

JAMES H. SMITH NORTH STAR OPEN SPACE

MANAGEMENT PLAN



THE CITY OF ASPEN

JAMES H. SMITH NORTH STAR OPEN SPACE INTERIM MANAGEMENT PLAN

AUGUST 8, 2001

1.0 INTRODUCTION

The acquisition of the 70+ acre James H. Smith North Star Open Space (“the Property”) is a highly significant conservation achievement for the upper valley. The Property links Pitkin County’s 174 acre North Star Nature Preserve with the 65 acre Aspen Center for Environmental Studies (ACES) parcel. Together, these conserved properties comprise a 309 acre expanse of preserved open space containing significant wetland and riparian ecological communities and wildlife habitat, only minutes from downtown Aspen. The North Star Nature Preserve and the Property offer opportunities for limited public recreational use, managed to minimize impacts to the ecological values of the properties.

This preliminary management plan reflects the significant ecological communities within the Property. The regulations and management guidelines put forth in this document are based on simple ecological assessments of the Property conducted by Stephen Ellsperman, Jonathan Lowsky, and Lisa Tasker in June 2001 as well as a familiarity with the ecological systems that occur in the area surrounding the property. This Plan highlights those areas that are ecologically important and consequently warrant conservation emphasis and identifies some potential threats to the persistence of the biological resources of the Property. This Management Plan is consistent with the management plan for the neighboring North Star Nature Preserve, and written to complement that plan. A fully developed resource management plan will be developed by City of Aspen and Pitkin County staff once the Property is transferred and biological inventories are completed according to the 2000 Pitkin County Open Space Biological Inventory and Monitoring Protocols. This interim plan will serve for the first three years or less of public ownership, until a full Resource Management Plan is developed.

2.0 RESOURCE MANAGEMENT OBJECTIVES AND PRIORITIES

- ◆ Perpetuate and restore the mosaic of high quality native plant communities.
- ◆ Maintain viable populations of all native fauna currently living on the property. Special emphasis will be focused on great blue herons, mountain toads, soras and other wading birds, and riparian obligate songbirds.
- ◆ Maintain and restore the hydrological regime of the property that supports its ecological communities.

- ◆ Promote environmental and ecological interpretive opportunities.
- ◆ Provide limited recreational opportunities that complement the ecological values of the open space.
- ◆ Control non-native and noxious weeds via a long-range integrated pest management approach and restoration of native plant communities.
- ◆ Create a seamless connection to the neighboring protected areas; Augment preservation achievements of neighboring North Star Nature Preserve and ACES property.

3.0 GENERAL DESCRIPTION OF PROPERTY

3.1 Acquisition

The James H. Smith North Star Open Space was acquired and is managed jointly by Pitkin County Open Space and Trails and the City of Aspen. The 70-acre Property abuts the 174-acre County-owned North Star Nature Preserve.

3.1.1 Pre-Existing Encumbrances

Right of Way Deed granted to Roaring Fork Water, Light and Power; December 4, 1933.

Agreement between James H. Smith and Robert Lewis water rights for the purpose of irrigating land bought from Smith, and associated costs; October 7, 1976

Agreement for Use of Water Rights between James H. Smith and The Nature Conservancy ; November 30th, 1977

Trails and Trails Facilities Easement Agreement for the East of Aspen Trail on the eastern portion of the property; September 26, 1996.

3.1.2 Water Rights

Two-thirds of a one-third interest in the U.S. Green Ditch No. 1, having a priority date of June 1, 1948, designated as Ditch No. 405 in Water district No. 38, as priority No. 579, adjudicated for a total of three cubic feet per second, subject to the Agreement for irrigation on the adjoining 2.1 acre property as recorded in Book 339 at Page 543.

3.2 Physical Characteristics

The Property was historically part of the larger agricultural parcel, North Star Ranch, which included North Star Nature Preserve and much of what is now the Preserve subdivision. Much of the property still possesses signs of an agricultural past (e.g., The hay fields, corrals, and gravel excavation areas). With the decline of agricultural use, distinct willow communities have developed on the property. The Roaring Fork River meanders north and east across the property in a serpentine pattern that has deposited numerous “beaches” lining the inside of

these bends in the river. The western part of the property includes slopes that form the toe of the Richmond Ridge.

3.2.1 Location

The property is approximately 2.5 miles south east of downtown Aspen on Colorado State Highway 82 (Township 10S Range 84W Section 20). The 70 acre property links the 174 acre North Star Nature Preserve with a 65-acre parcel held by the Aspen Center for Environmental Studies. These properties once comprised North Star Ranch, established by the Smith family in 1949.

3.2 Irrigation

All water rights will be maintained for wetlands and vegetation restoration purposes.

3.3 Land Use Considerations

3.3.1 Context of Properties

As stated above, the acquisition of the James H. Smith North Star Open Space is the missing element in efforts by Pitkin County and ACES to connect the North Star Nature Preserve and the ACES parcel. While the properties are owned and managed separately, together they protect over 300 acres of wildlife habitat and scenic open space along the Highway 82 corridor only minutes from downtown Aspen. Efforts to protect the parcels that once comprised historic North Star Ranch date back to the 1970s when James H. Smith sold 174 acres of his agricultural operation to The Nature Conservancy. TNC subsequently conveyed the Nature Preserve to Pitkin County. In 1999, Pitkin County pursued a lengthy and in-depth public process to create the North Star Resource Management Plan. Management decisions for the Property were made in the context of the permitted uses and regulations on this neighboring Nature Preserve.

3.3.2 Adjacent Land Use and Ownership

The North Star Nature Preserve borders the Property to the north. The White River National Forest (WRNF) lies to the west. Most of the southern border is shared with a 65 acre parcel owned by ACES. The southeast corner abuts the Robert Lewis residence (Figure 1). The Property is bordered by Pitkin County's East of Aspen Trail to the east, with Colorado State Highway 82 running parallel to the trail. Across the highway is a strip of residential parcels that border WRNF to the east.

3.3.3 Current Leases

Currently, there are no leases of any part of the property.

4.0 VEGETATIONAL RESOURCES

Some general comments can be made about the vegetation and the vegetation communities currently occurring on the east/southeast side of the property from "walk-throughs" and 2

willow canopy transects conducted in June 2001. One transect was subjectively placed in the thin willow band along the Roaring Fork on the eastern-most bend of the river to get a representative sample of the overstory composition. Another transect was subjectively placed in the willow/wetland area on the east/southeast side of the property and north of the river and across from the heron rookeries.

Five species of willows have been documented on the property to date. They include *Salix drummondiana* (Drummond's willow), *Salix monticola* (yellow or mountain willow), *Salix lasiandra* var. *caudata* (whiplash willow), *Salix geyeriana* (Geyer's willow), and *Salix bebbiana* (Bebb willow). Two more species are near by, *Salix exigua* (coyote or sandbar willow) and *Salix boothii* (Booth's willow) and may be found on the property with further assessments. Finding 5-7 species of willow represents an extraordinarily diverse assemblage of willow species for one riparian/wetland site of this size in Colorado.

The two sites sampled were chosen due to their potential ecological significance. It appears that Drummond's willow may be the dominant willow along the Roaring Fork River banks where willows are recolonizing after a history of grazing. Continuous grazing would have eliminated much of the willow stands, as did management practices of that era. However Whiplash willow cover was also very high along the river site transect and may prove to be a significant part of the existing willow bands riverside.

Within the willow/wetland site along the east side of the property, east of the river, Drummond's willow again had the highest percent-cover on the single, sampled transect. Further investigation, however, and more transects will need to be done to confirm this. Mountain willow was almost as prevalent as Drummond's along the sampled transect and may prove to be more dominant. The principal understory species appear to be *Carex* or sedges, indicative of a relatively consistent high water table.

Extensive fieldwork has been done in riparian and wetland plant communities in Colorado in conjunction with work in other western states that provides a wealth of insights into these plant assemblages. Subsequently these plant communities have been defined and ranked by the Colorado Natural Heritage Program (CNHP). The willow-dominated communities cannot be placed into CNHP's riparian plant community classifications with certainty yet, but the present data indicates they will most likely be placed into one of the following communities:

Willow/Wetland site, southeast side of property:

Salix drummondiana/*Carex utriculata* Shrubland
Drummond Willow/Beaked Sedge

Global/State Rank: GU/S3[†]

Salix monticola/*Carex utriculata* Shrubland
Mountain Willow/Beaked Sedge

Global/State Rank: G3/S3[†]

Willow band, east side of property, eastern most section of the Roaring Fork River:

Salix drummondiana-*Salix monticola*/ Mesic Forb Shrubland
Drummond Willow/Mesic Forb

Global/State Rank: G4/S4[†]

It is important to note, however, that the Drummond Willow/Mesic Forb community appears to occur only along this section of the Roaring Fork within the North Star Nature Preserve and the Property and perhaps a relatively short distance upstream until you get out of the flat, open, flood-plain areas where other species will dominate. Therefore this community is significant within the Roaring Fork watershed. The willow/sedge communities on the S/SE section of the Property are exemplary, ecologically significant areas. Being considered both rare and threatened in Colorado, these occurrences are in excellent shape and worthy of the utmost protection and stewardship. Further inspection west of the river may yield equal discoveries from a plant community perspective.

Other Comments regarding vegetation:

The claim can be made that the two most important forces driving plant species to rarity and extinction and then their animal-dependent counterparts are (P. Stedman-Edwards, 1997):

1. The conversion of land for human purposes; and
2. The accidental or intentional introductions of alien, non-indigenous or non-native, and invasive species.

With this in mind, the Property has elements of both of these land changes, but for the most part the wetland and riparian plant communities are highly significant, with excellent examples of both state and globally ranked plant associations that are in exemplary shape. The willow/wetland site, described above, is an especially exemplary example of whichever plant community it represents, either Drummond Willow/ Beaked Sedge or Yellow Willow/ Beaked Sedge.

[†] Global rank is based on the range-wide status of the species and state rank is based on the status within Colorado. Globally, a **G3** means the association is very rare or local throughout its range or found locally in a restricted range (21 to 100 occurrences). Overall, G3 means the association is threatened throughout its range. **GU** indicates the inability to assign a global rank due to a lack of available information. **S3** indicates the association is rare in the state with few occurrences documented. It also implies the association is threatened by recreational use, inappropriate stream flow alterations, and/or improper livestock grazing. **G4** means the association is apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery. **S4** indicates the association is "...apparently secure in the state with more than 100 occurrences" (CNHP 1999).

SPECIES OF NOTE ON THE EAST OF THE PROPERTY AND ROARING FORK RIVER:

Northern Green Bog Orchid, *Linnorchis hyporborea*:

Found in the willow/wetland site just south of the driveway and south/southeast along the river. Orchids are not common on the western landscape as wetland and riparian areas are only a small portion of the arid mountain west (around 2%). Therefore finding orchids is always interesting and indicative of a site typically in good to excellent condition. The Northern Green Bog Orchid is fairly circumboreal in its range, but within the Roaring Fork Valley it is found only in wetland sites that are not degraded or altered and only then is it occasionally seen.

Bog or Swamp Wintergreen, *Pyrola rotundifolia* L. subsp. *asarifolia*

This has escaped extirpation on the property during grazing because individuals growing directly underneath just a few willows acquired refuge. This is not a common find and a few scattered plants also occur within the willow/wetland described above and were probably more extensive on the property before grazing, as were many species. It is interesting to note that Bog Wintergreen is typically considered to be a subalpine species and very vulnerable to disturbance (unless it's under a willow!).

Purple Avens, *Geum rivale*:

Found between the Narrowleaf Cottonwood/Common Chokecherry community, on the southeast corner of the property and in the willow/wetland site described above. This forb will be a new herbarium record for Pitkin County at the largest herbarium in the Rocky Mountain west, the University of Colorado Herbarium in Boulder. The property supports a very large population of these beautiful and botanically interesting species also more typically found at subalpine sites when such an unusual find is discovered.

Management Action Steps: VEGETATION

The guiding principal of all management actions should be to minimize any impacts that may reduce the abilities of the riparian, wetland and upland areas to support existing native plants and native plant associations. Activities on the eastern portion of the property should be exercised in a manner compatible with this overall guiding principal. Overall management actions should attempt to maintain or enhance existing native plant communities and improve the quality of wildlife habitat on the property.

Management Action Objectives for Vegetation on the Riparian, Wetland and Upland sites:

- ◆ Maintain or increase the number of native plant species.
- ◆ Maintain or increase the existing number of uncommon native plant species.
- ◆ Maintain or increase the existing number of occurrences of uncommon plant species.
- ◆ Reduce the abundance of invasive and noxious non-native species present.
- ◆ Prevent the establishment of and spread of invasive and noxious non-native species that have not been previously encountered.
- ◆ Maintain or increase the existing number and types of plant associations dominated by native plants.
- ◆ Maintain or increase the vegetation quality for each plant association or for any associations identified in the future.
- ◆ Maintain or increase the aerial extent of the existing native shrublands.
- ◆ Maintain or increase the aerial extent of the existing riparian areas.
- ◆ Maintain or increase the aerial extent of the existing wetland areas.

5.0 SIGNIFICANT WILDLIFE RESOURCES

Ecological studies and inventories conducted at North Star Ranch over the years have revealed that the existing ecological complex supports a high level of biological diversity: 14 species of small mammals (e.g., mice, voles, shrews, squirrels); at least 107 species of birds, more than 43 of which are likely to breed on or around the property (including at least 4 U.S. Forest Service Region 2 Designated “Sensitive” species); 13 medium to large mammals (e.g., elk, coyote, black bear, bobcat); 3 species of amphibian (including the mountain [or boreal] toad which is a “warranted but precluded” Candidate species under the U.S. Endangered Species Act); and one reptile species (western terrestrial garter snake).

There is some history of elk calving in the aspen of the alluvial fans (approximately May 15th to June 15th) on the Property. Historically, as many as 50 elk cows calved in the aspen on the alluvial fans of the greater North Star Ranch. Currently, only a handful is doing so. Although it is difficult to determine the cause of this decline, it is likely that human and dog activity has contributed. In addition, elk use the Property as a staging area during migration (spring and fall) as they move between summer and winter ranges.

Of particular conservation interest is the Great Blue Heron colony on the Property. It is estimated that there are approximately 63 Great Blue Heron colonies in the entire state of Colorado and the Smith colony is thought to be the only one occurring over 8500 feet in elevation and in blue spruce trees (most occur in cottonwoods). In other words this Great Blue Heron colony is quite unique and ecologically significant. The presence of this colony has important management implications. Researchers over the last 10 years have found that a 200 meter buffer zone from the periphery of colonies in which no human activity takes place during the courtship and nesting seasons is necessary to avoid negative effects on recruitment. Currently, there are seven active nests with as many as three nestlings. This buffer zone will be honored in the management of the Property.

On two occasions, an adult mountain (or boreal) toad was seen in the area in June – once on North Star Nature Preserve (1999) and once on the Property itself (2001). If, and it appears likely, mountain toads are federally listed as Endangered or Threatened, then we will be bound by law to increase the protective status of the Property. Surveys will be conducted in 2001 and 2002 for breeding toads, non-breeding toads, tadpoles, and egg masses.

5.1 Recreation and Wildlife

Open space land use by recreationists has increased throughout the United States. As open space use rises and penetrates natural areas, encounters between humans and wildlife increases. There is concern among scientists and the public that recreationists may have a negative impact on wildlife. Recreationists can affect wildlife through unintentional disturbance, the primary way recreationists affect wildlife, or intentional disturbance (Knight and Cole 1995). Due to the escalating use of open space unintentional disturbance has become particularly impactful.

Understanding the impacts and responses of wildlife to recreationists can provide open space managers with the information to develop mitigation measures such as codes of conduct. The behavior of recreationists affects wildlife responses. Predictability of a behavior partly

determines wildlife response. If the disturbance is predictable and non-threatening there is little overt response, but if the disturbance is predictable and threatening there is a strong response (Knight and Knight 1984). Practical considerations such as trail placement, user education and regulations, and informational materials at trails could be effective mitigation strategies.

5.2 Management Action Steps: Wildlife

1. The management of approved recreational activities will depend on the results of the biological inventory and monitoring of the property as well as yearly assessments of the impacts of recreational activities on the ecological resources identified by the inventories and monitoring activities.
2. The habitat management of the property will focus on maintaining and enhancing the habitats of sensitive species, habitat interior species, species of special or cultural concern, and declining or rare species. These species include, but are not limited to, the following: elk, great blue heron, sora, and Virginia rail.
3. A 200 meter buffer area around the heron colony will be established from March 1 through July 31 (Vos et al. 1985). During this period observation of the herons will be provided at a viewing stand with a fixed spotting scope. Interpretive signage will explain the conservation significance of the heron colony and about their natural history.
4. Monitor birds and small mammals via the Pitkin County Open Space Wildlife Inventory and Monitoring protocol.
5. Monitor effects of human and wildlife impacts and effects of management actions on the wildlife of the Property according to the Pitkin County Open Space Wildlife Inventory and Monitoring protocol.
6. Identify and map critical wildlife habitats.
7. Maintain and enhance the flood and subsurface hydrologic regime that supports the natural communities found on the property.
8. Evaluate the fluvial geomorphology of the Roaring Fork River for restoration potential.
9. Adapt management methods and objectives based upon the results of monitoring.
10. Maintain the connectedness of Property with adjacent, undeveloped lands.

6.0 VISITOR SERVICES

6.1 Recreation Potential

The primary purpose for the acquisition of the Property is to protect the land and the ecological communities that depend on it for their continued existence. Consequently, it is the intent of the City of Aspen and Pitkin County Open Space to allow access only to those areas where the risk of interrupting ecological processes will be minimal. Access to the property will be from the East of Aspen Trail through the main gate where interpretive signage will enlighten the visitor to the history and significance of the Property.

While preservation of important wildlife habitat, including the great blue heron rookery, and protection of scenic open space is the primary objective of this project, the acquisition of the The Property provides opportunities for managed public use of the Property. Recreational uses

that are compatible with the ecological goals of the preservation effort include hiking on designated trails, bird and wildlife watching, boating along the Roaring Fork, and non-maintained nordic and snowshoe use in the wintertime. These uses, within the parameters outlined in this Plan, and the restrictions to uses set forth in this Plan, are also consistent with the North Star Nature Preserve Resource Management Plan.

6.1.1 Trail System Considerations

At the time of acquisition, the Property hosts a two-track road leading from the highway to the barn (which shall be removed within one year of the acquisition); spur trails to the north and south of this main road, leading to the river, and; remnants of a trail that is in decline to the west of the river. This Plan will restrict use of these trails in a manner which protects the ecological values of the Property. Specifically, any recreational use of the western portion of the property is prohibited. Similarly, the southern spur trail will be eliminated from its current junction with the main trail to create a buffer zone for the heron nests. The main trail will be modified to a four foot single tread and rerouted to allow for a buffer zone for the herons. The fire pit near the barn site will be removed and the facilities in that area will be minimized. This Plan proposes creating an interpretive loop trail off the main trail, as an added public amenity. (Please see Figure 1.)

Access for nordic use of the property will only be permitted through the designated entrance from Highway 82, and prohibited from the North Star Nature Preserve, in order to protect wetlands areas. Winter use of the property will be along a designated trail only and will be non-maintained. No motorized equipment can be used to set nordic tracks.

6.1.2 Aquatic Uses

This Property offers a stretch of river well suited for beginning boaters. Currently, kayakers and canoers enjoy the Property from the river as they pass through on their way from the put-in at Wildwood Lane (near the Wildwood School) to one of the take-outs at North Star. The main entrance to the Property lies within 0.56 miles of the canoe/kayak/raft put-in on USFS property off of Wildwood Lane and 0.34 miles from the south put-in/take-out at North Star. There are two gravel beaches where boaters can beach and access a designated trail to experience the Property (Figure 1). The other gravel beaches are in close proximity to the heron colony or are on the west bank of the river are not open to access by boats.

6.2 Education Potential

The Property offers an excellent opportunity to provide the public with ecological educational resources. Opportunities to explore for this property include interpretive signage along the loop trail and observation of the great blue heron rookery.

6.3 Fencing

Fencing along the East Aspen Trail and between the North Star Nature Preserve and the Property will remain, but be modified as necessary to be wildlife compatible. All other fencing shall be removed. There will be signage prohibiting access from the Preserve to the Property.

6.4 Trails and Management Action Steps:

1. A small, primitive loop trail in the oxbow east of the one containing the barn will be constructed for interpretive opportunities and to allow access to the riverbank when the heron buffer is in effect (Figure 1).
2. No other trails will be constructed on the Property unless there is a specific ecological justification, and are approved by the Management Committee as described in subsection 8.
3. The only trails that will be maintained on the Property are the main 2-track trail from the entrance gate to the barn and the loop trail (Figure 1).
 - a. The main 2-track trail will be reduced in width to a 4 foot wide dirt trail and will be shifted to the north where it approaches the barn to accommodate the heron buffer (Figure 2).
4. Any portion of the trail may be shifted with approval of the Management Committee, as described in subsection 8, for management purposes.
5. Nordic access from North Star Nature Preserve is permitted along the East of Aspen Trail to a loop on the east side of the Property.
 - a. No motorized maintenance of nordic access is allowed.
6. Water rights will be maintained for wetlands and vegetation restoration purposes. This is a beneficial use and should be sufficient to retain existing rights.
7. Resource management plans for the Property will be adopted by ordinance. This plan will be reviewed within 3 years.
 - a. Any revision of this Management Plan shall be approved by a Management Committee which meets annually and is comprised of the Pitkin County Open Space Director, the Chair of the Pitkin County Open Space and Trails Board, the Aspen City Parks Director, a member of the Aspen City Council or their designee, and Joy Smith, or her designee. Decisions of the Management Committee shall be made by a simple majority.

7.0 REGULATIONS

The regulations governing the management, maintenance, and utilization of Pitkin County Open Space and Trails properties are set forth in Title IX of The Pitkin County Code (Ord. 01- 04), and apply to the James H. Smith North Star Open Space. The following additional regulations and management actions will assure that visitors to the Property can enjoy an unsullied appreciation of natural communities without interfering with the processes that maintain them:

1. There shall be no visitor access to the west side of the river.
2. Motorized use is allowed for management, maintenance, and research purposes only.
3. There shall be no equestrian use.
4. Dogs are allowed only on the East of Aspen Trail.
5. There shall be no commercial use of the Property.
6. Time and location of public access will be limited to protect the heron colony, elk calving, and other sensitive wildlife activities.
7. A 200 meter buffer around the perimeter of the existing and any future heron colonies will be established from March 1 through July 30th.

- a. Where it intersects trails the buffer will be demarcated with a simple loop post and rope barrier and interpretive signage explaining the ecological purpose of the buffer.
8. Putting-in and taking out canoes, kayaks, or rafts will be prohibited on the Property.
 - a. Beaching canoes and kayaks will be allowed on 2 designated beaches east of the river on the Property (Figure 1)



Figure 1. James H. Smith North Star Open Space

Literature Cited

- Knight, R. L., and D. N. Cole. 1995. Wildlife Responses to recreationists. Pages xvii, 372 *in* R. L. Knight and K. J. Gutzwiller, editors. *Wildlife and recreationists: coexistence through management and research*. Island Press, Washington, D.C.
- Knight, R. L., and S. K. Knight. 1984. Responses of wintering bald eagles to boating activity. *Journal of Wildlife Management* 48:999-1004.
- Colorado Natural Heritage Program (CNHP). 1999. Biological and Conservation Data (BCD) System. Data from field survey. Colorado Natural Heritage Program, Colorado State University, Fort Collins, CO.
- Stedman-Edwards, P. 1997. *The Root Causes of Biodiversity Loss: An Analytical Approach*. (Washington, DC: World Wildlife Fund).
-