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## **Opportunities for Cooperative Management: Washington Island, Wisconsin**

The Sustainable Forestry Cooperative movement has caught the attention of many residents of Washington Island. Timbergreen has been involved in several forest owner meetings, a low-impact logging demonstration field day, and has installed flooring in two homes on the Island, showing the final product available from cooperative management.

Many ideas have been discussed and interest appears high to explore the options for starting a forestry cooperative. Here is a summary of some of the ideas that have been discussed over the past two months:

Washington Island covers an area of about 20,000 acres with approximately 8,000 acres of that being forest. A significant portion of the forest (30-40%) is growing on small woodlots that contain homes. (The Door County information office will be providing Timbergreen with digital GIS data, allowing us to make a much more accurate estimation of this area) Residents describe forest management on the Island as involving occasional harvesting of large trees by Algoma Lumber Co. as well as some logging for personal use by several forest owners. There are several small sawmills on the Island, all are part time operations. Indications are that the forest resource is about 80% underutilized (Timbergreen's estimate).

The 1996 USFS inventory of Wisconsin's timber resource offers the following information for Door County:

Average stocking	3,400 board feet per acre
Annual Growth	105 board feet sawlogs 2/10ths cord sawbolts and pulp (Logs smaller than 10" diameter on the small end)
Species Mix	28% Cedar, 28% Aspen-Birch, 44% Maple-Beech

Our observations are that the Island appears to fit this county average closely. Averages are just that, the average. We observed many woodlots with much higher volumes and great potential for forest management, while others were in very poor condition due to over-harvesting of just the good trees. Once we receive the GIS data, we can fine tune the acreage estimates and the species mix information.

Timbergreen's Full Vigor Forestry system works to build a fully stocked forest of high quality large trees, then harvests just the natural annual production of the forest to keep the best trees growing with good vigor. Using FVF principles, the annual growth of the forest could be doubled within 20 years. Each selective harvest would be better and better quality as time goes forward.

Value-added processing of harvested timber could create a major new industry on the Island. In N. Europe where forest owner cooperatives have been successful for over 50 years, 60% of the forest owners have become members. In Finland, nearly all forest owners now belong to a cooperative. We estimate that within 5 years, a cooperative on the Island would attract about 60% of the woodlot owners.

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**Resources Available:** Assuming 60% of the landowners would participate, that would total about 5,000 acres of forest. Our first restoration harvest usually removes about 1,000 board feet per acre of the worst timber. This could produce about 1,000,000 bf per year, for 5 years, just to begin the management process.

By 2006, the annual growth on these lands would exceed 1,000,000 bf if the sawbolts (logs 6-10" diameter) are utilized. It seems appropriate to consider this production goal to be able to reach a large percentage of forest owners and have sufficient volume of wood to make the operation very efficient.

**Forest Management Planning:**

The Forest Stewardship Council is a global third party certification organization that offers the 'state of the art' guidance for Sustainable Forest Management. Timbergreen was the first forestry consulting firm in the Lake States to pass the FSC standard and attain SmartWood certification. FSC stresses that forest management must consider the community benefits, environmental protection & restoration, as well as the economic returns of all operations. We would recommend starting the planning process with discussions involving the Island residents to get their thoughts on what they would like the Island to look like in 100 years.

Issues that were voiced included; deer herd management, maintaining open space in natural condition, controlling further development to keep things from changing, and maintaining water quality. Once the "desired future condition" is chosen, a step by step process can be developed to attain that goal. We work with the forest owner to help them develop a management program for their land that they understand and believe in.

**Potential Products:** Hardwood flooring and kiln dry lumber have been the best products here at Timbergreen for 12 years. We specialize in rustic – character flooring that can be made from our worst first harvests. (See the article 'The Timbergreen Trials') The beech, maple, oak, birch, and ash present on Washington Island are all very valuable as flooring. Better quality boards would be more valuable as millwork, furniture, or simply dry lumber. The cedar has many different uses from siding, decking, outdoor furniture, indoor paneling, and lumber. Naturally rot resistant wood is in high demand from environmentally conscious consumers today.

There are an unlimited number of wood products that could be made from the forest here. The more manufacturing done, the higher the profits. Selling direct to consumers gives maximum returns. Marketing could be targeted first at construction projects on the Island where large volumes of lumber are used for flooring, cabinets, furniture, etc. Other wood using business could be contacted. Products could be made specifically for the visitors that come over on the ferries. Excess wood could be marketed as kiln dry lumber or flooring and sold off Island through the coop system or over the Internet. Maple and cedar are in high demand in the Milwaukee, Madison, and Chicago area. FSC certification would be a useful marketing aid for the coop's wood.

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The ultimate product would be to build log cabins, complete with railings, stairs, flooring, cabinets, furniture, decks, etc. Island contractors could work with the coop to use much of the annual harvest in a final form.

**Economic Impacts:** Based on 12 years of selling value-added wood products across the continent, Timbergreen can project the value of the annual harvest – if selling direct to consumers is chosen as the marketing goal.

1,000,000 bf total harvest volume:

Cedar – 280,000 bf		
Sell half as air dry lumber for decking, siding @ \$1/bf		\$140,000
Sell half as manufactured paneling @ \$2/bf		\$280,000
Hardwoods – 720,000 bf		
Sell 10% as rough lumber @ \$.75/bf		\$54,000
Sell 45% as flooring @ \$3/bf		\$972,000
Sell 45% as kd lumber @ \$2.5/bf		\$810,000

Estimated annual sales \$2,256,000

These figures could go much higher if the coop installs the flooring, or more wood is manufactured into final form products. It would be possible to exceed \$5,000,000 per year gross sales with creative processing and marketing.

It would take a major effort to create the facility to process this wood, but the payoff is very quick. This size business would create at least 10 full time jobs within 3 years.

**Value-added Facilities:**

Several buildings would be needed to operate efficiently. Our suggestion would be:

1. Sawmill building – 30’X60’ insulated pole building.  
 This would house a WoodMizer type band sawmill, a band resaw, an edger saw, a chop saw, a dust collection system, and material handling rollers.  
 One heavy-duty forklift would be needed for this operation.
2. Kilns  
 Three Super Solar Cycle Kilns – 450,000 bf annual capacity total.  
 Three wood heated kilns 360,000 bf annual capacity total
3. Warehouse-workshop-outlet store-office – 60’X100’ insulated pole building.  
 This would house a surface planer, rip saw, chop saw, and molder.
4. Island workshops and stores  
 A series of smaller shops around the Island could be involved also.

**Harvesting Equipment:**

Several low impact logging machines would be needed. The small end could be 4X4 or 6X6 ATVs with a skidding arch. Horse logging would work very well on the Island. A skidding machine with radio-controlled winch is another important machine. A small and a large forwarding trailer or a pre-hauler would move logs to the roadside. Flatbed trailers or a log truck would move the logs to the mill.

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**Natural Neighborhood Management:**

The high number of small woodlots containing a home has spurred thought on a cooperative method of management in areas with many neighbors. Please refer to the 'Natural Neighborhood Management' article for details on processing logs through the coop when a yard or woodlot tree must be salvaged.

**Non-Timber Forest Products:**

Other forestry coops are also producing a variety of mushrooms, herbal-medicinal plants, maple syrup, etc to supplement the timber production and involve people of varied interests. The rich soils in the Island forests would be suitable for many alternative crops.

**Education and Training:**

One topic that comes up over and over in the discussions is resource management education. A wide range of ideas from a school forest, a demonstration forest for visitors, a forestry conference center, to a logger training program has been aired. A cooperative can use some of the value-added profits to support programs of their choice.

First priority seems to be in serving the needs of the students in the school system. Many projects could be done throughout the school year, in the field, classroom or workshop. Several teachers are already involved in the discussions and offer encouragement to support an educational outreach in the school.

This Island is a perfect place to have a demonstration/training center. There is a huge demand for practical, common sense forestry and low impact logging information. Hundreds and perhaps thousands of visitors could be drawn to the Island to 'see in action' the forestry projects of this cooperative. Horse skidding would be an attraction that would be extremely popular. The unique location, cool weather, stable soils, and timber types make this an ideal summer 'logging camp'. (Here at Timbergreen, our Forest Owner Field Days are very popular, and we actually get a lot of work done while demonstrating our methods. Visitors pay a fee to cover the expenses, so the work accomplished is an added benefit.)

**Energy Production:**

Island residents have described previous efforts to burn waste to generate power. Insufficient volume was available to support an efficient operation. Wood waste from manufacturing and forestry operations could be used to supplement burnable waste to make the Island more self sufficient. Technology is improving quickly, providing better efficiency and less pollution than just a few years ago.

**Cooperative Showcase:**

Washington Island is a unique opportunity for a community forestry cooperative to thrive. An underutilized forest resource could provide the economic means to strengthen the future of the Island economy through working together for many benefits.