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Decision Memo : Pando Aspen Clone Restoration Project

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Decision Memo
Pando Aspen Clone Restoration Project
USDA Forest Service
Fishlake National Forest
Fremont River Ranger District
Sevier County, Utah

BACKGROUND

The Pando Clone is located in Township 26 South, Range 1 East, Sections 24 and 25 about 1 mile southwest of the Lakeside Resort on State Highway 25 and about 1 mile due east of Mallard Bay at the southwest corner of Fish Lake (see map). The Pando Clone is the largest aspen clone in the world and the largest (most massive) single living organism in existence that has been discovered to date (Grant, 1993; DeWoody et al, 2008). It encompasses approximately 106 acres and is estimated to weigh in excess of 13 million pounds (Grant, 1993). This clone is internationally renowned and is known by many in North America and throughout the world. In 2006 the U.S. Postal Service honored the Pando Clone as one of the "40 Wonders of America" with a stamp in its commemoration (Deseret New, October 7, 2010).

PURPOSE AND NEED

Mature trees in this clone are dying due to insects and disease. Young stems are not regenerating due to herbivory, recreation use, and other factors. Additionally, the clone contains no mid-story trees (5 to 15 feet tall). With no young trees to replace the old dying ones, the clone is no longer sustainable in its current condition and without management action is in danger of dying off completely or becoming sharply reduced in size.

Past treatments have included clearcutting three different areas totaling about 15 acres. The first two treatments occurred in 1987 and 1988. The third area was treated in 1992 with a fence built around it in 1993. Of these three areas, only the one that is protected by a fence is showing healthy regeneration. The first two areas have experienced poor shoot regeneration due to herbivory.

The Pando Clone has a root density of just over 400 stems per acre, or a total of around 43,000 stems within its 106 acre area (Discover, 1993; Western North American Naturalist, 2008). Outside of the treated area, the clone has less than 5 stems per acre that are less than 5 feet tall. In order for regeneration to be successful without herbivory, researchers indicate that a few hundred to a few thousand suckers per acre are needed. Desired condition would be to have 2,000-5,000 stems per acre at six feet height over 70% of the area. Another critical monitoring point would be to have at least 1,000-1,500 stems per acre when they are 10-15 feet tall and 1.5 inches diameter at breast height. Desired condition in the Land &Resource Management Plan states that the Forest will "manage seral aspen stands for a diversity of age classes" (page IV-12) and to "improve timber age-class distribution" and to "integrate aspen management into the timber management program to perpetuate the species and improve aspen quality" (LRMP page IV-4).

In addition, interested stake holders suggest that this organism will provide valuable opportunities to study important biological processes such as clonal growth, somatic mutation, and scenescence (DeWoody, et al, 2008).

The following table summarizes the existing and desired conditions for the Pando Clone:

Existing Conditions	Desired Conditions
Less Than 400 Suckers/Acre*	Greater Than 1,000 Suckers/Acre**
Few Stems/Acre 5-15 feet tall*	2,000-5,000 Stems/Acre 5-15 feet tall**
Age-Class Distribution Lacking	Diverse Age-Class Distribution Present

* Outside of fenced area

**Within protected area and after treatments

DECISION

It is my decision to implement the proposed action, which includes the following, three phases:

1. Construct an 8-10 foot high fence around approximately 67 acres of the Pando aspen clone to prevent herbivory from ungulates. This will include two separate fenced areas, one on the northwest side of highway 25 and one on the southeast side (see map). Construction of the fence southeast of highway 25 will be completed first.

   All fencing will be constructed to prevent large herbivorous animals from going under or over the fence. Trees having the potential to fall on the fence will be cleared prior to fence construction. Areas to be excluded from fencing within the clone include the Doctor Creek Campground and the recreation residences. The non-motorized trail that presently goes through the project area southwest of the campground will be rerouted outside of the fenced area to the east and will lie parallel to the fence (see map). The fence will be maintained and kept functional in years subsequent to its construction. The dispersed camping area to the southeast of highway 25 on forest road 1483 will be closed. Access to the communication site from Forest Roads 1483 and 2604 (southwest of the project area) will remain open. Access to the sewer lagoons will also remain open.

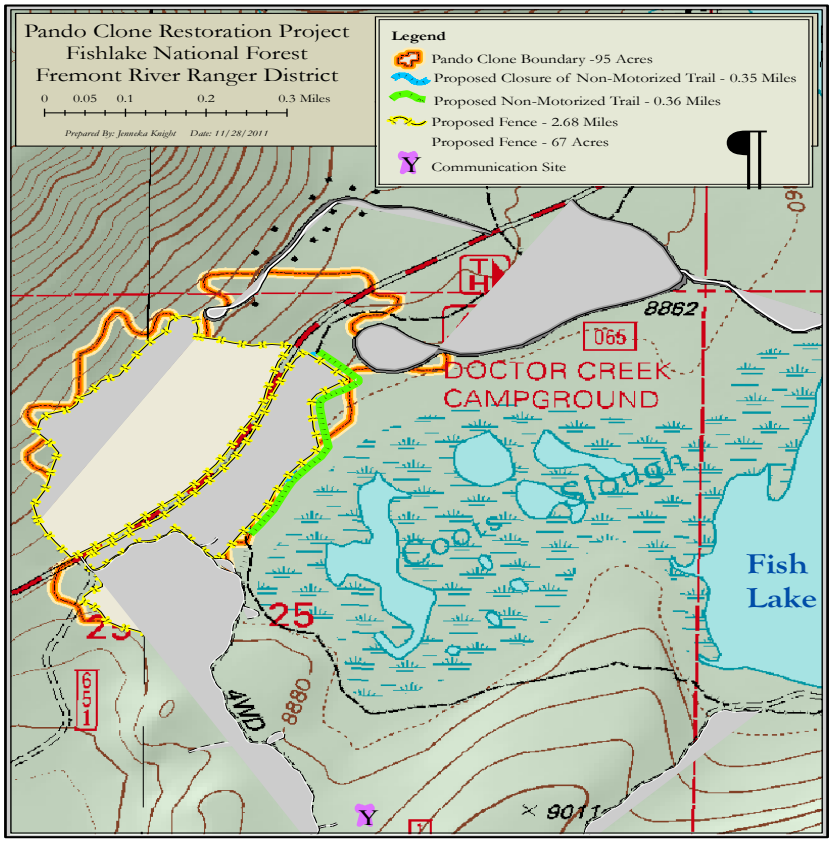
2. Upon completion of the fence the following test treatments designed to stimulate regeneration of young aspen will be implemented. Treatments will be completed on plots no larger than five acres each and will not exceed 15 total acres. A combination of treatments may occur in each plot.

   a) Burning—this includes under-burning of common juniper understory, which exists as discrete ground-cover layers throughout the clone.
   b) Cutting—in addition to clearing the trees and vegetation close to the fence line, selected areas will be cut to remove overstory, allowing additional sunlight for new shoots, and stimulate regeneration of young sprouts. Cut trees not necessary for protection of regeneration will be moved to an area outside of the fence and will be available for firewood.
   c) Ripping of aspen roots—this involves mechanically severing aspen roots using a dozer-mounted ripper with a single line, single pass pattern over the selected areas in an attempt to stimulate aspen suckering.

3. This phase will include monitoring results of treatments and by simply removing herbivory with fencing to determine the most effective means of regenerating aspen within the clone. Monitoring will be accomplished using Region 4 Forest Service surveying protocols.

Design Features

- Before burning occurs in conjunction with project implementation, a burn plan will be developed. This burn plan will address adherence to air quality standards, ignition processes, fire holding processes, mop-up, public notification, and public safety and fire-fighter safety.
- No burning will occur near the Doctor Creek Campground or near the recreation residences.
- If any cultural or historic sites are found during project implementation, work will discontinue until a qualified archeologist can make a recommendation on how to proceed.
- Discontinue project work if an undocumented Threatened, Endangered or Sensitive species is discovered before or during the implementation phase, until a qualified biologist can make a recommendation on how to proceed.
- Leave live and dead trees with nest cavities where available if feasible.
- Monitor the eastern edge of the project area for use by bald eagles. If injury or mortality of bald eagles becomes an issue due to fence placement, fence modification in that area would be necessary. Fence modification may include making the fence more visible, or possibly moving a portion of the fence to a different location.



REASONS FOR CATEGORICALLY EXCLUDING THE DECISION

The proposed action is categorically excluded from documentation in an environmental impact statement or environmental assessment. Forest Service regulations state that a proposed action may be categorically excluded from further analysis and documentation …only if there are no extraordinary circumstances related to the proposed action and if …."the proposed action is within a category listed in section 220.6 (d) or (e)." This proposed action falls within category 36 CFR 220.6(e)(6): Timber stand and/or wildlife habitat improvement activities that do not include the use of herbicides or do not require more than 1 mile of low standard road construction. Examples include but are not limited to:

(i) Girding trees to create snags;
(ii) Thinning or brush control to improve growth or to reduce fire hazard including the opening of an existing road to a dense timber stand;
(iii) Prescribed burning to control understory hardwoods in stands of southern pine; and
(iv) Prescribed burning to reduce natural fuel build-up and improve plant vigor.

There are no extraordinary circumstances in connection with this project. Extraordinary circumstances are those instances that could result in significant environmental effects to one or more of the following resources conditions, as described in FSH 1909. 15-30.3, 2a-g.

Federally listed threatened or endangered species, or designated critical habitat species proposed for Federal listing or proposed critical habitat or Forest Service sensitive species

The Endangered Species Act requires that federal activities do not jeopardize the continued existence of any species federally listed or proposed as threatened or endangered, or result in adverse modification to such species' designated critical habitat. As required by this Act, potential effects of this decision on federally-listed or proposed species or their critical habitats have been analyzed and documented in a Biological Assessment, and effects on Forest Service Sensitive species have been documented in a Biological Evaluation (located in Project Record).

Implementation of this project will have "no effect" on the following federally-listed or proposed species or their critical habitats: California Condor, Utah Prairie Dog, and Mexican Spotted Owl (Biological Assessment, located in project record). There will be "no impact" on the following Forest Service sensitive species: Bighorn Sheep, Pygmy Rabbit, Spotted Bat, Townsend's Western Big-eared Bat, Bald Eagle, Peregrine Falcon, Bonneville Cutthroat Trout, Colorado River Cutthroat Trout, Boreal Toad, and Southern Leatherside Chub . The Yellow-billed Cuckoo and Greater Sage Grouse are candidate species as well as Forest Service sensitive species. There will be "no impacts" to these two species as a result of implementation of this project (biological evaluation, located in project record). Resident trout and aquatic macroinvertebrates are management indicator species in which there will be "no impact".

Implementation of this project "may impact individuals or their habitat, but will not likely contribute to a trend towards federal listing or loss of population viability" for the following species: Bald Eagle, Flammulated Owl, Three-toed Woodpecker, and Northern Goshawk (biological evaluation, located in project record).

There will be "no effect" to the endangered San Rafail Cactus or to the threatened Last Chance Townsendia. There will be "no impact" to the threatened Maguire Daisy. There will be "no impact" to the following sensitive species: the Wonderland Alice Flower, Bicknell Milkvetch, Tushar Paintbrush, Mt. Belknap Draba, Creeping Draba, Nevada Willowherb, Widtsoe Buckwheat, Fish Lake Naiad, Arizona Willow, Little Penstemon, Beaver Mountain Groundsel, Maguire Campion, Bicknell Thelesperma, Barneby Woody Aster, and the Sevier Townsendia.

Floodplains, wetlands, or municipal watersheds

Executive Order 11988 provides for avoidance of adverse impacts associated with the occupancy and modification of floodplains. Floodplains are defined by this order as, ". . . the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent (100-year recurrence) or greater chance of flooding in any one year."

Executive Order 11990 provides for avoidance of adverse impacts associated with destruction or modification of wetlands. Wetlands are defined by this order as, ". . . areas inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds."

There are no floodplains, wetlands, or municipal watersheds within the project area. The east side of the project area is immediately adjacent to Coots Slough, a wetland area, and about one mile west of the south end of Fish Lake. Implementation of this project will not result in any impacts to Coots Slough or to any area of Fish Lake or any wetlands surrounding Fish Lake. There are no municipal watersheds within or adjacent to the project area. The recreation residences and Fish Lake Resort obtains water from a developed spring outside of the project area about one-half mile from the project's northeastern boundary. There will be no impacts to this water source as a result of implementation of this project.

Congressionally designated areas, such as wilderness, wilderness study areas, or national recreation areas

There are no wildernesses, wilderness study areas, or national recreation areas in or near the project area. This decision will not affect these areas.

Inventoried Roadless Areas

There are no inventoried roadless areas within or near the project area. This decision will not affect any inventoried roadless areas.

Research natural areas

There are no Research Natural Areas in the project area. This decision will not affect research natural areas.

American Indians and Alaska Native religious or cultural sites

Based on site investigations and scoping, the project area is not known to include, and the project would not have any direct, indirect, or cumulative impacts on, any American Indian religious or cultural sites. There are no Alaska native religious or cultural sites on the Forest.

Archaeological sites, or historic properties or areas

Section 106 of the **National Historic Preservation Act** requires federal agencies to take into account the effect of a project on any district, site, building, structure, or object that is included in, or eligible for inclusion in the National Register. Section 106 of the National Historic Preservation Act also requires federal agencies to afford the Advisory Council on Historic Preservation a reasonable

opportunity to comment. The **Archaeological Resources Protection Act** covers the discovery and protection of historic properties (prehistoric and historic) that are excavated or discovered in federal lands. It affords lawful protection of archaeological resources and sites that are on public and Indian lands. The **Native American Graves Protection and Repatriation Act** covers the discovery and protection of Native American human remains and objects that are excavated or discovered in federal lands. It encourages avoidance of archaeological sites that contain burials or portions of sites that contain graves through "in situ" preservation, but may encompass other actions to preserve these remains and items. This decision complies with the Acts cited above.

There are two probable corridors of the Fish Lake Cut-off (1830's-1848) that enter the Coots Slough area. The westernmost corridor follows the powerline and is very close to the southeast corner of the proposed fence. After a site visit to the project area, the archeologist determined that the westernmost corridor is far enough away from the southeastern edge of the proposed fence that there will be no effects to either corridor of the Fish Lake Cut-off (see "Cultural Resources" report). The Fish Lake cut-off has been formally recorded as site FL-2401 (42Sv2828) and is eligible for inclusion on the National Register of Historic Places.

Public Involvement

Scoping letters were mailed to individuals, organizations and agencies on August 22, 2011. The proposal has been listed in the Forest's Quarterly Schedule of Proposed Actions (SOPA) since the spring of 2011. The SOPA is posted on the Fishlake National Forest web page. Three comments were received during scoping. One commenter had concerns about the number of acres to be treated with each type of treatment and leaving some area within the fence for passive restoration. Implementation of this project will include treating a maximum of 15 acres with each of the three treatment types occurring on no more than five contiguous acres. There were also concerns with removing the cut trees verses leaving them on site. This decision allows for removal of cut trees to an area outside the clone. Another commenter felt the Pando Clone should be left alone and allowed to recover on its' own. The proposed action for this project explains that leaving the clone alone without any active restoration will likely result in this clone dying or being severely diminished. The last commenter noted observations in other areas where leaving the cut trees (jack-strawing) exhibits poor sprout survival. He also noted that rabbit herbivory curtailed aspen sprout survival in one jack-strawed research site. Rabbit herbivory is not expected to be an issue because rabbits have not been observed to be abundant in the project area. The fence that has been in place since 1992 has kept out ungulates but would not keep rabbits out. Healthy regeneration has occurred within this fenced area which indicates that the stand needs protection mainly from ungulates.

Findings Required by Other Laws and Regulations

This project lies within an area with Management Prescription 2B, which emphasizes rural road and roaded-natural recreation opportunities (page IV-66 of the Fishlake Land and Resource Management Plan) This action is compliant with the Fishlake Land and Resource Management Plan (1986).

National Environmental Policy Act (NEPA): This project is consistent with NEPA regulations and falls under category 36 CFR 220.6 (e)(6): "Timber stand and/or wildlife habitat improvement activities that do not include the use of herbicides or do not require more than 1 mile of low standard road construction". This project focuses on timber stand improvement (aspen) and does not involve the use of herbicides or result in vegetation type conversion.

Clean Water Act, Executive Order 1190 (wetlands) and 11988 (floodplains): The "Water Quality and Wetlands" report concluded that there would be no effects to any wetlands or floodplains. There will be

no impacts to water quality or any riparian areas. There are no 303d (water quality impaired) listed stream segments that will be affected. Beneficial water uses will be maintained.

Clean Air Act: Air quality will be minimally affected because of the very limited extent of burning that will occur.

Migratory Bird Treaty Act: The wildlife specialist report states that the project area is dominated by an aspen cover type. Because there are no priority-ranked bird species that select aspen as their primary breeding habitat, there are no migratory bird species to address in this section. Therefore this project meets the direction of the Migratory Bird Treaty Act.

National Forest Management Act (NFMA): This action is consistent with the NFMA and the Fishlake National Forest Land and Resource Management Plan. The plan requires resource managers to implement the general direction to "manage seral aspen stands for a diversity of age classes" (p. IV-12) and to implement the timber goal to "improve timber age-class distribution" and "integrate aspen management into the timber management program to perpetuate the species and improve aspen quality" (p. IV-4).

Management Indicator Species (MIS): Consistent with regulations at 36 CFR 219.19, the Wildlife Specialist Report determined that the project "may impact" the Rocky Mountain Elk, Mule Deer, MIS Cavity Nesters, and MIS Sage Nestors. There will be "no impact" to MIS Riparian Nesters. The project "may impact Individuals or their habitat, but will not likely contribute to a trend towards federal listing or loss of population viability" for the Northern Goshawk. There will be "no impact" to resident trout or aquatic macroinvertebrates.

National Historic Preservation Act: See **Archaeological sites, or historic properties or areas** in the section that covers extraordinary circumstances.

Endangered Species Act (ESA): For terrestrial wildlife**,** refer to the test for extraordinary circumstances threatened, endangered, or sensitive species section. The Fisheries and Amphibians Report determined that there will be "no impacts" to Bonneville Cutthroat Trout, Boreal Toad, or southern Leatherside Chub.

Executive Order 12898 (Environmental Justice): This action will not result in any disproportionate impact to minority or low-income populations.

Implementation: Project implementation may begin in the spring of 2012.

Appeal Opportunity
Projects under this category 36 CFR 22.6 (e)(6) are not subject to appeal.

Contact Person

For further information please contact Pete Haraden at the Supervisors Office of the Fishlake National Forest 115 East 900 North, Richfield, UT 84701 or by phone at 435-896-1007.

/S/ Kurtis Robins
Kurt Robins
Fremont River Ranger District
District Ranger

February 2, 2012
Date