APPENDICES

APPENDIX A

Resource Monitoring and Evaluation Plan

The following table is the monitoring and evaluation that will be completed on this plan to provide the decision maker and public with information on the progress and results of implementing the plan.

ELEMENT	ITEM	LOCATION	TECHNIQUE	UNIT OF MEASURE	FREQUENCY	INFORMATION WARRANTING A DECISION CHANGE
VEGETATION						
	Condition	All Allotments	Range Condition Guide as outlined in SCS National Range Handbook Section 305.	Percent pounds production compared to climax allowance.	At the end of each grazing cycle for AMP areas or five year intervals on other allotments.	Condition reduced by one class or 10% from original reading (if latest reading is less than good or indications are that next reading will be less).
	Trend	All Allotments with AMPs. Allotments not under an AMP, but where adjustments in active prefence are proposed.	a & b-Photo Plot Measurement Method (Draft Manual 4430.5) October, 1981.	a & b-Index Summary points.	a-Annually for one complete grazing cycle; then after each grazing cycle. b-First, third and fifth year then on a five year basis.	a & b-Downward index summary from base of ten points.
	Cover	All allotments.	Photo Plot Measure Method (Draft Manual 4430.5) October, 1981.	Percent of total surface area.	Five year intervals.	Decrease of five percentage points from base data.
	Utiliza-	All allotments.	Key Forage Plant	Percent of forage	Annually (within ten	Utilization greater

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	tion		Method (Draft Manual 4423).	plant removed.	days after close of each grazing period).	than 40% on native range; 60% on seedings.
	Actual Use	All allotments.	Form 4130-5 submitted by livestock operators.	AUMs.	Annually.	Consider with temperature and precipitation in determining why utilization is at monitored level.
	Precipitation	Selected Sites.	Special site specific precipitation guages and NOAA* data.	Inches of Precipitation.	Monthly during growing season.	Consider with actual use and temperature in determining why utilization is at monitored level.
	Temperature	Selected Sites.	NOAA* data.	Degrees Fahrenheit.	Monthly during growing season.	Consider with actual use and precipitation in determining why utilization is at monitored level.
WOODLAND PRODUCTS						
	Actual Use	Sale areas and City of Rocks area.	On the ground surveillance.	Site inspection of sale areas looking for excessive removal of trees, erosion, unauthorized road building and unauthorized cutting.	Minimum of twice a year but each area person who is in the area should note activities, check permits and report any overuse to the area manager.	Overuse of a specific cutting area.

* National Oceanic and Atmospheric Administration

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	Christmas trees/ cords sold	District Office	Records search.	Dollars received, cords sold, and number of permits.	Bi-monthly and annually at the end of year.	Use above the sustained yield harvest level.
WILDLIFE						
	Mule Deer: Population trends distribution and harvest	RMP Management Areas - 2, 3, 4, 7, 8, 9, 10, 11, 12 and 13.	Aerial surveys in predetermined areas. Sex and age ratios. IDF&G hunter check stations and questionnaires.	Number of big game animals.	Cooperatively with IDF&G when funds are available. Trend counts every other year. Need composition annually.	Trend in big game population characteristics which appear to be unusual.
	Habitat condition and trend	RMP Management Areas - 2, 4, 10 and 13.	Permanent browse production and utilization transects and pellet group counts.	Percent of annual growth and number of pellet groups.	Annually.	50% deviation (+ or -) in utilization and deer day use per acre from expected for a period of three years.
	Antelope/ Mule Deer fawning habitat parameters to identify crucial areas and season of use	RMP Management Areas - 2, 3, 4, 8, 9, 10, 11, 12 and 13.	Aerial surveys in predetermined areas.	Habitat characteristics.	Annually, fawning season.	When new data reveals other fawning areas or components of habitat which are important for fawning.

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	Bald Eagle: Population trends/ winter roost site utilization	RMP Management Area - 14.	Aerial and ground surveillance of roost sites.	Number of bald eagles.	Annually, winter.	Change in local land uses that cause a reduction in bald eagle winter use habitat.
	Ferruginous Hawk: Population trend and nest occupancy.	RMP Management Areas - 9, 10, 11 and 14.	Ground surveys of active nest sites.	Number of hawks and nest sites.	Annually, June and July.	25% decrease in numbers or 50% nest failure.
	Pheasant: Population trend, distribution and harvest	RMP Management Area - 14.	Ground surveys on predetermined routes, brood counts, sex ratios counts and crowing counts by IDF&G. IDF&G hunter bag checks, check stations and questionnaires.	Number of pheasants.	Annually.	Trend in pheasant population characteristics which appear to be abnormal.
	Sage Grouse strutting	RMP Management Areas - 2, 4,	Aerial and ground surveys in pre-	Number of strutting grounds and strutting males.	Cooperatively with IDF&G when funds are available.	5% reduction in strutting grounds used and/or strutting males

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	ground use and distribution of grouse	7, 9, 10, 11 and 13.	determined areas. Strutting ground counts, brood counts and wing samples by IDF&G.		 Annually.	per year for a three year period.
	Fish: Population trend and distribution.	Clyde Creek, Dry Creek, East Fork Dry Creek, Middle Fork Dry Creek and Cold Creek.	Fish surveys on predetermined streams using the electro-shocker.	Number and kind of fish per stream.	Annually.	Trend in fish numbers and composition which appear to be abnormal.
WATERSHED AND SOILS						
	Water Quality: Water temp.- Coliform Bacteria Alkalinity pH Dissolved O_2 Sediments Invertebrates Turbidity Water discharge	Dry Creek, Birch Creek, Cold Creek, Howell Creek, Blue Hill Creek and Raft River.	Methods to be detailed in Cassia monitoring plan. Bacteria samples to be collected and analyzed in certified lab. Other parameters to be analyzed by field technician.	Variable. H_2O Temp °C C. Baoterid-#/100ml Alkalinity-Mg/l P.H.-Units Diss. O_2-Mg/l Sediments-Mg/l Inverts-variable Turbidity-FTU Discharge-CFS	Establish a continuous two year baseline, then sample biennially, three creeks one year, three the next. Sample in spring and fall.	Water quality parameters exceeding recommended State of Idaho standards.

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	Heavy Metal Content: lead, mercury, cyanide and silver	Birch Creek.	Water samples analyzed in lab.	Parts per million.	Sample biannually (in spring and fall).	Contaminants (from silver mines in Utah) persisting at levels exceeding State of Idaho standards. Notify Salt Lake District, Idaho Department of Health and Welfare, Division of Environment and EPA.
	Wetland/ Riparian Areas: Woody utiliza- tion	Same as for water quality plus Coe Creek, Goose Creek and Warm Creek.	100 pace transects.	Percent utilization of woody plants.	After use periods annually.	Livestock utilization greater than 25% on woody plants.
	Vegeta- tive composi- tion and trend	Same as above.	Nested frequency	Percent cover, composition and trend.	Biennially.	Will provide data to substantiate livestock impacts on long-term riparian productivity.
	Extent of wetland/ riparian area	Same as above.	Low level photography.	Cover, vegetation and channel movement.	Once every five years.	A 15% reduction in extent of wetland/ riparian areas.
	Stream stability	Same as above.	BLM Technical Note 6671.	Relative numerical scale.	Triennially.	Provides a relative measure of channel stability numerically and photographically allowing interpreter to infer impact orgin

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						and recommend mitigation.
	Critical Flood-plains: Peak flows	Meadow Creek, Warm Creek, Shirley Creek, One Mile Creek and Beaverdam Creek.	Crest stage gauges and photo documentation of floods and damages.	Maximum water depth in channel.	After floods.	Will give data indicating severity, intensity and frequency of floods so systems to utilize flood water to improve range and channel condition can be developed.
	Soil Erosion:	Goose Creek area.	Universal Soil Loss Equation (USLE) interpretation using precipitation and nested frequency cover data.	Tons/Acre/Year	Baseline prior to treatment, then biennially.	Data compared with untreated like area should reveal the success of treatment in stabilizing soils.
	General trends	RMP Management Areas - 3, 4, 8, 9, 10 and 11. Cultural Resource Specialist will aid in selecting sites in RMP Management Areas - 3 and 4.	Transects will be 100 ft. long-steel tape between two posts. Measure micro-relief on down-slope side of tape. Photograph each plot.	Tons/Acre/Year.	Once yearly for six years, then triennially.	Mitigation measures, such as lower stocking rates, measures to achieve better livestock distribution, installation of erosion control devices, should be initiated if erosion increases of 10% or more are identified.

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	ORV caused	RMP Management Areas - 3. 6,	Transects on selected ORV trails.	Tons/Acre/Year.	Once yearly for six years. Biennially thereafter.	Mitigation measures such as installation of erosion control
		10 and 11 - are where effects of ORV use are apparent. These may include ORV trails and hill climb areas.	Transects will bisect the trail and be long enough to gain sufficient data on ORV caused erosion for each trail. Measurements as in general trends.			Structures limiting future use or closing trails should be initiated if erosion increases of 10% or more are identified.
	Soil Compaction: Livestock caused	Areas where new livestock watering troughs will be installed	Bulk density samples collected with surface core sampler. Samples taken at specific locations prior to and after trough placement. Photograph each site.	Grams/cm^3 converted to lbs/ft^3.	Once before trough placement and once for five years depending on the grazing system and amount of use.	These studies will indicate how detrimental the compaction problem is. Information may be used to determine if additional troughs are needed to reduce compaction impacts. In addition, data will be obtained indicating those soils that are more subject to compaction impacts.
	ORV caused	Management areas - 3, 6, 10 and 11. Selected existing and	Bulk density samples collected with core sampler. Samples taken in	Grams/cm^3 converted to lbs/ft^3.	Once biennially on selected, existing ORV trails. Once before opening new ORV routes and once biennially	Severe compaction and resulting loss of soil structure indicated if mitigation such as

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		potential ORV trails.	and adjacent to existing ORV trails and where new routes will be located, prior to and after establishment. Photograph each site.		after use begins.	closing and rehabing an area should be initiated. Data will indicate what soils are more subject to ORV caused compaction impacts.
CULTURAL RESOURCES						
	Livestock caused site trampling	Selected sites, primarily in RMP Management Areas 3 and 4. Locations will include not only sites where cattle congregate, such as springs, but also sites where cattle movement is more dispersed.	Bulk density samples collected with a surface core sampler. Photograph each sampling site.	Grams/cm^3 converted to lbs/ft^3.	Once yearly for five years.	Studies will help determine if increased use is evenly distributed across all sites or is concentrated at certain types of sites. Data will indicate where and to what degree trampling impacts are occurring and whether mitigation (lower stocking rates or physical protection, etc.) should be initiated.
	Movement of artifacts as a result of	Selected sites, primarily in management areas 3 and 4.	Photo Plot-measurement Method using close-up photographs and	Number of artifacts displaced or altered per square yard.	Annually.	Location changes of over 25 percent might indicate that the manager should consider mitigation in

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	erosion and trampling		measurements to show quantitative changes in the distribution of artifacts.			the form of distribution changes, lowered stocking rates or physical protection measures.
RECREATION						
	General recreation use	Management areas - 1, 8, 10 and 11.	On the ground surveillance.	Visitor counts, area inspections to look for vandalism, resource abuse, etc.	One week day and one weekend day/per week (Memorial Day through Labor Day). One day/week rest of year.	Collected data reveals user conflicts, resource degradation, or safety hazards.
	General recreation use demand	Developed recreation sites.	Visitor registration boxes.	Visitor counts, vistor request.	Boxes to be checked twice per month.	Collected data indicating increased vistor use/year and, thus, need for additional facilities.
	Off-road vehicle use	Area wide.	Aerial reconnaissance and aerial photography.	Visitor counts, trail and road proliferation.	Two winter flights/year. One summer or fall flight biennially.	Collected data reveals visitor abuse of ORV designations. Steps taken to educate users and provide designation enforcement.

APPENDIX B

Species Specific Wildlife Resource Guidelines

1. River Otter

   A. Prevent channelization of water courses where BLM has the water rights and/or where head waters start on public land.

   B. Do not dispose of public land in potential river otter habitat areas.

   C. Prevent destruction of riparian vegetation from excessive grazing.

   D. Conduct investigation along streams to determine presence of river otter before any project work is undertaken.

2. Bobcat

   A. Continue present predator control policies with IDF&G and F&WS to hold down predation on wildlife species as well as livestock.

3. Sharp-tailed Grouse

   A. Maintain a 40 percent or better brush cover on north-facing slopes and brushy ravines to provide winter habitat in known sharp-tailed grouse areas.

   B. Maintain the current class of livestock and grazing system or determine if a change in class of livestock or grazing system will adversely affect the habitat in the known sharp-tailed grouse habitat area.

   C. Maintain an average of 20 to 40 percent cover of brush within a one mile radius of any known lek (dancing ground).

   D. Create additional edge by making land treatment projects with irregular boundaries and creating leave areas of brush not less than 100 to 150 feet apart.

   E. Do not dispose of public land in known sharp-tailed grouse areas.

4. Long-billed Curlew

   A. Restrict ORV use in known curlew habitat areas.

   B. Do not dispose of public land in known curlew habitat areas.

C. Allow for spring and summer grazing in known curlew habitat area.

D. A wildlife clearance is recommended in curlew habitat prior to project construction or maintenance. If project construction is to take place between April 1 and June 30, construction will be delayed if nesting curlews are located.

5. Burrowing Owl

A. On any vegetation projects, leave areas of brush will be left in known burrowing owl habitat areas to provide for perches and food supply (rodents, insects, etc.) at the time the land treatment project is initiated.

B. Do not dispose of public land within known burrowing owl habitat area.

C. Allow for summer, winter and fall grazing in known burrowing owl habitat area.

D. Allow no poisoning programs to be undertaken to control rodent populations in the known burrowing owl habitat areas.

E. A wildlife clearance is recommended in known burrowing owl habitat areas if project construction is to take place between April 1st and June 30th. Construction will be delayed if active burrowing owl borrows are located.

6. Ferruginous Hawk

A. Protect any known and potential nesting sites. These are isolated juniper trees.

B. All brush control projects in the ferruginous hawk habitat areas will provide for patches, leave strips and irregular patterns of brush for habitat for prey species such as rabbits and ground squirrels.

C. Restrict activity within 2,000 to 3,000 feet of known nest sites from March 1st to July 15th.

D. No surface occupancy within 1/2 mile of active nest sites.

E. Do not dispose of public land within known ferruginous hawk areas.

F. Install nest platforms in T. 14 S., R. 22 E., Sections 6 and 7 as identified in the threatened, endangered or sensitive species study proposed by WERA.

7. Erigeron latus (Fleabane)

A. Do no allow herbicide spraying in areas identified as Erigeron latus habitat.

B. Do not allow brush plowing in areas identified as Erigeron latus habitat.

C. Do not include the Erigeron latus habitat area in any prescribed burning plan.

D. Conduct a survey to determine the presence of Erigeron latus before allowing mining or oil and gas activities.

8. Mule Deer and Pronghorn Antelope

A. Allocate forage for mule deer and pronghorn antelope to meet current demands by allotment and season of use for 1982 and to meet 1995 populations projections. (Refer to WL Table 16 and 17.)

B. Allow for oil and gas exploration and development and other mineral activities with stipulations to protect mule deer and antelope habitat in crucial winter ranges and fawning areas. Restrict vehicle use to existing roads and trails in big game winter use area.

C. Improve mule deer and antelope habitat areas by making water available to these species on existing and planned livestock water systems. Allow for wildlife water projects when areas are identified that indicate water to be a limiting factor.

D. Implement grazing systems in deer crucial winter ranges to provide adequate browse production for winter use. The following allotment or portions of these allotments lie within the identified crucial winter range. (Refer to WL Overlay 3 and 5 and WL Table 18.)

E. Maintain and/or enhance through grazing systems, the existing habitat in the following allotments to provide for spring forb production for current antelope number (198) and to meet 1995 population projections. (Refer to WL Overlay 3 and 5 and WL Table 19.)

F. Improve existing and future big game habitat by interseeding crested wheatgrass seedings with shrubs and forbs to accommodate antelope.

G. Include a mixture of grasses, forbs and shrubs in all vegetation rehabilitation projects as well as allowing for leave areas and edge effect in big game ranges.

H. Limit the size of plowing and seeding, spraying and burning in antelope ranges. These practices tend to destroy too much of the native brush species that antelope depend on for their subsistence.

I. In existing and potential antelope ranges, existing fences will meet standard fencing specifications as outlined in BLM Manual 1772.21. Construction of all new fences in antelope ranges will meet current antelope fence specifications.

J. Acquire through exchange, if possible, those tracts of land identified on WL Overlay 6 "Capability Analysis" that are within the mule deer migration routes.

K. Maintain cover in deer migration routes as identified on WL Overlay 3 "Big Game Habitat Areas".

9. Sage Grouse, Pheasant, Chukar, Hungarian Quail and Rabbits

A. Maintain all isolated tracts in the Cassia RMP area under public ownership to provide for upland game habitat. As future isolated tracts are identified place them under the existing Cassia/Twin Falls Isolated Tract HMP.

B. Improve upland game habitat areas by making water available to these species on existing and planned water systems.

Allow for wildlife water projects where areas are identified that indicate water to be a limiting factor.

C. Provide for upland game habitat development in all vegetation manipulation projects. Allow for leave areas, edge effect and a seed mixture to provide grasses, forbs and shrubs to benefit upland game.

D. Allow for spraying, burning, chaining and plowing in rangeland areas where a decision has been made through the EA process for the proper method to use that will benefit upland game.

E. Allow for limited vegetation manipulation in areas of known sage grouse brood-rearing areas and winter areas. (Refer to WL Overlay 4 "Upland Game Habitat Areas".) Refer to Sage Grouse Management in Idaho, Wildlife Bulletin No. 9, IDFG 1981, for habitat requirements for sage grouse.

F. Protect meadow seeps and springs to provide for needed production of water, forbs and insects within upland game ranges.

G. Implement livestock grazing systems that will provide at least a 20 to 40 percent canopy cover of brush, an average plant height of 20 inches and 50 percent average utilization of grass understory in upland game habitat areas.

10. Ducks and Geese

A. Retain all parcels of public land within or adjacent to bodies of water and live streams to provide habitat for waterfowl.

B. Acquire those lands identified on WL Overlay 6 for the benefit of waterfowl.

C. Fence portions of existing and future stock ponds, where waterfowl use is evident, and plant riparian vegetation along shorelines to enhance waterfowl habitat.

D. Develop and implement intensive livestock grazing systems in allotments where waterfowl use is evident to allow for a rest from grazing during the spring and early summer when waterfowl are nesting and rearing their young.

11. Non-game Species

A. Provide habitat for the raptor prey base species, rabbits, ground squirrels, mice, etc., in vegetation projects by providing for leave areas, irregular edge effect and seed mixtures to provide grasses, forbs and shrubs to benefit wildlife.

B. Protect existing trees which serve as hunting perches or nest trees for non-game species. Plant and fence trees for non-game species. Plant and fence trees, singly, in clumps, or small groves, along canals, reservoirs, waterholes and near other semi-permanent water sources.

C. Improve raptor habitat by modifying selected sections of powerlines when a problem has been identified.

D. Retain and maintain isolated parcels of public land for the benefit of non-game species.

E. Improve non-game habitat areas by making water available to those species on existing and planned water systems. Allow for wildlife water projects in areas where water is a limiting factor.

F. Implement livestock grazing systems that will provide at least a 20 to 40 percent canopy cover of brush, an average plant height of 20 inches and 50 percent average utilization of grass understory in non-game habitat areas.

12. Game Fish

A. Coordinate with Idaho Department of Fish and Game on each particular stream to evaluate the stream's fishery potential and develop means of attaining and sustaining that potential.

B. In streams with suitable habitat, strive to maintain a stable, beneficial population of beaver. This would not only stabilize the channel, but also expand the existing riparian habitat.

C. Coordinate adjacent land managers to promote aquatic habitat improvement, particularly to minimize sedimentation.