Cecil D. Andrus

Wildlife Management Area

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Management Plan
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Idaho Department of Fish and Game
Southwest Region
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EXECUTIVE SUMMARY

The Cecil D. Andrus Wildlife Management Area (AWMA) is a 23,908-acre rangeland area of mixed ownership located approximately 18 miles west of Cambridge, Idaho.

The AWMA was formed in 1993 when the Richard King Mellon Foundation purchased the Hillman Ranch and deeded it to the Idaho Department of Fish and Game (IDFG) for the purpose of wildlife conservation. IDFG came to manage additional lands associated with the acquisition, which are now primarily in the form of an Idaho Department of Lands (IDL) Miscellaneous Lease and agreements with Payette National Forest (USFS) and Bureau of Land Management (BLM).

IDFG manages the AWMA with a priority on providing and maintaining high-quality habitat for wildlife production and public hunting, and for other compatible wildlife-based recreation. Hunting opportunities feature mule deer, elk, chukar and other upland birds, including wild turkey.

As a condition of the IDL Miscellaneous Lease, IDFG is required to graze livestock on 12,821 acres of state endowment lands covered by the lease. Livestock grazing is managed to distribute utilization across all AWMA lands in a deferred rotation system, which eliminates the need for significant additional fencing and reduces average utilization in any one area. It also demonstrates compatible wildlife/livestock uses of rangelands and serves as a tool to improve overall rangeland health and vigor.

To meet the AWMA mission and management goals, the IDFG will maintain and enhance native and non-native plant communities to provide critical big game winter range and year round upland game habitat. Hunting and other wildlife-based recreational use will be managed to provide high-quality motorized and non-motorized experiences. Wildlife populations and habitat conditions will be monitored to insure their long-term success. IDFG will work cooperatively with partner agencies and adjacent landowners on access and resource management issues. Public use of the AWMA will be monitored to ensure high-quality opportunities and to evaluate user satisfaction with management strategies. The AWMA will be available for educational opportunities relating to wildlife and habitat resources issues and hunter education. IDFG will maintain AWMA facilities and equipment in safe and operable condition to provide excellent customer service and management effectiveness.

This management plan was developed by IDFG with extensive public involvement, including preparation of the initial draft management plan by the Andrus WMA Working Committee. This plan is structured after the IDFG strategic plan known as The Compass, and addresses management activities on all IDFG-owned and managed lands within the AWMA. It is intended to be a long-term plan, with periodic reviews every five years. The vision for management of the AMWA under this plan is that the Cecil D. Andrus WMA will be a showcase of exemplary habitat for wildlife production, will provide for high-quality hunting and other wildlife-compatible recreational opportunities, and exemplify the compatibility of wildlife and livestock use of rangelands.

INTRODUCTION

The AWMA is comprised of 23,908 acres of public lands managed by IDFG for wildlife habitat and hunting access. This plan describes the area, IDFG's mission, relationships with cooperating land management agencies, and strategies for implementing multiple management objectives. It is intended to guide the management of IDFG-owned and controlled lands within the AWMA for an indefinite time period. Detailed operational plans and budgets are derived from this plan and are developed on an annual basis, but are not included in the plan.

The AWMA is located approximately 18 miles northwest of Cambridge, Idaho, adjacent to Brownlee Reservoir in Adams and Washington counties (Figure 1). The AWMA was acquired by the IDFG because it provided critical winter range for deer and elk in Game Management Units 22 and 31, contained fairly intact native canyon grassland communities which are representative of Hell's Canyon and are important to many species of wildlife, and because it offered valuable outdoor recreation opportunities to hunters and non-hunters alike.

The AWMA was developed in 1993 when the Richard King Mellon Foundation purchased the Hillman Ranch through The American Land Conservation Program and deeded it to IDFG for the purpose of wildlife conservation. The Conservation Fund also assisted with the purchase and transfer of the property to IDFG. The acquisition consisted of 10,087 acres of private land. Associated with it were approximately 12,821 acres of IDL lands, 700 acres of BLM lands, and 300 acres of Payette National Forest lands. Another 320 acres of State Endowment lands are held by IDFG as Mineral Lease #9140. Excluded from the acquisition but within the WMA boundary are three parcels in T17N R4W Sections 31 and 32; one is 45 acres of privately held rangeland, and two are approximately 40 acres of the Cimanchi and Hercules mining claims.

With the objective of continuing to improve wildlife habitat while managing within the constraints of agreements that allow IDFG management of non-department lands, livestock grazing has become an integral part of AWMA management. The Hillman Ranch was a working cattle operation prior to acquisition, and at the time of the property transfer, three State of Idaho Endowment land grazing leases associated with the donated land were assigned to the IDFG. A fourth State Endowment land grazing lease was developed and assigned for lands IDL acquired in a land exchange with the BLM. The IDL lands are intermingled with IDFG ownership and not fenced separately or otherwise distinguishable. Pasture boundaries were historically based on topographic and geographic features more than land ownership because the livestock operator owned the private land and held the associated grazing leases.

Because IDFG's priority for managing the IDL lands was to provide wildlife habitat and hunting access rather than the traditional use for livestock grazing, the four State Endowment Land grazing leases were reclassified and combined into one Miscellaneous Lease #M-5040, for which IDFG is the leaseholder. Approval for reclassification of the four grazing leases into a single lease for wildlife management followed extensive discussion and final resolution by the Land Board at its meetings on August 24, 2000, and October 10, 2000. On December 1, 2000, IDL Miscellaneous Lease #M-5040 was granted to IDFG with the condition that livestock grazing be incorporated into the management of endowment lands covered under the lease, and be managed

in accordance with the AWMA Grazing Plan, with a minimum use of 1,800 animal unit months (AUMs) annually.

Livestock grazing on the AWMA is managed to distribute utilization across the entire area in a deferred rotation system (Appendix VI). IDL range evaluation procedures estimated 2,238 AUMs were available on Endowment lands at a utilization rate of 50%. The distribution of 1,800 AUMs across the available rangeland on AWMA results in far less forage utilization and helps achieve vegetation objectives for improving range condition and trend.

The IDFG is the lead agency in cooperative management of the AWMA. Operating monies come from state license sales and Federal Aid cost share funds (Pittman-Robertson). The cost of the IDL lease is paid with fees collected for livestock grazing. The USFS lands associated with the AWMA are managed under the guidelines of the Brownlee Coordinated Resource Management Plan (CRMP). This plan was developed and implemented by the Hillman's, USFS, IDL, and the Soil Conservation Service (NRCS) in 1981, and remains in use. BLM lands associated with the AWMA are managed under a memorandum of understanding (MOU). Primary management objectives include providing big game; upland game and nongame habitat and production; and hunting, trapping, and wildlife compatible nonconsumptive recreation.

This management plan was developed by IDFG with extensive public involvement, including preparation of the initial draft plan by the Andrus WMA Working Committee. Beginning in 1993, public meetings were facilitated by the IDFG pertaining to the acquisition and future management of the Andrus WMA. The Andrus WMA Working Committee (formerly the Brownlee Working Committee) was formed by IDFG in 1994 to permit public input and review of the management plan. The Committee included individuals affiliated with a range of hunting and conservation organizations, as well as local livestock operators, a local elected official, and the Trails and Horse Councils of Idaho. This Committee was instrumental in providing direction during the drafting of the interim management plan, which formed the foundation for the current plan. Each cycle of internal Department review and public comment has led to modification of several drafts. Addressing the concerns expressed by stakeholders on the most recent draft has resulted in significant improvement and change in format of the final plan.

This plan spells out the vision and mission for the AWMA; the goals, objectives, and strategies for its management; the description of its location, wildlife, and vegetation, monitoring and recreational use program. The plan is structured after the IDFG strategic plan known as The Compass and addresses management activities on all IDFG-owned and managed lands within the AWMA. This is a long-term plan for the management of the AWMA and has an indefinite life span. Following five-year reviews, the plan may be modified as necessary to accommodate changes in direction, demographics and use, and to incorporate new knowledge and techniques.

VISION

The Cecil D. Andrus WMA will be a showcase of exemplary habitat for the production of wildlife, high-quality hunting, and other compatible wildlife-based recreation opportunities.

MISSION

The mission of the Idaho Department of Fish and Game is:

> "All wildlife, including all wild animals, wild birds, and fish, within the sate of Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, perpetuated and managed. It shall only be captured or taken at such times or places, under such conditions, or by such means, or in such manner, as will preserve, protect and perpetuate such wildlife, and provide for the citizens of this state and, as by law permitted to others, continued supplies of such wildlife for hunting, fishing, and trapping."
>
> (*Idaho Code* Section 36-103)

Within the larger role of the Department, the mission of the AWMA is to provide winter range for big game and year-round habitat for upland game birds, to optimize production of game and nongame wildlife, and to provide for public hunting and other wildlife-based recreational activities that are compatible with maintaining high-quality habitat and hunting opportunity.

This mission is consistent with *Idaho Code* 36-104 that authorizes the Idaho Fish and Game Commission to develop, operate, and maintain (acquired) lands, waters, or conservation easements for said purposes, which are hereby declared a public use:

1. For fish hatcheries, nursery ponds, or game animal or game bird farms;
2. For game, bird, fish, or furbearing animal restoration, propagation, or protection;
3. For public hunting, fishing, or trapping areas to provide places where the public may fish, hunt, or trap in accordance with the provisions of law, or the regulation of the Commission;
4. To extend and consolidate by exchange, lands or waters suitable for the above purposes.

Part of the success of the AWMA has been due to good working relationships with cooperating land management agencies and the local community. Implementation of the AWMA mission will require continued work with other agencies and the community on areas of noxious weed control, wildlife and livestock user-related economics, and public education relating to wildlife issues.

DURATION OF THE PLAN

This plan provides broad, long-term management of AWMA and has an indefinite life span. It will be evaluated every five years to determine if adjustments are warranted. The plan will be modified as necessary following the periodic five-year review to accommodate changing conditions and goals, and to incorporate available advancements in management knowledge, tools, and techniques.

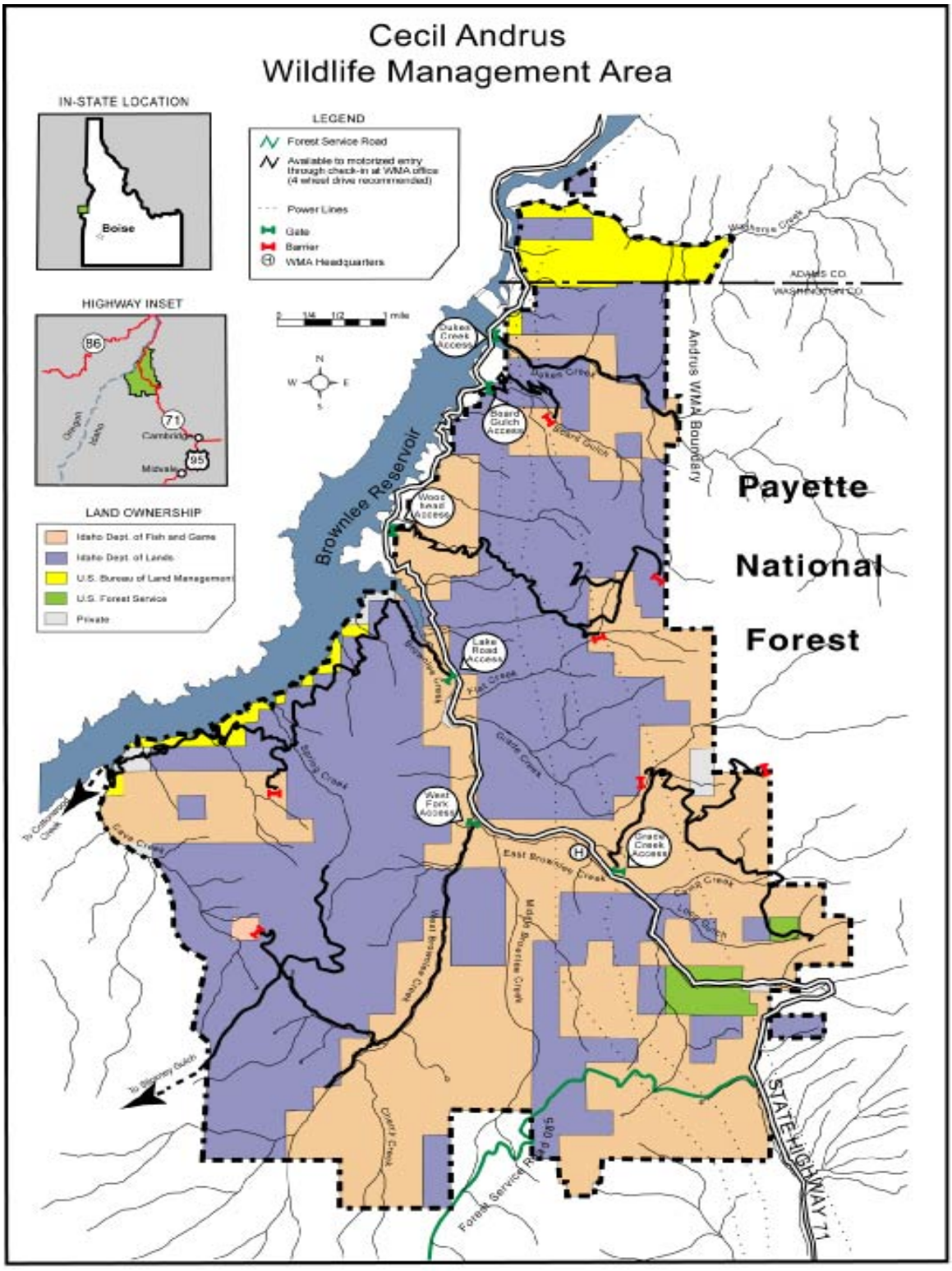

Figure 1. Map of Cecil D. Andrus Wildlife Management Area.

LOCATION

The AWMA is located approximately 18 miles west of Cambridge, in Washington County, Idaho. The AWMA is situated on the breaks of the Snake River along Brownlee Reservoir (Figure 1). The area is centered on the Brownlee Creek watershed, and extends to Wildhorse Creek on the north and Cave Creek on the south.

DESCRIPTION

The AWMA includes 23,928 acres of riparian, upland, and forest habitat in the breaks of the Snake River Canyon along Brownlee Reservoir. Elevation ranges from 2,000 feet at Brownlee Reservoir to over 5,000 feet on Cuddy Mountain. Hot, dry summers and basalt soil types result in mountain big-sagebrush/ bluebunch wheatgrass/ Idaho fescue vegetation types throughout most of the area. Riparian areas are dominated by cottonwood, serviceberry, chokecherry, and alder. Pockets of Douglas fir and ponderosa pine exist at higher elevations and northerly aspects.

Annual precipitation ranges from 12 to 16 inches and occurs predominantly as rainfall between October and June. The mean annual temperature is 53.8^{o} F, with extreme temperatures ranging from -20^{o} F to 118^{o} F.

The AWMA provides critical winter habitat for big game and year-round habitat for a variety of upland game. Elk and mule deer are the primary big game species and chukar and gray partridge, forest grouse, and turkey are the primary upland game species. Other game species include black bear, mourning dove, cottontail, and furbearers. The AWMA also supports a wide variety of resident and migratory mammals, birds, reptiles, amphibians, and fish. A list of wildlife and fish species is found in Appendix V.

The AWMA is intermingled IDFG, IDL, BLM, and USFS lands, with several private inholdings. The USFS lands associated with the AWMA are managed as on/off allotments under the guidelines of the Brownlee CRMP. This plan was developed and implemented by the Hillman's, USFS, IDL, and NRCS in 1981 and continues to remain in use. BLM lands associated with the AWMA are currently managed as part of the AWMA with an MOU.

Most IDL lands (12,821 acres) are managed by the IDFG under the terms and conditions of Miscellaneous Lease #M-5040. The terms of this lease require that the IDFG incorporate livestock grazing into the management of State Endowment lands covered under the lease, and that these lands be managed in accordance with the terms of the Miscellaneous Lease and the AWMA Grazing Plan (Appendix VI). Another 320 acres of State Endowment lands are held by IDFG as Mineral Lease #9140. Not owned by IDFG but within the WMA boundary are three parcels of privately-owned lands totaling approximately 95 acres, including the Cimanchi and Hercules mining claims. These lands are not fenced or otherwise identifiably separate from the IDFG-managed lands.

HABITAT MANAGEMENT

Habitat is the key component for the overall health and production of wildlife populations. They need access to adequate amounts of quality food, water, cover, and space in an effective arrangement throughout their life stages. The alteration, degradation, fragmentation, or loss of habitat can significantly impact the distribution and abundance of wildlife, along with the associated recreational opportunities they provide.

Since its acquisition, a significant part of the AWMA mission has been to provide big game winter range and upland game bird habitat to produce sustained and huntable populations of wildlife. Habitat management efforts will be directed at maintaining and improving upland and riparian habitat conditions, especially in areas of critical big game winter range. Because big game winter range on the AWMA is used year-round by upland game birds, habitat maintenance and improvements to enhance range conditions in critical winter range will benefit both big game and upland game species. Habitat management includes a variety of direct and indirect approaches to regulate plant community composition and successional stage, reduce impacts of undesirable species, distribute animal use, and provide security. Actions will focus on the control and timing of livestock grazing, limiting undesirable plant species, and enhancing desirable plant species, especially native grass and shrub communities.

Wild turkey transplants have been conducted at various locations in Game Management Units 22 and 31, including the AWMA, beginning as early as 1967 and continuing occasionally through 1998. Based on hunter surveys, turkey hunting on the AWMA provides a valued and steady harvest opportunity, although relatively minor when compared to other upland game bird hunting. Turkeys are also a desirable species of watchable wildlife. Habitat management efforts for turkeys will focus on providing winter food plots, with supplemental feeding when needed, in order to improve winter survival and productivity, as well as to attract birds to more visible areas of the WMA along Brownlee Creek. Maintaining roost trees in riparian areas is also an important aspect of long-term management.

Livestock grazing is active on the AWMA as a condition of the IDL Miscellaneous Lease and therefore has become a highly visible component of WMA management. The use and timing of livestock grazing is governed by the Miscellaneous Lease, the AWMA Grazing Plan, and the AWMA Annual Operating Plan. Wildlife and livestock can compatibly coexist on rangelands, and managed livestock grazing can be used as a tool to control noxious weeds and improve rangeland health. The IDFG intends to demonstrate compatible wildlife/livestock use through the grazing practices on the AWMA. These practices include use of a well-distributed rest-rotation pasture management system with no hot-season grazing, and limited forage utilization, especially in riparian areas.

When the IDFG acquired ownership of the deeded lands of the AWMA, it reserved the AUMs associated with those deeded lands for wildlife. However, the land ownership within each pasture and across the AWMA is intermingled, so pastures are grazed in common, that is, without regard to land ownership (Figure 2). This results in overall reduced average forage use by livestock so that increased forage is available within each pasture for utilization by wildlife.

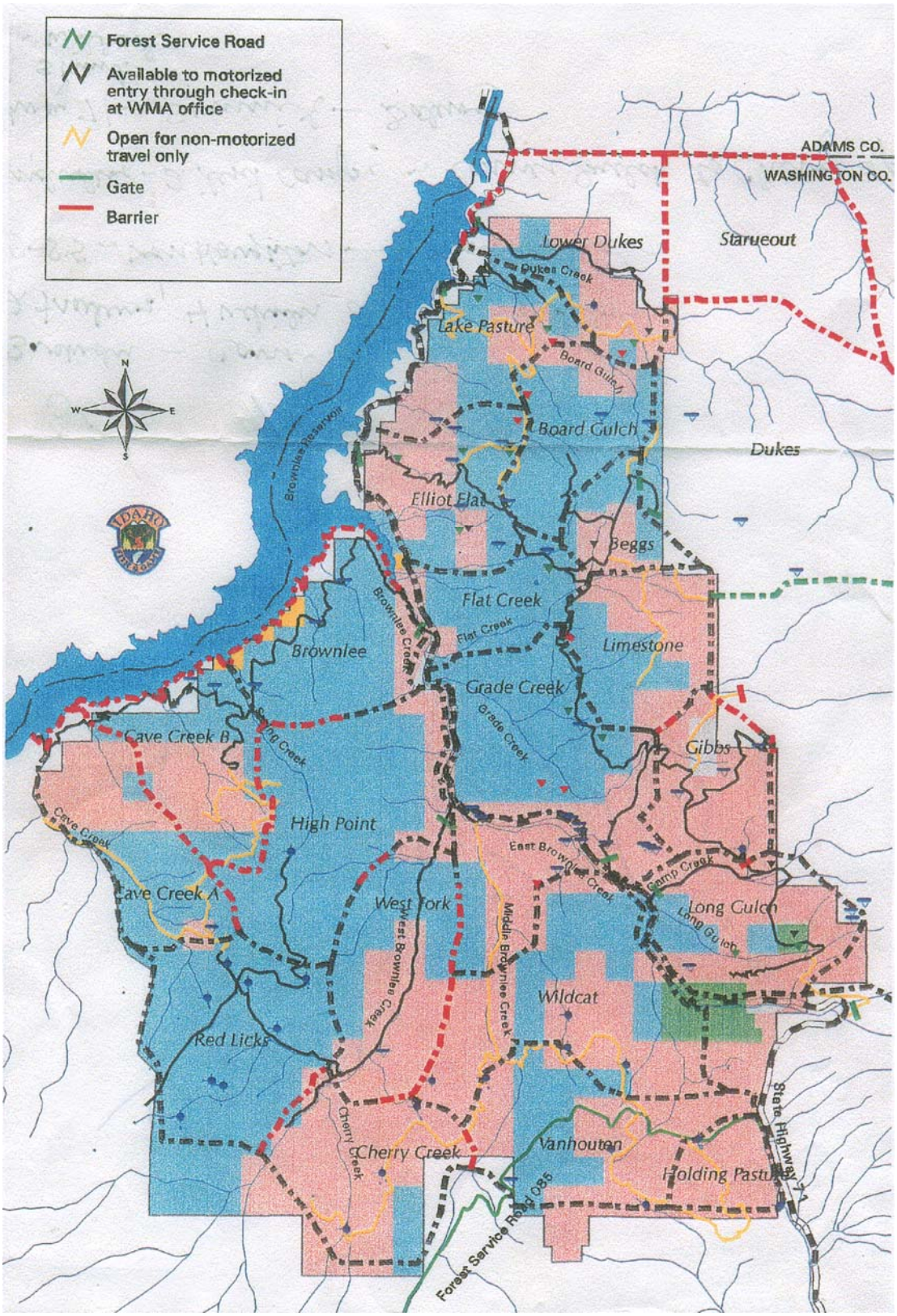

Figure 2. Map showing location of AWMA pastures and intermingled land ownership.

A rotational grazing plan is used which provides one growing season of rest from livestock use to one half of the AWMA each year. A range rider is required to be actively managing and monitoring livestock a minimum of 5 days per week. Individual pastures are managed for moderate utilization by livestock. Twenty pastures and numerous water developments are used to control livestock use and distribution throughout the AWMA. Because managed livestock grazing requires the use of fences, water developments and livestock handling facilities, habitat management also benefits from maintenance and improvement of these structures.

The AWMA is largely composed of native plant communities. Management on the AWMA will conserve and enhance these native plant communities. Non-native annual plant communities dominate low-elevation, historical heavy use areas and are composed primarily of cheatgrass and medusahead rye. Management of non-native communities will be to enhance them with desirable native and non-native plant (desirable plant) species capable of effectively competing with established annual vegetation. Desirable plant species may be native or non-native, annual or perennial, are structurally diverse, provide food and cover for wildlife, stabilize soils, are not invasive, and can successfully compete with invasive plant species.

Invasive plant species, including noxious weeds, are distributed throughout the AWMA, and control efforts are a large part of habitat management. The most significant infestations on the AWMA are whitetop, Scotch thistle, rush skeletonweed, and spotted knapweed. Noxious weeds will be controlled to comply with legal requirements, to reduce their occurrence on the AWMA and to improve rangeland health. New infestations will be eradicated, and established species will be controlled to prevent expansion. The AWMA uses integrated pest management techniques to achieve noxious weed control. Individual techniques include, but are not limited to: herbicides, biological control agents, livestock grazing, mowing, cutting, tillage, competitive plantings, and controlled burns. All available control methods will be used where appropriate and new methods incorporated where practical.

Adaptive management is the integration of experimental design with management actions. It produces reliable data concerning ecological processes, and allows managers to avoid repeating mistakes and to make more informed, justifiable, and effective management decisions. In keeping with the widespread emphasis on adaptive management of natural resources, IDFG will make every practical effort to monitor the effectiveness of habitat management through mapping, photography, and the measured response of vegetation and wildlife populations to habitat manipulations. Data can then be used to evaluate current management strategies and assist in planning future management actions.

ACCESS MANAGEMENT

Part of the mission of the AWMA is to provide opportunity for hunting and wildlife-based recreation compatible with high-quality wildlife habitat and optimal wildlife production. A variety of hunting and non-hunting opportunities are available, and every effort is made to provide the maximum amount of opportunity compatible with the overall AWMA mission.

To help achieve this, the AWMA has continued, with some modifications, the recreation use management system utilized by the Hillman's. A key point of this system is the regulation of all

motorized vehicle use. Regulating motorized use provides for higher quality recreational experiences and reduces conflicts between users. Gates regulate all access points and a key check-in/check-out system is used to provide access for motorized users. Approximately one half of the roads on the AWMA are designated open to motorized use, with the remaining roads designated as administrative motorized use only.

Non-motorized access is currently unrestricted, except that all wheeled vehicles (bicycles, etc.) must stay on designated roads. Regular office hours are staffed at the AWMA Headquarters during hunting seasons to check out gate keys, take gate key reservations, and provide information to the public.

Camping is restricted to several designated areas on the AWMA, and is not allowed behind any of the locked access gates. This is to prevent user conflicts and changes in wildlife use of the WMA resulting from camping activities, especially during hunting seasons.

A "No Shooting" Safety Zone encompasses the AWMA Headquarters, residences, buildings, pastures for horses used on the WMA, and other facilities between mile marker 8 and mile marker 9.5 along State Highway 71. The purpose of the "No Shooting" zone is to ensure the safety of the public, WMA staff, and domestic animals in the vicinity of the headquarters and other facilities as well as along the main highway. Wildlife within the Safety Zone continues to provide safe viewing opportunities while the remainder of the WMA is available for hunting. Fishing access is also permitted. Horses used for WMA management activities and by the livestock operator for range riding are pastured within the Safety Zone to ensure a secure location. Although no cattle are permitted to graze there, livestock handling and transfer operations do take place within the Safety Zone. Hunters and other AWMA visitors may travel through the Safety Zone to access areas open to hunting beyond it (Figure 3).

User numbers, hunter harvest, and public response to access management will be monitored with the AWMA Visitor Survey. A survey is provided to each user of the key check-out system and any non-motorized users contacted by AWMA staff.

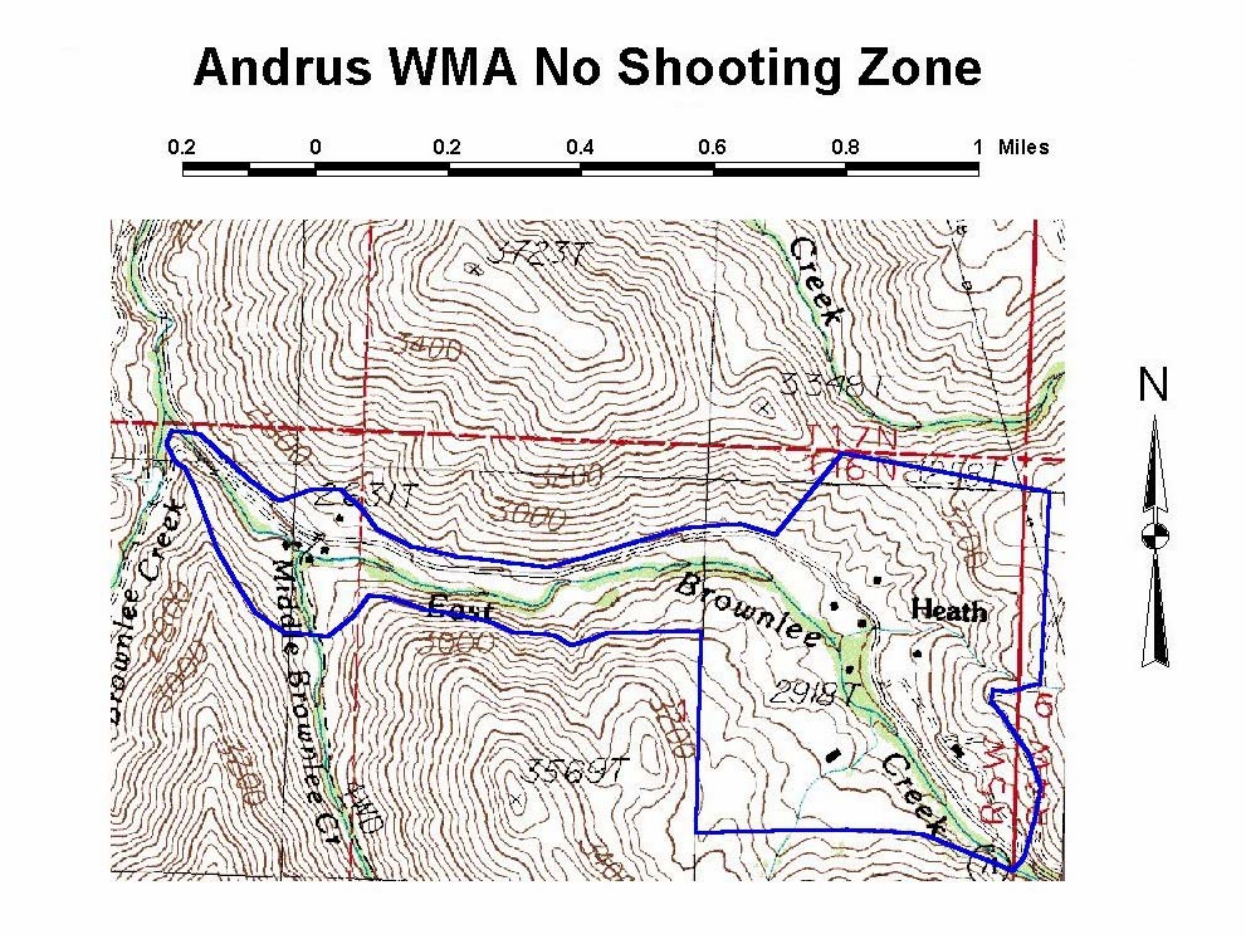

Figure 3. Map of the AWMA No Shooting Safety Zone.

MANAGEMENT PRIORITIES

SUSTAIN WILDLIFE HABITAT AND PRODUCTION

I. Hunting Recreation
II. Wildlife Viewing, Appreciation, and Education
III. Other Compatible Wildlife-related Recreation

Goals, Objectives, Strategies

I. Goal: To sustain the habitats upon which Idaho's fish and wildlife depend.

A. Objective: Maintain the capacity of upland habitat to support and produce big game, upland game birds, and nongame species.

Strategies:

1. Maintain the diversity of vegetation cover types, and allow natural ecological processes to operate in order to provide a variety of habitat types.
2. Manipulate habitat to increase the vigor and distribution of desirable plant communities on the AWMA.
3. Preserve natural perennial and ephemeral springs and seeps.
4. Maintain and enhance sagebrush and bitterbrush stands and distribution through seeding and planting.
5. Maintain and enhance food-bearing and other shrubby cover adjacent to springs, seeps, and riparian areas through plantings.
6. Manage upland areas for forage seed production of desirable plant species.
7. Manage forage utilization to retain residual bunchgrass and herbaceous canopy cover for nesting game and nongame birds, and to supply a forage base on critical winter range.
8. Maintain food plot(s) of cereal grains or other seed producing species for upland game bird and turkey winter use. Self-feeding oat bale feeders will be used to supplement food plots as needed.
9. Control invasive plant species, including noxious weeds, to maintain desirable plant communities.
10. Evaluate impacts to shrub habitats from Douglas fir/ponderosa pine encroachment and develop and implement suitable habitat management strategies to maintain shrub communities.
11. Reseed and plant seedlings of desirable plant species in areas treated for noxious weeds or affected by wildfire and other disturbance.
12. Utilize grazing, mowing, and other techniques to manage fuel loads immediately adjacent to roads and parking areas to reduce fire danger.

13. Install and maintain water developments to provide water for wildlife and distribute forage utilization.

14. Install escape ramps in water troughs to protect birds and small mammals.

15. Restrict motorized vehicle access and other disturbances from January 1 through May 1 each year to protect wintering big game. Additional use restrictions may be implemented at other critical time periods to reduce impacts to wildlife production.

16. Maintain boundary fences to exclude trespass livestock grazing.

B. Objective: Maintain the capacity of forest habitats to support game and nongame species.

Strategies:

1. Evaluate impacts to aspen stands from Douglas fir/ponderosa pine encroachment and develop and implement suitable habitat management strategies to preserve and enhance aspen stands.

2. Manage Douglas fir forest habitat to maintain high-elevation, north-slope pockets where mature overstory is established.

C. Objective: Maintain the capacity of riparian habitat to support game, nongame, and fish species.

Strategies:

1. Manage cattle grazing and distribution to preserve and enhance riparian habitat in meadows, seeps, springs, and creeks.

2. Maintain livestock water developments to improve cattle distribution throughout pastures and minimize riparian impacts.

3. Limit livestock grazing to spring and fall seasons to avoid excessive use of riparian areas during hot season.

4. Maintain and enhance cottonwood establishment and shrub cover in riparian areas through plantings and other manipulations.

D. Objective: Control established noxious weeds and prevent new invaders from establishing on the AWMA.

Strategies:

1. Implement the annual weed control plan for the AWMA.

2. Use integrated pest management as the basis for noxious weed control to make use of all available control methods where appropriate. Control methods include, but are not limited to: herbicides, livestock grazing, mowing and other mechanical methods, tillage, biological controls, competitive plantings, and controlled burning.

3. Replant treated areas with desirable plant species capable of competing with noxious weeds.

4. Reduce soil disturbance and erosion by restricting motorized access to designated open roads, controlling motorized access during those times when weather conditions increase roadbed damage, and by following and enforcing the terms of the grazing agreement, particularly livestock distribution and period of use.
5. Reclaim areas of disturbance prone to weed invasion.
6. Require the use of certified weed-free hay in accordance with IDFG policy.
7. Maintain a grazing system that improves rangeland vigor, thereby minimizing conditions for noxious weed invasions.
8. Require that livestock previously grazed in areas with noxious weed infestations not be permitted on the AWMA without first undergoing a five-day quarantine period.
9. Inspect livestock and equipment brought onto AWMA for the presence of noxious weed seed sources and take appropriate action.
10. Ensure AWMA staff maintain up-to-date knowledge of weed management practices through ISDA Pesticide Applicator licensing and participation in weed control association activities.

E. Objective: Ensure the long-term survival of fish, wildlife, and plants.

Strategies:

1. Work with appropriate personnel to develop scientifically valid protocols for data collection and pooling that are compatible with IDFG, IDL, and other management partner data management systems.
2. Assist the Regional Wildlife Manager with big game and upland game bird counts on the AWMA and in Units 22 and 31. Assist with the collection of other monitoring data as requested to address wildlife resource concerns.
3. Monitor winter turkey numbers on the AWMA.
4. Annually plant at least 5 acres of supplemental food plots for wild turkeys, and when winter feeding criteria are met in accordance with regional guidelines, augment with additional food sources such as oat hay or cereal grain.
5. Collect vegetation data to track long-term ecological changes, monitor forage production and residual nesting cover, and assess impacts of management actions on the AWMA.
6. Correlate biological data collected with climatic data to assess and understand short- and long-term impacts to wildlife and habitat.
7. Map locations and sizes of noxious weed treatments annually to assess long-term success of control efforts.
8. Coordinate with the IDFG Nongame Wildlife Program and CDC personnel to develop and collect monitoring data to address nongame resource concerns.

9. Work with appropriate wildlife and nongame personnel to maintain, enhance, and monitor habitats identified as important for species of special concern and T & E species.

II. Goal: Meet the demand for fish and wildlife recreation by providing public use of the AWMA.

A. Objective: Manage type and timing of use to provide high-quality hunting, fishing, and trapping opportunities.

Strategies:

1. Achieve desired hunter distribution and numbers with minimal hunter conflict by implementing an Access Management Plan (Appendix VIII). Adjust the Access Management Plan as needed to meet management goals.
2. Maintain the historical gate/key check-out system as part of the motorized access system to control motorized access, reduce hunter densities, minimize hunter conflict, and monitor hunter use.
3. Allow wheeled vehicle (motorized and non-motorized) travel on maintained roads only. No off-road travel by any type of wheeled vehicle is allowed.
4. Allow non-motorized uses compatible with the AWMA mission.
5. Install and maintain gates and fences at key points to prevent unauthorized movement of vehicles between drainages, and onto the AWMA from adjacent lands.
6. Maintain a "No Shooting" Safety Zone that encompasses the AWMA Headquarters, AWMA residences, buildings and facilities, and livestock pastures associated with those facilities to protect people, equipment, and livestock maintained there. A map of the Safety Zone is available at the AWMA Headquarters.
7. Maintain staffed office hours at the AWMA Headquarters during hunting seasons for hunter check-in/check-out, key reservations, and use of the motorized access system.
8. Provide a map and other interpretive materials at the AWMA Headquarters for public benefit.
9. Prohibit camping and overnight vehicle parking behind gates on the AWMA. Camping will be allowed in designated pull out areas on the AWMA adjacent to USFS road 085 (Payette Forest Travel Map) and at the access area at the mouth of Brownlee Creek.
10. Permit campfires only during times of low fire danger and in direct association with camping in designated areas.
11. Provide opportunity for mandatory black bear and lion checks at the AWMA Headquarters during staffed office hours.

12. Monitor public use on the AWMA to ensure that production and winter security of game and nongame wildlife is not adversely affected. Restrictive measures may be employed if necessary to preclude public use from being detrimental to habitat or wildlife production management.

B. Objective: Sustain fish and wildlife recreation on public lands.

Strategies:

1. Work together with IDL, USFS, BLM, and private landowners to optimize hunting and provide a variety of wildlife-based recreational opportunities, manage access, reduce potential impacts and conflicts, and achieve objectives for fish and wildlife populations and recreation.
2. Protect existing rights for public to access the AWMA lands and waters for hunting, fishing, trapping, and other compatible wildlife-based recreation.
3. Provide specialized access opportunities as necessary for persons of all abilities.

C. Objective: Support other compatible wildlife-based recreation.

Strategy:

1. Provide wildlife viewing opportunities and information on proper wildlife viewing techniques and behavior.

D. Objective: Monitor public use and satisfaction with access management and their hunting or other wildlife-based recreational experience.

Strategies:

1. Use survey forms with each key check-out and visitor contact to monitor user numbers, type and duration of use, level of harvest, and determine public opinion on user management issues.
2. Provide voluntary survey sites at access points for non-motorized users.

III. Goal: Improve public understanding of, and involvement in, fish and wildlife management.

A. Objective: Increase public knowledge and understanding of Idaho's fish and wildlife.

Strategies:

1. Provide information to regional schools, community groups, and university and college departments about the resources available on the AWMA for educational and research opportunities in wildlife and natural resource management.
2. Work with interested groups to develop presentations and programs to meet specific educational objectives.
3. Provide AWMA facilities and resources for group presentations and field trips relating to wildlife and natural resource management and hunter education.

4. Explore developing an annual internship program for high school and/or college students to gain hands-on experience in wildlife and natural resource management.
5. Pursue information displays, self-guided tours, and other self-directed educational opportunities as funding permits and in conjunction with the IDFG Communications Bureau and cooperating organizations.
6. Utilize habitat improvement projects to demonstrate techniques for wildlife habitat development on private lands.

B. Objective: Improve citizen involvement in the decision-making process.

Strategies:

1. Institute an AWMA working group of 5-7 members representing a diverse range of interests and backgrounds. Meet at least annually to exchange information, with WMA staff reviewing current year management activities and members sharing observations of their WMA experiences.
2. Coordinate volunteer work projects on the AWMA.
3. Conduct public meeting(s) at each 5-year review of the management plan to collect information on public use and satisfaction with the AWMA experience.

IV. Goal: Provide professional administration of all AWMA activities.

A. Objective: Administer the management of all lands within the AWMA that are Department-owned or managed by agreement with IDL, USFS, BLM, and private landowners.

Strategies:

1. Hire and supervise temporary employees.
2. Prepare and administer budgets, work plans, reports and inventory, and perform other administrative duties as required.
3. Administer leases, cooperative agreements, and other contracts.
4. Enforce regulations for hunting, fishing, trapping, and public use of IDFG-owned and managed lands.
5. Engage in professional development and continuing education activities, including maintenance of Professional Applicator certification by the Idaho State Department of Agriculture.

B. Objective: Coordinate Department management activities with other landowners or land management agencies within and adjacent to the AWMA.

Strategies:

1. Coordinate with IDL, USFS, BLM, Idaho Power Company (IPC), and private landowners on AWMA management issues.

2. Represent IDFG on the AWMA Management Advisory Committee and other coordinating groups relevant to the AWMA management.
3. Provide coordination leadership on noxious weed and invasive plant control efforts on lands within the AWMA.

C. Objective: Maintain equipment and facilities for excellent customer service and management effectiveness.

Strategies:

1. Maintain equipment and vehicles in safe and operable condition to support AWMA objectives, including long-term planning for replacement.
2. Maintain public-use facilities, including informational signage, parking areas, and roads in clean and serviceable condition.
3. Maintain all buildings and facilities in a safe and operable condition to meet the mission, goals, and objectives of the AWMA and the Department, including long-term replacement.

APPENDIX I

Physical Description and Improvements

The AWMA is located approximately 18 miles northwest of Cambridge, Idaho. It is bisected by State Highway 71, which forms the southwest boundary for Game Management Unit 22 and the northeast boundary for Game Management Unit 31. The property abuts Brownlee Reservoir along the upper reach of the Hell's Canyon complex in the Snake River watershed, and is characterized by steep mountainous terrain, shrub covered-draws, and intermittent and perennial streams. The primary land uses of the property prior to Department ownership were domestic cattle grazing and hunting by permission, respectively.

The management area consists of 10,087 deeded acres, which provides structural facilities and land bases for wildlife habitat and livestock management on an additional 12,821 acres of State Endowment lands administered by the IDL under a Miscellaneous Lease to IDFG. The deeded acres also serve as base property for grazing permits to IDFG on 700 acres of public lands administered by the BLM. Approximately 300 acres of USFS lands are also administered cooperatively as part of the AWMA. There are also approximately 100 acres of private inholdings within the AWMA. The Department in essence cooperatively manages 23,928 acres of intermixed deeded, IDL, BLM, and USFS lands.

Elevations on the AWMA range from 2,000 feet at Brownlee Reservoir to over 5,000 feet on Cuddy Mountain. The upland habitat consists of bluebunch wheatgrass, Idaho fescue, cheatgrass, medusahead rye, and scattered tracts of big sagebrush, and bitterbrush. Riparian areas are dominated by cottonwood, hawthorn, bittercherry, and chokecherry. Some pockets of Douglas-fir and ponderosa pine exist at higher elevations and northerly aspects. A more extensive description of vegetation on the property is found in Appendix IV.

There are approximately 30 miles of perennial streams on the AWMA. All can be categorized as B Type Channels, i.e., moderate gradient, cobble to boulder substrate. Major tributaries that occur within the AWMA consist of the Dukes Creek, Grade Creek, Camp Creek, and the East, West, and Middle Forks of Brownlee Creek.

Soils in this area are derived mainly from basalt and basalt with granitic parent material. Basalt developed soils tend to have a loam to silt loam surface texture with loam to clay loam subsoils. Conversely, the basalt with granitic type soils tend to have sandy loam surface texture and a sandy loam or loamy sand subsurface, and tend to be susceptible to disturbance and erosion.

Annual precipitation ranges from 12 to 16 inches, depending upon elevation. Most of the precipitation occurs in the form of rainfall between the months of October and June. Snow conditions are light to moderate. The mean annual temperature is 53.8^{o} F, with extreme temperatures ranging from -20^{o} F to 118^{o} F for winter and summer months, respectively. The growing season in the Brownlee area is limited to 80-140 days depending upon elevation, precipitation, and temperature.

Appendix I. Continued.

The AWMA is home to a variety of migratory and resident mammals, birds, reptiles, amphibians, and fish. A complete description of the wildlife present can be found in Appendix V.

The physical improvements on the AWMA can be divided into three groups: buildings and structures, fences, and water developments. Buildings and structures on the AWMA consist of feeding and storage sheds, cattle loading facilities, and living facilities. Three doublewide trailers are permanently occupied by AWMA personnel; one house serves as the permanent office and living quarters for AWMA part-time personnel; one house serves as temporary living quarters for IDFG personnel, researchers, and volunteer groups; and one trailer house serves as living quarters for the AWMA livestock permittee. There are approximately 46 water developments, 7 livestock ponds, 1 irrigation ditch, and over 100 miles of barbed wire and lay-down fence on the AWMA and associated lands. There are 20 pastures in the AWMA grazing system.

Infrastructure

Structures on the Cecil D. Andrus Wildlife Management Area

Function	Structure Type
Office	2-story house
Staff Residences	doublewide trailers (3); 2-story house (1)
Range Rider Residence	trailer house (1)
Livestock Handling	horse barns w/ corrals (2)
Storage Facilities	calving shed (1)
Storage Facilities	open-bay hay shed (1)
Storage Facilities	storage/feeder shed w/ corral (1)
Storage Facilities	storage/feeder sheds (3)
Storage Facilities	open-bay shelters (3)
Shop and Parking	open-bay shed w/ machine shop
Livestock Handling	loading chutes w/o corrals (1)
Livestock Handling	loading chutes w/ corrals (2)
Livestock Handling	loading chute complex w/ scale (1)
Storage Facilities	small sheds (2)

Appendix I. Continued.

Fence classification on the AWMA	
Fence	Miles
Boundary, 4-strand barbed wire, permanent	30
Boundary, 4-strand barbed wire, let-down	1
Pasture Division, 4-strand barbed wire, permanent	70
Pasture Division, 4-strand barbed wire, let-down	.25

Water Development classification on the AWMA	
Type of Development	Number
Spring development with tank	46
Pond	7

APPENDIX II

Development History

In 1993, the AWMA was purchased from the Mike Hillman family by the Richard King Mellon Foundation and donated, through the Land Conservation Program, to the IDFG for the purpose of wildlife conservation. Prior to 1993, while in private ownership, the AWMA was managed as a working cattle ranch, with consideration given to recreation and to the conservation of wildlife. The AWMA was sought by the IDFG because it provides critical winter range for deer and elk in Game Management Units 22 and 31, contains fairly intact native canyon grassland communities which are representative of Hell's Canyon and which are important to many species of wildlife, and because it offers valuable outdoor recreation opportunities to hunters and non-hunters alike.

Over one half of the AWMA is composed of IDL, BLM, and USFS-owned lands. The IDFG has worked cooperatively with these agencies when developing and implementing management strategies for the AWMA. Other organizations have also contributed to management projects on the AWMA, including the Rocky Mountain Elk Foundation, National Wild Turkey Federation, Idaho Bird Hunters, Lower Weiser River Cooperative Weed Management Area (LWRCWMA), and IPC.

APPENDIX III

Management Requirements/Authorities

Direction from the Commission and Director

The IDFG has a responsibility to manage lands it controls for the benefit of Idaho wildlife, and where opportunities exist, to provide for wildlife-associated recreation opportunities. The IDFG strives to provide excellent public service and healthy sustainable wildlife populations.

The Commission has established *The Compass*, the strategic plan for the Department which is intended to guide IDFG management philosophy, direction, and decisions *"towards excellence in maintaining our fish and wildlife heritage and providing services to people."* The goals of *The Compass* are to:

> Sustain Idaho's Fish and Wildlife and the Habitats Upon Which They Depend,
> Meet the Demand for Fish and Wildlife Recreation,
> Improve Public Understanding of, and Involvement in, Fish and Wildlife Management, and
> Enhance the Capability of the Department to Manage Fish and Wildlife and Serve the Public.

Within these goals, *The Compass* cites specific outcomes, objectives, and strategies identified as important for habitat management, providing hunting and fishing opportunities, working with the public and for meeting IDFG's mission and vision. These specifics have been used in the development of the AWMA Management Plan.

Federal and State Law Requirements

Federal funds, including those derived from the USFWS Federal Aid Program, have been used in part to manage AWMA lands. Certain activities are prohibited from funding with Federal Aid funds, and all provisions of Federal Aid funding will be followed.

Other federal and state laws also affect management of the AWMA. IDFG has responsibility under provisions of the Endangered Species Act to ensure that management actions protect threatened and endangered species, and responsibility under the Clean Water Act to ensure that water quality standards and guidelines are in place on AWMA lands and waters.

Under the National Historic Preservation Act, IDFG must ensure that historic properties are protected on the AWMA.

The Idaho Noxious Weed Law under Idaho Code 22-2405 requires all landowners to eradicate noxious weeds on their lands, except in special management zones. The counties are required to enforce the law and the State of Idaho is required to ensure the counties do so.

Consistent with Idaho Code 36-114 and through a cooperative agreement with the IDL, IDFG is required to pay a fee for fire protection on all forest and rangeland acreage it owns. Fees are submitted annually based on the number of qualified acres owned by IDFG.

IDFG is required by Idaho Code 63-602 to pay a fee-in-lieu-of-tax (FILT) payment on lands owned by the IDFG and meeting certain code requirements. These fees are submitted annually to affected counties based on the number of qualifying acres.

As a term of the IDL Miscellaneous Lease #M-5040, the IDFG is required to incorporate livestock grazing into the management of endowment lands covered under the lease, and be managed in accordance with the AWMA Grazing Plan.

Other Constraints and Stipulations

The AWMA was purchased from the Mike Hillman family by the Richard King Mellon Foundation and donated, through the Land Conservation Program, to the IDFG for the purpose of wildlife conservation. This directive by the Richard King Mellon Foundation has been preserved in this Management Plan.

APPENDIX IV

Vegetation, Habitat Type, and Soils

Vegetation (Compiled by Mancuso and Mosely 1995)

Most of the AWMA is characterized by highly dissected, steep canyon slopes and associated ridges. Perennial bunchgrass communities or degraded versions characterized by invasive annual grasses dominate the canyon faces. The canyon grassland communities are representative of the bluebunch wheatgrass (*Agropyron spicatum*) and Idaho fescue (*Festuca idahoensis*) habitat type series (Tisdale 1986). Mountain big sagebrush communities are common in areas of gentle canyon topography south of Brownlee Creek. A mosaic of bitterbrush, mountain big sagebrush, scabland, and deciduous shrubfield communities also occur within the canyon landscape. Narrow bands of woody riparian vegetation, often dominated by black cottonwood, follow all the perennial streams within the AWMA, adding further diversity to the canyon ecosystem.

The canyon grasslands are susceptible to disturbance and subsequent weed invasion, and to varying degrees, extensive areas within the canyon ecosystem are now dominated by weedy species. These changes have adversely affected the AWMA's wildlife values. The primary anthropogenic disturbances at the AWMA have been livestock grazing and related activities of stockpond and road construction, prescribed burning, and agricultural conversion attempts. Powerline construction and associated roadways are another set of major disturbances. Annual brome grasses, medusahead rye, bulbous bluegrass, and a number of introduced forbs, especially hoary whitetop, rank as the most widespread and intractable weeds within the AWMA. Cyclical fire is a natural part of the Snake River Canyon and upland ecosystems.

At approximately the 4,000 foot contour, the topography of the AWMA moderates. Mountain big sagebrush communities dominate extensive areas along the series of broad, undulating ridges dissecting southern portions of the AWMA. Prescribed burns within the past decade have reduced sagebrush cover over large sections of these uplands. In general, sagebrush habitats west of West Brownlee Creek are in considerably poorer ecological condition than to the east, around Cherry Creek. It is unclear if this is due to past or present livestock grazing patterns, season of burn, or other factors. Much of the AWMA's upper elevations, including nearly all areas along its eastern edge, can be characterized as transitional between forest and non-forest habitats. This transitional-type vegetation is comprised of a complex mosaic of mesic grassland, mountain big sagebrush, deciduous shrubfield, aspen, and conifer patch habitats. Throughout the AWMA, aspect and microtopography are pivotal factors in controlling the distribution of these various plant communities. Extensive conifer stands do not occur within the AWMA, but are common on adjacent Payette National Forest land.

Based on the descriptions of various published classifications, 21 plant communities have been identified for the AWMA. Canyon grassland, bitterbrush, mountain big sagebrush, deciduous shrub, riparian, and conifer forest plant communities are listed below (Table 1). There is considerable overlap between this list of plant communities and cover type names used for the vegetation map classification.

Appendix IV. Continued.

Seven of the 21 plant communities in Table 1 are rare within the AWMA. Several are not discussed elsewhere in the report so are mentioned here. Sand dropseed plant communities are extremely limited in extent and all that we observed are in poor ecological condition (very early seral or early seral stage). The spiny greenbush/bluebunch wheatgrass plant community within the AWMA is also very limited. Mountain big sagebrush/elk sedge is found only in a couple small locations near the southern boundary of the AWMA. No attempt was made to include these three communities in the vegetation map. Netleaf hackberry/bluebunch wheatgrass plant communities are restricted to a few enclaves within the AWMA. None were large enough to be included in the vegetation map except as a rare inclusion. All of the small netleaf hackberry stands we observed contained depleted understories dominated by annual grasses. Bitterbrush/needle-and-thread grass, bitterbrush/Idaho fescue, and white alder/Syringa plant communities, are each represented by only a single polygon for the vegetation map.

At least nine additional plant communities occur on the AWMA, but are not represented in the above list. There are two reasons for this: 1) the plant communities are not described in the regional literature, or 2) we lack sufficient quantitative floristic and structural information to assess their relationship with published descriptions.

Plant communities that occur on the AWMA, but are not linked to published classification names include the following - mixed deciduous shrub, black cottonwood/mixed deciduous shrub, aspen/mixed deciduous shrub, water birch, black hawthorn, low forb scabland, *Lomatium* spp./*Eriogonum* spp. scabland, northern buckwheat scabland, stiff sagebrush/Idaho fescue, mountain mahogany/rock outcrop. All of these will require further study before a more rigorous classification is possible.

Appendix IV. Continued.

Table 1. Plant communities occurring within the AWMA.

Name	[a]Ref.
Grassland	
1. Bluebunch wheatgrass-Sandberg's bluegrass/arrowleaf balsamroot (*Agropyron spicatum-Poa sandbergii/Balsamorhiza sagittata*)	1
2. Idaho fescue/bluebunch wheatgrass (*Festuca idahoensis/Agropyron spicatum*)	1
3. Idaho fescue/prairie Junegrass (*Festuca idahoensis/Koeleria cristata*)	1
4. Sand dropseed (*Sporobolus cryptandrus*)	1
5. Spiny greenbush/bluebunch wheatgrass (*Glossopetalon nevadense/Agropyron spicatum*)	2
Bitterbrush	
6. Bitterbrush/bluebunch wheatgrass (*Purshia tridentata/Agropyron spicatum*)	2
7. Bitterbrush/needle-and-thread grass (*Purshia tridentata/Stipa comata*)	3
8. Bitterbrush/Idaho fescue-bluebunch wheatgrass (*Purshia tridentata/Festuca idahoensis-Agropyron spicatum*)	2
Mountain big sagebrush	
9. Mountain big sagebrush/Idaho fescue (*Artemisia tridentata* ssp. *vaseyana/Festuca idahoensis*)	2
10. Mountain big sagebrush/bluebunch wheatgrass (*Artemisia tridentata* ssp. *vaseyana/Agropyron spicatum*)	4
11. Mountain big sagebrush-bitterbrush/Idaho fescue (*Artemisia tridentata* ssp. *vaseyana-Purshia tridentata/Festuca idahoensis*)	2
12. Mountain big sagebrush/Geyer's sedge (*Artemisia tridentata* ssp. *vaseyana/Carex geyeri*)	4
Scabland	
13. Stiff sagebrush/Sandberg's bluegrass (*Artemisia rigida/Poa sandbergii*)	1
Deciduous shrub	
14. Ninebark (*Physocarpus malvaceus*)	2
15. Common snowberry (*Symphoricarpos albus*)	1
16. Wood's rose (*Rosa woodsii*)	2
17. Talus-shrub garland	2
18. Netleaf hackberry/bluebunch wheatgrass (*Celtis reticulata/Agropyron spicatum*)	1

Appendix IV. Continued.

Name	[a]Ref.
Riparian	
19. White alder/Syringa (*Alnus rhombifolia/Philadelphus lewisii*)	5
Conifer woodland	
20. Douglas-fir ninebark (*Pseudotsuga menziesii/Physocarpus malvaceus*)	6
21. Douglas-fir/common snowberry (*Pseudotsuga menziesii/Symphoricarpos albus*)	6

[a] References (Ref.) used to classify the vegetation at Brownlee WMA are: 1 = Tisdale 1986; 2 = Johnson and Simon 1987; 3 = Daubenmire 1970; 4 = Hironaka *et al.* 1983; 5 = Miller 1976; 6 = Steele *et al.* 1981.

The Brownlee area represents the northern boundary of low elevation big sagebrush (*Artemisia tridentata* complex) communities in Idaho. The area encompassed by the AWMA is transitional between big sagebrush vegetation to the south and the canyon grasslands characterizing Hells Canyon to the north. Extensive low elevation big sagebrush communities are further south, but north of Brownlee Creek become very sparse and soon disappear.

Soil Types

Soils information is from the Soil Survey of Adams-Washington Area, Idaho (USDA-NRCS 2001). Twenty-nine soil types are found within the AWMA. Soil type names and brief descriptions are listed below.

Bakeoven-Reywat complex, **20-30% slope** - typically found on summits and side slopes; 12-14 inches annual precipitation; dominated by Sandberg bluegrass/stiff sagebrush and bluebunch wheatgrass/xeric big sagebrush.

Bakeoven-Reywat –Rock outcrop complex, **30-60% slope** - typically found on side slopes an crests; 12-14 inches annual precipitation; dominated by Sandberg bluegrass/stiff sagebrush and bluebunch wheatgrass/xeric big sagebrush.

Dagor loam, 2-4% slope - typically found on summits; 17-19 inches annual precipitation; no dominant vegetation listed.

Demasters loam, **30-50% slope** and **Demasters loam**, **50-75% slope** - typically found on north facing side slopes; 18-24 inches annual precipitation; dominated by Idaho fescue and mountain big sagebrush.

Deterson silt loam, **30-60% slope** - typically found on foothills; 12-16 inches annual precipitation; dominated by bluebunch wheatgrass and xeric big sagebrush.

Appendix IV. Continued.

Deterson clay loam, **5-30% slope** - typically found on foothills; 12-16 inches annual precipitation; dominated by bluebunch wheatgrass and xeric big sagebrush.

Gem stony clay loam, **2-30% slope** and **Gem stony clay loam**, **30-60% slope** - typically found on foothills; 12-16 inches annual precipitation; dominated by bluebunch wheatgrass and xeric big sagebrush.

Gem-Bakeoven comple, 2-30% slope and Gem-Bakeoven comples, 30-60% slope - typically found on foothills and mountains; 12-16 inches annual precipitation; dominated by bluebunch wheatgrass/xeric big sagebrush and Sandberg bluegrass/stiff sagebrush.

Gem-Reywat comples, **2-30% slope** and **Gem-Reywat complex**, **30-65% slope** - typically found on foothills and mountains and side slopes; 12-14 inches annual precipitation; dominated by bluebunch wheatgrass and xeric big sagebrush.

Gross silt loam, 30-65% slope - typically found on foothills; 12-16 inches annual precipitation; dominated by bluebunch wheatgrass and xeric big sagebrush.

Gross-Bakeoven complex, 30-65% slope - typically found on mountains; 12-16 inches annual precipitation; dominated by bluebunch wheatgrass/Idaho fescue and Sandberg bluegrass/stiff sagebrush.

Gwin-Rock outcrop complex, 40-65% slope - typically found on side slopes; 16-20 inches annual precipitation; dominated by bluebunch wheatgrass and Sandberg bluegrass.

Jacknife loam, 4-8% slope - typically found on summits; 18-22 inches annual precipitation; dominated by Idaho fescue and antelope bitterbrush.

Klicker stony loam, 30-60% slope - typically found on mountains; 26-30 inches annual precipitation; dominated by Douglas fir, ponderosa pine, bluebunch wheatgrass, Oregon grape, and pine reedgrass.

Lorella-Rock outcrop complex, 30-50% slope - typically found on mountains and canyons; 12-16 inches annual precipitation; dominated by bluebunch wheatgrass and xeric big sagebrush.

Lorella-Rock outcrop complex, 50-65% slope - typically found on mountains; 12-16 inches annual precipitation; dominated by bluebunch wheatgrass, Idaho fescue, and xeric big sagebrush.

McDaniel-Starveout complex, 10-60% slope - typically found on west facing side slopes; 16-18 inches annual precipitation; dominated by bluebunch wheatgrass and Idaho fescue.

Meland silt loam, 4-8% slope - typically found on foothills and mountains; 18-22 inches annual precipitation; dominant vegetation not listed.

Appendix IV. Continued.

Meland very stony loam, 4-30% slope - typically found on shoulders and side slopes; 18-22 inches annual precipitation; dominated by Idaho fescue and antelope bitterbrush.

Meland-Riggins complex, 4-30% slope and **Meland-Riggins complex, 30-60% slope** - typically found on convex, south facing side slopes; 18-22 inches annual precipitation; dominated by Idaho fescue, antelope bitterbrush, and xeric big sagebrush.

Oldsferry shaly loam, 25-65% slope - typically found on south facing side slopes; 12-18 inches annual precipitation; dominated by bluebunch wheatgrass and xeric big sagebrush.

Riggins extremely stony loam, 4-30% slope and **Riggins extremely stony loam, 30-50% slope** - typically found on foothills and mountains; 18-22 inches annual precipitation; dominated by Idaho fescue and xeric big sagebrush.

Rock outcrop-Bakeoven complex, 60-80% slope - typically found on canyons and mountains; 12-16 inches annual precipitation; dominated by Sandberg bluegrass and stiff sagebrush.

APPENDIX V

Wildlife and Fish

Species List for the AWMA. (Complied 1993-1996 by John O'Neil, David Neider, and Mark Fleming, Idaho Department of Fish and Game).

Species	Scientific name
Big Game Mammals	
Elk	*Cervus elaphus*
Black bear	*Ursus americanus*
Moose	*Alces alces*
Mountain lion	*Felis concolor*
Mule deer	*Odocoileus hemionus*
White-tailed deer	*Odocoileus virginianus*
Bighorn Sheep[a,b]	*Ovis canadensis*
Gray Wolf[c]	*Canus lupus*
Upland Game Birds	
California quail	*Callipepla californicus*
Chukar	*Alectoris chukar*
Blue grouse	*Dendragapus obscurus*
Gray partridge	*Perdix perdix*
Mountain quail[a]	*Oreortyx pictus*
Mourning dove	*Zenaidura macroura*
Ring-necked pheasant	*Phasianus colchicus*
Ruffed grouse	*Bonasa umbellus*
Sage-grouse[a]	*Centrocercus urophasianus*
Sharp-tailed grouse[a]	*Pediocetes phasianellus*
Wild turkey	*Meleagris gallopavo merriami*
Furbearers	
Badger	*Taxidea taxus*
Beaver	*Castor canadensis*
Bobcat	*Felis rufus*
Cottontail rabbit	*Sylvilagus nuttallii*
Coyote	*Canis latrans*
Long-tailed weasel	*Mustela frenata*
Mink	*Mustela vison*
Muskrat	*Ondatra zibethicus*
Porcupine	*Erethizon dorsatum*
Raccoon	*Procyon lotor*
Red fox	*Vulpes vulpes*
River otter	*Lutra canadensis*

Appendix V. Continued.

Species	Scientific name
Snowshoe hare	*Lepus americanus*
Striped skunk	*Mephitis mephitis*
Small Mammals	
Columbian ground squirrel	*Spermophilus columbianus*
Least chipmunk	*Eutamias minimus*
Northern pocket gopher	*Thomomys talpoides*
Red squirrel	*Tamiasciurus hudsonicus*
Yellow-bellied marmot	*Marmota flaviventris*
Yellow-pine chipmunk	*Eutamias amoenus*
Waterfowl	
Canada goose[d]	*Branta canadensis*
Common merganser[d]	*Mergus merganser*
Common goldeneye[d]	*Bucephala clangula*
Mallard	*Anas platyrhynchos*
Raptors	
Golden eagle	*Aquilla chrysaetos*
Bald eagle	*Haliaeetus leucocephalus*
American kestrel	*Falco sparverius*
Prairie falcon	*Falco columbarius*
Northern goshawk	*Accipiter gentilis*
Cooper's hawk	*Accipiter cooperii*
Sharp-shinned hawk	*Accipiter striatus*
Northern harrier	*Circus cyaneus*
Red-tailed hawk	*Buteo jamaicensis*
Great-horned owl	*Bubo virginianus*
Western screech-owl	*Otus asio*
Turkey vulture	*Cathartes aura*
Song Birds	
American dipper	*Cinclus mexicanus*
American goldfinch	*Spinus tristis*
American robin	*Turdus migratorius*
Barn swallow	*Hirundo rustica*
Belted kingfisher	*Megaceryle alcyon*
Black-billed magpie	*Pica pica*
Black-capped chickadee	*Parus atricapillus*
Brewer's blackbird	*Euphagus cyanocephalus*
Brewer's sparrow	*Spizella breweri*
Brown-headed cowbird	*Molothrus ater*
Bullock's oriole	*Icterus bullockii*

Appendix V. Continued.

Species	Scientific name
Common crow	*Corvus brachyrhynchos*
Canyon wren	*Catherpes mexicanus*
Common nighthawk	*Chordeiles minor*
Common raven	*Corvus corax*
Cliff swallow	*Petrochelidon pyrrhonota*
European starling	*Sturnus vulgaris*
Horned lark	*Eremophila alpestris*
House wren	*Troglodytes aedon*
Lazuli bunting	*Passerina amoena*
Lewis' woodpecker	*Asyndesmus lewis*
Mountain bluebird	*Sialia currucoides*
Pine siskin	*Spinus pinus*
Purple finch	*Carpodacus purpureus*
Red-winged blackbird	*Agelaius phoeniceus*
Red-shafted flicker	*Colaptes cafer*
Rufous-side towhee	*Pipilo erythrophthalmus*
Rufous hummingbird	*Selasphorus rufus*
Say's phoebe	*Sayornis saya*
Vesper sparrow	*Pooecetes gramineus*
Violet-green swallow	*Tachycineta thalassina*
Western kingbird	*Tyrannus verticalis*
Western meadowlark	*Sturnella neglecta*
Western tanager	*Piranga ludoviciana*
Shorebirds & Waterbirds	
California gull[d]	*Larus californicus*
Common loon[d]	*Gavia immer*
Great blue heron	*Ardea heroias*
Killdeer	*Charadrius vociferus*
Ring-billed gull[d]	*Larus delawarensis*
Fish	
Black crappie[d]	*Pomoxis nigromaculatus*
Bluegill[d]	*Lepomis marcochirus*
Channel catfish[d]	*Ictalurus punctatus*
Largemouth bass[d]	*Micropterus salmoides*
Rainbow trout	*Oncorhynchus grairdneri*
Redband trout	*Oncorhynchus mykiss gibbsi*
Smallmouth bass[d]	*Micropterus dolomieui*
White crappie[d]	*Pomoxis annularis*

Appendix V. Continued.

Species	Scientific name
Amphibians & Reptiles	
Common garter snake	*Thamnophis sirtalis*
Gopher snake	*Pituophis melanoleucus*
Long-toed salamander	*Ambystoma macrodactylum*
Pacific chorus frog	*Pseudacris regilla*
Racer	*Coluber constrictor*
Rubber boa	*Charina bottae*
Western fence lizard	*Sceloporus occidentalis*
Western rattlesnake	*Crotalus viridis*
Western toad	*Bufo boreas*

[a] Historical range - small remnant populations are likely present.
[b] Frequent sightings at Duke's Creek of transplanted sheep crossing from Oregon into Idaho.
[c] Sightings have occurred near the AWMA in recent years; wolves may occasionally be present.
[d] Observed at mouth of Brownlee Creek (Brownlee Reservoir).

APPENDIX VI

Livestock Grazing Program

Domestic livestock grazing on the AWMA will be done in accordance with the terms and conditions of the IDL Miscellaneous Lease #M-5040, the AWMA Grazing Management Plan, the AWMA Grazing Agreement, the AWMA Annual Operation Plan, and in conjunction with the Brownlee CRMP. An MOU for the management of the BLM Wildhorse unit will be developed during 2006.

The AWMA is composed primarily of intermingled IDFG and IDL lands, and limited USFS and BLM lands. When the AWMA was acquired, the AUMs associated with IDFG lands were reserved for wildlife. Leases associated with the IDL lands remain in effect, and livestock grazing continues to remain a part of the AWMA activities. In 2001, the State Endowment land use previously authorized under four grazing leases was reclassified for wildlife habitat and grazing use, and leased to the IDFG under Miscellaneous Lease #M-5040. USFS permits associated with the on/off allotments within the AWMA are managed through the Brownlee CRMP and are grazed as part of the AWMA grazing system. The majority of BLM lands lie in the Duke's Creek Grazing Exclosure; the remaining BLM lands are grazed within the AWMA grazing system.

AWMA Livestock Grazing System Summary

The AWMA is divided into 20 pastures, and with the exception of the Duke's Creek Grazing Exclosure, all are grazed annually. Livestock graze one half of the AWMA in the spring and the other half in the fall, and utilize the USFS Dukes-Heath C&H Allotment during summer months. Grazing is rotated annually between the north and south halves of the AWMA, which provides a growing season of rest from livestock use to one half of the AWMA every year (Table 1).

Individual pastures are managed for moderate utilization by livestock. Low elevation pastures are grazed at the beginning of each spring grazing season, and livestock are moved to higher elevation pastures as the season progresses. In the fall, high-elevation pastures adjacent to the USFS boundary are grazed first, ending the season at low-elevation pastures. Livestock spend up to 14 days in each pasture during the spring grazing period and up to 10 days in each during the fall grazing period. Livestock are actively monitored and managed a minimum of 5 days per week by a range rider.

Appendix VI. Continued.

Table 1. Livestock Rotation - 2003-2010.

Year	Andrus WMA / North of Hwy 71	Andrus WMA / South of Hwy 71	USFS / Dukes-Heath C&H Allotment
2003	Apr 1 - Jun 30	Sept 16 - Oct 31	July 1 - Sept 15
2004	Sept 16 - Oct 31	Apr 1 - Jun 30	July 1 - Sept 15
2005	Apr 1 - Jun 30	Sept 16 - Oct 31	July 1 - Sept 15
2006	Sept 16 - Oct 31	Apr 1 - Jun 30	July 1 - Sept 15
2007	Apr 1 - Jun 30	Sept 16 - Oct 31	July 1 - Sept 15
2008	Sept 16 - Oct 31	Apr 1 - Jun 30	July 1 - Sept 15
2009	Apr 1 - Jun 30	Sept 16 - Oct 31	July 1 - Sept 15
2010	Sept 16 - Oct 31	Apr 1 - Jun 30	July 1 - Sept 15

Utilization Levels

Utilization levels will be determined based on management goals for individual pastures. Levels of livestock grazing use will be determined based on the following criteria:

Utilization Level	Percent of Forage Removed*
Low	<20%
Moderate	20-50%
High	>50%

*During the active growing season of forage plant species (Apr-Jun) current utilization percentages will be used to determine level of use.

Goals of the AWMA Grazing System

I. Goal: Maintain and enhance rangelands to meet wildlife habitat needs.

A. Objective: Maintain and enhance rangeland plant community structure, composition, diversity, and vigor.

Strategies:

1. Prevent conversion of perennial rangelands to annuals and non-native species through active livestock management and noxious weed control.
2. Maintain nesting canopy cover that provides 80-100% overhead concealment at 1 meter or less above ground-level for upland game birds, and at 18 inches or less for ground-nesting nongame birds. Maintain residual bunchgrasses and herbaceous canopy cover for ground-nesting birds species when current years growth has not matured enough to meet canopy cover requirements.

3. Maintain and enhance vegetation with structural characteristics that act as natural barriers to wind blown snow to provide cover and foraging areas.
4. Maintain a forage base of ungrazed bunchgrasses, or grazed bunchgrasses with full regrowth to mature, productive seed stage on critical winter range.
5. Maintain a diverse shrub component, especially on low- and mid-elevation slopes with South, SE, and SW aspects that provide critical winter range during periods of extended cold or snow. Establish and enhance shrub component in annual grass cover types, using shrub species that will regenerate if burned.
6. Maintain and enhance deciduous trees and shrub cover in riparian areas and uplands to provide foraging, nesting, thermal, and security cover.
7. Incorporate rest or deferred grazing of desirable bunchgrasses during active growing period to maintain healthy root systems.
8. Install alternate water sources to distribute livestock use uniformly throughout pastures.

B. Objective: Provide suitable habitat for redband trout in perennial creeks.

Strategies:

1. Maintain and enhance riparian canopy cover to minimize water temperature fluctuations during summer months. Shading of >80% of water surface is preferred.
2. Stabilize soils through vegetation enhancement and livestock management to reduce sedimentation. Creek substrate should consist of sediment-free rock and gravel for egg laying and fry rearing.

APPENDIX VII

Noxious Weed Control Program

Program Overview

The following noxious weed species are found on the AWMA:
field bindweed (*Convulvulus arvensis*),
hoary cress or whitetop (*Cardaria draba*),
jointed goatgrass (*Aegilops cylindrica*),
poison hemlock (*Conium maculatum*),
spotted knapweed (*Centaurea maculosa*),
puncturevine (*Tribulus terrestris*),
Canada thistle (*Cirsium arvense*),
Scotch thistle (*Onopordum acanthium*),
Dalmatian toadflax (*Linaria genistifolia ssp. dalmatica*),
yellow toadflax (*Linaria vulgaris*),
rush skeletonweed (*Chondrilla juncea*), and
diffuse knapweed (*Centaurea diffusa*).

The most significant noxious weed infestations on the AWMA are whitetop, Scotch thistle, rush skeletonweed, and spotted knapweed. Upon acquisition, IDFG immediately initiated, and has maintained, an aggressive noxious weed control program focusing on chemical treatments. Biological control agents for spotted knapweed and Canada thistle have been released on the AWMA.

Two additional noxious weeds are found nearby, and could significantly impact the AWMA. Leafy spurge (*Euphorbia esula*) is present west of the AWMA along State Highway 71. Yellow starthistle (*Centaurea solstitialis*) is found along portions of Hell's Canyon north of the AWMA, and has continued to establish in new areas, including Washington County. Spot infestations of both have been detected and eradicated from the AWMA since acquisition.

Management and monitoring actions regarding noxious weeds will reflect IDFG's desire to prevent the establishment and spread of new noxious weeds, to contain and reduce the acreage dominated by established noxious weeds, to return plant communities invaded by noxious weeds to desirable species, and to test and monitor selected treatments of noxious weeds.

IDFG works in cooperation with adjacent landowners and other agencies as part of its noxious weed control program, including the Idaho Department of Lands, the Washington County Weed Department, the Lower Weiser River Cooperative Weed Management Area , IPC, the BLM Four Rivers Field District, and the U.S. Forest Service Payette National Forest.

Program Objectives

1. Prevent the establishment of new invaders by immediately eradicating new infestations and minimize soil disturbances and other habitat alterations favorable to noxious weed invasion.

2. Control established noxious weed expansion using all appropriate and effective methods.
3. Map and monitor noxious weed abundance/distribution, treated areas, and the effect of control activities.
4. Coordinate control activities with neighbors and adjacent land management agencies to pool resources and more effectively develop long-term control actions.
5. Establish native or desirable non-native vegetation in treated and disturbed areas.

Current Control Methods

Biological

Biological control (bio-control) agents for noxious weed species are available and have been released on the AWMA. Agents released for spotted knapweed include *Larinus minutus* (lesser knapweed flower weevil), *Larinus obtusus* (blunt knapweed flower weevil), *Cyphocleonus achates* (knapweed root weevil), and *Bangasternus fausti* (broad-nosed seedhead weevil). Successful establishment of several bio-controls have been observed in spotted knapweed infestations. Bio-control agents for Canada thistle, *Urophora cardui* (gall flies), *Ceutorhynchus litura* (stem-mining weevils), and *Cassida rubiginosa* (defoliating beetles) have been released in riparian areas. Bio-control agents for rush skeletonweed and whitetop will be obtained and released as they become available.

Chemical

Herbicides have been the primary method used to control noxious weeds on the AWMA. Control efforts have relied heavily on Curtail, a variety of 2,4-D based products, Escort, Roundup, and Tordon. Additional chemicals will be used as they become available.

Land Use Practices

A variety of land use practices are available to address noxious weed control needs:

Mechanical

Mowing and tillage have been and currently are being used for weed control; however, their application is limited due to steep terrain. Only a small portion of the AWMA has been tilled, approximately 10 acres. Kochia (*Kochia scoparia*) has been the primary weed problem in tilled areas, and herbicide control is also required. Additionally, hand pulling, cutting, and digging have been used to remove isolated or minor infestations in sensitive areas.

Domestic Livestock Grazing

Livestock grazing on the AWMA can impact noxious weed control needs. The current grazing system is designed to minimize the creation of disturbed areas and favor native vegetation. A livestock quarantine clause addressing cattle shipments from areas of known noxious weed infestations is also in place to prevent new infestations. Livestock grazing targeted at weed control will be incorporated into the management system whenever appropriate.

Appendix VII. Continued.

Annual Weed Control Activities

AWMA staff treat approximately 2,000 acres of noxious weeds each year. Most control activities take place from April – July and are regulated by weather and plant phenology. Fall control activities are restricted due to time constraints and potential conflicts with hunters in the field. Bio-control agents are released when plant development meets insect requirements, primarily early and mid summer months.

Revegetation in areas of repeated heavy disturbance and cheatgrass/whitetop monocultures will be with desirable non-native species more readily able to establish, maintain, and compete with noxious weeds under heavy use and harsh conditions. Native plant communities spot treated for noxious weeds are usually able to reestablish from native seed sources and will be augmented with native seed as needed.

The AWMA has submitted applications annually to the LWRCWMA for cooperative projects, primarily spotted knapweed control. Additional avenues for cooperative funding and treatment of noxious weeds will be pursued as they are identified. IDL contributes funds annually for herbicide purchase.

Weed treatments will be GPS/GIS mapped as part of the application record each year. Maps will also serve as part of a database for determining effectiveness of control treatments.

Herbicide applications and records of control activities are done in accordance with the legal requirements of Idaho Code Title 22 Chapter 34, and Idaho State Department of Agriculture IDAPA 02.03.03.

All AWMA permanent staff maintain Professional Applicator's licenses for the purchase and application of restricted-use herbicides. Holders of these licenses must acquire certification credits to maintain the license. Workshops offering these credits are attended annually by AWMA staff.

APPENDIX VIII

Access Management Plan

Overview

Access management is necessary to ensure that hunting and other wildlife-based recreational uses of the AWMA are compatible with the Departments primary mission to "*preserve, perpetuate and protect*" wildlife within the state of Idaho to provide "*continued supplies of such wildlife for hunting, fishing and trapping*". Access management is also necessary to ensure that the AWMA's mission to provide winter range for big game, year-round upland game bird habitat, optimize production of wildlife, and provide high-quality hunting and other wildlife-based recreation opportunities are met.

An access management plan benefits the public in that it protects resources for future use and permits recreational opportunity with minimal conflicts between users. Every attempt has been made to address current and future issues; however, additional modifications to the access plan may be needed to protect wildlife resources, the quality of recreational experience, and user safety.

History

Prior to its donation to IDFG, the owners of the Hillman Ranch provided hunting opportunities for approximately 300-400 hunters annually. A check-in/check-out access system was implemented in 1988 to provide hunting opportunities with controlled entry, reduce conflicts between upland game and big game hunters, and control hunter distribution among drainages. The program was successful in providing recreation opportunities to the public with few complaints, though there were occasional problems with property damage and hunter trespass from adjacent USFS lands.

Since the IDFG acquired the property in 1993, the number of hunters and associated motorized access to the AWMA has more than doubled to currently over 800-1,000 persons each year (minimum number based on user survey results from 1994-2005). Because the previous access system was popular with the public and supported in public meetings, it was tested by IDFG during the 1994-1997 hunting seasons and has continued under IDFG ownership. Some modifications have been made to the original system to address the increased demands in motorized access.

Purpose

The Access Management Plan is primarily intended to allow AWMA staff to control and monitor the level of motorized vehicle use on the AWMA. Control of motorized vehicle access is important for the following reasons:

1. Motorized traffic can be regulated to levels, locations, and times it will not cause unacceptable disturbances and other effects to wildlife. Benefits from regulated traffic include:

a. Protecting fawning and calving areas.
b. Preventing overharvest of mature males and negative impacts to big game herd sex ratios.
c. Improving security cover for wildlife, especially big game, in roaded areas.
d. Protecting big game from disturbance while on critical winter range.

2. Hunters and other users can be evenly distributed throughout the AWMA. This results in greater safety during hunting seasons and higher levels of hunter/visitor satisfaction due to fewer contacts and conflicts between users.
3. Motorized vehicles can be restricted during times of wet weather when roads are highly susceptible to damage.

Motor Vehicle Access

All motorized access onto the AWMA is controlled via locked gates. Motorized access behind gates will be permitted only on designated open roads and after checking in and obtaining a gate key at the AWMA Headquarters. Each gate has a limited number of keys available, on a first-come, first-serve basis. A map showing the designated open roads is available at the AWMA Headquarters and on the IDFG website. Information on daily road closures due to weather conditions can be obtained by calling or visiting the AWMA Headquarters. The map in Figure 1 shows the six motorized access points on the AWMA.

Internal AWMA road closures have been implemented to provide big game security areas and to reduce conflicts between motorized and non-motorized users, annual road maintenance costs, noxious weed invasion threats, and erosion problems.

Non-Motorized Access

Non-motorized access (foot, horseback, mountain bike, etc.) is open year-round. Mountain bikes and other non-motorized, wheeled vehicles are restricted to existing roads only. No off-road travel is permitted with wheeled vehicles.

Seasonal Closures and Road Restrictions

The AWMA will be closed to public motorized travel from January 1 to May 1 each year to protect wintering big game and to reduce road damage. Additional motorized closures will occur during periods of wet weather when roads are highly susceptible to damage. USFS Road 085 that runs through the southern portion of the AWMA is exempt from this closure.

Office Hours

From September 1 through December 31, office hours are staffed daily at the AWMA Headquarters (closed Thanksgiving and Christmas days). Office hours are also staffed daily

from May 1 through May 25 for spring hunting seasons. Some changes to scheduled office hours may occur between years to address visitor and management needs; contact the AWMA Headquarters to obtain current office hour information.

Key Check-out

Keys are available on a first-come, first-serve basis, and only one key per party may be checked out. Keys may be reserved in advance, by contacting the AWMA Headquarters starting September 1, for the September through December hunting season each year. Key reservations are on a first-come, first-serve basis.

Maps and Information

A map of the AWMA identifying the road access system is available at the AWMA Headquarters. Additional IDFG information, including hunting and fishing regulations, along with other related interpretive materials, are available at the AWMA Headquarters.

Safety Zone

A "No Shooting" Safety Zone has been established that encompasses approximately 200 acres around the AWMA Headquarters, residences, buildings and facilities, and livestock pastures associated with these facilities in order to protect people, equipment, and livestock maintained there. The Safety Zone extends from approximately mile marker 8 to mile marker 9.5 along State Highway 71, and the perimeter is signed. A map of the "No-Shooting" Safety Zone is available at the AWMA Headquarters.

Camping

Camping on the AWMA is allowed only in pull out areas adjacent to USFS Road 085 and at the access area at the mouth of Brownlee Creek. Camping on IDFG-owned and managed lands in these authorized areas is restricted to 10 days in any 30-day period. No camping or overnight parking of motorized vehicles is permitted behind any AWMA gates. This is to reduce user conflicts and prevent shifts in wildlife use of the WMA in response to camping and related motorized activities.

Campfires will be prohibited under certain weather conditions. All authorized camping is primitive, and no garbage or other services are provided.

APPENDIX IX

Monitoring Program

Biological Monitoring

The intent of the monitoring program is to:

1. Obtain reliable information for evaluating responses of habitat and wildlife to land management practices.
2. Generate a long-term database for monitoring ecological changes.
3. Provide information on the status of target habitats and species.

Target species will include game and nongame wildlife species, species of special concern, and noxious weed species. Habitats include streams and riparian systems, upland plant communities, and individual pastures. Pastures and the Duke's Creek Grazing Exclosure will be monitored to quantify differences in plant community composition and to evaluate successional trends.

Where possible, standardized monitoring procedures will be used in order to generate data compatible with data collected on other IDFG lands and by other land management agencies.

Target Species

Elk and Mule Deer
Resident populations of elk and mule deer are present on the AWMA. During winter months, the number of elk and deer using the AWMA increases dramatically.

A. Objective**:** Determine population sizes and sex/age composition.

   Strategy:

   1. Aerial surveys on the AWMA will be flown within the Southwest Region's aerial survey plans and rotation for Big Game Units 22 & 31. Surveys are used to determine elk and mule deer numbers, and bull:cow:calf and buck:doe:fawn ratios.

B. Objective: Determine hunter harvest of elk and mule deer on the AWMA.

   Strategy:

   1. Use Visitor Use Surveys to gather AWMA hunter harvest data.

Upland Game
Chukar, gray partridge, blue and ruffed grouse, mourning dove, turkey, and California quail are present on the AWMA. Sage-grouse and Columbian sharp-tailed grouse have occurred, and mountain quail have historically occurred on or near the AWMA. Individual upland game species have different habitat requirements and thus no single monitoring action will measure the status of all upland game.

Appendix IX. Continued.

A. Objective: Monitor the abundance and production of chukar, gray partridge, and turkey, and record incidental sightings of other upland game.

   Strategies:

   1. Assist with the Southwest Region's summer helicopter survey for chukar and Hungarian partridge.
   2. Record incidental observations of sage-grouse, mountain quail and sharp-tailed grouse; report these sightings to appropriate IDFG and CDC personnel.
   3. Provide wing barrels during the upland game seasons to collect wings for the statewide wingbee. Information provided from the wingbee will include average brood size and sex and age makeup in the harvest.
   4. Monitor winter turkey populations on the AWMA.

B. Objective: Monitor hunter harvest levels.

   Strategy:

   1. Monitor hunter harvest data for all upland game using the Visitor Use Survey.

Nongame Species

Resident and Migratory Birds

According to the Conservation Data Center (CDC), the ranges of at least 131 bird species overlap the AWMA, and at least 8 additional species have been seen on the AWMA outside of their expected range. Three bird species of special concern are found or thought to be found on the AWMA: flammulated owl, white-headed woodpecker, and snowy egret. The IDFG desires to maintain the diversity of migratory and resident breeding bird species on the AWMA. Monitoring activities for nongame avian species on the AWMA will be done in cooperation with CDC and IDFG's nongame wildlife staff to meet identified resource needs.

A. Objective: Monitor resident and migratory breeding bird populations on the AWMA.

   Strategy:

   1. Work with CDC and IDFG nongame staff to develop and implement avian monitoring to meet identified resource needs.

B. Objective: Monitor populations of special concern species.

   Strategies:

   1. Record and report incidental sightings of special concern species to appropriate IDFG nongame and CDC personnel.
   2. Work with CDC and IDFG nongame staff to develop and implement species of special concern monitoring to meet identified resource needs.

Appendix IX. Continued.

Amphibians and Reptiles

Numerous springs and seeps and 30 miles of streams on the AWMA provide suitable habitat for amphibians and reptiles. The IPC conducted reptile surveys on the AWMA property in 1995 and 1996.

A. Objective: Monitor populations of amphibians and reptiles.

Strategy:

1. Work with CDC and IDFG nongame staff to develop and implement amphibian and reptile monitoring to meet identified resource needs.

Redband Trout and Other Fish Species

IDFG will monitor redband trout populations in streams on the AWMA. Redband trout is a species of special concern in Idaho and has suffered serious decline in recent years, believed due to land use impacts and drought. Several streams on the AWMA are thought to support healthy redband trout populations at relatively high densities. Redband trout will be monitored in part because of its "special concern" status, and in part because fish populations serve as a barometer of general stream health. Monitoring of stream transects for redband trout will be conducted by the Southwest Region fisheries personnel.

A. Objective: Collect population size and density data for redband trout and record presence and population information of other fish species.

Strategy:

1. Continue implementing redband trout surveys as part of the fisheries program objectives.

Noxious Weeds

Monitoring actions will be directed at identifying the establishment and spread of new noxious weeds, determining changes in distribution by established noxious weeds, and determining effectiveness of weed treatments. Monitoring actions include:

1. AWMA staff will record species, location, and size of infestation for all new invaders.
2. Treatments of established weeds will be mapped annually as part of long-term monitoring efforts.
3. Vegetation transects will be monitored as part of habitat monitoring (see Habitat Monitoring below).
4. Regular communication with personnel from the USFS, NRCS, IDL, BLM, IPC, the Washington and Adams County Weed Supervisors, and the LWRCWMA will occur on a regular basis to share information on noxious weed presence, distribution, and control actions.

Appendix IX. Continued.

Habitat Monitoring

Aquatic/Riparian

The importance of riparian habitat to biodiversity, rangeland productivity and health, water quality, erosion prevention, fisheries health, and public land aesthetics is enormous and undisputed. IDFG desires to set high standards for riparian area management on the AWMA. An efficient riparian monitoring program will produce important data to demonstrate riparian area condition and health in relation to past and current land uses.

A. Objective: Monitor effects of land use practices on riparian and instream habitats.

Strategy:

1. Establish photopoints on perennial streams on the AWMA. Photopoint protocol will follow IDL/AWMA State Leases Summary Report Riparian Monitoring Plan Protocol.

Upland Plant Communities

Plant communities and the soil that supports them form the foundation upon which wildlife diversity and the health of game populations are based. They provide food and cover necessary for the survival and reproduction of all wildlife. Plant communities are not static; they change over time in response to climatic conditions, land uses, and management practices. Range and wildlife managers must be aware of, and responsive to, changes in the ecosystems being managed. Effective range management requires an understanding of ecosystem processes and knowledge of current conditions and trends.

Upland monitoring will be in conjunction with IDL personnel and follow the IDL/AWMA monitoring protocol in the AWMA State Leases Summary Report.

Objectives:

A. Describe current condition and changes in the composition of plant communities over time.

B. Collect range trend and condition data necessary to evaluate the impacts of livestock grazing on plant communities and AWMA management goals.

Strategies:

1. Work with IDL to establish and monitor a minimum of 3 permanent transects in each unit (North of Highway 71, South of Highway 71) and at least one in the Duke's Creek Exclosure (IDL/AWMA Protocol). Transects should be in areas representative of habitat and plant community types present on the AWMA and be placed to include a diversity of elevational and topographic ranges.

2. Continue monitoring established line intercept/photopoint transects in Board Gulch, Elliot, Grade, Wildcat, Van Houten, RedLicks, and Cave A pastures

pre-grazing and at the end of the growing season. Establish additional transects/photopoints in remaining pastures during the next 5 years (2005-2010.

Social Monitoring

IDFG desires feedback from the recreating public regarding management of the AWMA. Input from AWMA users helps the IDFG better serve the public and provides feedback on use and effectiveness of management strategies.

I. Goal: Gather feedback on resource and social management from AWMA users.

A. Objective: Monitor the level of public satisfaction with AWMA management for wildlife and habitat conservation, and recreational opportunities.

Strategies:

1. Provide a user survey to all AWMA visitors using the motorized access key check-out program.
2. Provide surveys at each access entry point for non-motorized users.

APPENDIX X

Public Involvement Process

The AWMA management plan has been developed under the following process.

Inventory of Baseline Resource Conditions

Extensive botanical (Mancuso and Mosely 1995), and wildlife inventories (O'Neill, Neider, and Fleming 1993-1996) were completed. Physical features such as roads, fence lines, water improvements, and buildings were also inventoried using Global Positioning System (GPS) and Geographic Information System (GIS).

Issue Scoping

Starting in 1993, public meetings were facilitated by the IDFG pertaining to the acquisition and future management of the Andrus WMA. Meetings were held in the Cambridge/Council area in 1993 and 1996, and in Emmett, Boise, Mountain Home, Nampa, and McCall in 1996. The Andrus WMA Working Committee (formerly the Brownlee Working Committee) was formed by IDFG in 1994 to permit public input and review of the management plan. The AWMA Working Committee includes individuals affiliated with a range of hunting and conservation organizations, as well as local livestock operators, and the Trails and Horse Councils of Idaho. The Committee was instrumental in providing direction during the drafting of the interim management plan. Those principles and directions have been incorporated in this Management Plan.

Written comment on IDFG management direction were also taken and tabulated.

Direction 1: Improve habitat on the AWMA for fish and wildlife populations.
The majority of respondents felt strongly this should be the main directive of AWMA management. Concerns were expressed that livestock grazing could negatively impact wildlife habitat.

Direction 2: Increase wildlife populations and wildlife use on the AWMA.
The majority of respondents felt this should be a middle priority, and it was tied in priority with Direction 3. One person felt that big game management was over shadowing chukar management, and another requested increased turkey populations.

Direction 3: Promote the continued use of the AWMA for hunting and other wildlife-compatible recreational opportunities.
The majority of respondents felt this should be a middle priority, and it was tied in priority with Direction 2. Most written comments were related to this issue. Respondents both approved and disapproved of access management to limit hunter numbers on the AWMA. One respondent felt user fees should be charged to help keep the AWMA manageable.

Appendix X. Continued.

Direction 4: Use resources and facilities to promote education regarding wildlife habitat management.

Most respondents felt this should be a low priority for management. One respondent felt facilities should be used for hunter education, otherwise, no other comments on this issue were received.

Other Issues

In 2000, changes were made to the Access Management Program to address developing public use conflicts from increased user numbers and to prevent changes in wildlife use of the AWMA related to camping, especially during hunting seasons. Camping and overnight parking behind AWMA gates were eliminated, and a seven-day per year limit was applied to key reservations along with one key check-out per party. A survey was sent to all AWMA users that year requesting their comments on these changes. Respondents overwhelmingly supported these changes to the Access Management Plan.

APPENDIX XI

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