



Logan Canyon, Bear River Range

Cache Box Elder Management Area

Desired Future Conditions

Cache Box Elder Management Area Setting Description:

The Cache-Box Elder management area is located in the northeast mountain ranges of northern Utah. The management area covers three ecological subsections (Bailey, 1994), Bear River Highlands, Cache Front and Wellsville Mountains. The diverse character of the well-defined plateaus, wide valley floor, and sharply rising mountains is the consequence of a turbulent geologic history. The limestone walled canyons are a result of sediment left by a shallow tropical sea. Glaciated cirques and upland basins are the result of ancient glaciers. Faults and sinking valley blocks created the steep mountain slopes and the multi level lineal benches are the remnants of Lake Bonneville. The two mountain ranges included in this unit are the Bear River Mountains and the Wellsville Mountains, with elevations ranging from 5,000 to 10,000 feet.

The portion within the Bear River Highlands on the east has rolling uplands cut through by valleys. Mixed conifer stands (Engelmann spruce, subalpine fir, lodgepole pine, limber pine, and Douglas-fir) form a mosaic with aspen, maple, shrublands and grasslands. In many aspen stands the dark green conifers can be seen rising up through older, decadent aspen. Livestock can be seen grazing on

gentler slopes throughout the area. Fences and water developments are constructed to better distribute livestock for appropriate use of forage. The mostly unpaved road system forms a series of corridors along which recreation thrives, primarily on weekends. Visitors engage in activities including scenery viewing, camping, hunting and fishing, all terrain vehicle (ATV) riding, hiking and horseback riding. In the winter, deep snow packs blanket open flats and rolling hills, providing outstanding recreation opportunities, such as snowmobiling, skiing, snow shoeing and sledding. In the higher elevations, snow covered peaks and bowls with wind swept cornices provide a contrast to the gentle slopes and flat lands.

Canyons within the Cache Front are deep, with sheer limestone walls and cliffs. These canyons provide unique habitats for a number of endemic plants. Logan Canyon Scenic Byway (Highway 89) travels along the Logan River and Beaver Creek, dropping down into the Bear Lake Valley below, providing outstanding opportunities for scenery viewing. Recreation is a major feature in these canyons. Developed recreation facilities include campgrounds, summer homes, picnic areas and trails. Popular recreation activities in this unit include fishing and hunting, kayaking, picnicking, biking, rock climbing, hiking, snowmobiling, and ATV-riding, as well as scenery and wildlife viewing. North facing slopes in these canyons support mixed conifer-aspen stands at the higher elevations contrasted with maple and mountain brush at lower elevations. Oak occurs in the southern portion of the unit. Junipers dot the south and west facing, grass covered slopes. The contrast between these vegetation types is especially apparent in the fall as the aspen, maple and oak leaves change colors, creating a remarkable scenic attraction. Wilderness opportunities for solitude, challenge and primitive recreation are provided in the Mount Naomi Wilderness.

The Wellsville Mountains are at the northern end of the Wasatch Mountains, jutting out of the Cache and Great Salt Lake valley floors, creating a north-south wall between these valleys. On the east side, maple dominates the lower slopes and is interspersed with aspen at mid elevations. Conifers reach down from higher elevations along north-facing slopes of the steep, short side canyons, creating fingers of dark green. On the west facing side, steep, rocky slopes and extensive cliffs are prominent. The Wellsville Wilderness provides opportunities for solitude and challenge, with hiking and horseback riding being the dominant recreation uses.

This area of the Wasatch-Cache National Forest and Utah in general is rich in history and has a legacy of cultural resources that illustrates its past. The Logan Scenic Byway has always been a major travel corridor, for American Indians through the early European settlers of the valley to today's travelers as evidenced by many historic and prehistoric sites in the canyon. The traditional American Indian trail that leads from Fish Haven, ID to Brigham City area travels through a portion of the Wellsville Mountains. The craggy Wasatch Front mountains also contain several rock art panels and sites created by past American Indians.

The Cache Box Elder area witnessed the growth of the European settlement in the Cache Valley and the City of Logan. Logging sites are found throughout the area, most distinctly represented by Temple Fork Saw Mill. Logan's construction and development are represented by manganese mill sites in the canyons east of Logan. The Civilian Conservation Corps has left a rich legacy in Logan Canyon. The CCC presence is seen throughout the canyon, but especially in the stonework, most notable in Guinivah Campground and Amphitheater. Numerous Forest Service administrative buildings in this Management Area display the historic role and presence of the Forest Service.

Watershed Desired Future Conditions:

Watersheds will be properly functioning with adequate ground cover to prevent soil erosion, and provide infiltration and moisture holding for storage and release of water to streams and aquifers. Stream flows will remain natural with the exception of the three Logan River dams and the municipal water withdrawals. Spring sources and associated wetlands will be protected from excessive use and will be restored to proper functioning. Riparian areas will be properly functioning with deep-rooted vegetation or armoring along banks to allow for sediment filtering and erosion prevention. Riparian areas will be protected from overuse and trampling from livestock grazing and recreation uses. Spring sources will be fenced and provide water for livestock.

Designated access points will be provided to streamsides for recreation along popular creeks. Where dispersed recreation is heavy, or expected to become heavy, restore vegetation to trampled areas. Riparian and upland ground cover conditions in Saddle Creek, Left Hand Fork Blacksmith Fork, Temple Fork, and South Fork Little Bear River, Rock Creek areas will be improved through compliance with travel plan, rangeland health standards, watershed restoration activities, dispersed site rehabilitation work, use of prescribed fire, closing unneeded roads, and recreation use management.

Tony Grove Lake will be removed from the State of Utah 303(d) list by determining reasons for the exceedances of Utah dissolved oxygen water quality standards and implementing solutions to the problem if it is management related.

Biodiversity/Viability Desired Future Conditions:***Vegetation and Disturbance Processes***

Restoration and/or maintenance of a healthy and sustainable, broad scale, north-south wildlife corridor within this management area will be a priority in all management decisions. Vegetation will form a mosaic of habitat types, diverse in species composition and structure approximating historic patterns. Fire use will play a role in reducing fuels, and restoring and maintaining the dynamic of aspen and mountain brush regeneration, and the balance of age classes in these types. Vegetation treatments (including such things as fire use and timber harvest) will

be used to improve the ratio of aspen to conifer in the mix of vegetation across the landscape. In the spruce-fir forest, along the eastern portion of the management area, selective timber harvest will be used to approximate small-scale historic disturbances common in this type, such as spruce beetle infestations and small fires. Spruce beetle activity will remain at endemic levels.

Fire use, coordinated with livestock management, will also be used to restore a balance in sagebrush age classes and cover ratios to forbs and grasses, resulting in improved forage and plant composition for both domestic and wild grazing animals.

Remnant tall forb communities will be maintained and protected from levels of use that could cause negative changes in plant composition. Specific efforts will be made to find economically feasible approaches to restoration of tall forb communities where site potential still exists or can be recreated. Some altered sites, dominated by tarweed and where soil loss is apparent, will remain. Opportunities will be sought to apply economically feasible restoration techniques to these sites, as research develops.

In the Wellsville Mountains, some maple communities will be treated (i.e., with fire or cutting) to increase the component of younger age classes in this type.

Integrated pest management will be successfully employed to control priority noxious weed infestations. Minimum tools for pest management will be used in designated and recommended Wilderness. Habitats where rare plants exist will be emphasized. The extent of other weedy species will be reduced where efforts can be coordinated with noxious weed control.

Botanical Threatened, Endangered, and Sensitive Species Protection/Recovery

Rare plant habitats will be managed to maintain or restore and provide for recovery of populations of Threatened and current and proposed Sensitive plant species. Cliff, crevice, and ledge habitats will be protected and provide for the viability of a variety of cliff species along with a balance of recreational climbing opportunities. Recreational activities (rock climbing, hiking, biking, skiing) in Maguires Primrose and Frank Smith's Violet habitats, will be at a level that maintain individuals and habitat dynamics during key life stages including flowering and fruit production. Continued interactions with the local climbing community will provide for conservation of Logan Canyon endemics and recreational enjoyment. Reconstruction activities associated with Highway 89 will meet the requirements of the Bear River Endemics Conservation Agreement and provide for the viability of the Logan Canyon endemic species. Riparian plant habitats and rare riparian species will be protected from trampling and overuse by livestock grazing and recreational uses. Populations of non-native plant species will be reduced or eradicated in actual and potential rare plant habitat. Habitats will be maintained to promote pollinator success and survival

and to provide for nesting needs. Proper stocking levels and utilization intensities will maintain and protect rare plants and their associated habitat. Proactive efforts will educate and inform forest users of the fundamental importance of plant species to society, plant conservation, and biodiversity.

Protective measures will be provided for Maguires Primrose and Frank Smith's Violet populations in the lower portions of Logan Canyon. Wheeler's Angelica habitat will be improved through targeted noxious weed programs and riparian conservation. The US Forest Service requirements of the Maguires Primrose Recovery Plan and the Bear River Endemics Conservation Agreement with US Fish and Wildlife Service will be met.

Wildlife Habitat

Restoration and maintenance of a healthy and sustainable, broad scale, north-south wildlife corridor within this management area will be a priority in all management decisions.

Big game winter ranges (generally below 7,000 feet), located along the east, west, and southern forest boundaries will be maintained and enhanced. These will become more valuable and important as urban encroachment continues into previously undeveloped winter range. Sagebrush and other mountain brush age classes will be maintained in a higher proportion of older age classes than elsewhere to provide browse above snow. Big game winter ranges will be monitored in cooperation with the Utah Division of Wildlife Resources to ensure population management and prevent habitat deterioration. Big game winter ranges will be maintained and enhanced with the goal of holding big game on the Forest longer to help decrease impacts on private lands below.

Terrestrial Wildlife Threatened, Endangered, and Sensitive Species Protection/Recovery

TES species and other species of concern are covered in Forest-wide DFC's. TES species with suitable habitat or present within the unit include bald eagle, Canada lynx, wolverine, Townsend's (western) big-eared bat, boreal owl, flammulated owl, northern goshawk, peregrine falcon, northern three-toed woodpecker, and Bonneville cutthroat trout. Management activities will conform to objectives, standards and guides as identified in Conservation Strategies, Agreements, and/or Guidelines for protection of TES species.

Fish Habitat

Aquatic habitats will be managed to maintain cool, clear water and well-vegetated stream banks for cover and bank stability. Cool water temperatures will be preserved through well-vegetated banks. Instream flows and cover, in the form of deep pools and structures such as boulders and logs, will be maintained and their value recognized. Natural reproduction of fish will be aided through minimizing sediment input from roads, trails and campgrounds.

Amphibians and Invertebrates

Habitat

Marshy edges of ponds, lakes and springs will be protected to allow for the development of in-water and riparian vegetation. Soil around water bodies will not be compacted and will allow for burrowing and over wintering of amphibians.

Aquatic Threatened, Endangered, and Sensitive Species Protection/Recovery

Management priority will be given to the Bonneville cutthroat trout meta-populations in the Logan River and upper Blacksmith Fork. Isolated populations, such as in upper Saddle Creek, will be protected and their habitats enhanced. Springs will be protected and their value recognized. Additional water developments will be permitted to reduce or eliminate impacts of grazing. These developments will provide for existing amphibian habitat. Non-native fish in streams will be maintained through natural means. Stocking in the reservoirs above the dams of the Logan River will be considered a valid approach to meeting angler demands. Access trails along the front will be designed to minimize development in the riparian habitat conservation areas (300 feet on each side of the channel). User-created trails will be modified to eliminate or significantly reduce impacts to the stream and riparian vegetation. The values of instream flows for aquatic and semi-aquatic species will be recognized and protected.

Research Natural Areas and Special Interest Areas Desired Future Conditions:

Logan Canyon Special Interest Area (SIA) and Mollens Hollow Research Natural Area (RNA) will be maintained to ensure continuance of ongoing natural conditions and processes. It is desirable to maintain habitat for pollinators here and to continue carrying out the recovery plan for *Primula* species.

The scientific and educational values of the T.W. Daniel Experimental Forest in this management area will be recognized, and its purposes highlighted as a SIA.

Aspen communities in Franklin Basin, outside existing livestock allotments, will be maintained for potential establishment as a Research Natural Area.

Roadless Areas Desired Future Conditions:

There are 10 roadless areas in the Cache-Box Elder Management Area. They are Wellsville Mountains, Mount Naomi, Mount Logan (north, south, west), Right Hand Fork, Temple Peak, Mollens Hollow, Gibson, and Mahogany Range. Two of these, Mount Naomi and Wellsville Mountains are adjacent to existing Wilderness. Roadless values will be mostly maintained except in Boulder Mountain, Mollens Hollow, and some portions of Right Hand Fork and Mt. Naomi. Within these areas development including timber harvest and road construction will be allowed.

The Mount Naomi Roadless Area will remain mostly undeveloped, providing semi-primitive recreation opportunities, both non-motorized and motorized on designated routes in summer and motorized for about half of the area in winter. Return of fire to the area will improve diversity of vegetation age classes. Low impact improvements will be made to facilitate horse use of the area. Bonneville cutthroat habitat within the roadless area will remain in a healthy condition.

Wilderness and Recommended Wilderness Areas Desired Future Conditions:

The Wellsville Mountain and Mt. Naomi Wildernesses provide semi-primitive settings for small to moderate sized groups. Relatively light use patterns do not require a permit system. Boundaries will be surveyed and clearly marked at potential access points. Winter and summer motorized trespass in designated wilderness will be curtailed. Compliance with non-mechanized uses in Wilderness will be excellent.

Visitors to the Wellsville Mountain and Mt. Naomi Wilderness will be provided trailhead information on area opportunities to match their desire for finding a level of solitude and sense of challenge. Opportunity classes will be managed to provide different visitor density levels while still providing for a Wilderness experience. Human impacts will be largely unnoticeable other than on system trails and at campsites. Human impacts to streams and water bodies will be minimized. Campsites will be screened from high use trails to improve the visitor experience. Natural ecological processes will dominate the landscape.

Mt. Naomi Wilderness will provide opportunities for a balance of day and overnight use. This Wilderness will provide a greater sense of remoteness and solitude than the Wellsville Mountains. Water is available and many streams run year round. In contrast, the Wellsville Mountain Wilderness is largely a day use area. It provides a greater sense of physical challenge due to the steepness of the terrain and lack of water. Views from this area will often be dominated by the developed valleys below, reducing the sense of remoteness. Few level areas for campsites are available making separation of day vs. overnight uses and finding solitude more difficult. However, solitude will be available due to the lower density of visitors.

Roads/Trails/Access Desired Future Conditions:

Roads and trails will be designed and maintained to protect watersheds while providing a variety of recreation and access opportunities. Routes in need of improved drainage and /or alignment to minimize impacts to watersheds will be identified and incrementally repaired to achieve access with proper watershed functioning. Gravel sources for improvement and maintenance of forest roads will be evaluated and developed. Seasonal road closures will be used to protect the road surfaces when wet, to minimize impacts to wildlife, and/or to provide non-motorized hunting experiences. Roads and trails will be clearly marked to

inform visitors of allowed types of uses, and users will stay on designated routes. Compliance with the current travel plan will be excellent and users will assist with monitoring. Roads and travel ways not needed as part of the road system will be closed and restored to production of vegetation and protection of watersheds. Opportunities for motorized recreation will be provided through a series of roads and trails (mostly derived from existing routes) with varying degrees of difficulty, opportunities for viewing scenery, and access to attractions. Loops will be provided where possible.

Efforts will be made to obtain right-of-ways for public access to the National Forest. Existing right-of ways will be maintained. A priority for right-of-ways will be the linkages to community trails along the front.

The winter snowmobile route will be groomed under a Memorandum of Understanding (MOU) with the state of Utah, Parks and Recreation Department. In the Tilda Springs area there will be evaluated a loop ATV Trail designed to keep down effects to the north-south wildlife corridor while still providing for this opportunity.

Recreation Desired Future Conditions:

Recreation

A variety of recreation opportunities and settings will be provided. Management for recreation will be emphasized in developed areas and along popular travel routes, as identified in 4. management prescriptions. Opportunities for fall hunting and winter snowmobiling will continue to be popular activities. Recreation will be managed to ensure use is within acceptable limits for longterm watershed health and resource protection.

Newly constructed recreation facilities will emphasize day use. As recreation facilities are reconstructed and maintained, emphasis will be given to protect water quality and stream/riparian habitat. Access points to water will be identified and placed to provide for an enjoyable recreational experience. Some will be hardened to ensure properly functioning watershed conditions.

Developed

The majority of developed recreation facilities are in the Logan Canyon corridor. No new developed recreation expansion is anticipated there. Where use already exceeds allowable encroachment into riparian areas, restoration will be planned or completed. Any increase in developed recreation in this management area will be designed outside riparian areas and floodplains.

Dispersed

Dispersed recreation activities and areas will meet a wide variety of user preferences. Separation of some types of recreation uses will be used in reducing

conflicts. The headwater area of Curtis Creek and Sinks areas will be explored for accommodating increased dispersed recreation.

Opportunities for horse use will be enhanced in suitable areas, such as Franklin Basin, West Hodges, and Tony Grove Backcountry Trailhead. Motorized vehicles will stay on clearly marked, designated open, roads and trails. Opportunities for motorized loop systems for ATVs are evaluated, and trails and trailheads will be considered for development where suitable (e.g. Sinks area, Left Hand Fork, Elk Valley, and Tilda Springs).

Recreationists will keep vehicles and camping impacts within marked areas, outside of sensitive areas, to ensure watershed and other resource protection. The Franklin Basin, Curtis Ridge and Monte Cristo areas will be considered for enhancing horse camping opportunities. Adequate parking, loading, and other support facilities will need to be provided.

Recreation impacts will be monitored, users will be informed and assist with needed changes in management. Hardening of sites and use of barriers in and near riparian areas will be employed to reduce or prevent unacceptable impacts. Closure of some riparian areas to camping will be accomplished where that use could not be made compatible with standards for resource protection.

Some upland areas will be identified and hardened to accommodate increased dispersed recreation use (e.g. Sinks area and upper Curtis Creek). Some sensitive areas will be closed and rehabilitated. Investments in a variety of trail opportunities, hardened sites, or other amenities will make the new areas more attractive to users, while reducing impacts. Enforcement of the travel plan will be a priority to protect resources and inform users.

In the winter, parking for both motorized and non-motorized winter dispersed recreation use will be provided. Conflicts between these uses will be minimized through some separation of uses, clearly marked areas, user cooperation, and additional law enforcement. There will be some opportunities provided for non-motorized winter recreation in some locations outside Wilderness, in areas where motorized winter activities are not allowed.

Recreation Special Uses

Recreation special use permits will be administered to ensure permit compliance. Non-commercial recreation special use proposals will be dealt with in a timely manner. Commercial recreation special use proposals will be evaluated through a competitive process, after a bona fide public need is established.

Heritage Resources

Efforts will be made in this management area to identify and document sites representative of prehistoric American Indian habitation and early pioneer settlement in the 1800s. Several historical sites in the Cache Box Elder area are

well known and well documented. The public will be actively encouraged to visit these sites, including Ephraim's Grave, Tony Grove Guard Station, and the Temple Fork Saw Mill. Funding will be made available for historic guard station facility and site maintenance and to improve access and information availability.

Partnerships will be developed with local and state institutions for research potential, skill development, and interpretive aid. Partnerships with the Utah State University for high altitude archaeology and the Utah State University Department of Landscape Architecture for documenting and repairing/restoring the Civilian Conservation Corps structures and stonework in Logan Canyon Scenic Byway are two that will be pursued.

Partnerships will be developed with local and state institutions to preserve and keep historical documents, artifacts, photographs, and personal histories that are significant to the cultural heritage of the Forest unit. Partnerships include:

- Utah State Historical Society
- Utah State University "Special Collections"
- Jensen Historical Farm
- Hyrum City Museum
- Cache County Daughters of the Utah Pioneers Museum

Land Ownership Desired Future Conditions:

Desirable land ownership changes will be identified and pursued, dependent on opportunities. Blocking up ownership to eliminate isolated forest and private parcels will be a priority especially because of the intermingled landownership pattern. Public access will be acquired and/or maintained. Landlines adjacent to communities will be surveyed and posted, and encroachments will be eliminated.

Timber Management Desired Future Conditions:

Timber harvest and removal of forest products (e.g. thinning, firewood gathering) will be management tools used to help restore and maintain forested ecosystems to properly functioning conditions.

Rangeland/Livestock Grazing Desired Future Conditions:

Livestock grazing is a permitted use within active allotments. Grazing levels will be adjusted and managed with up-to-date Allotment Management Plans (AMPs). AMPs prescribing rest and deferred rotation grazing systems and riparian pastures will be in place. These systems will help to improve and maintain plant vigor and composition, aquatic health and terrestrial habitat. Conflicts with other uses will be minimized consistent with management direction for the area. Riparian and upland vegetation will be at or moving toward desired composition that meets multiple resource goals and is described under watershed and

biodiversity/viability desired future conditions. Management tools, including such things as fire use, mechanical treatments, herbicide treatments, and short duration/high intensity grazing, will be employed to improve range health and conditions. Springs and seeps will be protected from compaction. Structural improvements such as fences and water developments will be constructed or reconstructed and maintained, to improve animal distribution and control. Structural improvements that are not needed will be removed from the forest.

Grazing permit holders will move livestock as needed to meet management objectives for the ground using appropriate range management standards and guidelines as a tool. Ongoing ecosystem monitoring will be used to refine standards where objectives are not being met. Permit holders will share responsibility with the Forest Service for monitoring use, and will hold full responsibility for movement and control of livestock. Excess and unauthorized livestock use will be minimal. The number of term grazing permits will be reduced by the formation of grazing associations and the issuance of association permits instead of individual ones. The importance of permitted grazing on the national forest to local agricultural communities, maintenance of open space, and the western ranching lifestyle will be recognized.

Non Recreation Special Uses Desired Future Conditions:

Non-recreation special uses will be administered to ensure permit compliance. Special use proposals will be processed after a bona fide public need is established and consistent with management direction. Overhead lines will be converted to underground wherever possible. The use of Logan Peak, Logan Hill, Wellsville, Red Spur, and Mud Flat as designated communication sites will continue.

