

C. Conversions

The Forest Plan identified that there is too much aspen on the landscape and not enough jack pine, red pine, white pine, and spruce-fir. To achieve these forest type objectives, conversions need to occur. The need for conversion is determined by LEs species composition objectives for Decade 1 and 2 but may be limited by available funds.

Key Points

- The conversion process is slow. Currently, there aren't enough conversions through active management completed to conduct site visits, assess costs, successes, failures, and lessons learned. Consequently, Decade 1 objectives are not achievable.
- Planned conversions are not occurring at a level to achieve Decade 2 objectives.
- Most of the changes in forest types since Forest Plan Revision are the result of better stand inventory data and stand re-delineation.
- Protocols are needed to identify stands across the landscape best suited for conversion, and to track stands planned for conversion until accomplished.

Background

There are basically four approaches to conversions:

1. Natural succession of stands. Some stands are deferred because natural succession will result in the desired condition/forest type. More often stands are deferred because of low volumes, poor access or operability, or small size.

Stands deferred from treatment in one entry may be proposed for harvest in the next entry. There is no long term commitment to defer stands to reach the conversion objectives.

2. Active management through harvest with natural regeneration of species present in the stand understory. Conversion would be noted at the time of stand certification if desired species and stocking levels are attained, typically 3-5 years after harvest. Many of the stands identified for conversion fall into this category.
3. Active management through even-aged harvest followed by site preparation, seeding or planting, and stand tending to attain the desired future species composition and forest type. Usually this involves the conversion of aspen stands to another forest type. This is an intensive and expensive approach costing \$1000 per acre or more. This approach is more likely to fail than the other approaches due to aspen competition and deer browse. Conversions may not be realized for 5-10 years after harvest.
4. Active management through multiple harvest entries which sets the stage for a species shift over a longer time horizon, often several decades. Examples include use of

selection harvests to bring about greater dominance of hardwoods. Concerns associated with this approach include:

- a. If harvests are light, volumes removed are low and of economic concern for industry.
- b. If harvests are heavier, conditions may not favor hardwoods or the desired forest type.

Results

1. The following acres of active conversions were included in 2004-2010 EA decisions.

Table 3-20. Acres identified in EAs to be converted through active management.

Convert (existing forest type)	To (desired forest type:	Acres
Aspen, spruce, balsam	pine	2167
Red pine	jack pine	551
Jack pine	white pine	11
Red pine	Spruce	36
Aspen	Spruce	200
Total		2965

These numbers do not capture stands that were dropped in decisions or during the implementation process. Stands identified to naturally succeed to another forest type are not reflected in the above numbers. The Forest has not kept track of stands identified for conversions during project planning. A tracking system to identify stands, existing forest type, desired forest type, and acres planned for conversion is currently under development.

2. To date, there are very few conversions through active management that have been accomplished. The conversion process is slow. The conversion process initiated by regeneration harvests is considered complete when the regenerated stand is certified which at the earliest is 3 years after harvest for natural regeneration and 5 years for artificial regeneration. Currently, there aren't enough completed conversions to conduct site visits, assess costs, successes, failures, and lessons learned. In reality it is difficult to achieve most conversions within a 10 year timeframe that begins with a decision being made.
3. Most of the changes in forest types since Forest Plan Revision are the result of better stand inventory data and stand re-delineation. Some changes are the result of natural succession in stands that were originally aspen, jack pine, or birch. Some may be the result of active harvest with natural regeneration. Because of the timeline associated with harvest and artificial regeneration, there are few stands where the conversion process is complete.

4. Tracking of individual stands to conditions and attributes at the time of Forest Plan Revision is difficult because the data was not “frozen”. Since then, there have been changes to the forest types, stand lines, stand acreages, and in some cases stand number.
5. There is no protocol for identifying stands across the landscape best suited for conversion, especially conversions of aspen.
6. The easiest conversions are from aspen to northern hardwoods. However, current data shows that there is an overabundance of northern hardwoods, although not to the degree as aspen.
7. Funding for tending activities to facilitate successful conversions is variable but may be available in the short term.
8. There is an internal debate as to when a stand is certifiable. For example, if a stand has been identified for conversion to a conifer species but is adequately stocked with hardwoods, should it be certified? If certified, given the preponderance of hardwoods it would be given a hardwood forest type, thereby indicating that the conversion was not complete or successful.

Recommendations

- Develop a protocol to identify the best sites on the landscape for active conversion from aspen and the best sites to manage for aspen.
- Conduct a Forest-wide assessment to identify stands that are converting naturally and acres. Questions to address may include the following:
 - In aging stands of aspen, what is coming up in the understory?
 - How long will it take to reach the desired condition?
 - How much will it save in lieu of trying to convert through harvest and tending?
 - Where are the best sites to convert through succession for each LE?
 - Where does it make the most sense to keep aspen on the landscape?
- Track and field check stands actively converted to determine costs, regeneration success, and effectiveness. Even before completion of stands in process, assess costs invested, re-plants conducted, etc. Track costs and efforts to achieve conversions on difficult sites. Upon completion of the assessment, determine if the Forest needs to make a course correction due to cost of active conversions or successes necessary to meet the Forest Plan objectives.
- Develop a tracking system to identify stands planned for conversions and completed. This would also assist in recognizing those stands with a long term commitment to defer in order to reach conversion objectives.
- Develop a tracking system to identify stands with seeding and planting activities to increase intra-stand diversity.

More detailed information can be found in the full project file report and is available upon request.