Chapter 2

Summary of the AMS

Current Resource Conditions and Trends

This section briefly summarizes the state of the program areas, based on the 1999 Analysis of the Management Situation (AMS) as well as new information and direction since publication of the AMS. More information can be found in the AMS; detailed analysis is also presented in the accompanying Environmental Impact Statement (EIS) for the Curlew Amendment. The current condition of the Forest was assessed at several different levels. The Columbia River Basin Assessment looked at broad scale condition. The Forest also conducted a Properly Functioning Condition (PFC) assessment at the watershed level. In addition, there have been many assessments at the drainage level. Biological, physical, and social resources have been assessed at all of these multiple scales.

Considering national, regional and local direction, policy, and strategies for natural resource management, Forest resource professionals initiated a process to identify the "Needs for Change" in management direction on the Grassland. The process included a review of the findings of monitoring in the 1985 Forest Plan; existing legislation; and issues and concerns from project implementation and public comments for the past 12 years.

Unchanged Management Direction

Several portions of the 1985 Plan were found to be meeting management needs and do not require a change. This direction, with updated language, has been incorporated into the Revised Plan for Curlew National Grassland. The following discussion identifies this direction and provides the rationale for why management direction did not need to change. If amendments are needed to keep the Plan current, they will be completed at that time.

- Wilderness
- Heritage Resources
- Research Natural Areas
- Recreation
- Lands and Special Uses
- Utility Corridors
- Mineral Exploration and Development Access
- Noxious Weeds
- Soil Quality Standards
- Benchmarks

Overview of the AMS Findings for Grassland Resources

General Conditions

In the early 1900's, the Curlew Valley was opened to homesteading and most of the suitable flatlands were farmed. During the drought of the 1920's and 1930's, it became evident to many in the Curlew Valley that the land they owned could not provide them a living. These landowners sold their land, much of it severely eroded, to the federal government under Title III of the Bankhead-Jones Farm Tenant Act. Between 1924 and 1942, approximately 168,000 acres were purchased in and adjacent to Curlew Valley. In 1954, the Forest Service received 47,600 acres of the Land Utilization Project, and a considerable acreage adjacent to Curlew National Grassland came under the administration of the BLM or was sold back to private interests.

Livestock grazing and associated vegetation treatments have been the predominant uses on the Grassland since alteration by farming practices was stopped in the 1930's. Other uses include recreational bird watching, hunting and dispersed and developed area recreation. With changing social values, the Grassland has become a focal point for issues such as wildlife habitat and riparian area management and how they are influenced by livestock grazing and management practices. The challenge for Grassland management into the next century is balancing emerging social values, such as wildlife habitat, riparian management and recreation, with past and ongoing uses and activities such as livestock grazing and vegetation treatments.

The Grassland is representative of shrub-steppe vegetation and topography and is predominantly covered with sagebrush and non-native seeded grasses. Over 35,500 acres of native range was cultivated and farmed in the early 1900's. Under the management of the Soil Conservation Service, bulbous bluegrass, crested wheatgrass, and alfalfa were planted to reduce soil erosion and to increase forage production for cattle. Native grasses, forbs, and shrubs occupy the remaining 12,000 acres.

Riparian and Watersheds

Of the four major watersheds on the Grassland, all of them except South Fork Rock Creek have a disturbance vulnerability rating of "2." South Fork Rock Creek is rated between "2" and "3;" meaning more than 50 percent of the watershed is in sensitive lands. Geomorphic integrity rated between "2" and "3" for all the lands within the 47,600 acres administered by the Forest Service (IWWI 1998). Water quality integrity also rated between "2" and "3" overall. It should be noted that these ratings were completed on numerous smaller watersheds that make up the Grassland area. Many of these smaller watersheds have no perennial streams, therefore water quality was not determined to be "seriously degraded". Major streams within the Grassland (Deep Creek, Rock Creek, etc.) appear to have some serious water quality problems and were rated as a 3. The South Fork of Rock Creek has been determined by the State of Idaho to be Water Quality

Limited under Section 303(d) of the Clean Water Act. This limiting pollutant has been identified as sediment. (See Final EIS and AMS for full discussion.)

No salmonids have been found during inventories in any of the area streams, except stocked rainbow trout in Deep Creek within and above Stone Reservior. Only small fish, such as shiners and dace have been inventoried in limited quantities in selected reaches of some of the Grassland streams. No rare, sensitive, threatened, endangered or proposed aquatic or fish species are known to exist anywhere within the area.

Vegetation

SAGEBRUSH

Sagebrush is the dominant vegetation cover type occupying 95 percent of the Grassland. Approximately 17 percent of the area occupied by sagebrush is in 0-5% canopy cover; 24 percent is in 6-15% canopy cover; 42 percent is in 16-24% canopy cover; and 17 percent is in greater than 25% canopy cover.[1]

Basin big sagebrush is the most common sagebrush on the Grassland and occupies or potentially occupies about 75 percent of the sagebrush cover type.[2] Few large expanses of this type remain in the Intermountain west since it is typically found on deep soils that are sought after for farming.

About 36,000 acres, or 75 percent of the Grassland, was farmed and seeded at one time. Only about 12,000 acres, about 25 percent, now support native vegetation on fragmented islands of uneven topography and steep slopes. However, livestock grazing and the lack of natural fire cycles have drastically altered these acres. According to the vegetation PFC findings, the sagebrush on the Grassland is functioning-at-risk. This is because the sagebrush is skewed toward older age classes, reduced understory composition and production as well as reduced watershed conditions.

MOUNTAIN BRUSH

Approximately 3 percent of the Grassland supports mountain brush habitat types. Mountain brush is characterized by tree/shrub species such as chokecherry, serviceberry, currant, mountain snowberry, elderberry, and wild rose intermingled with sagebrush in the overstory. A variety of herbaceous understory species provides needed ground cover to help maintain watershed values.

According to the vegetation PFC findings, the mountain brush on the Grassland is in properly functioning condition but is trending towards late seral stages due to interrupted fire regimes.

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[1] Unpublished data on file at the Westside Ranger District, Caribou National Forest.

[2] Collins, P.D. and Harper, K.T. 1982. "Habitat Types of the Curlew National Grasslands, Idaho." Department of Botany and Range Science, Brigham Young University. Provo, Utah. 47 pgs. +exhibit.

UTAH JUNIPER

Utah juniper comprises less than 90 acres (0.2%) on the Grassland. On the Grassland, juniper has not encroached into adjacent cover types. The distribution of structural age classes is skewed toward mid and older ages. Utah juniper is considered within historical patterns of size, shape and corridors.

SALT DESERT SHRUB

Salt desert shrub comprises about 150-200 acres (0.3%) of the Grassland and is found northeast of the Curlew Campground. Understory vegetation is generally sparse. An understory of bulbous bluegrass, squirreltail, and bur buttercup is present.

QUAKING ASPEN

Quaking aspen appears on an estimated five acres (0.01%) of the Grassland. It is found in isolated clones in the Salyer and Twin Springs areas. These sites are considered at the edge of their ecological range due to sustained high summer temperatures and semiarid conditions.[3]

NOXIOUS WEEDS

Documented weed species include Canada and musk thistle, black henbane and diffuse knapweed. Direction for noxious weed management is provided in the most current Caribou-Targhee Noxious Weed Strategy and the Caribou Noxious Weed EA.

Wildlife

The Curlew Valley has been identified as an "Important Bird Area" in the state of Idaho (Svingen, 1997). The valley, with its mix of sagebrush grassland, Conservation Reserve Program plantings (CRP), and agricultural lands, provides habitat for sharp-tailed and sage grouse and other sagebrush associated species. Three non-native bird species, pheasant, Hungarian partridge and chukar, are found on the Grassland. They were introduced by the State of Idaho to enhance hunting opportunities in the Curlew Valley. The Sweeten Pond area is fenced to exclude livestock grazing. A wide variety of waterfowl including Canada geese, ruddy ducks, pintail, mallard and teal may be found loafing, feeding and nesting on or adjacent to the ponds.

THREATENED, ENDANGERED AND PROPOSED SPECIES

Except for undocumented reports of bald eagles, no Threatened, Endangered, or Proposed species have been found on the Grassland. During the 1999 field season, a survey of potential habitat for Ute ladies'-tresses (*Spiranthes diluvialis*) was completed for the Grassland with no populations of Ute ladies'-tresses or other look-alike orchids being found.

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[3] Jones, J.R., Kaufmann, M.R., and Richardson, E.A. 1985. "Effects of Water and Temperature." In: ***Aspen: Ecology and Management in the Western United States.*** USDA Forest Service General Tech. Report, RM-119. Pg. 71-76.

SENSITIVE SPECIES

Of the Caribou National Forest's 19 sensitive species, only one is **known** to occur on the Grassland - the Columbian sharp-tailed grouse.

Columbian Sharp-tailed Grouse

Columbian sharp-tailed grouse have undergone a significant range-wide decline; the species currently occupies less than 10 percent of its former range. Many remaining populations are small and widely separated from other populations. Idaho has the best remaining populations, with 75 percent of the remaining birds (Paige and Ritter 1999). In southeastern Idaho, the largest concentrations of sharp-tailed grouse are in Fremont, Bonneville and Oneida counties (Ulliman 1995). Idaho Fish and Game has been transplanting sharp-tailed grouse from the Grassland to other states for the past 12 years.

MANAGEMENT INDICATOR SPECIES (MIS)

Riparian

Riparian systems on the Grassland have been impacted by past activities and most of the reaches do not support healthy riparian vegetation. No baseline surveys have been completed and no one species stands out as a potential MIS. Because of this, breeding birds will be used as indicators of species richness.

Sagebrush

Several species of birds depend on sagebrush or are sagebrush obligates. These include the sage grouse, sage thrasher, Brewers sparrow and sage sparrow, all of which are or are expected to be present on the Grassland (Groves, *et al*, 1977). The sage grouse, described below, has been identified as a MIS for sagebrush.

Sage Grouse

Available data indicate sage grouse (*Centrocercus urophasianus*) have declined throughout their range. Long-term data from nine western states show breeding populations have declined from 17 percent to 47 percent from the long-term average. One doctoral dissertation has addressed sage grouse ecology on and adjacent to the Grassland (Apa 1998). Data from the Apa study indicate the sage grouse population on the Grassland is non-migratory[4] and the available habitat is non-uniformly distributed (Apa, pers. comm.). Establishment of exotic perennial grasses has resulted in a decline in native, herbaceous understory diversity which has been identified as essential for nesting and brood-rearing sage grouse.

SPECIES AT RISK (SAR)

Riparian

Riparian and wetland habitats have been greatly modified by farming, livestock grazing, water diversion, spring diversion and drilling of water wells. Information on historical or current riparian vegetative conditions is very limited. While some surveys included vegetation information, no analysis has been completed of the potential of the stream reaches to support willow communities.

[4] **Non-migratory** means average movement of sage grouse is less than or equal to ten kilometers (Connelly, *et al*, in press.)

Species at risk (SAR) that have been identified for riparian habitats include the calliope hummingbird, willow flycatcher, black-billed magpie, MacGillivray's warbler, Scott's oriole, pallid bat and *Yuma myotis*. All of the bird species rely on riparian shrub communities for nesting (Ehrlich, *et al*, 1988, Groves, *et al*, 1997).

Sagebrush

The species at risk (SAR) that are associated with sagebrush habitat are associated with varied habitat structures. Loggerhead shrikes do not appear to be tied with specific canopy closure of sagebrush, but build their nests in the shrubs. Short-eared owls and long-billed curlews use the more open sagebrush types (0-5 percent canopy cover) that are dominated by grasses. Both of these species are listed as breeding in the Grassland (Stephens and Struts, 1997). Currently, 17 percent of the Grassland's sagebrush habitats are in the 0-5 percent canopy cover class and may provide habitat for these species.

Sage grouse (previously discussed) and pygmy rabbits are associated with greater shrub densities (greater than 15 percent canopy cover). Pygmy rabbits are associated with sagebrush stands in deep soils, with a tall, dense structure and high percent woody cover. The Grassland is within the expected distribution of pygmy rabbits, but the historical and current distribution is not known. Currently, 59 percent of the Grassland sagebrush habitats are in the greater than 15 percent canopy cover class and may provide habitat for this species.

Human Uses and Values

Oneida County is rural, sparsely populated, and has a relatively large proportion of its population living on farms. Malad City is the county seat. Largely because of its small population, Oneida County has been identified as an area of low socio-economic resiliency.[5] Recreationists look to the Grassland as a venue for recreational activities like wildlife-viewing and camping. Some of these activities, such as upland game hunting and bird-watching on the sage grouse and sharp-tailed grouse strutting grounds, are highly specialized.

WATER USES

Water is limited throughout the area. Agriculture and grazing are the primary uses of the water within the area. Live water occurring within the area is generally tapped and diverted to agricultural fields or used to water livestock.

RECREATION AND HUNTING

Recreation on the Grassland includes hunting, wildlife viewing and snowmobiling. Hunting upland birds, rabbits, waterfowl and deer are popular pursuits. Since much of the dispersed recreation is dependent on wildlife, use patterns follow the ups and downs of these populations. Based on Forest Service observations, hunter numbers appear to be static on the Grassland. Bird watching, especially on the sage and sharp-tailed grouse strutting grounds, grows in popularity annually. In March and April of 1997, over 150 people spent 2 to 4 hours watching the birds

[5] Quigley, Thomas M.; Haynes, Richard W.; Graham, Russell T., tech.eds. 1996. Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin and Portions of the Klamath and Great Basins. Gen. Tech. Rep. PNW-GTR-382. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Reasearch Station.

"dance." The numerous leks, or dancing grounds, are generally found in open areas adjacent to sagebrush cover throughout the Grassland.

Some motorbike and All Terrain Vehicle (ATV) use occurs on primitive roads. Off-road vehicle restrictions currently limit this use to designated routes from September 1 to November 30 for prevention of soil erosion and wildlife protection during fall bird hunts.

Twin Springs Campground and the Curlew Campground and Group Area are the only developed recreation sites on the Grassland. Use at Twin Springs remains moderate, except during the fall hunting season when use increases. Camping and group use at Curlew Campground is high. Adding 8 camping units in 1992 and a new group area in 1998 have helped to meet local camping demand. The site is adjacent to Stone Reservoir (owned by the local irrigation district) and is popular for boating, fishing and ice fishing.

Sweeten Pond offers waterfowl viewing and has a small parking lot. The site could be developed as a watchable wildlife area with blinds and interpretive material. It is fenced to protect it from livestock grazing and is maintained by the Forest Service. This site and others on the Grassland provide good interpretive opportunities for wildlife.

TRANSPORTATION

The Grassland and surrounding area support 76 miles of roads that provide good access. Highway 38 from Malad and the highway from Snowville, Utah (Highway 37) meet at Holbrook and extend to American Falls and to Interstate 86 via Rockland Valley. They serve as the major highways through the Grassland. Motorized travel on the Grassland is restricted to designated routes from September 1 to November 30 during the fall bird hunts. A *Roads Analysis* for the Curlew National Grassland was completed in the Fall of 2001.

LIVESTOCK GRAZING

The Curlew Valley Cattle and Horse Association, comprised of 21 members, is permitted to graze 2,454 cow/calf pair from April 16 to November 30. The members of this association are required to own base property in Curlew Valley. The association manages the allotment by grazing five groups of cattle that rotate through 37 fields on a deferred-rotation basis. None of the pastures are grazed more than once per season.

The Buist Fields Association, comprised of eight members, is permitted to graze 862 cow/calf pairs from April 25 to July 9 and from November 1 to November 30 each year. The association manages the allotment by grazing three groups of cattle through twelve pastures on a deferred-rotation system.

Summary of Trends for the Grassland

- Sagebrush is trending toward more dense canopy covers, resulting in a lack of understory diversity, reduced herbaceous production and watershed condition due to losses of ground cover.

- Non-native seedings have simplified species composition, reduced biodiversity, changed species interactions, and in some situations, reduced wildlife habitat quality and forage availability.

- Mountain brush sites occupy three percent of the Grassland and provide a unique niche for associated species. Although mountain brush has been assessed as meeting Properly Functioning Condition, fire return intervals and suppression efforts are jeopardizing the condition of these areas.

- Within the Grassland, the primary water quality problems are sedimentation, nutrient loading, flow alteration and high temperatures.

- Stream channels and associated riparian areas have undergone considerable adjustment (downcutting, lowering water tables and confining of riparian areas within downcuts), as a result of some land management practices, and some are now restabilizing at a different evolutionary state. Some can never be restored to historical levels or conditions.

- Water impoundments have increased riparian and wetland extent.

Needs for Change

The AMS determined the need to establish or change the current management direction on the Curlew National Grassland. The AMS assessed the current situation, determined the capability of the Grassland resource base to produce goods and services, and identified public issues and management concerns. The following Needs for Change were identified in the AMS:

Soil

- Develop and implement soil restoration direction for the Grassland.
- Collaborate with area farmers, ranchers, Soil Conservation Districts, Natural Resource Conservation Service, on lands adjacent to the Grassland to encourage soil conservation and to restore riparian areas.

Terrestrial Ecosystems

- Establish a balanced multi-aged mosaic of sagebrush communities through regular, planned treatments.
- Maintain levels of forage productivity that will assist dependent grazing permittees while improving wildlife habitat quality.
- Develop management direction which moves vegetation towards the goals, maintains diverse shrub communities, watershed conditions, and reduces threats to private property and large acreages.
- Develop and implement direction to restore, maintain, and improve habitats for sagebrush associated/obligate wildlife species, including sage grouse. This also includes assessments of habitat fragmentation and connectivity.
- Develop direction and implement a schedule for treatment of those areas with an undesirable understory composition (i.e. bulbous bluegrass) to establish a diverse and desirable grass, forb and shrub composition.
- Develop and implement grazing utilization standards for both seeded and native vegetation types which takes into consideration other resource values and needs.
- Clarify prescription direction to insure the proper future application of prescriptions with respect to future uses and resource values.

Aquatic Ecosystems

- Develop strategies and implement direction to protect and improve riparian areas, wetlands and stream channels.
- Develop a schedule that implements watershed, riparian, wetland and stream channel improvement strategies and direction.

Inventory and Research Needs

- Inventory (Level II) of all perennial stream reaches to identify existing vegetation and the potential natural community.
- Inventory of current suitable sage grouse habitat, including nesting, brood-rearing and winter.
- Develop monitoring strategies and/or research projects to answer the following questions that have arisen throughout the planning process.
  - Are tree rows providing habitat for predators and decreasing sage grouse nest success?
  - Are pygmy rabbits present on the Grassland, and how has past and current management affected their distribution?
  - Is the subspecies of sagebrush important in selection of nesting sites for sage grouse?
  - What is the correlation between livestock utilization levels and residual vegetation?

Issues, Concerns and Opportunities

Issues were identified through public comments received on the Initial AMS and from scoping on the Proposed Action. Comments were grouped into categories and then the IDT further refined and clarified the issues. The issue statements were written in an attempt to be unbiased and to show conflicts. Issue indicators have been designed to be quantitative, where possible, measurable, predictable, responsive to the issue, and linked to cause-effect relationships.

Riparian and Watershed Management

ISSUE

Watershed conditions on portions of the Grassland are below potential and need to be improved through protection of natural soil protection features including microbiotic[6] crusts (mosses, lichens, cyanobacteria, cryptogams and liverworts) and reestablishment of protective perennial vegetation and litter. Many stream channels and riparian areas on the Grassland have been degraded and need to be improved to attain properly functioning condition and meet State and Federal water quality standards.

RESOLUTION

The Grassland Plan resolves these issues by fencing five miles of "at-risk" streams and placing all other perennial streams in riparian pastures. The Plan establishes livestock use levels based on properly functioning condition status of the streams. Along with direction for maintenance of soil productivity, microbiotic crusts, and perennial vegetation, this Plan allows for projects which will improve understory diversity which will improve overall watershed conditions.

Vegetation and Wildlife Habitat Management

ISSUE

Sagebrush Canopy Cover

Some commenters advocated a reduction in sagebrush canopy cover to maintain/increase forage production (sagebrush canopy less than 15 percent). Other commenters advocated that sagebrush canopy cover is currently not adequate to meet sage grouse nesting and wintering habitat needs (sagebrush canopy greater than 15

[6] **Microbiotic crusts** are formed by living organisms and their byproducts, creating a surface crust of soil particles bound together by organic materials. They are composed of Cyanobacteria (formerly blue-gree algae), green and brown algae, mosses and lichens. Liverworts, fungi, and bacteria can also be important components.

percent). Still others advocated that sagebrush canopy cover should be managed for properly functioning condition (10-30 % of sagebrush acres in 0-5 percent canopy cover; 40-60 % of sagebrush acres in 6-15 percent canopy cover; 30-50 % of sagebrush acres in greater than 15 percent canopy cover).

Mountain Brush Management

Some commenters advocated that mountain brush communities (serviceberry and bitterbrush) be preserved or maintained at current densities and conditions for nesting upland species and big game. Some people contended mountain brush communities should be managed in a healthy matrix (multiple ages and structures) using whatever tools are appropriate. Historically these vegetation types have been managed with prescribed fire, chaining and herbicides.

Sagebrush Understory Composition

Bulbous bluegrass is a non-native, sod-forming species which provides for watershed stability. However, bulbous bluegrass has low value for wildlife habitat and livestock forage. Some commenters advocate bulbous bluegrass should be replaced with more desirable species. Some commenters advocated that treated areas should be reseeded with native grasses, forbs and shrubs (primarily sagebrush) to benefit wildlife. Historically, treatments have been reseeded with non-native species (primarily crested wheatgrass) to assure vegetation establishment, provide livestock forage, and provide nesting cover for upland birds.

Wildlife Habitat

Sagebrush communities in the Curlew Valley have been converted to other uses resulting in habitat fragmentation and reduced connectivity for sagebrush dependent and associated species. The size and location of future vegetation treatments within the Grassland have the potential to further affect connectivity and fragmentation. Some commenters advocated that sagebrush treatments should be "small scale" (less than 20 acres) to reduce the impacts to wildlife species (including sage grouse) and promote re-establishment of sagebrush. Historically, sagebrush treatments have been on the scale of hundreds of acres (fields) for efficiency.

Some commenters contended that the current use level (about 60 percent) provides sufficient forage for the current stocking levels and sage grouse and sharp-tailed grouse nesting habitat. Others contended the use level is too high and should be reduced to provide higher quality sage and sharp-tailed grouse habitat.

Prescribed fire is currently used to meet a variety of resource objectives. Some commenters contended that the use of prescribed fire is inappropriate for sage grouse habitat management. Others contended prescribed fire is the preferred tool to meet resource objectives.

Grassland management has the potential to affect native and desired non-native wildlife population viability. Some commenters contended that tree rows harbor sage grouse predators. Others contended that tree rows provide other values including wildlife habitat.

RESOLUTION

The Grassland Plan contains objectives to maintain the current percentage of acres in the higher canopy cover classes over the next decade. During this time, we will initiate monitoring and evaluation programs to better understand the relationships between vegetation community structure and wildlife habitat. Riparian areas will be corridor fenced or fenced into riparian pastures to speed improvement. This will improve wildlife habitat, particularly for breeding birds. Sagebrush management is designed to improve understory diversity and structural diversity of the overstory. Livestock utilization levels will be lower in areas important for sage grouse nesting habitat while heavier where needed to maintain plant vigor. The Plan calls for using established protocols for monitoring utilization, wildlife habitat features, effectiveness of treatments, and many other factors.

Social and Economic Factors

ISSUE

Economic and Social Values

Changes in Grassland management may have social and economic effects such as impacts on jobs, income, and county revenues. Most commenters felt that the cost of maintaining a level of head-months should be justified by the monetary benefits. The cost of bulbous bluegrass treatments should be justified by the monetary benefits.

Reserves/Preserves

Several commenters advocated managing a significant portion of the Curlew National Grassland as a "reference reserve" or a "fish, wildlife & plant preserve." Currently most of the Grassland is managed for a variety of uses including livestock grazing. A small portion of the Grassland is currently managed exclusively for wildlife (Sweeten Pond area & tree rows) and no livestock grazing is allowed.

Livestock Grazing

Some commenters contended that current livestock grazing utilization levels are adversely affecting the sustainability of plant communities, and watershed stability. Others contended that the current livestock grazing utilization levels (about 60 percent) is providing for sustainable plant communities and other resource values.

RESOLUTION

The Grassland Plan resolves the social and economic issues by maintaining livestock numbers at or near current levels while still providing for improvement in the vegetation resources by reducing actual utilization levels. Riparian areas will be corridor fenced or fenced into riparian pastures to speed improvement but still allow limited grazing. This will help maintain the economic stability of the area. Sweeten Pond will remain closed to livestock and be managed as a designated special wildlife area.