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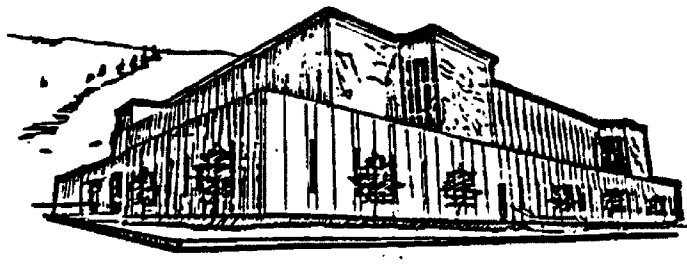
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University of
Montana

***Creating a Reserve within the Thunder Basin
National Grasslands***

by

Elizabeth Gaines

B. A. Colorado College, 1990

presented in partial fulfillment of the requirements

for the degree of

Master of Science

The University of Montana

1996

Approved by:



Chairperson



Dean, Graduate School

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Date

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Creating a Reserve within the Thunder Basin
National Grasslands

Committee Chair: Len Broberg

This professional paper addresses the obstacles that prohibit the Thunder Basin National Grasslands of northeastern Wyoming from functioning as an ecosystem. By using the Thunder Basin National Grasslands as a model, aspects of conservation biology, economics, law, federal management practices, public land consolidation and land use reform are considered to develop a series of steps toward ecological recovery.

This examination of present conditions of the Wyoming prairie ecosystem and the series of strategies suggested for prairie recovery and preservation are meant to be universally applicable to the American Northern Plains. This paper should function as a guide for advocates and concerned individuals interested in identifying and protecting contiguous pieces of public land in the Northern Plains. Livestock grazing, roads, federal management bias and land fragmentation are discussed as current obstacles that prevent a pristine prairie ecosystem.

The recommendations presented in this paper enable the hypothetical creation of an ecological reserve within the scattered pieces of public land in Thunder Basin National Grasslands. Grassland species re-introduction, recovery efforts and recreation possibilities are presented as ecologically sound alternatives to livestock grazing and other forms of resource extraction in northeastern Wyoming. LB

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Foreword

[The Great Plains] are wholly unfit for cultivation, and of course uninhabitable by a people depending on agriculture for their substance. Although tracts of fertile land considerably extensive are occasionally to be met with, yet the scarcity of wood and water, almost uniformly prevalent, will prove an insuperable obstacle in the way of settling this country. This is a region that seems particularly adapted to buffaloes, wild goats and other wild game; incalculable multitudes of which find ample pasturage and subsistence upon it.
(Explorer Maj. US Long , 1820)

In an effort to address the diminishing biodiversity of the Northern Plains, this paper details a series of recommendations for prairie protection. Using the Thunder Basin National Grasslands (TBNG) as a model, I will show that federal management must implement biological, legal and political remedies to protect Northern Plains regions. TBNG is an ideal study area because it provides examples of almost every problem conflicting with ecological integrity in the mixed grass prairie ecosystem on Great Plains public lands. This paper is meant to function as a guidebook. Although the following chapters tailor solutions to TBNG, the suggestions can be universally applied to the High Plains region.

The project fits into a larger effort in High Plains protection, the High Plains Ecosystem Recovery Plan (HPERP). The goal of HPERP is to identify

large tracks of federal land within the High Plains region, link these lands with corridors, and create a contiguous block of public land adequate for the maintenance and re-introduction of minimum viable populations of prairie species. HPERP looks to include sections of Bureau of Land Management (BLM) lands; state lands; Native American reservation lands; National Grasslands and US Forest Service (USFS) lands; nature preserves; conservation easements; Wild and Scenic River corridors; and other suitable lands in the plains bioregion throughout Montana, Wyoming, North and South Dakota, Nebraska and Colorado.

HPERP is particularly timely. According to the socio-economic studies of sociologists, (Popper 1991) human communities within the Great Plains are currently facing an acute economic slump. Despite mining and grazing in this region, community economies in the Great Plains do not register significant earnings on a national economic grid, indicating that existing extractive industries do not support High Plains communities (Popper, 1991). So as national economics of the plains states continue to force a human depopulation trend (Popper, 1991), some original biodiversity may soon have the opportunity to reclaim former habitat.

The reality that the biosphere is driven by.....interdependence....challenges both small minds and big governments. (Judy Meyer and Gene Helfman)

Introduction

Grasslands--Going, going, gone

Men of every rank were eager to get into the cow business. In a short time every acre of grass was stocked beyond its fullest capacity. Thousands of cattle and sheep were crowded on the ranges when half the number were too many. The grasses were entirely consumed; their very roots were trampled into the dust and destroyed. In their eagerness to get something for nothing speculators did not hesitate at the permanent injury, if not the total ruin, of the finest grazing country in America.

(H.L. Bentley, 1898, somewhere on the American Plains)

The plains stretch from the Rocky Mountains eastward to meet the tallgrass prairies of Illinois, Kansas and Oklahoma. Southern prairie extends into Northern Mexico and the northern prairie extends into Canada (Brown, 1989). The northern grasslands, or High Plains, refer to shortgrass prairies that still cover much of eastern Montana, eastern and southern Wyoming, North and South Dakota, eastern Colorado and parts of Nebraska. The existing natural prairie regions of these North American states, however, are simply a small remnant of its historic extent.

A hundred years of pressure from ranching, farming and mining have damaged this ecosystem, wiping out most of the once prolific biodiversity. Without a strategy to preserve the remaining biota of the shortgrass prairie, the Northern Plains will continue to deteriorate, leaving only a giant livestock pasture.

Human impacts have resulted in significant damage to both wildlife species as well as vegetation. The coming of Europeans to the western United States created a tradition of homesteading, sodbusting and ranching , decimating the prairie's rich mosaic of grasses. As bison were wiped out, cattle and sheep overtook the grasslands. Monocultures of alfalfa, winter wheat, and crested wheatgrass, edged out many native climax species (Davis, 1994). Native species such as buffalo grass, blue grama, hairy grass, and large leaf sage were also replaced with low grade, invader species as a result of prairie deterioration (Brown, 1989).

Early in the century, in the effort to protect their defenseless livestock herds, many ranchers targeted and exterminated the plains grizzly and gray wolf from the plains. Of the large predators, only the mountain lion and the coyote still remain in the High Plains. Prairie dogs, thought to compete with livestock for forage, were also marked for extinction. Prairie dog extirpation programs, regional shooting programs, farming practices and conversion of grasslands facilitated staggering declines in prairie dog populations. (Carlton, 1994)

The prairie dog was recently petitioned by the Biodiversity Legal Foundation for endangered species listing (Carlton, 1994). Because the Black-tailed (*Cynomys ludovicianus*) and White-tailed (*Cynomys leucurus*) prairie dogs provide food and habitat (burrow) to as many as 164 associated species, as prairie dog colonies declined, many other dependent species populations followed. Some of the species adversely effected include the ferruginous hawk (*Buteo regalis*), the mountain plover (*Charadrius montanus*), the burrowing owl (*Speotyto cunicularia*) and listed endangered species, the swift

fox (*Vulpes velox*) and the black-footed ferret (*Mustela nigripes*) (BLF, 1994). Species no longer found on the plains are the gray wolf (*Canis lupis*), bison (*Bison bison*) and the grizzly bear (*Ursus acrtos horribilis*).¹

Like the entire shortgrass prairie ecosystem, the ecological state of the TBNG is degraded. Moreover, there are no current federal efforts for management reform or biotic recovery. Although TBNG has been mentioned as a re-introduction site for the black-footed ferret and bison (USFS, 1986), obstacles continue in this grassland which may prevent the survival of the ferret, bison and many other prairie species.

As it stands, the Northern prairie is in need of rescue. Although the first step to plains recovery will be to identify and challenge detrimental cultural practices, implementation of many suggestions will require legal, legislative and community outreach for successful implementation.²

¹ The Black-footed ferret is being re-introduced to some plains regions.

²Outreach is essential and tricky. Community work will not be discussed in this document, but is none the less an important part of reform.

Methodology for Ecosystem Reconstruction

The northern plains of Wyoming have been targeted for intention of protection and assimilation into HPERP. The following methodology should be used as a guideline.

1) Select a region within the plains bioregion containing large sections of federal land acreage:

- determine land ownership (federal, state, private)
- assess patterns of mixed ownership

2) Study current uses of land

- determine livestock numbers
- determine mining operations
- study files on range conditions and ranching operations

3) Study the health of the region

- determine sensitive plant and animal species in the area
- determine native species that are missing
- critique federal management monitoring program for sensitive species' critical habitat, riparian areas, ecosystem integrity

4) Identify obstacles for intact ecosystems

- determine how livestock grazing presents problems for the ecosystem
- determine how human manipulation of the range presents ecological problems
- examine mining efforts within the ecosystem
- examine land fragmentation effects on ecosystem integrity

5) Classify current management practices for the region

- examine how management creates; perpetuates; removes obstacles

- preventing a complete intact prairie
 - determine if management decisions include looking at the effects on all species in the ecosystem
 - determine if management decisions are made with thought toward restoration and future re-introductions
- 6) Study federal lands and identify key private linkages between federal tracts in the context of establishing contiguous habitat with thought toward bison range and large predator ranges.
- 7) Consider means for federal protection of the area
 - consider legal means to challenge and remove threats to ecosystem integrity
 - consider means of land acquisition for linkages and critical habitat
 - consider outreach into local communities
- 8) Consider budget and fund-raising opportunities
 - assess expense of strategies and fund-raise for budget
 - determine legal expenses and research *pro bono* opportunities
 - determine lobbying expenses for legislative routes
 - consider restoration expenses and re-introduction expenses
 - contact foundations, universities and native species farms and ranches for monetary assistance, volunteer work and donations
- 9) Identify benefits to the region
 - research how change will benefit or harm local economy
 - determine if communities will be sustainable despite various subsidy cuts
 - show how recreation and tourism will improve economy
- 10) Suggest implementation of a plan for native prairie ecosystem recovery
 - present restoration goals/methods
 - secure legal and legislative protection
 - restore biodiversity as necessary

With these guidelines in mind, the following text discusses implementation of ecosystem recovery strategies in the TBNG.

Chapter 1

Thunder Basin National Grasslands

It would have been easier to count the leaves in the forest than it would to count the number of buffaloes living at any given time prior to 1870--(museum curator W.T. Hornaday, 1905)

Thunder Basin National Grasslands (TBNG), is administered by the Douglas Ranger District of the Medicine Bow National Forest in northeastern Wyoming. Bordered by the Black Hills on the east and by the Bighorn Mountains on the west, the TBNG is located within a topographic depression known as the Powder River Basin. The area contains four separate ecotypes due to variations in elevation, topography and microclimates: upland plains -- a high plateau on the western edge of the TBNG; escarpments -- eroded plains that have formed walls measuring 300-400 feet on the eastern and northeastern edges of TBNG; broken dissected plains -- a series of ridges and plains; and shale uplands -- shaley soils on the Black hills uplift that are typified by ponderosa pine growth. (USFS, 1990) To the southwest of TBNG rises Laramie Peak, a northern peak in the Laramie range.

The climate in TBNG is semi-arid, with summer temperatures exceeding 90 degrees and winter temperatures dropping below -40 degrees. Average annual rainfall is about 11 inches with snowfall constituting 1/3 of the annual precipitation. There are five vegetation types in the TBNG: grassland type -- including western wheatgrass, blue grama, needle and thread; sagebrush/grassland type -- including big sagebrush, blue grama and prickly pear; greasewood/cottonwood type -- including cottonwoods,

greasewood, silver sagebrush, western wheatgrass and inland saltgrass; ponderosa pine/juniper type – including ponderosa and juniper stands with bluebunch wheat grass, blue grama and big sagebrush; and badland type -- including sagebrush, yucca and western wheatgrass. (USFS, 1990)

Resources, Past and Present

Not even a buffalo was now in sight to relieve the dull monotony of the scene; although during some seasons, particularly fall, these prairie's are literally strewn with herds of this animals. (Early traveler to Wyoming, circa 1872)

From the late 1800's to the 1920's, many homesteaders abandoned this portion of Wyoming, finally understanding that the region was "*not suitable for cultivation of cash crops and the homesteads were too small to support successful livestock operations. Early efforts to make the land produce beyond its physical limits resulted in serious depletion of the basic resources of the prairie land--the soil and the grass sod which protected it.*" (USFS, 1994)

After the plains dust bowl and the Great Depression many homesteads were abandoned. The Thunder Basin National Grasslands was created by Congress in 1934.

In 1954, these lands were transferred from the Soil Conservation Service to the US Forest Service for management. There are currently 267 grazing allotments and 231 separate grazing permittees, accommodating 177,400 Animal Unit Months (AUM's) yearly³. (USFS 1990) The average size of a ranch operation (private and public lands combined) is 8,000 acres.

³ The equivalent of 160,500 animal units per month in the Thunder Basin and 16,900 in the Laramie Peak region.

(USFS 1990) TBNG accommodates 24,000 head of cattle and 21,000 head of sheep, and 3,200 miles of road (USFS 1990). Currently every acre is leased for mining, presently including 450 oil and gas wells, 5 coal strip mines, numerous deposits of uranium, an operating uranium mine, and 33 abandoned bentonite mines (USFS 1990).

Industry in TBNG

Like a majority of the public lands in the Northern plains, TBNG is a jumble of public lands and private inholdings (See Figure 1 ; **Thunder Basin National Grasslands**, p. 10) that encompasses 1,799,918 acres through eight counties.⁴ It boasts one of the largest single ranger districts in the country, the Douglas Ranger District in Douglas, Wyoming (USFS, 1990). Private inholdings in TBNG comprise 56% of the region. Currently the region is divided into three grazing associations: Spring Creek Association in northern Cook and Campbell counties; Inyan Kara Association in Weston and Niobrara counties, and the Thunder Basin Association in Converse, southern Campbell and Weston counties. Over 188,500 Animal Unit Monthly are permitted yearly in the TBNG.

Thunder Basin National Grasslands experiences many ecological, political and cultural situations that seem to typify the northern grasslands. At present, the management and land distribution in the TBNG is not adequate to support a healthy, naturally functioning grassland ecosystem.

⁴ TBNG extends 92 miles east and west and 192 miles north and south. The total number of USFS acres is 1,799,918 within TBNG. Private acres total 1,114,348 acres. State lands total 133,346 acres.

Thunder Basin National Grasslands

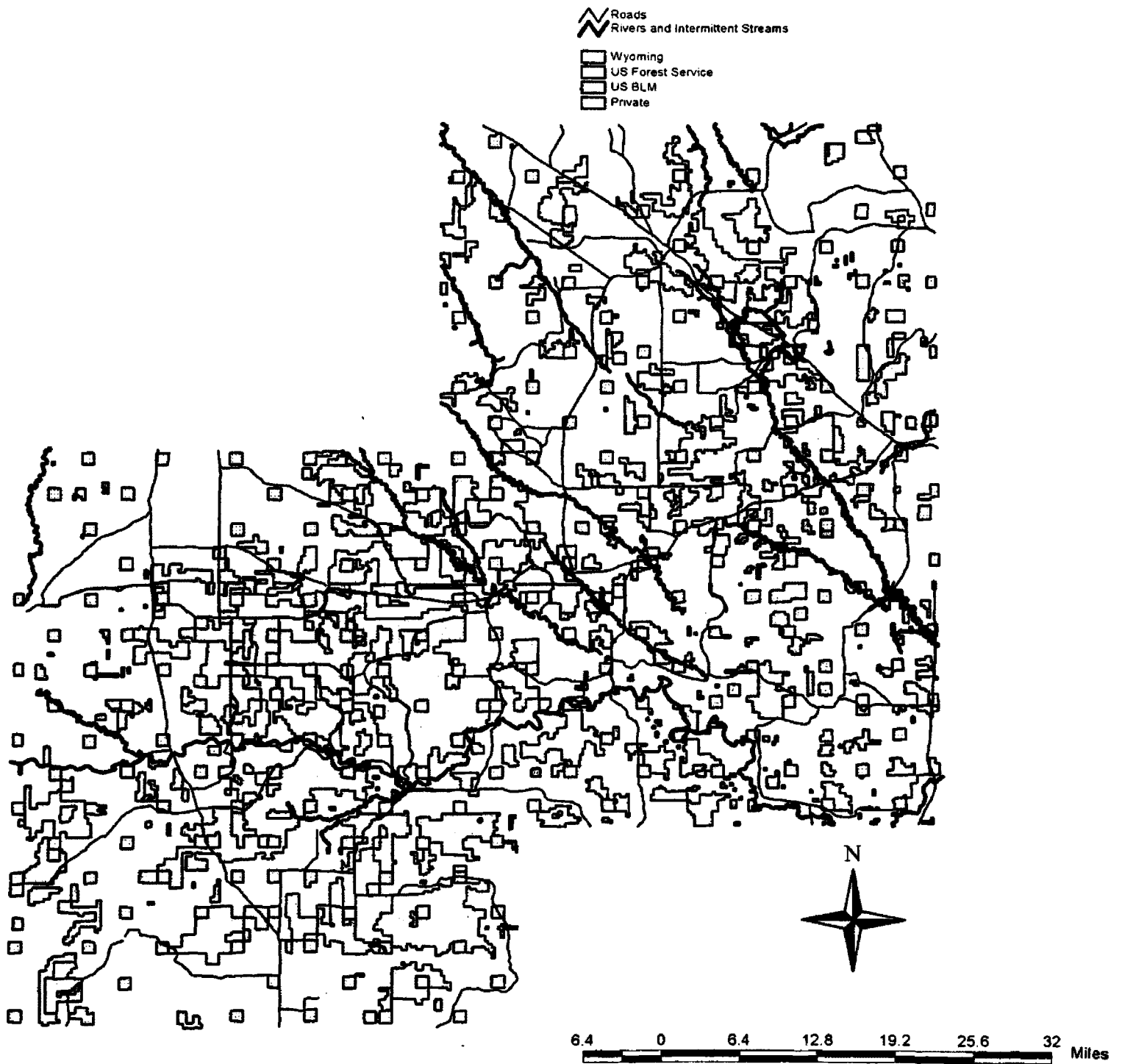


Figure 1. Thunder Basin National Grasslands ownership patterns.

Without restoration, this area would make a poor candidate for bison and ferret re-introduction ⁵. Wildlife takes a back seat to livestock in management considerations.

Despite the proven historic inability for this region to sustain large ranching and farming efforts, ranching is the central use of TBNG and management focus. The area is managed almost completely for its commodity resources with little thought given to its ecological limits, attributes, or threatened or endangered species. Grazing allotments are not monitored and many allotments have no Allotment Management Plans (AMP'S).⁶ In short, the grazing policies implemented by the USFS in TBNG are completely inconsistent with a healthy, diverse ecosystem or the productive capabilities of the area. USFS management's favoritism and short-sightedness prohibits TBNG from being both ecologically sound and recreation oriented.⁷

Replacing Biodiversity with Livestock

The proposed plan calls for grazing 245,000 AUM's per year to 250,000 in the next 10 years. Livestock management during the next 10 years would allow recovery of rangelands that are currently in less than satisfactory condition by redistributing grazing use to areas that are underutilized. (Medicine Bow Resource Management Plan for the Thunder Basin, 1985)

Thunder Basin has thousands of cattle and sheep (250,000 Animal Unit Months) that graze habitat formerly occupied by the American bison.

5 Thunder Basin National Grasslands has been recommended for a possible site for black-footed ferret re-introduction and bison re-introduction. (USFS, 1989)

6 At present over 70 allotments at TBNG lack AMP'S. AMP's over ten years old total over 36.

7 There are no campgrounds on the the grasslands, although there are four on Laramie Peak.

Native grazers, such as pronghorn, antelope, and deer ⁸ are still prevalent in TBNG and continue to graze along with cattle; but for the bison, millions of prairie dogs, black footed ferrets, wolves, grizzly bears, and natural grass communities, a hundred years of agriculture and mining in the TBNG have caused extinctions and declines in populations of many native species. (USFS, 1992) Presently, the following species in TBNG are identified as threatened, according to a 1992 USFS inventory:

Fish

Flathead Chub, (*Hybopsis gracilis*) found in Antelope Creek, the Cheyenne River, and the Little Powder River

Plains Topminnow, (*Fundulus sciaadicus*) , found in North and South Platte drainages, the Niobrara river and the headwaters of the Cheyenne River system.

Reptiles

Milk Snake, (*Lampropeltis trianqulum*) , found in prairie systems, broadleaf riverbottoms and under decaying wood.

Black Hills Red Bellied Snake, (*Storeria occipitomeoculae pahasapae*) , found in the Upton/Osage area.

Amphibians

Tiger Salamander, (*Ambystoma tigrinum*) found in intermittent streams and stock ponds.

Northern Leopard Frog, (*Rana pipiens*) found on pond and lake shores in cattails, sedges and tall grasses.

Mammals

Townsend Big Earred Bat, (*Plecotus townsendii*) found in Upton-Osage region.

⁸ There are opposing studies on whether cattle compete with prairie antelope, deer and elk for forage. (Jacobs, 1991 and TBNG study USFS, 1990)

Fringed-tailed Myotis , (*Myotis thysanodes pahasapensis*) found in Weston, Cow Creek and Downs areas.

Swift Fox , (*Vulpes velox*) still found in upland habitats of TBNG.

Birds

American Bittern, (*Botaurus lentiginosus*) summer resident very rare in TBNG. Found in riparian areas

Western Yellow Billed Cuckoo, (*Coccyzus americanus*) found in riparian areas.

Greater Sandhill Crane, (*Grus canadensis*) found in wetlands.

Long-Billed Curlew , (*Numenius americanus*) found in sagebrush and grassland types.

Ferruginous Hawk , (*Buteo regalis*) found in grasslands--ground nesters.

White-faced Ibis , (*Plegadis chihi*) found in the wetlands on the grasslands.

Common Loon , (*Gavia immer*) found along river banks.

Merlin, (*Falco columbarius*) found in cottonwood river bottoms throughout the year.

Western Burrowing Owl , (*Athene culumbarius*) found in vacant prairie dog burrows on the grasslands.

Loggerhead Shrike , (*Lanius ludovicianus*) found upland sagebrush and grasslands.

Fox Sparrow ,(*Passerella iliaca*) found in riparian shrublands.

Black Billed Woodpecker , (*Picoides arcticus*) found mainly in burned forests.

Mountain Plover , (*Charadrius montanus*) found on grasslands with level topography and short grasses; prairie dog towns.

Upland Sandpiper , (*Bartramia longicauda*) found on grasslands.

Baird's Sparrow , (*Ammodramus bairdii*) found nesting on ground in grasslands.

Black Tern , (*Chlidonias niger*) found in riparian regions.

Lewis Woodpecker (*Melanerpes lewis*) found on cottonwood bottoms and in ponderosa pine stands.

(USFS, 1992)

According to a 1991 USFS survey, pronghorn antelope populations total 54,307; mule deer populations total 26,900; white-tailed deer populations

total 1,651; elk populations total 2,404; big-horned sheep total 212 and 12 moose (in the Laramie Peak region) (USFS, 1992). Prairie dog towns cover 13,000 acres, although a recent sylvatic plague outbreak has wiped out a significant number of rodents within Thunder Basin and exact prairie dog population numbers are unknown (USFS, 1995). Predators include black bear, bobcat, coyote, raccoon, skunk, mountain lion, ermine, badger, long-tailed weasel, red fox, and swift fox. No black-footed ferrets have been found in this region since the 1970's.⁹

TBNG presently provides habitat for over 228 bird species (60 neotropical species), including ferruginous hawks, peregrine falcons, burrowing owls, and mountain plovers as well as 62 mammals, 15 reptiles, 28 fish and 6 amphibian species (USFS 1990). Bald eagles and Golden Eagles nest in TBNG. The TBNG has a variety of habitats: old growth ponderosa pine stands, shrub and sagelands, scoria outcroppings, marshes, river bottoms, cottonwood stands, and shortgrass plains supporting 22 different plant communities inhabited by 250 species of vascular plants. The rivers in TBNG include the Little Powder, Little Missouri, Bell Fourche and the Cheyenne River (USFS, 1992).

Grazing and so-called grazing improvements have been a significant ecological and financial burden to the High Plains. Cattle management includes pest elimination programs (coyote and prairie dog management); fire-suppression, a practice that prevents vegetation communities from

⁹ A population of black-footed ferrets was discovered in 1982 on a ranch in Shirley Basin, about 100 miles west of TBNG

reaping fire's healthy benefits; fencing and barbed wire; and roads (Ferguson and Ferguson, 1983).

"Pest" control, a component of the TBNG grazing program, has been responsible for reducing prairie dog range 98% (Clark, 1989). Between 1982 and 1992, Federal and State governments have been responsible for poisoning 1,193,203 acres of prairie dog habitat, and despite shrinking prairie dog populations, control programs continue at the TBNG full speed ahead (USFS, 1989). From 1989 to 1992, over \$388,700 was spent on prairie dog control programs on state, private and federal lands in Wyoming (Forrest and Roemer, 1993). Indirect costs for grain and aluminum phosphate totaled over \$50,000 (Forrest and Roemer, 1993). Most of the funds went to Campbell County, the Medicine Bow National Forest and TBNG (Forrest and Roemer, 1993).

Predator control for ranching operations has been responsible for the innumerable deaths of coyotes, mountain lions, bobcats, bald and golden eagles (Jacobs 1991). Control programs have also been responsible for wiping out the wolf, swift fox, black bear and grizzly from the plains region (Jacobs 1991). Animal Damage Control (ADC) uses aerial hunting, traps, snares and carbon monoxide poisoning on coyotes in TBNG (USDA, ADC, 1993).

Although the black-footed ferret is currently being re-introduced to areas in Montana and Wyoming, the ferrets have a low probability of attaining a viable population if not enough effort is made to protect the prairie dog (Forrest, 1993). Ferret populations declined originally due to lack

of prey base (99% of their diet are prairie dogs) and diminishing habitat.¹⁰ Without a healthy population of prairie dogs, 10-30 per hectare (O'Mielia, 1980), black-footed ferrets will not find a suitable prey base if re-introduced to TBNG.

Grazing and Vegetation

Native annuals have been greatly depleted and even extirpated by from many areas [in the Plains] by grazing. Over even greater areas, ranching's "desertifying" effects have eliminated perennial ground cover and created conditions favorable to annuals--exotic annuals. (Jacobs, 1991)

The vegetation in the plains has also been altered due to cattle grazing. The rarest grasses on the grasslands are generally the most sought after by livestock (Jacobs, 1991). Undesirable species and exotics come in after the native species are eaten, causing shifts in vegetation patterns.¹¹ Bare soil, an effect of over-grazing, allows erosion, floods, and prevents proper moisture absorption by the soils. Riparian areas, rare and vital parts of the prairie, are damaged by cattle trampling stream banks and sensitive vegetation, such as cottonwoods and sedges. Reduction in streamside vegetation makes flash floods a real danger through erosion and the destabilization of streambanks (Jacobs, 1991).

¹¹ Cheatgrass, an invader common in TBNG, followed cattle into the plains around the turn of the century. It is an inferior grass to native grass and causes injury to livestock by lodging in soft animal tissues. (Jacobs, 1991)

Mining

Extensive oil and gas field development has occurred on state and private land, as well as on federal... The character of the entire area is heavily influenced by oil and gas development, such as oil rigs, pumpjacks, storage, treater tanks, pipelines, power lines and oilfield roads and traffic.

(TBNG USFS overview, 1990)

The Forest Service has opened up 100% of the Thunder Basin National Grassland to oil and gas leasing, and ten new wells are developed annually.

TBNG has 58 developed oil fields with 1,500 wells¹², and each field is accessed by its own road and pipeline system. The Forest Service reports that coal underlies a majority of the Thunder Basin region:

"thousands of acres of coal deposits with a high to moderate potential for development" exist (USFS, 1990). At this point, five coal mines operate on 3,700 acres of public land. Annually, the mines produce 55,000,000 tons of coal. Presently, oil, gas and mineral revenues exceed \$27 million in annual profit (USFS, 1990).

There are two operating bentonite mines in the Thunder Basin. Since the price of bentonite is down, however, mining activity is low. Bentonite mining has gone through lucrative spurts and currently 33 abandoned bentonite mines are left awaiting reclamation funding (USFS, 1990). Only one uranium mine exists on TBNG, although there are many other abandoned uranium mines. Sand, gravel and building stone are currently mined on TBNG. Hard rock mining experienced a boom at the turn of the century on Laramie Peak, however today only one prospecting operation

¹² Only 400 wells on the Thunder Basin are producing wells.

exists. "Old claims" on Laramie Peak are under analysis for hazard mitigation and reclamation work (USFS, 1990).

There are no areas within TBNG that are off limits to mining. Riparian and wetland areas; steep slopes; unstable soils; raptor and grouse nesting sites are all subject to unmitigated mining disturbance (Keopsel, 1992). Road building, erosion of unreclaimed mining sites and excavation are documented causes of watershed siltation, water contamination, and destruction of habitat and vegetation patterns in riparian areas (Smith, 1995). Mining is a danger to water quality in TBNG (Keopsel, 1992).

Ownership Patterns

The TBNG is a mixture of state, BLM, USFS and private lands (see Figure 1; **Thunder Basin National Grasslands**, p. 10). Homesteading saw the rise of sod busting on the plains, but when the wheat price peaked and plummeted in the early 1930's, two and a half million people abandoned their dryland farms. The acreage of these homesteads reverted back to federal land with the creation of the Bankhead-Jones Farm Tenant Act. This accounts for the checkerboard pattern, or blocks of federal land interspersed with private inholdings throughout the plains. On TBNG, only 44% of the lands are public, and the remaining 56% are private inholdings (USFS, 1990).

Chapter 2

Conservation Biology and Ecosystem Recovery

Conservation biology is "the application of science to conservation problems, addressing the biology of species, communities, and ecosystems that are disturbed, either directly or indirectly, by human activities and other agents" (Cooperrider, 1994). As it stands, USFS management in TBNG overwhelmingly favors resource development to the exclusion of conservation biology principles and biodiversity.¹³ Management direction at the Douglas Ranger District lacks conservation aims essential to grassland recovery. In order to address the conservation problems in TBNG and restore the natural systems of the prairie ecosystem, conservation biology needs to enter management, practice and philosophy. The following excerpts outline the difference between the conservation planning criteria in the Medicine Bow Grasslands Resource Management Plan (RMP) and Noss and Cooperrider's (1994) criteria for conservation planning in *Saving Nature's Legacy ; Protecting and Restoring Biodiversity* .

¹³ According to the "USFS Rules of Management for Thunder Basin National Grasslands Grazing Associations", TBNG objectives call for "progressive principles of land conservation and multiple use, the development of grassland agriculture and sustained-yield management of the range resources within the Association. " USFS goals call to " demonstrate livestock grazing associated with other uses in a way, that when practiced on these lands, will provide the greatest return from the investment in multiple use management and the best use of all lands in the area. " There is no use of the term biodiversity or ecosystem in the entire document.

RMP (USFS, 1985)

- 1) Promote and develop grassland agriculture and sustained yield management of the fish and wildlife, timber, water, and recreation resources in the area.**
- 2) Demonstrate sound and practical land uses for the area.**
- 3) To the extent feasible, integrate federally owned land with the associated private lands into natural management units which favorably influence development of sound land conservation and and utilization practices suitable for use in the area.**
- 4) Provide a biological benchmark in man's quest to live harmoniously with extremes of climate, land and economic fluctuations.**
- 5) Serve as an applied range management laboratory testing the latest techniques in grassland agriculture and determining sound land management and sustained production.**
- 6) Provide for rural development and economic and social stability of local communities.**

SNL (Noss and Copperrider, 1994)

- 1) Maintain viable populations of all native species**
- 2) Represent within protected areas, all native ecosystem types across their natural range of variation.**
- 3) Maintain evolutionary and ecological processes (i.e., disturbance, regimes, hydrological processes)**
- 4) Manage over periods of time long enough to maintain the evolutionary potential of species and ecosystems**
- 5) Accommodate human use and occupancy within the above mentioned constraints.**

Comparing the above priorities, it is easy to see that the USFS is more committed to resource extraction in the TBNG than to the ecological integrity of the ecosystem. The conservation biologists frame their goals within a holistic structure, allowing human use only if it meets the goals of the above mentioned criteria (#5, SNL) for a healthy environment. The RMP looks at TBNG as an "agricultural laboratory" (#5, RMP), or a "benchmark" set up to accommodate human use despite the ecology, topography and climate (#4,6, RMP) of the TBNG. Before management specifics are addressed within the Thunder Basin region, a shift in management philosophy is essential. If the

area is to accommodate native species such as the black-footed ferret, swift fox or bison, TBNG needs to be perceived as a prairie ecosystem (Forrest, 1994) rather than a "laboratory for the latest techniques in grassland agriculture."

Although the Medicine Bow National Forest and Thunder Basin Resource Management Plan addresses "wildlife", the management goals focus on game species and not the many other members of the region's biotic community. Resource managers manage game species and livestock, but fail to address non-game species, many of which aren't even studied. (Alverson et. al, 1994) This approach leaves out key ecosystem components and prevents a holistic approach to resource management and ecosystem integrity.

Conservation Biology and the Noss Model

Wilderness recovery , I firmly believe, is the most important task of our generation
(Reed Noss, 1992)

Biodiversity

Reed Noss, a conservation biologist and the Science Editor for *Wild Earth*, explains that implementation of conservation principles requires large pieces of contiguous roadless habitat to support genetic variability, to withstand environmental disruptions (disease, fire, weather patterns) and to promote evolutionary potential with a long-term vision (Noss, 1992). Land pieces need to be connected by a network of corridors to form interconnected core reserves that allow for genetic cross-over. With this model in mind, large blocks of habitat first need to be identified within the TBNG, and then acquired, connected and protected.

To cobble together an ecosystem protection plan, TBNG must first consolidate federal lands and if need be, private lands. Acquisition of private lands that connect public pieces to create a contiguous reserve,¹⁴ should be an essential goal in the TBNG Resource Management Plan in order to accommodate large predators, bison, and prairie diversity. At present, the TBNG Land Swap Program is available to local landowners who want to buy or trade for public lands. The program is for ranching and the concept of seeking and acquiring lands of ecological importance is not a component of the program. If contiguous habitat is to be achieved, a strategy could be to shift the Land Swap Program focus from "ranch real estate" to "conservation real estate."

Noss suggests the following guidelines for management goals subsequent to establishment to core habitat:

- * Maintain minimum viable populations well distributed across native ranges
- * Maintain large blocks of habitat for target species
- * Habitat blocks should be close together
- * Habitat should be contiguous
- * Corridors should connect habitat blocks
- * Blocks of habitat should be roadless¹⁵

Wildlife includes all species living in the prairie biotic community, even species perceived as pests. A focus on the minimum viable

¹⁴ Contiguous habitat is essential in preventing isolated populations and weak genetic pools. (Noss, 1992)

¹⁵ According to Steve Forrest, Ph.D., roadless area for the prairie species community may not be as important as it is to the forest species community.

population¹⁶ numbers of prairie dogs should be every bit as important in USFS management goals for the TBNG as pronghorn, deer and elk numbers. Prairie dog communities provide habitat for 164 species (Carlson, 1995) but due to fragmented habitat, disease and an active prairie dog extermination program, prairie dogs are declining at a dangerous rate taking dependent species with them.¹⁷ Carnivores should also be a primary target species for protection and the health of mountain lions, bobcats, and badgers needs to be part of USFS management goals. By assuring minimum viable populations of all species on TBNG, an entire community is accounted for.

Monitoring

One glaring problem in the management of TBNG is the complete lack of routine species monitoring. Although vague references are made in the RMP, transect studies on vegetation on TBNG are intermittent, incomplete, and outdated¹⁸. Entire regions are overlooked and unknown. A common form of monitoring in TBNG allotment files is the "ocular exam", a drive-by glance of a fence or stock pond. Remarks on inventory sheets are typically, "looks good! not overstocked, etc....." This is not a measurable, accurate form of monitoring. To understand the region and the biota, gap analysis¹⁹ is necessary. Geographic Information System (GIS) integration of a full species

¹⁶ A viable population is a population with a high probability of survival, which according to Noss is 95% or 99%, probability of population persistence for 100 to 1,000 years.

¹⁷ Concerns about population viability should be directed toward species at most risk of extinction in a region. (Noss, 1992)

¹⁸ Many allotments have transect studies dating back to the 1960's.

¹⁹ Gap analysis is a measurement of different community types and species representation within an ecosystem (Noss, 1992). Currently the US Fish and Wildlife is conducting gap on a state wide basis.

inventory₂ and ground-truthing is also desperately needed. Monitoring needs to be "consistent and scientific."

The following monitoring suggestions are taken from the "Scientific Round Table on Biological Diversity," (Crow et al 1993). The remarks that follow the italicized suggestions may be ecologically beneficial to a new management plan for TBNG:

1) Inventory and monitoring efforts should be expanded and systematized to place them on the best scientific footing to ensure a continual yield of high-quality and timely information.

TBNG- Monitor TBNG on a rotation basis so that each 50 acre by 50 acre section gets assessed every five years.

2) Research and monitoring should employ the best contemporary science knowledge and methodology. To ensure this process, programs should undergo under peer review.

TBNG- Visual or ocular examination, common in allotment files, is not a scientific method of monitoring. USFS should consult with range biologists and conservation scientists specializing in prairie ecology and begin to use GIS and gap analysis, followed by ground-truthing, to review the prairie ecosystem.

3) Research and monitoring should emphasize those elements of diversity thought to be vulnerable to extirpation, sensitive to man-made disturbances, or keystone species with cascading effects on other elements of diversity.

TBNG- Shift the research focus from forage for livestock towards the needs of native species within the grasslands ecosystem! This will serve to address the dwindling biodiversity on the TBNG. Studies should focus on

mountain lion and swift fox populations; riparian health; ferruginous hawks; prairie dogs and plague; and finding native grasses and natural vegetative grasses among degraded prairie.

4) Inventory and monitoring should be extended to include other important but obscure groups of organisms.

TBNG- So little is known of invertebrates in the grasslands. Studies are in order to understand the entire biotic complex.

5) Whenever possible use demographic structure or other early warning signs to assess changed ecological conditions rather than population numbers.

TBNG- Models on weather patterns, disease and other factors effecting population fluctuations should be an ongoing component of TBNG research.

6) Monitoring should occur at a hierarchy of geographic scales.

TBNG- Begin to seek information on corridors, buffer zones as well as on additional area that effects the TBNG.

7) Inventory and monitoring efforts should include entire guilds or communities in cases where such sampling is sufficient.

TBNG- As gap analysis maps are produced, the monitoring of community and species representation at TBNG should measure growth in diversity and biomass over the years as grazing and mining activities are discontinued and the ecosystem regenerates.

8) The results of research projects and monitoring efforts should be closely integrated with management!

TBNG- The predominant consideration in TBNG management is presently livestock, livestock forage and game populations. Monitoring and studies has to shape the understanding of an entire ecosystem and all species. The "see-no-evil, hear-no-evil, speak-no-evil" policy in habitat management has to stop for this region to revive and survive.

Chapter 3

TBNG Management Reform

Federal Designations

There are limited options for a federal protective designation of TBNG. TBNG is a roaded, degraded ecosystem and does not have a 5,000 acre block of unroaded area and therefore does not qualify for a Federal Wilderness designation. Restoration and protection of this area requires creative legal and policy methods if it is to become federally protected. Possible existing designations include:

National Recreation Area (NRA)

National Park Act (16 USC § 460 et. seq.)

An area that can provide special management to its resources. The Glen Canyon NRA has cow-free zones, numerous hiking and boating access points and low-intensity management. The focus of an NRA is on recreation rather than resource extraction.

Research Natural Area (RNA)

National Forest Service Regulations (36 CFR § 251.23)

An area that is protected to preserve rare habitats and associated species. The RNA designation states "protect habitat for its own sake that is considered rare and unique." Since the prairie dog communities in TBNG are becoming increasingly rare and have a great many associated species, this may be an

appropriate designation to seek. The Konza Prairie Preserve in southern Kansas is an example of a Research Natural Area.

National Monument

National Monument Act (16 USC § 1 et. seq)

With President Clinton considering the Arctic National Wildlife Refuge for National Monument status, this may not be far-fetched. A National Monument status could protect TBNG without going through Congress. This designation could prevent all grazing, mining and roading; restore the region; and encourage tourism.

National Park

National Park Act, (16 USC § 1 et. seq.)

A National Park designation would be the most favorable as it would provide TBNG with the most protection, allowing relief to an injured ecosystem. Also a National Park is education and resource oriented and could expose the public to the High Plains ecosystem. Local economies could benefit from a Plains Park with bison, native grasses, interpretive centers, and opportunities for recreation.

Legal Strategies

Legal action may be the best way to produce concrete management shifts during the short term, although in the long term a federal designation beyond "National Grassland" is preferable. USFS and BLM grazing allotments are being legally challenged all over the west on the grounds that grazing imposes a threat to riparian areas and sensitive or critical habitat, threatened and endangered species and water quality. Legal strategy may work well to fight the site specific issues of TBNG current management.

TBNG's ecological integrity has been put on the back burner by the Douglas County Ranger District and current grazing policies show a lack compliance with federal grazing laws and rules. Many allotments have no Allotment Management Plans. Most allotments have no routine monitoring program. There are even some allotments that have never been inventoried or cataloged for grass species or wildlife. The USFS is not doing their job by not monitoring the lands at TBNG. Prairie species stand defenseless due to biased alliances between livestock and federal management .²⁰

In order to legalize protection for the prairie, appeals or a suit might be in order. USFS management in TBNG may be out of compliance with the following laws:

* *Taylor Grazing Act of 1934* (43 U.S.C. § 315-O-1; TGA) states that the governing federal agencies must " stop injury to public grazing lands by preventing overgrazing and soil deterioration." This act was developed following the decimation of "commons" rangeland in the early 1900's. TGA sets up an allotment and lease system, "to preserve the land and its resources from destruction or unnecessary injury." (43 U.S.C. 315a)

TBNG- Thunder Basin allotments have no routine monitoring program (see p. 23), and therefore the condition of the range in many areas is undetermined.

²⁰ Excerpt from 1991 letter from Douglas County Distric Ranger to Grazing Association Members in the TBNG regarding increased criticism of grazing on public lands-- "These are a few things that need to be done to ensure livestock grazing has a long future on public lands. Help us help you. If either of us are fail [to pass public scrutiny] , both of us lose."

* *Multiple Use and Sustained Yield Act of 1960* (16 U.S.C.A. §§ 528 to 531; MUSYA) states that agencies managing public lands need to manage for multiple use. *MUSYA* defines multiple use as "the management of various sustainable resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people making the most judicious use of the land...without permanent impairment of the productivity of the land, with consideration being given to the relative values of various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output." (MUSYA 15 CFR 531 (a)).

If the best use of a piece of public land does not include grazing, *MUSYA* requires that the agency adopt a **no grazing policy**. (see *Sinapu v. Jerry Schmidt*, Sept. 2, 1994, pg 59; see Appendix C)

TBNG-- In *TBNG* grazing in riparian areas, hillsides, near uranium mines, near historic landmarks and in sensitive habitat may not be the best use of the land.

MUSYA* also demands that action "significantly affecting the quality of the human environment" needs to be researched through the preparation of an Environmental Impact Statement (EIS). EIS documentation and analysis notifies the public and Congress to the negative environmental impacts, alternatives of the action, cumulative effects and irreversible effects (43 U.S.C.A. § 4332). Major actions on public lands include **grazing programs (DEQ, Environmental Quality 182).

Administrative Law Judge John Rampton decided in *National Wildlife Federation v. BLM* (UT-06-91-1994) that an EIS for an entire resource area (in this case, the San Juan Resource area) may be insufficient to address every allotment within that area. An EIS for an individual grazing allotment with site specific considerations (e.g., riparian areas) was required for Comb Wash due to the degradation wrought by livestock grazing and the sensitive nature of the canyons (UT-06-91-01 Department of the Interior, Office of Interior and Appeals Div, Dec. 20, 1993)

TBNG- If "substantial questions have been raised whether a project may have significant effect upon the human environment, an EIS must be prepared" (*Sierra Club v., USFS*, 843 F.2d 1190, 1193 (9th Cir. 1988)). No grazing related EIS has ever been prepared for an allotment in TBNG. This creates an opportunity to find an area in TBNG used by hunters or fisherman that has been degraded by livestock-- "significant effect on the human environment."

**Endangered Species Act of 1973* (16 U.S.C.A. 1531 to 1544; ESA) mandates that "each federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any endangered plant and wildlife species listed as endangered or threatened species or result in the destruction or adverse modification of habitat of such species as listed by the Secretary" 16 § 1536, 7(a)(1).

Pacific Rivers Council v. Thomas , 30 F.3d 1050 (9th Cir. 1994) found that the USFS grazing program was subject to the "may affect" standards of the ESA in cattle's adverse effects on endangered salmon species.

ESA also states that endangered species must be **managed with the objective of becoming delisted**. It is up to the agency to see how grazing effects endangered populations. Federal grazing practices may be inconsistent with ESA delisting objectives on an allotment with populations of endangered species.

TBNG- TBNG may be a reintroduction site for the black-footed ferret (USFS, 1990). Since black tailed prairie dogs are the primary food source to the black-footed ferret, it may violate ESA to manage with a Prairie Dog Management program, currently in place to poison prairie dogs on grazing allotments.

** Federal Land Policy and Management Act of 1976 (43 U.S.C. §§ 1701-1784; FLPMA) states that "public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological value; that is, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use."*

FLPMA also states that "permits can be revoked or suspended if the permittee violates or does not comply with Federal laws or regulations or State laws relating to the protection of air, water, soil and vegetation, fish and

wildlife and other environmental values when exercising the grazing use authorized by the grazing permit." (36 CFR § 231.6 1977)

FLPMA provides guidelines for development and management of **Allotment Management Plans (AMP)**, the document that accompanies each federal grazing allotment. AMP's outline site specific information such as Animal Unit Months (AUM) , range improvements, wildlife habitat and permittee information. The AMP is a "document prepared in consultation with the lessors or permittees involved, which applies to livestock operations on Forest Service or Bureau of Land Management lands, and which (*inter alia*) prescribes the manner in, and extent to which livestock operations will be conducted to include multiple-use, sustained yield, economic and other objectives as determined for the lands by the (*agency*)" (43 U.S.C.A. § 1702 (k)). AMPs define range improvements that managing agencies plan to administer during the 10 year life of the plan; improvements that must prove consistent with the provisions of *FLPMA* 43 U.S.C. § 1702 (k) as well as with the existing land management plan. In the case of grazing allotments that are inconsistent with a governing land plan, an AMP must include an expected date to come into compliance.

Permits on allotments are issued yearly explaining the type of livestock to be grazed on the allotment , the AUM and rotation schedules, seasonal pasture use and closures (43 C.R.F § 4130.6-1(a)). If the conditions of an annual permit is violated, the permit agreement can be canceled (43 C.R.F. § 4130.6-1(b)). AMP development or AMP changes are subject to NEPA and can be appealed under *FLPMA* (36 C.F.R. § 251 or 36 C.F.R. § 217).

Under FLPMA, USFS and the BLM must determine if the practice of livestock grazing on an allotment is "a reasoned and informed decision as to whether grazing is in the public interest." (see *Sinapu v. USFS*, Appendix C)

TBNG-- There are over 100 allotments in TBNG that have never had an AMP completed. It could be possible to get an injunction on grazing until the AMPs are completed. (This could take a long time). As yet, the National Wildlife Federation (see *NWF v. USFS*, Appendix C) threatened get an injunction , but backed down due to local pressure from ranchers.

**National Forest Management Act of 1976* (16 U.S.C. § 200; NFMA) states that grazing permits issued must be consistent with the goals of corresponding land plans.

NFMA requires "Resource plans and permits, contracts, and other instruments for the use and the occupancy of National Forest system lands shall be consistent with the land management plans. Those resource plans and permits, contracts, and other such instruments currently in existence shall be revised as soon as practical to be made consistent with such plans." (16 U.S.C. §1604 (i)).

In implementing land plan regulations in AMPs, the Forest Service must include "a tabular display showing, in priority order, AMP revision, territory plans, and other grazing/browsing documents, and conform them to the management direction of the Forest Plan" (FSM 2200-Range Management, FSM 2213.1-Revision Schedules). In implementing a range

analysis schedule, priority needs to be given to lands with riparian, soil, vegetation and water damage (FSM 2213.1 (1)).

TBNG- TBNG is so under supervised and researched, that range analysis has no routine or schedule. Transect monitoring is arbitrary and "ocular examines" are generally used for range assessment. This type of examination is arguably unscientific. Range damage is undetermined and unassessed and TBNG is clearly in violation of NFMA. Perhaps a grazing injunction is possible until a monitoring system is established. It could be that a court would freeze AUM levels until reliable monitoring occurred.

Other Strategies

Legal routes may be costly, timely, and subject to congressional changes in the law. It is a strategy also often viewed as combative by community residents and allotment lessors. Whether legal victories bring grazing reform by the reduction of AUM's or complete livestock abolition, a community with a tradition in ranching will need assistance in acclimating to a new economy.

To accompany law suits, community outreach, town meetings, and bison ranching feasibility discussions may assist in easing High Plains residents toward an ecological reserve. In light of the controversies involved with livestock abolition on public land, attempts at community outreach may be better handled by groups not directly involved with legal action.

Chapter 4

Piecing Together an Ecosystem

Enforcing the Principles of Conservation Biology

What now remains compared with what existed then is like the skeleton of a sick man, all the fat and soft earth having wasted away, only the bare frame of the land being left.

(Erlach and Erlach, 1982)

Jumbled ownership patterns and intermittent distribution of wildlife populations leave TBNG fragmented in its present state. Currently TBNG can't support large bison herds or minimum viable populations of all native grasslands species (Forrest, 1994). However, there are opportunities for creating contiguous blocks with the goal of restoring this fractured ecosystem. A block of federal land in the Spring Creek Grazing Association, the center of TBNG, may be an area suitable for a reserve. This may be done through a land swap of BLM/USFS land for a small amount of private land.²¹

Within core habitat, management must allow nature to re-establish itself. Natural processes include nutrient cycling and flow of energy, disturbance regimes and recovery processes (succession), droughts and heavy rains, weathering and erosion, decomposition, herbivory, migration, predation, pollination, seed dispersal, parasitism, disease, mutation, gene

²¹TBNG has a land swap program that attempts to consolidate federal land, however the program does not seek to consolidate federal lands that are ecologically sensitive or strategic in the purpose of creating core habitat.

Thunder Basin National Grasslands
Proposed Core Reserve

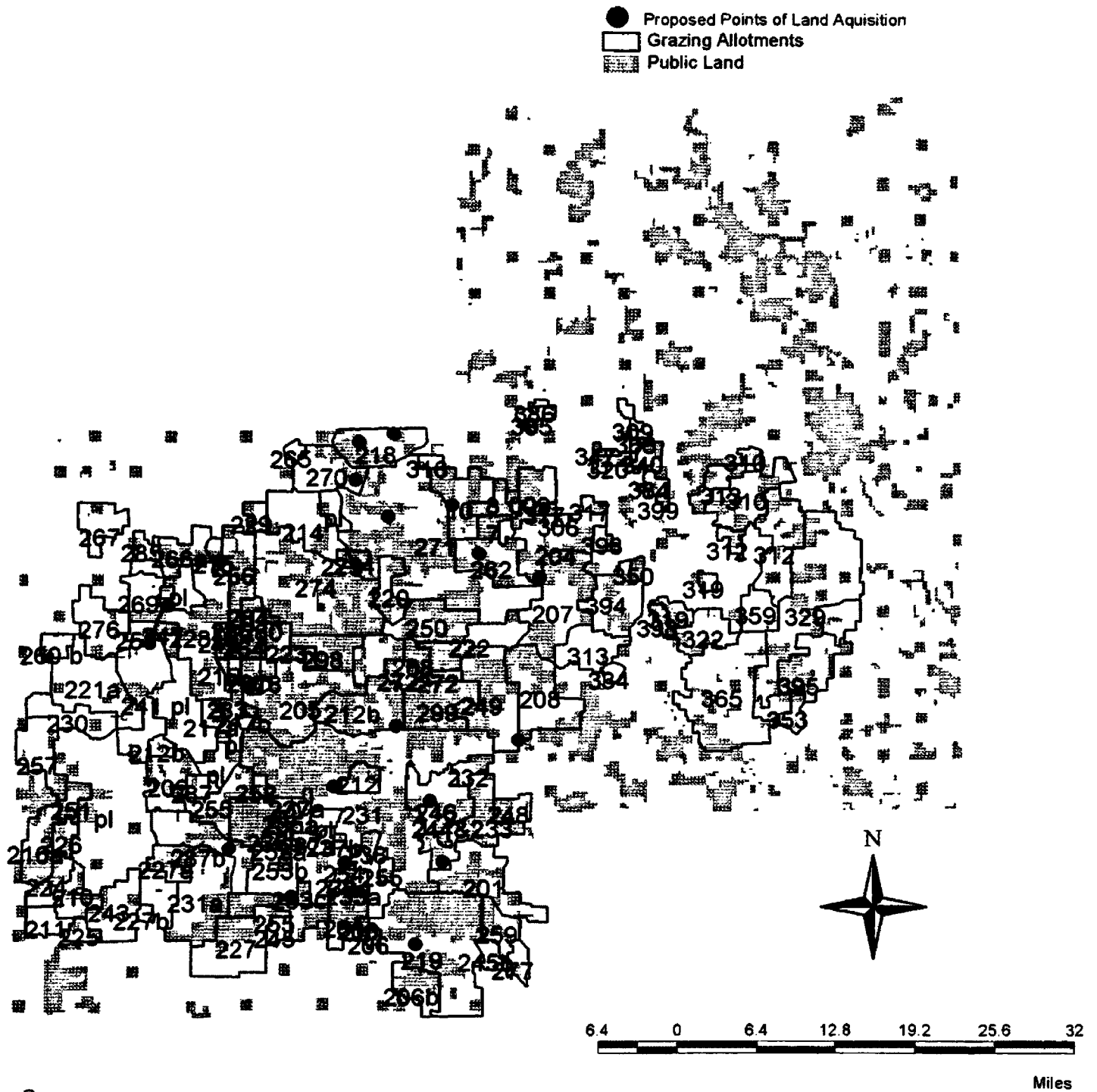


Figure 2. Thunder Basin National Grasslands proposed reserve, overlaid with grazing allotments with corresponding USFS allotment numbers.

flow, must also be restored and allowed to continue if the prairie ecosystem is to survive.

The following allotments fit together to form a core area of contiguous federal lands (see Figure 2; **Proposed Core Ecological Reserve**, pg. 36)

Allotments identified Core Habitat
(Douglas Ranger District)

206 B, Downs Allotment

vitals - This allotment has a total of 7643 acres, 3646 acres are USFS; 1044 AUM's in cattle. There are no riparian acres.

management aspects - The Allotment Management Plan (AMP) was done in 1987.

246, Rohleutner Allotment

vitals - This allotment has a total of 13196 acres, 5620 acres are USFS; 1723 AUM's in sheep and cattle. There are 10 riparian acres.

management aspects - The AMP was done in 1982 and is currently out of date: a violation of FLPMA and NFMA. Riparian analysis is needed and an EIS may be required.

201, Alexander -Allotment

vitals - This allotment has a total of 15999 acres, 5237 acres are USFS; 617 AUM's in sheep and cattle. There are no riparian acres.

management aspects - The AMP was done in 1981 and is currently out of date: a violation of FLPMA and NFMA.

010- Kara Community Allotment

vitals - This allotment has a total of 10830 acres, 6796 acres are USFS; 1710 AUM's in cattle. There are 551 riparian acres.

management aspects - The AMP was done in 1985 and is due for renewal in 1995. Riparian analysis is needed and an EIS may be required.

254, Wild Bill-Allotment

vitals - This allotment has a total of 800 acres, 160 acres are USFS; 28 AUM's in cattle. There are no riparian acres.

management aspects - The AMP was done in 1991.

287 Calamity Gulch Allotment

vitals - This allotment has a total of 17202 acres, 3369 acres are USFS; 567 AUM's in sheep and cattle. There are no riparian acres.

management aspects - There is no AMP; a violation of NFMA and FLPMA.

270 Ostlund Allotment-

vitals - This allotment has a total of 15318 acres, 2430 acres are USFS; 576 AUM's in cattle. There are 62 riparian acres.

management aspects - The AMP was done in 1984 and is currently out of date: a violation of FLPMA. Riparian analysis is needed and an EIS may be required.

266, Edwards Allotment

vitals - This allotment has a total of 6787 acres, 4440 acres are USFS; 1044 AUM's in sheep and horses. There are no riparian acres.

management aspects - The AMP was done in 1984 and is currently out of date: a violation of FLPMA.

269, Underwood Allotment,

vitals- This allotment has a total of 4418 acres, 1063 acres are USFS; 444 AUM's in sheep. There are no riparian acres.

management aspects- There is no AMP; a violation of NFMA and FLPMA.

258, , Taylor Allotment

vitals- This allotment has a total of 2511 acres, 1180 are USFS ; 273 AUM's of sheep. There are no riparian acres.

management aspects - The AMP was done in 1981 and is currently out of date; a violation of FLPMA and NFMA.

247, Sadler Allotment

vitals -There are a total of 3259 acres, 1760 are USFS; 461 AUM's of cattle and horses. There are no riparian acres.

management aspects - The AMP was completed in 1981 and is currently out of date: a violation of FLPMA and NFMA.

228, Mattheson Allotment

vitals - There are 19408 total acres, 4256 are USFS; 833 AUM's of sheep and horses. There are 21 riparian acres within the allotment

management aspects - There is no AMP; a violation of NFMA and FLPMA. Riparian analysis is needed and an EIS may be required.

275, Upper Basin Allotment

vitals - There are 2708 total acres, 775 are USFS; 177 AUM's of sheep. There are no riparian acres.

management aspects - The AMP was done in 1989.

215, Blow Out Allotment

vitals- There are a total of 985 acres, 640 are USFS; 191 AUM's of cattle. There are no riparian acres .

management aspects - The AMP was done in 1993.

217, Kane Allotment

vitals- There are a total of 4725 acres, 2098 are USFS; 456 AUM's of sheep. There are 51 riparian acres.

management aspects - There is no AMP; a violation of NFMA and FLPMA. Riparian analysis is needed and an EIS may be required.

212, Irwin Allotment

vitals- There are a total of 18287 acres, 11512 are USFS; 2683 AUM's of cattle. There are no riparian acres.

management aspects- There is no AMP; a violation of NFMA and FLPMA.

223, Mackey Allotment

vitals- There are a total of 5760 acres, 4550 are USFS; 149 AUM's of cattle. There are no riparian acres.

management aspects - There is a 1983 AMP that is no longer current; a violation of NFMA and FLPMA.

220, Small Allotment

vitals- There are a total of 6081 acres, 3065 are USFS; 605 AUM's of cattle. There are no riparian acres.

management aspects - There is an 1986 AMP which is up for renewal in 1996.

219, Ketelson Allotment

vitals- There are a total of 42019 acres, 19898 are USFS; 4560 AUM's of cattle. There are 245 riparian acres.

management aspects - There is a 1987 AMP. Riparian analysis is needed and an EIS may be required.

222, Lynch Allotment

vitals- There are a total of 18682 acres, 5135 are USFS; 1642 AUM's of cattle and horses. There are no riparian acres.

management aspects- There is a 1989 AMP.

264, Wilkinson Allotment

vitals- There are a total of 4043 acres, 2448 are USFS; 517 AUM's of cattle and sheep. There are no riparian acres.

management aspects- There is no AMP; a violation of NFMA and FLPMA.

286, Briggs Draw Allotment

vitals- There are a total of 1826 acres, 623 are USFS; 84 AUM's of cattle. There are no riparian acres.

management aspects- There is a no AMP; a violation of NFMA and FLPMA.

282, North Turner Allotment

vitals- There are a total of 1105 acres, 1105 are USFS; 172 AUM's of cattle. There are 31 riparian acres.

management aspects- There is no AMP; a violation of NFMA and FLPMA. Riparian analysis is needed and may need EIS.

274, Little Thunder Allotment

vitals- There are a total of 9327 acres, 5074 are USFS; 1480 AUM's of sheep. There are 65 riparian acres.

management aspects- There is a 1985 AMP which is out of date; a violation of FLPMA and NFMA. Riparian analysis is needed and may need an EIS.

288, Red Springs Allotment

vitals- There are a total of 7517 acres, 1845 are USFS; 176 AUM's of cattle and sheep. There are no riparian acres.

management aspects- There is a no AMP; a violation of FLPMA and NFMA.

255, Stoddard Allotment

vitals- There are a total of 17666 acres, 9990 are USFS; 2695 AUM's of sheep and horses. There are no riparian acres.

management aspects- There is an 1983 Allotment Management Plan (AMP), currently out of date; a violation of FLPMA and NFMA.

253, Steinle Allotment

vitals- There are a total of 2800 acres, 1600 are USFS; 415 AUM's of cattle . There are 25 riparian acres.

management aspects- There is a no AMP; a violation of FLPMA and NFMA. Riparian analysis is needed and may need an EIS.

259, Thomson Allotment

vitals- There are a total of 6600 acres, 3316 are USFS; 632 AUM's of cattle. There are no riparian acres.

management aspects- There is an 1981 AMP that stands five years out of date; a violation of FLPMA and NFMA.

249, Frog Creek Allotment

vitals- There are a total of 15573 acres, 9005 are USFS; 2590 AUM's of cattle and horses. There are 342 riparian acres.

management aspects- There is an 1985 AMP out of date at the end of 1995. The riparian acreage may require an an EIS.

283, Isenberger Allotment

vitals- There are a total of 2367 acres, 1089 are USFS; 270 AUM's of sheep. There are no riparian acres.

management aspects- There is an no AMP; a violation of FLPMA and NFMA.

262, Gordon allotment

vitals- There are a total of 8611 acres, 5454 are USFS; 2000 AUM's of cattle. There are 117 riparian acres.

management aspects- There is no AMP; a violation of FLPMA and NFMA. Riparian analysis is needed and may need an EIS.

268, North Rochelle Hills Allotment

vitals- There are a total of 3030 acres, 3030 are USFS; 374 AUM's of cattle. There are no riparian acres.

management aspects- There is a 1987 AMP.

235, Pellatz Allotment

vitals- There are a total of 1680 acres, 1200 are USFS; 327 AUM's of cattle. There are 103 riparian acres.

management aspects- There is an 1976 AMP, twenty years out of date; a violation of FLPMA and NFMA. Riparian analysis is needed and may need an EIS.

240, School Creek Allotment

vitals- There are a total of 21779 acres, 14780 are USFS; 632 AUM's of cattle. There are 213 riparian acres.

management aspects- There is an 1985 AMP, now out of date; a violation of FLPMA and NFMA. Riparian analysis is needed and may need an EIS.

231, Fiddleback Allotment

vitals- There are a total of 84102 acres, 41208 are USFS; 7788 AUM's of cattle and sheep. There are 249 riparian acres.

management aspects- There is no AMP; a violation of FLPMA and NFMA. Riparian analysis is needed and may need an EIS.

237, Betty Don Allotment

vitals- There are a total of 3071 acres, 1240 are USFS; 310 AUM's of cattle and sheep. There are 37 riparian acres.

management aspects- There is an no AMP; a violation of FLPMA and NFMA. Riparian analysis is needed and may need an EIS.

232, Dull Center Allotment

vitals- There are a total of 1947 acres, 1320 are USFS; 219 AUM's of cattle and sheep. There are no riparian acres.

management aspects- There is an 1983 AMP which is out of date; a violation of FLPMA and NFMA.

244, Tena Creek Allotment

vitals- There are a total of 7624 acres, 2620 are USFS; 767 AUM's of cattle . There are no riparian acres.

management aspects- There is an no AMP; a violation of FLPMA and NFMA.

299, Rosencrantz Allotment

vitals- There are a total of 12305 acres, 12305 are USFS; 2873 AUM's of cattle. There are 395 riparian acres.

management aspects- There is an 1986 AMP, which is out of date next year. Riparian analysis is needed and may need an EIS.

261, Weiss Allotment

vitals- There are a total of 3839 acres, 2360 are USFS; 1416 AUM's of cattle and sheep. There are no riparian acres.

management aspects- There is an 1987 AMP.

238, Reed Allotment

Vitals There are a total of 3154 acres, 2160 are USFS-; 514 AUM's of cattle and sheep. There are no riparian acres.

management aspects- There is an 1985 AMP, which is out of date; a violation of FLPMA and NFMA.

In order to link these allotments, a few chunks of private lands must be acquired through the Douglas Ranger District land swap program. These 15 pieces of private lands identified are strategic links connecting two big blocks of federal. (Pieces with prairie dog towns were opted for over inhabited areas.)

219, Kattleson Allotment-- The private pieces west of the Old Kattleson Place owned by Iberlin Ranch

201, Alexander - The private piece between Tena Creek and Cow Creek above Windy draw owned by Tillard "55" Limited

246, Rothleutner -The private piece between Meadow Creek and east fork southwest of Rothleutner Ranch

Area Between 238 , Reed and 254 ,Wild Bill - The private piece between Bruce Draw and Tin Can Creek

212, Irwin- The private piece between Beckwith Creek and Wildcat creek owned by Irwin Livestock Company

271 Keeline Allotment-- The private piece on Pipeline 4441 directly west of Wellman Ranch and a piece south of Thunder Creek by the corral; owned by Keeline Ranch Company

262 Gordon Allotment-- The piece of private land east of Lynch Roach and west of Fields draw and the piece between Thunder Creek and Prairie Creek owned by Billie Gordon

010- Kara Community Allotment -- Private piece of land below Cow Camp owned by East Cellers community

270 Ostlund Allotment---Private piece directly west Little RW Creek; ownership unlisted

275 Upper Basin Allotment---Private piece east of the Little Thunder Reservoir; ownership unlisted

228 Mattheson Allotment-- Private piece south of the Birdie Bit Ranch owned by Butch Mattheson

231 Fiddleback and 287 Calamity Gulch Allotments- Private piece on Dry Fork Creek southwest of Dilts Ranch owned by Two Rivers Ranch Inc. and Cannon Land and Livestock.

As these lands are prioritized and acquired, a piece of habitat can be established that is 213, 690 acres of existing federal land plus acreage added after acquisition of private land links. This additional acreage will depend on budget and availability of federal pieces for trade in outlying isolated areas of the Powder River Basin. State lands, BLM lands and additional private inholdings interspersed in this reserve (see map) can either be swapped with

agencies or private owners in exchange for isolated federal blocks on the periphery of TBNG. There is also a possibility for an inter-agency pact between Wyoming, BLM and USFS to manage a "new" TBNG with joint management goals. Eventually, an interim multi-agency pact would allow for incorporation of additional pieces of BLM²² lands that border Thunder Basin to the east, to create a larger reserve. As the habitat base is established, federal protection in the form of national park, natural resource area, national recreation area, or national monument designation can be sought.

²² BLM land connects with TBNG on the Converse County / Niobrara County Line on the Tenth Standard Parallel

Conclusion

Transition to a Reserve

Whether TBNG can earn legislative protection, or whether protection comes slowly through suits and some lesser federal protection status, the transition should include the following modifications :

- 1) **Raise resources.** Whatever approach is taken towards developing a reserve, costs will certainly be incurred. Legal and lobbying expenses, community outreach costs, and the expense of restoration and re-introduction will require grants, fundraising and diverted federal subsidizes.
- 2) **Re-group.** The USFS has to work on a centralized form of management and move to mutually govern lands with the BLM and the State of Wyoming. Since TBNG is a jumble of land ownership, USFS management needs to be cooperative within these agencies.
- 3) **Re-prioritize.** Livestock should be phased out as public land continuity is established and private inholdings are aquired, with the possibility of compensating ranchers by re-directing grazing subsidies to individual permit holders.²³ Due to the ecological importance of a large grazing herbivore presence in TBNG, bison re-introduction should interpose a livestock phase-out. This process may take a while as bison are expensive and difficult to manage, but as the proper infrastructure is established, phase-out should begin immediately.

²³ Federal subsidies cover "range improvements", fencing, stock pond development, weed eradication, and road building. This does not include predator or prairie dog control costs.

4) Reform. Management of TBNG should not be focused on resources, but on prairie species conservation and intense re-introduction and restoration. Missing species need to have suitable habitat and then be re-introduced.

5) Re-populate. Black tailed prairie dogs population numbers should stand around 10-30 prairie dogs per hectare (O'Mielia, 1980). As species population re-establish, black-footed ferrets need to be re-established to one mother/pup pair per 30-50 hectares, with one male overlapping the territories of several females (Harris, et al, 1989). In order to establish a minimum viable population numbers, 120-150 ferrets must exist in a population, connected to other populations throughout TBNG.

Mountain lion, coyote, black bear and studies in TBNG need to establish existing population numbers in order to see if minimum viable populations are already met.²⁴

Although bison management is costly and difficult to maintain, bison re-introduction is essential to an intact prairie ecosystem and favorable to cattle (see Appendix B). Re-introduction may move slowly to replace a cattle phase-out. The bison population should be between 125-193/100 hectares according to the figures in Badlands (Berger, 1994) and Theodore National Roosevelt National Park (deJong, 1990), similar habitat types to TBNG.

6) Revegetate. Vegetation prototypes for healthy northern grasslands (not based on cattle forage prototypes) should be restored on bare overgrazed lands and in patches of crested wheat grass (exotic). A great deal of vegetation shifts

²⁴There is a population of black bear in the Laramie Peak area. (USFS, 1990)

should occur as livestock grazing is discontinued and native grazers are restored. Riparian revegetation and stream bank reclamation must also be a priority.

7) Road rip. Roads can remain until all private inholdings are acquired within the reserve boundary, then only Highway 450, Makey Road and North Lance Creek Road should remain. Road closures, ripping out roads and revegetation should ensue.

8) Recreation. There is not one developed camp site on the TBNG. Camp sites along the Powder and Cheyenne River, by bluffs, or in other scenic areas in TBNG should be developed.

Many prehistoric Indian sites exist on TBNG including campsites, lithic scatters, stone circle sites and butchering sites. An interpretative center for Native American history, grassland ecosystems and species would provide insight into the prehistory of TBNG. Recreation facilities, parking lots and road easements should be low impact in design.

9) Revenue. Communities should receive help adapting to a tourism based economy in the form of county and State loans. The TBNG covers eight counties that would glean income from bird and wildlife viewers as well as recreationalists. Hunters and fishermen can expect a better backcountry experience without cattle upsetting water quality, fish and game populations or regional aesthetics. An economic study needs to be completed as soon as possible, to assess the benefits and liabilities to livestock phase-out.

Tourism would benefit communities far more than the amount of revenue grazing fees contribute to plains counties (Popper, 1991).

10) **Research-** The grasslands have been out of balance for over a hundred years. No one alive today has *seen*, let alone understands, the inter-workings of a healthy shortgrass prairie. As restoration and monitoring are integrated into the framework of a TBNG stewardship program, mushroom studies, lichen studies, invertebrate studies and minimum viable population studies of all prairie species have to constantly be in progress. This region needs to work as an ecosystem. Until resource managers know how the grasslands work, an ecosystem balance is an impossibility.

Thunder Basin is only one recovery site in the High Plains in need of relief from mining and grazing. The principles discussed in this document may be helpful in considering protection strategies ultimately used as the building blocks for protective legislation, the High Plains Ecosystem Protection Act. To restore the High Plains to its original functional state, the High Plains Ecosystem Protection Act needs to target the public lands throughout this region: the Niobrara River region in southwest Nebraska; Platte River Country in southeast Wyoming; the BLM lands and the Charles M. Russell National Wildlife Refuge; the Little Missouri Grasslands in Nebraska; and the western wheatgrass prairies of western North Dakota surrounding Roosevelt National Park.

Of course, these are only a few public areas within the High Plains that need restoration; the lands and potential are massive. The High Plains evolved along with herds of thundering bison, acres of prairie dog towns and seas of native grasses. This ecological profusion has earned the plains the distinction of the "American Serengeti." This diversity and abundance is the

historic state rather than current form of this ecosystem. Only immediate recovery can salvage the ecological integrity of the High Plains.

Appendix A

Animals Co-occurring with Black Tailed Prairie Dog Towns (Carlton, 1994)

Mammals

Coyote	Domestic cattle
Striped skunk	Bobcat
Mink	Ord's Kangaroo Rat
Long-tailed weasel	House mouse
Badger	Domestic sheep
Raccoon	Domestic horse
Red Fox	Hispid pocket mouse
Mule Deer	Black-footed ferret
Pronghorn	White-tailed jackrabbit
Eastern mole	Richardson ground squirrel
Desert cottontail	Wyoming pocket mouse
Deer mouse	Southern plains woodrat
Thirteen-lined ground squirrel	Plains cottontail
Pocket gopher	Least chipmunk
Least chipmunk	Porcupine
Grasshopper mouse	Elk
American Bison	Spotted ground squirrel
Plains pocket gopher	Black-tailed jack rabbit
White Tailed deer	Northern grasshopper mouse
Western Harvest Mouse	

Birds

Golden eagle	American avocet
Ferruginous hawk	American coot
American Crow	American robin
Red-tailed hawk	American white pelican
Swainson's hawk	American widgeon
Marshhawk (Northern harrier)	Biard's sandpiper
Prairie falcon	Baird's sparrow
American kestrel	Bald eagle
Burrowing owl	Barn swallow
Great horned owl	Black-billed magpie
Sage grouse	Black crowned night heron
Blue-winged teal	Boat tailed grackle
Mourning dove	Brewers blackbird
Killdeer	Brown-headed cowbird
Common nighthawk	Buff-breasted sandpiper
Mountain plover	California gull
Horned lark	Canada goose

Chestnut-collared longspur
McCown's longspur
Vesper sparrow
Lark bunting
Western kingbird
Loggerhead shrike
Brown-headed cowbird
Savannah sparrow
Cliff swallow
Snow bunting
Grasshopper sparrow
Great Blue heron
Greater yellowlegs
Herring gull
House sparrow
Lapland longspur
Lark bunting
Lesser prairie chicken
Lesser scaulp
Long billed-curlew
Marbled godwit
McCown's longspur
Mountain bluebird
Northern bobwhite
Northern harrier
Northern oriole
N. rough-winged swallow
Prairie falco
Red-tailed hawk
Ring-billed gull
Rough-legged hawk
Ruddyduck
Savannah sparrow
Scaled quail
Sharp shinned hawk
Short-eared owl
Snow goose
Spaugh's pipit
Turkey vulture
Vesper sparrow
Western kingbird
Yellow-headed black bird

Willet
Common grackle
Wilson's phalarope
Curved-billed thrasher
Double-crested cormorant
Eared grebe
Eastern kingbird
Eastern meadowlark
European starling
Gadwall
Gray partridge
Green-winged teal
Great horned owl
Horned lark
Ladder-backed woodpecker
Lark sparrow
Lesser golden plover
Loggerhead shrike
Lesser yellowlegs
Mallard
Mississippi kite
Merlin
Mourning dove
Northern flicker
Northern mocking bird
Northern pintail
Pied-billed grebe
Redhead
Red-winged blackbird
Rock Dove
Sage grouse
Sage thrasher
Say's pheobe
Scissor-tailed flycatcher
Sharp-tailed grouse
Snow bunting
Sora
Swainson's hawk
Upland sandpiper
Water pipit
Western meadow lark

Amphibians

Leopard frog
Tiger salamander
Western toad
Green toad
Woodhouse toad
Great plains narrow mouthed toad
Chorus frog
Plains spadefoot frog
Couch's spadefoot frog

Reptiles

Eastern short-horned lizard	Little stripped whiptail
Sagebrush lizard	Ornate boxturtle
Red-sided garter snake	Lesser earless lizard
Prairie rattlesnake	Western diamondback rattler
Yellow mud turtle	Racerunner
Gopher bullssnake	Common gater snake
Chihauhua spotted whiptail	Texas spotted whiptail

Appendix B

American Bison

(Knowles, 1994)

*It is estimated that prior to European settlement of the plains, bison numbers were anywhere between 30 and seventy million.

*Between 1870 and 1900, the number was reduced to less than 1,000; 65,000 bison exist on ranches, reservations and parks today

* Migration patterns, indicative of the American bison would open large swathes of land for evolutionary succession. This process would involve the arrival of prairie dogs that were attracted to disturbed areas. This was due to the high visibility of grazed grasslands allowing prairie dogs to watch for predators. *Dogs would turn up 4 tons of earth in a square acre and allow increased water absorption of 700 gallons.* Prairie dogs clipped forbs and left areas seemingly bare however dramatically increased the nutritional content of the grasses along the dog towns. However in studies, cattle grazing on dog towns weigh the same as cattle grazing apart from prairie dog towns.

(O'Mielia, 1988)

* Bison also created large holes in the earth called wallows. Wallows turned into ponds or provided upturned soils and manure that became fertile sod. Bison bones provided calcium for plains herbivore

* Plains Indians were mainly farmers prior to the introduction of the horse by Spanish settlers in the mid-1500's The horse didn't influence the Indian populations immediately, but by the 1700's, many northern plain tribes have adopted bison hunting on horse back and became completely dependent on bison meat and hide for tribe existence

- * Tribes would follow herds and used fire both to corner bison and to attract bison to fresh, tender new grass that grew subsequent to fires
- * With white settlement, Gen. Sherman ordered that all bison be shot, skinned and sold until they were completely gone in the effort to subdue the Indians.
- *Bison extirpation was a political objective and was quite easy due to the fact that they made easy targets at 7 ft high; too large to hide; herding behavior allowed hunters to slaughter several at a time
- *With the bison disappearing, cattle was introduced in its absence.

Differences between Cows and Bison
(Knowles and Knowles, 1994)

<u>Ecological Characteristics</u>	<u>Bison</u>	<u>Cattle</u>
Mobility	high	low
Home size range	large	small
Grazing strategy	aggressive	passive
Water stress tolerance	high	low
Readily grazes steep slopes	yes/agile	no/clumsy
Requires water	24-96 hr intervals	12 hr intervals
Activity centered on	forage	water
Forage selection	generalist	specialist
Digestion efficiency	high	moderate
Wallows	yes	no
Cold Tolerance	high	low
Forage through snow	yes	no
Require supplemental winter feed	no	yes
Requires help calving	no	yes
Anti-predator behavior	strong	weak
Herding behavior	excellent	good
Longevity	20-30 years	10-15 years
Meat quality	excellent	good

Other Adaptations of Bison

- Bison are ice age animals; ice and snow is not a deterrent in foraging; can forage in snow, massive shoulders and hooves can forage in winter
 - Bison are fast and agile and can deal with predators and fires
 - Bison are migratory and follow the greening up after storms; do not just camp out like cows (Indians would travel 5-15 miles a day to keep up with the herds)
 - Bison can go for 24 hours without water--do not hung out on riparian areas or need stock ponds
 - Bison are more agile on treacherous topography
 - Bison are general grazers and cattle are selective
 - Bison digest prairie grass more efficiency
- Bison are wild; cattle are domesticated**
- Bison consume more graminoids than cattle--mitigated through historic migrations
 - Bison need the prairie ecosystem incorporated with rearing and large pastures that may require multiple owner strategies (private, agency lands)
 - Bison do not need predator control or stock pond development or crested wheat grass cultivation
 - Bison ranching cannot be focused on maximum net production because as a wild animal bison have to be reared with an ecosystem in mind rather than a controlled operation with fenced pastures
 - Bison are field Slaughtered vs. cattle in slaughter house

Appendix C

Grazing Challenge Overview

1)Gila Watch (GW)

Susan Schock; (505) 388-3449/2854; PO Box Silver City, NM

Although Gila Watch is currently involved with several livestock grazing cases, these are representative of GW strategy:

1) *Gila Watch v. US of America, Michael Espy, Jack Ward Thomas, Larry Henson, Regional Forest Supervisor, Carl Pence, Forest Supervisor of the Gila National Forest and Gerald A. Engel, Mimbres District Ranger* (No. Civil 94 1020 MV)

Claim-GW has brought this civil action under 5 USC § 701 et seq. asserting that the Forest Service has violated the *Wilderness Act* (16 USC § 1131, 36 CFR § 219.10 (e) and 36 CFR § 293.2 (1991) by allowing grazing in areas that were not grazed at the time of the establishment of the Wilderness Act.

"The grazing of livestock shall be permitted where established prior to the date of this Act...." 16 USC § 1131 (d)(4)(2)

Request- That the USFS not grant permits for land not historically grazed prior to the Wilderness Act.

Status- No Decision as yet.

2) *Administrative Appeal on Allotments in Aldo Leopold Wilderness*

Claim- The Forest Service neglected to complete the EIS process on grazing allotments in Aldo Leopold Wilderness; the development of stock tanks in the Aldo Leopold Wilderness violates the Wilderness Act; grazing in riparian regions is an "unsuitable use of the land;" and livestock grazing in the Aldo

Leopold is economically unsuitable(*suitability* -16 U.S.C. § 1603 (g) (2) , 36 C.F.R. § 219.20 and 36 C.R.F. § 219.3).

Request- Assess the economic and ecological *suitability* of the area for livestock grazing and conduct NEPA process on Wilderness area allotments.

Status-No decision as yet.

Issue- USFS on issues of "*suitability*: the appropriateness of applying certain management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses forgone." (36 CFR 219.3)

2) Oregon Natural Desert Association (ONDA)

Bill Marlett, (503) 385-6908, 16 NW Kansas, Bend, Oregon 97701

ONDA, Rest the West, Oregon Nature Resources Council, Oregon Wildlife Federation, The Pacific Rivers Council, Portland Audubon, and National Trout Unlimited v. USFS

(attorney for ONDA- Michael Axline)

Claim- USFS issued a grazing permit, no. 01607, for the Camp Creek allotment within Malheur National Forest without first requiring the grazing permittee to obtain an Oregon water quality certificate. The action violates section 401(a) of the CWA, 33 U.S.C. § 1341(a).

Request- The USFS require the Cattle Creek Allotment permittee to obtain a state water quality permit before being granted permit renewal.

Status- Motion for summary judgement in April, 1995

Issue- Under Section 401 of the Clean Water Act, federal actions need to insure water standards if permits are issued on public lands. CWA states that an action needs a water quality permit in the case of an activity that "may" cause pollution to a navigable waterway. Evidence that cattle "may cause"

pollution has been provided by grazing expert Denzel Ferguson. Jonathan Rhodes, a hydrologist for the Columbia River Inter-Tribal Fish Commission claims that cattle "affects water temperature, erosion, and sedimentation delivery due to its effects on riparian vegetation, soils, and channel morphology. "

The results of this case could be precedent setting and force all grazing permittees that "may pollute" using public lands to obtain state water quality certification . It also may just become yet another level of bureaucracy.

3) Greater Gila Biodiversity Project (GGBP)

Kieran Suckling; (505) 538-0961; PO Box 742, Silver City, NM 88042

1) Appeal of Toriette Allotment Management Plan

Claim- The USFS has classified the renewal of the Toriette AMP a "minor management practice," and has labeled this allotment a "catagorical exclusion." This assertion is without just cause and sufficient scientific data.

The USFS is trying to issue grazing permits without doing an analysis of sensitive species threatening species such as the Apache Trout, Mexican Spotted Owl, and the Gila Trout and thus "fails to consult" under the provisions of ESA.

No cumulative effects analysis has been done on the condition of surrounding allotments as well as the streambank conditions, a process outlined by NEPA. No analysis has been done to determine the effects of "range improvements such as stock ponds and earthen dams.

Request- That the Toriette AMP categorical exclusion classification be reassessed and an injunction on grazing until an EA or EIS is completed on the allotment.

Status- No decision as yet.

Issue-USFS asserts that the revision of the Toriette AMP is an "implementation of a minor management practice to improve allotment condition or animal distribution," and therefore a categorical exclusion (EA documentation, FSH. 1909.15, Chapter 31,2, no. (31.2(9))).

GGBP claims that in making the Toriette Allotment a categorical exclusion, the USFS is violating NEPA, ESA, CWA and the Gila National Forest Management Plan. As yet, there is no ruling on the appeal.

2) Michael v. District Ranger Steve Gunzel of Tonto National Forest; Supervisor Charles Bazan of the Tonto National Forest; Regional Forester Charles Cartwright and the US Forest Service

Claim - The decision to re-instate grazing on the Pole Hollow Allotment has been made without consideration of: *suitability* of area for grazing (NFMA 16 U.S.C. § 1604 (g) (2)); reasonable alternatives (NEPA 42 U.S.C. § 4332 (2) (B)); that the decision is "arbitrary and capricious within the meaning of the Administrative Appeals Act" (APA, 5 U.S.C. § 706 (2)).

Request- A judgment that the USFS is violating NEPA, NFMA and APA. An injunction on grazing the Pole Hollow Allotment or no more than 112 AUMs yearlong, until the NEPA and NFMA (*suitability* -16 U.S.C. § 1603 (g) (2) , 36 C.F.R. § 219.20 and 36 C.R.F. § 219.3) analysis is completed. No "range improvements" should be developed (fences, stock ponds, pipelines) until NEPA and NFMA are adhered to.

Status- No decsion as yet.

Issue- The Pole Hollow allotment was determined to be in poor condition in range analysis by the USFS and therefore deemed a high priority for legal challenge by the GGBP. In Hells Canyon, the Cayuse, Chalk Creek, Cold Springs, Cow Creek, Dobson Haas, Himmelwright, Mud Duck, Saddle Creek,

Rhodes Creek, Schleur, Snell, Temp Sanke and Toomey allotments have been determined in poor condition. These allotments might be the first areas to address when challenging current grazing practices as they may be the most threatened.

4) National Wildlife Federation (NWF)

Tom France (406) 728-6705 240 North Higgins, Missoula, MT 59802

NWF v. USFS

Claim –Range management practices in the Beaverhead National Forest are out of compliance with NEPA (no site specific analysis of 136 of 166 allotments); only 125 allotments met monitoring standards outlined in the Beaverhead Forest Plan; AUMs within Beaverhead AMPs are too high; several riparian areas within the Beaverhead allotments have been classified by USFS to be in poor condition; resource damage from grazing is occurring due to non-compliance with NEPA and NFMA.

The plaintiffs also allege that the USFS is out of compliance with the Administrative Procedures Act (5 U.S.C. § 701 et seq. 1988, PA) that holds federal agencies responsible for action that is "arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with the law" (5 U.C.S. § 706 (2) (A).

Request- An injunction on grazing permits until the Beaverhead allotments go through the EIS process and come up to code with their own Forest Plan.

Status- The NWF offered the USFS ten years to come into compliance with their own laws. The settlement is still being decided. The NWF asked that the USFS do NEPA on 10% of the allotments a year over the 10 year period.

Issue- This case could set a USFS position for revamping AMP development and renewal. A ten year process to update western USFS grazing management policies could take a grave ecological toll on over-grazed federal lands.

5) Joe Feller, University of Arizona Law School/ NWF

(303) 786-8001; 2260 Baseline Road ,#100; Boulder, CO 80309

National Wildlife Federation, Southern Utah Wilderness Alliance and Joe Feller v. Bureau of Land Management (UT-06-93-01)

Claim- BLM neglected to notify affected interests (Joe Feller) of a grazing permit renewal to the Ute Mountain Indian Tribe; the BLM neglected to allow affected interests opportunity for public comment on permit renewal; the BLM violated NEPA for not conducting a site specific EIS on five canyons within the Comb Wash allotment within the San Juan Resource Area; the BLM violated FLPMA for reissuing a permit without "reasoned and informed decisions of whether the canyon area was in the best public interest to have grazed"; the BLM violated the San Juan Resource Management Plan for setting excessive utilization limits in Comb Wash which was given a "poor" rating in BLM range monitoring.

The BLM disregarded the health and preservation of visual quality, riparian areas, vegetation, recreation use, erosion and wildlife habitat in its decision to graze five canyons within the Comb Wash allotment.

Request- Fence cattle out of sensitive riparian areas until the completion of the EIS on grazing impacts in the Comb Wash allotment.

Status- Case won in 1994; appealed in 1994.

Issue- The San Juan area-wide EIS for its Resource Management Plan did not necessarily apply to the site specific features of canyons and riparian areas within Comb Wash.

Expert witness Robert Ohmart of the Arizona State University gave testimony explaining that the San Juan Resource Area RPM/FEIS "is pathetically short on any understanding or appreciation of efforts to appropriately [sic] manage riparian habitats in the Comb Wash allotment. This document is so generic it could fit any place in northern Arizona or southern Utah if you change the names of the places to protect their identity. That document is meaningless as far as giving anyone any biological assessment of the riparian habitat or wildlife. I mean, there's only four kinds of wildlife in the document. If you aren't a sheep, if you aren't a deer, if you aren't an antelope or a peregrine falcon, you're not even wildlife." (Appeal to BLM of San Juan Resource Area RMP, pg. 9)

TBNG could be challenged for allotments with insufficient NEPA consideration if the area wide EIS for the Wallowa-Whitman Comprehensive Management Plan neglected to address site specific considerations within allotments. In the Feller case, site specific areas that Judge Rampton ruled canyons may need a special site specific NEPA process. Due to their delicate nature, cows were fenced out of two desert canyons in the Comb Wash Allotment.

6) Ochoco Resources and Recreation Association

Tonia Wolf; 281451 Miller Rd.; Prineville, OR 97754;(503) 317-9464

Appeal of Sunflower Grazing Allotment to Regional Forester, Ochoco, NF
Claim- EA on the Sunflower Allotment in the Ochoco National Forest in Eastern Oregon does not consider a "No Grazing" alternative (NEPA)
Request- Full consideration and analysis of a no grazing alternative

Status- Injunction on livestock grazing implemented in 1994; EA completed in 1995. ORRA did not appeal EA.

Issue- As allotments come up for renewal, an EIS or EA must include a no-grazing alternative.

7) Sinapu

Michael Robinson, PO Box 3243, Boulder CO 80307 (303) 494-7920

Administrative Appeal of North Hunt Allotment to Forest Supervisor of the Routt National Forest

Request- Sinapu requests an injunction on grazing on North Hunt until a detailed sustainability study and range analysis are completed.

Claim-*The Finding Of No Significant Impact* (FONSI) classification on North Hunt Allotment is inappropriate because: the allotment is overgrazed; no scientific data exists on wildlife within the allotment boundaries; USFS has failed to consult with the US Fish and Wildlife Service on environmental impacts to the peregrine falcon; the allotment is unsuitable to grazing because of impacts on wildlife, soil, riparian habitat. (According to wildlife biologist Kathleen Nelson, the streambank erosion on Spronks Creek, located within the North Hunt Allotment is "probably the worst in the district.")

(When the USFS got wind of the Sinapu challenge of cows on North Hunt, the AMP switched cattle AUM stipulations to sheep. Sinapu challenged this switch as illegal under NEPA).

Sinapu also requests an EIS for the North Hunt drainage complete with analysis on the "effects of livestock grazing on Spronks Creek, its headwaters, and associated riparian areas" (North Hunt Appeal, pg. 3). The EIS needs to include an analysis of land "suitability" by examining "the appropriateness of applying certain management practices to a particular area of land, as

determined by an analysis of the economic and environmental consequences" (16USC(g)(2);36 CFR 219.20(a).

Status- Appeal was successful and all livestock have been removed from the 6,575 acre North Hunt Allotment.

Issue- The USFS allowed grazing without examining the "suitability" in the EA of North Hunt for livestock. "The first determination--the suitability of the lands for grazing--must be made before a decision to authorize grazing can be made, but a grazing suitability determination does not necessarily lead to a decision to graze those lands. Even though lands may be suitable for grazing, other resource objectives may take precedence over grazing livestock; for example, protection needs of wildlife habitat might take a higher priority in a given area, and thus grazing would be incompatible with this objective" (*Federal Register*, Vol. 59, No. 81, April 28, 1994).

8) National Wildlife Federation (NWF)/Nevada Wildlife Federation,

**Peter Frost, National Wildlife Federation, 921 S.W. Morrison, Suite 512, Portland, OR 97184
(503) 222-1429**

*NWF, Elko County Conservation Association, Nevada Wildlife Federation
v. US Forest Service, Jack Ward Thomas, Humboldt National Forest
Supervisor R.M "Jim" Nelson*

Claim- By allowing livestock grazing on allotments within the Humboldt National Forest, the USFS is in violation of NEPA, NFMA, as well as the Administrative Procedures Act.

Request- Ruling that the USFS is in violation of NFMA, NEPA, and APA. Injunction on grazing until USFS comes into compliance with NEPA and NFMA.

Status- Complaint filed in March, 1995.

Issue- This case is very similar to NWF case in the Beaverhead National Forest (page 12). The appellants, according to Dan Hines (American Wildlands, Reno, NV.) want the USFS to do EIS on Humboldt National Forest grazing allotments, update their AMP, and fence off some riparian areas. As with the Beaverhead case, appellants are willing to allow the USFS months/years to come into compliance.

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