

# LANDSCAPE OBJECTIVES FOR BECKER COUNTY

**Note:** The landscape objectives listed here by species are described using the entire County Land Department's Forest Inventory database. Each objective should be considered a forest-wide objective, but may be modified to be more specific to the ECS classification in which the various timber stands are found.

## 1. Ash and Other Lowland Hardwoods

Ash and other lowland hardwoods, comprised primarily of black ash and elm, have been largely ignored due to their sporadic value, and, in the case of elm, disease issues. However, these species play an important roll in contributing to the health of the lowlands they occupy. Their overall productivity, when managed, can be economically viable for a wide range of pulp and saw products. Ash and lowland hardwoods comprise 1,449 acres of Becker County tax-forfeited land (1.9% of total land base).

- 1.1. Determine the most productive areas for ash and lowland hardwoods.
- 1.2. Identify areas that are conducive to quality sawlog and extended rotation silviculture. Establish these areas for long-term productive capacity for sawlogs and other higher value products.

## 2. Aspen Covertypes Objectives

Aspen is by far the most predominant forest covertime in Becker County. It is also the most economically important specie to the current forest products industry. Aspen is a pioneer specie that quickly invaded the vast cutovers following the great Minnesota logging era of the 1930's. Aspen is equally important to wildlife, such as Ruffed Grouse and White-Tailed Deer, as a food source and for cover. Aspen comprises nearly 36,000 acres of Becker County tax-forfeited land (48.1% of total land base).

- 2.1. Initiate an accelerated harvest schedule using a thirty-year harvest formula designed to greatly reduce the amount of over-mature aspen acreage and shorten the age-class structure.
- 2.2. Identify poor aspen sites that should be converted to other species that would be more productive than aspen.
- 2.3. Identify aspen stands that are converting to another type. Determine if the new type is suitable for the site using native plant communities for diagnostic purposes. If the new type is suited for the site, update the inventory record accordingly. If the new type is not suited for the site, consider conversion to a species more suited and productive for the site.

2.4. Identify sites in the 21-40 year old age classes suitable for underplanting of conifers.

2.5. Underplant white pine in aspen stands in the 41-60 year old age classes.

3. **White Birch Covertypes Objectives**

White, or paper birch, is a species that is growing in its economic importance, as well as for its aesthetic and wildlife value. White birch typically associates with other tree species, but may also form pure stands as a pioneer species following a major disturbance. White birch can be found on all soil types, from black spruce bogs to sandy, excessively well-drained outwash plains. White birch covertypes comprise 1,074 acres of Becker County tax-forfeited land (1.4% total land base).

3.1. Manage white birch covertypes to maintain current acreage levels.

3.2. Use silvicultural techniques to re-establish pure, or nearly pure, stands of white birch. Discourage conversion to other species unless ecologically appropriate.

3.3. Establish a harvest schedule to better balance the age-class distribution.

4. **Northern Hardwood Timber Type Objectives**

Northern hardwoods have been mismanaged for their saw and veneer log value in the past and subsequently these types were ignored as the quality of trees declined from high-grading (removing only high value trees). Management objectives for northern hardwoods will be to rehabilitate these stands. Northern hardwood types are becoming increasingly more valuable as a pulp species as well. Northern hardwood covertypes comprise 8,582 acres of Becker County tax-forfeited land (11.5% total land base).

4.1. Manage northern hardwood covertypes to maintain current covertype acreage.

4.2. Manage accessible stands of predominantly sugar maple for maple tapping.

4.2.1. Thin maple stands to promote stem growth and large crown development.

4.2.2. Favor the reestablishment of sugar maple and manage using all-aged silviculture systems.

4.3. Promote the conversion of lower quality maple stands to maple-basswood, maple-northern hardwoods, maple-birch or maple-white pine-red oak.

4.3.1. Selectively harvest maple to promote regeneration of alternative species.

4.4. Manage northern hardwood stands using uneven-aged silvicultural systems.

4.5. Evaluate the highest site index northern hardwood stands (SI > 70) for Candidate Old Growth status.

## 5. **Oak Covertypes (northern red and bur)**

Oak timber types are extremely important for wildlife as a supplier of food (acorn mast) and as a provider of nesting and den habitat. It is an economically important species also for its sawlog and boltwood lumber. Oak covertypes comprise 5,164 acres of Becker County tax-forfeited land (6.9% total land base).

- 5.1. Maintain current management acreage for moderate to high site index oak stands (SI  $\geq$  50) (4,299 acres).
  - 5.1.1. Manage quality oak stands on a 75-90 year rotation age.
  - 5.1.2. Promote advanced regeneration by use of shelterwood cuts.
  - 5.1.3. Selectively thin stump sprouts on regenerating even-aged stands.
  - 5.1.4. Selectively thin sapling and pole sized stands for potential crop trees.
- 5.2. Promote a hardwood/pine composition mixture on suitable oak sites.
  - 5.2.1. Underplant white pine on 10% of oak stands with a site index  $\geq$  50 by 2016.
- 5.3. Discourage conversion of high site index oak stands to northern hardwoods.
  - 5.3.1. Promote advanced regeneration by use of shelterwood cuts.
  - 5.3.2. Thin stands as needed to reduce undesirable species.
- 5.4. Evaluate and convert 50% of the low site index oak stands to pine by 2016 (SI < 50) (865 acres).
  - 5.4.1. Underplant white pine in understocked stands to ease conversion.
  - 5.4.2. Clearcut and convert to pine.
- 5.5. Evaluate the highest site index oak stands (SI > 60) for Candidate Old Growth status.

## 6. **Red and White Pine Covertypes Objectives**

Red and white pine, economically significant as sawlogs, pulpwood, and specialty products, are probably even more important for their aesthetic and cultural appeal. Combined, the two covertypes comprise 2,453 acres of Becker County tax-forfeited land (3.3% of total land base).

- 6.1. Double white pine covertype acreage by 2016 (20 acres to 40 acres).
  - 6.1.1. Identify areas with a significant white pine understory. Release understory to allow the white pine to grow into the main canopy. Adjust the Forest Inventory Database accordingly.
- 6.2. Increase red pine covertype acreage by 10% by 2016 (2,413 acres to 2,654 acres).
  - 6.2.1. Identify aspen, oak, and jack pine stands that would be more productive as red or red/white pine stands and convert.

- 6.3. Continue to identify areas where pine can be added to the forest composition through underplantings, seed bed preparation and natural seeding, reduction of understory and/or overstory competition, etc.
- 6.4. Identify and evaluate red and white pine stands for potential inclusion as candidate old growth stands
- 6.5. Manage visually sensitive pine type areas for aesthetics, as well as forest products.
- 6.6. Continue to evaluate older red and white pine stands for “old growth candidate” stands.

## 7. **Jack Pine Covertypes Objectives**

Jack pine is one of the more important forest covertypes in Becker County, economically and in terms of wildlife habitat. Jack pine is prized by the forest products industry for its pulp, boltwood, and small sawlogs. It is also prized by white-tailed deer for winter yarding areas and is essential as a breeding area for the endangered Kirtland’s warbler. Over half of the jack pine acreage in Becker County is considered mature or over-mature and is in a state of decline. Jack pine covertypes comprise 2,504 acres of Becker County tax-forfeited land (3.3% of total land base).

- 7.1. Increase overall jack pine coertype acreage by 10% by the year 2036 (2,504 to 2,754).
  - 7.1.1. Identify and convert sites where jack pine would be more productive than existing coertype.
- 7.2. Identify areas that can be converted to jack pine using the native plant community as a guide.
- 7.3. Identify jack pine coertype acreage that should be converted to red/white pine.
  - 7.3.1. Plant a mixture of red, white, and jack pine during planting. Thin the jack pine from the stand when it becomes merchantable.
- 7.4. Initiate an accelerated harvest schedule for the next thirty-years designed to reduce the mature and over-mature acreage. This effort will improve forest productivity and forest health.
- 7.5. Continue to evaluate red and white pine coertypes for Candidate Old Growth status.

## 8. **White Spruce Coertype Objectives**

White spruce is a tree specie that is growing in its economic importance in the region. It is usually associated with other conifer species, and to a lesser extent, with northern hardwoods, but occasionally will form nearly pure stands. White spruce has been

planted as plantation stock in Becker County. White spruce covertsypes comprise 87 acres of Becker County tax-forfeited land (0.1% total land base).

8.1. Double white spruce acreage through planting efforts by 2016 (87 acres to 174 acres).

8.2. Encourage white spruce in mixed composition hardwood and conifer covertsypes through selective harvest and underplanting.

#### 9. **Balsam Fir Covertyp e Objectives**

Balsam fir is an economically important tree specie, though not as much locally, for pulp and light construction materials, and is very important for wildlife food and cover. This specie can be found as an understory tree in mixed composition stands, or as a dominant specie in mixed and pure stands. It is commonly found where soil moisture is adequate or better. Balsam fir covertsypes comprise 1,020 acres of Becker County tax-forfeited lands (1.4% total land base).

9.1. Manage balsam fir covertsypes to maintain current management acreage.

9.2. Promote balsam fir as a component in mixed hardwood/conifer and mixed conifer species stands.

9.3. Evaluate and retain up to 10% of the current acreage as high value conservation stands (extended rotation or old growth mixed conifer stands).

#### 10. **Black Spruce and Tamarack Covertyp e Objectives**

Black Spruce and tamarack are both commonly found in bogs and swamps. Although neither species is considered locally to be an economically important species, they both fill a niche in the environments they grow. Tamarack, though commonly found in wet conditions, can be a viable option when considering upland planting sites. Black spruce is an important wildlife specie and valued as pulpwood and for small sawbolts. Black spruce covertsypes comprise 608 acres of Becker County tax-forfeited land (0.8% total land base). Tamarack covertsypes comprise 2,669 acres of Becker County tax-forfeited land (3.6% total land base).

10.1. Maintain current black spruce covertyp e acreage.

10.2. Identify areas that are conducive to growing merchantable pulp and sawbolt material and manage accordingly.

10.3. Look for opportunities to increase planting of upland tamarack and black spruce.