

# **REFERENCE AREAS**

## **Ecological Gold Standards for Dixie, Fishlake, and Manti-La Sal National Forests**



Proposed Reference Area: Sagebrush community, wet riparian meadow, and multi-age aspen, at confluence of L. Fork Huntington Creek and Staker Canyons (Manti-La Sal NF)

**A Report and Proposal  
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Grand Canyon Trust is grateful to Beagle Foundation and Wilburforce Foundation for encouragement and support of the effort to achieve identification and use of reference areas on our shared national public lands.

## I. A Reference Area

A *reference area* is a Forest “gold standard”: the best, most intact, least impacted example (ideally 200-1,000 acres) of a vegetation and wildlife habitat that is at least moderately widespread elsewhere on the Forest, but often in an unacceptably degraded condition.

“Least impacted” is defined as free of livestock grazing for at least the past 10 years; roadless (including no ORVs); no major water diversions or other developments. Necessary ecological forest treatments and noxious weed control allowed; wildland fire suppression avoided as possible.



Miniature prototype of a reference area: permanent fenced plot (Dixie NF)

## II. History of Three Forests Reference Areas Proposal

- 2004 Three Forests Coalition proposes the identification and use of reference areas in the Sustainable Multiple Use Alternative for all three forest plans, and discusses the proposal individually with each Forest Supervisor and the Regional Forester.
- Grand Canyon Trust meets with Bob Thompson (M-LS) and Mark Loewen (Dixie and Fishlake) for their suggestions on reference-condition sites.
- 2005- present The Three Forests Coalition includes its proposal for reference areas in nearly every Environmental Assessment and Environmental Impact Statement for forest projects. It has never been included in the Forest's preferred alternative.
- As each new supervisor and Regional Forester arrives, Three Forests Coalition again presents the proposal.
- 2007 Three Forests Coalition meets with Fishlake staff for additional suggestions of potential reference areas.
- 2007-2008 Trust staff visits and describes potential reference areas. Areas visited are examined for general physical and vegetative condition; photographed; and rated as
- (1) suitable as a reference area ("YES");
  - (2) suitable as a reference area if minor management changes are afforded the area ("YES, IF...");
  - (3) not suitable as a reference area ("NO").

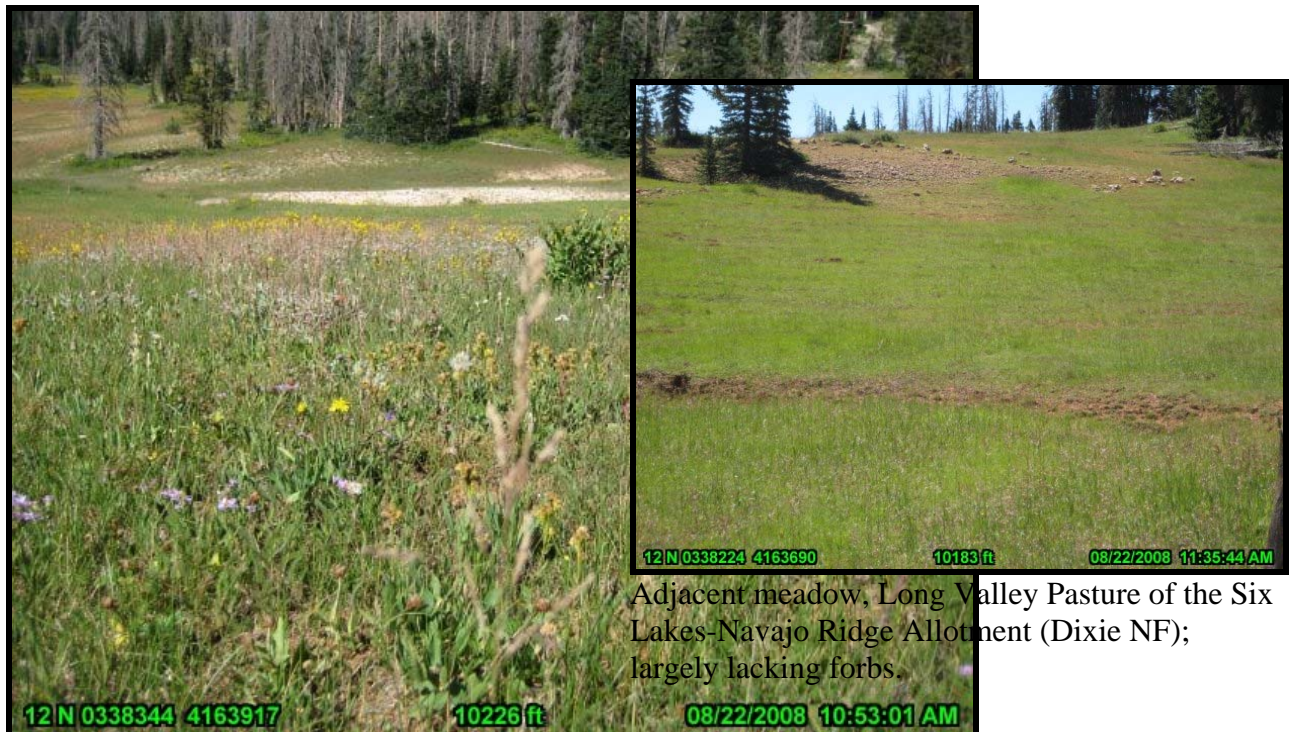


Proposed ponderosa pine reference area in Cedar Breaks NP.

### III. Justification for Reference Areas

**The Purpose of Reference Areas** is to understand the effects of management and forest user activities on the forests.

- **Fundamental to science**  
We can't understand or predict effects of an activity or treatment if we don't have a no-activity or no-treatment control.
- **Fundamental to management**  
We can't understand or predict the effects of forest activities if we don't examine conditions on the forest absent those activities.



Adjacent meadow, Long Valley Pasture of the Six Lakes-Navajo Ridge Allotment (Dixie NF); largely lacking forbs.

Meadow, SE corner of Cedar Breaks NM

### IV. Beneficial Uses of Reference Areas

1. Compare with similar habitats subject to various forest uses and activities.
2. Inform restoration goals.
3. Separate drought or climate change impacts from impacts of forest uses and management activities. Track recovery of native vegetation/wildlife with and without activities present.
4. Better understand plant and wildlife interactions with and without activities present.
5. Provide for collaborative, visual understanding of current and potential conditions on the forest.

## V. Reference Areas Are Necessary, But Not Sufficient

1. **Not Pristine.** All Forest sites have been and are being variously impacted directly and indirectly by human uses and activities. Reference areas represent changes, recovery, and perhaps continued simplification/degradation in the absence of most of the activities and uses that currently impact the forests.
2. **Do Not Provide Simple Goals.** Some impacted sites can never recover the diversity or complexity of some of the reference areas. Nevertheless, reference areas can inform recovery and restoration goals.
3. **Are Not Always One-to-One Comparators.** The variation among sagebrush communities, riparian areas, meadows, springs, and beaver and other habitats precludes use of one reference area for all variations of that habitat. Nevertheless, some features may be broadly common or informative. Moreover, additional reference areas can be added for finer comparisons, as such sites are needed and identified.



Gold Knob subalpine vegetation (Manti-La Sal NF), at 11,000' is generally not useful as a meadow reference area for a low-elevation meadow.

## VI. Proposal for Reference Areas in Dixie, Fishlake, and Manti-La Sal NFs

- Commit to acknowledgment and maintenance of a reasonable number of reference areas, a lack of impacting activities in examples of seven key, vulnerable habitats on Dixie, Fishlake, and Manti-La Sal NFs.
  - **Riparian areas** - highest known biodiversity habitat
  - **Aspen** - second highest known biodiversity habitat
  - **Beaver-occupied streams** - premier hydrological engineering
  - **Springs** - water sources, endemic fauna and flora
  - **Ponderosa pine communities** - a focus of restoration
  - **Sagebrush communities** - disappearing habitat
  - **Meadows** - including tall forb meadows
- Collaboratively select and characterize reference areas with Grand Canyon Trust and other interested parties in the.
- Encourage field staff to visit the reference areas in order to estimate consequences of proposed or past impacting activities on comparable habitat types.
- Consider and use accurate information gathered during research and other assessments on the reference areas and comparable habitat types.
- Continue to add reference areas as needed to more precisely match comparable habitat types.



Proposed Beaver Reference Area: Tasha Creek (Fishlake NF)

PROPOSED REFERENCE AREAS			
Habitat Type	Name	Forest	Ranger District
<b>Aspen</b>	North Canyon	Manti-La Sal	Monticello
	Shuman Gulch/Gold Knob	Manti-La Sal	Moab
	Washburn	Fishlake	Richfield
<b>Beaver</b>	Lake Canyon	Manti-La Sal	Price
	North Creek	Dixie	Escalante
	Tasha Creek	Fishlake	Fremont
<b>Meadow</b>	Brigg's Camp Creek (private)	Fishlake	Beaver
	Cedar Breaks	<i>Cedar Breaks National Monument</i>	
	Gold Knob	Manti-La Sal	Moab
	Ridgeline Meadow	Fishlake	Beaver
<b>Ponderosa</b>	Black Canyon	Manti-La Sal	Ferron
	Bryce Canyon	<i>Bryce Canyon National Park</i>	
	Seaman Canyon	Dixie	Cedar City
<b>Riparian</b>	Lower Box Canyon	Fishlake	Richfield
<b>Sagebrush</b>	Bryce Canyon	<i>Bryce Canyon National Park</i>	Bryce Canyon
	Cottonwood Canyon	Fishlake	Cottonwood Canyon
	Gold Gulch	Fishlake	Gold Gulch
<b>Spring</b>	Hugh Blackburn (private)	Fishlake	Beaver
	Nazer Draw (private)	Dixie	Escalante



Proposed spring reference area: Nazer Draw, private land below Dixie National Forest



PROPOSED REFERENCE AREAS . . . IF MANAGEMENT CHANGES				
Habitat	Name	Forest	Ranger District	Management Change(s)
<b>Aspen</b>	Mt Spring Fork	Dixie	Powell	Omit cattle usage among aspen to insure multi-tier stand
	Staker Canyon	Manti-La Sal	Price	Omit the occasional year of sheep grazing
<b>Beaver</b>	Antimony	Dixie	Escalante	Omit cattle usage of riparian and wetland complex; allow for beaver return
	Scad Canyon	Manti-La Sal	Price	Allow for beaver return to what was once an extensive beaver complex; omit sheep use of riparian area and erodible slopes above
	Seeley Canyon	Manti-La Sal	Price	Omit cattle usage of riparian willow; allow for beaver return
	Staker Canyon	Manti-La Sal	Price	Reintroduce beaver
	Three Creeks	Fishlake	Beaver	Omit the already-uncommon cattle usage of Britts Meadow. Re-route the ORV trail that is immediately adjacent to Three Creeks below the Reservoir
	West Fork Hunt Creek	Dixie	Powell	Reintroduce beaver. Remove cattle usage in wetland and riparian complex.
<b>Sagebrush</b>	Staker Canyon	Manti-La Sal	Price	Omit the occasional year of sheep grazing
<b>Spring</b>	Red Canyon	Fishlake	Fremont	Protect the spring from incidental hiker impacts
	Tasha Spring	Fishlake	Fremont	Omit sheep grazing in spring (Tasha Creek headwaters) and surrounding wet meadow



Three Creeks has an active beaver colony, but the adjacent ORV route sheds sediment into the creek and blocks expansion of riparian willows.

EXAMPLES OF SITES VISITED, BUT FOUND UNSUITABLE AS REFERENCE AREAS <sup>1</sup>				
Habitat	Name	Forest	Ranger District	Reason(s) Unsuitable as Reference Area
<b>Aspen</b>	Barker Reservoir Road	Dixie	Escalante	A multi-tier aspen stand, but some ramets repeatedly browsed; both cattle and elk use
	Birch Creek	Fishlake	Richfield	Small aspen area; little understory in unburned aspen; cattle use; ORV use
	Oak Creek Exclosure	Dixie	Escalante	Small size; heavy elk pressure as exclosure is surrounded by heavily cattle-grazed vegetation; little recruitment
	Splatter Canyon Fire	Fishlake	Richfield	Mostly single-tier; heavily browsed by elk, cattle, deer; dispersed camping and ORV impacts in area
<b>Riparian</b>	Clear Creek	<i>Fremont Indian State Park</i>		Current Clear Creek course constrained by I-70; dominants include exotics; meanders lined with stone rip-rap; trespass cattle; sheep are trailed through Park
<b>Beaver</b>	Caddy/Butler Creek	Dixie	Pine Valley	Beaver not active; less than 1 cfs in creek, it is completely dry in one section; no aspen regeneration, ramets, heavily browsed
	Upper Kanab Creek	Dixie	Powell	Though a 400' old beaver dam, currently all willow have been browsed to 1'. No aspen recruitment; single- or two-tier aspen stands
	Black Canyon	Manti-La Sal	Ferron	Diverse willow recruitment, but channel incised more than 12'; no riparian meadows
	Lowry Water Canyon	Manti-La Sal	Ferron	Old beaver dams present and willow seedlings on point bars, but no recent beaver activity; aspens beneath powerline sprayed with herbicide; directly below developed campground; not much willow or aspen
<b>Meadow</b>	Horse Pasture Canyon	Manti-La Sal	Monticello	Until recently the wet meadow had not been grazed, but now horses have been grazing the meadow. Headcutting is coming up from Dark Canyon; cheatgrass and Kentucky bluegrass present.

<sup>1</sup> Additional sites were visited and rejected, but reports were not prepared

**APPENDICES TO BE COMPLETED BY JANUARY 28, 2009**

**A: Reference reports: YES and YES, IF**

**B: Reference reports: NO**