



Forest Management Public Summary

for

The Forestland Group, LLC

Certification Code: SW-FM/COC-092

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This document was produced according to the guidelines of the Forest Stewardship Council (FSC) and the SmartWood Program. No part of the report should be published separately.

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ACRONYMS

AAC	Annual Allowable Cut
AFP	Adirondack Forest Preserve
AI	Acquisition Inventory
AP	Adirondack Park
APA	Adirondack Park Agency
ALP	Annual Logging Plan
ATV s	All-Terrain Vehicles
BMPs	Best Management Practices
CFP	Catskill Forest Preserve
CITES	Convention on Trade in Endangered Species
CP	Catskills Park
EMS	Environmental Management System
DBH	Diameter at Breast Height
DOC	Department of Conservation
FLMC	Forestland Management Committee
FMA	Forest Management Authorization
FMO	Forest Management Organization
EMS	Environmental Management System
FIS	Forest Information System
FSC	Forest Stewardship Council
FSC P&C	Forest Stewardship Council Principles and Criteria
GLO	General Land Office
HCVF	High Conservation Value Forest
HFF	Heartwood Forestland Fund
ILO	International Labor Organization
MDDNR	Maryland Department of Natural Resources
MDEQ	Michigan Department of Environmental Quality
MDNHP	Maryland Natural Heritage Program
MDNR	Michigan Department of Natural Resources
MOU	Memorandum of Understanding
MNFI	Michigan Natural Features Inventory
NCASI	National Council for Air and Stream Improvement
NCDENR	North Carolina Department of Environment and Natural Resource
NCDFR	North Carolina Division of Forest Resources
NCNHP	North Carolina Natural Heritage Program
NLT	Ned Lake Timber and Land Company
NMU	Northern Michigan University
NPS	National Park Service
NYDEC	New York Department of Environmental Conservation
OSHA	Occupation Safety and Health Administration
PALS	Public Access Lands for Sportsmen
P&C	Principles and Criteria of the FSC
RMA	Resource Management Act
RTE	Rare, Threatened, and Endangered
SAF	Society of American Foresters

SFM	Sustainable Forest Management
SFMP	Sustainable Forest Management Plan
SMZs	Streamside Management Zones
TFG	The Forestland Group. LLC
TIMO	Timber Investment Management Organization
TNC	The Nature Conservancy
UP	Upper Peninsula
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VDGIF	Virginia Department of Game and Inland Fisheries
WVDNR	West Virginia Division of Natural Resources

INTRODUCTION

This report presents the findings of an independent certification assessment conducted by a team of specialists representing the SmartWood Program of the Rainforest Alliance. The purpose of the assessment was to evaluate the ecological, economic and social sustainability of The Forestland Group, LLC forest management.

The purpose of the SmartWood program is to recognize conscientious land stewardship through independent evaluation and certification of forestry practices. Forestry operations that attain SmartWood certification may use the SmartWood label for public marketing and advertising.

To earn SmartWood certification, a forest management operation must undergo an on-site field assessment. This Public Summary Report summarizes information contained in the initial assessment report, which is produced based on information collected during the field assessment. Annual audits are conducted to monitor the forest management operation's activities, to review the operation's progress toward meeting their certification conditions, and to verify compliance with the SmartWood standards. Addenda providing the updated information obtained during these annual audits are included as attachments to the Public Summary Report.

1. GENERAL SUMMARY

1.1. Name and Contact Information

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1.2. General Background

- A. **Type of operation** – The Forestland Group (TFG) is a Timberland Investment and Management Organization (TIMO) that is responsible for management of properties purchased through Heartwood Forestland Fund (HFF). TFG seeks certification as Resource Managers for those HFF properties.
- B. **Years in operation** - 9
- C. **Date first certified** - October, 1999 (Emory River Tract in Tennessee); April 26, 2005 (The Forestland Group, LLC)
- D. **Latitude and longitude of certified operation**
35.913 N
79.056 W

1.3. Forest and Management System

A. Forest type and land use history

New York Properties (Hancock and Champion)

Hancock Property: That portion of HFF properties bought in 2001 was purchased from the Hancock Company and consists of 65 tracts on 22,774 acres in southeastern New York. The sites are above and below State Highway 17 and lie "... within the physiographic region known as the Glaciated Allegheny Plateau characterized by a series of steep-walled deep valleys separated by gently undulating broad ridge tops. Ridge top elevations in the area range from 1,200 to 2,000 feet, but most of the valley bottoms are at elevations of less than 1,000 feet. The highest elevations are to the south, which coincides with the farthest southerly extension of the Wisconsin ice sheet. The dominant rock formations in the area are of shale, sandstone, and limestone. The forest cover is predominantly beech-birch-maple although pockets of the cherry-maple or Allegheny Hardwood sub-type can be found within the region." (From Management Plan, Hancock property, developed by FORECON consulting firm). Major tree species are: American beech, red maple, sugar maple, white ash, eastern hemlock, yellow and black birches, black cherry and striped maple; minor species are red and white oaks, white pine, basswood, butternut, and yellow poplar. Shrubs include serviceberry and witch hazel. Habitat types range from early succession to maturing second growth, and include sapling pole stands as well as permanent forest grassland. Special habitats include riparian conifer. Management type is natural forest (there is no plantation forest).

Land use history probably included repetitive burning of hillsides overlooking river channels by Native Americans prior to European settlement. Farmed lands were located along rivers and on rounded ridge tops. Middle slopes were too steep and rocky for farming. Settlement by Europeans in the 1800s and 1900s resulted first in land clearing and later in selective, repetitive logging, and then finally in charcoal and acid wood products/chemical wood cuts in the early 1900s that took stems of all sizes. Hemlock was selectively harvested for the tanning industry, which peaked in the years following the Civil War and nearly eliminated hemlock from the landscape. Catastrophic fires, resulting from burning of slash remaining after all the wood harvests, were widespread at the turn of the 19th century. The second growth forest resulting from these multiple overstory removals and fires favored shade intolerant species such as black and pin cherry. These events caused a shift in species composition from eastern hemlock/American beech/sugar maple to the present domination by tree species of less shade tolerance (black cherry, red maple, and sweet and yellow birches). The developing second growth forests were successively high-graded after the 1940s. Intensive forest management conducted since the 1920s has resulted in a timber rotation of less than 120 years and even-aged forests, relegating uneven-aged and old growth forests to remnant patches relatively inaccessible to harvest.

As a result of public outcry over misuse of forest lands in the Catskill and Adirondack regions in the 1800s, the New York Forest Preserve was created in 1885 by an act of the New York State Legislature. Originally consisting of scattered parcels covering 33,894 acres in the Catskill Preserve and about 681,000 acres in the Adirondack Preserve, the two preserves have grown over the past century to include 287,514 acres in the 705,500 acre Catskill Park (hereinafter referred to as the CP) and 2.6 million of the 6.1 million acres in the Adirondack Park (hereinafter referred to as the AP). Preserve lands are owned and managed by the New York State Department of Environmental Conservation.

New York's Constitution states that public lands in the Catskill Forest Park (hereinafter referred to as the CFP) and Adirondack Forest Park (hereinafter referred to as the AFP) must never be developed and "...shall be forever kept as wild forest lands." Attempts to weaken the law that established the Catskill and Adirondack Forest Preserves led the State to amend the New York State Constitution in 1894 to read:

"The lands of the state, now owned or hereafter acquired, constituting the forest preserve as now fixed by law, shall be forever kept as wild forest lands. They shall not be leased, sold or exchanged, or be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed."

HFF owns one tract in the CP, but its other properties in the Hancock Tract either abut or are close to the CP.

Champion Property: The portion of HFF lands purchased in 1999 was bought from the Conservation Fund, and consists of ~ 115,426 acres of temperate white pine, spruce-fir, northern hardwood and mixed hardwood forests in northeastern New York surrounded by the AP. "From a regional perspective, the vast Spruce-fir region, (boreal forest type), is at its southern limit here, and abuts the Northern Hardwood Forest. The primary forest type is "Northern Hardwoods" (from Management Plans, Santa Clara, Croghan, and Tooley blocks, developed by LandVest consulting firm). Common tree species are sugar maple, eastern hemlock, white pine, yellow birch, and aspen with lesser representation of red

maple, American beech, black cherry, basswood, black and red spruce, and black ash. Pine dominates the drier outwash sites with northern hardwoods on the richer till sites. Mixed woods tend to dominate on the less well-drained and nutrient poor outwash sites. The forests are mostly second growth. Forest management is primarily even-aged with minor acreage in all-aged. Natural regeneration is utilized to regenerate harvested stands.



Figure 1: Champion Tract, Adirondack State Park, New York State

Forest practices prior to TFG management featured irregular and often short rotations, select cutting, clearcutting, diameter-limit cutting and whole tree removal. These practices favored shade-intolerant species (black cherry, red maple, yellow birch, and pin cherry) and resulted in the present day species composition which is different from pre-European settlement (primarily shade-tolerant species). Shortened rotation length and even-aged management has truncated succession by eliminating the final successional stage – old-growth. Small acreages were cleared for pasturing cattle and sheep.

A majority of HFF Champion lands (72%) lie within the AP. About 50% of the lands within the AP boundary is owned by New York State for public use and protected to remain “forever wild”, while the other roughly 50% is a mosaic of large and small private ownerships.

Michigan Upper Peninsula Properties

HFF’s holdings within the Upper Peninsula of Michigan cover 560,000 acres. Individual parcels are not all contiguous and range in size from as small as one acre to 40,000 contiguous acres. These holdings range over four degrees of longitude (85°-89°E) and one degree of latitude (46°-47°N). Today, all of the forests across this broad area contain temperate broadleaf and conifer covertypes, consisting primarily of shade-tolerant species such as sugar maple and beech on the uplands and swamp conifers (balsam fir, white/black spruce, northern white cedar) in the forested wetlands. Species such as aspen and white pine play a small role and their occurrence is a factor of local history and vegetative habitat type.



Figure 2: Mead Tract, Upper Peninsula, Michigan.

HFF lands exist within Sections VII (Northern Lacustrine-influenced) and IX (Northern Continental) of the Regional Landscape Ecosystems of the Upper Peninsula (Albert, 1995). Much of this discussion is based on that work. The division between these two Sections occurs roughly half way between the eastern and western holdings.

Within the eastern holdings, soils of the sand and clay lake plain, which are quite extensive in the section, are largely poorly drained or very poorly drained, supporting extensive peatlands and swamp forests. Soils of the extensive outwash plains are generally excessively drained sands. At the northern edge near Lake Superior, there are sandy tills and outwash.

On the western holdings exist glacially scoured bedrock ridges and irregularly overlain glacial features, including moraines, lake beds, and outwash channels and plains. Soils here consist of stony, red, sandy loams on the moraines. Lacustrine deposits are generally silt- and clay-rich. Outwash soils are acidic sand and gravels with little accumulation of organic material.

The pre-settlement (ca. 1800) forests of this area have been determined based on General Land Office surveys conducted in the first half of the 1800s. The western portions of TFG's holdings on till soils contained northern hardwood forests dominated by sugar maple, eastern hemlock, basswood, and yellow birch, with some white pine. This forest type persists over most of the section. On thin soils and bedrock knobs, red pine, white pine, and red oak were common dominants. Fire-tolerant jack pine and northern pin oak grew on the droughty, flat outwash plains.

The highly dissected lacustrine clay plain along Lake Superior supported a diverse hardwood-conifer forest, which included white pine, eastern hemlock, balsam fir, northern

white cedar, trembling aspen, balsam poplar, and paper birch. Northern hardwoods and almost pure stands of hemlock or white pine occurred on some upland plateaus on the lake plain.

Wetlands were not extensive. However, numerous bogs occurred in the kettle depressions within the end moraines, and tamarack-black spruce swamps were in the broad valleys between broad ground-moraine ridges. Hardwood-conifer swamp occurred on the poorly drained portions of the lake plain. Larger flood plains were often dominated by swamp hardwoods.

Pre-settlement forest vegetation on the eastern holdings included northern hardwood forest, jack pine barrens, white pine-red pine forest, hardwood-conifer swamp, conifer swamp, and muskeg. Northern hardwood forests, with sugar maple and beech as common dominants, were concentrated on end moraines, ground moraines, and drumlin fields. Jack pine forests grew on extensive outwash plains, along with red pine-white pine forests where fires were less severe.

The sandy lake plain supported open peatlands dominated by shrubby black spruce, tamarack, and occasionally jack pine. Near the margins of the lake plain, there were also extensive swamps of northern white cedar. On the clay lake plain, the forest was a diverse mix of hardwood and conifer species, including white spruce, balsam fir, white pine, eastern hemlock, trembling aspen, balsam poplar, and red maple.

Over the entire region, large windthrows were documented in the GLO surveys for hardwood-dominated end moraines and shallow-soiled bedrock ridges. Fire was important on droughty outwash plains, bedrock ridges, and conifer-dominated wetlands.

The history of human influence on these landscapes is primarily one of resource extraction and exploitation. Logging of white and red pines for construction lumber began in the latter part of the 19th century and continued into the early 20th century. Logging of the pines was followed by logging of eastern hemlock for tannin from the bark and later logging of northern hardwoods for furniture and pulp. Iron and copper mining resulted in rapid, early development of the section, including logging for mine timbers, housing, and fuel. Typically, the better trees were logged first, followed by those of lesser value as shortages increased. Damage caused by late 19th and early 20th century logging and subsequent slash fires is still much in evidence today. Much of the land that was originally forested with northern hardwoods or pine was reforested with aspen-paper birch. Where northern hardwood covertypes are still found, stand quality tends to be poor due to previous periodic high-grading practices.

TFG's current management philosophy is to improve the quality and vigor of its forests through management. TFG relies primarily on uneven-aged management in its hardwood areas (which make up the vast majority of its holdings), removing poor quality and low vigor trees within accepted silvicultural guidelines. Given the inherited modest quality of much of the hardwood acreage, TFG's investment in returning quality sawtimber to these heavily impacted lands is exemplary. Their goal is to develop semi-natural forests in these areas and return them to higher biological and economic productivity.

Appalachian Properties

HFF properties visited by the Team included the North Carolina Champion property and the Elk River property in West Virginia. The North Carolina Champion properties consist of 21,798 acres originally purchased by Champion International Corporation over fifty years from various landowners in 21 separate, surface only parcels. The individual parcels are almost entirely forested and vary in slope from relatively flat to steep. Physiographically, the property is located on the eastern edge of the mountains and the western edge of the Piedmont. The parcels are scattered across 4 counties. Burke, and Caldwell Counties each contain 2 parcels, while McDowell and Rutherford Counties contain the remainder of the tracts and the bulk of the acreage. The Elk River forestlands are comprised of approximately 25,625 acres located in numerous tracts scattered throughout nine counties in eastern West Virginia and two tract in Avery county, North Carolina. Columbia Forest Products, a manufacturing corporation specializing in yellow pine, assembled these tracts from July 1993 to July 2001. Most of the acreage was purchased in 1996 in a single transaction from Webster Woodlands. Two tracts were purchased in the last three years. Roads or geographical features delineate many of the tracts' boundaries. Approximately 7% of the land area is classified as non-forest, with the majority of this reclaimed strip or surface mines.



Figure 3: Champion North Carolina Property, Appalachians.

The climate and weather conditions in the Southern Appalachians are fair to excellent for tree growth. Available moisture is the most critical factor for growth and is directly related to aspect, slope percent, and slope position. Northern and eastern aspects are generally the most productive sites because of more available moisture, and slopes with southern and western aspects tend to be the least productive, depending on steepness and slope position. Smith (1995) recognized four main forest cover types in the Southern Appalachian Region that are related to a soil-moisture productivity gradient. The type groups in order of increasing productivity potential are: (1) chestnut oak-scarlet oak, (2) white oak- black oak, (3) red oak-sugar maple, and (4) yellow-poplar- mixed hardwoods.

The chestnut oak-scarlet oak type generally occurs on the poorest sites, usually those with shallow, sandy or gravelly, dry soils associated with southern or western aspects. Other species commonly found in this type are sassafras, bear oak, blackgum, pitch pine, Virginia pine, and Table Mountain pine. The white oak-black oak type is the most widespread in the Southern Appalachian Region. This type generally occurs in the mountains on middle and lower slopes with a southern or western aspect or on the upper slopes and ridge tops on northern and eastern aspects. The type can also be found in the Ridge and Valley and Blue Ridge provinces. Composition of other species will vary with elevation and from north to south, but common associates are scarlet oak, chestnut oak, pignut hickory, shagbark hickory, red maple, American beech, black locust, southern red oak, and post oak. The red oak-sugar maple type is a very productive but extremely variable type in terms of composition. The type is most abundant on the Appalachian Plateau on cooler and moister sites. Species composition falls within the Mixed Mesophytic Type (Braun 1950). Species commonly found within the type are: northern red oak, yellow-poplar, sugar maple, black cherry, white ash, basswood, American beech, white oak, hickories, and cucumber tree. The yellow-poplar-mixed hardwood type is the most productive found in the Southern Appalachians and is generally restricted to the very best sites, e.g., those with deep, well-drained soils usually on gently sloping slopes with a northern or eastern aspect. Most common occurrence is in the mountains and plateaus of West Virginia, Virginia, North Carolina, Tennessee, and Kentucky. The type is generally dominated by yellow-poplar.

The properties have been used historically for timbering. Timber management including timber harvesting, site preparation, tree planting, access road construction and maintenance, prescribed fire and wildfire, game hunting and other associated forestry activities have been the predominant activities on the property for the better part of the past fifty to sixty years. The overall forest conditions on the properties can be described as typical for the region. The forest is primarily composed of medium-sized sawtimber, pole timber, and young regeneration of both hardwood and pine species. The overall quality of the timber can be described as average to good. Fire has had a role in affecting the quality and condition of some of the hardwood stands and has been used in the management of the pine stands. The property is almost entirely forested with no significant non-forested acreage. Due to the harvest history, most of the tracts have an adequate to good road system. Isolated secondary activities such as gold mining, field stone gathering, and borrowing fill material and gravel have occurred on a few of the parcels through the years. However, impacts from secondary activities are considered to be extremely minor.

One of the properties within the Appalachian area that was not included in the audit sample is the Emory River Tract in eastern Tennessee. This tract was initially certified to FSC standards in 1999 and annual audits were conducted on the tract from 2000-2003, indicating continued observance of FSC requirements and allowing TFG to test FSC certification for all their properties.

Eastern Shore Properties

The Eastern Shore properties owned by HFF consist of about 22,113 acres in 98 tracts located in Charles, Caroline, Dorchester, Somerset, Wicomico, and Worcester counties in Maryland. The temperate forests are composed primarily of loblolly pine plantations less than 30 years old established by the former owner and manager, Gladfelter Pulpwood Corporation, to produce pulpwood for their chip mill facilities in Delmar, DE and a paper plant in Spring Grove, PA. There are about 2000 acres of primarily bottomland hardwoods

and about 800 acres of cleared land harvested before 2003. Besides loblolly pine, tree species on the properties include several red oaks and hickories on the uplands and red oaks, ash, elms, cottonwood, and cypress in the bottoms.



Figure 4: Thinned Loblolly Pine Plantation, Maryland Eastern Shore

Much of the Eastern Shore region is made up of nearly level lowland flats characterized by windblown materials overlying alluvial and marine sediments consisting chiefly of gravel, sand, silt, clay, and shell fragments. These sediments can extend to depths of several thousand feet. There are three general elevation zones: 1) the flood plains, tidal marshes, and swamps, at elevations near sea level in many places; 2) the Pamlico Terrace, at 0 to 25 feet above sea levels; and 3) the Talbot and Wicomico Terraces, between 25 and 57 feet in elevation. The terraces were formed by melt waters from the continental ice sheet.

The earliest settlers in the region were Native Americans who are thought to have moved to the area between 3500 B.C. and 500 A.D. They were hunters and fishers who also developed agriculture during the later period of their settlement. They made extensive use of fire as a tool for land clearing, ridding areas of brush, brambles, and insects, and providing defensible space around villages. Their fire management practices were an important aspect shaping the development of forest ecosystems, favoring species like pine and oak that have higher fire-tolerance (see above).

The first English settlers arrived in the mid-1600s and were generally trappers and traders who settled along the waterways that provided the main transportation routes. Much of the land was transferred by land grants from Lord Baltimore. Tobacco was a mainstay crop, and was used as a medium of exchange for many years. By the end of the 18th Century,

tobacco had depleted soil fertility and the markets were becoming unstable, but the extension of the railroad from Wilmington to the Eastern Shore, as well as the growth of steamboat shipping, opened urban markets for agricultural products such as vegetables, chickens, corn, and soybeans. Timber for boat building was plentiful, and buyers from the North came to the Eastern Shore to purchase pine for masts. The oyster industry thrived around the turn of the 20th Century, increasing the demand for boat-building timber.

The widespread industrial harvest of Maryland's forests began in the 18th Century, when there were estimated to be 17 or 18 iron forges in the state at the start of the Revolutionary War. Records indicate that it took 22 cords of oak and hickory wood a day to make the 800 bushels of charcoal needed to produce two tons of pig iron. One furnace that operated almost continuously for a century required 10,000 acres of woodland. As cypress swamps and upland forests were logged, more wood was wasted than was used, and the great forests were largely exhausted by 1890. The conversion of forests to cultivated farmland probably peaked during the early years of the 20th Century, and continued slowly into the 20th century.

The HFF properties are part of a major effort by the State of Maryland to create and maintain a "Green Infrastructure" in the Chesapeake Bay watershed. The HFF IV property was purchased in cooperation with The Conservation Fund and the State of Maryland, and a Conservation Easement on the property is held by the State of Maryland as a result of that transaction. The Conservation Easement, while aiming to keep these lands in sustainable forest production, also imposes some special requirements on forest management, including:

- Achieving certification under an internationally recognized system ;
- Providing special SMZ protection to 8 named stream segments.

Large forest blocks are valued as contributors to the Maryland State Smart Growth objectives. The purchase of the Chesapeake Forests (58,000 acres) from Chesapeake Forest Products Company in 2000 and the conservation easement on the HFF IV lands (22,000+ acres) is part of the state's attempt to keep working forests intact in a region where agriculture is important and urban areas continue to grow. Keeping them in sustainable forest use was seen as a way of contributing to the future of the forest-based portion of the region's economy. Other small areas have been placed under conservation easement through the Rural Legacy and Forest Legacy programs.

TFG has three main objectives for the management of the Eastern Shore Forest property:

- The forests will be managed to provide the highest rate of return for HFF IV investors while being consistent with the maintenance and enhancement of the overall biological productivity of the lands;
- The forests will be managed in a manner consistent with the Conservation Easement held by Maryland DNR which states its purpose as "to perpetuate a sustainable working forest... encourage the long-term professional management of those forest resources... facilitate the biologically and economically sustainable production of the forest resources... and conserve and preserve the significant conservation values of the property, including the natural, environmental, scenic, rural, woodland and wetland characteristics..., and the diversity of plant and animal species and their natural habitats"; and,
- At the end of the management period, the overall condition of the forestland will be equal or superior to that at the time of acquisition.

In addition to the properties described above, TFG owns land in other parts of the eastern US. The following map provides a rough position of those locations. These additional properties will be audited in conjunction with annual audits.

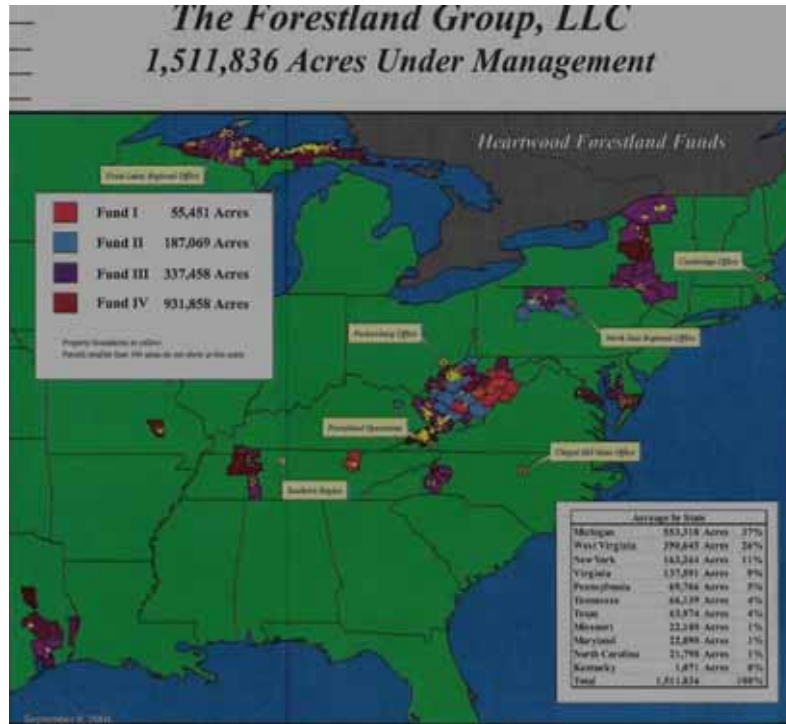


Figure 5: Location of TFG Properties

B. Size of forest management unit certified and forest use and area in production forest, conservation, and/or restoration

Land use	Area (ha)
Natural or Semi Natural Forest	1,346,593
Plantation	93,673
Protected area	7,397
Special Management Areas	44,380
Water	5,000
Infrastructure	14,793
Other uses	
Total Certified Area	1,511,836

C. Annual allowable cut and/or annual harvest covered by management

Growth and harvest data are available only for Funds I, II, and III. In 2002 and 2003 growth on these properties was about 275, 000 cords and harvest was 46%-50% of that amount. One goal of TFG is to increase the value of the property over time by increasing the stocking and volume of desirable material, so in the absence of unforeseen circumstances, harvests will remain well below growth rates.

D. General description of details and objectives of the management plan/system

HFF is a TIMO that began operation about 9 years ago. They currently administer four investment funds and are finalizing details for another. TFG is a forest management group for HFF with the responsibility for overall management of all properties in the funds. The organizational structure and personnel staffing of TFG is shown Appendix VI, Exhibit A. TFG contracts with various forestry consulting firms to do on-the-ground management based on specific management plans, policies and procedures. These management contracts are fairly specific as to the responsibilities of TFG and the firm, but are still evolving because of the short period of ownership on some of the properties.

HFF divides their holdings into four separate regions – Great Lakes, Northeast, Appalachian, and Southern (Table 2, FMO Map, Appendix VII). Central management for TFG is located in Chapel Hill, NC and Lebanon, VA, but each region has an office and a Director of Forest Operations, usually with one or two staff members. Management plans for properties differ somewhat between regions, and sometimes within a region, depending on such things as forest types and restrictions imposed on management by state or federal agencies, or by purchase agreements. However, all management plans follow a common “10-Year Forest Management Plan and Property Overview” template developed by TFG. TFG and the consulting firm under contract most often jointly develop the 10-year as well as one-year management plans for a specific property. HFF fund contracts are generally for a period of 10 years, so management plans are developed for that period of time, but can be extended for up to ten more years if the fund is extended.

The current pool members for the properties managed by TFG are considered to be the four Heartwood Forestland Funds. The general management philosophy, objectives, goals, and guidelines for management are specified in the fund contracts. The Management Committee of HFF delegates to the Forestland Management Committee (FLMC) the administration of all tracts in a Fund. TFG, acting through the FLMC, has responsibility for conducting forest management practices under these guidelines that will accomplish the goals and objectives of the investors. The Forest Management Authorization (FMA) provides the FLMC with certain powers as follows:

1. Create, implement, and modify both annual and ten-year operating forest management plans and budgets for individual tracts and aggregate plans and budgets for all tracts owned by a fund managed by TFG.
2. Sell timber on a Fund tract by either sealed bid offerings or by negotiation.
3. Supervise and oversee Timber Supply Agreements associated with Fund tracts.
4. Establish, supervise, extend, and terminate contracts with appropriate forest management consulting firms and others for the ongoing operational control of individual tracts.
5. Implement and contract for physical improvements to any Fund tract.
6. Identify and recommend out sales of portions of land and other assets to the Management Committee. Recommend the acquisition of adjacent or nearby tracts that are offered for sale to TFG directly and meet Fund objectives.
7. React quickly to fire, theft, insect, disease, severe weather, or similar problems.
8. Establish and execute agricultural and recreational leases; recommend establishment, extension, or termination of mineral leases to the Management Committee.
9. Undertake other activities necessary to manage Fund tracts.

TFG has two goals for management of HFF properties. These are:

- All forested tracts in a Fund are to be managed in such manner that will provide the highest rate of return for its investors while being consistent with the maintenance and enhancement of the overall biological productivity of each Fund tract.
- When a Fund is terminated, the overall condition of forestland tracts is equal or superior to that at the time of acquisition.

TFG intends to meet the above goals by focusing on the following objectives in these areas: Timber Management, Environmental, Infrastructure, Social, and Financial.

Timber Management

- Target stand harvest on stems financially mature, as well as stems with low potential for future value growth
- Retain and crown release well formed stems with the potential for accelerated growth in both size and value
- Release advanced regeneration of desirable species best suited to the site
- Modify harvest strategies in high density deer areas to obtain proper regeneration of desired species

Environmental

- Protect the quality of water resources on the tract through strict adherence to Best Management Practices
- Maintain and enhance adequate and appropriate wildlife habitat
- Sustain the biological characteristics of the forest types
- Further the knowledge of threatened and endangered species that exist on the subject property and efforts to protect their populations

Infrastructure

- Develop and implement a plan to improve the internal road networks
- Improve the information systems pertaining to the resources that exist on the property
- Evaluate acquisition and disposition opportunities in order to improve tract blocking and access

Social

- Create no significant or enduring reduction of the scenic attractiveness of the property
- Actively participate in community affairs
- Support local schools, fire departments and organizations in an effort to raise awareness of the TFG goals and objectives

Financial

- Develop a strategic timber marketing mechanism that will substantially exceed local markets
- Develop revenue from mineral/sand/gravel reserves as feasible
- Develop revenues from the proper disposition of non strategic timber parcels
- Achieve a 10% real rate of return on the property

TFG uses single tree selection, group selection, thinning, timber stand improvement, and small patch clearcuts for regeneration of shade tolerant species. Cutting cycles in the stands will normally be about 15 years. In the Appalachian region, uneven-aged methods of regeneration have not proven economically or biologically satisfactory because of the relatively low light tolerance of most species desirable for timber or wildlife purposes. Even-

aged methods of regeneration (shelterwood, clearcutting, deferment cutting) will be used in most cases. When clearcutting is employed, the harvest will conform to Appalachian Regional FSC Standards for size and retention. Harvesting strategy on the Eastern Shore, where most stands are loblolly pine plantations, will focus on loblolly pine sawtimber production. Some hardwood will be maintained within the stands, largely for stand diversity and habitat enhancement, and will be harvested in final harvests except where it is retained as part of a habitat retention area. The harvest sequence will normally consist of two commercial thinning operations, one at about 13-16 years of age and the other at about 20-28 years and a final harvest at age 40-45. The final harvest will normally be a clearcut but regeneration could be obtained with a shelterwood or seed tree cut. Regeneration in all regions will be from seed, seedlings in place, and coppice except where planting may be necessary to supplement natural regeneration or re-establish a species on a site (e.g., planting of pines on sites in Michigan where they formerly grew and are not now present in desired numbers, or replanting or supplemental planting of pines on sites on the Eastern Shore where natural regeneration is not successful).

Timber harvests are most often handled as sealed bids, but can be negotiated when deemed appropriate. These negotiated sales are most often used to satisfy timber supply agreements. TFG and their consultants do not employ loggers or contractors. The logger may sometimes be the purchaser of the timber but most often is contracted by the buyer. TFG and the consultants generally have very good working relationships with purchasers and loggers. Many of the loggers harvested timber on the tracts long before they were purchased by HFF. TFG and the consultants can and often do prescribe the location of logging roads and skid trails and they have the authority to stop any operation that becomes destructive of the site or resource. The consulting firms employed by TFG have offices in area where the tracts are located, and they and TFG generally are active in community affairs and are well known to the local residents.

1.4 Environmental and Socioeconomic Context

The Forestland Group, LLC is the forest management unit of the Heartwood Forestland Fund. The timberland investment management organization (TIMO) was formed in 1995. The focus of the TIMO is on naturally regenerating hardwood and softwood forests. As of June 30, 2004, over 1.5 million acres have been acquired in 11 states. The in-field, forest management team consists of Vice President of Forestland Operations who coordinates the Directors of Forest Operations for the Great Lakes (e.g., Mead, Ned Lake, Bishop Properties), Appalachian Region (e.g., Elk River Property), Southern Region (e.g., North Carolina Champion Property), and Northeast Region (e.g., Champion, Hancock, Maryland Eastern Shore Properties).

NORTHEAST REGION

HFF forestlands assessed in the Northeast Region consisted of three properties (Champion, Hancock, Maryland Eastern Shore Forests) totaling 138,200 acres in New York and 22,090 acres in Maryland. The New York properties are located in Broome, Chenango, Delaware, Franklin, Herkimer, Lweis, Otsego, St. Lawrence, and Ulster Counties.. The Maryland properties are located in Charles, Caroline, Dorchester, Somerset, Wicomico, and Worcester Counties.

Hancock Properties:

The Hancock Property straddles state highway 17 and spreads across southeastern New York near the towns of Windsor, Hancock, and East Branch. Hancock forestlands total almost 23,000 acres. The landscape surrounding TFG-managed forestlands is heavily forested and rural: small hamlets are thinly scattered along transportation routes in the valleys beneath steeply-sloped, wooded hillsides. Some valley bottoms are farmed or pastured. The nearest city of any size is Binghamton, New York, which is over 50 miles to the west. Land ownership is dominated by New York State Catskill Forest Preserve (CFP). Public and private forests are heavily utilized for recreation (e.g., hunting, fishing, hiking, camping, snowmobiling, ATV use) by locals and by tourists from New York City, northeastern Pennsylvania, and New Jersey. Some private forestlands are leased for hunting, fishing, and other recreational uses. Most Hancock lands are leased to private hunting or fishing clubs. Local communities are supported by taxes paid by public and private forest landowners which also are a minor source of local employment. One non-traditional timber resource, blue slate (blue stone) is mined from quarries and supplements the local economy. There are no local tribal communities, nor are there any indigenous concerns or disputes regarding land use or title to ownership. Harvested sawtimber is milled locally; pulpwood is trucked considerable distances to paper mills or other destinations. Forest landowners attempting to practice sustainable forestry face similar challenges: truncation of species richness related to disease, decline, and white-tailed deer; domination of understories by ferns and striped maple; near elimination of advance regeneration by white-tailed deer; and domination of salvage logging over traditional tending operations, necessitated by locally widespread and extensive die-off and blowdown.

The sites lie within a largely forested landscape of maturing second growth northern hardwood/Allegheny hardwood forest type. The properties either abut or are within a few miles of the CFP. Scattered within this landscape are smaller private forestland holdings. Public watersheds for local communities lie within this mix, particularly in the CFP, but none fall within forestlands managed by TFG. The area lies within a relatively underdeveloped region of New York. Local communities are rural, small, and poor. No non-traditional timber resources are harvested, excepting blue stone quarries which enhance the local economy. Natural disturbance factors include downdrafts/wind shear and wind storms: heavy rains and saturated soils lead to prevalent flooding. Ice storms are a minor disturbance factor. The breadth and aggregate acreage of a great variety of habitat types and vegetative species provides a high degree of floral and faunal diversity. Because of the great diversity and associated large acreage of wildlife habitats, the CFP represents a regional bio-reserve of high value, providing source habitat (i.e., habitat of sufficient quality and quantity that attracts and retains populations of individual wildlife species) rather than sink habitat (i.e., habitat of high value that attracts individuals of wildlife species which cannot sustain local populations because aggregate acreage is too small).

Within the last 20 years, the south-central region of New York has experienced a decline in sugar maple (due to a combination of persistent drought, multiple defoliations in the early 1990s by the elm spanworm and forest tent caterpillar, and relative soil infertility related to nutrients essential to sugar maple health), and widespread mortality of American beech (due to the scale insect/nectria fungus combination that kills overstory trees). Coupled with these long-term mortality factors has been recent large and small-scale blowdown of trees: the three factors produced a situation where the majority of recent forest management operations have consisted of salvaging dead, dying, and/or wind thrown trees. Prior to European settlement, the primary natural disturbance factor was windthrow caused by tornados, hurricanes, and

tropical storms that knocked down blocks of trees ranging in size from less than an acre to thousands of acres. Ice storms were infrequent and did not impact large acreages.

The anticipated advance regeneration of seedlings stimulated by opening of the overstory canopy has been thwarted by another devastating factor: browsing impact by the overabundant white-tailed deer herd. The regional herd has exerted enormous influence over biodiversity by greatly truncating plant species diversity and vertical structure (virtual elimination of shrub and herbaceous layers with concomitant reduction in species richness and abundance and near elimination of advance regeneration of tree species preferred as forage), and deer herd health. Regional studies have shown that, as deer herds expanded from 1920 to 1990, understory plant species dynamics changed dramatically with elimination of some woody species. Deer impact on forest regeneration is less in farm country because there is more food for deer. Areas that are 90+% wooded are problem areas for deer. The resulting lack of competition for resources led to proliferation and virtual domination of the understory by plants deer avoid eating, such as New York and hay-scented ferns, native grasses, and American beech and striped maple (trees highly resistant to deer browsing). Virtually all forest understories within the region are dominated by ferns, grasses, and/or striped maple and beech (sprouts), creating regeneration and biodiversity problems.

Champion Properties:

Champion forestlands total almost 115,000 acres. Excepting the tourist towns of Saranac Lake, Lake Placid, and Tupper Lake, the area is rural with low human density. Significant land ownership patterns have included agriculture and timber production, and at one time there was a flourishing iron ore extraction and smelting industry. The closest metropolitan area is Montreal, Canada to the north. Larger metropolitan areas include Syracuse, New York, to the southwest, Albany, New York, to the southeast, Ottawa, Canada, and Montreal, Canada to the north and northeast, respectively. The New York Corrections Department (prisons) and tourism are the largest employers in the area; the forestry profession (e.g., haulers, skidders, fellers, consultants) forms a lesser component of the local workforce.

Markets exist for forest products in this area. In the immediate locale, there are many sawmills and wood purchasing concentration yards. Pulp using facilities are all within New York or across the border in Canada. Pulp is usually sold to International Paper mills in Corinth and Ticonderoga, New York, and to Finch Pruyn, in Glens Falls New York. Increasing pulpwood volumes go into Domtar facilities in Cornwall, Ontario and a Frasier mill in Thurso, Ontario. Chipwood moves to Burlington Electric in Burlington, Vermont, Domtar in Cornwall, Ontario, and to the fuel facilities in Chatequay, and Lyonsdale, New York. There is a large market for firewood in this area as well.

When Champion Paper sold its lands that formed the basis for TFG land acquisition, approximately 29,000 acres, primarily along open waterways, bogs, and major flowages were sold to the New York Department of Conservation. (NYDEC), and 114,000 acres were sold to TFG. As part of the purchase agreement that included Champion Paper and the NYDEC, TFG provided permanent access easements to the NYDEC for public recreational use.

Most of HFF land is leased to private clubs for hunting and fishing. However, lands it leased to NYDEC, through a conservation easement, are open to public hunting and TFG allows public access during hunting seasons. HFF lands encompassed by the AFP boundaries are strictly regulated for a number of uses including forest management. While the arrangement with the NYDEC permits traditional hunting and fishing by the general public all current

leases on AFP lands were to be eliminated by 2005 with the entire area open to public use. TFG accommodated some lessees by allowing them to move their cabins to the Champion Property; however, the APA requires those arrangements to cease in 2013.

TFG contributes to local and regional forestry professional and outreach programs by conducting public tours and professional workshops and assists in logger training exercises by providing sites and equipment. It also provides public access to a number of recreational trails. Over the last few years, TFG has focused on salvage operations, particularly due to windthrow, ice storms, and beech scale disease, to utilize the wood before it lost value.

The landscape in the AFP surrounding and including HFF lands represents a full range of successional stages, including even-aged early succession, sapling, and second-growth stands, and uneven-aged second growth and old growth. Lakes and ponds abound throughout the park, as do myriads of riparian zones. Beaver meadows form permanent grassland savannas in places. As in the CFP the size, complexity, aggregate acreage, and connectivity of the forests in the AFP landscape provides a plethora of habitats for a similarly wide diversity of plant and animal communities. Like the CFP, the AFP represents a regional bio-reserve of high value.

The major natural disturbance factor, as evidenced by a pit-and-mound topography, is windthrow by tornadic winds: small windshears may lay down small blocks of trees (approximately 5-25 acres), other, larger winds, including remnants of hurricanes and tropical storms, may disturb hundreds to thousands of acres. Ice storms cause spotty tree and in some areas extensive damage and mortality, and the area is within the killing front for the beech bark disease complex which regionally has resulted in much beech mortality. Browsing impact by the white-tailed deer is a localized factor limiting regeneration, as is interference (to advance regeneration of tree species) by ferns and American beech.

HFF forestlands provide a contrast with adjacent AFP lands: trees within managed HFF lands are younger and dominated by hardwood species; trees within AFP lands without a history of timber extraction contain older trees which may be dominated by conifer species, and by more and larger snags and logs.

There are few endangered/threatened plants or animal species (federal status) within the AP. The Natural Heritage Program of the New York Department of Environmental Conservation has listed as federally-endangered one animal (Karner Blue butterfly), and one plant (northeastern bulrush), two threatened animals (Indiana bat, bald eagle), and one threatened plant (small whorled pagonia). The large and diverse public land holdings within the AFP minimize the potential for endangerment/imperilment, as does the permanent protection and prohibition of development of state forestland. The AFP contains several small to medium-sized human communities that depend upon water provided by local watersheds, but larger metropolitan areas farther south (e.g., New York City) obtain water from other watersheds south of the AFP. The AFP contains several rivers in the wild and scenic category for which environmental safeguards are in effect.

The AFP is sufficiently far north that deer form “yards” within which they wait out severe winter weather. Deer yards are usually found in low, sheltered areas out of the wind with a continuous conifer cover where food sources are not drifted over with snow and deer can move about freely. Such areas provide important habitat components for white-tailed deer.

Maryland Eastern Shore Forests Properties

The Lower Eastern Shore of Maryland is located on the Delmarva Peninsula. The region is surrounded on two sides by the Atlantic Ocean and the Chesapeake Bay. It is bounded by the Delaware on the north and connected to two Virginia counties on the south. Part of the Atlantic Coastal Plain, it is a mix of lowland flats, freshwater swamps, salt marshes, forested and non-forested wetlands and uplands consisting of about 22,113 acres in 98 named tracts

The Eastern Shore Forests properties were formerly owned and managed by the Glatfelter Pulpwood Corporation, and were used to produce pulpwood for their chip mill facilities in Delmar, Delaware, and the paper plant in Spring Grove, Pennsylvania. The chip mill at Delmar was built in 1967 and replaced in 1990. The new mill tripled production and represents about 12% of the total wood needs of Spring Grove. The Delmar facility produces 85-90% pine chips.

The company started buying forestland on the Shore in about 1957, and the lands in question were purchased between then and 2000. In the late 1960s, when tree-length logging of pine became the norm in the area, the upgraded mill allowed the company to be competitive in handling tree-length logs. The Delmar facility was used as a wood yard, where the company could sort production from purchased stumpage as well as the mixed stands on their purchased land, sort sawlogs for resale elsewhere, and chip the remainder.

The company focused on purchasing forestland in the late 1970s and early 1980s, usually purchasing a mixed forest from private landowners, harvesting it, and converting it to pine plantations. The forestlands purchased had a long history of private ownership, and often had been agricultural fields at some point in the past. By 2000, the company owned and managed some 44,500 acres of land in Maryland and Delaware, according to the company's web-site. As purchased lands became more oriented to pine plantations, the production from those plantations provided around 75% of the Delmar chip mill's wood. Sawlog merchandising, to the extent it was done, was facilitated in the woods. The company decided to sell its land holdings in 2002, as part of a planned restructuring, resulting in the purchase by HFF.

The general management plan on the Glatfelter pine plantations was a 30-year pulp rotation with a 5-year plus or minus window. By the 1990s, the company was well into that rotation. In general, harvested tracts were site-prepared and planted. Site preparation was either mechanical or chemical, or a combination, depending on what was needed. Some pre-commercial thinning was done, but no commercial thinning. Final harvests were generally conducted at age 25-35.

Land use patterns within the five counties on the Lower Eastern Shore are dominated by water, wetland, forest, and farmland. Taken together, water areas and wetlands make up almost 40% of the area within the region's boundaries. Much of the forestland has been cleared and farmed at some point in the region's history. As a result, there are few areas that contain forest systems thought to be representative of the pre-settlement period. Almost all of the region's forests are re-grown after clearing or logging, either through natural regeneration or planting. During the farming period, it was common that drainage ditch systems were constructed to allow cultivation of the seasonally wet soils. Today, it is common to find the remnants of those drainage systems within forested areas, and there are still many active drainage ditches through forest properties that are maintained to provide drainage to neighboring agricultural lands.

Agriculture and forestry are the most common industries on the Eastern Shore. Farming includes field crops such as soybeans, small grain, corn, and vegetables. The main agricultural enterprise

is the raising of poultry as broilers, most of which are processed locally before being shipped to market. Some livestock raising is also present but not nearly as common as chickens. Forest products are a significant source of income. Forested lands are important for recreation, and hunting leases are a common income generator for forest landowners.

The shores of the Chesapeake Bay, and the fields and forests of the adjoining lands are favorable habitat for a variety of wildlife, including game species such as deer and turkey. It is a central portion of the Eastern flyway for migratory waterfowl. Bald eagles are common throughout the area. Fish and shellfish in the Chesapeake Bay are a major source of economic activity as well as attracting sportsmen and outdoor recreation.

Large forest blocks are valued as contributors to the Maryland State Smart Growth objectives, as stated by Maryland's leaders while they were developing the plan to purchase the Chesapeake Forest lands. Taking those lands into state ownership was seen as a way to prevent their further loss to development, and the further fragmentation of what remains of the intact blocks of forest in the region. At the same time, keeping them in sustainable forest use was seen as a way of contributing to the future of the forest-based portion of the region's economy. Similar arguments were the basis for the State's purchase of the conservation easement in the transaction that created the HFF property.

Much of the region is made up of nearly level lowland flats characterized by windblown materials overlying alluvial and marine sediments consisting chiefly of gravel, sand, silt, clay, and shell fragments. Sediments can extend to depths of several thousand feet. There are three general elevation zones: 1) flood plains, tidal marshes, and swamps, at elevations near sea level in many places; 2) Pamlico Terrace, at 0 to 25 feet above sea levels; and 3) Talbot and Wicomico Terraces, 25-57 feet in elevation. The terraces were formed by meltwaters from the continental ice sheet.

Topsoil textures for the mineral soils are commonly sandy loams or loamy sands. Some areas of dunes exist, with deep sands or sand over finer-textured subsoil. In the lowlands and marshes, there are large areas of organic muck soils. In general, the organic muck soils are very poorly drained, and many are too wet for any type of forest or agricultural management. The lowland mineral soils are poorly drained, but are often highly productive forest sites where stands can be established. The sands are droughty, and often of low productivity.

The low elevation, flat topography, sandy soils, and shallow groundwater of the outer coastal plain create close contact between human land use activities and aquatic systems, making this region a focal point for water quality issues. Aquatic systems can be grouped into four categories: groundwater, wetlands, streams, and tidal waters.

GREAT LAKES REGION

HFF forestlands in the Great Lakes Region consist of three properties (Mead, Ned Lake, and Bishop) totaling 553,318 acres all located in the Michigan's Upper Peninsula (UP). County locations include Alger, Baraga, Chippewa, Gogebic, Houghton, Iron, Keweenaw, Luce, Marquette, Ontonagon, and Schoolcraft. Michigan's UP is sparsely populated, just over 317,616 in 2000 spread over 15 counties in an area larger than that of Massachusetts, Rhode Island, Connecticut, and Delaware combined. Due to a thriving tourism industry, the area abounds in restaurants, motels, resorts, campgrounds, parks, and sites honoring early explorers and its colonial, copper and iron mining, logging, and maritime history. Forestry is also a major

industry as well. The UP is bordered on three sides by Lakes Superior, Michigan, and Huron, and shares a border with Wisconsin on the west. The International Bridge at Sault Ste. Marie, site of the world-famous locks, links the UP to Canada.

Mead Properties:

In 1998, The Forestland Group purchased 78,110 acres from the Mead Corporation. These tracts are located in Houghton and Keweenaw Counties of Michigan's Western UP. It is composed of nine compartments (Allouez, Gay Mohawk, Gratiot Lake, Lac La Belle, Misery Bay, Portage Lake, Salmon Trout, Sante River, and Twin Lakes) ranging in size from 3,526 to 20,356 acres. The property contains a variety of forest cover types that are commonly found within this Northern Great Lakes region, but is dominated by the northern hardwood type. Topographic relief is variable with ground surface elevations varying from 650 feet above mean sea level to over 1,500 feet. Access is good throughout most of the ownership.

The primary subject economic area is comprised of Houghton and Keweenaw Counties. The 2000 census results reveal county populations of 36,016 and 2,301 respectively. The twin cities of Houghton and Hancock are centrally located within the tracts' distribution. Together they combine for a population of approximately 11,333 (2000 census). Houghton is home to one of Michigan's top five universities, Michigan Technological University. This school is nationally recognized for its programs in Engineering and Forestry. It is also the largest employer within the area. Two major metropolitan areas are a four-hour drive away with Green Bay, Wisconsin, located 215 miles to the south, and Duluth, Minnesota, 215 miles to the west.

Michigan drains entirely into the Great Lakes–St Lawrence system. The Mead property is contained within the Lake Superior portion of this waterway. The region is relatively well supplied with water and during European settlement of this region, rivers furnished the common medium for log transport from woods to mill. This activity has contributed to the degradation found on some of the streams within the area.

Northeastern Minnesota, northern Wisconsin, and the western half of the UP of Michigan are included in the "Superior Upland" physiographic region. Albert et al. (1986), classified in their work of the regional landscape ecosystems of Michigan, the subject property to be characterized by one of five different subdistricts based upon site conditions and climate summaries. A habitat classification scheme also exists for the region. Some of the Mead tract has been habitat typed according to classification system. As opportunities permit, further inventory and classification work will occur to assist in management decisions and landscape level planning.

Ned Lake Properties

The Ned Lake Properties were acquired in 2001 from Ned Lake Timber & Land Company (NLT). Totaling 91,117 acres, they are located in Iron, Baraga, Houghton, and Ontonagon Counties of Michigan's Western Upper Peninsula. The property lies in a more or less north, south band. The most southerly parcels in Iron County lie just north of the Michigan and Wisconsin border. The northern most parcels lie only a few miles from Houghton County's Lake Superior shoreline. The property is composed of 17 compartments ranging in size from 641 to 15,256 acres. It contains a variety of forest cover types commonly found within this Northern Great Lakes region, but is dominated by the northern hardwood type. Topographic relief is variable with ground surface elevations varying from 800 feet above mean sea level to 1,875 feet. Access is good throughout most of the ownership.

Ned Lake properties were acquired by HFF from NLT in April of 2001. NLT had acquired most of this tract from the American Can Company in January of 1988. During NLT's ownership, thousands of acres were purchased, traded, and or sold in conjunction with NLT's return on investment strategy. The strategy resulted in much fragmentation of the original 120,000 acres with tracts having water frontage or little hardwood timber value sold. Acreage growing predominately northern hardwood timber was retained and harvested on a seven year to 10-year thinning cycle to support two sawmills. Prior to Ned Lake's purchase in 1988, Primerica, American Can Company, Marathon Box Company and Patten Timber Company all took their turns with ownership of much of the subject property.

Iron County itself is named after the discovery of iron in 1851 by a surveyor's compass reading leading him to an exposed iron deposit. Advancements in railroads transported Midwesterners into the wilderness for a mining boom in the 1880s. Mining continued into the 1930s. Numerous sawmills sprouted in the 1890s taking advantage of floating logs on numerous river systems. The second largest industry of lumbering is still present today. Employment now is largely based on retail and tourism. Although Iron County has no Great Lakes shoreline a vast number of in-land lakes, rivers and streams and its proximity to larger population bases to the south, provide for year round outdoor recreation. Small farms are dotted throughout the landscape. One of the more notable farms from the past is the Triangle Ranch. Located just northwest of Amasa, it raised beef, chickens, and dairy cows, operated a beaver farm, produced maple syrup and served as a dude ranch. Today, most of the farm is occupied with conifer plantations.

The primary subject economic area is comprised of Iron and Baraga Counties. The 2000 census results reveal county populations of 13,138 and 8,746, respectively. Typical developments in the local area are based on the mining and lumber history as well as farming and tourism. Iron River and Crystal Falls are located to the South of the Village of Amasa, with Baraga and L'Anse located to the North of Amasa. Amasa is centrally located within the tracts' distribution. These communities include small manufacturers of heavy equipment and various goods, medical facilities and rural school districts. The nearest full service community is Marquette, Michigan, which is home to Northern Michigan University (NMU). Programs at NMU feature a prominent Nursing and Liberal Arts curricula's. It is also the largest employer within the subject area. Marquette, Michigan serves the regional area in housing the federal and circuit court location for the UP. Two major metropolitan areas are a three-hour drive away with Green Bay, Wisconsin located 150 miles to the south, and Duluth, Minnesota, 180 miles to the west.

The climate surrounding the Ned Lake property is highly varied based on topographical variations, numerous inland lakes as well as Lake Superior to the north. Average snowfalls exceed 85" annually, with an average of 142 days per year having at least 1" of snow on the ground. Northern portions of the subject property are impacted by lake-effect snowfalls that can exceed 300" annually. The average daily temperature in January is 20 degrees F, while the average July temperature is 78 degree F. The frost-free period or growing season is short, ranging from 87-106 days annually.

The elevation ranges from around 800 feet above sea level near the town of L'Anse to over 1,820 feet near the community of Michigamme. Most elevations are between 1,000-1,600 feet on nearly level to hilly terrain. Continental glaciation and bedrock geology have played key roles in shaping the region's physiography, based upon Iron and Baraga County records.

SOUTHERN REGION

The Southern Region consists of the North Carolina Champion (21,798 acres), the Emory River (30,864 acres), and the Texas properties (63,974 acres). The Texas properties are located in southeast Texas and are mostly in pine plantation. The Emory River properties, located in Tennessee near Oak Ridge, have been FSC certified for five years. These tracts are primarily classified as hardwood stands.

North Carolina Champion Properties:

North Carolina Champion forestlands 21,798 acres consist of parcels scattered across 4 counties. Burke, and Caldwell Counties each contain 2 parcels, while McDowell and Rutherford Counties contain the remainder of the tracts and the bulk of the acreage. Champion purchased two of the large tracts in McDowell and Rutherford counties from large industrial forestry companies, specifically Bowater/Cowan and Canal. All of these parcels have been primarily managed for timber production over the past several decades. Isolated secondary activities such as gold mining, field stone gathering, and borrowing fill material and gravel have occurred on a few of the parcels through the years. Impacts from secondary activities are considered to be extremely minor.

Timber management including timber harvesting, site preparation, tree planting, access road construction and maintenance, prescribed fire and wildfire, game hunting and other associated forestry activities have been the predominant activities on the property for the better part of the past 50 to 60 years. The tracts more recently purchased by Champion from non-industrial private forest landowners have not been as intensively managed for forestry; however, these parcels have generally been maintained as forests. One of TFG's goals is to increase and maintain physical control over the property. For the most part, the property boundaries have been well marked during the ownership of Champion. Painted boundaries and some signage exist on most parcels. The presence of hunt clubs and the North Carolina Game Lands Program have provided additional identification of approximate boundaries.

The area surrounding the North Carolina Champion property is characterized as rural and residential. Agriculture and forestry-related industries are common throughout the five-county area. Popular regional and national tourism and recreational centers are within an hour of the property. Large, modest to up-scale residential developments offering small, wooded tracts for secluded home sites are numerous near the property. These types of developments appear to be increasing in number and size as people move from more populated areas such as Charlotte and Asheville, North Carolina. Overall, the population would be considered rural, with an expanding number of residential developments.

The North Carolina Champion property is located on the edge of the western Piedmont and the eastern Mountain physiographic regions of western North Carolina. Elevations range from 1,000 feet above sea level, at the Catawba and Second Broad Rivers, to 3,500 feet in the western foothills. The Blue Ridge Mountains immediately to the west reach much higher elevations. The topography of the property consists of rolling hills and narrow, meandering stream bottoms. The hills are generally narrow with winding ridgetops.

The North Carolina climate is generally quite favorable to growing quality sawtimber. The average growing season for the subject parcels lasts about 190 days with average summer temperatures about 74 degrees Fahrenheit and average daily winter temperatures about 41 degrees Fahrenheit. Average annual precipitation ranges from about 50 to 60 inches, and snowfall averages 13 inches though there is little accumulation. The counties where the property is located are generally sheltered from extreme northwesterly weather events by the

Blue Ridge Mountains. There are annual Atlantic storms that affect the climate and an occasional hurricane.

APPALACHIAN REGION

The Appalachian Region consists of the Elk River forestlands (25,625) and a number of other parcels approximating 365,000 acres. The property consists of 43 separate tracts situated in eastern central West Virginia. These are located in Braxton, Fayette, Greenbrier, Nicholas, Preston, Webster, Upshur, Lewis, and Gilmer Counties.

Elk River Properties:

The Elk River forestlands are located in numerous tracts scattered throughout nine counties in eastern West Virginia and two parcels in Avery County, North Carolina. Columbia Forest Products, a manufacturing corporation specializing in yellow pine, assembled these tracts from July 1993 to July 2001. Most of the acreage was purchased in 1996 in a single transaction from Webster Woodlands. Two tracts were purchased in the last three years. Roads or geographical features delineate many of the tracts' boundaries. Approximately 7% of the land area is classified as non-forest, with the majority of this reclaimed strip or surface mines.

This area is very lightly settled, mountainous timberland, with occasional active strip mines. In a few moderately sloping mountaintop areas and hollows, there are cleared pastures. Land use is dominated by timberland, with a small amount of farm and residential holdings.

The Elk River properties are located in the southern portion of the eastern Allegheny Plateau and Mountains, which extend from Pennsylvania southwest through eastern West Virginia. The topography is hilly to mountainous throughout, characterized by steep slopes and narrow ridgetops. The elevation varies in total by about 1,000 feet from near the Elk River to the highest peaks on the property. Slopes of less than 10% are difficult to find. The major population centers are Summersville, with a 2000 population of 3,294, is the county seat of Nicholas County, and Beckley, with a 2000 population estimate of 17,254. The corridor of Highway 19/I-79 to the west is also a population zone of increasing importance. This region of West Virginia has an eastern continental mountain that is characterized by moderately long days, moderately growing and moderately cold winters with very short cold spells. Weather conditions depend on elevation, which ranges from 700 feet on the lowest valley floors to 1,800 feet or more at the highest ridgetops. Average annual precipitation is in the range of 45 to 55 inches and is fairly well distributed throughout the year.

Until the 1960s, coal mining and associated industries such as chemical manufacturing, along with a significant amount of timber processing and agriculture, were the economic forces. In most of the state, coal and agriculture have been declining in importance for decades resulting in persistent regional unemployment. Improving mechanization has permitted coal production to stay steady or actually increase. As the state's infrastructure has continually been upgraded, the importance of the forest industry has grown, with production of hardwood lumber and timber being diversified into oriented strand board, plywood, paper, and pulp. Further investments in forest industry are expected to occur in various locations throughout the state. Improved highway access is however encouraging a steady growth of tourism in the New River Gorge and Gauley recreation areas.

1.5 Products Produced and Chain of Custody

A. Chain of custody certificate

This will be a joint FM/COC certificate that will cover the certified forest products up to the forest gate.

B. Species and volumes covered by the certificate

Table 1: Certified Production

Species	Scientific name	Volume (m ³ per yr)	Product
Red Oak	<i>Quercus rubra</i>	21,148	stumpage
Black Oak	<i>Quercus velutina</i>	12,084	stumpage
White Oak	<i>Quercus alba</i>	15,105	Stumpage
Chestnut Oak	<i>Quercus montana</i>	21,148	Stumpage
Scarlet Oak	<i>Quercus coccinea</i>	9,063	Stumpage
Yellow-Poplar	<i>Liriodendron Tulipifera</i>	39,274	Stumpage
Cucumber	<i>Magnolia acuminata</i>	3,021	Stumpage
Pop/Cuc Peel		3,021	Stumpage
Basswood	<i>Tilia heterophylla</i>	9,063	Stumpage
Ash	<i>Fraxinus</i>	6,042	Stumpage
Sugar Maple	<i>Acer Saccharam</i>	42,295	Stumpage
Red Maple	<i>Acer Rubrum</i>	24,169	Stumpage
Black Walnut	<i>Juglans nigra</i>	3,021	Stumpage
Black Cherry	<i>Prunus serotina</i>	9,063	Stumpage
Sycamore	<i>Platanus occidentalis</i>	3,021	Stumpage
Beech	<i>Fagus grandifolia</i>	9,063	Stumpage
Birch	<i>Betula lutea</i>	6,042	Stumpage
Locust	<i>Robina Pseudo-Acacia Linnaeus</i>	3,021	Stumpage
Hickory	<i>Carya ovata</i>	9,063	Stumpage
Aspen	<i>Populus</i>	3,021	Stumpage
Elm	<i>Ulmus Americana Linnaeus</i>	3,021	Stumpage
Paulownia	<i>Paulownia tomentosa</i>	3,021	Stumpage
Black Gum	<i>Nyssa sylvatica</i>	3,021	Stumpage
White Pine	<i>Pinus Strobus</i>	6,042	Stumpage
Yellow Pine	<i>Pinus echinata</i>	9,063	Stumpage
Virginia Pine	<i>Pinus virginiana</i>	3,021	Stumpage
Red Pine	<i>Pinus resinosa</i>	3,021	Stumpage
Spruce Fir	<i>Picea/Abies</i>	3,021	Stumpage
Hemlock	<i>Tsuga canadensis</i>	9,063	Stumpage
Miscellaneous		6,042	Stumpage
		+/- 3,021,087	

C. Description of current and planned processing capacity covered by the certificate

TFG does not now have processing facilities and has no plans to secure such facilities in the future.

2. CERTIFICATION ASSESSMENT PROCESS

2.1. Assessment Dates

September 28	Stakeholder public notices distribution starts
October 24	Initial Team meeting in Durham, NC
October 25	Initial Team meeting with staff of TFG
October 26-29	Field assessment of Champion property in New York
November 1	Stakeholder Surveys mailed
November 1-4	Field assessment of Mead and Bishop properties in Michigan
November 6—8	Field assessment of Champion property in North Carolina
November 9-10	Field assessment of Elk River property in Virginia
November 12-13	Field assessment of Eastern Shore property in Maryland
November 14	Deliberations and report preparation
November 15	Deliberations and debriefing of TFG staff
November 16	Begin report write-up and continue stakeholder interactions
December 1	Begin compilation of results from Stakeholder Surveys
December 17	Draft report to TFG for initial review and fact-checking/comment
January 25, 2005	Comments received from TFG
March 10	Draft report to peer reviewers and SmartWood headquarters
April 11	Comment back from peer reviewers
April 19	Final information received from TFG
April 19	Report finalized and decision memo completed
	Certification Contract signed and received by SmartWood*

*tentatively scheduled

2.2. Assessment Team and Peer Reviewers

John Hodges, Team Leader, BS in forest management, MS in silviculture, Ph.D. in Ecology/plant physiology, 12 years experience in management and research with the U. S. Forest Service, 23 years as professor of silviculture at Mississippi State University, and 3 years as Vice President and Land Manager for Anderson-Tully Company. John is a specialist in the ecology and management of hardwoods and now serves in a part time capacity as hardwood specialist for Mississippi State University Extension Service. He has been a Team Leader for 12 forest management and chain of custody certifications and audits and has served as team member for several others.

Stephen C. Grado, Social Assessor, Professor, Department of Forestry, Mississippi State University. In 2002, he participated in a SmartWood Forest Assessor Training Workshop and a Tree Farm Certification Workshop (Qualified Inspector No. 17186). In October 2003, he passed the Society of American Foresters Certified Forest Auditor's exam. He is also a member of Society of American Foresters Sustainability and Forest Certification Working Group. Steve has experience with many aspects of the forest certification process. In 2000, he participated as the Social Assessor (Economist) of a SmartWood forest certification assessment team evaluating the Anderson-Tully Company. In February 2001, he participated as a member of a forest monitoring project team auditing the Weyerhaeuser Company under the AF&PA SFI Standards. He was the Forester on the team and was recruited by the Izaak Walton League. In May-June 2001, he participated as a the Social Assessor (Economist) of a SmartWood forest certification assessment team evaluating the forests of Duke University, the North Carolina Division of Forest Resources, and North Carolina State University. Also in 2001, he participated as a member of a SmartWood forest certification assessment team evaluating 14 state forests of the Tennessee Division of Forestry. He assisted the Social

Assessor (Economist) on the team with stakeholder surveys. In 2002, he participated as the Social Assessor (Economist) of a SmartWood forest certification assessment team evaluating Pioneer Forest in Missouri. In 2003, he participated as a reviewer in the peer review process that examined and critiqued the SmartWood Certification Assessment Report for the Balu Forest, Alachua County, Florida. In 2004, he participated as the Social Assessor (Economist) of a SmartWood forest certification assessment team evaluating Potlatch company-Arkansas Region.

C. Reed Rossell, Jr.; Wildlife Biologist; A.A.S in Wildlife, Hocking Technical College; B.S. in Wildlife Ecology & Management, West Virginia University; M.S. in Wildlife Ecology, University of New Hampshire. Reed has worked in the field of wildlife ecology, management, and research for 15 years. He is a certified Wildlife Biologist and author of more than 20 scientific articles. Reed is currently a contract biologist, and research associate in the Environmental Studies Department at the University of North Carolina at Asheville. He has served as team member on several forest management assessments and audits.

Dan Pubanz, Local Team member, Lake States Region, BS in Natural Resources (Forest Science), MS in forestry. Dan has practiced forestry in the Lake States since 1985, serving as Project Forester, Forest Development Forester, and Silvicultural Forester with the Menominee Tribe and then as a Consulting Forester providing natural resource management service to private/public agencies. He has conducted Assessments as a team leader and team member, and done independent annual Audits for Lake States forest landowners and wood products manufacturing companies to assess compliance with program criteria. Dan is certified as a silviculturist and as an Archaeological Paraprofessional. He is active in local forestry organizations and has authored numerous papers and presentations.

David S. deCalesta, Local Team member, Northeast Region, Wildlife Analysis PC. Certified Wildlife Biologist. Ph.D., M.S. in Wildlife Ecology, Colorado State University; AB in Psychology from Dartmouth College. Experience: 13 years as research wildlife biologist, USDA Forest Service Northeastern Research Station, 16 years assistant/associate professor of Wildlife Ecology and Forest Science, North Carolina State University and Oregon State University, and 4 years as a wildlife consultant and FSC assessor/auditor. Served on 12 assessment teams, was team leader on 3. Performed three audits and reviewed 2 FSC assessments. Completed SmartWood team leader training in 2001. Currently Adjunct Professor of Forestry at SUNY-ESF.



Figure 6: Assessment Team and TFG Personnel, Hancock Tract, New York

2.3 Assessment Process

During the field phase of the assessment process, the team conducted the following steps as part of the normal SmartWood certification process:

- 1) **Pre-Assessment Planning and Documentation review** – Before the field visits, the Team was supplied with numerous documents for review. These included sample management plans, an outline for the Resource Manager Template management plan, information on past activities on the properties to be visited, TFG Policies and Procedures, maps of areas to be visited, and a schedule for the site visits.
- 2) **Selection of Sites and Field Inspections** – Based on information sent by TFG, a pre-selection was made of sites to be visited on some properties. The emphasis for selecting sites for a field visit was on sites that had received some activity since purchase by HFF. An effort was made to choose a range of sites covering all activities such as: regeneration harvests, site preparation, thinning, salvage, road construction and maintenance, special or unique sites, representative forest types, and sites that could be classified as High Value Conservation Forests (HVCF). At the initial meeting with Directors of Operations for the regions, the site selections were finalized based on accessibility and the time frame available for visits. On some properties, all sites having any forest management activity since purchase by HFF were visited. More than 82 sites were visited by the team and the sites were well distributed across all regions (Table 2).

Most sites were visited by all team members, but on occasion the Team separated in order to cover more sites and more specific situations. On all sites the team members requested information on background and objectives for the activity and observed the results in terms of both environmental, economic/social, and management considerations.

- 3) **Field Interviews/Stakeholder consultations** –The Assessment Team met with TFG personnel at their main office in Chapel Hill, NC, Directors of Operations and their staff at the regional offices, consulting forestry staffs from each region, contractors and loggers,

personnel from state and federal agencies, and representatives of various environmental organizations. More than 50 people were interviewed (See Appendix I, Stakeholder Consultation List)

- 4) **Assessment Report Development-** The assessment report was developed over 31 day period after the fieldwork was completed. Throughout this write-up period the assessors continued to conduct stakeholder interviews and other research.
- 5) **Report Review by Candidate Operation and Independent Peer Reviewers-** The report will be reviewed by TFG and two independent peer reviewers.
- 6) **Certification Decisions –** The certification decision was made by SmartWood headquarters. This was completed after review of the assessment report and of comments made on the draft report by TFG and peer reviewers.

Table 2: Summary of Forest Areas & Areas Visited by SmartWood Assessors

HFF Fund Property/Location	Total Area (Hectares)	Assessment Site	Management Treatment/Objective
Fund I	21,532		
Bright, WV	3,600		
Inter-State	5,586		
Emory River	12,346		
Fund II	74,822		
Mead- MI	29,086		
Mead		68.4	Thinning to release best trees in place, SMZ
Mead		1.0	Stream crossing improvement, mine spoil
Mead		16.2	Kettle bog lake and buffer, possible HCV
Mead		161.9	Thinning for quality hardwoods, Uneven-aged
Mead		48.6	Marked for harvest, thinning and improvement cut
Mead			Res. area, effect of adding coarse woody debris to stream
Mead		56.7	Proposed thinning in young oak stand, culvert installation
Mead		56.7	Thinning to improve oak growth
Mallery – PA	18,844		
Timber Co. – WV	24,344		
Bright Timbrl-WV	2,548		
Fund III	134,983		
Champion – NY	46,170		
Champion			Road work, culvert and beaver control structures
Champion		2.0	Buffer around ponded area, possible HCV area
Champion		2.0	Special area, glacial origin pond, buffered
Champion			Road work, sheet erosion control, use of conveyor belt
Champion			Special area, possible HCV, steep slope with Red Spruce
Champion			Stream crossings, demonstration area for loggers
Champion		66.8	Firewood sale, merchandising of products from cut

			trees
Champion		2.0	Hunting club site on 5 acre reserved site in easement area
Champion		32.4	Crop tree release of cherry and cut for maple regeneration
Champion		80.9	Thinning and improvement cut in young hardwoods
Champion			Bridge built by TFG on state land at no cost to state
Champion		6.1	Comparison, overstory removal with and w/o herbicides
Champion		18.2	Various cutting types to regenerate/release conifers and hardwoods
Champion		16.2	Thinning and crop tree release
Champion		117.4	Thinning and group selection, protection of snowmobile trails
Champion			Boat landing, recreational area on HFF property
Champion		72.8	Ice storm salvage and thinning in spots, stream crossing
Hancock-Mallery	10,164		
Hancock		9.3	Harvest and TSI to get regeneration of oak and sugar maple
Hancock		17.8	Cull removal and thinning
Hancock		8.1	Road rework and shelterwood for regeneration to favor cherry
Hancock		6.1	Marked cut to convert site to more desirable species than beech
Hancock		50.6	Shelterwood regen cut and harvest of blow-down timber
Hancock			Road work- widen road and shore up edge of road
Hancock		32.4	Shelterwood regen. cut and thinning in some parts
Ned Lake – MI	36,072		
Ned Lake		145.7	Thinning in uneven-aged stand
Ned Lake		176.0	Thinning in hardwoods, Clearcut for regen. of intolerants
Ned Lake			Road work, culvert and broad-base dip
Ned Lake		125.5	Thinning of hardwoods, small clearcut for aspen regen.
Ned Lake		73.7	Crop tree release in hardwoods, 8 acre clearcut for aspen
Ned Lake		17.8	Blow-down salvage and regeneration of aspen and softwoods
Champion – NC	8,719		
Champion		32.4	Southern Pine Beetle salvage, convert to hardwood stand
Champion		44.9	Salvage of fire damaged timber, will regenerate naturally
Champion		32.4	Reg. Cut (clearcut) of degraded stand
Champion		41.3	Regeneration cut in hardwoods
Champion		36.4	Regeneration cut of mature, low grade stand
Champion		17.0	Mature stand, proposed regeneration harvest
Champion		8.9	Final harvest and regeneration cut
Champion		8.9	Proposed regeneration cut – clearcut
Champion		51.0	Shelterwood cut for regeneration

Champion		13.4	Clearcut for regeneration
Champion			Landslide stabilization
Champion		34.4	Final cut of shelterwood to release sapling regeneration
Marshall – NY	302		
Buffalo – WV	14,128		
Beech Flats – PA	20		
Gardeau – PA	3,377		
Hull-Daisetta – TX	6,666		
Graham – TN	4,956		
Scaffold Lick – PA	2,836		
Harold Pence WV	1,895		
Fund IV	376,543		
Bishop – MI	156,166		
Bishop		40.5	Possible lake development area, negotiated from easement
Bishop		283.3	Carp River Walk, Marquette overlook, possible sale to city
Bishop		19.0	Shelterwood harvest for conifer regeneration
Bishop		17.8	Harvest to release advance regen. & salvage of beech
Bishop			Culvert removal and rock ford to prevent beaver damage
Bishop		62.6	Salvage of beech with bark disease, some thinning
Bishop		32.4	White pine underplanting for biodiversity, LIP program
Bishop		2.0	House and area leased to individual family on yearly basis
Elk River – WV	10,250		
Elk River			Special area- Bat Cave
Elk River		52.6	Thinning and small 10 acre clearcut
Elk River		21.4	Thinning and small openings where regeneration is present
Elk River		21.4	SMZ on perennial stream
Elk River			Recreational lease, camp house
Elk River			Meadow River, possible HVCF
Elk River		29.1	Thinning, marked tree removal
Elk River		6.1	Clearcut, regeneration of yellow-poplar
Elk River		11.3	Clearing of land for coal mining and road construction
Eastern Shore -MD	8,836		
Eastern Shore		182.9	First thinning in pine plantation – row/select thinning
Eastern Shore		41.7	Clearcut- Will revert to mixed pine/hardwood stand
Eastern Shore		113.3	Clearcut- 1/3 of area will revert to mixed pine and hardwood stand and 2/3 will be replanted to loblolly pine
Eastern Shore		39.7	First thin, row thin, SMZ buffer along intermittent stream
Eastern Shore		9.0	Clearcut, will regenerate naturally if possible, poor

			utilization
Eastern Shore		22.3	Regeneration cut on xeric site, natural regen., possible HVCF
Eastern Shore		22.3	Special treatment area, buffers, natural regeneration area
Eastern Shore			Special state site for review, protected with very wide buffer
Eastern Shore		16.2	Regen. cut to improve diameter distribution, natural regen.
Eastern Shore		52.6	Corridor thinning in natural pine stand
Eastern Shore			Cultural site, old cemetery
Eastern Shore		16.2	Corridor thinning, will attempt to create an uneven-aged stand
Eastern Shore			Cultural site, old house place
Eastern Shore		12.1	Regeneration cut, will use natural regeneration
Silas Smith - TX	2,036		
Brushy Creek – TX	13,157		
North Fork – PA	2,849		
Carter Pasture-TX	1,379		
Parquesburg – WV	38,174		
Putnam – WV	40		
Full - WV	204		
Winding Oaks-TN	5,263		
Flowers – MO	8,872		
Montsinger – KY	428		
Highlands – VA	55,036		
Wyoming – WV	55,083		
Red Town – TX	1,710		
North Lake – NY	8,971		
Paris – TN	3,891		
Martindale – TX	642		
Success NH	3,466		
Total, All Funds	607,792		Hectares
Total- Assessment		87,870	Hectares

2.3. Standards

This assessment of TFG involved areas of the country covered by four sets of FSC Regional Standards- the Southeast, Appalachian, Northeast, and Lake States. To facilitate efficiency for this assessment, and for possible use in future assessments covering more than one eastern US region, SmartWood developed a Guidelines for Assessing Forest Management – Eastern USA (October 2004). These Guidelines were developed by using the SmartWood Southern Guidelines and a gap analysis to insure that all Indicators and verifiers were covered for each region. Indicators and verifiers specific to a particular region were noted in bold type in the Eastern Guidelines. The Assessment team also had copies of all four of the adopted regional standards. The Guidelines and Standards used were as follows:

Guidelines for Assessing Forest Management – Eastern USA, Version 2.0. SmartWood,

October 2004.

Appalachia (USA) Regional Forest Stewardship Standard, Version 3.27. Accredited by FSC July 7, 2004

Regional Forest Stewardship Standards for the Lake States-Central Hardwoods Regions, Version LS Final. Accredited by FSC International, August 5, 2002

Forest Stewardship Standard for the Northeast Region (USA), Version 7.7. Accredited by FSC International, November 29, 2002.

Forest Certification Standard for the Southeastern United States, Version 8.7. Accredited by FSC International, November 28, 2002

2.4. Stakeholder consultation process and results

Issues Identified Through Stakeholder Comments and Public Meetings

The stakeholder consultation activities were organized to give participants the opportunity to provide comments according to general categories of interest based upon the assessment criteria. The table below summarizes the issues identified by the assessment team with a brief discussion of each based upon specific interview and/or public meeting comments.

Stakeholders were engaged by the Assessment Team through a mail survey, on-site interviews, and telephone interviews. A total of 390 surveys were distributed through the mail. TFG provided the stakeholder names and addresses for most of the mailings. At the time the surveys were sent out, a mailing list was not provided for the Great Lakes Region; however, many on-site interviews were conducted during the assessment visit and several surveys were eventually mailed out to specific stakeholders upon return. Overall, there were 98 useable returns and 11 surveys came back as undeliverable or not applicable. The return rate was 25.9%.

Table 3: Stakeholder Comments

FSC Principle	Stakeholder Comments	SmartWood Response
<p>P1: FSC Commitment/ Legal Compliance</p>	<p>The assessment verified that all tax collection entities were satisfied with the payment of taxes.</p> <p>Interviews and stakeholder consultations verified that TFG employees and staff and associated consultants understand, support, and can express their commitment to the FSC P&C and also a commitment to annually review the FSC P&C and they are willing to make any necessary changes to TFG forest management processes and procedures to comply.</p> <p>Considering the size and various geographical locations of the ownership, forest management areas were reasonably well protected from illegal harvesting, settlement and other unauthorized activities. In the mail survey, stakeholders gave high approval ratings to TFG for vandalism, theft, and arson</p>	<p>The FSC P & C commitment has been recognized and accepted by management and most of the employees.</p> <p>The mail survey had few remarks related to the oversight TFG provides on its properties.</p> <p>Few comments were made concerning HFF lands and issues relating to illegal harvesting, settlement and other unauthorized activities. Some comments were misdirected.</p>

	at 81.3%, (n=39), site maintenance (e.g., trash, dumping) at 91.2%, (n=62), and poaching at 65.0%, (n=26). Several stakeholder comments verified this as well.	
P2: Tenure & Use Rights & Responsibilities	TFG engages in the leasing of its properties, in part, for the purposes of accommodating customary uses of the forest such as hunting, fishing, and other types of dispersed recreational activities. Interviews with stakeholders, both on-site and by telephone, confirmed that these were positive relationships. Many comments made in the mail survey spoke of satisfaction with TFG in this regard. For example, there is a good deal of recreational activity that occurs on HFF property. Mail survey stakeholders (85.2%, n=52), and those interviewed were very satisfied with available opportunities.	<p>No evidence was found either from TFG or through stakeholder engagement (i.e., on-site interviews, telephone interviews, mail surveys) that disputes of substantial magnitude involving a significant number of interests exist or that there were any long-term issues related to tenure and use rights.</p> <p>Based on a fair number of comments made by stakeholders associated with hunting clubs, it seems that since many HFF properties were recently acquired, that it was too early to make an assessment on how relations with TFG will materize. However, it was communicated to the Assessment Team that hunters felt they were off to a positive start. There was some dissatisfaction expressed about previous owners.</p>
P3 – Indigenous Peoples’ Rights	<p>Some stakeholder consultations indicated that TFG could do more in terms of meeting this standard. Several stakeholders pointed out that there is some information already available through various sources. Despite these comments, TFG had a favorable rating on historical and cultural issues (86.2%, n=25) among mail survey respondents.</p> <p>While a number of stakeholders have approached TFG for a number of requests related to the land base, only in one case was there a request that relates to indigenous peoples.</p>	<p>TFG needs to develop policies and inquiries (as noted in the assessment report) to improve on this standard. They need to confer with the appropriate groups, agencies, and/or individuals to verify the extent of the presence and importance of sites related to indigenous peoples. They also need a policy that deals with discovery.</p> <p>When approached TFG cooperates in any way they can to accommodate requests.</p>
P4: Community Relations & Workers’ Rights	<p>In general, stakeholders have positive attitudes (65.3% of stakeholders surveyed) toward TFG.</p> <p>Mail survey respondents (90%, n=72) were satisfied with TFG’s relationships with hunting clubs</p> <p>TFG utilizes qualified local or regional foresters, consulting firms, loggers, and contractors. In addition, TFG and their consultants hire contractors that give preference to qualified local workers. There are contractual agreements spanning several years with many individual contractors who, in turn, hire hundreds of employees in many surrounding rural communities where most of the HFF properties are located. This</p>	<p>Despite the many layers involved with managing and practicing forestry on HFF lands, a considerable number of mail survey respondents were aware of who TFG was. In part, this is due to the high number of respondents who claimed to be members of hunt clubs. TFG does a good job engaging this group.</p> <p>Only 10% of mail survey respondents, (n=6), thought that relationships with hunting clubs need improvement.</p> <p>The high number of positive responses (n=56) to the mail survey on public relations and communications is evidence that TFG is a partner in the communities they operate in. Many comments made supported documents</p>

	<p>conclusion was reached through in field assessment observations, on-site interviews, and in comments made in the mail survey.</p> <p>Many contractors who were interviewed in the field were appreciative of the opportunity to work with TFG. Several contractors interviewed had worked these land bases for many years.</p> <p>Public relations and communications were viewed favorable by stakeholders as 82.4%, (n=56), felt satisfied with this activity.</p>	<p>presented during the field assessment.</p> <p>Relationships with consultants, while not perfect, are still very acceptable. In-field performance is noteworthy with few exceptions.</p>
P5: Benefits from the Forest	<p>TFG makes significant investments in the local economy. Many stakeholders acknowledged this. They frequently donate funds to local community groups or fire departments. They have also provided funds for local community activities. Many employees serve on committees and are members of professional organizations. Examples include Trout Unlimited and the Society of American Foresters</p> <p>There is a good deal of recreational activity that occurs on TFG property. Mail survey stakeholders (85.2%, n=52), and those interviewed, were very satisfied with available opportunities.</p>	<p>TFG provides a number of goods (e.g., a steady supply of wood, bluestone, sand, gravel, stone) and services, as well as financial stability, either directly (e.g., employment) or indirectly (e.g., hiring consulting firms who hire contractors), to the communities in which they reside. Interviews with stakeholders and comments in the mail surveys confirmed an appreciation of these activities.</p> <p>TFG does an excellent job with their hunting club relationships.</p>
P6: Environmental Impact	<p>Interviews and stakeholder consultations felt TFG had a positive impact on the environment. For example, more than 80% of stakeholders surveyed were satisfied with TFG's performance in most categories where inquiries were made. Some top performing areas were in Resource Conservation (90.2%, n=46), Environmental Protection (88.2%, n=60), and Watershed Protection (84.2%, n=48).</p> <p>Biodiversity (91.3%) and Tree Species Diversity (82.5%) also had favorable ratings.</p>	<p>It is hard to assess true environmental impacts, because in some cases these issues require long-term research. No mail survey respondents who claimed to be scientists responded. While a number of individuals, interviewed during the assessment, had positive opinions on TFG, most had a specific focus, of which HFF lands were a small part an overall project. There were not enough of these projects to make any broad generalizations in the area of environmental impacts.</p>
P7: Management Plan	<p>Management plan quality was generally appreciated by stakeholders as 79.6%, (n=43), were satisfied.</p> <p>Interviews with employees were very positive in regard to the management plans and the process for developing them. The template for plan development was viewed favorably. Consultants have a hand in plan development and they seemed pleased with the process.</p>	<p>There was only a few mail survey respondents who felt the management plan quality needed improvement (11.2%, n=11). As expected, number of respondents could not answer this question (n=44).</p> <p>Among the management plans that were completed, they were viewed by the Assessment Team as fairly adequate in terms of quality and utility. There are areas in need of improvement and several completed plans that need to be updated.</p>
P8: Monitoring &	<p>Monitoring of forest management activities in</p>	<p>There were few comments from the mail</p>

Assessment	<p>regards to timber, wildlife, and water were viewed favorably by survey respondents. Satisfaction levels with this aspect of TFG’s operations were reported in the mail survey as 78.6%, (n=44), 71.7%, (n=38), and 77.5%, (n=31), respectively.</p> <p>In the mail survey 83.3%, (n=62), and through on-site interviews, stakeholders felt that TFG was doing a good job in regard to maintaining and considering wildlife habitat during their forest operations.</p>	<p>survey and through on-site interviews that suggested that monitoring and assessment could be improved. Also, given the size and fragmented nature of the ownership, they do a reasonably good job.</p> <p>Little is done by TFG on the social impacts of their operations.</p> <p>Since many mail survey respondents were affiliated with hunting, positive feedback on wildlife habitat is encouraging for game-related species.</p>
P9: Maintenance of High Conservation Value Forest	<p>HCVFs were viewed as important by 93.7%, (n=74), of those surveyed; however, only 50.0%, (n=11), of respondents who were asked if TFG lands should be considered as HCVF areas felt they should be. Seventy-six respondents did not answer this question. Few respondents had definite ideas (9 comments) about which areas should be considered.</p>	<p>TFG needs to document and implement a written process for the assessment of all areas within their property, including special and/or unique areas, through consultation with stakeholders, to determine if HCVFs exist within its boundaries and designate appropriate areas as such. TFG can use the assessment survey results, along with their own knowledge base and further exploration, to determine an appropriate set of HCVFs. An important aspect of this process is to confer with appropriate stakeholders who are able to address this issue.</p> <p>The Assessment Team was made aware that certain areas with HCVF values are often sold off to agencies or organizations or protected through conservation easements with the idea of preserving them.</p>
P10 - Plantations	<p>Plantation management was viewed favorably by 79.4%, (n=24), of stakeholder respondents.</p>	<p>There are few HFF lands with plantations. As a result, there were very few complaints in the mail survey about plantations. On the mail survey, only 20.6%, (n=7) felt plantation management needed improvement.</p>

3. RESULTS, CONCLUSIONS AND RECOMMENDATIONS

3.1. General Discussion of Findings

Table 4: Findings by FSC Principle

Principle/Subject Area	Strengths	Weaknesses
P1: FSC Commitment and Legal Compliance	<p>TFG respects all national, state, and local laws and administrative requirements.</p> <p>All applicable and legally prescribed taxes are paid in full.</p>	<p>TFG shall develop a policy relating to relevant international laws and treaties within the EMS document. (Condition 1)</p> <p>Also, TFG’s Director’s of Forest Operations shall further familiarize themselves on issues</p>

	<p>Forest management areas are fairly well protected from illegal harvesting, settlement, and other unauthorized activities.</p> <p>TFG clearly has expressed and demonstrated a long-term commitment to adhere to the FSC P&C.</p>	<p>related to applicable international conventions and agreements and initiate a training session, as part of a future workshop or meeting, with their respective consulting firms. In addition, employees should have access to the appropriate documentation (e.g., links on TFG’s web-site). (Condition 1)</p> <p>TFG shall develop a detailed written policy in its forest management plans relating to system-wide measures to prevent illegal and unauthorized activities in the forest such as illegal hunting, timber extraction, arson, theft, and vandalism. The policy shall detail reporting procedures for these activities to the proper authorities as well as measures for documenting and assessing their occurrence and impact. (Condition 2)</p>
<p>P2: Tenure & Use Rights & Responsibilities</p>	<p>TFG engages in the leasing of its properties, in part, for the purposes of accommodating customary uses of the forest such as hunting, fishing, and other types of dispersed recreational activities.</p> <p>In many cases, controlled access is given or offered to local communities or groups for timber and non-timber forest products based activities formalized by legal agreements or longstanding local arrangements (e.g., leasing or licensing agreements, conservation easements). Conservation easements are crafted to protect recreational leases and traditional uses of the land.</p> <p>Boundary lines were clearly marked on all HFF properties. Boundary lines were clearly identified on the ground by TFG’s consulting firms prior to the commencement of management activities, particularly for harvesting.</p> <p>TFG maintains relations with community stakeholders to identify disputes in their early stages. If disputes arise, TFG initially attempts to resolve them through open communication, negotiation, and/or mediation. If negotiation fails, federal, state, and/or local laws are employed to resolve land tenure claims.</p>	<p>None</p>
<p>P3 – Indigenous Peoples’ Rights</p>	<p>Principle 3, for the most part, was viewed as <u>not applicable</u> to the management of HFF lands.</p>	<p>Given the location of Keweenaw Bay Indian Reservation in the Great Lakes Region, some evidence from the Tribe in regard to any treaty rights retained by the Tribe or influences on Tribal resources downstream from HFF properties and its forest</p>

		<p>management activities would be appropriate. (Observation)</p> <p>TFG shall confer with the appropriate groups, agencies, individuals, and/or tribes under consultation to verify the extent of the presence and importance of sites related to indigenous peoples. If there is an extensive presence and importance, TFG must further assess and protect these areas. (Condition 3)</p> <p>TFG needs to develop a detailed policy that delineates a process to proactively determine whether significant cultural resources exist within sale boundaries and how such resources are to be protected that can be followed when TFG employees and their respective consulting firms, and hence their contractors, become aware of significant sites related to Native Americans. (Condition 4)</p> <p>If there is an extensive presence and importance of sites related to indigenous peoples TFG can accomplish this task by contacting Tribes and public agency records (e.g., those of the Maryland Commission on Indian Affairs) similar to a RTE species review. (Observation)</p>
<p>P4: Community Relations & Workers' Rights</p>	<p>TFG and its employees are engaged in a number of local economic development and civic activities.</p> <p>Employee compensation meets or exceeds the prevailing local norms for work requiring equivalent education, skills, and experience.</p> <p>TFG and their consulting firms demonstrate an on-going commitment to the health and safety of employees and contractors.</p>	<p>Given the TFG's rationale for seeking FSC certification, and the set of activities viewed as favorable to maintaining this certification, relevant activities or outreach should be incorporated into employee job performance evaluations.</p> <p>TFG's Environmental Management System should have a policy that expresses the rights of employees to freely associate with other workers for the purpose of advocating for their own employment interests that they are given the freedom to organize and negotiate with employers, in keeping with Federal Fair Labor Standards Act and other relevant federal and state laws.</p> <p>Given the emphasis that FSC certification places on stakeholder communications, landowner and other stakeholder lists shall be expanded to include a broader array of stakeholders. Often heads of organizations are not as important, but should be included, as those to whom TFG is working with on the ground. (Condition 5)</p> <p>Some type of formal assessment or evaluation</p>

		of social impacts related to TFG activities should be conducted and incorporated into planning or management. (Observation)
P5: Benefits from the Forest	<p>TFG’s stated goal for improving productivity and quality.</p> <p>Harvesting practices that protect residual stand and site</p> <p>AAC that appears to be well below growth</p>	TFG needs to do a better job of inventory to get a better handle on growth
P6: Environmental Impact	<p>TFG consulting foresters were conscientious about minimizing the environmental impacts of their forestry operations.</p> <p>TFG is doing a good job mitigating short-term impacts of their harvesting operations; the Assessment Team observed minimal rutting and residual damage on active and recently active harvest sites.</p> <p>TFG consulting foresters generally meet or exceed state BMP guidelines, particularly when buffering streams and wetlands. Exotic invasive species are not a problem on HFF lands.</p> <p>TFG is cooperating with numerous governmental and nongovernmental agencies to improve the management of both forest and non-forest resources on HFF lands.</p> <p>TFG is maintaining the range of age classes of trees that would naturally occur in the forests, and their management system incorporates natural regeneration where possible.</p> <p>TFG does a good job minimizing the amounts of chemicals used in their forest management operations.</p>	<p>TFG consulting foresters do not consistently consider the characteristics of the surrounding landscape and adjacent lands when developing management prescriptions. (Condition 7)</p> <p>TFG consulting foresters do not all routinely conduct pre-harvest meetings with the logging contractors, and forms used among consulting foresters are not standardized. (Condition 8)</p> <p>TFG currently does not have an established process to identify, document, and map representative ecosystems, forest types, natural communities and unique habitats, and seral stages on HFF properties. (Condition 9)</p> <p>TFG consulting foresters do not all routinely query the appropriate agency or database to determine if any RTE species are known to occur on a site prior to the start of any site-disturbing activities. (Condition 10)</p> <p>TFG consulting foresters were inconsistent in flagging SMZs in the field and ensuring that soil runoff was not entering streams, wetlands, and other waterbodies, particularly in areas where streams crossed roads. (Condition 16)</p>
P7: Management Plan	<p>Overall, TFG has very good management plans with good emphasis on goals and objectives – some holes but easily corrected.</p> <p>TFG has a very good GIS and mapping system – at main office and with some consultants</p> <p>Most plans have a very good description of the resource to be managed</p> <p>TFG gives very good rationale for rates of harvest.</p> <p>TFG has shown a willingness to upgrade or</p>	<p>Management plans for all tracts are not complete. (Condition 22)</p> <p>Plans need better description of silvicultural system being used and ecological justification for use of a system. (Condition 23)</p> <p>Plans do not contain policies and procedures regarding harvesting equipment (Condition 24)</p>

	revise plans as necessary	
P8: Monitoring & Assessment	<p>TFG is doing an excellent job monitoring the financial aspects of their forest management operations.</p> <p>TFG area and consulting foresters are all interested in establishing a comprehensive monitoring program to track major changes in the forests they manage.</p>	TFG currently does not have a comprehensive monitoring program that follows FSC guidelines enabling managers to assess major changes in the forests they manage over time. (Condition 12 and 26)
P9: Maintenance of High Conservation Value Forest	<p>TFG staff and consulting foresters have begun the process of defining and identifying potential areas on HFF properties that may contain HCV attributes.</p> <p>Consulting foresters have identified and mapped some areas on HFF properties that likely contain HCV attributes.</p>	TFG has not established a formal process for determining, identifying, mapping, or designating areas on HFF properties that contain HCV attributes. (Condition 28 and 29)
P10 - Plantations	<p>Emphasis on natural regeneration and mixed stand management.</p> <p>Use of thinning and longer rotations for sawtimber in pine stands</p> <p>TFG is converting pine plantations to natural stands of mixed pine and hardwood on the Eastern Shore</p>	Regeneration harvests (clearcuts) are very large in some cases and even though the objectives are to restore the areas to natural stand conditions and improve age distribution, an effort should be made to reduce the size of the harvest area. (Observation)

3.2. Certification Decision

Based on a thorough field review, analysis and compilation of findings by this SmartWood assessment team The Forestland Group is recommended to receive joint FSC/SmartWood Forest Management and Chain of Custody (FM/COC) Certification with the stipulated conditions listed below.

In order to maintain certification, The Forestland Group will be audited annually on-site and required to remain in compliance with the FSC principles and criteria as further defined by regional guidelines developed by SmartWood or the FSC. The Forestland Group will also be required to fulfill the conditions as described below. Experts from SmartWood will review continued forest management performance and compliance with the conditions described in this report, annually during scheduled and random audits.

3.3. Conditions and Observations

Conditions are verifiable actions that will form part of the certification agreement that TFG will be expected to fulfill at the time of the first audit or as required in the condition. Each condition has an explicit time period for completion. Non-compliance with conditions will lead to de-certification.

Condition 1: Within one year of the issuance of a certificate, TFG shall develop a policy relating to international laws and treaties within the EMS document. Also, TFG’s Director’s of Forest Operations shall further familiarize themselves on issues related to applicable international conventions and agreements and initiate a training session, as part of a future

workshop or meeting, with their respective consulting firms. In addition, employees should have access to the appropriate documentation (e.g., on TFG's web-site). (Criterion 4.1.3)

Condition 2: Within one year of the issuance of a certificate, TFG shall develop a detailed written policy in its forest management plan relating to system-wide measures to prevent illegal and unauthorized activities in the forest such as illegal hunting, timber extraction, arson, theft, and vandalism. The policy shall detail reporting procedures for these activities to the proper authorities as well as measures for documenting and assessing their occurrence and impacts. (Criterion 4.1.5)

Condition 3: Within two years of the issuance of a certificate, TFG shall confer with the appropriate groups, agencies, individuals, and/or tribes under consultation to verify the extent of the presence and importance of sites related to indigenous peoples. If there is an extensive presence and importance, TFG must further assess and protect these areas. (Criteria 4.3.3 and 4.4.4)

Condition 4: Within two years of the issuance of a certificate, a detailed policy shall be in place that delineates a process to proactively determine whether significant cultural resources exist within sale boundaries and how such resources are to be protected that can be followed when TFG employees and their respective consulting firms, and hence their contractors, become aware of significant sites related to Native Americans. (Criteria 4.3.3 & 4.4.4)

Condition 5: Within two years of the issuance of a certificate, TFG shall expand their stakeholder list to include a broader array of stakeholders. Often heads of organizations are not as important, but should be included, as those to whom TFG is working with on the ground. (Criterion 4.4.4)

Condition 6: Within one year of the issuance of a certificate, TFG shall incorporate into the management plans general species descriptions and habitat associations of (at least) all federal and state-listed RTE species that potentially may occur on a property. This information should be in the body of the management plan and provide specific reference to any relevant compartments where a RTE species may potentially occur. (Criteria 4.6.1 and 4.7.1)

Condition 7: Within one year of the issuance of a certificate, TFG shall develop and implement a written policy that ensures all consulting foresters evaluate and document the characteristics of the surrounding landscape and adjacent lands when developing management prescriptions for a stand. (Criteria 4.6.1, 4.6.4 and 4.7.1)

Condition 8: Within one year of the issuance of a certificate, TFG shall require all consulting foresters to conduct on-site, pre-harvest meetings, with the logging contractor in attendance. In addition, TFG shall standardize forms used among the consulting foresters to strengthen the organization and management of its operations. Harvest Prescription Fact Sheets and Pre-operations Checklists need to be completed for each sale on the Eastern Shore property. (Criteria 4.6.1, 4.6.4 and 4.6.5)

Condition 9: Within two years of the issuance of a certificate, TFG shall establish and implement an assessment process for identifying, documenting, and mapping the representation of ecosystems, forest types, natural communities and unique habitats, and distribution of seral stands for each of their properties. This process shall include consultation with environmental stakeholders, local governments, and scientific authorities. This assessment shall also consider

surrounding ownerships and be explicitly described in the public summary (also see indicators under 4.6.4). (Criteria 4.6.1 and 4.6.4)

Condition 10: Within one year of the issuance of a certificate, TFG shall require all consulting foresters to query the appropriate agency data base on site-specific information to determine if any RTE species are known to occur prior to commencement of any management activities in a stand. (Criteria 4.6.2 and 4.6.5)

Condition 11: Within one year of the issuance of a certificate, TFG shall incorporate into its forest management plans a fire management plan if prescribed burning is to be used on a property. In addition, a written prescription shall be developed prior to any burning activity. (Criteria 4.6.3, 4.6.4 and 4.7.1)

Condition 12: Within one year of the issuance of a certificate, TFG shall develop and implement written guidelines for each region using even-aged management that adhere to FSC standards regarding opening size and retention, particularly as they relate to the Appalachian region. Guidelines shall include opening size limitations and a provision that the quantity and distribution of retention increases proportionally with the size of the harvest unit. (Criterion 4.6.3)

Condition 13: Within one year of the issuance of a certificate, TFG shall develop and implement a policy that either prohibits the practice of whole-tree logging in the Appalachian region (and preferably in all the regions) or that justifies the ecological rationale of this practice. (Criterion 4.6.3)

Condition 14: Within one year of the issuance of a certificate, TFG shall develop and implement written guidelines for mapping layout attributes (e.g., designation of skid trails and log landings, etc.) for consulting foresters to use when preparing maps associated with the Pre-Harvest Plans.(Criterion 4.6.5)

Condition 15: Within one year of the issuance of a certificate, TFG shall develop and implement written erosion control guidelines, particularly in regards to minimizing soil runoff into streams, wetlands, and other waterbodies. TFG shall reinforce the authority of their consulting foresters to act within these guidelines. (Criterion 4.6.5)

Condition 16: Within one year of the issuance of a certificate, TFG shall develop and implement a written policy requiring consulting foresters to flag all SMZ and wetland buffers in the field prior to the commencement of any harvest activity. (Criterion 4.6.5)

Condition 17: Within one year of the issuance of a certificate, TFG shall develop and implement written guidelines that adhere to all the Appalachian Regional standards pertaining to SMZs for all HFF properties that fall under the jurisdiction of the Appalachian region. These written guidelines shall be incorporated into each of the respective management plans. (Criterion 4.6.5)

Condition 18: Within two years of the issuance of a certificate, TFG shall develop written IPM and vegetation control strategies and incorporate them into their management plans. (Criteria 4.6.6, 4.7.1 and 4.10.7)

Condition 19: Within one year of the issuance of a certificate, TFG shall require consulting foresters to develop written prescription prior to the use of chemicals on HFF lands. Prescriptions shall include application objectives, rate and methods of application, risks and benefits of chemicals used, and alternatives considered. (Criterion 4.6.6)

Condition 20: Throughout the certification contract period, TFG shall prepare annual reports which: 1) summarize pesticide application activities, including such things as volume used, location and area covered, justification for use, name and properties of chemical, number of applications, etc.; 2) summarize research and testing activities of alternatives to pesticides. (Criterion 4.6.6)

Condition 21: Within one year of the issuance of a certificate, TFG shall incorporate into the Bishop Management Plan's IPM strategies (Condition 20) detailed information regarding the release and monitoring of *Galerucella californiensis* for the control of purple loosestrife. (Criterion 4.6.8)

Condition 22: Within one year of the issuance of a certificate, TFG shall complete forest management plans for all properties under their management. Content of these plans shall follow that given in the management template with changes and additions required by the present assessment. (Criterion 4.7.1)

Condition 23: Within one year of the issuance of a certificate, TFG shall develop a statement suitable for management plans that will specifically describe the silvicultural system and methods to be used. Choice of the system and methods should be ecologically based. For example, it should explain why an even-aged system is preferred over an uneven-aged system and how the system of choice may vary, eg., depending on site conditions. (Criterion 4.7.1)

Condition 24: Within one year of issuance of a certificate, TFG shall develop policies and procedures regarding equipment to be used for harvest operations. These procedures should involve a consideration of site sensitivity and damage to the residual stand. These procedures should be included in management plans and implemented in harvest plans. (Criterion 4.7.1)

Condition 25: Within two years of the issuance of a certificate, TFG shall initiate training programs for their employees and for consulting foresters responsible for management of HFF properties. This training may be formal or informal, but must concentrate on improving understanding and implementation of the forest management plan. (Criterion 4.7.3)

Condition 26: Within two years of the issuance of a certificate, TFG shall develop and implement a comprehensive monitoring plan that is consistent and replicable, such that the results provide TFG managers with the ability to assess major changes in forest attributes over time. TFG shall also include the rationale for and intensity of monitoring in its monitoring plan. For HFF properties in the Appalachian FSC Region, monitoring plans shall comply with the FSC requirements specified under Criterion 4.8.2. (Criteria 4.8.2, 4.8.3 and 4.9.4)

Condition 27: Within one year of the issuance of a certificate, TFG shall prepare an annual summary of monitoring activities. This summary shall be made available to the public upon request. (Criterion 4.8.5)

Condition 28: Within two years of the issuance of a certificate, TFG shall develop and implement a written process that determines how areas with potential HCV attributes will be

identified, mapped, and designated on HFF properties. TFG shall include a written stakeholder consultation strategy as part of this process. (Criteria 4.9.1 and 4.9.2)

Condition 29: Within two years of the issuance of a certificate, TFG shall develop and implement a written plan for each identified area containing HCV attributes. Plans shall indicate how HCV attributes will be maintained, conserved and monitored. HCV plans shall be made available in a regularly updated public summary document. (Criterion 4.9.3)

Condition 30: Within one year of the issuance of a certificate, TFG shall develop a document that more explicitly details the authority of consulting foresters, especially as it relates to their relationship with loggers and the necessity to control activities that may be detrimental to the site.

Condition 31: Within one year of the issuance of a certificate, TFG shall revise and re-write their Resource Manager Forest Management Plan Template to meet SmartWood/FSC requirements. Many of the Conditions listed above were given because of deficiencies in the various management plans (e.g., Conditions 2,4,6,7,11,15,18,22,23,27). If the template is revised to cover these conditions, the pertinent parts of the template can then be included in the management plans to meet the imposed conditions.

In addition, there were 17 observations identified during the field assessment.