MONTANA FISH, WILDLIFE AND PARKS
HUNTING SEASON/QUOTA CHANGE SUPPORTING INFORMATION

Species: Gray Wolf
Region: Statewide
Hunting District: Wolf Management Units 1, 2, and 3, respectively; North Fork Flathead subunit subquota
Year: 2009 Hunting Season

1. Describe the proposed quota change and provide a summary of prior history.

Background and Historical / Biological Context

Historical

Wolf recovery in the northern Rocky Mountains (NRM) has been underway since the late 1980s. The biological recovery criteria were first achieved in 2002. The U.S. Fish and Wildlife Service (USFWS) first delisted the gray wolf from the federal Endangered Species Act (ESA) throughout the northern Rockies in February 2008. That decision was challenged in federal court and a request for an injunction was eventually granted in July 2008. After reviewing the court order, USFWS eventually withdrew the decision. The combined actions of the court and the USFWS "relisted" the gray wolf under federal law. USFWS opted for additional agency review and public comment on an alternative delisting approach in the latter half of 2008. Also during the later half of 2008, the states of Montana and Idaho finalized a Memorandum of Understanding for the Protection of Genetic Diversity of Northern Rocky Mountain Gray Wolves. On May 4 2009, wolves were officially delisted a second time.

Renewed legal challenges are already underway in both the 9th and the 10th Federal Circuits. On June 2, a lawsuit was filed in Federal District Court in Missoula by a coalition of 13 environmental and animals rights groups. Another separate lawsuit challenging the USFWS delisting criteria was filed shortly after in the 9th Circuit by the Greater Yellowstone Coalition. While the two groups have their own attorneys, both those cases have now been consolidated in the Missoula District Court under Judge Molloy. Their complaint alleges the NRM wolf population is not recovered and that the delisting violates ESA for many legal reasons, including delisting cannot occur without an adequate Wyoming regulatory framework in place (which it currently does not). In addition, the State of Wyoming filed a lawsuit in the 10th Circuit (Cheyenne Wyoming) challenging USFWS's rejection of Wyoming's regulatory framework and the Wyoming state wolf management plan. Park County, Wyoming is expected it file its case on Friday June 19, also arguing Wyoming should have been delisted.

As of June 19 2009, a preliminary injunction request had not been filed with the Missoula Federal Court. Further, it is unknown whether the litigants would request an injunction similar to 2008 and if so, how it would affect Montana. Montana will seek to intervene in support of federal delisting and would oppose an injunction request. Nonetheless, FWP continues to prepare for a 2009 wolf hunting season concurrently.

Despite legal challenges, the FWP Commission adopted a final wolf hunting season structure for the biennium (fall 2008 and 2009) in February 2008 (see the draft wolf regulations). It is based on

a quota system in which the number of wolves that could be legally harvested is pre-determined and finalized on an annual basis. Among other parameters, the Commission approved three Wolf Management Units (WMUs) and provided the mechanism during the annual quota setting process to define smaller, specific areas (subunits) that have specific harvest subquotas that apply towards the larger WMU total quota. Supporting information documents were provided to the Commission as a part of that decision process.

In June 2008, FWP recommended and the FWP Commission approved a tentative statewide wolf quota of 75 wolves. That total conservative quota of 75 was partitioned out to establish a quota for each of three WMUs and the North Fork subunit, respectively. FWP received public comment on that tentative quota. Thorough supporting information documents were prepared and provided to the Commission at that time. However, the court-ordered injunction was issued on July 18, just prior to pending FWP Commission final action on a 2008 quota. The injunction rendered mute any further consideration of a fall 2008 season and final quotas by FWP and the Commission. No licenses were sold and no season occurred.

Also during the latter half of 2008, FWP completed an administrative rulemaking process. The Commission approved final rules in September 2008. These administrative rules took effect on May 4, 2009 immediately upon delisting. The gray wolf was automatically reclassified as a species in need of management in administrative rule; furthermore, Montana Administrative Rules and state laws replaced federal regulations. Thus, the Commission has the authority to establish and regulate public harvest for wolves as a species in need of management. The FWP Commission has previously reviewed Montana's Wolf Conservation and Management Plan and concurred with its direction and approach.

The 2008 / 2009 biennial wolf season structure previously approved by the Commission is still in place for the 2009 season. During its development, FWP and the Commission explicitly considered wolf biology (e.g. dispersal, mortality sources levels, reproduction, disease etc.) as well as wolf-livestock conflict resolution, and regional-scale topics such as connectivity and genetic exchange. Season dates, methods of take, wolf management unit delineation, and harvest limits were grounded in knowledge of wolf ecology in Montana and the published literature at the time the regulations were finalized. The wolf hunting regulations are also based on principles of fair chase (e.g. wolves could not be chased with motorized vehicles or purposefully baited to a site and killed).

The season structure approved by the Commission in February 2008 did not include trapping. Thus, for both 2008 and 2009, no special trapping permits would be offered. In the absence of trapping in 2009, the total wolf harvest quota would be allocated to a fair chase hunting season that closes December 31 or when the WMU quota is reached, whichever is sooner.

The Commission did not adopt final quotas in July 2008. At that time however, the Commission received information about how FWP approached its wolf quota recommendation using a model that simulated harvest. FWP re-ran the same model using 2008 wolf population data to provide insight into the effects an initial harvest season would have on the wolf population at the end of the calendar year of the harvest. See the document Wolf Harvest Model Simulation Information Supplement July 2009 for greater details.

On May 14 2009, FWP proposed a range of tentative wolf quotas for a fall 2009 hunting season ranging from zero (no harvest) to 207 at the statewide level, with individual WMU quotas. The FWP Commission adopted a range of tentative statewide quotas of 26-165 after discussion and public comment. The model predicted an increasing population (after harvest) from 2008 to 2009 for the entire range being considered. The levels of population increase get progressively smaller as the quota number increases. (See the Wolf Harvest Model Simulation Information Supplement July 2009).

FWP and the Commission intend to implement harvest conservatively so that population viability and species recovery are not compromised. The final wolf season structure approved by the Commission in February 2008 assured that, regardless of the exact quota number adopted by the Commission, safety nets were incorporated so that regulated public hunting would not jeopardize the recovered wolf population.

These included:

1. Establishing quotas at a time of year (tentative in May and final in July) so that the most current monitoring data could be considered;
2. Creation of a 1-800 hotline update so that hunters would know whether or not wolf harvest was legal (i.e. quota was open) prior to going hunting;
3. Mandatory reporting of successful harvest within 12 hours so FWP can closely monitor hunter success and quota status;
4. Mandatory carcass inspection within 10 days;
5. Closure of the season upon a 24-hour notice when a WMU or subunit quota is filled;
6. FWP authority to initiate a season closure prior to reaching a quota when conditions or circumstances indicate the quota may be reached within 24 hours;
7. Definite season-ending closure date, regardless of whether the quotas were reached;
8. Emergency season closure at any time by order of the FWP Commission.

It is important that FWP and the Commission also fully consider potential harvest quotas relative to the state's commitment to maintain a recovered Montana population and ensure connectivity, as outlined in the state plan and the administrative rules. Further, the secure status of Montana's wolf population should not be jeopardized after the first year of public harvest or at anytime thereafter. Montana must also consider its unique responsibility to assure connectivity with other wolf populations in British Columbia, Alberta, Idaho, and Wyoming.

Biological

At the statewide level, at least 15 BPs statewide are required to offer any public hunting and trapping opportunities. Managing for higher wolf numbers affords a greater degree of flexibility when addressing wolf-livestock conflicts, allows for higher levels of public harvest opportunity, and buffers any unexpected environmental events such as weather-induced prey declines or disease / parasites in the wolf population without jeopardizing population viability and species recovery. Harvest needs to be implemented in such a way that accounts for the dynamic aspects of conflict management and wolf population ecology.

The Montana wolf plan outlines an adaptive management framework, through which FWP will

work to integrate gray wolves into the natural and human landscapes (Montana Fish, Wildlife & Parks 2003). Wolves will be conserved and managed in conjunction with Montana's other resident wildlife. As a part of that, FWP and the FWP Commission can consider implementing a wolf hunting season so long as there are at least 15 breeding pairs in the state. At the end of 2008, FWP documented a minimum of 34 breeding pairs (Sime et al. 2009).

With recolonization and the subsequent reintroduction of wolves into Yellowstone National Park and the central Idaho wilderness, the number of wolf packs in Montana has increased and wolf pack distribution has expanded. The typical and most influential mechanism to increase wolf numbers and distribution is dispersal and formation of new packs in new places. Based on data gathered from radio-collared wolves, the average dispersal distance is about 60 miles. Wolves have been documented to disperse twice that distance (120 miles) and even longer. The longest distance dispersers (>180 miles) had significantly lower survival and most did not breed.

To simulate dispersal in any direction from the geometric center of wolf pack territories from 1989 to 2008, FWP did some exploratory mapping. FWP buffered the geometric center by 10-mile increments and delineated a line where the Northwest Montana and the central Idaho wolf packs appear to be within 60 miles of wolf packs in the Greater Yellowstone area. The line is buffered and shaded on either side to display the average dispersal distances of 60 and 120 miles (Figure 1).

Dispersal has another important biological function – namely to maintain genetic diversity in a wolf population. The gray wolf has a very strong inherent tendency to "outbreed" and will thus seek to breed with unrelated individuals. Figure 2 shows the origin and end point of dispersing radio-collared wolves in the northern Rocky Mountains from 1995-2005.

Proposed Final Statewide Quota and Individual WMU Quotas

Statewide

FWP proposes a final 2009 statewide wolf quota of 75, partitioned into three individual WMUs as shown in Table 1 (see bold) and Figure 7. FWP also proposes a final North Fork Flathead Subunit subquota of 2 wolves (that would count towards the total quota for WMU 1; see separate section below). For comparison, Table 1 also shows two other options adopted by the FWP Commission as tentative quotas for the purposes of gathering public comment. Numerical and graphical results of modeling efforts for statewide quotas of 26, 51, 101, and 165 are presented in a separate document (Wolf Harvest Model Simulation Informational Supplement, July 2009).

Table 1. FWP's proposed final statewide quota of 75, bracketed by two other alternatives approved as tentatives by the FWP Commission in May, 2009).

TOTAL QUOTA (mean harvest rate across 3 WMUs)	WMU 1 QUOTA	WMU 2 QUOTA	WMU 3 QUOTA
26 (5%)	14 (2 subquota)	6	6
75 (15%)	**41 (2 subquota)**	**22**	**12**
165 (30%)	86 (2 subquota)	50	29

A total quota of 75 wolves equates to an average 15% harvest rate across three WMUs. This harvest rate is well within the range of sustainable harvest rates based on the literature and the current Montana wolf population (Fuller et al. 2003; Sime et al. 2009). Despite its limitations, the model predicted that the Montana wolf population would increase from 2008 levels to about 655 wolves in 117 packs, 52 of which would qualify as breeding pairs. The model did not predict any "risky" outcomes.

FWP proposes to assign the total statewide quota across the three WMUs as follows: 41 wolves in Northern Montana WMU 1 (N. Fork Flathead subquota of 2); 22 wolves for Western Montana WMU 2; and 12 wolves in WMU 3. See Table 2 for the proposed quotas and Figure 3.

The quota proposed in WMU 1 is higher than the other two WMUs because of the strong population growth here compared to the other WMUs in recent years (Figure 5). WMU 1 had the greatest number of wolves and wolf packs of any WMU (256 wolves at the end of 2008). WMU 1 had about the same number of wolves at the end of 2008 as did WMUs 2 and 3 combined.

FWP is proposing a higher a quota of 22 wolves for WMU 2 compared to 12 in WMU 3, even though the wolf population in WMU 3 is slightly larger than WMU 2 (Figure 5). Although both areas have a similar level of wolf mortality due to agency lethal control, WMU 2 adjoins Idaho which has a large "core, protected" backcountry wilderness complex and a large, robust wolf population. Thus, dispersal from Idaho into Montana appeared to contribute to strong population growth in WMU 2 in recent years. This dynamic is expected to continue into the future, though perhaps at a decreased rate depending on state management in Idaho. Interstate / interagency coordination with Idaho will assure proper quota adjustments within each state to assure continuation of connectivity across the border.

FWP is proposing the lowest quota for WMU 3, due in part the conservation need to assure connectivity across the southern extent of the northern Rockies federal recovery areas. An additional consideration was the decline in the wolf population within Yellowstone National Park in 2008. This will likely mean decreased number of wolves dispersing from the park into Montana in the next 1-2 years. Interagency coordination will assure adequate information exchange. Given the high livestock densities in counties surrounding the park and the level of agency lethal control to address conflicts in previous years, FWP proposes the most conservative harvest rate (10%) for WMU 3 compared to the other two for this first hunting season (Table 2).

Table 2. Proposed harvest rates and quotas in each of three Wolf Management Units, including a North Fork Flathead subunit subquota (2 wolves) within WMU 1.

Statewide Quota of 75	**Harvest Rate** (as % of estimated population in the WMU)	**Proposed Quota (subunit subquota)**
Northern Montana, Unit 1; (North Fork Flathead subunit)	15%	41 (2)
Western Montana, Unit 2	20%	22
Southwestern Montana, Unit 3	10%	12
STATEWIDE	15% average	75

North Fork Flathead Subunit

FWP proposes a final subunit subquota of 2 to address a conservation need and to assure connectivity and genetic exchange. Glacier National Park is an important foothold to maintain connectivity between the northern Rockies wolf population on the U.S. side of the border and the more numerous and widely distributed wolf populations of Alberta and British Columbia, which in turn are contiguous with wolf populations in northern Canada and Alaska. The subunit quota will also provide secure protections that will maintain wolf packs in and around Glacier National Park and the Bob Marshall Wilderness Complex which is easily within dispersal distance of the North Fork of the Flathead River drainage. Glacier National Park and the Bob Marshall function as "core, protected" habitats in contrast to most of the rest of the Montana landscape that is generally fragmented. More detailed information about this proposed subunit subquota was provided to the Commission in 2008. See Appendix 1 below for the legal description of the subunit.

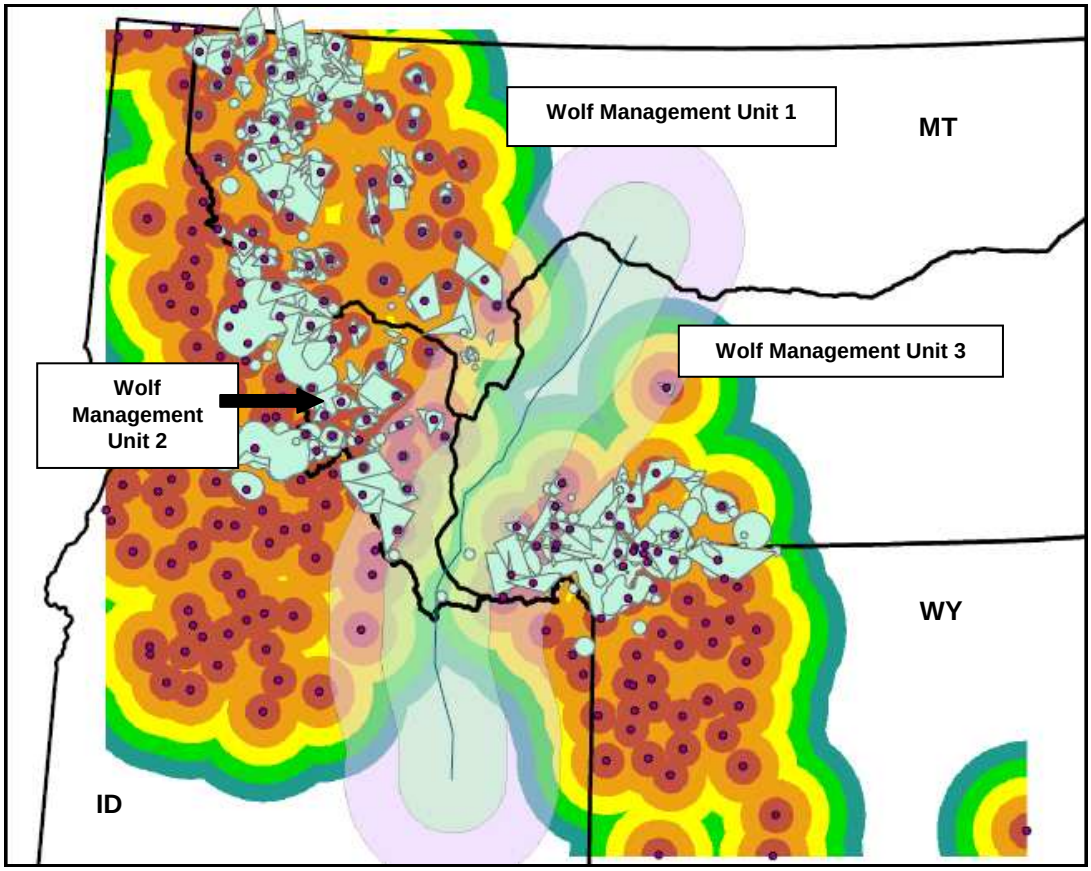

Figure 1. Map of wolf pack territories from 1989-2007 (teal colored shapes) and 2008 wolf pack territories (smallest dots) in Montana and near the state borders showing the geometric center buffered by 10-mile increments to simulate wolf dispersal in 360 degrees from the center. The line and shaded portion separating the Northwest Montana and central Idaho subpopulations from the Greater Yellowstone subpopulation depicts the average dispersal distance of 60 miles (30 miles on either side of the line) and two times the average or 120 miles (60 miles on either side of the line).

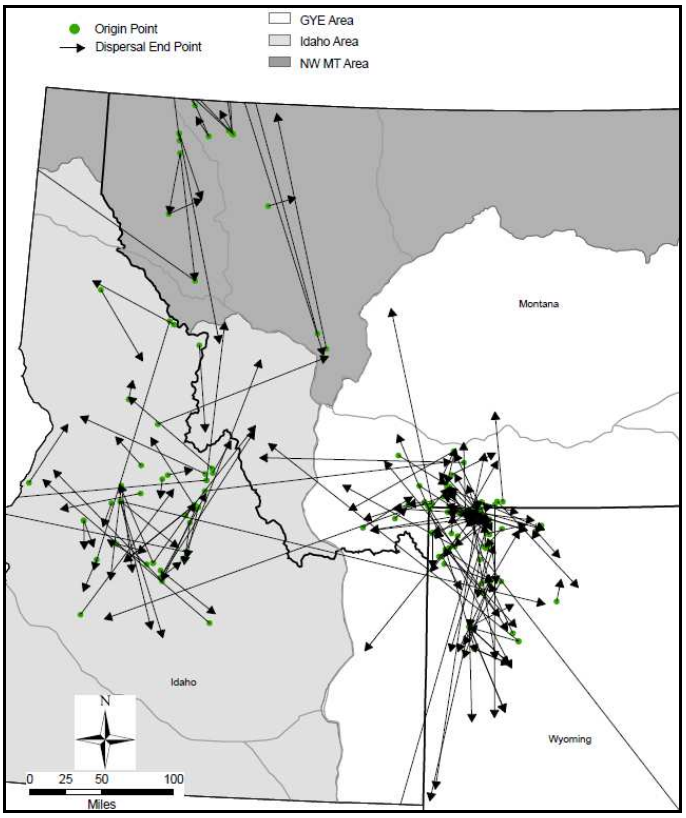

Figure 2. Map of the origin and end points of radio collared wolves dispersing in the northern Rocky Mountain federal recovery area, 1995-2005.

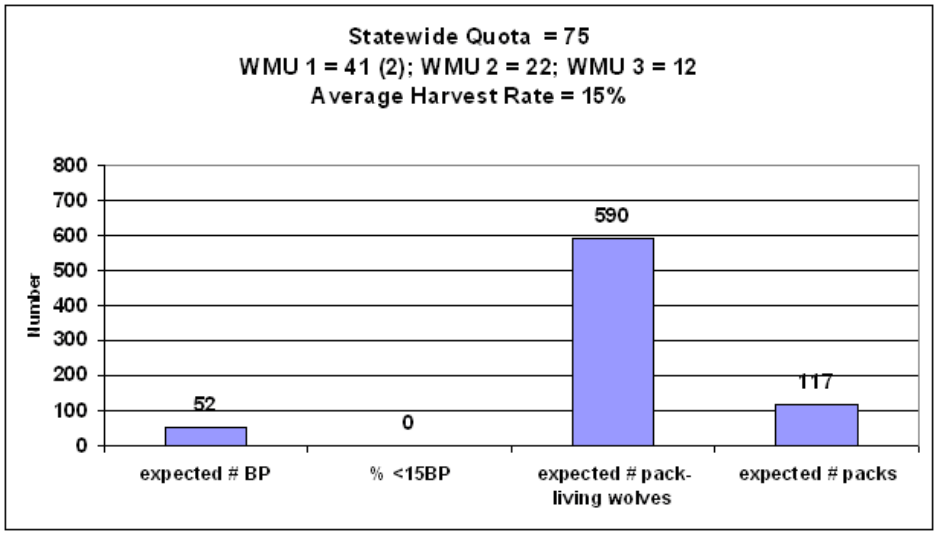

Figure 3. The model predicts 590 wolves in established packs after the first year of harvesting of a total of 75 wolves statewide (15% average harvest rate. After accounting for lone / dispersing wolves, the model predicted 655 wolves. There is no risk of the lower confidence interval dropping below 15 breeding pairs. These results are based on 1000 simulations of the previously described model, using final 2008 wolf population data.

Summary

To summarize, the combination of the wolf season structure and the proposed final quotas demonstrate affirmative steps taken to meet wolf population and connectivity requirements.

These are:

- conservative statewide and individual WMU quotas in the first year of harvest are predicted to maintain a stable or increasing wolf population
- mandatory call-in by successful hunters affords diligent management of progress towards filling quotas
- bag limit per hunter is one wolf to decrease the chance of shooting out an entire pack
- December harvest during the dispersal season is capped at 25% of the total WMU quota to increase the survival and dispersal probability of individual wolves
- mandatory skull / pelt inspection to track age / sex / origin of harvested animals
- conservative North Fork Flathead subunit subquota (2) to maintain demographic connection with wolf populations in Canada / Alaska and the rest of the northern Rockies metapopulation

FWP has carefully considered the need to begin wolf harvest conservatively due to uncertainty. There are many sources of uncertainty, including the fact that wolves have never been hunted in Montana as a managed species through fair chase, regulated means. Further, FWP does not have a reliable way to predict participation, hunter success, wounding loss, spatial distribution of harvest, and wolf vulnerability to harvest in the first year. All would be assumptions, with no way of validating them until after the fact. Mechanisms are in place through mandatory harvest reporting, pelt / skull inspection, and the annual telephone harvest survey to gather new information about wolf hunting and to fully assess these unknowns.

Some insight can be gleaned from the published literature, though the findings vary with the study area and management framework. A wolf population can generally withstand a range of about 30-50% total human-caused mortality and remain relatively stable, depending on a variety of variables and environmental conditions. The overall size of the population from which wolves are removed and the size and proximity to other populations appear to be particularly important considerations. Mortality levels exceeding 50% are generally required to initiate a population decline. Other important factors highlighted in the literature include: overall wolf density and population size, pup survival, immigration / emigration rates at local and regional scales, the size and proximity of other wolf populations, the size and juxtaposition of core protected areas having low levels of human-caused mortality, road density, habitat condition, degree of habitat fragmentation, other non-harvest mortality (e.g. lethal control), prey populations, and livestock density (Fuller et al. 2003; Oakleaf et al. 2006, Person and Russell 2007; Brainerd et al. 2008; Adams et al. 2008).

Some field studies are beginning to examine the potential and degree to which regulated public harvest mortality can compensate for (decrease) other mortality. No firm results are available yet. FWP has the same question relative to whether public harvest could lead to a decrease in wolf-livestock conflicts and the need for agency lethal control. Data gathered in Montana will help provide answers. FWP's model made the conservative assumption that harvest would be additive to all other mortality.

FWP efforts are already underway to refine and improve its model and develop mechanisms imbedded in the modeling process itself to learn more about wolf population dynamics in conjunction with public harvest and conflict management. Subsequent population monitoring efforts and better models within the adaptive management framework will allow FWP and others to improve knowledge and reduce the level of uncertainty as more experience is gained through time.

2. Why is the proposed change necessary?

FWP is proposing a conservative quota for the first fair chase, public wolf hunting season in its history. FWP expects that much will be learned about the level of hunter interest in harvesting a gray wolf, the extent to which wolves on the Montana landscape are vulnerable to harvest, how successful Montana hunters will be, and how the population responds. The adaptive management framework and the Commission season setting process will allow FWP to adjust the season structure / quotas in the future.

Regulated public hunting as a wildlife management tool helps balance wildlife populations with ecological and social carrying capacities. Moreover, fair chase, regulated public hunting will enhance acceptance of wolves because the public will more fully participate in wolf management. This, in alignment with their conservation ethic and the state's hunting heritage and tradition, will ultimately develop an additional constituency through time much in same way as witnessed for mountain lions. Initiating public harvest at this time gives FWP the opportunity to implement a conservative season and gain experience with a new management tool. It is FWP's expectation that public harvest will help fine tune wolf numbers and distribution, which may provide some relief in areas prone to chronic wolf-livestock conflicts. It will also provide some relief to prey populations (deer / elk) in areas where predation by a variety of carnivores has contributed to low recruitment.

As part of a research project to develop more cost effective ways of monitoring the population and decreasing the reliance on radio collars, FWP included a set of questions during the annual big game harvest and hunting telephone harvest surveys in 2007 and 2008. Deer and elk hunters were asked if they hunted. If so, hunters were asked if they saw wolves while hunting. If wolves were seen, hunters were asked when they were seen, how many were seen and to name a landmark or drainage where the wolves were seen. Interpretation of the following data should be made with some level of caution as the data are self-reported to the FWP telephone caller, with no way for FWP to verify sightings or confirm landmarks. Lastly, whether or not the wolf could have been harvested is unknown, as hunters were not asked the question. In general, FWP suspects that most wolves would be harvested opportunistically to other big game hunting, elk hunting in particular. Therefore consideration of these data may be useful.

In 2007, 2,493 of 47,611 statewide deer/elk hunters who hunted reported seeing one or more wolves while hunting. This represents 5% of the total statewide deer/elk hunters. A total of 2,336 reports (out of 2,493) could be positively attributed to a landmark or drainage, mapped, and assigned to a WMU. A total of 951 (of 2,336; 41%) positive wolf sighting reports occurred in WMU 1. A total of 585 (34%) were mapped in WMU 2, and 800 (34%) were mapped in WMU 3. Across all WMUs, a total of 2281 (81% of the total) hunter wolf sightings occurred after October 21 and before November 25, roughly the same time period as the 5-week general big game season.

In 2008, 5,558 of 77,781 statewide hunters who hunted deer/elk reported seeing one or more wolves while hunting. This represents 7% of the total statewide deer/elk hunters. The data are still being analyzed so the spatial distribution of those sightings and when they occurred are not available at this time, but should be by December 2009 at the start of the next biennial season setting process.

Nonetheless, there is rigorous debate about how effective or successful big game hunters might be. Big game telephone harvest survey data suggest that hunters detect wolves when hunting where FWP has verified that wolf packs exist (independently through field monitoring). The total number of elk hunter days per square mile at the individual deer/elk hunting district is another plausible surrogate for considering how successful rifle hunters will be and whether a quota would be filled. In WMUs 1 and 2, about 33% of wolf packs in the WMUs, respectively, occur in districts having 20 or more elk hunter days per square mile. In WMU 3, that number is about 50%. Therefore, big game hunters may be more successful than assumed and the quotas could plausibly be filled by December 1. See Figure 4.

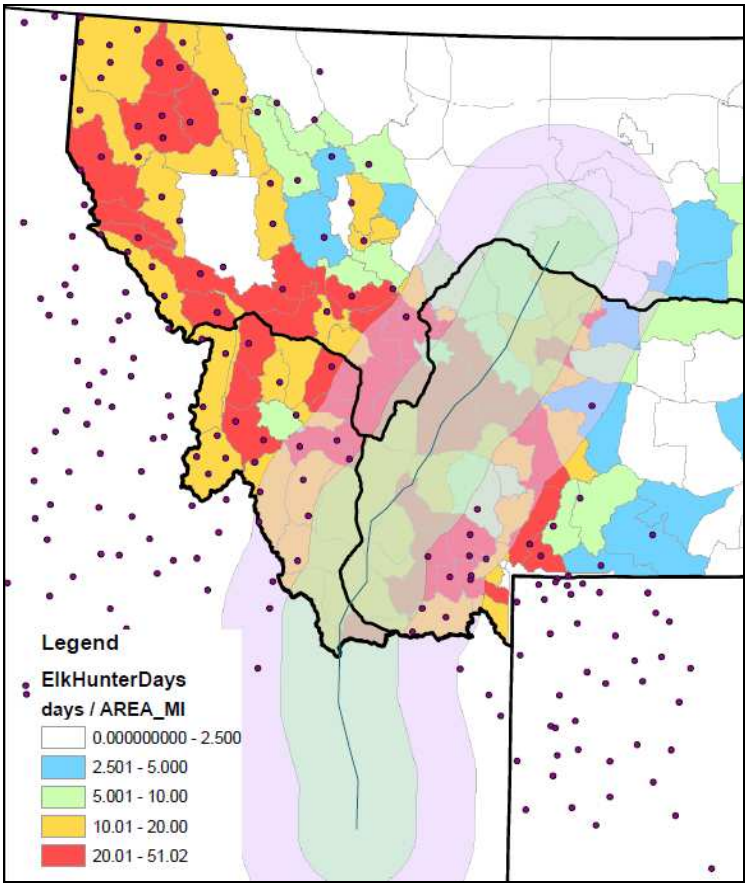

Figure 4. Map of 2008 wolf pack territories (small dots) in Montana and near the state borders and the number of elk hunter days during the 2008 big game hunting season. The line and shaded portion separating the Northwest Montana and central Idaho subpopulations from the Greater Yellowstone subpopulation depicts the average dispersal distance of 60 miles (30 miles on either side of the line) and two times the average or 120 miles (60 miles on either side of the line).

3. **What is the current population's status in relation to management objectives?**

The Montana wolf population is securely recovered, though dynamic. As of December 2008, the most recent minimum estimate for Montana was 497 wolves in 83 packs, 34 of which were breeding pairs (Figure 6, Figure 7; Sime et al. 2009). The statewide population has trended upward since the mid 1980s and most noticeably since 2004. Increasing trends since 2004 are also evident at the individual WMU level (Figure 5). Some of that increase is probably actual population increase and part is likely due to increased monitor efforts by FWP compared to previous USFWS efforts.

Recent population increases have occurred even with an estimated average total annual mortality rate of about 30% in Montana from 2005-2008 based on a radio-collared sample. The rate of wolf population growth in Montana appears to be slowing down as the highest quality habitats with the lowest potential for conflicts are occupied. Previous annual increases have been in the 20-35% range year to year, but the most recent increase from 2007 to 2008 was 18%. For comparative purposes, the mathematical approach to account for lone wolves was applied to 2008 wolf population data and compared to the predicted model results for the option of a statewide quota of 75. If hunters successfully harvested 75 wolves statewide, the total population could increase 20-25% from 2008 to 2009. FWP believes it prudent to start off slowly so as to enhance the odds of withstanding an injunction request, should one be submitted to the Federal Court in an effort to block the 2009 season from being implemented.

The number of breeding pairs is comfortably above the 15 breeding pairs level required to offer harvest opportunity. Furthermore, the total number of wolves and the number of breeding pairs are also comfortably above levels which could trigger relisting under ESA.

FWP is aware that it the proposed final quota is predicted to result in an increasing or stable population the following year. Managing for higher wolf numbers than the minimum required in the first year after delisting and thereafter is prudent. It affords a greater degree of flexibility when addressing wolf-livestock conflicts and the application of lethal control. It allows for higher levels of public harvest opportunity in the future after greater knowledge is gained. Furthermore, it also facilitates connectivity, can enhance ecological processes and benefit other species, and buffers any unexpected environmental events such as weather-induced prey declines or disease / parasites in the wolf population. Alternatively, higher wolf numbers can result in increased livestock damage, decreased hunter opportunity, the potential for prey declines, or slower rates of prey population increases after a decline.

Yet as wolf numbers have increased, so has the level of confirmed wolf-caused livestock losses and the number of wolves killed to resolve conflicts. And it appears that in some places, wolf predation has been a factor in prey population dynamics. Thus, harvest needs to be implemented in such a way that accounts for the dynamic aspects of conflict management, wolf population ecology, prey populations, and all the social factors surrounding wolf management.

4. **Provide information related to weather/habitat factors that have relevance to this change.**

Initiation of a wolf hunting season will help FWP manage and fine-tune wolf numbers and distribution more proactively. Anecdotal evidence over the last several years seems to indicate that larger packs may have a greater tendency to injure or kill domestic livestock than when the same pack had fewer members. FWP believes that public hunting (and trapping at some future date) will help maintain smaller pack sizes for those packs which routinely encounter livestock and live on or near private lands. It may even completely remove packs that are chronic sources of conflict.

An additional consideration when adopting harvest quotas is Montana's "defense of property" law that allows a person to haze, harass, or kill a wolf seen actively attacking, killing, or threatening to kill or killing livestock. The defense of property statute (MCA 87-3-130) and new ARM rules will take effect upon delisting when federal regulations expire. The flexibility afforded under state law is similar to the federal 10j experimental regulations that applied to southern Montana since 2005. Thus delisting and transitioning to the state legal framework does not create more liberal means for private citizens to kill wolves caught in the act attacking, killing, or threatening to kill livestock across southern Montana. The current modeling effort would have already taken that mortality into account based on 2007 / 2008 levels. The actual number of wolves killed in defense of livestock has been 4-7 per year since 2005.

However, transition to state law does provide new flexibility to livestock owners across northern Montana. Under the federal regulations in the endangered area, livestock owners did not have that flexibility. While some of Montana's highest livestock densities, thus most wolf-livestock conflicts occur in southern Montana, wolf packs across northern Montana can and do encounter livestock. FWP acknowledges that a small number of wolves could be killed when caught in the act of killing or threatening to kill livestock. The number is expected to be similar to southern Montana. Within an adaptive management framework and given the context of this conservative quota proposal, FWP does not expect that the additional mortality in WMU 1 (which is not explicitly accounted for in the model) will be problematic.

Weather-initiated declines in white-tailed deer populations in WMU 1 have triggered public concern about the level of predation by wolves and mountain lions. Similar public concerns about increasing wolf numbers in WMUs 2 and 3 have also been raised by deer and elk hunters and some landowners. Prey declines due to the combination of weather, habitat, predation, and human harvest led FWP to decrease hunter opportunity in some places in occupied wolf range. Many of these areas also support resident black and/or grizzly bears, mountain lions, coyotes, and other predatory carnivores. In conjunction with lower human harvest levels, initiation of a conservative wolf season to start with may provide some initial relief to prey populations as environmental conditions improve.

5. Briefly describe concerns with this proposal or contacts made.

Public Comment - Statewide Quota

The public was invited to comment on the statewide range of quotas and the individual WMU quotas. The public was also asked to comment on the tentative North Fork Flathead subunit subquota of 2 wolves (which would be applied to the total quota for WMU 1). Lastly, the public was also invited to submit any other general comments specific to the proposal.

FWP received about 180 comments from 14 different states, including Montana. The vast majority were submitted through the Internet / Survey Monkey, but some were received in other formats. The majority of all comments received were from Montana residents.

As expected, a wide variety of preferred options and outcomes was expressed. Clearly, wolves are viewed as "the public's wildlife" by a diverse public, having very diverse expectations and desired outcomes. Most of the comments support the higher statewide quota of 165 wolves. There is also support for both 75 and 26. Some comment also supported a "no hunting" / zero quota option.

Comments in support of the highest quota option reflect concern about wolf predation and the status of deer/elk/moose populations. In some cases, specific places were mentioned where hunters were concerned about wolf numbers being too high and responsible for declines in deer/elk populations and poor hunting conditions and poor success. Preferred approach for these folks is to adopt the highest wolf quota to decrease wolf numbers.

Comments in support of the statewide option of 75 reflect interest in getting a season underway and that 75 would be a reasonable "start." Some comments noted the uncertainty of the outcomes of a wolf hunting season. A few other comments supported the notion that striking a balance between diverse interests (higher quota vs. no / low quota) is important and would be constructive in the broader arena.

Comments in support of the statewide option of 26 reflect interest in starting even more conservatively than the 75 option. Reasons often cited are high levels of agency control for livestock conflicts, higher levels of harvest may lead to packs breaking up, a need to build credibility and trust, support for wolves in general, and a need to take a slow / careful approach with the first season. Lastly, concerns that hunting may impact connectivity.

Comments in support of no hunting (zero quota) reflect clear opposition to any hunting whatsoever. Reasons cited are wolves are not consumed for meat / trophy hunt is not a legitimate reason to hunt wolves, pack disruption, hunting is only being considered because of pressure from special interests, the transition from a listed population to a delisting / hunted population is too abrupt, etc.

Some will criticize FWP's proposed final quota as being too conservative and suggest that it be raised. Still others will criticize the proposal as too liberal and suggest that it is "too soon" to begin hunting a delisted wolf population in Montana, at any level. The diversity of input was also a factor in FWP selecting the mid-range number of 75 as its final proposed statewide quota.

Public Comment - North Fork Subunit

Comments regarding this tentative were more varied. Some said the subquota was too low (big game hunting has been poor; too many wolves) and some said the proposed subquota was about right. A few comments requested the quota be zero. Many said they were not familiar with the area and felt it inappropriate to comment about something / some place they don't know much about.

Public Comment - General / Other about the FWP Proposal

Connectivity: a few comments spoke to the belief that FWP needs to do a better job facilitating connectivity between the Greater Yellowstone and Central Idaho recovery areas and Yellowstone National Park in particular. A few comments requested FWP to create a southwest Montana subunit subquota.

General Benefits of Wolf Presence: a few comments spoke to the ecological value of having wolves back in the system, role of predation, tourism benefits, etc.

General Costs of Wolf Presence: wolves compete with hunters for game, wolves kill too many ungulates, population has not been managed and is too high, too much livestock damage and wolf hunting should help, etc.

Other: FWP proposals seem well thought out, need to implement a trapping season, hunting seasons should still sustain ability of the public to enjoy wolves non-consumptively, etc.

Concerns

There was significant public support to initiate a hunting season and to adopt the highest quota possible (165 or even greater), given wolf biology and sincere concerns about the status of deer/elk populations. The rate of wolf population increase certainly has been robust and the harvest simulation model predicts that higher quotas would not jeopardize the population. FWP does acknowledge the limitations of the model and that the assumptions are somewhat unrealistic. Further, there is some level of uncertainty about the outcomes of the first season. After the first season, FWP and the Commission will have the opportunity to made adjustments. Most importantly, however, FWP also believes that starting with a well-reasoned, conservative season allows Montana to make a positive showing in the delisting litigation and possible injunction request. FWP prefers to get a limited hunting season underway (and learn from it) compared to the potential alternative of no hunting at all while the delisting litigation proceeds.

Many comments noted that FWP should do more to address connectivity requirements for achieving recovery and sustaining a northern Rockies metapopulation. Several noted Montana's unique geographic link with wolf populations in Canada / Alaska and the Greater Yellowstone Recovery area (which includes Yellowstone National Park and all of Wyoming). Some comments expressed concern that "park" packs can and do travel outside the park into Montana to areas with a strong elk hunting tradition and thus, could be vulnerable to harvest. Some comments requested a "no-hunting" buffer zone along the boundaries of Yellowstone National Park. Other comments expressed concern that lack of a southwest Montana subunit could increase hunting-related mortality, which could in turn impede sufficient dispersal from northwest Montana or central Idaho

into the Greater Yellowstone area to fulfill connectivity requirements.

The Summary section above noted affirmative steps Montana has taken, the most important being a low overall statewide quota and conservative quotas in WMUs 2 and 3. These low quotas will not jeopardize recovery, nor are they likely to impair connectivity or the probability of successful dispersal. Furthermore, FWP suspects that the quotas would be filled by December 1 anyway, if distribution of elk hunter days (effort) and the potential for opportunistic wolf harvest by elk hunters is any predictor.

However, FWP is aware that wolf populations in WMUs 2 and 3 are strongly influenced by immigration and wolf dispersal from Idaho and Yellowstone National Park into Montana, respectively. Depending on how those populations perform under their respective management frameworks (in conjunction with natural fluctuations due to prey availability or disease etc.), dispersal rates may be either positively or negatively affected – thus, connectivity may be affected. If so, FWP may need to adjust quotas, create more subunits / subquotas, or change the season structure in the future and is prepared to do so, in conjunction with the Commission.

Genetic diversity in the northern Rocky Mountain wolf metapopulation is currently high and is not a problem. However, careful management of wolf mortality and managing for greater than the minimum number of wolves required by the federal government will be important to enabling adequate numbers of successful wolf dispersal events and maintaining high levels of diversity. If total mortality increases (e.g. agency control, hunting, disease, stochastic events) and is not offset by sufficient reproduction and adequate survival to breeding age to prevent steep population declines, connectivity and genetic diversity could become concerns. As noted above, more refined management at the quota or subunit / subquota level or even adjustments to the season structure could be implemented. Greater attention could also be placed on application of agency lethal control, increasing field-based monitoring to increase data reliability, along with more careful management of human-caused mortality for packs along the margins of the shaded area depicted in Figure 1. The interagency genetic diversity MOU commits Montana, along with Idaho and the federal government to monitoring protocols that should enable detection of emerging conservation issues.

Appendix 1: Legal Description of the North Fork Flathead subunit

Proposed “North Fork Flathead” subunit within WMU 1

Beginning on the U.S./British Columbia border west of Frozen Lake, proceeding southerly along the Whitefish Divide to the top of Big Mountain, then proceeding easterly from the top of Big Mountain down Canyon Creek to the North Fork of the Flathead River, then northerly up the middle of the North Fork of the Flathead River to the U.S./British Columbia border, then westerly along the U.S./British Columbia border to the Whitefish Divide, the point of beginning.

References:

Adams, L.G., R.O. Stephenson, B.W. Dale, R. T. Ahgook, and D. J. Demma. Population dynamics and harvest characteristics of wolves in the Central Brooks Range, Alaska. Wildlife Monographs 170.

Brainerd, S. M., Brainerd, S.M., H. Andren, H., E.E. Bangs, E. Bradley, J. Fontaine, W. Hall, Y. Iliopoulos, M. Jiminez, E. Jozwiak, O. Liberg, C. Mack, T. Meier, C. Niemeyer, H.C. Pedersen, H. Sand, R. Schultz, D.W. Smith, P.Wabakken, and A.Wydeven. 2008. The effects of breeder loss on wolves. Journal of Wildlife Management 72:89-98.

Fuller, T. K., L. D. Mech, and J. F. Cochran. 2003. Wolf population dynamics. Pages 161-191 *in* Wolves: Behavior, Ecology and Conservation. L. D. Mech and L. Boitani, eds. University of Chicago Press, Chicago. 448pp.

Montana Fish, Wildlife & Parks. 2003. Montana gray wolf conservation and management plan. Final environmental impact statement. C. Sime, ed. Montana Fish, Wildlife & Parks, Helena. 420pp.

Oakleaf, J.K., D.L. Murray, J.R. Oakleaf, E.E. Bangs, C.M. Mack, D.W. Smith, J.A. Fontaine, M.D. Jimenez, T.J. Meier, and C.C. Niemeyer. 2006. Habitat selection by recolonizing wolves in the northwestern United States. J. Wildlife Management. 70:554-563.

Person, D. K. and A. L. Russell. 2007. Correlates of mortality in an exploited wolf population. Journal of Wildlife Management 72(7):1540-1549.

Sime, C. A., V. Asher, L. Bradley, K. Laudon, N. Lance, M. Ross, and J. Steuber. 2009. Montana gray wolf conservation and management 2008 annual report. Montana Fish, Wildlife & Parks. Helena, Montana. 154pp.

U.S. Fish and Wildlife Service, Nez Perce Tribe, National Park Service, Montana Fish, Wildlife & Parks, Idaho Fish and Game, and USDA Wildlife Services. 2006, 2007, 2008, & 2009. Rocky Mountain Wolf Recovery 2005, 2006, 2007, & 2008 Interagency Annual Report. C.A. Sime and E.E. Bangs, eds. USFWS, 585 Shepard Way, Helena, Montana 59601.

U.S. Fish and Wildlife Service. 2009. Final rule to identify the Northern Rocky Mountain of the gray wolf as a Distinct Population Segment and to Revise the List of Endangered and Threatened Wildlife. Federal Register Vol. 74, No. 62, April 2, 2009. Pages 15123-15188.

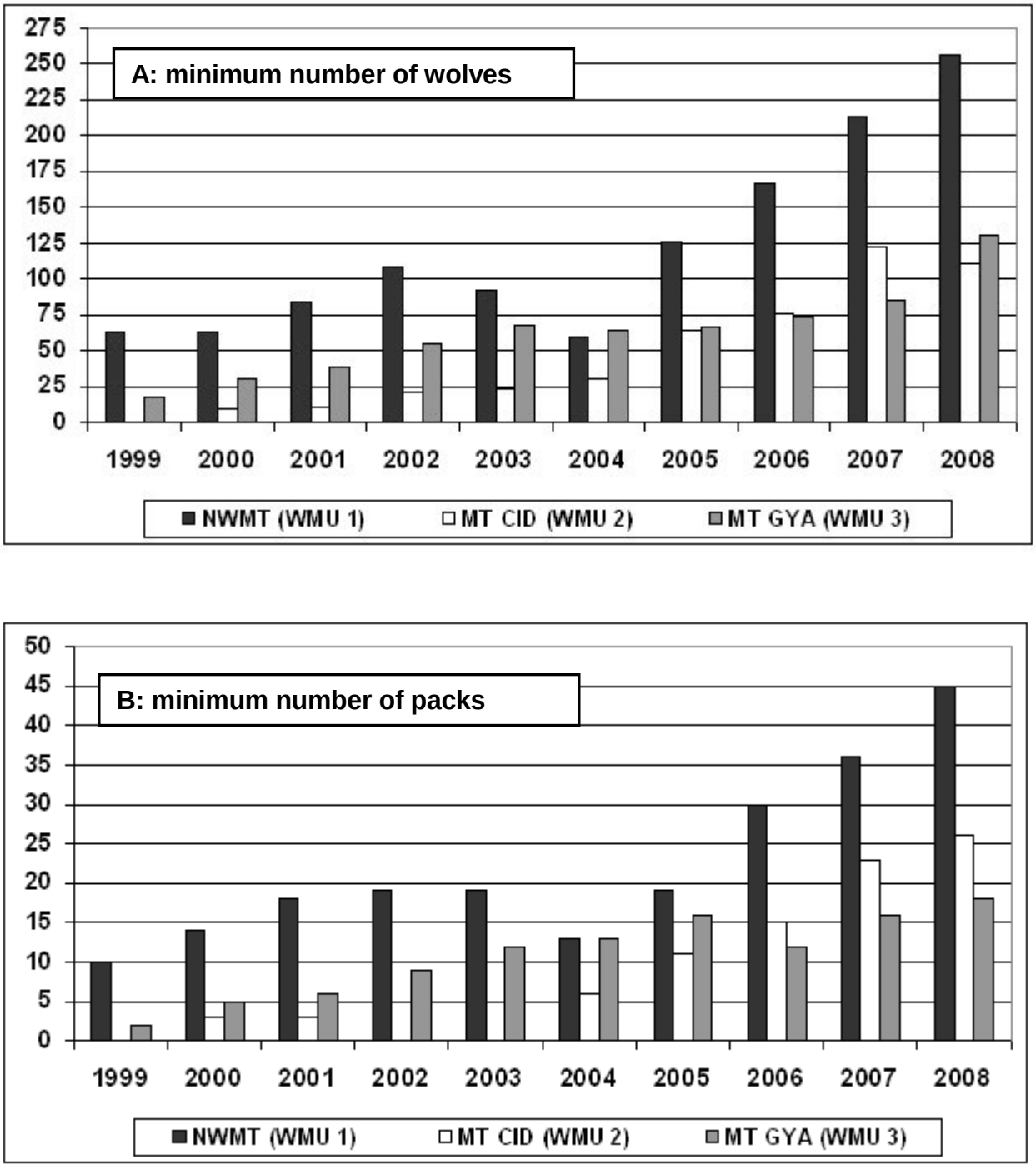

Figure 5. Trends in the number of wolves (A - top) and the number of wolf packs (B - bottom) (defined as 2 or more wolves traveling together on December 31) in each of the three Wolf Management Units, 1999-2008.

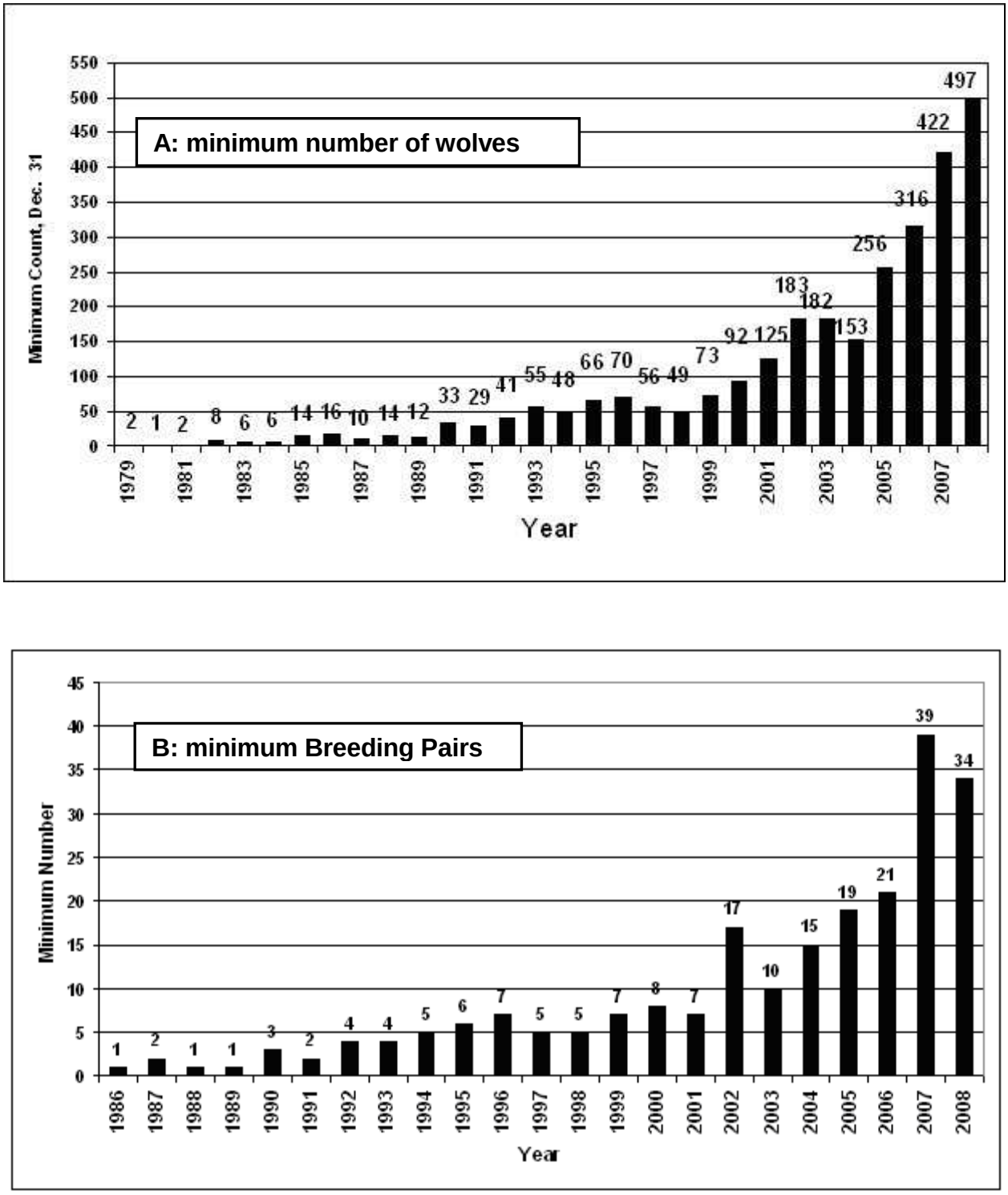

Figure 6. Minimum estimated number of wolves in the State of Montana on December 31, 1979-2008 (A - top) and (B - bottom) minimum estimated number of Breeding Pairs in the State of Montana December 31, 1986 – 2008.

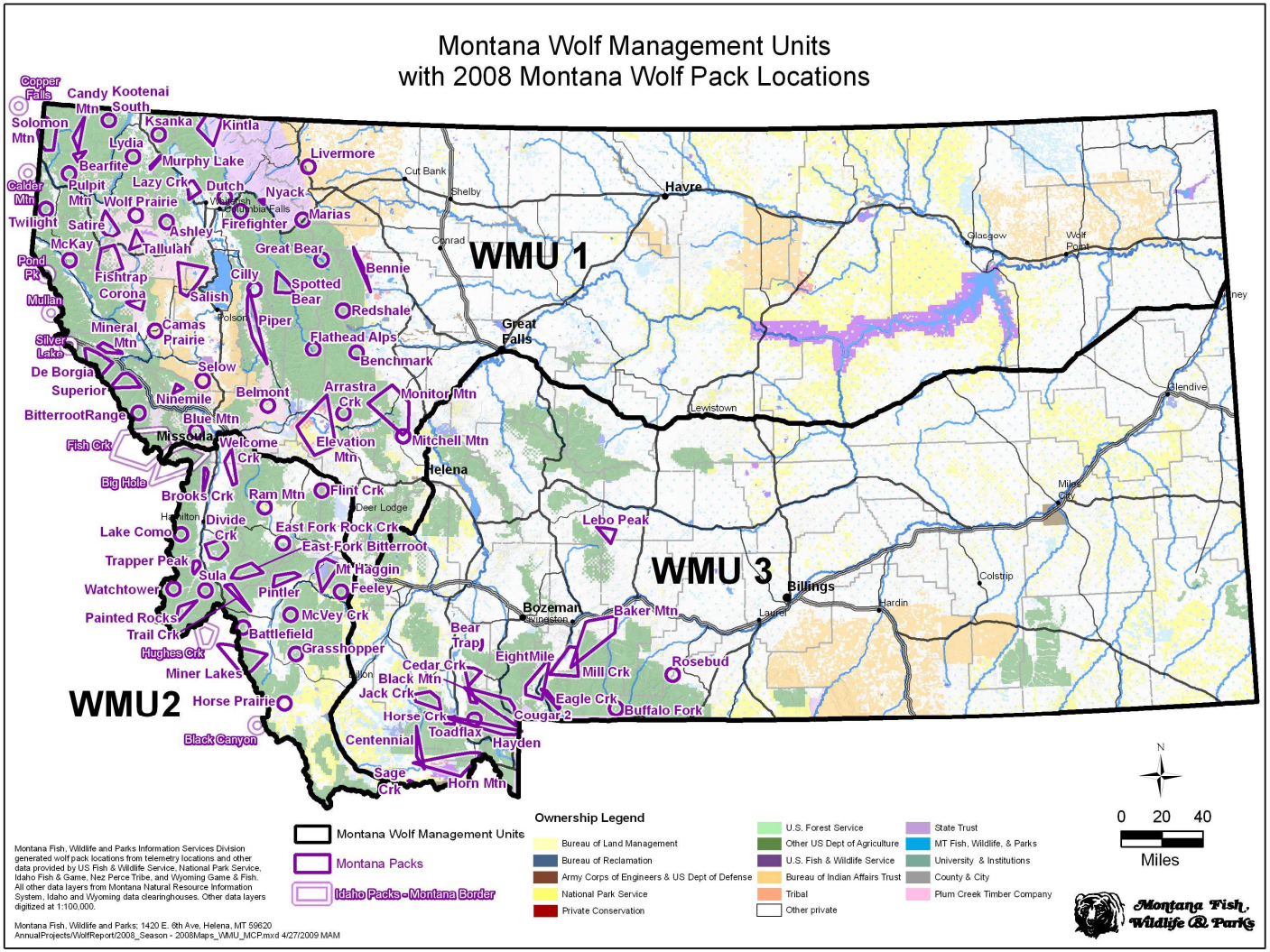

Figure 7. Verified wolf pack distribution in Montana, as of December 31, 2008, within each of three Wolf Management Units.

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