

# Appendices

# **Appendix A**

## **Errata for Map #16**

### **West Bear Vegetation Management Project**

The past harvest unit shown in unit 33 on Map #16 in the FEIS does not exist. It was an error in mapping for the FEIS. There is a nearby meadow that may have been mapped as a past harvest unit and mislocated on the map. Apparent overlap of past harvest in other proposed harvest units is the result of minor mapping inaccuracies of past or proposed harvest units.

## Appendix C

### Timber Management Requirements

### West Bear Vegetation Management Project

#### C1.0 FSM and U.S.C. Requirements

The minimum specific management requirements for projects and activities that must be met in carrying out projects and activities for the National Forest System (NFS) are set forth in FSM 1921.12a. Under 16 U.S.C. 1604 (g)(3)(E), a Responsible Official may authorize site-specific projects and activities to harvest timber on NFS lands only where:

1. Soil, slope, or other watershed conditions would not be irreversibly damaged.

**Response:** Timber harvesting under the West Bear Vegetation Management Project is designed to comply with Forest Plan Standards and Guidelines to protect soil, slope and watershed conditions, including limiting ground based skidding to slopes under 40%, use of erosion control measures, and use of all other Best Management Practices. No harvest is being planned in Riparian Habitat Conservation Areas. Analysis by the Forest Hydrologist and Forest Soil Scientist discloses that there would be no irreversible damage to soils, slopes or other watershed conditions. (FEIS Sections 3.1.4.02, 3.2.4, and 3.12)

2. There is assurance that the lands can be adequately restocked within five years after final regeneration harvest (FSM 1921.12g).

**Response:** All of the harvesting is planned in areas that can be adequately restocked with 5 years. Planting is scheduled for group selection patches in the spruce-fir forest type, natural regeneration for patches with lodgepole pine seed sources, and natural regeneration of aspen/conifers in areas planned for conifer removal or conifer removal followed by prescribed burning. The sites proposed for harvest under this project are better than average for the North Slope of the Uinta Mountains. Natural regeneration of aspen and lodgepole pine on the North Slope is generally dense and rapid (less than 5 years) and planting is rarely necessary. Regeneration of Engelmann spruce has been less successful in some areas due to inappropriate clearcutting and higher elevations. Group selection harvesting provides shade and protection from drying wind and planting insures regeneration of spruce (FEIS Section 3.4.3.3).

3. Streams, streambanks, shorelines, lakes, wetlands, and other bodies of water are protected from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment where harvests are likely to seriously and adversely affect water conditions or fish habitat.

**Response:** No vegetation treatments would be conducted in Riparian Habitat Conservation Areas (RHCAs). RHCA Category 1 consists of fish bearing streams and the area on either side of the stream extending from the edges of the active stream channel to 300 feet slope distance (600 feet, including both sides of the stream channel). Category 2 and 3 RHCAs consist of permanently flowing non-fish bearing streams and ponds, lakes, reservoirs and wetlands greater than one acre and the area on either side of the stream or pond extending from the edges of the active stream channel or pond edge to 150 feet slope distance (300 feet, including both sides of the stream channel or pond). Category 4 RHCAs include features with high variability in size and site-specific characteristics including seasonally flowing or intermittent streams, wetlands less than 1 acre, landslides, and landslide-prone areas. At a minimum the interim RHCAs must include, landslides and landslide-prone areas, 100 feet slope distance in watersheds containing Bonneville or Colorado River cutthroat trout, and 50 feet slope distance for watersheds not containing Bonneville or Colorado River cutthroat trout. Analysis by the Forest Hydrologist, Forest Soil Scientist, and Forest Fisheries Biologist discloses that harvests are unlikely to seriously or adversely affect water conditions or fish habitat. (FEIS Sections 3.1.4, 3.2.4, and 3.3.4)

4. The harvesting system to be used is not selected primarily because it would give the greatest dollar return or the greatest unit output of timber.

**Response:** The harvesting systems analysed were not selected primarily because they would give greatest dollar return or the greatest unit output of timber. Ground based yarding is the only logging system widely available and in use on the Wasatch-Cache NF. This is due primarily to the generally gentle slopes where timber is managed on the Forest. The silvicultural systems analysed for this project are more expensive and do not produce a lot of timber volume per acre. Group selection has a higher cost per unit of volume than other silvicultural systems such as clearcut, seed tree, or shelterwood systems since greater care must be taken in protecting leave trees and the volume per acre removed is less. The conifer removal followed by prescribed burning is also more expensive than mechanical treatment alone.

A Responsible Official may authorize projects and activities on NFS lands using cutting methods, such as clearcutting, seed tree cutting, shelterwood cutting, and other cuts designed to regenerate an even-aged stand of timber, only where:

1. For clearcutting, it is the optimum method; or where seed tree, shelterwood, and other cuts are determined to be appropriate to meeting the objectives and requirements of the relevant plan (16 U.S.C. 1604 (g)(3)(F)(i)).

2. The interdisciplinary review has been completed and the potential environmental, biological, aesthetic, engineering, and economic impacts have been assessed on each advertised sale area and the cutting methods are consistent with the multiple use of the general area (16 U.S.C. 1604 (g)(3)(F)(ii)).

3. Cut blocks, patches, or strips are shaped and blended to the extent practicable with the natural terrain (16 U.S.C. 1604 (g)(3)(F)(iii)).

4. Cuts are carried out according to the maximum size limit requirements for areas to be cut during one harvest operation (FSM 1921.12e).

5. Timber cuts are carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, esthetic resources, cultural and historic resources, and the regeneration of timber resources.

6. Stands of trees are harvested according to requirements for culmination of mean annual increment of growth (16 U.S.C. 1604 (m); FSM 1921.12f; FSH 1909.12, ch. 60).

**Response:** None of the proposed treatments use even-aged cutting methods. The planned treatments are uneven-aged group selection in spruce-fir and mixed conifer stands. The patch cuts in the spruce-fir would be between  $\frac{1}{4}$  and  $\frac{1}{2}$  acre in size. Patch cuts where lodgepole pine predominate in the mixed conifer stands would be up to 2 acres. These 2 acre patches could be considered either group selection patches or small clearcuts but the increased size is optimum and necessary to provide the light that lodgepole pine needs for adequate growth. Other treatments include conifer removal from aspen/conifer stands in patches up to 5 acres leaving uneven-aged aspen, and conifer harvest in conifer/aspen stands followed by prescribed burning in areas up to 120 acres. Prescribed burning is expected to be 50% to 80% effective in killing overstory aspen, resulting in an uneven-aged mosaic of aspen regeneration, young aspen, and mature aspen within these areas (FEIS Section 2.1).