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

Species: Gray Wolf
Region: Statewide/all Regions
Year: 2012-13 Hunting Season

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

2012 will mark Montana's third wolf hunt, the second since the last delisting, and the second of the 5 year monitoring period by the USFWS. Montana also has perhaps the most complex predator-prey system in North America in terms of diversity of predator and prey species. From the first two hunting seasons we have learned much and can refine management. With the close of the 2011-2012 season, Montana still had an increase in the number of wolves in the state. While FWP does not have an overall population objective for wolves, it is clear that a more aggressive wolf hunting season will not hurt wolf populations or genetic diversity. It is the second year post-delisting of the five year monitoring period required by the USFWS. All recommendations within this proposal are consistent with the Montana Grey Wolf Management Plan as approved by the United States Fish and Wildlife Service. It is not a time for a radical departure from the grounded incremental approach Montana has taken from the beginning. Montana has been generally well respected in its balanced approach to wolf management, despite viral attacks from both sides of this controversial management issue.

FWP proposes a number of changes from the 2011 wolf season framework:

- The 2012 wolf season proposal includes several adjustments to the 2011 Wolf Management Units (WMUs). The proposal incorporates all of the Bitterroot into WMU 250 and removes that portion from WMU 210. The proposal also removes that portion of old WMU 210 that is east of the Continental Divide (the Big Hole/Tendoys) and defines that area as new WMU 330. Finally, Deer/Elk HDs 280 and 316 would become separate WMUs 280 and 316, with those areas removed as subunits within WMUs 290 and 390.
- The proposal replaces posted quotas in most WMU's with a statewide general season. The exceptions include retaining quotas in WMU 110 (quota = 2) and WMU 316 (quota = 3). Mandatory harvest reporting would remain. This large management scale is consistent wolf biology and the current population size.
- The Commission would authorize FWP to initiate season closures at any time. Closures may be implemented if FWP deems monitored harvest levels excessive in any area. Reported harvest shall be assessed in light of species biology and objectives (see Measurable Objectives below). Any such closure would necessarily include an appropriate timeline and public notice and that may include press releases and posted signs. Anticipated rate of harvest allows this approach. In this manner, the core functionality represented by pre-posted quotas as a means to close a harvest season if biologically necessary would remain in place.
- Extend the general season closing date from December 31 to February 28. Hunter orange would not be required to hunt wolves after November 25, 2012. Add a trapping season

along with mandatory trapper education. The trapping season would run from December 15 to February 28. Adjust mandatory reporting period to 24 hours.

- The proposed bag limit would be one wolf per hunter/trapper in any combination of hunting or trapping harvest (see next bullets below).
- Electronic calling for taking wolves must be consistent with relevant statute (see next bullet below).
- If relevant statutes are adjusted during any part of the 2012-13 wolf season relative to bag limit, electronic calling and waste of game, FWP proposes here that the bag limit be increased at that time to three wolves per hunter/trapper in any combination of hunting and/or trapping harvest. Similarly, electronic calling for taking wolves is proposed to be available at that time if consistent with relevant statute.
- Hunter/trapper retrieval of harvested wolf parts must be consistent with relevant statute.

Otherwise, the 2012-13 season has similarities with the 2011-12 framework.

MANAGEMENT INTENT: During the process of developing the wolf season framework for 2011, FWP identified a short term objective of a minimum number of 425. That season objective, in an adaptive management sense, was proposed as a real reduction and a reasoned level of abundance to be then further assessed in the context of multiple issues surrounding wolf management in Montana. Management efforts and considerations this year supported a repeat identification of 425 wolves as an annual operational target.

Experiences from the 2011 season revealed that some regulatory restrictions are unnecessary. Despite extending the season closure to mid-February, harvests did not reach quota levels in all but three WMU's during 2011-12. It is apparent that WMU quotas may be largely replaced with a general season while maintaining mandatory harvest reporting. This change offers the added benefit of relieving wolf hunters of the need to constantly monitoring WMU quotas during the season without compromising FWP's ability to monitor harvest. The proposal also identifies Commission authority for FWP to close a season if staff evaluation of reported harvest is deemed excessive in terms of species biology and the season objective of 425 wolves. Two WMU quotas would remain in specific areas (a portion of Deer/Elk HD 110 and HD 316) near Glacier and Yellowstone National Parks.

The 2012 wolf season proposal includes several adjustments to the 2011 Wolf Management Units (WMUs). The proposal incorporates all of the Bitterroot into WMU 250 and removes that portion from WMU 210. The proposal also removes that portion of old WMU 210 that is east of the Continental Divide (the Big Hole/Tendoys) and defines that area as new WMU 330. Finally, Deer/Elk HDs 280 and 316 would become separate WMUs 280 and 316, with those areas removed as subunits within WMUs 290 and 390.

Population models strongly suggest that it would be necessary to dramatically increase harvest levels to achieve the 425 objective. Should legislation allow, FWP proposes raising the bag limit to three wolves. This change would be expected to increase harvest levels moderately. During the 2011-12 wolf season in Idaho, only 20% of successful wolf hunters/trappers harvested more than 1 wolf and only 8% harvested more than two wolves. If allowed through legislation, electronic calls

may provide an additional tool for hunters.

Sufficient additional harvest opportunity exists to offer trappers the chance to pursue wolves. Only leg hold traps would be allowed. Take by trappers would be limited to the overall bag limit of one wolf (or three wolves with the passage of legislation). The proposed trapping season would run from December 15 through February 28 to minimize the chance of incidentally trapping bears. A mandatory wolf trapper orientation program would be developed to ensure ethical standards and to educate Montana trappers on effective and humane approaches for wolf trapping.

FWP is committed to moving toward the objective during the 2012-13 season, with the intent of reaching the season objective as quickly as possible within the framework of the existing season setting process, contemporary understanding from experience and research, and concepts of fair chase that reflect a value status for wolves comparable to other managed wildlife species.

In summary, these proposed changes are expected to increase wolf harvest levels with the intent to reduce the abundance of wolves across Montana. In addition, these changes would provide increased hunting opportunity and the opportunity to trap wolves. FWP expects this framework to reduce the minimum known Montana wolf population toward the short term objective of 425. Achieving that objective should provide additional relief to livestock producers and in some instances, relief to big game populations that are performing poorly, due in part, to the effects of wolf predation. Other season proposals and adoptions for elk, deer, bear and lion have been/are part of a comprehensive pursuit of system balance represented by the measurable objectives below. This proposed wolf season is consistent with adjustments made or proposed for other ungulate and carnivore species.

MEASURABLE OBJECIVES:

1. *Maintain a viable and connected wolf population in Montana.*
2. *Gain and maintain authority for State of Montana to manage wolves.*
3. *Maintain positive and effective working relationships with livestock producers, hunters, and other stakeholders.*

4a. Reduce wolf impacts on livestock.
4b. Reduce wolf impacts on big game populations.
4c. Maintain sustainable hunter opportunity for wolves.
4d. Maintain sustainable hunter opportunity for ungulates.

5. *Increase broad public acceptance of sustainable harvest and hunter opportunity as part of wolf conservation.*
6. *Enhance open and effective communication to better inform decisions*
7. *Learn and improve as we go.*

Harvest quotas would be 2 in WMU 110 and. 3 in WMU 316. These quotas would be retained to continue to address concerns over potentially high harvests near the boundaries of Glacier and Yellowstone National Parks. FWP proposes replacing all other quotas with a general season and to

maintain the daily tracking of harvest among WMU's. All wolf harvests would be required to be reported within 24 hours to ensure harvest monitoring capacity.

Proposed wolf season dates would remain similar to the 2011-12 framework, with a later closing date. The wolf archery season would extend from September 1 through the close of the archery elk season. In most WMU's, the general wolf season would run from October 15 through February 28. In WMU's 150 and 316, along with subunit 280 of WMU 290, the general wolf season would open earlier on September 15 to coincide with the early opening of the backcountry elk season.

FWP proposes a trapping season during 2012-13. FWP proposes the following trapping framework and rules:

Statewide Trapping Season: December 15, 2012 - February 28, 2013

Wolf Trapper Orientation – A person must attend a wolf trapping orientation class before setting any trap for a wolf. A certifying letter or validated license will be awarded to those completing trapping orientation session. This certification must be in possession of any person setting wolf traps and/or harvesting a wolf by trap.

Checking and Placing Traps – Traps are required to be visually checked at least once every 48 hours. Failure to pick up traps at the end of the trapping season or attending them in a manner that wastes animals constitutes a misdemeanor per Montana law.

Trap Identification – Metal identification tags must be fastened to all traps. Metal tags must bear the name and address of the trapper OR a personal identification number, which is the trapper's date of birth and ALS number. Tags should be attached to the end of the chain or other anchoring material at the end farthest from the portion of the device which holds the animal. Landowners who trap on their own lands and irrigation right-of-way contiguous to their land do not need to tag traps.

Trapping Equipment Requirements– Foot-hold traps are legal methods during the wolf trapping season. The inside jaw spread of foothold traps must not exceed nine inches. Conibears or snares may not be used to take wolves.

Legal Hours – Trappers will be allowed to dispatch trapped wolves during all hours including night time. A trapper must immediately dispatch any wolf captured while the trapper holds a valid license authorizing harvest of a wolf.

Landowner Permission – Trappers must obtain permission of the landowner, lessee or their agent before trapping on private land.

Exposed Carcass or Bait – No trap may be set within 30 feet of an exposed carcass or bait that is visible from above. Exposed carcass or bait is defined as the meat or viscera of a mammal, bird or fish, or any part thereof more than one pound in weight. Bleached bones are excluded.

Public Land Roads and Trails – A 50-foot setback is required for foothold traps along open roads

and hiking trails on federal and state lands that are designated by administrative signs or numbers.

Public Land Trailheads – On public land, foothold traps are prohibited within 300 feet of a designated or marked trailhead (accessible by highway vehicle).

Public Land Campground – On public land, foothold traps are prohibited within 1000 feet of a designated campground or fishing access site (accessible by highway vehicle).

Occupied Dwellings – Foothold traps are prohibited within 1,000 feet of an occupied dwelling without written notification of the occupant.

Waste of Game –Wolf is excluded from being considered as "suitable for food" under big game regulations. A hunter or trapper that legally harvests a wolf and wishes to retain possession of the hide and skull is required to personally present the hide and skull of a legally taken wolf to a designated FWP employee within ten (10) days after harvest. Evidence of sex must be naturally attached for inspection and tagging purposes. If not released, the hide and skull of incidentally captured wolves must be personally presented to a designated FWP employee within ten (10) days after harvest (see Incidental Take below). The carcass of any wolf taken may be taken in possession or left in the field. Retrieval of harvested wolf parts must be consistent with relevant statute.

Incidental Take – Trappers may not set traps to capture wolves unless they possess a valid license authorizing wolf harvest and have proof of a completed Montana wolf trapper orientation. Wolf traps must be removed within 24 hours of validating a wolf license on an individual trapper's last legally harvested wolf. A trapper must immediately dispatch and validate the wolf license for the first wolf captured while in possession of an unused and valid wolf license. If a wolf trapper incidentally catches a wolf beyond the legal limit and the wolf is uninjured the trapper must contact FWP within 12 hours to potentially have the wolf fitted with a radio collar and released to assist FWP in management efforts. Depending upon circumstances that may include history of livestock depredations in the area and other radio collars already in place, FWP may prescribe these wolves be lethally removed. All incidentally captured wolves that are injured must be dispatched by the trapper immediately. All incidentally captured wolves that are dispatched must be reported within 24 hours with the skull and pelt presented to FWP within 10 days. It is unlawful for any person to retain possession of an incidentally taken wolf as per Montana law.

Disturbing Traps or Trapped Animals – It is unlawful to destroy, disturb or remove any trap or trapped wildlife belonging to a trapper without permission of the owner of the trap per Montana law.

Procedures to Follow Upon Harvesting a Wolf

• Immediately after killing a wolf, a hunter or trapper must cut out the proper month and date of the kill from the appropriate license and attach it to the hide in a secure and visible manner. This is "validating" the license. All legally taken wolves must have a validated license affixed in this manner.

• To properly validate a license, locate the appropriate month and date the animal was killed and

completely cut away (notch out) the month and the first and second digits of the date designations. Removing more than one month or one date designation invalidates the license.
• Evidence of sex must remain naturally intact on the hide.
• A hunter or trapper must personally report any and all wolf kills within 24 hours by calling the Wolf Reporting Number at1-877-FWP-WILD or 1-877-397-9453 so that FWP can monitor harvest levels. This includes incidental captures that are dispatched. Hunters or trappers are required to provide: name, telephone number, ALS number, species, date of harvest, WMU, deer/elk HD, specific location (legal description), and sex when reporting a wolf harvest. When reporting a wolf harvest, it is unlawful to subscribe to or make any statement that is materially false.
• Upon discovering a wolf in a trap they have set, trappers are required to immediately dispatch any wolf that will not be released.
• A trapper or hunter is required to personally present the hide and skull of an incidentally trapped wolf and any legally harvest wolf for which they wish to retain possession of the skull and/or hide to a designated FWP employee within ten (10) days after harvest.

A hunter or trapper that legally harvests a wolf and wishes to retain possession of the hide and skull or incidentally captures a wolf that must be dispatched is required to personally present the hide and skull to a designated FWP employee within ten (10) days after harvest for the purpose of:

- Inspection and registration of kill to include harvest location and other details,
- Verify evidence of sex,
- Tagging the hide. The hide tag must thereafter remain attached to the hide until tanned or after export.
- Any hide and skull not presented or registered to FWP personnel within ten (10) days of harvest are subject to confiscation.
- It is unlawful for anyone to possess, ship, transport, sell or purchase any wolf, or part thereof, unless the animal has been tagged as prescribed.

A hunter or trapper that legally harvests a wolf and does not wish to retain possession of the hide and skull if allowed by statute is required to personally present the above harvest information to a designated FWP employee within ten (10) days after harvest. Retrieval of wolf parts must be consistent with relevant statute.

FWP will rigorously track wolf harvest through the mandatory harvest reporting system and provide updates to the FWP Commission. Under this proposal, the Commission would authorize FWP to initiate closures in any geographic area at any time if FWP deems harvest excessive in light of species biology and management objectives.

Some elements of the previous wolf season structure assured safety nets were incorporated so that regulated public hunting would not jeopardize wolf population long term viability. The proposed 2012 season structure retains many fundamental features from earlier season structures listed below.

1. Mandatory reporting of successful harvest within 24 hours (formerly 12 hours) so FWP can closely monitor hunter success and harvest levels while addressing backcountry logistics.
2. Harvest monitoring by WMU (includes deer/elk HD within those WMUs).
3. The Commission would authorize FWP to initiate season closures at any time. Closures

would be implemented if FWP deems harvest levels excessive in any area.

4. Mandatory pelt/skull inspection within 10 days.
5. Definite season-ending closure date.
6. Baits, scents and dogs may not be used to hunt wolves. Electronic calls may not be used unless authorized by legislation.
7. Adopt season structure annually to better adapt and respond. This proposed season structure is for the 2012 wolf season. Any proposed season for 2013 will be developed, proposed, publicly reviewed and adopted after the 2012 season has concluded.

Other elements proposed include:

1. A hunting season beginning with the start of the general archery season and running through February 28, 2013.
2. The trapping season would run from December 15 through February 28 in all WMU's.
3. The wolf archery season would be concurrent with the elk archery season in each WMU or subunit.
4. The wolf rifle season would begin concurrently with the beginning of the rifle elk season in each WMU. This includes the September 15 start for rifle seasons in backcountry areas of WMUs 150, 280 and 316. The rifle season would close in all WMU's not later than February 28, 2013.
5. Licenses proposed to remain over-the-counter general sale to residents and nonresidents.
6. Any licensed hunter or trapper may take only one wolf in this proposed hunting season unless modified via legislation. If allowed by adjusted legislation, a licensed hunter or trapper could take up to three wolves in any combination of hunting or trapping.

All other season elements not specifically noted are proposed to be unchanged from 2011.

Historical Perspective, Proposal Development and Biological Context

Historical Perspective and Proposal Development

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 gray wolf was delisted during February 2008, relisted during 2008, delisted again in 2009, relisted during August 2010, and subsequently delisted by a congressional rider attached to the federal budget resolution signed into law on April 15, 2011. Unlike wolf delisting rules issued in the past, this congressional action excluded the rule from judicial review.

In the latter half of 2008, FWP also completed an administrative rulemaking process. The Commission approved final rules in September 2008. These administrative rules stand in effect upon delisting. The gray wolf was reclassified by the rule as a species in need of management; furthermore, Montana Administrative Rules and state laws replaced federal regulations.

For developing a proposed 2010 season structure and harvest quota, FWP completed the following

process. In addition to maintaining a statewide population modeling effort as an important input to quota setting, FWP assigned regional staff the task of assembling regional inputs to season structure and quotas based upon regional circumstances to include wolf biology and relationships with livestock and prey. This was done to enhance the sensitivity to and opportunity for local inputs in a manner that best fosters ground-based conservation support for the wolf itself. In this light, regional inputs called for a general reduction in wolf numbers reasonably within the flexibility of the species biology and recovery requirements. These regional quotas were considered alongside population modeling outputs that relied on wolf population inputs from the previous year. Various harvest rates were applied to simulated populations. Development of the 2011 season proposal was anchored to this 2010 process. The development of 2012 season framework was similarly guided by population modeling efforts along with growing management experience to include recognition that wolf harvest fell short of quotas even with the extension of the 2011 season. It became apparent that the WMU specific quotas could be largely eliminated. In addition, it became apparent that the framework could be liberalized with a February 28 season closing date along with the addition of trapping. Harvest monitoring would be maintained via mandatory harvest reporting. FWP would closely monitor wolf harvest and would be authorized to initiate season closures if harvests become excessive.

Biological

At the statewide level, at least 15 BPs statewide are required to offer any public hunting and trapping opportunities (2003 Montana Gray Wolf Conservation and Management Plan Final EIS August 2003). Managing for higher wolf numbers affords a greater degree of flexibility when addressing wolf-livestock conflicts and other elements of wolf management. Fifteen breeding pairs are also part of Federal re-listing criteria. Harvest needs to be implemented in such a way that accounts for the dynamic aspects of conflict management and wolf population ecology. After any season framework adoption, FWP will continue to monitor wolf removals in response to livestock conflict. If those removals grow significantly beyond levels experienced in the past and consistent with species biology and management objectives and beyond those levels incorporated into population modeling, FWP could potentially close all or portions of any adopted wolf season.

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.

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. Formal scientific investigations reported in 2010 have "convincingly" confirmed genetic variation and "genetically effective dispersal" thus eliminating the concern that genetic connectivity has been absent across the three recovery areas (Hebblewhite et al. 2010; Vonholdt et al. 2010).

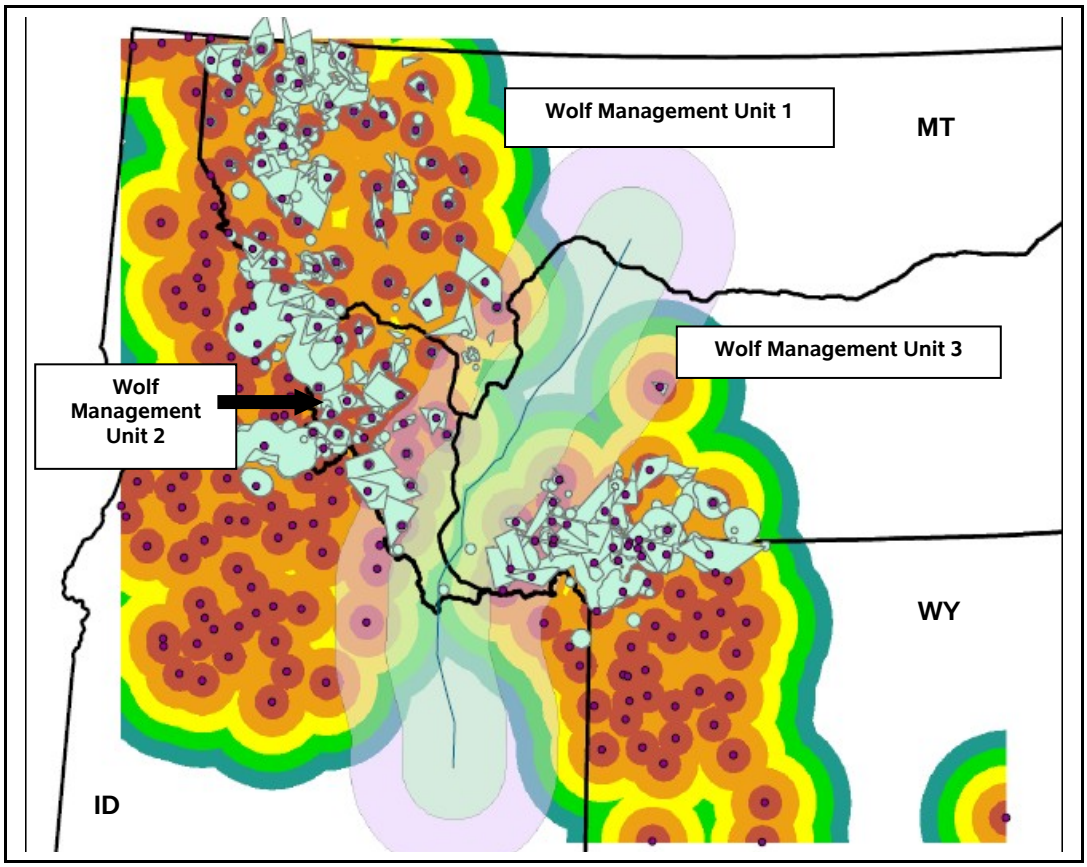

Figure 1. Map of wolf pack territories from 1989-2007 (teal colored shapes) and 2008 wolf pack territories (smallest dots) in Montana and near the state borders showing the geometric center buffered by 10-mile increments to simulate wolf dispersal in 360 degrees from the center. The line and shaded portion 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).

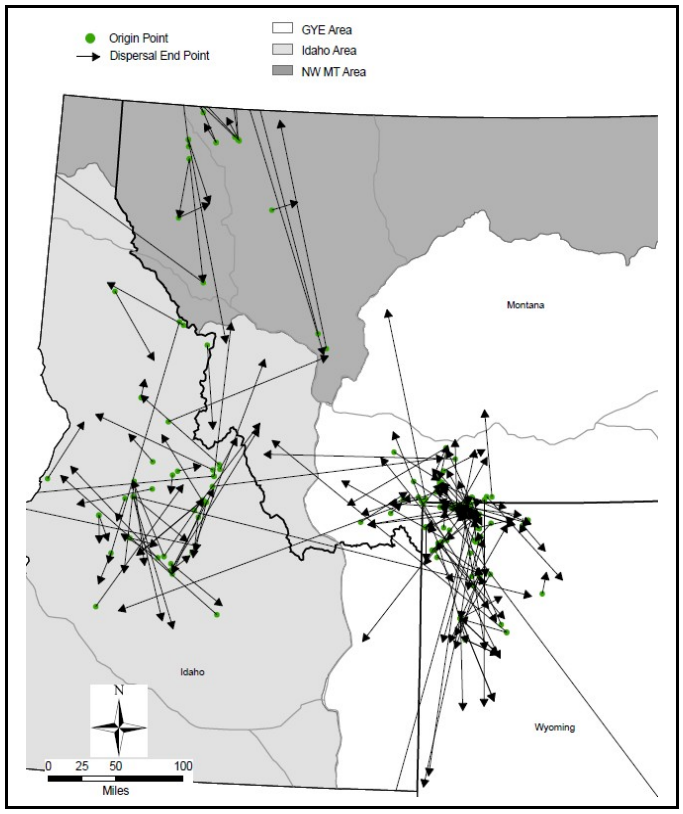

Figure 2. Map of the origin and end points of radio collared wolves dispersing in the northern Rocky Mountain federal recovery area, 1995-2005.

Review of Proposed Season Structure and Quotas

FWP has typically reported wolf numbers as the year-end total number of known wolves, packs and breeding pairs (BPs). These represent a *minimum number* that under-represents the total number of wolves.

FWP developed a wolf population model that is a tool used to objectively evaluate the impact of anticipated wolf harvest levels on wolf populations across Montana. One output of the model used to evaluate impact of harvest is the *total minimum* number of wolves at the end of each year. Therefore, readers are advised to pay attention to whether the numbers being reported are the *minimum* number obtained through field-based monitoring efforts or the estimate obtained through the modeling exercise. FWP believes the observed number of lone wolves is biased low, but the degree is unknown.

One intentional feature of the current model is that it is run annually with the most recent year's monitoring data as its inputs. The model assumes harvest mortality is additive to all other mortality, which is a conservative approach.

<u>Anticipated Harvest and Statewide Context</u>

Given previous experience with harvest rates and some judgments about harvest rates anticipated under this more liberal framework, FWP modeled wolf populations with harvest rates ranging between 30 and 60%. The remaining model inputs are based on rates of natural mortality, illegal mortality, unknown mortality, immigration, emigration, and dispersal as observed and documented in the field during 2011. The model effort includes two rates of depredation removal of wolves: a "low" rate equivalent to removals in 2011 and a "high" rate similar to the removal rate in 2010. The model then simulates harvest and assumes that harvest will be additive to all other forms of mortality to predict the year-end number of wolves and breeding pairs. Under these assumptions, the low depredation removal model predicts a *minimum* year-end population of 591 to 780 (mean = 686) wolves and the high depredation model predicts a *minimum* year-end range of 484 to 679 (mean = 582) wolves.

Model simulations spanning the entire range of assumptions suggest the 2012 year end minimum population would be well above listing criteria. Furthermore, modeling predicts a year-end minimum population greater than the 2011 hunting season objective of 425 (restated for 2012). While it is possible that the liberalized framework will move the statewide minimum population closer to the FWP objective, it will likely take more than one harvest season to achieve that objective. FWP anticipates that harvest from both hunting and trapping would increase over time as both trappers and hunters improve their ability to harvest wolves.

The experience with wolf trapping in Idaho, which was first offered during the 2011-12 season, gives some insight into the effect of trapping on total wolf harvest. As of the end of April (when some Idaho seasons are still ongoing), Idaho wolf hunters harvested 254 wolves while trappers harvested 124. Thus, the addition of trapping increased the total Idaho harvest by about 50%. Preliminary information suggests 68% of Idaho trapping harvest was with snares, which would be prohibited in Montana under this proposal.

In addition, the level of harvest in Idaho provides some insight into the potential impact of elevated harvest levels. Despite a harvest of 378 thus far during the 2011-12 season, the minimum wolf population in Idaho increased from 705 during 2010 to 745 in 2011. Some of the increase could apparently be attributed to increased monitoring effort and certainly, differences exist between the Montana and Idaho wolf populations. However, given the ability of wolf populations to compensate for harvest and given that total abundance exceeds the minimum year-end count potentially to a large extent, it is likely that the Montana wolf population could absorb substantial, additional harvest. Certainly, the population modeling effort detailed above strongly suggests that outcome.

FWP does not anticipate that removing area-based quotas alone would substantially increase wolf harvest. During the 2011-12 season, hunter harvests failed to reach quotas in all but 3 WMU's (101, 110, and 390). Quotas would be retained in WMU's 110 and 316.

As precautions against over-harvest with the addition of trapping, harvest would be closely tracked with a 24-hour reporting period. Depredation removals can also be tracked. The total take including harvest and depredation removals would be updated daily in the FWP database and

website. FWP will update the Commission on reported wolf harvest. Harvest levels would be assessed among the WMU's and FWP would have authority to close season if excessive harvest levels were reached. Thus, monitoring capacity and regulatory mechanisms are in place to respond to any harvest circumstance that is contrary to species biology, management expectations and predictions and season objectives.

Summary

To summarize, the proposed wolf season framework reflects efforts to meet objectives identified below.

These are:

1. *Maintain a viable and connected wolf population in Montana.*

The 2012-13 framework looks to maintain the current overall distribution of wolves and ecosystem functionality albeit at a reduced level as did the 2011 hunting season.

2. *Gain and maintain authority for State of Montana to manage wolves.*

Models incorporating the anticipated range of probably harvest rates along with the anticipated range of depredation removal rates suggest a range of year-end minimum population sizes of 490 to 780 wolves in Montana. Monitoring capacity and regulatory mechanisms remain in place to prevent overharvest.

3. *Maintain positive and effective working relationships with livestock producers, hunters, and other stakeholders.*

Current wolf levels are well above conservation minimums. The proposed reduction maintains species distribution and viability while recognizing sentiment among some publics for a reduced wolf presence. It also seeks to recognize and balance awareness that other publics seek a greater wolf presence.

4a. Reduce wolf impacts on livestock.

While it is not clear exactly what relationship will evolve between hunter harvest and any reduction in livestock depredations, given the history of wolves and depredation events it is reasonable to assume that some population level reduction stands to potentially reduce livestock depredations. Additionally, hunter harvest has some unknown potential to literally and directly curtail or prevent livestock loss or agency response to that loss at a local scale. Depredation removals were substantially lower during 2011 than during 2010. It is possible that wolf harvest during 2011 contributed to that decline.

4b. Reduce wolf impacts on big game populations.

FWP's commitment to wolves is no less than its commitment to other wildlife and FWP is adaptively pursuing a balance that accommodates all species' biology and ecosystem roles. Science recognizes that some gains to ungulate prey populations may be realized with managed

carnivore reductions that affect reduced but still viable carnivore populations. Other species proposals and adoptions to include both ungulates and other carnivores reflect a comprehensive approach.

4c. Maintain sustainable hunter opportunity for wolves.

Consistent with all managed wildlife species, FWP wolf management is grounded in the statutory direction and agency intent to maintain state authority and to provide species viability, presence and associated public opportunities in perpetuity.

4d. Maintain sustainable hunter opportunity for ungulates.

This proposed wolf season framework represents a substantial liberalization over the 2011 framework. The intent is to effect a reduction in wolf numbers which is in some areas, reflects a concern over wolf impacts to ungulate populations. However, this proposal does not dismiss the value of the wolf, its biological needs and it does not look to remove wolves from their ecological role. Again, other species proposals and adoptions to include both ungulates and other carnivores reflect a comprehensive approach to the balance inherent within the sum of these objectives.

5. Increase broad public acceptance of sustainable harvest and hunter opportunity as part of wolf conservation.

This proposal looks to keep hunters and livestock producers supportive of wolves in Montana and recognizes that without the elements of hunter harvest the wolf cannot be widely supported in the state. To all constituents including those less supportive of harvest, it also looks to demonstrate Montana's careful and diligent pursuit and consideration of wolf population data as the basis for proposing this season framework for the Commission to consider.

6. Enhance open and effective communication to better inform decisions.

This proposal and other supporting documents will be made available to decision makers and to others upon request prior to any final decision. Public comment will run through 5:00 PM Monday, June 18.

7. Learn and improve as we go.

Given current uncertainties associated with a relatively short history of wolf management with hunting on the Montana landscape, the present dissatisfaction with the current wolf population level by some segments of the public and the specie's reproductive ability to grow and/or rebound, it is paramount that FWP move forward in decisive fashion that clearly connects with science, management experience and objectives and prescribes actions with predictions that can be recognized, measured and responded to. Season adoptions are scheduled to be annual rather than biennial to better adapt to evolving management understanding. Competing models will continue to be assessed for their relative and absolute fit. Careful assessment of other species' status and

management prescriptions are included in this adaptive approach.

FWP has carefully considered the need to implement wolf harvest and management in light of uncertainty. There are many sources of uncertainty, including the fact that wolves do not have a long history (only two years) of being hunted in Montana and wolves have no recent history of being trapped on a broad scale. Further, Montana does not yet have long management history with harvest to draw upon to predict participation, hunter success, trapper success, wounding loss, spatial distribution of harvest, wolf vulnerability to harvest and wolf management as a piece of a larger whole. Mechanisms are in place through mandatory harvest reporting, pelt / skull inspection, the annual telephone harvest survey and other survey tools for wolves and other species to guard against over harvest and to gather new information about wolf hunting to further assess uncertainties. This effort includes considerable ongoing research efforts.

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 proximity to other populations appear to be particularly important considerations. Mortality levels exceeding 50% are generally required to initiate a population decline. To be clear, the current management intent at this time is to reduce the population. 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).

FWP efforts are in place 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. Management experience from the previous two hunting seasons illustrates a shift from 22% to 74% that portion of the wolf harvest attributed to hunters specifically in search of a wolf. Wolves are, and remain a valued species and this proposed season does not contradict that status.

2. Why is the proposed change necessary?

In response to management experience from the 2011 season, growing wolf numbers, impacts to livestock and prey populations (deer/elk/moose) and associated growing concern among some public constituents, FWP is proposing a substantial liberalization of the wolf season framework for 2012. This approach lies within the established intent to recognize and keep wolves a valued part of Montana's functioning ecosystems. With the potential for increased harvest there is the objective of decreasing wolf abundance towards the 2012 harvest season goal of a minimum year-end wolf

population of 425.

FWP's experience with the 2011 season, harvest levels, and the impact of harvest levels on wolf abundance demonstrate that there is additional capacity for opportunity. The proposed framework increases opportunity for hunters with a general season replacing most area-based quotas and with implementation of a longer season while maintaining the ability to track harvest and potentially close seasons in specific areas. Furthermore, a general season safely minimizes the (often difficult) logistic for hunters to monitor daily WMU harvests and potential WMU closures. This can be important given some wolf harvest is incidental to other hunting efforts. FWP proposes offering trappers an opportunity to trap wolves for the first time in recent history. Thus, hunting and trapping opportunities would be expanded to take advantage of the additional capacity for opportunity. A general season—especially for a wide ranging species that routinely crosses public and private land ownership--typically results in most harvest occurring where the targeted species are most abundant. Conversely, a general season does not preclude harvest efforts in specific areas where local reductions are advocated. To date, there is no clear evidence that hunters are willing to travel great distances to hunt wolves despite legal opportunity for harvest. This is comparable to the general season applied to black bears in Montana.

FWP further expects to expand understanding about the level of hunter interest in harvesting a wolf, the extent to which wolves on the Montana landscape are vulnerable to harvest, how successful Montana hunters will continue to be, and how the population continues to respond. FWP will gather information on these metrics associated with trapping for the first time during the 2012-13 season. The adaptive management framework and the Commission season setting process will allow FWP to adjust seasons in the future for wolves and other species with full public process. FWP will develop and propose wolf seasons again in 2013 for the 2013-14 season. Potential similarities and differences between this 2012 proposal and any 2013 proposal would be identified at that time. Public opportunity for review and comment exists throughout.

Regulated public hunting as a wildlife management tool helps to 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. Proposed season elements are in place for other valued species and do reflect fair chase and value assigned to wolves. This, in alignment with the public's 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 a larger public harvest and adding trapping at this time gives FWP the opportunity to continue to build invaluable experience with a new and necessary 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 survival.

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 31, 2011, the most recent *minimum* wolf population size determined for Montana was 653 wolves in 130

packs, 39 of which were confirmed breeding pairs (Hanauska-Brown et al. 2012). The statewide population has trended upward since the mid-1980s and most noticeably since 2004. Some of that increase is probably actual population increase and part is likely due to increased monitoring 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 increases from 2007 to 2008 was 18%, from 2008 to 2009 was 4%, from 2009 to 2010 was 8%, and from 2010 to 2011 was 15%. The current and predicted number of breeding pairs is above the 15 breeding pairs required to offer harvest opportunity.

While clear numerical objectives at local or larger scales and/or longer timelines can ultimately be an asset to management direction and efforts, FWP has not solidified such numerical objectives while in pursuit of better understanding of wolf response to various mortality rates, hunter effectiveness and wolf relationships to livestock and natural prey on the Montana-specific landscape. Such improved understanding stands to come from completed, ongoing and planned formal research and continued applied adaptive management, including harvest. Fifteen (15) breeding pairs (BPs) [and 150 wolves] is not a minimum or maximum but rather is used to transition between liberal and conservative management strategies. These wolf numbers are also expressed in Federal recovery criteria. The season structure and overall process were guided by the objectives identified in an intentional and facilitated structured decision making process.

FWP continues to responsibly and adaptively liberalize the wolf season framework with the objective of reducing wolf abundance as part of overall wildlife systems management. Managing for lower wolf numbers is prudent given the significant resistance to wolf numbers by some members of the public, livestock depredations and impacts to prey populations. While in other process places, this overall effort includes management adjustments for ungulates and other carnivores as well. As wolf numbers have increased, so has the level of confirmed wolf-caused livestock losses and the number of wolves killed to resolve conflicts (Hanauska-Brown et al. 2012). It appears that in some places, total predation to include wolf predation has been a factor in prey population dynamics (Hamlin and Cunningham 2009). Thus, harvest needs to be implemented in such a way that accounts for the dynamic aspects of conflict management, wolf population ecology, prey populations, other predator populations and all the social factors surrounding wolf management that include recognized or anticipated harvest rates by hunters and trappers.

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

Continuation of a statewide wolf hunting season and the addition of a trapping season reflects management experience gained to date and will help FWP manage more proactively at appropriate scales. 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 will help maintain smaller pack sizes for those packs

which routinely encounter livestock and live on or near private lands. It may even remove packs that are chronic sources of conflict.

An additional consideration when adopting wolf season frameworks 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 took effect upon delisting when federal regulations expired. 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 where most livestock conflicts occur. The current modeling effort already takes that mortality into account.

Transition to state law did 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 and FWP will learn over time what additional mortality will consistently appear in northwest Montana.

Prey declines due to the combination of weather, habitat, total predation, and human harvest led FWP to decrease prey hunting opportunity in some places in occupied wolf range. In conjunction with lower human harvest levels of deer, elk and moose, the 2012 proposed wolf season frame work may provide some relief to these prey populations in a manner that maintains species viability, ecological role and social stature for wolves in Montana.

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

<u>Concerns</u>

There has been significant public support to harvest more wolves given wolf biology and sincere concerns about the status of deer/elk populations. The rate of wolf population increase has been robust and the harvest simulation model predicts population resiliency under the more liberal framework. As with all such efforts, FWP does acknowledge limitations of the model despite its thoughtful development and an anchor in field-based data.

Conversely, there has been significant input advocating reduced wolf harvest. Management experience and population size confirms ample room for this proposed harvest opportunity while maintaining a viable and functioning wolf population in Montana.

There has been the public input that FWP should do more to address connectivity requirements for sustaining a northern Rockies metapopulation given 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). Strong reaction to wolf harvest north of Yellowstone National Park prompted a proposed subquota in deer/elk HD 316. A quota will be

maintained in WMU's 316 and 110 during the 2012-13 season.

FWP is aware that wolf populations in western and southwest Montana 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 the season framework in the future and is prepared to do so, in conjunction with the Commission. At present, genetic diversity in the northern Rocky Mountain wolf metapopulation is currently high and is not a problem (Hebblewhite et al. 2010; Vonholdt et al. 2010). The interagency genetic diversity MOU commits Montana, along with Idaho and the federal government to monitoring protocols that should enable detection of any emerging conservation issues.

The 2011 wolf season setting process generated criticism that proposed harvest rates could not be sustained and that model predictions were flawed. Considerable professional review of the modeling effort has occurred. The wolf season setting process in Montana is currently an annual process—every year's season has its own evaluation and public review process. To date, FWP modeling has been a valuable asset in identifying risks and scale/direction of potential outcomes.

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.

Hamlin, K. L. and J. A. Cunningham. 2009. Monitoring and assessment of wolf-ungulate interactions and population trends within the Greater Yellowstone Area, southwestern Montana, and Montana statewide: Final Report. Montana Department of Fish, Wildlife, and Parks, Wildlife Division, Helena, Montana, USA.

Hanauska-Brown, L., L. Bradley, J. Gude, N. Lance, K. Laudon, A. Messer, A. Nelson, M. Ross, and J. Steuber. 2012. Montana Gray Wolf Conservation and Management 2011 Annual Report. Montana Fish, Wildlife & Parks. Helena, Montana. Pp 54.

Hebblewhite, M., M. Musiani and L. S. Mills. 2010. Restoration of genetic connectivity among Northern Rockies wolf population. Molecular Ecology 19:4383-4385.

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.

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 & 2010. 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.

Vonholdt, B.M., D.R. Stahler, E.E. Bangs, D.W. Smith, M.D. Jimenez, C.M. Mack, C.C Niemeyer, J.P. Pollinger and R.K. Wayne. 2010. A novel assessment of population structure and gene flow in grey wolf populations of the Northern Rocky Mountains of the United States. Molecular Ecology 19:4412-4427.

Appendix I. Proposed adjustments to 2012 Legal Descriptions.

WMU 210 Upper Clark Fork: 2011 WMU 210 minus the Bitterroot Valley (new WMU 250 below) and those portions east of Continental Divide largely in Beaverhead County/the Big Hole (new WMU 330 below).

WMU 250 Bitterroot: Expanded to include those portions of the 2011 WMU 210 west of Sapphire Divide (all of Bitterroot Valley).

WMU 330 Big Hole/Tendoys: Those portions of Deer Lodge, Beaverhead and Silver Bow Counties lying within the following described boundary: Beginning at the junction of U.S. Highway 93 and the Montana-Idaho border at Lost Trail Pass, then southerly direction along said border to its junction with Interstate 15 at Monida Pass, then northerly along said interstate to its

junction with the Continental Divide south of Buxton, then westerly along said divide to its junction with U.S. Highway 93 and the Montana-Idaho border at
.

WMU 280 North Blackfoot (equal to Deer/Elk HD 280): Those portions of Powell and Lewis and Clark Counties lying within the following-described boundary: Beginning on Monture Creek Trail 27 at its junction with Falls Creek Trail 16, then north along Monture Creek Trail 27 to Center Creek Trail 463, then west along said trail to Center Creek Trail 246, then west along said trail to Youngs Pass and the Flathead-Blackfoot Divide, then northeast along said Divide to Triple Divide Mountain and the Continental Divide, then southeasterly along said Divide to Falls Creek (of the Landers Fork of the Blackfoot River), then southwest along said creek to the Landers Fork, then up said river to Heart Lake Trail 478, then southerly along said trail to its intersection with Trail 481 at Heart Lake, then westerly along Trail 481 to Red Mountain-Ringeye Creek Trail 423, then southwesterly along said trail to Red Mountain, then southwesterly along the Scapegoat Wilderness Boundary (divide between Copper and Beaver Creeks on the south and East Fork of North Fork Blackfoot River on the north) to Arrastra Mountain then northwest along Scapegoat Wilderness Boundary to Windy Pass Trail 484, then southwesterly along said trail to the Bear Creek-North Fork Blackfoot Trail 17, then northwesterly along said trail to its intersection with North Fork Blackfoot Trail 32, then southwesterly along said trail to North Fork Blackfoot Trailhead and Lake Creek Trail 61, then northwest along said trail to its junction with Trail 16 near Lake Otatsy, then northwesterly along said trail through Camp Pass to Monture Creek Trail 27, the point of beginning.

WMU 290 Blackfoot: 2011 definition minus deer/elk HD 280

Proposal compiled by: Wildlife Bureau Staff, 5/3//12