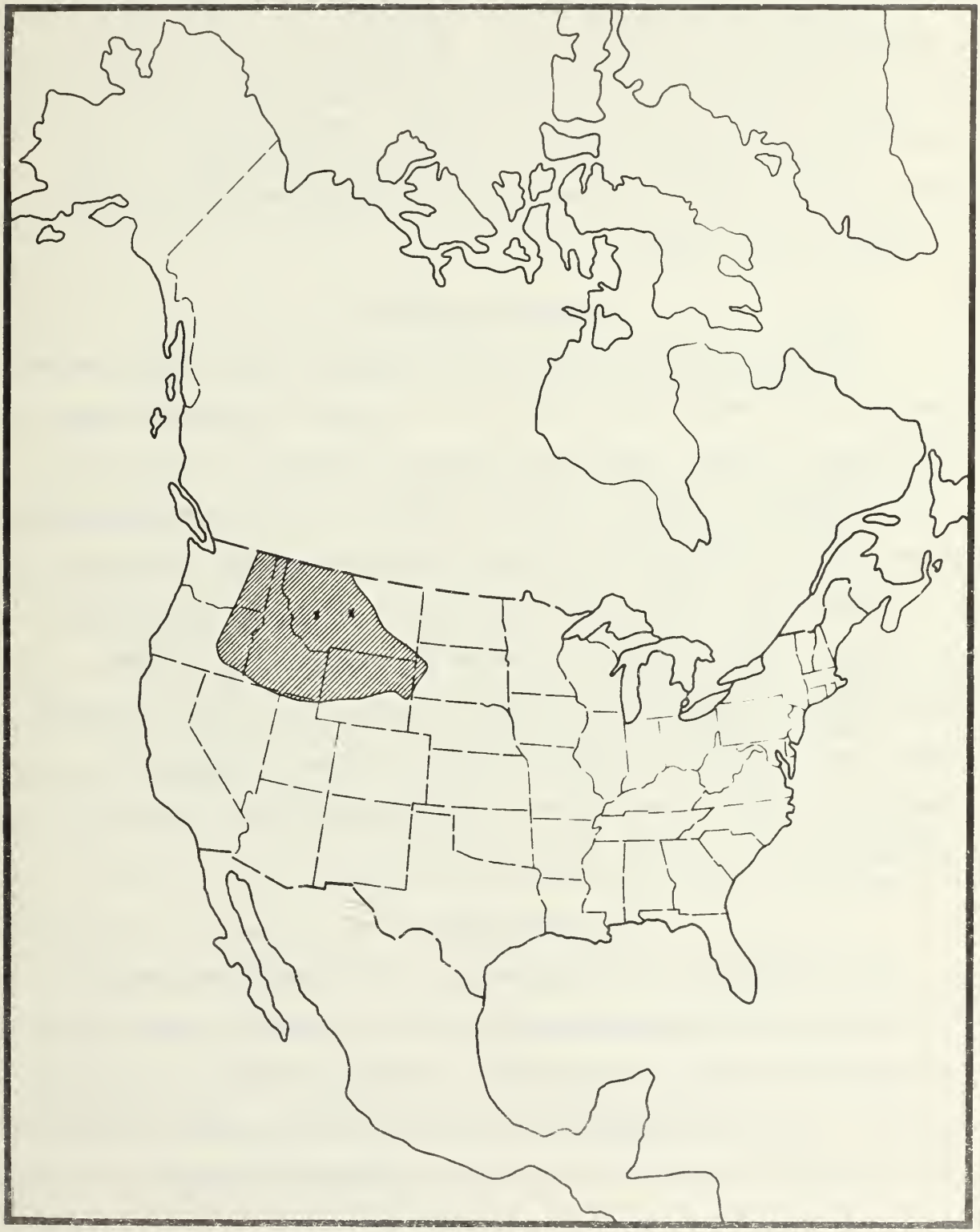

Figure 1. Historical distribution of the northern rocky mountain wolf (*Canis lupus irremotus*) in the United States.

the early 20's in national parks, national forests, and other lands throughout the Rocky Mountain region. Although wolf populations were apparently decimated, it is important to note that individuals have been taken occasionally in the past 50 years. Aulerich (1964) stated that any wolves left in the western states probably inhabit wild areas of large national forests.

Reasons for Decline

According to Young and Goldman (1944) and Mech (1970) the population decline of the eastern timber wolf was a result of: 1) intensive human settlement, 2) direct conflict with domestic livestock, 3) a lack of understanding the animal's ecology and habits, 4) fears and superstitions about wolves, and 5) the extreme control programs designed to eradicate it. These factors seem to have been cause for decline in all the wolf populations within the United States and are applicable to the NRMW. Threatened wildlife of the United States (USFWS 1973) lists land development, loss of habitat, poisoning, trapping, hunting, and the wolf's inability to adapt to most of man's development activities as reasons for decline of the Northern Rocky Mountain wolf.

Current Status

The recovery team has functioned as a central gathering place for information on the current status of the NRMW. We have not conducted studies but have used extensively the information provided by two studies generated by team participants. We have also drawn on reports collected and evaluated by personnel of participating groups and agencies.

Several recent studies have been very helpful. Singer (1975a+b) working in and around Glacier National Park and Vining (1975) working in northwestern Wyoming attempted to document wolf occurrence in their study areas. Carbyn (1974) made a valuable recent study in Jasper National Park, which is considerably north of indicated NRMW range but somewhat similar ecologically. Weaver (1978) collected data in and around Yellowstone National Park from 1975 to 1977. Day (1977) reports on observations collected in Montana by the Wolf Ecology Project, University of Montana from 1972 through 1976; 1977 progress on this project is reported by Ream, Harris and Mattson (1977).

Two studies in particular have provided much of the current information: the Wolf Ecology Project and the Weaver survey. Participants in these studies, together with the team, developed standard observation forms for use in recording field data and interviewing observers. One form (Appendix 1) was used for wolf sightings and the other (Appendix 2) for wolf sign observations. Numerous local residents, outfitters, hunters, backpackers, trappers, loggers, and agency personnel were contacted. Since almost nothing was known about wolves in the Northern Rocky Mountains prior to this work, this appeared to be the best way to obtain preliminary information on this rare and elusive animal. Day (1977) discusses the biases inherent in this approach and the limitations of using observations provided by others. Criteria used to determine acceptance of a report included experience and reliability of the observer, circumstances of the observation, and description of the animal and/or sign which would distinguish it from other animals.

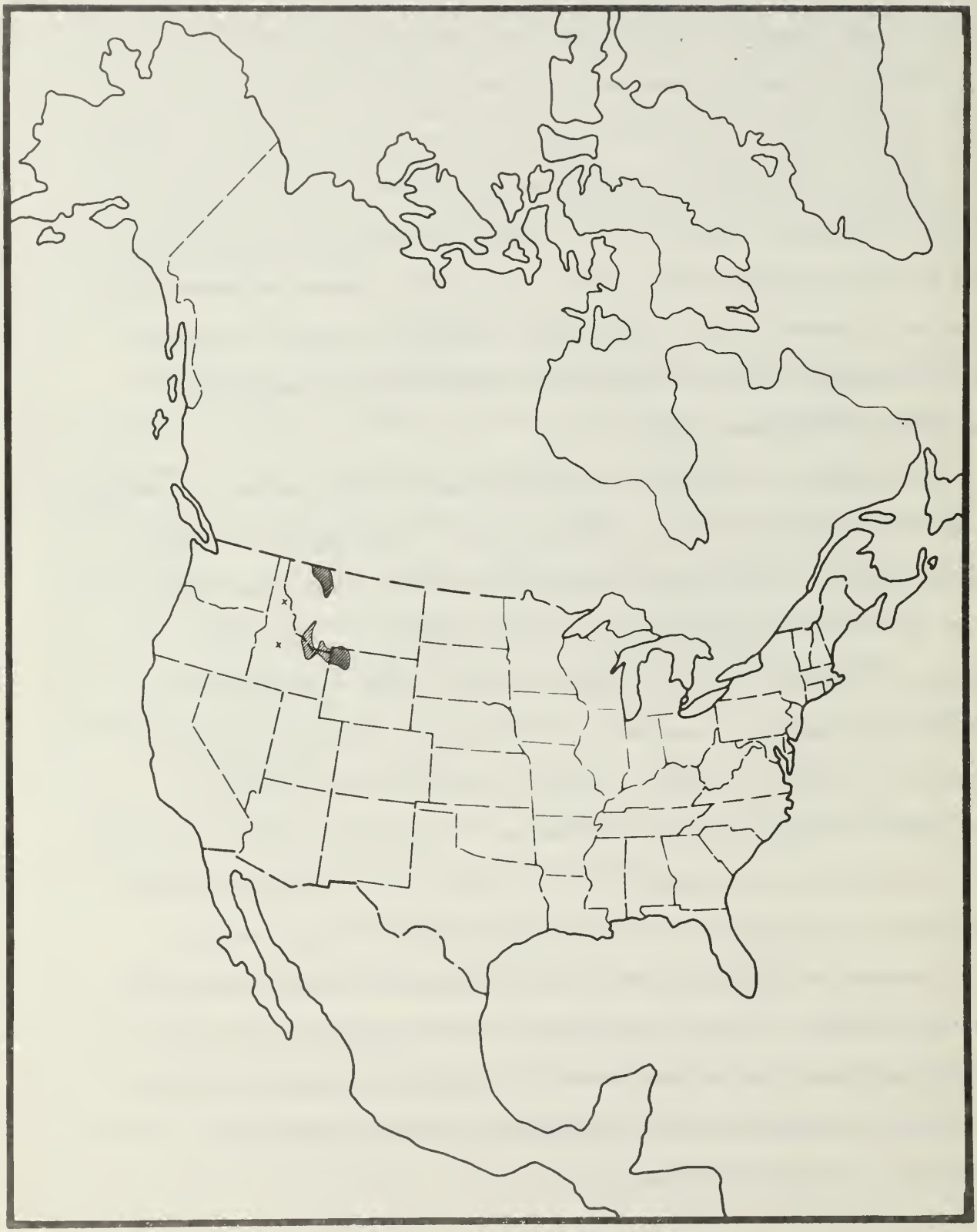

Figure 2. Current approximate distribution of the northern rocky mountain wolf (*Canis lupus irremotus)* in the United States.

Despite the biases and limitations, wolf observations have been made regularly in certain areas by well-qualified individuals. Some areas regularly produce reports which correspond in terms of color and number of animals involved. The reports cannot be used to determine true distribution and actual numbers of wolves in the northern Rockies, but, if used carefully, they can be used to give indications of areas where wolf occurrence is most likely.

Montana Status

The Wolf Ecology Project has collected 315 good or probable wolf reports and rejected an additional 109 as questionable but possible. Day (1977) analyzed 278 of the 315 good reports, most of which were made since 1967, and found a strong bimodal distribution from north to south in Montana. The wolf range shown on Figure 2 in northwestern Montana contains 190 of the reports while the areas in southwestern Montana contain 84 reports and only 4 occurred in the intervening 144Km. (90 miles). Included in the 278 reports analyzed are 5 reports of wolves killed in northwestern Montana, 3 of which were verified by taxonomists after examining cleaned skulls.

Single animals were reported for 71 percent of the observation reports, while pairs made up 18 percent of the reports, and groups of 3 made up 4 percent. Rausch (1967) speculated that pack size in wolves may be a measure of abundance — the larger the observed pack size, the more abundant wolves are. The high percentage of lone wolves involved in reports collected here would indicate a low population.

Colors of wolves reported in this study ranged from black to white with gray being most common (41%), dark gray or black (37%), and light gray to white (23%). The northern set of townships shows a higher occurrence (41%) of dark gray or black wolves suggesting intergradation with Canadian wolves.

Singer (1975a+b) and Kaley (1976) collected 130 additional reports of wolf observations for Glacier National Park and vicinity beginning in 1910. Singer (1975a) suggests 5 to 10 wolves present in the area in most recent years. For all sightings since 1910 he reports 63 percent lone wolves and 22 percent pairs. Black wolves comprised 25 percent of the reports.

Yellowstone National Park and Vicinity

During 1967-1977, 81 "probable" reports of 109 large canids were received, with 60 (74%) of these occurring from 1968-1971 (Weaver 1977). Singles or pairs comprised 91 percent of these observations. Sightings were clustered in four areas: northeast section of the Park, Hayden Valley, the northwest portion of the Park, and near Sunlight Basin. Up to ten of these canids may have been present around 1970. Vining (1975) and Weaver (1978) reported recent evidence near Sunlight Basin. Large canids have also been reported from the Bridger-Teton National Forest in northwestern Wyoming (George Gruell, pers. comm.).

Idaho Status

Information from Idaho has been sparse until recently. Reports from the Centennial and Tendoy Mountains adjacent to Idaho were analyzed by Day (1977). Reports adjacent to Yellowstone National Park were included in Weaver's (1978) analysis. Reports from northern Idaho and the Idaho Primitive Area have been very scattered and few in numbers.

Beginning in late 1976 several reports of wolves have been received from the Clearwater National Forest. Additionally, several reports have come in from central Idaho during 1978. A wolf was killed October 11, 1978 in Bear Valley.

Habitat Requirements

Historically the wolf utilized various habitats across a rather broad spectrum of types. These had two specifics in common: an abundance of natural prey, and, more recently, minimal conflict with human interest, especially livestock. Present and future requirements then undoubtedly entail a large area or areas of public lands which would provide year round for the above two essentials. Only thus could a core population survive over time. Specifics of den sites, population units, pack size, number of packs, rendezvous areas, etc. would be a function of the specific geographic units involved.

The Recovery Plan outlines various considerations pertinent to re-introduction of wolves into the wild. Klinghammer (1979) includes a variety of specific topics appropriate to problems encountered in re-introduction.

Summary

The present existence of wolves in the known historical distribution of the Northern Rocky Mountain wolf is documented but tenuous. Sustained pack activity is not documented.

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PART II

A PLAN FOR THE RECOVERY OF THE NORTHERN ROCKY MOUNTAIN WOLF
(Canis lupus irremotus)

Primary objective: To reclassify *Canis lupus irremotus* to threatened status by re-establishing and maintaining at least two populations within its former range.

1. Determine the status and distribution of the Northern Rocky Mountain Wolf. In order to procede with management efforts, it is essential to obtain a clear understanding of where and under what conditions wolves currently occur in the Northern Rockies. A knowledge of wolf distribution is essential to development of long range plans.

   11. Monitor the legal status of the NRMW as provided in the Endangered Species Act of 1973 (P.L. 93-205) and appropriate state laws.

      111. Determine and publicize legal protection of wolves in and adjacent to the former range of C.l. *irremotus*. Only a small segment of the public is aware of the endangered status of the NRMW. A concerted effort must be made to inform the public that wolves are fully protected by federal law.

      112. Identify states or other political subdivisions where wolves are classed as predators or other non-protected categories.

         112-1. Notify appropriate officials concerning P.L. 93-205 and its legal implications.

         112-2. Encourage states to enact wolf management measures. Full cooperation by the states is essential to success of recovery efforts. As such, states must assume an active role in wolf management and recovery efforts.

   12. Clarify taxonomic status of the NRMW. Hall and Kelson (1959) list twenty-four subspecies of *Canis lupus* for North America. It is generally conceded that no modern taxonomist would consider all subspecies valid. A clarification of the taxonomic status of *irremotus* would simplify management planning.

      121. Summarize existing information on wolf taxonomy based on a review of available literature.

      122. Determine validity of existing taxonomic classification of wolves.

         122-1. Request assistance of recognized authorities to help clarify wolf taxonomy in and adjacent to historical range of NRMW.

122-2. Examine any available wolf skulls from in and around the former range of C.l. *irremotus* which have not been checked previously for taxonomic identification.

123. Have taxonomic experts continually evaluate and update classification of wolves based on new or additional information.

123-1. Obtain the skull and other important body measurements on as many known future wolf mortalities as is possible within or adjacent to the former range of the NRMW.

123-2. Compare skull measurements and other data collected on other subspecies or geographic races of wolves with those of the NRMW.

13. Determine historical distribution and relative abundance of the NRMW. A compilation of such information will provide a reference point against which present distribution and abundance may be contrasted. Such a reference point will also be useful in assessing the degree of success in recovery efforts.

131. Summarize existing information based on a thorough review of available literature.

132. Obtain information on former occurrence and number of NRMW from Federal and State Agencies with wildlife responsibilities.

132-1. Compile data from old files, unpublished reports, etc.

132-2. Collect unrecorded information from long-time employees, including those now retired.

133. Request historical information on the NRMW from interested organized groups and individuals.

133-1. Enter into cooperative program with qualified individuals and groups to obtain and compile data on former occurrence and abundance of the NRMW.

133-2. Interview old timers --- trappers, ranchers, miners, etc., for unrecorded information on the NRMW.

14. Determine present distribution and population level of the NRMW. Knowledge of present distribution will serve to point out areas where management and research activities should be concentrated. Current population levels are believed to be extremely low.

141. Devise a systematic approach for compiling observations and other data on the NRMW.
Most information compiled on the NRMW so far has been disorganized and scattered. Only recently has a standard reporting form been developed and distributed. Data compilation needs to be further standardized.

141-1. Encourage Federal and State land management agencies to use standard reporting procedures for NRMW observations.

141-11. Devise standard procedures.
Standard report forms have been developed.

141-12. Distribute standard observation procedures to concerned agencies.

141-2. Make standard procedures for NRMW observations available to interested organized groups and individuals, and encourage their participation in reporting reliable observations.

141-3. Ask each National Forest, National Park, BLM District, etc., to designate and train a qualified person to check and evaluate wolf reports.

142. Implement studies to better determine existence and distribution of individual packs or populations of the NRMW. Conduct extensive surveys in areas where wolves may occur.
The existence and distribution of wolves must be clarified through intensive field efforts. The compilation of wolf reports is helpful, but inadequate since they usually are a "side effect" of other activities.

142-1. Conduct aerial surveys.

142-2. Conduct ground surveys.

142-3. Conduct ground searches on winter game ranges.

2. Insure perpetuation of the Northern Rocky Mountain Wolf in its present range.
This plan segment outlines the basic management scheme for existing wolf populations. Basic to this segment are the protection of wolves and protection of the habitat which supports them.

21. Minimize direct, man-caused mortality.

211. Demonstrate to the public that the NRMW is unique, natural, a part of our history, and is endangered.
Success of recovery efforts hinges, to a large degree, on the support and acceptance of plan objectives by the public. A strong information and education effort is necessary if public support is to be obtained. It is recognized that not all segments of the public will support the concept of wolf recovery. Opposition can be reduced, however, by pointing out plan objectives (i.e. 214) which are aimed at keeping wolf management and recovery in proper perspective.

211-1. Publish technical data available on wolf ecology, current status, and history.

211-2. Produce and distribute movies, TV programs, slide series and popular literature on the realities of wolf ecology and management.

211-3. Explain to interested groups and organizations the facts of wolf ecology and management.

211-4. Keep the public informed on recovery efforts and progress.

212. Educate the public concerning the legal implications of P.L. 93-205 and appropriate state laws.
Few people are truly aware of the Endangered Species Act and its provisions. Here, again, information and education efforts are necessary.

213. Provide concerted law enforcement effort.

214. Make provisions for minimizing or resolving conflicts between wolf recovery objectives and man (including livestock).
The wolf is a highly mobile carnivore that cannot be restricted to Federal lands. While on Federal lands recovery objectives may be offered varying degrees of encouragement; from total in national parks to partial on Forest Service and Bureau of Land Management grazing allotments. On private land and on state grazing leases recovery objectives would in many cases be granted little or no encouragement. It would be the responsibility of involved agencies to be prepared to minimize or mitigate wolf-man conflicts to the highest degree possible under the circumstances.

214-1. Assess impacts of various predator control programs on wolf recovery.
Anticipate the conflicts associated with the administration and regulation of Federal, State, County, livestock association, bounty, fur trapping and shooting, aerial hunting, and landowner forms of predator control. Well supervised and regulated programs will have less impact on the recovery effort than those that are non-supervised and unregulated.

214-2. Attempt to determine causes and impact of conflicts.
Investigate reports of wolf-man conflicts and document the varying causes and the impact on wolves or man.

214-21. Document human activities which conflict with wolf management efforts.

214-22. Determine under what conditions wolves conflict with human activities.

214-23. Assess the impact of conflicts on wolf populations and/or habitat.

214-3. Develop procedures for resolving conflicts.
The endangered status of wolves precludes control action by any lethal means. Not until the wolf is down-listed to threatened status or de-listed can a wolf be legally taken. Land administering agencies could consider alternative grazing allotment assignments in known conflict areas.

214-31. Determine feasibility of reparations for damages.
Contact Endangered Species Office, FWS, regarding the feasibility and legality of payment for wolf-incurred damages. This might well be a practical approach as the wolf population is quite low, and may be less expensive than translocation programs; and may be intermittent. Liaison with livestock industry is essential.

214-32. Develop legal means for handling depredation problems.
As the wolf increases to a viable population status, endeavor to down-list it to threatened status and develop regulations that allow for control actions where necessary.

214-33. Provide government trapping and transplanting where feasible and necessary.
Secure policy procedures that are clearcut in advance of anticipated conflicts that permit live capture and translocation. Stockpile necessary traps, nets, cages, and immobilizing equipment needed for such actions. Train key personnel in use of equipment. Secure reliable helicopter transportation for use in inaccessible areas. Obtain advance authority to release wolves from land administering agencies.

214-34. When legal, provide government control of wolves.
When down-listed to threatened or de-listed from that status, obtain authority, funding, training, and equipment to manage and/or control wolves as necessary. The failure of the Federal government and society to recognize this course of action as essential to the survival of wolves in the Northern Rockies will only serve to head it toward extinction with the technology now available.

22. Review and coordinate all management and research proposals relating to the NRMW.
It is imperative that there be no duplication of effort or agencies or groups working at cross purposes. This effort should be coordinated with 21 through 212.

221. Obtain review from qualified persons.
Continue to solicit professional and scientific cooperators in the recovery effort. Select the best qualified for review of management and research proposals.

222. Determine impact of proposed research or management actions on the NRMW.

223. Determine priority of proposal.

23. Determine environmental requirements of the NRMW and implement measures to protect or enhance those requirements.

231. Obtain accurate knowledge of wolf populations on each of the parts of the current range.
This item, sub-items under it, and item 142 would all be part of a survey study to determine the current situation, both status and numbers, for the NRMW. It should be a coordinated intensive survey for 3-4 years in all areas of occupied and suspected wolf habitat.

231-1. Estimate wolf numbers, pack sizes and population trends.

231-11. Estimate pup/adult ratios.

231-12. Estimate number of packs, pairs and loners.

231-13. Estimate litter sizes and numbers of litters.

231-2. Determine limiting factors and measure their influence on wolf populations.

232. Obtain accurate knowledge of areas occupied by wolves.
It is important, particularly in a minimally populated wolf range, to find out territory sizes, seasonal patterns of use, and relationships to prey ranges and areas of human use. This information should result from ecological studies utilizing radio tagged wolves.

232-1. Determine size of home range for packs, loners and pairs.

232-2. Determine locations of dens and other critical areas.

232-3. Determine relationship of territories to each other.

232-4. Determine relationship of territories to seasonal ranges of prey.

232-5. Determine characteristics of areas used by wolves.

232-6. Determine relationships of known wolf use areas to types of human activity taking place in or near these areas.

233. Obtain accurate knowledge of natural prey requirements of wolves and effects on prey.
Little is known about the prey requirements of the NRMW. Although some information can be predicted from other studies, none are comparable in terms of prey availability. It is assumed that the impact on prey populations is currently minimal. Much of this information can be obtained through the ecological studies suggested in item 232.

233-1. Determine prey requirements.

233-11. Determine prey composition.

233-12. Determine rate of predation.

233-13. Determine seasonal variation in predation.

233-14. Determine predatory behavior.

233-2. Determine effects on prey.

233-21. Determine structure of prey population(s).

233-22. Determine structure of kill.

234. Assemble a knowledge of environmental requirements of prey species.
Information on environmental requirements of prey and potential prey is available, and will not need to be researched further. An accumulation of this data, however, will have to be made on an area-by-area basis.

234-1. Determine carrying capacity.

234-2. Determine seasonal ranges.

234-3. Determine population trends.

235. Compare with knowledge obtained in other areas.
A knowledge of population parameters of prey species in areas where wolf predation is significant will be helpful in developing guidelines for prey management in selected recovery sites.

235-1. Literature search.

235-2. Confer with other biologists currently carrying out studies.

235-3. Maintain a literature and information file of all related information.

236. Implement measures to enhance wolf recovery.

236-1. Identify potential recovery sites.

236-2. Within the context of social, political and biological constraints, attempt to reduce the influence of factors limiting growth of wolf population.

236-3. Increase the carrying capacity of the range for wild prey species, if necessary.

236-31. Improve and/or maintain the production and composition of the habitats required by prey species.

236-32. Reduce competition between wild and domestic ungulates.

236-4. Manipulate prey populations to maximize availability of prey to wolves, if necessary.

236-41. Control total harvest of game animals.

236-42. Manipulate harvest of certain segments of prey populations (limit female harvest, etc.).

236-5. Reduce actual or potential interactions with humans in wolf range.

236-51. Avoid publicizing knowledge of areas occuppied by wolves except when deemed necessary or beneficial for wolves.

236-52. Control access to important areas.

236-53. Consider closure to public in important areas.

236-54. Consider closure or restrictions in important areas to activities which could inadvertently cause wolf losses.

24. Protect areas where environmental requirements are met.
The protection of areas within occupied or potential habitat for the NRMW which supply the environmental requirements to sustain the species is essential to their future management.

241. Promote wolf recovery objectives in the land use planning process.
Encourage appropriate land management agencies to incorporate objectives set in the recovery plan for the NRMW into their land use planning systems.

241-1. Inform land managers of existing or potential wolf range.
It will be necessary to keep land management agencies and personnel up to date on occupied and potential habitat for the NRMW as a basis for consideration in their long-range and short-term planning efforts.

241-2. Incorporate recovery objectives into plans.
Objectives set in the NRMW Recovery Plan should be incorporated into both long-range management plans and project or activity plans by the responsible land management agencies.

241-3. Eliminate or minimize conflicts between the NRMW and other land uses in the plans.
Provide the necessary management direction, or where applicable, coordinating requirements to enhance or maintain habitat for the NRMW with regard to other uses and activities prescribed in various land management plans.

241-4. Inform interested groups and organizations of land use plans that may affect the NRMW.

242. Prevent encroachment of detrimental developments or new uses in areas deemed important to the NRMW.
Areas determined to be important for the NRMW should be protected by the responsible land management agency from developments or new uses that would be incompatible with the wolf or its habitat.

242-1. Remind public land managers of their responsibilities under the Endangered Species Act.
Keep appropriate personnel of land management agencies currently informed of the status of the NRMW under provisions of the Endangered Species Act. This would include such actions as designation of critical habitat by the Secretary of the Interior under Section 7 of the Act.

242-2. Provide concerted educational, and where necessary, legal effort on essential areas subject to encroachment.

242-21. Obtain local and national support to assist in such efforts.
Direct public information and education efforts on the NRMW both to the local and national levels. Work through the political structure where appropriate.

242-22. Restrict public activities in certain areas deemed important.
Responsible land management agencies, in consultation with the State Fish & Game agencies, should consider restricting public access through existing administrative regulations to protect the NRMW or its essential habitat where deemed necessary.

242-23. Seek legal interpretation where necessary.
It may be necessary to solicit legal interpretation of existing laws and regulations to protect the NRMW and its habitat.

243. Develop guidelines for implementation of habitat maintenance and/or improvement measures.
Based on research efforts on the NRMW develop guidelines which provide for the maintenance or improvement of habitat used by the species for use by responsible land management agencies.

25. Delineate essential habitat for the NRMW; identify and recommend specific areas to the Secretary.
Research should be directed at the determination and delineation of existing or potential habitat which is essential for the survival of the NRMW. Such areas should be recommended to the Secretary of the Interior for consideration of critical habitat designation under Section 7 of the Endangered Species Act.

26. Determine what actions or activities are acceptable on Federal lands where critical habitat has been designated pursuant to Section 7, P.L. 93-205.
Based on research findings, land management agencies will determine what type of uses or activities may be acceptable on areas designated as critical habitat for the NRMW.

261. Identify areas, seasons, and/or situations where certain activities can be conducted or should be prohibited.
Determine areas and situations where other activities are compatible with the management of the NRMW including those which are only acceptable on a seasonal basis.

262. Determine restrictions or stipulations necessary to modify certain activities to protect essential habitat for wolves.
Coordinating requirements and specific stipulations need to be developed based on research findings to provide for protection of essential habitat of the NRMW where other activities are planned.

263. Require that impacts on the NRMW be considered in all EIS's and EA's.
Federal land management agencies are required to prepare EIS's or EA's to evaluate environmental impacts caused by proposed projects or management actions. The NRMW should be considered in these reports wherever applicable.

3. Re-establish populations in suitable areas within the former range of the NRMW, where viable populations do not now exist.
Implementation of this segment of the plan is contingent upon the extent of recovery, after reasonable time, under segment 2, which deals with enhancement of existing populations including dispersion into suitable habitats. Segment 3 sets out specific sequential procedures for re-introduction through restocking or transplant.

31. Determine whether re-establishment is ecologically and socially sound.

    311. Determine where re-establishment is ecologically feasible.

        311-1. Define and select all potentially suitable areas for transplant, based on existing and planned land use, vegetation, land ownership patterns, and other indicators of biological habitat.

        311-2. Determine prey densities, distribution, and seasonal movements in the selected areas.

        311-3. Estimate effect of establishing wolves on other wildlife, especially game animals and other predators.

        311-4. Determine the taxonomic suitability of available transplant stock.

        311-5. Determine role of parasites and diseases in re-establishment of wolves.

    312. Determine where re-establishment would have minimal impact on human activity.

        312-1. Determine human densities and use patterns.

        312-2. Estimate effect of establishing wolves on livestock, including an economic analysis.

        312-3. Determine local and regional public attitudes in the vicinity of selected areas.

        312-4. Determine possible impact of transplant on public health.

        312-5. Determine legal implications of transplant.

32. Investigate the feasibility of re-establishing the NRMW through use of packs and non-related wolves.

    321. Select most inaccessible area with adequate food supply and minimum human population.

    322. Obtain cooperation and permit from appropriate State and Federal agencies.

    323. Obtain support of local people (as in 211 and 212).

        323-1. Contact selected individuals and key groups for support.

        323-2. Publish facts of situation in local news media.

    324. Obtain support of concerned state legislators.

33. Introduce wolves in selected areas.
Introduction will only follow an appropriate feasibility study which clearly indicates successful re-establishment with minimal conflict with existing land uses.

331. Hold public hearings and seek support.
Public knowledge and support is essential for successful reintroductions.

332. Obtain wolves from nearest viable population.
Taxonomic considerations (Items 121 and 122) must first be resolved. Ecological considerations otherwise dictate that the nearest viable population to the selected restocking site will probably provide the most suitable animals.

332-1. Arrange for appropriate agency to provide wolves.

332-2. Prescribe manner and season of live trapping and handling wolves.
Necessary for best possible chance of successful restocking with minimal holding and handling between trap site and release point.

332-3. Provide holding pens in capture area.

332-4. Contract trapper to supply wolves.

332-5. Examine, ear-tag, radio-tag and vaccinate wolves.
General condition, age and sex of wolves should be known prior to release. Vaccinations may be necessary to conform to state requirements. Ear and radio tags are needed for subsequent monitoring.

332-6. Accumulate wolves until a socially compatible group is obtained.
Wolves that are socially compatible are necessary to establish a viable pack unit.

333. Deliver wolves to release point.

333-1. Arrange shortest and most direct transportation.

333-2. Tranquilize wolves.
Tranquilizing wolves will minimize stress.

334. Effect gentle release of wolves.
Gentle releasing offers greatest chance of success.

334-1. Select appropriate release sites.

334-2. Build appropriate pens in release sites.

334-3. Deliver wolves and hold on release site for a suitable time.

334-4. Feed wolves local wild prey and observe feeding behavior and interactions.

334-5. Allow wolves to leave pens at will after they are accustomed to prey, to each other, and the area.

334-6. Consider providing carcasses of wild prey near release site.

34. Monitor restocking efforts and population levels in selected areas. Monitoring is essential to determine outcome and status if successful. Radio track transplanted wolves daily for first week and 2 to 3 times per week thereafter, until they settle down, and then intermittently as long as possible to determine how many survive, whether they are breeding, and to assess success of the re-establishment effort.

35. If wolves become established, treat as in Part 2.

PART III

IMPLEMENTATION

Explanation of Priorities

Each job description was assigned a priority based on a scale of 1-5. Jobs given a priority of 1 are critical to the recovery of the wolf. Priority 2 jobs are directly supportive of priority 1 jobs, but are not deemed critical. Priority 3 jobs are those which could be deferred, particularly in cases where funding problems prevent addressing all aspects of the plan concurrently. Priorities 4 and 5 are reserved for those jobs which are intended to be deferred for the first three years of plan implementation. These jobs may be assigned to higher priorities in future plan revisions, depending upon the degree of success which has been achieved, and the acquisition of new knowledge and data.

Lead Agency

The lead agency should accept responsibility for completion of a job. It coordinates, monitors and encourages the activities of cooperating agencies and stays current with progress toward job completion.

Cooperator(s)

Cooperating agencies or groups participate in the work of a job. Cooperators may assume responsibility for an assigned portion of a job, or may work on the job independently. Coordination with the lead agency is essential, to prevent needless duplication of effort and to generate exchange of information.

Abbreviations

Abbreviations of agency names follow:

FWS: U.S. Fish and Wildlife Service FS: U.S. Forest Service

NPS: National Park Service

BIA: Bureau of Indian Affairs

IFG: Idaho Fish and Game Department

BLM: Bureau of Land Management

MFG: Montana Fish and Game Department

WGF: Wyoming Game and Fish Department

GROUP & PRIORITY	ACTION	PLAN ITEM	RESPONSIBILITY		TARGET DATE	ESTIMATED COSTS		
			LEAD	COOPERATORS		1st Yr.	2nd Yr.	3rd Yr.
	PART 1, STATUS							
ADMINISTRATIVE 1	Monitor legal atatus	11	FWS	States	Ongoing	4.000	2,000	2,000
ADMINISTRATIVE 3	Determine and publicize legal protection	111	FWS	Statea	2nd Yr.	Coats included as part of 11		
ADMINISTRATIVE 3	Identify atates or other aubdiviaions where protection is not afforded	112	FWS	Statea	2nd Yr.	"	"	"
ADMINISTRATIVE 3	Notify appropriate officials on P.L.93-205	112-1	FWS		2nd Yr.	"	"	"
ADMINISTRATIVE 3	Encourage atates to enact protective Reg.	112-2	FWS		Ongoing	"	"	"
RESEARCH 3	Clarify taxonomic atatus	12	FWS	Contract	4th Yr.	10,000	2,000	2,000
RESEARCH 4	Summarize exiating taxonomic information	121	FWS	Contract	2nd Yr.	Coats included as part of 12		
RESEARCH 4	Determine validity of taxonomy	122	FWS	Contract	4th Yr.	"	"	"
RESEARCH 3	Request aaaiatance from authoritiea	122-1	FWS	Statea	Ongoing	"	"	
RESEARCH 3	Examine available wolf akulls	122-2	FWS	Contract	Ongoing	"	"	"
RESEARCH 4	Continue taxonomic evaluation and claaaification	123	FWS	Contract	Ongoing	"	"	"
RESEARCH 1	Obtain akull and other meaauremenca from all mortalitiea	123-1	Statea	FWS, NPS, BLM, FS	Ongoing	"	"	"
RESEARCH 3	Compare all meaaurements on related aubapecies	123-2	FWS	Contract	Ongoing	"	"	"
RESEARCH 4	Determine historical distribution and relative abundance	13	States	Contract	4th Yr.	2,000	500	500
RESEARCH 4	Summarize information from literature revie	131	Statea	Contract	2nd Yr.	2,000	--	--
RESEARCH 4	Obtain information from all existing aources	132 133	Statea	Contract, FWS, NPS, BLM, FS	2nd Yr.	2,000	--	--
RESEARCH 1	Determine distribution and population	14	States	Contract, FWS NPS, BLM, FS, Pvt.	Ongoing	50,000	45,000	40,000

GROUP & PRIORITY	ACTION	PLAN ITEM	RESPONSIBILITY		TARGET DATE	ESTIMATED COSTS		
			LEAD	COOPERATORS		1st Yr.	2nd Yr.	3rd Yr.
ADMINISTRATIVE 1	Utilize systematic report compilation	141	FWS	States	Ongoing	3,000	3,000	4,000
ADMINISTRATIVE 2	Encourage reporting observations	141-1	FWS	States	1st Yr.	--	--	--
ADMINISTRATIVE 2	Devise standard procedures	141-11	FWS	States	1st Yr.	--	--	--
ADMINISTRATIVE 2	Distribute procedures	141-12	States	FWS	Ongoing	1,000	1,000	1,000
ADMINISTRATIVE 4	Encourage citizen participation	141-2	States	FWS	Ongoing	1,000	1,000	1,000
ADMINISTRATIVE 1	Ask agencies to provide reports	141-3	States	FWS	3rd Yr.	10,000	5,000	--
MANAGEMENT 1	Implement wolf surveys	142	States	FWS, NPS, BLM, FS, Contract	Ongoing	Costs included as part of 231		
RESEARCH 1	Conduct aerial surveys	142-1	States	FWS, Contract	Ongoing	"	"	"
RESEARCH 1	Conduct ground surveys	142-2	States	Contract, BLM, FS, NPS	Ongoing	"	"	"
RESEARCH 1	Conduct searches on winter game ranges	142-3	States	Contract, BLM, FS, NPS	Ongoing	"	"	"
	PART 2, MANAGEMENT							
POLITICAL 3	Insure perpetuation	2	FWS	States	Ongoing	No cost assignment, need data from 214 to add to 21		
MANAGEMENT 3	Minimize mortality	21	States	FWS	Ongoing	16,000	15,000	10,000
MANAGEMENT 2	Inform public on wolf ecology	211 211-3 211-4	States	FWS	Ongoing	1,000	3,000	5,000
MANAGEMENT 3	Publish technical data	211-1	States	Contract, BLM, FS, NPS	Ongoing	--	1,000	2,000
MANAGEMENT 5	Produce media information	211-2	States	Pvt.	4th Yr.	5,000	5,000	1,000
MANAGEMENT 3	Educate the public on legal aspects	212	States	FWS, Pvt.	4th Yr.	8,000	8,000	4,000
MANAGEMENT 3	Provide law enforcement	213	States	FWS	Ongoing	2,000	2,000	2,000

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GROUP & PRIORITY	ACTION	PLAN ITEM	RESPONSIBILITY		TARGET DATE	ESTIMATED COSTS		
			LEAD	COOPERATORS		1st Yr.	2nd Yr.	3rd Yr.
MANAGEMENT 5	Minimize conflicts	214	FWS	FS, BLM, States	Ongoing	1,000	1,500	2,000
MANAGEMENT 4	Assess control programs	214-1	FWS	States	3rd Yr.	2,500	3,000	--
ADMINISTRATIVE 1	Determine impact of conflicts	214-2 214-21 214-22 214-23	FWS	FS, BLM, States	Ongoing	500	1,000	1,500
ADMINISTRATIVE 3	Procedures for resolving conflicts	214-3	FWS	BLM, FS	4th Yr.	500	1,000	2,000
ADMINISTRATIVE 4	Feasibility of reparations	214-31	FWS		4th Yr.	500	500	750
ADMINISTRATIVE 4	Legal handling of depredations	214-32	FWS		4th Yr.	500	1,000	5,000
MANAGEMENT 3	Translocation	214-33	FWS		Ongoing	1,000	2,000	3,000
MANAGEMENT 4	Control wolves	214-34	FWS		Ongoing	1,000	2,000	10,000
ADMINISTRATIVE 2	Review management and research	22	FWS	FS, BLM, States NPS	Ongoing	2,000	3,000	4,000
ADMINISTRATIVE 2	Obtain qualified review	221	FWS	States	Ongoing	2,000	3,000	4,000
ADMINISTRATIVE 2	Impact on NPRW	222	FWS	FS, BLM, States	Ongoing	1,000	2,000	3,000
ADMINISTRATIVE 2	Priority determination	223	FWS	FS, BLM, States	Ongoing	2,000	3,000	4,000
RESEARCH 1	Obtain accurate knowledge of wolf populations on each of the parts of the current range	231 142	States	Contract, NPS FS, BLM, FWS	Ongoing	80,000	90,000 (also includes item 142)	80,000
RESEARCH 2	Obtain accurate knowledge of areas occupied by wolves	232	States	Contract, NPS, FS, BLM, FWS	Ongoing	20,000	40,000	60,000
RESEARCH 3	Obtain accurate knowledge of natural prey requirements of wolves and effects on prey	233	States	Contract, NPS FS, BLM, FWS	Ongoing	10,000	15,000	20,000
RESEARCH 4	Assemble knowledge of environmental requirements of prey species	234	States	Contract, FWS, FS, BLM, NPS	Ongoing	--	--	--
RESEARCH 4	Compare with knowledge obtained in other areas	235	States	Contract, FWS, FS, BLM, NPS	Ongoing	500	500	500

GROUP & PRIORITY	ACTION	PLAN ITEM	RESPONSIBILITY		TARGET DATE	ESTIMATED COSTS		
			LEAD	COOPERATORS		1st Yr.	2nd Yr.	3rd Yr.
ADMINISTRATIVE 2	Implement measures to enhance wolf recovery	236 236-3 236-4	States	FS, BLM, FWS, NPS	Ongoing	25,000	30,000	35,000
ADMINISTRATIVE 1	Map out potential recovery sites	236-1	States	FS, BLM, FWS, NPS	2nd Yr.	3,000	--	--
ADMINISTRATIVE 2	Reduce limiting factors	236-2	States	FS, BLM, FWS, NPS	3rd Yr.	5,000	5,000	--
ADMINISTRATIVE 4	Reduce interactions with humans	236-5	States	FS, BLM, NPS	3rd Yr.	2,000	2,000	--
ADMINISTRATIVE 5	Control access to important areas	236-52 236-53 236-54	States	FS, BLM	3rd Yr.	2,000	2,000	--
ADMINISTRATIVE 1 (Includes legal actions)	Protect areas where environmental requirements are met	24	FS, BLM	NPS, States, FWS	Ongoing	No cost assignment		
2	Promote wolf recovery objectives in the land use planning process	241	FWS	FS, BLM	1984	1,000	1,000	1,000
ADMINISTRATIVE 2	Inform land managers of existing or potential wolf range	241-1	FWS	States	2nd Yr.	1,000	1,000	--
ADMINISTRATIVE 2	Incorporate recovery objectives into plans	241-2	FS, BLM	FWS, NPS	1984	2,000	2,000	2,000
ADMINISTRATIVE 2	Eliminate or minimize conflicts between the NRMW and other land uses in the plans	241-3	FS, BLM	FWS, NPS	1984	4,000	4,000	4,000
MANAGEMENT 3 (Includes public education and involvement)	Inform interest groups and organizations of land use plans that may affect the NRMW	241-4	States	FS, BLM	1984	1,000	1,000	1,000
ADMINISTRATIVE 2	Prevent encroachment of detrimental developments or new uses in areas deemed important to the NRMW	242	FS, BLM	FWS, States, NPS	Ongoing	5,000	5,000	5,000
ADMINISTRATIVE 3	Remind public land managers of their responsibilities under the Endangered Species Act	242-1	FWS	FS, BLM	Ongoing	500	500	500

GROUP & PRIORITY	ACTION	PLAN ITEM	RESPONSIBILITY		TARGET DATE	ESTIMATED COSTS		
			LEAD	COOPERATORS		1st Yr.	2nd Yr.	3rd Yr.
MANAGEMENT 3	Provide concerted educational and, where necessary, legal effort on certain essential areas	242-2	FWS	FS, BLM, NPS, States	1982	3,000	3,000	3,000
POLITICAL 5	Obtain local and national support to assist in such efforts	242-21	FWS	States	Ongoing	1,000	1,000	1,000
MANAGEMENT 4	Restrict public access in certain areas deemed important	242-22	FS, BLM	States, NPS	4th Yr.	--	2,000	2,000
ADMINISTRATIVE 5	Seek legal interpretation where necessary	242-23	FWS	States	Ongoing	500	500	500
MANAGEMENT 3	Develop guidelines for implementation of habitat maintenance and/or improvement measures	243	States	FS, NPS, BLM, FWS	2nd Yr.	2,000	--	--
RESEARCH 2	Delineate essential habitat for the NRMW: Identify and recommend specific areas to Secretary	25	FWS	FS, NPS, BLM, States	3rd Yr.	10,000	10,000	--
RESEARCH 2	Determine what actions or activities are acceptable on federal lands where critical habitat has been designated pursuant to Section 7, P.L. 93-205	26	FWS	FS, NPS, BLM, States	3rd Yr.	15,000	15,000	--
RESEARCH 3	Identify areas, seasons, and/or situations where certain activities can be conducted or should be prohibited	261	FWS	FS, NPS, BLM, States	3rd Yr.	(Included with 26)		
ADMINISTRATIVE 2	Determine restrictions or stipulations necessary to modify certain activities to protect essential habitat for wolves	262	FWS	FS, BLM, States	1984	4,000	4,000	4,000
ADMINISTRATIVE 1	Require that impacts on the NRMW be considered in all EIS's and EA's	263	FWS	BLM, FS	Ongoing	1,000	1,000	1,000
	PART 3, RE-ESTABLISHMENT							
MANAGEMENT 5	Re-establish populations in suitable areas within the former range of the NRMW where self-sustaining populations do not now exist	3	States	FWS, BLM, FS, NPS, BIA (Tribal Councils)	1987	No costs during this period		

GROUP & PRIORITY	ACTION	PLAN ITEM	RESPONSIBILITY		TARGET DATE	ESTIMATED COSTS		
			LEAD	COOPERATORS		1st Yr.	2nd Yr.	3rd Yr.
ADMINISTRATIVE 4	Determine feasibility of re-establishment	31 32	States	FWS, BLM, FS, NPS, BIA	1985			
POLITICAL 3	Hold public hearings and seek support	331	States	FS, FWS, BLM, NPS				
MANAGEMENT 3	Arrange for appropriate agency to provide wolves	332-1	FWS	States, NPS, FS				
MANAGEMENT 3	Prescribe manner and season for live-trapping and handling	332-2	FWS					
MANAGEMENT 5	Provide holding pens in capture area	332-3	FWS	NPS, FS, BLM				
MANAGEMENT 4	Contract trapper to supply wolves; accumulate wolves until 5 or more obtained	332-4 332-6	FWS					
MANAGEMENT 4	Examine, ear-tag, radio-tag and vaccinate	332-5	FWS	States, NPS, FS, BLM				
MANAGEMENT 5	Arrange shortest and most direct transplant; tranquilize wolves	333	FWS	States, NPS, FS, BLM				
MANAGEMENT 3	Select appropriate release sites	334-1	States	NPS, FWS, FS, BLM				
MANAGEMENT 4	Build appropriate pens in release sites	334-2	FWS	NPS, FS, BLM				
MANAGEMENT 5	Deliver wolves and hold at release site for suitable time; feed wolves local wild prey	334-3 334-4	FWS	States, NPS, FS, BLM				
MANAGEMENT 5	Allow wolves to leave at will after they are accustomed to prey, each other and the area; consider providing carcasses of wild prey near release site	334-5 334-6	FWS	States, NPS, FS, BLM				
RESEARCH 4	Radio track transplanted wolves	34	States	NPS, FS, BLM				

States – select appropriate site for release and radio-track the transplanted wolves.

FIRST YEAR COST SUMMARY

AGENCY	MONTANA	IDAHO	WYOMING	TOTAL
FWS	38,025	7,625	30,420	76,070
FS	23,750	4,800	19,000	47,550
BLM	23,750	4,710	19,000	47,460
NPS(Glacier)				19,875
NPS(Yellowstone)				19,835
PRIVATE	1,500	300	1,200	3,000
MFG	58,050			58,050
IFG		11,630		11,630
WGF			46,440	46,440
Totals	145,075	29,065	116,060	
Grand Total				329,910

SECOND YEAR COST SUMMARY

AGENCY	MONTANA	IDAHO	WYOMING	TOTAL
FWS	36,475	7,285	29,180	72,940
FS	27,600	5,520	22,110	55,230
BLM	27,575	5,485	22,080	55,140
NPS(Glacier)				23,100
NPS(Yellowstone)				23,090
PRIVATE	1,500	300	1,200	3,000
MFG	59,750			59,750
IFG		11,920		11,920
WGF			47,830	47,830
Totals	152,900	30,510	122,400	
Grand Total				352,000

THIRD YEAR COST SUMMARY

AGENCY	MONTANA	IDAHO	WYOMING	TOTAL
FWS	37,450	7,470	29,920	74,840
FS	24,975	4,965	20,040	49,980
BLM	24,925	4,935	19,980	49,840
NPS(Glacier)				20,625
NPS(Yellowstone)				20,615
PRIVATE	200	40	160	400
MFG	48,950			48,950
IFG		9,740		9,740
WGF			39,260	39,260
Totals	136,500	27,150	109,360	
Grand Total				314,250

COST SUMMARY BY AGENCY FOR THE STATE OF WYOMING

ACTION	PLAN ITEM	AGENCY	1st YR.	2nd YR.	3rd YR.
Monitor legal status	11 & following	FWS	640	320	320
		WGF	960	480	480
Clarify Taxonomic status	12 & following	FWS	3,600	440	440
		WGF	200	200	200
		NPS (Yellowstone)	40	40	40
		BLM	40	40	40
		FS	80	80	80
Determine historical distribution and relative abundance	13 & following	WGF	1,920	200	200
		FWS	120	-	-
		NPS (Yellowstone)	120	-	-
		BLM	120	-	-
		FS	120	-	-
Determine distribution and population	14 & following	WGF	11,200	9,200	7,400
		FWS	5,800	4,700	3,800
		NPS (Yellowstone)	3,750	3,375	3,000
		BLM	3,000	2,700	2,400
		FS	3,000	2,700	2,400

ACTION	PLAN ITEM	AGENCY	1st YR.	2nd YR.	3rd YR.
Minimize mortality	21 & following	WGF	9,220	6,730	4,480
		FWS	7,980	9,520	13,040
		BLM	220	480	800
		FS	180	470	820
		NPS (Yellowstone)	-	100	200
		Private	1,200	1,200	160
Review management and research	22 & following	FWS	860	1,340	1,820
		FS	460	740	1,020
		BLM	460	740	1,020
		NPS (Yellowstone)	200	300	400
		WGF	860	1,340	1,820
Determine environmental requirements of the NRMW	23 & following (including 142)	WGF	21,180	26,020	23,260
		FWS	7,080	8,640	8,440
		NPS (Yellowstone)	12,225	15,825	16,025
		FS	10,480	13,240	12,840
		BLM	10,480	13,240	12,840

ACTION	PLAN ITEM	AGENCY	1st YR.	2nd YR.	3rd YR.
Protect areas where environmental requirements are met	24 & following	FWS	1,660	1,540	1,380
		WGF	1,420	1,180	940
		FS	2,260	2,460	2,460
		BLM	2,260	2,460	2,460
		NPS (Yellowstone)	1,000	950	950
Delineate essential habitat; recommend specific areas to the Secretary	25 & 26 & following	FWS	2,680	2,680	680
		WGF	2,480	2,480	480
		FS	2,420	2,420	420
		BLM	2,420	2,420	420
		NPS (Yellowstone)	2,500	2,500	-

COST SUMMARY BY AGENCY FOR THE STATE OF MONTANA

ACTION	PLAN ITEM	AGENCY	1st YR.	2nd YR.	3rd YR.
Monitor legal status	11 & following	FWS	800	400	400
		MFG	1,200	600	600
Clarify taxonomic status	12 & following	FWS	4,500	550	550
		MFG	250	250	250
		NPS (Glacier)	50	50	50
		BLM	50	50	50
		FS	100	100	100
Determine historical distribution and relative abundance	13 & following	MFG	2,400	250	250
		FWS	150	-	-
		NPS (Glacier)	150	-	-
		BLM	150	-	-
		FS	150	-	-
Determine distribution and population	14 & following	MFG	14,000	11,500	9,200
		FWS	7,250	5,875	4,800
		NPS (Glacier)	3,750	3,375	3,000
		BLM	3,750	3,375	3,000
		FS	3,750	3,375	3,000

ACTION	PLAN ITEM	AGENCY	1st YR.	2nd YR.	3rd YR.
Minimize mortality	21 & following	MFG	11,525	8,375	5,525
		FWS	9,975	11,900	16,300
		BLM	275	575	950
		FS	225	550	950
		NPS (Glacier)	-	100	200
		Private	1,500	1,500	200
Review management and research	22 & following	FWS	1,075	1,675	2,275
		FS	575	925	1,275
		BLM	575	925	1,275
		NPS (Glacier)	200	300	400
		MFG	1,075	1,675	2,275
Determine environmental requirements of the NRMW	23 & following (incl. 142)	MFG	26,475	32,525	29,075
		FWS	8,850	10,800	10,550
		NPS (Glacier)	12,225	15,825	16,025
		FS	13,100	16,550	16,050
		BLM	13,100	16,550	16,050

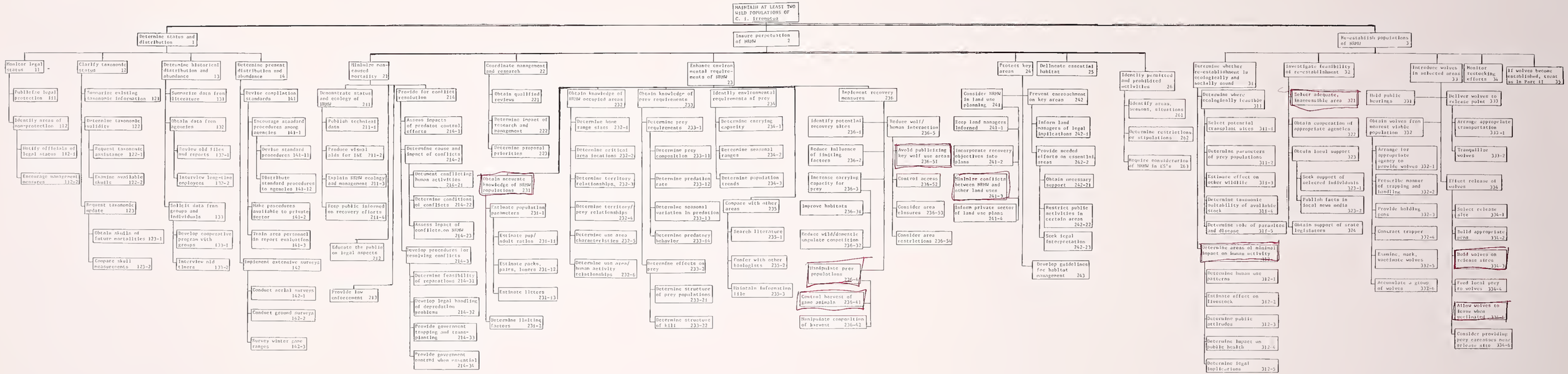
ACTION	PLAN ITEM	AGENCY	1st YR.	2nd YR.	3rd YR.
Protect areas where environmental requirements are met	24 & following	FWS	2,075	1,925	1,725
		MFG	1,775	1,475	1,175
		FS	2,825	3,075	3,075
		BLM	2,825	3,075	3,075
		NPS (Glacier)	1,000	950	950
Delineate essential habitat; recommend specific areas to the Secretary	25, 26 & following	FWS	3,350	3,350	850
		MFG	3,100	3,100	600
		FS	3,025	3,025	525
		BLM	3,025	3,025	525
		NPS (Glacier)	2,500	2,500	-

COST SUMMARY BY AGENCY FOR THE STATE OF IDAHO*

ACTION	PLAN ITEM	AGENCY	1st YR.	2nd YR.	3rd YR.
Monitor legal status	11 & Following	FWS	160	80	80
		IFG	240	120	120
Clarify taxonomic status	12 & following	FWS	900	100	100
		IFG	50	50	50
		FS	50	50	50
Determine historical distribution and relative abundance	13 & following	IFG	500	50	50
		FWS	50	-	-
		FS	50	-	-
Determine distribution and population	14 & following	IFG	2,800	2,300	1,840
		FWS	1,450	1,175	960
		BLM	750	675	600
		FS	750	675	600
Minimize mortality	21 & following	IFG	1,555	1,645	1,045
		FWS	1,995	2,380	3,260
		BLM	55	95	150
		FS	45	80	130
		Private	300	300	40

*Cost estimates for the NPS in Idaho are included for Yellowstone NP under Wyoming.

ACTION	PLAN ITEM	AGENCY	1st YR.	2nd YR.	3rd YR.
Review management and research	22 & following	FWS	215	335	455
		FS	115	185	255
		BLM	115	185	255
		IFG	215	335	455
Determine environmental requirements of the NRMW	23 & following (including 142)	IFG	5,295	6,505	5,815
		FWS	1,770	2,160	2,110
		FS	2,620	3,310	3,210
		BLM	2,620	3,310	3,210
Protect areas where environmental requirements are met	24 & following	FWS	415	385	345
		IFG	355	295	235
		FS	565	615	615
		BLM	565	615	615
Delineate essential habitat; recommend specific areas to the Secretary	25, 26 & following	FWS	670	670	170
		IFG	620	620	120
		FS	605	605	105
		BLM	605	605	105


MAINTAIN AT LEAST TWO WILD POPULATIONS OF C. l. irremotus
Insure perpetuation of MRNW 2
Determine status and distribution 1
Monitor legal status 11
Publicize legal protection 111
Identify areas of non-protection 112
Notify officials of legal status 112-1
Encourage management measures 112-2
Clarify taxonomic status 12
Summarize existing taxonomic information 121
Determine taxonomic validity 122
Request taxonomic assistance 122-1
Examine available skulls 122-2
Request taxonomic update 123
Obtain skulls of future mortalities 123-1
Compare skull measurements 123-2
Determine historical distribution and abundance 13
Summarize data from literature 131
Obtain data from agencies 132
Review old files and reports 132-1
Interview long-time employees 132-2
Solicit data from groups and individuals 133
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Interview old timers 133-2
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Devise compilation standards 141
Encourage standard procedures among agencies 141-1
Devise standard procedures 141-11
Distribute standard procedures to agencies 141-12
Make procedures available to private sector 141-2
Train area personnel in report evaluation 141-3
Implement extensive surveys 142
Conduct aerial surveys 142-1
Conduct ground surveys 142-2
Survey winter pack ranges 142-3
Minimize man-caused mortality 21
Demonstrate status and ecology of MRNW 211
Publish technical data 211-1
Produce visual aids for ISE 211-2
Explain MRNW ecology and management 211-3
Keep public informed on recovery efforts 211-4
Educate the public on legal aspects 212
Provide law enforcement 213
Provide for conflict resolution 214
Assess impacts of predator control efforts 214-1
Determine cause and impact of conflicts 214-2
Document conflicting human activities 214-21
Determine conditions of conflicts 214-22
Assess impact of conflicts on MRNW 214-23
Develop procedures for resolving conflicts 214-3
Determine feasibility of reparations 214-31
Develop legal handling of depredation problems 214-32
Provide government trapping and transplanting 214-33
Provide government control when essential 214-34
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Obtain qualified reviews 221
Determine impact of research and management 222
Determine proposal priorities 223
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Estimate population parameters 231-1
Estimate pup/adult ratios 231-11
Estimate packs, pairs, loners 231-12
Estimate litters 231-13
Determine limiting factors 231-2
Enhance environmental requirements of MRNW 23
Obtain knowledge of MRNW occupied areas 232
Determine home range sizes 232-1
Determine critical area locations 232-2
Determine territory relationships 232-3
Determine territory/prey relationships 232-4
Determine use area characteristics 232-5
Determine use area/human activity relationships 232-6
Obtain knowledge of prey requirements 233
Determine prey requirements 233-1
Determine prey composition 233-11
Determine predation rate 233-12
Determine seasonal variation in predation 233-13
Determine predatory behavior 233-14
Determine effects on prey 233-2
Determine structure of prey populations 233-21
Determine structure of kill 233-22
Identify environmental requirements of prey 234
Determine carrying capacity 234-1
Determine seasonal ranges 234-2
Determine population trends 234-3
Compare with other areas 235
Search literature 235-1
Confer with other biologists 235-2
Maintain information file 235-3
Implement recovery measures 236
Identify potential recovery sites 236-1
Reduce influence of limiting factors 236-2
Increase carrying capacity for prey 236-3
Improve habitats 236-31
Reduce wild/domestic ungulate competition 236-32
Manipulate prey populations 236-4
Control harvest of game animals 236-41
Manipulate composition of harvest 236-42
Reduce wolf/human interaction 236-5
Avoid publicizing key wolf use areas 236-51
Control access 236-52
Consider area closures 236-53
Consider area restrictions 236-54
Protect key areas 24
Consider MRNW in land use planning 241
Keep land managers informed 241-1
Incorporate recovery objectives into plans 241-2
Minimize conflicts between MRNW and other land uses 241-3
Inform private sector of land use plans 241-4
Delineate essential habitat 25
Prevent encroachment on key areas 242
Inform land managers of legal implications 242-1
Provide needed efforts on essential areas 242-2
Obtain necessary support 242-21
Restrict public activities in certain areas 242-22
Seek legal interpretation 242-23
Develop guidelines for habitat management 243
Identify permitted and prohibited activities 26
Identify areas, seasons, situations 261
Determine restrictions or stipulations 262
Require consideration of MRNW in ESA's 263
Re-establish populations of MRNW 3
Determine whether re-establishment is ecologically and socially sound 31
Determine where ecologically feasible 311
Select potential transplant sites 311-1
Determine parameters of prey populations 311-2
Estimate effect on other wildlife 311-3
Determine taxonomic suitability of available stock 311-4
Determine role of parasites and disease 311-5
Determine areas of minimal impact on human activity 312
Determine human use patterns 312-1
Estimate effect on livestock 312-2
Determine public attitudes 312-3
Determine impact on public health 312-4
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Investigate feasibility of re-establishment 32
Select adequate, unoccupiable area 321
Obtain cooperation of appropriate agencies 322
Obtain local support 323
Seek support of selected individuals 323-1
Publish facts in local news media 323-2
Obtain support of state legislators 324
Build public hearings 331
Obtain wolves from nearest viable population 332
Arrange for appropriate agency to provide wolves 332-1
Prescribe manner of trapping and handling 332-2
Provide holding pens 332-3
Contract trapper 332-4
Examine, mark, vaccinate wolves 332-5
Accumulate a group of wolves 332-6
Introduce wolves in selected areas 33
Deliver wolves to release point 333
Arrange appropriate transportation 333-1
Tranquilize wolves 333-2
Effect release of wolves 334
Select release site 334-1
Build appropriate pens 334-2
Hold wolves on release area 334-3
Feed local prey to wolves 334-4
Allow wolves to leave when acclimated 334-5
Consider providing prey carcasses near release site 334-6
Monitor restocking efforts 34
If wolves become established, treat as in Part II 35

COMMENTS FROM REVIEWERS OF PLAN

A copy of each letter from reviewers of the January 1978 draft copy of the recovery plan is included. Responses to questions and comments from the reviewers are numbered sequentially. Numbers on the letters correspond to responses on pages 71 and 72.

ADDRESS ONLY THE DIRECTOR,
FISH AND WILDLIFE SERVICE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

In Reply Refer To:
FWS/OES 310.6

Memorandum

To: Regional Director - Region 6 (ARD/AFA)
Deputy [illegible]
From: Director

Subject: Northern Rocky Mountain Wolf Recovery Plan Draft

In response to your memo of February 6, 1978, we have reviewed the subject draft and offer the following comments and suggestions:

General Comments

(1) The appropriate disclaimer sheet should be added to the plan as illustrated in the Guidelines.

(2) We think it would be helpful to have a section on habitat requirements in the INTRODUCTION. This would help others in identifying wolf habitat and land use management that may be detrimental to the wolf.

(3) The primary objective should be clarified. Does "remove...from endangered status" mean delist or reclassify? The end point of recovery should be more definitive. "Viable populations" should be quantified, if possible, to include such items as population size, pack size, number of acres, and reproduction.

(4) The plan should discuss ongoing recovery actions, either in the introduction, objective 3 in the step-down outline, or both. One of these should be the utilization of the captive population of wolves now held in Gardiner, Washington by Mr. Jack Lynch and an evaluation of the suitability of these wolves for reintroduction. The plan also should

discuss the possibility of assisting in the maintenance of any captive wolves which appear to represent descendants from original Canis lupus irremotus.

Specific Comments

(5) p. 11 #133 Not assigned for implementation.

(6) p. 12 #211 Change "gotten" to "obtained."

(7) p. 14 #22 Check the reference to other task numbers. There is no #212-2.

(8) p. 16 #234 Not assigned for implementation.

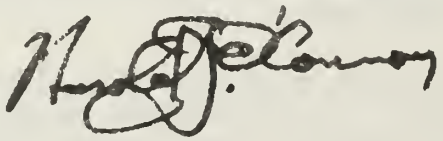
(9) p. 17 #236-32 This objective needs some elaboration. Prey species could be wild or domestic. How should competition be reduced and is it to be reduced in favor of the wild or the domestic ungulates?

(10) p. 19 Combine #25 and #251. Renumber #252 to 26, 26-1, 26-2, and 26-3. Make sure all subobjectives are required to accomplish the objective.

(11) p. 21 #343 Not assigned for implementation.

(12) p. 25 #212-1 and 212-2 Not in step-down outline.

We hope these comments will assist in the preparation of the final plan. We look forward to receiving the completed plan with the Director's signature sheet and a copy of the cooperators' comments regarding implementation.



UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
11177 West 8th Avenue
P.O. Box 25127
Lakewood, Colorado 80225

2630
March 27, 1978

Harvey Willoughby, Director
U.S. Fish and Wildlife Service
Box 25486
Denver Federal Center
Denver, Colorado 80225

Dear Mr. Willoughby:

We have reviewed the Draft Plan for the Recovery of the Northern Rocky Mountain wolf. The Plan is brief but does a good job of identifying most of the jobs that appear necessary for the recovery effort.

(13) We are extremely concerned that the Plan does not provide for determination of the taxonomic status of the wolf that is presently found in the area. It appears to us that this must be done in order to settle any argument on what subspecies is present and lend credibility to the recovery effort. This concern is expressed because of the widely spread rumor that wolves were seen in trucks in the vicinity of Yellowstone National Park and reports of wolves in the wild shortly thereafter. This concern is further amplified with the remarks on page 235 of "Threatened Wildlife of the United States, 1973" (Redbook) published by your agency. The Redbook states: "However, the possibility always remains that the reported wolves are really migrants of other subspecies, or are accidental or deliberate transplants of other subspecies by human beings." We believe a major effort must be extended to determine the taxonomic classification of the wolf population existing in the area.

Within Region 2 we are concerned with the wolf on the Shoshone National Forest in Northwest Wyoming. During the past several years, the Forest has conducted studies to determine if the wolf is present. To date, data indicates that a large canine is probably present but no evidence has positively identified the species. If the studies being conducted this year do not result in positive evidence, we feel that there will be little or no point in pursuing the investigation. However, if new evidence is found, we will certainly cooperate in further investigations and recovery efforts.

(2) When the recovery team identifies the habitat requirements, we will review our lands to identify habitat which meets these requirements and provide recommendations on areas of essential habitat.

We appreciate the opportunity to review the Plan.

Sincerely,

S. H. HANFS
Deputy Regional Forester, Resources

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
324 25th Street
Ogden, Utah 84401

2630

April 11, 1978

Charles E. Lane, Acting Regional Director
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver, Colorado 80225

Dear Mr. Lane:

This is in reference to your letter of February 8. Thank you for the opportunity to review the "Draft Plan for The Recovery of The Northern Rocky Mountain Wolf." Our comments follow:

(14) 1. There appears to be duplication and considerable overlap between plan item Nos. 14, 231, and 232. Number 14 calls for determining present distribution and population and items 231 and 232 call for accurate knowledge of populations and areas occupied respectively. Costs associated with these segments may be inflated if there is duplication. We hope this can be clarified in the final.

(15) 2. We are concerned with Forest Service funding being used to determine population levels, unless it can be related to habitat occupied or preferred by present populations of wolves. This would also hold for the taxonomic status clarification.

(3) 3. We don't see any reference in the plan to change in status to "threatened" at some future point in time. If the wolf population increased and suitable habitat was maintained for recovery, then it would seem feasible to reclassify to "threatened" status, when appropriate, so that positive progress is the recovery effort could be demonstrated.

Finally, we plan to incorporate into our Fiscal Year 1981 program planning and budgeting process the funds necessary to implement the Forest Service portion of the recovery effort.

Sincerely,

JOHN W. MUMMA
Director
Wildlife Management

REPLY REFER TO

United States Department of the Interior

6840 (962)

BUREAU OF LAND MANAGEMENT

State Office
P. O. Box 1828
Cheyenne, Wyoming 82001

Memorandum

To: Regional Director, Region 6, U. S. Fish and Wildlife Service, Denver Federal Center, Denver, Colorado 80225

From: State Director, Wyoming

Subject: Review of Northern Rocky Mountain Wolf Recovery Plan (Draft)

We have reviewed the Draft (January 1978) Recovery Plan for the Northern Rocky Mountain Wolf (NRMW). The plan appears comprehensive and contains reasonable and well defined objectives that indicate a sound approach for the recovery of the species. Our comments are limited to the proposed current range and the cost summary tables.

We feel that existing evidence indicated in a data summary submitted to the Regional Director, Region 6, dated November 14, 1977, is sufficient to extend potential current range to include the Absoraka Mountain
(16) Range. Although current range, as described in the NRMW recovery plan, does not extend beyond Yellowstone National Park, some recognition of the possible occurrence of NRMW on public lands has been provided by virtue of the responsibilities outlined for BLM within the plan.

We are also concerned about the funding source to carry out the objec-
(17) tives of the proposed recovery plan. At present, there are no funds within the BLM wildlife base program to accomplish the work specified. Special funding such as base fund add-ons, congressional appropriations, etc., must be obtained before we can carry out the identified responsibilities.

We appreciate the opportunity to review and comment on the draft plan. In addition, comments from our Worland District Office have been attached for your information.

Enclosure

UNITED STATES GOVERNMENT

Memorandum

6840

TO : State Director (932)

DATE: March 9, 1978

FROM : District Manager, Worland

SUBJECT: Review of NRMW Draft Recovery Plan

In our review of the DRP it stands out that the recovery team has not included the eastern and southern portions of the Absaroka Mountains as current range of the Northern Rocky Mountain Wolf. This area includes much of the Shoshone National Forest and Worland District BLM lands from which the evidence has accumulated that has caused this office to be concerned. Recently, we submitted to your office a summary report of these incidents of wolf evidence which we felt had some validity. This information was also supplied to the Shoshone National Forest and was reportedly sent to the recovery team through them. The information may not have been received in time to be considered in the DRP, however. This office has also periodically contacted and submitted information to the recovery team through the BLM representative on the team, Don McIntosh, of the Montana State Office. This is probably how the projected funding needs for Wyoming BLM have been included in the DRP.

The district made comments and recommendations on the preliminary draft recovery plan for the NRMW in June of 1976. It appears that some of our recommendations influenced this draft. We feel that the areas mentioned above, which concern BLM and Shoshone National Forest lands, should be included in the DRP as current wolf range or as "probable" current range and discussed as such in the narrative. The map, Figure 2, indicates the Yellowstone Park boundary as the boundary of the current range. Artificial boundaries such as this, of course, have no biological significance. We feel there is enough evidence to include much of the Absaroka range as, at least, "probable" current NRMW range. This would include BLM-private areas within one to two townships of the Shoshone National Forest boundary in the Big Horn Basin. Other than the above recommendation, the DRP appears quite acceptable. The primary objective is realistic and the plan's approach to accomplishing the objective appears reasonable, comprehensive, and well thought out. The bureau's role, as the recovery team sees it, seems to be generally compatible with our policy guidance, planning system, and mode of operation. Problems may well surface with the suggested funding levels for Wyoming BLM. In the absence of better estimates at the present time, proposed funding for BLM in the DRP appear acceptable. The question arises, where would we expect this money to come from; FWS, the Bureau's base wildlife program, special add-ons? Hopefully, the recovery plan will highlight the need for Bureau funding in this program.

Paul M. A...

Acting

FA

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FEDERAL BUILDING, MISSOULA, MONTANA 59807

2630
June 16, 1978

Harvey Willoughby, Regional Director
Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, Colorado 80225

Dear Mr. Willoughby:

We have reviewed the draft Recovery Plan for the Northern Rocky Mountain Wolf and offer our comments in the context of strengthening this plan.

(17) (15) The most prevalent comment that we received from our Forests concerned future funding of plan items. The determination of distribution and populations (Item 14) plus environmental requirements (Items 23 and 142) of the wolf are high cost items in the future. The availability of E&T funds will insure completion of these jobs by all involved agencies.

If agencies are expected to fund plan items then sufficient lead time must be provided in the proposed time frame of this Recovery Plan. For example, if we were to initiate items 23 and 142 into our budget formulation process our first opportunity at this point in time would by FY 1981. As you know, this starts October 1, 1980. With E&T special funds these plan items could start in 1978.

(18) We also have a few specific comments. The Tendoy Mountains occur in Montana and do not extend into Idaho. The Lima Peaks occur between the Tendoys and the Idaho border (page 8, paragraph 3).

(19) The timing of certain jobs is most sensitive to the success of this plan. For example, item 341, "Hold public hearings and seek support" and item 323-2, "Publish facts of situation in local news media" can be counter productive if not presented in the proper time sequence.

Item 342-5, individuals or groups involved with this activity should refer to Chapter 11 of "The Wolf" by Dr. Dave Mech. This chapter provides insight on what diseases or parasites may cause problems. This reference should be included in the Literature Cited section.

(20) Is program item 214-3 out of order with another program item 214? Item 214, resolving conflict is essential to the overall program, but item 214-3,

develop procedures for resolving conflict is not targeted until the fourth year, page 24. Should 214-3 be scheduled for completion earlier in the program?

In the rush to complete several priority programs during the past few months we overlooked our responsibility to respond to your request. We sincerely regret this delay and hope that our response is not too late for your consideration.

Sincerely,

Edward R. Schneegas

EDWARD R. SCHNEEGAS
Director
Wildlife and Fisheries

cc: R-2
R-4
Bvd., I.P., Cus., Dlg.,
Fld., Gal., Hel., L&C, Lolo

4227 N.E. Flanders
Portland, Oregon 97213
March 30, 1978

Dennis Flath, Leader
Northern Rocky Mountain Wolf Recovery Team
Box 5--MSU Campus
Bozeman, Montana 59717

Dear Dennis Flath:

Thank you for the copy of the Draft Plan and information about the schedule for revision. Our review of the Draft Plan is enclosed. We hope our comments and proposals will be carefully considered in its re-drafting. Please put us on your mailing list to be advised of future activities of the Recovery Team and to receive a copy of future drafts of the Recovery Plan.

The lack of data on which to base Critical Habitat designations is a problem we refer to in our review. Preliminary identification of potential biological habitat (with minimal human impact) is currently under study in Oregon by the O.W.S.G. This effort is an "armchair" evaluation which relies upon available "indicator" data for wilderness and largely roadless areas that meet fundamental criteria for human population density, prey density and seasonal movements, and livestock numbers. Reliance is placed on published threshold figures for such critical variables as prey densities required to keep wolf movements to a minimum. The methods employed are probably the best possible at this time for producing reasonable first approximations of the wolf population that an area could potentially support. The first area being investigated is outside the historical range of C. l. irremotus, in southwest Oregon, but similar research into the potential of the High Wallowas of northeastern Oregon may commence once the present study is completed in a few months. If you are interested in our methods, I can send you a copy of our preliminary report when it is available. Your critical review could help us refine our subsequent work.

We appreciate your interest in writing an article for our newsletter at a future date. We look forward to close communication and cooperation.

Sincerely,

Larry Svart

Larry M. Svart, President
OREGON WOLF STUDY GROUP

LMS:on

P.S. I also enclosed a copy of a recent letter from the State of Washington that reveals an assumption about potential wolf habitat in that state which is without foundation in terms of objective research. This letter is concrete evidence that state wildlife agencies will fail to pursue the Draft Plan's objective if given the authority for most areas, especially timbered.

Review of the

Draft Recovery Plan - NRMW

by the Oregon Wolf Study Group

March 22, 1978

The Draft Plan appears, in general, to be an appropriate preliminary effort to devise detailed means of re-establishing the Northern Rocky Mountain Wolf to a less precarious position within its former range. Two aspects of the Draft Plan, however, require considerable modification before our organization can support it. First, the lead agency for most recovery activities must be the U.S. Fish and Wilflife Service if any significant success in achieving the primary objective (p. 10, top) is to be realistically expected. Second, section 3 outlining reintroduction procedures, segment 31 (p. 20) in particular, requires major re-organization and other changes in order to clarify the crucial distinction between biological habitat and potential human impact. With these alterations, the Draft Plan would be a viable document, and the Oregon Wolf Study Group could whole-heartedly endorse it.

In view of the reclassification scheduled to take effect on April 10, 1978, the relevance of distinguishing Canis lupus irremotus from once
(21) adjacent subspecies (e.g., C. l. fuscus) needs to be addressed (p. 1, top). In terms of the plan itself, the necessity or desirability of devoting resources to taxonomic questions will require assessement. Of more importance is the implication of the reclassification for the primary objective:
(22) Should it require that the draft plan for recovery of C. l. irremotus be logically expanded to encompass all other subspecies (e.g., C. l. nubilus) and areas which they once inhabited. This seems to be the most fundamental issue facing those who will re-draft the plan.

The outline of the history and current status of the NMRW (pp. 4-8) is admirably concise, if not concise to a fault. A few additional sentences
23) in the summary of the causes of the decline of the NRMW and its present situation could be usefully employed to describe the relative significance of predator control programs and the existing state laws and activities in this regard.

In the plan itself, there are sections that deserve special mention. The portions dealing with public education, such as 211-2 (p.13), may very well be the keys to improved support of wolf recovery efforts. Section 214 (p. 13), outlining a program for reduction of potential wolf-human conflicts is of enormous significance. Each sub-section should perhaps be cited as essential, but we would draw particular attention to 214-1 (assessing predator control programs) and 214-34 (providing for down-listing when appropriate). The determination of the NRMW's environmental requirements
24) (section 23, p. 15) should obviously be given high priority. However, a new subsection should be inserted between 233 and 234 (p. 16) to provide for the determination of the effects of wolves on other predators, especially the coyote.

Section 25 (p. 19) deals with identification of critical habitat. We regard the inclusion of "potential habitat" as imperative, though how the phrase "essential for...survival" is interpreted will make absolutely all the difference in application. The primacy given biological habitat in the determination of critical habitat (section 251, p. 19) is salutary. There is an important question that should be answered by the plan: If the present deadline (July 1, 1979) for determination of critical habitat does not permit sufficiently precise analysis, as is likely to be the case, what general procedures and criteria will be used to establish <u>interim</u>

designations? The answer to this question may depend on a formal administrative ruling of the U.S. Fish and Wildlife Service as to whether or not the designations will constitute a once-for-all-time decision. The Oregon Wolf Study Group wishes to go on record in favor of very conservative, (25) limited designations to meet the 1979 deadline, assuming that future additional designations may be possible. We feel there is a likelihood of adverse local reaction to designations which are not based on intensive studies, several years of experience with the recovery effort, and great improvement in public knowledge about the wolf.

Section 31 (p. 20) dealing with potential re-introductions, needs to be substantially redrafted. The importance of this part of the plan cannot be over-estimated since "viable populations" of the NRMW may not now exist (26) anywhere in the U.S. Sections 31 and 32 (first part) contain some repetitious tasks but are most in need of clarification. As written, these sections fail to distinguish between the analysis of areas in terms of biological habitat and in terms of potential human conflict. We propose a replacement draft for these fatally defective portions of the plan (see attachment). To summarize our proposal: It divides section 31 into two sections covering the same subjects. It would also eliminate the provisions (under section 3) for making re-introductions contingent upon recovery under section 2. A half-century of "recovery" in Yellowstone National Park under a roughly similar management program suggests the prognosis is poor without re-introduction.

The word "whether" has been replaced with "where," in the re-drafted sections 31 and 32, since the primary objective of the plan is unlikely to be accomplished in the absence of re-introduction.

The ordering of the new sections 31 and 32 is essential: the first order of business is to determine biological habitat, then questions of potential human conflicts must be raised. This sequence is not iron-clad, of course, in the sense that potential biological habitat will have to meet certain conditions of relative isolation from human and livestock populations. But the fundamental sequence is clear.

The term "minimal impact on human activities" is preferable to its equivalent contained in the Draft Plan. It refers more directly to objective, tangible effects that may be expected, as opposed to subjective suppositions and uninformed attitudes. Attitudes of people in the area can hardly be ignored; they may spell the success or failure of a re-introduction. On the other hand, their place is secondary to any rational, scientific analysis of predictable impacts. If an objective approach to determining potential wolf habitat takes a back seat to pre-formed opinion and prevailing prejudice against the wolf, it is a near certainty that the NRMW will never be recovered.

Attitudes of local and regional residents need to be assessed. There is a larger community of concerned and impacted citizens than live within the immediate vicinity of potential sites.

Finally, in regard to the assignment of tasks contained in the plan to various government agencies, the Oregon Wolf Study Group predicts that little if any recovery of the NRMW will ever come to pass if the individual
(27) states are granted the lead roles. Several reasons justify this bleak conclusion.

The Endangered Species Act of 1973 confers on a federal agency, the

U.S. Fish and Wildlife Service, authority to protect and enhance endangered species. One of the most important considerations in doing so was the fact that effective measures to deal with such species must often be multi-state and international in character. The historic range of C. l. irremotus covers several states, and management efforts correspondingly require more unity and coherence than can always be expected among various state wildlife agencies.

Moreover, it seems unlikely that individual state wildlife management budgets will coincidentally provide the financial resources required to implement the plan, since each agency will have different priorities. The possibility of federal funds for the plan's tasks does not obviate the need for strong federal leadership, since the limited number of qualified professionals are scattered in several states. An individual state's production of mass media information about the NRMW (section 211-2 of the Draft Plan), for example, could foreseeably suffer from a strongly parochial viewpoint, especially when many involved in the projects will be initially very poorly informed about the wolf themselves.

What it really comes down to, however, is that "states' rights," the traditional wildlife management role of the states, are legally superseded by national responsibility in cases involving endangered species. The members of the Recovery Team understandably wish to finesse this controversial new arrangement, but their recommended task assignments will protect "states' rights" to wolf management by almost ensuring that there will be no wolves left to manage. The NRMW Wolf Recovery Plan will indubitably require close cooperation and involvement of individual state wildlife agencies, but it is almost certain to fail if the U.S. Fish and Wildlife Service is not the lead agency for most of the work.

The history of state efforts on behalf of rare and endangered species management is a checkered one, to say the least. This is not to denigrate the good solid work accomplished by many agencies over the years and the dedicated and exceptional activities of some of their employees. It is equally clear that the U.S. Fish and Wildlife Service has not always been a model of an agency wisely executing its responsibilities under the law (the recent case of the eastern Peregrine Falcon comes to mind, for instance). But the unvarnished truth is that some states, in their management of some endangered species, have demonstrated a willingness to exterminate or deplete them to an extent that is not yet paralleled by the U.S. Fish and Wildlife Service. States have had enough difficulty coping with seemingly innocuous species (e.g., the snail darter), that it is begging disbelief to suggest they will actively pursue a management program to restore a creature whose very name conjures childhood fears and evocations of evil and whose imagined depredations on the local economic base are far out of proportion to the potential damage they might actually cause when properly controlled.

How can a viable Recovery Plan seriously suggest that states have lead responsibility for most tasks when two of them still allow bounties on the wolf? How can they be expected to conduct timely, objective, and comprehensive investigations into potential areas for re-introduction (as they would do under the Draft Plan's assignment for sections 31 and 32) while under immediate local pressure from the general public, businessmen, civic leaders, and politicians? As with many, many other federal laws, the Endangered Species Act was designed, in part, to ensure the achievement of national objectives even over the opposition of local and state authorities.

The Recovery Plan should assign a significant but not predominating influence to state wildlife agencies. That is the only way to ensure that the national objective of recovering the NRMW is the predominant guiding force in the actual work to be performed. If tasks completed under the lead role of the U.S. Fish and Wildlife Service, in cooperation with the states, indicate that the NRMW can probably not be successfully recovered anywhere outside its current tenuous range, that conclusion will be, ipso facto, more legitimate than one arrived at by the individual states. Independent research on controversial subjects always necessitates stringent safeguards: in this case the very minimal act of separating the lead agency from local politics and prejudices.

To adequately grasp the importance of assigning the lead role in most tasks to the U.S. Fish and Wildlife Service, one should compare the management of endangered species to civil rights legislation and administrative actions. In both cases the long tradition of states rights has been broken by federal legislation designed to protect minorities poorly treated by the majority. With regard to endangered species, there may be two minorities; the animals and the humans who advocate their preservation and restoration. Vigorous and lengthy federal civil rights action--by the judiciary, the Congress, and the executive--was required to force state compliance with national goals of the American people. Voluntary action by individual states was limited. The national will, as expressed in the Endangered Species Act, has occasionally forced state and local concerns to be subordinated to larger issues. Within the defiant states, the majority of leaders claimed federal civil rights action was unconstitutional and unnecessary, fomented violence, and would be the ruination of the region.

History documents the process as constitutional, necessary, overwhelmingly nonviolent (except for the efforts of those who claimed it would be otherwise), and a distinctive contributing cause of a booming economy. Federal control of the recovery of the NRMW is constitutional and necessary, will be gradually accepted locally, and will probably have at least a neutral if not positive effect on the economy. Finally, federal activities to guarantee the civil rights of a minority were initially opposed, very vocally, by the majority and leadership in the states affected. Today, the majority and leadership in the same region support the changes--wrought by federal action. Today, the majority and the leadership of the states in the historic range of the NRMW may be neutral if not hostile to the objectives of the recovery plan, and will be prone to block its attainment through inaction and active opposition. Tomorrow, however, with the positive results of federal actions demonstrated, the local and regional majority, and its leadership, will regard this national achievement as a positive one.

The conclusion of this analysis is clear: there is an unmistakable mandate for federal action to implement a Recovery Plan that would otherwise languish under state inaction or biased performance. Again, it bears repeating: the objectively predictable outcome of allowing state assumption of major recovery tasks will be the partial if not complete failure of the plan to accomplish its objective.

Draft Recovery Plan - Northern Rocky Mountain Wolf

Proposed Re-draft of Section 3 (Re-introductions)

(OREGON WOLF STUDY GROUP)

3. Re-establish populations in suitable areas within the former range of the NRMW, where viable populations do not now exist.

This segment sets out specific sequential procedures for re-introduction through restocking or transplant.

31. Determine where re-establishment is ecologically feasible.

311. Define and select all potentially suitable areas for transplant, based on existing and planned land use, vegetation, land ownership patterns, and other indicators of biological habitat.

312. Determine prey densities, distribution, and seasonal movements in the selected areas.

313. Estimate effect of establishing wolves on other wildlife, especially game animals and other predators.

314. Determine the taxonomic suitability of available transplant stock.

315. Determine role of parasites and diseases in re-establishment of wolves.

32. Determine where re-establishment would have minimal impact on human activity.

321. Determine human densities and use patterns.

322. Estimate effect of establishing wolves on livestock, including an economic analysis.

323. Determine local and regional public attitudes in the vicinity of selected areas.

324. Determine possible impact of transplant on public health.

325. Determine legal implications of transplant.

33. Investigate the feasibility of re-establishing the NRMW in specific areas.

331. Select most promising candidate areas -- those with the best biological habitat and least potential for impact on human activities.

[Etc. with re-numbered sections.]

RESPONSES TO COMMENTS FROM REVIEWERS

1. A disclaimer sheet has been added.

2. A brief discussion of habitat requirements has been added to the INTRODUCTION. The Team felt it was not possible to address specifics such as topography and vegetal structure, since the wolf may use most any habitat type which provides an adequate prey base.

3. The primary objective was reworded.

4. Recovery Team guidelines call for a three-year planning period with annual updating. The Recovery Team intends to work entirely with wild wolves, and does not view maintenance of captive wolves as a desirable step in recovery of the species.

5. Lead responsibility for item 133 has been assigned to the states.

6. This change was made.

7. This discrepancy was corrected.

8. Lead responsibility for item 234 has been assigned to the states.

9. This was clarified by changing item 236-3 to read "wild" prey.

10. This suggestion was followed. The explanation for items 25 and 26 were rewritten to clarify their meaning.

11. Lead responsibility for item 343 has been assigned to the Fish and Wildlife Service.

12. Items 212-1 and 212-2 have been removed from the implementation schedule.

13. The Team feels that taxonomic considerations are not of prime importance. The United States' list of endangered species refers to *Canis lupus* without subspecific designation. Furthermore, a subspecific determination would require a large series of recent skulls, which will be impossible to obtain considering the current status of the wolf in the Northern Rockies.

14. Item 14 pertains to survey and inventory efforts, while items 231 and 232 pertain to management oriented data. The costs are not duplicated.

15. The Forest Service is a cooperating agency in populations studies, not a lead agency. Roles of cooperators in addressing plan items should be coordinated with lead agencies.

16. The Team is aware of past reports of wolf activity in the vicinity of the Shoshone National Forest. The maps included in the plan are only intended to serve as a general guide to the location of geographic areas where wolf activity has been reported. The scale of these maps precludes definitive geographic description.

17. Funding of various plan items is recommended by the Team according to the implementation schedule. Each involved agency must program suggested funds for wolf recovery based on agency priorities and fund availability.

18. This oversight has been corrected in the final copy.

19. Timing of various activities relative to reintroduction will need to be coordinated between involved agencies.

20. These items are not out of order. Item 214-3 is scheduled to begin during the first year, with completion by the fourth year. Item 214 is ongoing.

21. The advice of the Office of Endangered Species was sought on this point. As a result, the subspecific name *irremotus* has been retained. A copy of that response is contained in the Plan.

22. The Team disagrees. We intend to deal solely with C. l. *irremotus* unless instructed otherwise by the FWS.

23. The Team disagrees. Further discussion of the reasons for decline would do little to enhance the Recovery Plan.

24. While such research would be enlightening, the Team does not feel it is of sufficient importance to recovery to warrant inclusion in this Plan.

25. The Team agrees that critical habitat identification should be approached with extreme caution.

26. Section 31 has been extensively re-written, based largely on the suggestions of the Oregon Wolf Study Group.

27. The Team disagrees. Full participation of state agencies are both necessary and appropriate. This concept is a substantial part of the Endangered Species Act, which includes provisions (section 6) for development of progressive state endangered species programs. Accordingly, leadership roles for state agencies have been retained.

APPENDIX I

BY: _____(name)
_____(address)
_____(occupation)

RETURN TO: Dennis L. Flath, Leader
Northern Rocky Mountain
Wolf Recovery Team
Box 5 - MSU Campus
Bozeman, MT 59715
OR CALL: (406) 994-4241

WOLF SIGHTING

Date: _____ OBSERVER: _____
(name)
Time: _____ _____
(address)
Weather Conditions: _____ _____
(occupation)
_____

Reason for observer being in area: _____
Number of observers: _____
Location: _____
_____
Specific habitat type: _____
Number of animals: _____
Size differences in animals: _____
_____
Distance between observer and animals: _____
Behavior of animals: _____
_____
Length of observation: _____
Type of observation: _____
(binoculars, riflescope, etc.)
Circumstances of observation: _____
(riding in car, hiking, etc.)
Physical characteristics of animals:
1) Color: _____
2) Size: _____
(estimate weight or compare to dog of similar size)
3) Position of tail: _____
4) Track size: _____
5) Any other characteristics which indicate wolf rather than dog or coyote: _____
_____
Was photograph taken? _____ Where is it? _____
Have you seen wolves before? _____ Where? _____
(wild, zoo, museum, etc.)
Relative nos. of prey (deer, elk, moose, etc.) in area: _____
_____
Number of humans in area: _____
(a lot, a little, etc.)
Straight-line distance to nearest people-occupied area: _____
_____
(ranch, town, road, campground, etc.)

Use reverse for any additional information.

APPENDIX II

BY: _____(name)

_____(address)

_____(occupation)

RETURN TO: Dennis L. Flath, Leader
Northern Rocky Mountain
Wolf Recovery Team
Box 5 - MSU Campus
Bozeman, MT 59715
OR CALL: (406) 994-4241

WOLF SIGN DATA

Date: _____
Time: _____
Weather Conditions: _____
_____

OBSERVER: _____
(name)
_____
(address)
_____
(occupation)

DEN TRACKS HOWLING SCAT KILL SCENTPOST
(circle appropriate ones)

Location: _____
_____
_____

Habitat type: _____
Minimum nos. of animals indicated by sign: _____ Maximum nos.: _____
Size of tracks: _____ Diameter of scat: _____
Length of pace: _____ Length of howling: _____
Was there evidence of large dogs in area: _____ Closest inhabitant with large dog: _____
(name and address)
Activity of animals indicated by sign: _____
_____
Detailed account of observed sign: _____
_____
_____
_____
_____
_____
_____
_____
(continue on back)
Relative nos. of prey items (deer, elk, moose, etc.) in area: _____
_____
Was photograph taken or picture drawn or cast taken, etc.? _____
If so, who has it now? _____
(name and address)
Total number of observers: _____
Amount of human use in area: _____
(heavy - light)
Straight-line distance to nearest people-occupied area: _____
_____
(ranch, town, road, campground, etc.)

Use reverse for any additional information.