Chapter 2
Maintaining Diverse and Healthy Forests

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RESOURCE HISTORY

The following excerpts are from: *A Forestry History of Ten Wisconsin Indian Reservations Under the Great Lakes Agency, Dept. of Interior,* BIA. 1996.

The Oneida Reservation was heavily timbered at the time of settlement. By 1844, the Oneida cultivated approximately 2,200 acres and also had two-sawmills, a gristmill, and a blacksmith's shop. By 1856, approximately 2,000 Oneidas lived on the Reservation. New settlers wished to exploit the timber resources on the Reservation particularly the vast areas of white pine, which led to the depletion of other rich timber resources at the same time. The 1871 Peshtigo fire also burned many timber stands on the Oneida and Menominee Reservations. In the 1873 Cook case, the Supreme Court of the United States ruled that individual Tribal members held no right to cut timber on Reservation land unless it was to clear land for agricultural purposes. Timber was considered the property of the United States and not the Indians. Many Tribal members refused to take up farming and instead chose to make a living by cutting and selling their timber to non-Indian buyers. By 1878, individual Oneida Tribal members had cut and sold about all the timber on the Reservation, which had any value.

Agriculture steadily grew throughout the 1880's and in May 1889, the President approved the General Allotment Act (or Dawes Act) for the allotment of the Oneida Reservation. In 1891, Oneida received 1,530 allotments. During this time, Oneida cultivated over 3,000 acres and supplemented their income by cutting timber on their allotments. The Oneida supplied a steady amount of hardwood timber to a newly erected Oneida sawmill

(Joseph Smith Mill), which employed about 20 men and sold good grade Oneida lumber to local furniture factories in Green Bay and De Pere. However, most of the supplemental income came from the harvest of down and dead wood sold as cordwood and railroad ties because the earlier timber abuses had removed the best timber.

In 1906, with the passage of the Burke Act, which amended the General Allotment Act, giving the Secretary of Interior authority to issue patents in fee simple to allottees, Tribal land became eligible for state and county taxation. As a result, Oneida's who could not meet their tax obligations were, thereafter forced to mortgage or sell their land or face foreclosure. The passage of this act lead to the rapid loss of Oneida land ownership within the Reservation. By 1930, only 1,000 acres remained in Oneida hands of the original 65,430 acre Reservation; and there were few if any Oneida timber resources left.

In 1937, the United States under the provisions of the Indian Reorganization Act of 1934 which, supported the "New Deal" effort to relieve, recover, and reform Indian tribes, acquired over 1,900 acres of good farmland for Oneida. During this time to the early 1960's, Oneida families kept warm during winters by harvesting fuel wood from limited and depleted timber resources. In 1952, the Indian Bureau slated the Oneida for termination, but by 1958 forced termination policy efforts were waning nationwide due to opposition by Indians and Indian rights supporters. In the early 1960's the Bureau began gathering data and preparing a comprehensive 10 year development program for all Wisconsin Tribes. In regards to forestry on the Oneida Reservation, the Bureau concluded due to the limited acreage and the agricultural potential, that no forestry activity would be proposed for Oneida.

In 1965, the Oneida Reservation comprised 2,592 acres, of which 2,058 were Tribal owned and 534 were allotted. Most of the 800 Oneidas living on the Reservation made their living on small farms and/or employment in industry in nearby cities. Timber was a very minor resource and its primary use was for fuel wood and with small amounts of commercial importance. In 1970, the Great Lakes Agency (GLA) prepared a timber plan for the Oneida on an estimated 1,200 acres of forest land. An annual allowable cut (ACC) of 330 MBF (one thousand board feet) was recommended, but only 41 MBF was harvested over 5 years. The 330 MBF annually seemed unattainable since the total cut from the five years of

1963–1968 had only been 164 MBF. In 1980, the Oneida Tribal Council, out of concern for shrinking forestry resources, requested that the BIA (Bureau of Indian Affairs) develop a Comprehensive Forestry Management Plan. The BIA conducted a point sample of Tribal and allotted lands and found forests land declined to 900 acres. The BIA recommended that mature and over mature material should be harvested within the next 10 years to avoid monetary loss, provide natural regeneration, and maintain an orderly succession of age classes.

In 1984, the Oneida Tribe established a Conservation Office to combine the responsibilities for conservation, natural resource management, and forestry into one office. During this time the Tribe initiated proposed management objectives for the remaining Tribal forests. The Tribe began to reacquire Tribal lands that included valuable timber. At this time the Tribe also contracted under PL-638 for forestry development funds to begin reforestation efforts on the Reservation. In 1989–1991, the GLA developed an evaluation of selected timber lands and provided management options. In 1991, when one of the first timber sales began, misunderstanding and miscommunication occurred over the issue of clear cutting and the Tribe cancelled the timber sale contract by buying the timber back and not cutting the proposed area. In 1994, the Oneida Tribe entered into a Self-Governance Compact with the United States under Title III of the Indian Self Determination Act Amendments of 1987. Oneida agreed to take over the management of any or all federal programs, activities, functions, and services with their associated budgets and to exercise discretionary power over how the budgets are distributed among the "compacted" programs. In regards to forestry, the Oneida Tribe took over the responsibilities for timber harvest, timber trespass, forest management inventory, planning, and development.

In 1996, the Oneida Tribe employed a professional forester to manage both urban and rural forestry resources. In 2000, a comprehensive forest inventory was completed and the Tribe partnered with the United States Department of Agriculture (USDA) Natural Resource Conservation Service to provide technical and funding support for natural resource projects aimed at protecting water quality and wildlife habitat. Forestry program activities between 1996–2010 include the establishment of over 500 acres of new forests, 272 acres of native grasses, 18.5 acres of shrubs, planting of 2,038 large caliper

trees in urban areas, and the distribution of over 15,000 tree seedlings to the community in Earth Day/Arbor Day events. In addition, the program has also removed and recycled over 2,639 hazard trees providing over 2,495 face cords of firewood and 2,563 cubic yards of wood chips. Today, Oneida forestry program staff consists of one professional forester and four natural resource technicians all of which provide technical and field assistance for a variety of Tribal natural resource projects and conservation practices.

Today the Oneida Tribe has reacquired over 23,000 acres of the original 65,430 acres of Reservation lands. Approximately 4,306 acres are forested and contain a variety of valuable hardwoods. Continued pressure on forestry resources prevail today, not from over harvesting, but from other competing uses such as farming and residential and commercial development. The primary interest today in the Oneida forestry resource is not timber, but its value as a resource for recreation, hunting and gathering, protection of air and water quality, and community comfort and aesthetic quality.

RESOURCE DESCRIPTION

Since settlement forests have become increasingly fragmented. Today, the Oneida Reservation is an excellent example of an urban/rural interface area. The landscape is dominated by agricultural and development (residential, commercial, industrial) influences. Approximately 19.7% (12,801 acres) of the total Reservation land base remains forested and only an estimated 6.6% (4,306 acres) are currently under Tribal ownership. Tribally owned forest land today is comprised of over 120 different forest stands, which, range between 1 and 160 acres in size with an average size less than 20 acres. Much of the forested acreage is found in areas less suitable for agricultural production such as along drainages and riparian areas and over a landscape varying from relatively flat to gently rolling to sharp and even extreme topography. Native and noninvasive species depend on relatively intact, high quality forests, shrub lands and grasslands. The current and continuing degree of fragmentation make it increasingly difficult to manage native resources and to conserve natural ecosystems and associated ecosystem services.

The following describes the different forest cover types found within the Reservation based upon a forest inventory conducted by Groeschl Forestry Consulting, Inc. in 2000 (the total forest ownership in the year 2000 was approximately 2,249 acres).

Bigtooth Aspen (AB)

Forest Type Size: 18 acres

Forest Type Description: This cover type is a minor component of the forested acreage on the Reservation. Only one stand (about 18 acres) has been identified but this type does occur as small inclusions in other cover types. Compared to Quaking Aspen, Bigtooth Aspen is a more resilient tree experiencing longer life and greater durability against disease and other pests. This forest type provides excellent food and cover for wildlife and when regenerated, provides a great deal of browse for a wide variety of wildlife.

Aspen-Hardwood (AN)

Forest Type Size: 402 acres

Forest Type Description: The aspen-hardwood type covers approximately 17% of forested acreage. This type consists of mixed stands of aspen and hardwood with aspen being the dominant component. This type occurs on a wide variety of sites from well to poorly drained. Quaking Aspen is the dominant species with Bigtooth Aspen being a minor component in some stands. The composition of these stands suggests past disturbance encouraged the establishment of the aspen along with associated hardwoods. Hardwood species commonly found mixed with the aspen are: Red and White Oak, Red Maple, Sugar Maple, Basswood, Elm, White Ash, and etc. The presence of the northern hardwood understory indicates a successional trend. The overall health of this type is considered to be fair with many areas having over mature aspen and others containing younger developing stands. The areas experiencing the decline in health and vigor should be a primary focus of management in the near future.

Bottomland Hardwoods (HB)

Forest Type Size: 48 acres

Forest Type Description: This type consists of moderately stocked stands of poor quality hardwoods such as Silver Maple, Cottonwood, Green Ash, Box Elder and Swamp White Oak. This type is characterized by small isolated stands that occur on poorly drained sites along drainages or alluvial floodplains. Lowland brush typically dominates the understory. Management of this type will be impractical in many instances due to location, narrow window of opportunity to enter these stands (operation during frozen

ground conditions only) and poor quality. Where this forest type occurs near creeks and rivers, water quality is of paramount concern and should be protected by limiting management operations in these stands as much as possible.

Trembling Aspen (AT)

Forest Type Size: 404 acres
Forest Type Description: The Trembling Aspen forest type covers approximately 18% of the forested acreage on the Oneida Reservation. This forest type is scattered throughout the Reservation with a large contiguous block found in the northwest section. Stocking ranges from 20–130 sfa (square feet per acre) with an average stand diameter of approximately 10 inches. Trembling Aspen stands occur on sites that can all be described as having a high site quality/index for aspen. The overall average site index for Trembling Aspen on these sites averaged 77. The presence of a northern hardwood understory is indicative of better sites. If left unmanaged, many of these stands would convert to hardwood sites as the aspen dies out and the hardwood understory is released. Presently, the majority of the Trembling Aspen stands are pole-timber size stands that are fully stocked. However, there are seedling-sapling size stands found in isolated areas that are several years away from management needs. Although Trembling Aspen dominates this forest type, there are secondary species mixed in. Northern hardwoods such as Sugar Maple, Basswood and White Ash; low quality hardwoods such as Red Maple, Cottonwood and Box Elder; and good quality Red Oaks are present. These secondary species ranged in size from small diameter pole-timber to occasional large diameter saw-timber. Intensive management of this forest type is needed to maintain beneficial tree diversity and promote wildlife.

Hardwood - Aspen (NA)

Forest Type Size: 200 acres
Forest Type Description: This type covers approximately 9% of the forested acreage and is composed of species as Sugar Maple, Basswood and White Ash, aspen and Red Oak. Stocking ranges from 40–100 sfa with an average stand regeneration while others contain only upland brush. These moderately stocked stands have the potential to be converted to nearly pure stands of hardwood through careful management.

The hardwood aspen type is found throughout the Reservation lands but is least prevalent in the eastern third of the Reservation. These stands offer an excellent opportunity to push them towards pure hardwood if established or regenerating hardwood is of adequate quality. Age class and wood quality variation is present. Therefore, specific management decisions can only be made following individual inspection of each unique stand.

Young trees at "Where the Waterbirds Nest" is just one example of the hundreds of Oneida acres that have been reforested over the past decade.

Low Quality Hardwood (NX)

Forest Type Size: 247 acres

Forest Type Description: This type consists of species as low quality northern hardwood, Red Maple and Box Elder. Covering approximately 11% of the total forested acreage, the understory composition consists of brush and low quality hardwoods. Basal area ranges from 40-90 square feet with few stands being well stocked. Occurring across the Reservation with a concentration in the northern third, many stands occur on poorly drained sites where quality and growth is inferior. Management of this type should focus on regenerating some of the better quality stands and leaving the poorest stands as wildlife habitat.

Northern Hardwood (NH)

Forest Type Size: 609 acres

Forest Type Description: As the largest single type on the Reservation covering 27% of the total forested acreage, it is dominated by Sugar Maple, White Ash, Basswood, Northern Red Oak, White Birch and scattered aspen. Most stands are accessible throughout the year and provide and excellent opportunity for management. Harvesting will focus on intermediate thinnings to upgrade stand quality. Through periodic thinnings, the northern hardwood type can produce a sustained yield of pulpwood, bolt-wood and eventually significant volumes of saw-timber through careful management. Wildlife habitat benefits from thinnings as well through development of the vertical canopy structure. Stands exhibiting excellent growth potential and high quality hardwood timber should be selected for all age management. Most stands are characterized as small saw-timber stands with an average stand diameter of around 10 inches. The basal area ranges from 30-40 sfa with the majority of the stands being fully stocked. The understory is dominated by northern hardwood seedlings and saplings such as White Ash, Basswood and Sugar Maple with upland brush being present occasionally. All age management will seek to release existing pockets of regeneration while creating new canopy gaps for regeneration to develop. Stands should be considered for thinning once the average basal area reaches 110-130 square feet. Variability in age classes, stand structure and quality will determine the appropriate management option for each stand.

Swamp Hardwood

Forest Type Size: 5 acres

Forest Type Description: Occurring in an isolated pocket adjacent to a riparian management zone, Black Ash and Green Ash dominate this type. This sole stand has an average basal area of 63 square feet and an average stand diameter of 10 inches. Areas adjacent to riparian management zones often serve as excellent sources of wildlife habitat. This type should be excluded from management due to its proximity to a riparian area, its small size and low quality timber.

White Oak (OW)

Forest Type Size: 90 acres

Forest Type Description: Representing a small portion of the forested acreage, these stands are moderately stocked and often contain a mix of species with White Oak being the dominant saw-timber size tree. Sometimes possessing a dense understory consisting primarily of northern hardwoods and upland brush, these stands tend to occur on more poorly drained sites. Stocking ranges from 60-90 sfa with only three stands being present on the Reservation. Due to the moderate stocking of these stands, no management is recommended for any of these stands in the near future.

Red Oak (OR)

Forest Type Size: 154 acres

Forest Type Description: This forest type occupies 7% of the forested acreage and is characterized by a strong component of saw-timber size Northern Red Oak. These saw-timber stands range from small to large saw-timber trees up to 30+ inches in diameter. Many of these stands are fully stocked with a number of them being overstocked. Stocking ranges from 60–140 sfa. The sites are well suited to grow red oak and this should be a focus of management.

Red Pine (PR)

Forest Type Size: 48 acres

Forest Type Description: The Red Pine forest type occurs in three separate stands on the Reservation, with the largest consisting of 37 acres in the northeast corner of the Reservation. Stocking ranges from 50-120 sfa. The existing red pine plantations appear to have never been thinned. Periodic thinnings can be implemented to improve growth and upgrade stand quality. Due to the scarcity of pine on the Reservation, it would be beneficial to manage these stands to their fullest potential.

White Spruce (SW)

Forest Type Size: 3 acres

Forest Type Description: The White Spruce type is represented by a small stand located in the southwest corner of the Reservation. The average stand diameter is 6 inches and averages 110 square feet of basal area. It is the only white spruce found on the Reservation. The plantation is in need of thinning to provide access and can benefit from subsequent thinnings.

Norway Spruce (SN)

Forest Type Size: 2 acres

Forest Type Description: Represented by a narrow band of spruce adjacent to a northern hardwood stand, this stand is overstocked with an average basal area of 150 sfa and an average stand diameter of 7 inches. This stand should be thinned as soon as possible. The first thinning should focus on creating access while subsequent thinning will control stocking and enhance growth.

White Cedar (CW)

Forest Type Size: 3 acres

Forest Type Description: This isolated pocket of White Cedar is located in the northwest corner of the Reservation. This unique stand is in the midst of a low quality hardwood stand and is an excellent source of wildlife habitat. The average diameter of this type is 9 inches and is considered to be fully stocked. Maintain this area as a unique forest type.

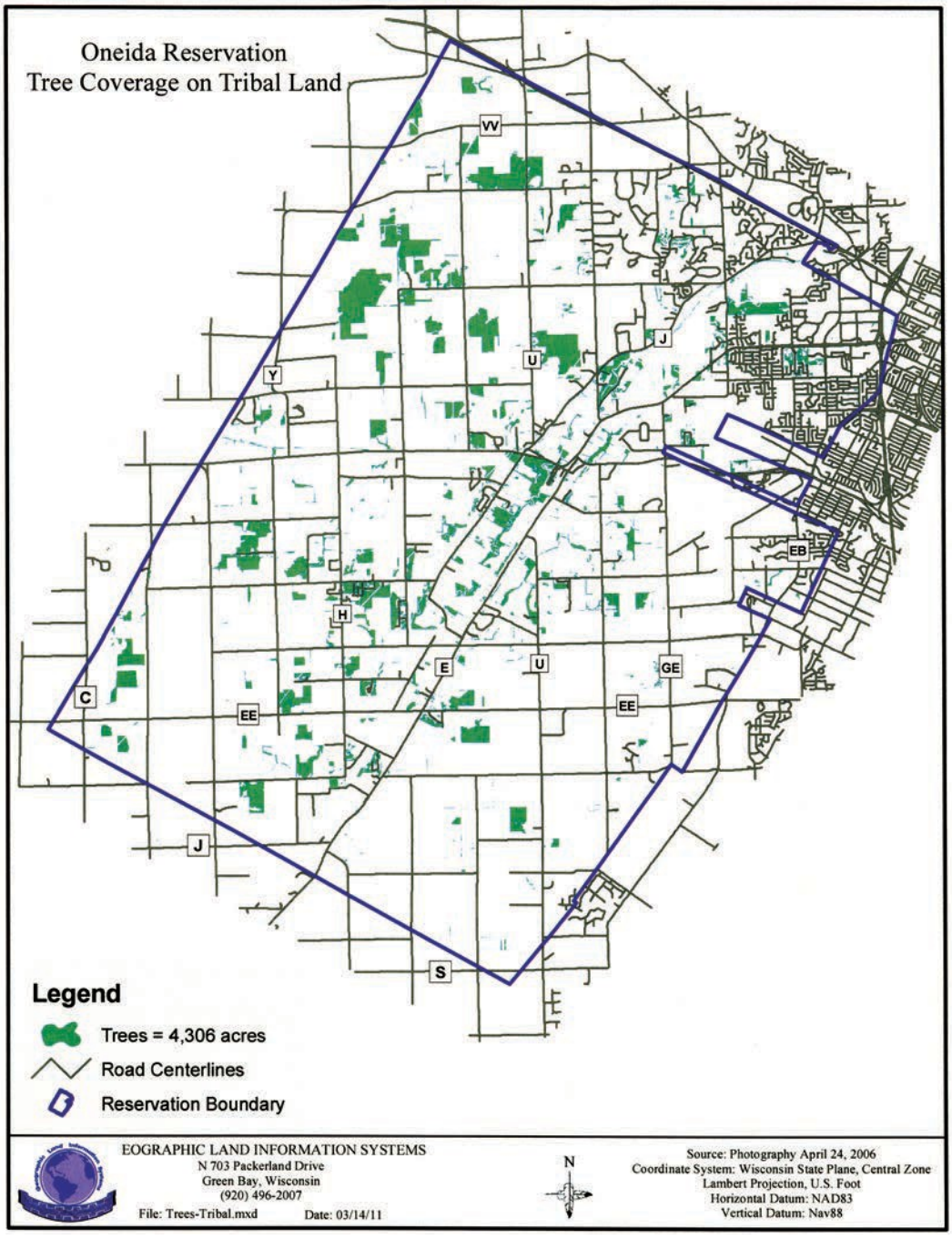
Riparian Management Zone (RZ)

Forest Type Size: 16 acres

Forest Type Description: As isolated small stands bordering creeks, rivers, and other riparian zones, these areas should be excluded from any management activity due to their essential function of protecting water quality. This type consists of a wide array of species including Silver Maple, Green Ash, enormous Cottonwood, oaks, Box Elder and others. These riparian areas protect water quality of adjacent water bodies and provide excellent wildlife habitat and travel corridors for many species. Many of these areas also contain recreational trails following along creeks and rivers.

Trees of the Oneida Reservation

Figure 2.1 Oneida Reservation Tree Coverage on Tribal Land



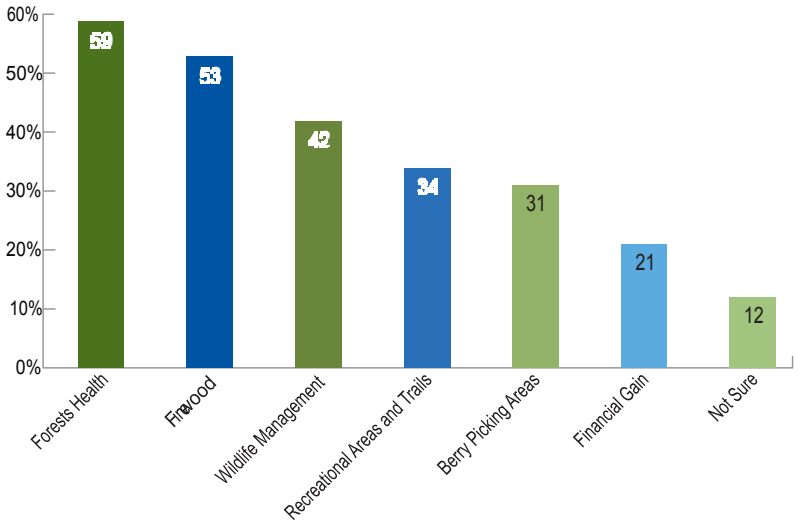
COMMUNITY SUGGESTIONS & FEEDBACK

Major findings of Live, Sustain, Grow survey supporting forestry activities include:

- 85% of respondents are supportive of designating 100 acres for reforestation each year.
- 89% of respondents are supportive of the Oneida Tribe planting trees in urban areas.
- 79% of respondents are supportive of a National Forest being established on the Oneida Reservation.

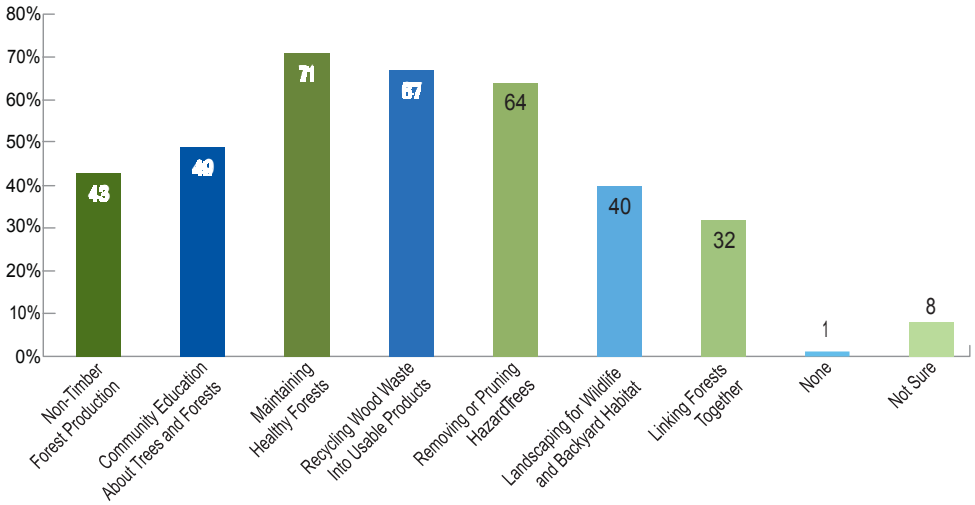
Only 39% of respondents are supportive of harvesting timber on the Reservation. For those respondents who support harvesting timber, 59% support it for the purpose of protecting forest health. 53% support timber harvest for the purpose of supplying elders or community members with firewood. 42% support timber harvest for the management of different types of wildlife, 34% support it to establish recreational areas or trails, and 31% support it to establish areas for berry picking. The Oneida community does not view forestry in terms of an economic commodity as only 21% support harvesting timber for financial gain. Figure 2.1.

Fig 2.1 Purposes for Respondent's Support Harvesting Timber



Respondents were asked to identify which specific goals the Oneida forestry program should focus on in the next decade. The most common responses include: 71% think the program should maintain healthy forests, 67% recommend recycling wood waste into usable products, and 64% suggest the removal or pruning of hazard trees. Other suggestions given include sustainable forestry, establishing recreational areas, planting more trees, and buying more land.

Fig 2.2 Goals Oneida's Forestry Program Should Focus on in the Next Decade



GOALS AND OBJECTIVES

Goal A

Develop and implement a comprehensive forest management plan. This plan will help Oneida achieve a healthy, diverse and sustainable community forest system, which maintains effective ecological, social/cultural, and economic services for Oneida.

Objectives

- Identify the physical, biological, economic and social/cultural information on each forest unit of land, and analyze the condition and management potential of the current forest resource.

- Research and identify potential forest impacts due to climate change and integrate administrative policies and practices into the forest planning process that will help mitigate any threats to forest communities and provide opportunities to develop a Tribal forestry carbon offset portfolio (carbon marketing strategy).
- Research and integrate Best Management Practices (BMPs) for water quality and invasive species into forest planning. Identify effective and realistic practices that can be integrated into routine forestry activities that help protect water quality and limit the impact of invasive species.
- Develop effective techniques for integrating scenic, recreation, wildlife, and other amenity values into the forest planning process.

Goal B

Manage effective urban and rural vegetative systems and integrate forestry planning with comprehensive urban development planning.

Objectives

- Identify and implement criteria and methods to establish, maintain, and protect both urban and rural forest vegetation. Develop and propose the adoption of administrative policies and regulations that protect tree and forest resources.
- Develop methods to assess landscape values and integrate these values into land use planning.
- Determine and help integrate techniques in which trees and forest resources can be established or manipulated to influence micro- and mesoclimate, noise, air quality, aesthetic and energy conservation values in land use planning.
- Implement an effective community tree hazard assessment, abatement, and recycling strategy to minimize risk of public injury and property damage, and to return value added waste wood products back to the community.

Goal C

Develop and maintain a high level of community support for forestry activities.

Objectives

- Establish mechanisms for Tribal members to become more involved in forestry planning and initiate activities that help connect Oneida traditions, customs, and culture to the environment.
- Develop information, education and training programs that generate a public interest and understanding of community forest resources and management practices.
- Develop policy and procedures to promote forestry professionalism and that establish an effective Oneida forestry program/department.
- Help establish policy and guidance for the designation of forest land and the adoption of an Oneida Nation Forest.

BENEFITS ASSESSMENT

Forest management is a process for providing a forest (urban or rural) the proper care so that it remains healthy and vigorous and provides the services, products, and amenities the owner desires. The Oneida Forest Management Plan provides for the development and execution of a plan integrating all of the principles, practices, and techniques necessary to care properly for tree and forest resources. The benefits of this plan include:

Environmental

- Trees aid in preventing erosion, siltation of streams and reservoirs, flash flooding, and air and noise pollution.
- Trees and shrubs provide essential habitat to attract wildlife. Trees provide food and cover protection for many species of birds, mammals, reptiles, amphibians, insects, and even fish. A greater variety of plants results in a greater the variety of animals.

- Healthy trees diverse in species and composition improve the ability to filter the air and sequester carbon from the atmosphere.
- Trees help control climate by moderating the effects of sun, wind, and rain.

Social

- Trees are a valued asset, providing a healthier and more beautiful environment in which to live. They provide oxygen, shade, aesthetics, and a psychological counterpoint to urban settings.
- Trees can enhance the function of one property without infringing on the right and privileges of neighbors. They provide privacy, emphasize views, screen objectionable views, reduce glare and reflection, redirect pedestrian traffic, and soften/compliment/enhance architecture.

Cultural

- The Oneida Nation has strong inherent cultural links to trees and forest resources. As a "Woodland Nation" and "People of the Longhouse," the Oneida value and maintain an ancestral tradition of tree and forest stewardship and preservation for the benefit of generations to come.
- Establishment of forest communities where they have historically occurred.
- Forest communities can provide a diversity of plants and animals important to the dietary and medicinal needs of the Tribe.

Economic

- Multiple-use philosophy produces multiple services, products, and amenities for Tribal members. These include removal of hazard and nuisance trees; providing firewood for residences as home fuel wood or for use in ceremonies; wood chips for trails and landscaping; help control impacts of frequent flooding, and improved timber value.

- Trees are economically beneficial in attracting new industry, residents, and visitors. Healthy trees of the right size and species and growing in the right places enhance property values and promote the stability of desirable neighborhoods. Trees add curb appeal to our homes and businesses and can add 15% to property value. Trees planted in urban areas can reduce heating and cooling costs by 8–12%.

IMPLEMENTATION PLAN

Based upon the desires of the Oneida membership expressed in public surveys, the Oneida forest management will employ a multiple-use philosophy designed to enhance and produce multiple services, products, and amenities. This strategy will not require that every acre of forest or living space be managed for every desired service, product, or amenity, but rather that these resources as a whole are managed in such a way that they yield the desired mix. For example, some areas may be managed primarily for timber with water quality and aesthetic considerations, while other areas are managed to enhance wildlife habitat or to address a specific ecological function.

- Forest management strategies will be based on and limited by the following three factors:
  - What is biologically/ecologically possible on the area?
  - What is economically and organizationally feasible?
  - What is socially and politically desirable?

Like other land use plans/strategies, the Oneida Forest Management Plan will be an evolving plan that will be periodically reviewed and updated. New land acquisition, changes in ownership objectives, inventory, technology, and/or business or political climate can result in the need for modification of the plan. Intervals between periodic reviews and updates shall be no more than 5 to 10 years, more often if significant events warrant it or as recommended by the Tribal Forester.

The Forest Management Plan will be developed, in part, based upon a comprehensive forest inventory and analysis. Forest data will be collected in accordance to BIA Operations Inventory Stand Exam procedures. Forest stand attributes will be captured into a database and shape-file form for Oneida geographical land information system applications. Information collected will be utilized for day-to-day management decisions, long range management planning, and tracking and monitoring activities applied to forest resource. The Oneida Tribe has submitted a funding proposal to the BIA. Forestry inventory and analysis is expected to be completed in a phased approach in Fiscal Year 2011-12.

The integration of forestry planning with comprehensive urban development planning will largely be implemented by way of ordinance/policy development and enforcement. An Oneida Tree Protection Ordinance will be developed to establish consistent procedures and guidance regarding the establishment, maintenance, and conservation of trees in an effort to cultivate healthy sustainable tree and forest populations on the Oneida Reservation. To maintain continued support for forestry activities, the Oneida Environmental, Health & Safety Division (EH&SD) will work in multidisciplinary teams to effectively manage tree and forest resources. The Division will research and apply new forestry technologies and best practices, consult with and/or partner with federal, state, and other professional agencies to acquire information and funding support, and establish mechanisms for Tribal members to become more involved in forestry activities.