Flagstaff Small Units

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The numerous small holdings in the Flagstaff region are allocated primarily for timber management with secondary uses of wildlife management and dispersed recreation. Units included in this category are: Coplin Plantation Central, Coplin Plantation West (DWA), Freeman, Highland Plantation Double, Highland Plantation Southeast, Highland Plantation West, King and Bartlett, and Redington. Most of these lands are original public lots, and they range in size from 52 acres (King and Bartlett) to 1,020 acres (Redington). There are no known exemplary natural communities, rare plants, or rare animals on these units.

Coplin Plantation Central

The 562 acre Coplin Plantation Central parcel is surrounded by industrial timberlands that are regenerating after recent harvests. Timber types on the lot are 15% softwood, 25% mixed wood, and 60% hardwood. Most of the parcel shows evidence of past cuts, and mixed woods and softwoods in the southwestern portion were strip cut in 1984 and 1985. The lot has recently been re-prescribed and is currently being harvested. The part of the parcel north of the road is underlain by mafic and intermediate granite while south of the road is underlain by acidic sediments. The entire parcel is also underlain by glacial till. Very stony, deep soils that formed in glacial till characterize the parcel; Colonel-Dixfield-Lyman is the dominant soil type. Towards the eastern and central parts of the parcel, relatively mature woods are encountered. A Beech-Birch-Maple Forest is found throughout the northeastern quadrant of the parcel. Two different age classes are evident here suggesting a selective harvest at least 75 years ago (based on tree size and age). Numerous old trees are present including a 36 inch diameter sugar maple and a 29 inch diameter yellow birch. Several other birch, maples, and basswoods were aged to over 130 years. Several beech trees are infected with *Nectria*. The late successional index was not applied here, but many parts of this parcel may have old growth components. The understory is abundant with sugar maple and beech regeneration as well as hobblebush (*Viburnum lantanoides*) and oak fern (*Gymnocarpium dryopteris*). Other ferns present include long beech fern (*Phegopteris conectilis*), lady fern (*Athyrium filix-femina*), sensitive fern (*Onoclea sensibilis*), New York fern (*Thelypteris noveboracensis*), evergreen wood fern (*Dryopteris intermedia*), interrupted fern (*Osmunda claytoniana*), and ostrich fern (*Matteucia struthiopteris*). Several small, seepy drainages flow through the forest. Plants along the streams include rough sedge (*Carex scabrata*), long beech fern (*Phegopteris conectilis*), American speedwell (*Veronica americana*), and water carpet (*Chrysosplenium americanum*). Species diversity is high throughout the area. A small wetland is located in the north-central portion of the parcel, on the south side of the logging road. This wooded swamp is characterized by northern white cedar and three-seeded sedge (*Carex trisperma*) with red baneberry (*Actea rubra*) occasional along the edge.

Coplin Plantation West (DWA)

The 367 acre Coplin Plantation West parcel contains lowland softwood forest that provides excellent deer wintering habitat. The area is underlain by mafic and intermediate granite bedrock, and surficial geology includes till and ice contact glaciofluvial deposits. Soils are very stony, well to poorly drained, and formed in dense till; the Colton-Adams-Vassalboro soil series is the dominant soil type. The parcel is rich in wetlands, including 140 acres of forested wetlands and 29 acres of non-forested wetlands. IFW used the parcel as a study site from 1984 to 1991 to research the influence of timber harvests on deer habitat preferences. The southern part of the parcel was harvested in 1985 in response to a spruce budworm outbreak. This area currently has an overstory of poplar with a softwood understory. The northern part of the parcel, characterized as forested wetland and lowland areas punctuated by forested knolls, is currently being harvested. This parcel was not visited as part of this inventory.

Freeman

The 122 acre Freeman parcel is underlain by acidic sedimentary bedrock and glacial till. Soils formed in glacial till and tend to be very deep and well drained; Dixfield-Marlow-Colonel is the dominant soil type. The parcel was heavily harvested 25 to 30 years ago (prior to BPL's ownership) and is managed by BPL primarily for forestry. The ridge in the center of the unit appears to be regenerating. Basal area averages 60 ft^2/acre, and aspen (*Populus sp.*) and balsam fir (*Abies balsamea*) dominate. Red spruce (*Picea rubens*), paper birch (*Betula papyrifera*), and northern white cedar (*Thuja occidentalis*) are also present in the canopy. Most trees are pole-sized, though there are occasional larger spruce. One small area of blowdown was observed near the top of the ridge.

The Alder Shrub Thicket at Freeman.

The west side of the parcel hosts a two acre Red Maple Sensitive Fern Swamp. This forested wetland is dominated by red maple (*Acer rubrum*) with paper birch, balsam fir, green ash (*Fraxinus pennsylvanica*), and cedar also present. The shrub layer is sparse, and the abundant herbaceous layer includes common woodland plants such as: long beech fern (*Phegopteris connectilis*),

Christmas fern (*Polystichum acrostichoides*), lady fern (*Athyrium felix-femina*), a wood fern (*Dryopteris sp.*), white-lettuce (*Prenanthes sp.*), rose twisted stalk (*Streptopus lanceolatus*), Canada mayflower (*Maianthemum canadense*), painted trillium (*Trillium undulatum*), large-leaved aster (*Aster macrophyllus*), hobblebush (*Viburnum lantanoides*), sensitive fern (*Onoclea sensibilis*), and wild sarsasparilla (*Aralia nudicaulis*). Basal area in this location is 120 ft^2/acre.

A wetland in the southwest corner of the property graded from a small area of cedar swamp to an Alder Shrub Thicket and includes four acres of open wetlands. One cedar cored had a diameter of 14 inches and was 125 years old. Understory species in this location include: mountain ash (*Sorbus sp.*), oak fern (*Gymnocarpium dryopteris*), foam flower (*Tiarella cordifolia*), wood sorrel (*Oxalis montana*), painted trillium, Canada mayflower, cinnamon fern (*Osmunda cinnamomea*), twinflower (*Linnaea borealis*), bluebead lily (*Clintonia borealis*), sensitive fern, speckled alder (*Alnus incana*), gold thread (*Coptis groenlandica*), and oak fern. There was evidence of beaver in the area.

Highland Plantation Double

Highland Plantation Double (362 acres) is dominated by hardwood stands. Hardwood stands cover 88% of the lot, while mixed wood covers 5% and softwood covers 7%. It was harvested by the state in the late 1980s. Since then, there's been a four acre trespass on the unit in which timber was cut heavily. The parcel is underlain by acidic granite bedrock and till and glaciomarine sediments surficial deposits. Soils on the parcel tend to be well to somewhat excessively drained. Colonel-Dixfield-Lyman is the dominant soil type. This parcel was not visited as part of this inventory.

Highland Plantation Southeast

The 121 acre Highland Southeast BPL property was last cut over 50 years ago (Tom Charles). The area is underlain by acidic granite and glacial till, and soils on the parcel formed in loamy glacial till and tend to be well to somewhat excessively drained. Colonel-Dixfield-Lyman is the dominant soil type. Sandy Stream runs through the western half of the property, and a series of hardwood and hemlock (*Tsuga canadensis*) dominated small terraces lead down to the water. A small (three to four acre) Hardwood River Terrace Forest occurs on the east side of Sandy Stream. This area was cut more recently (15 to 20 years ago) and is characterized by pole-sized red oak (40%), and a remainder of sugar maple (20%), hemlock (20%) with scattered cedar, beech, red maple, and white ash. Further up the slope, the tree layer is dominated by hemlock with beech (*Fagus grandifolia*), yellow birch (*Betula alleghaniensis*), and red oak (*Quercus rubra*) also present. Basal area is 170 ft^2/acre. The shrub layer is sparse, consisting of small amounts of striped maple (*Acer pensylvanicum*) and hobblebush (*Viburnum lantanoides*). The herb layer is patchy, dense in some places and sparse in others. This layer consists of a mix of common forest species, such as Canada mayflower (*Maianthemum canadense*), partridgeberry (*Mitchella repens*), star flower (*Trientalis borealis*), and sessile-leaved

bellwort (*Uvularia sessilifolia*), with no one species dominating. The soil is acidic (pH of 3.5) and rocky, with occasional small granitic cliffs along the terraces. There are several ravines and seeps on the lower slopes. If the area is harvested in the future, these will need to be flagged and adequately buffered.

Highland Plantation West

The 408 acre Highland Plantation West has several bedrock types including acidic sedimentary rock, moderately calcareous sedimentary rock, and mafic and intermediate granite. Glacial till is the dominant surficial deposit. Colonel-Dixfield-Lyman is the dominant soil type. The parcel contains seven acres of non-forested wetlands and seven acres of forested wetlands. According to timber stand typing, the parcel appears to have an even mix of hardwood, softwood, and mixedwood types with hardwood concentrated on the drier slopes and softwood found in ravines and wetter areas. The parcel was cut by BPL ten years ago.

Along the steep, rocky stream that cuts through the unit, basal area is 150 ft^2/acre and dominant species include sugar maple, yellow birch, red spruce, balsam fir, and paper birch, with a canopy closure of 80%. The shrub layer is dominated by hobblebush and regenerating balsam fir, red spruce, and striped maple. Softwood regeneration is prominent. The herb layer contains common species including: rose twisted stalk, Canada mayflower, starflower (*Trientalis borealis*), intermediate wood fern (*Dryopteris intermedia*), oak fern, and bluebead lily.


A stream-side Beech – Birch – Maple Forest in Highland West.

In the harvested hardwood slopes, basal area averages 105 ft^2/acre. The overstory contains sugar maple, yellow birch, and white ash. Beech, striped maple, and red spruce are regenerating, with beech regenerating most vigorously. Typical understory herbs include: rose twisted stalk, hobblebush, long beech fern, partridge berry (*Mitchella repens*), Canada mayflower, painted trillium, and purple trillium (*Trillium erectum*).

King and Bartlett

The 52 acre King and Bartlett parcel, the smallest parcel in the Flagstaff region, is underlain by acidic sedimentary bedrock and glacial till. Soils on the parcel formed in dense till and tend to be shallow and excessively drained. Colonel-Dixfield-Lyman is the dominant soil type.

The King and Bartlett parcel is an island of mature forest surrounded by forests that have been managed intensively. Though older stumps were noted at the site, portions of the lot have an old growth component with some trees more than 100 years old and possibly as much as 200 years old. The lot includes Beech – Birch –Maple Forest and Spruce – Northern Hardwood Forest natural communities.

Evidence of deer, moose, and coyote has been observed throughout the lot. Snowshoe hare have been seen in areas with heavy softwood cover. The mature forest structure found on the lot, including snags and coarse woody debris, likely provides denning and nesting sites for a variety of wildlife.

Redington

The 1,020 acres Redington parcel, just west of Mt. Abram, is underlain by acidic granite and glacial till. Soils are very stony and somewhat poorly to somewhat excessively well drained. Colonel-Dixfield-Lyman is the dominant soil type. The Appalachian Trail runs east/west through the center of the parcel. In 2001, timber harvests were conducted north and south of the trail during the winter months, and some large fir were noted in higher elevations (Tom Charles). The property is difficult to access during the summer. The Redington parcel is dominated by mixedwood stands with hardwoods on the lower southwesterly slopes and softwood in the northeast and central portions of the parcel. Redington was not visited as part of this inventory.

Appendix 1: Maps of the Flagstaff Small Units