

# Wooden Spoons for Woodcock

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**ABSTRACT:** The American woodcock (*Scolopax minor*; hereafter, woodcock) is an important game species in central and eastern North America. In this paper, we argue that the wildlife community should consider several novel ideas. At the landscape level, one of the most effective ways to perpetuate aspen (*Populus* spp.) forests is through commercial forest management. Aspen underpins the major forest products industries: its fiber is highly sought after for pulp, paper, oriented strand board and other engineered lumber products, and lumber. The most cost-effective and reliable way to maintain woodcock habitat is through commercial forest management and through periodic timber harvests. Non-commercial habitat management is possible but expensive and time-consuming. Support for forest products industry business attraction and development is good for woodcock habitat, good for local communities, and good for local economies. We recommend that the wildlife community consider greater involvement in the broader social discussion over the use of wood products, and be actively engaged in discussions involving economic development and energy use by the forest products industry at the state and local level.

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The American woodcock (*Scolopax minor*; hereafter, woodcock) is an important species in the Great Lakes states—important economically, as a recreational species, and as an ecological indicator of the status of our forest resources. Moreover, we all know the trend: over the last 50 years, the woodcock population has been decreasing in Michigan (Fig.1). This decline in the breeding population has been associated with reduction or loss of early successional aspen (*Populus* spp.) forests, which provide critical habitat for woodcock. Aspen is a short-lived forest type, chiefly regenerated through intensive commercial forest management—timber harvests. In this paper we argue that, at the landscape level, the most effective and reliable way to maintain woodcock habitat is through commercial forest management and through periodic timber harvests. Demand drives markets, and in turn, markets drive habitat! So how do we improve habitat for woodcock on a large scale? Support the forest-products industry!

## Quality habitat depends on active forest management!

Fifty-four percent (over 8 million hectares, or 20.3 million acres) of Michigan is forested (Pugh et al. 2014). The State of Michigan administers 21% of the forestland in Michigan, while private landowners own about 60%. Forests in Michigan have been managed not only for timber production but also for various ecosystem services such as wildlife habitat, watershed protection, biodiversity conservation, and forest-based recreation activities (Pugh et al. 2014). These forests continue to play an important role in supporting local and state economies, generating employment and income.

Aspen forests provide excellent habitat and recreational opportunities across the Great Lakes region. Young aspen forests support woodcock populations, with over 4 million hectares (10 million acres) of aspen forest in the Lake States region and almost 1 million hectares (2.4 million acres) in Michigan. Over 94,000 woodcock were estimated to have been harvested by hunters in Michigan in 2011, who spent

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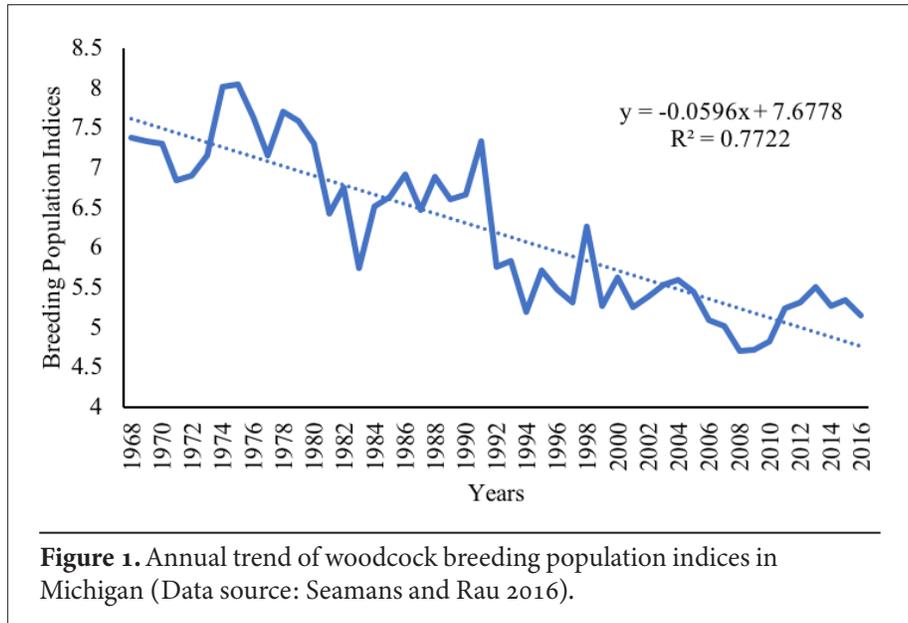
more than 200,000 hunter-days afield (Frawley 2014). This by itself is a significant economic contribution. Forest-based outdoor recreation activities, including hunting and birdwatching, provide significant support to local economies (Poudel et al. 2017). In 2011, about 529,000 people in Michigan participated in hunting activities, spending \$2.3 billion on equipment and trip-related expenses (USFWS 2012).

Aspen forests also underpin the forest products industries and associated industry employment in the Great Lakes region. Aspen is the preferred species for manufacturing several key wood products—pulp and paper, oriented strand board (OSB), particleboard, lumber, and pallets—along with associated manufacturing byproducts that are sold as animal bedding and shavings or as additional raw material for manufacturing paper. Forest-products industries contributed over \$21 billion to Michigan’s economy in 2015 and supported over 99,000 jobs (Leefers 2017). Michigan has 3 pulp and paper mills that depend on aspen, 3 OSB plants, a hardboard or High Density Fiberboard (HDF) plant, and >100 sawmills that use aspen for making lumber, pallets, shavings, animal bedding, and other biomass products.

What is the market outlook for industries that use aspen? For aspen forest products? In general, good. Some end products have a better long-term market forecast than others:

- Paper: mixed market outlook
  - Writing paper and newsprint have a declining market forecast; global demand is expected to decline at a rate of 4–6% per year.
  - Packaging paper and paperboard, in contrast, are expected to have very good market demand, growing at a rate of about 4–6% per year.
- Composite board products (OSB, particleboard, and grade and industrial lumber products): demand for these products is expected to grow at a rate of 6–8% per year.

Aspen forest that serve as high-quality wildlife habitat is the result of active management. Aspen is a short-lived species that matures in 40–60 years and is chiefly reproduced by coppice root sprouts after clearcut harvesting. How can we increase active management of aspen forest resources? Support the expansion of industries that use it! Take, for example, a theoretical, cutting-edge composite-board plant (OSB or particleboard). A new, average-sized OSB plant



**Figure 1.** Annual trend of woodcock breeding population indices in Michigan (Data source: Seamans and Rau 2016).

constructed today would likely use about 300,000 standard cords of wood per year, and of that about 200,000 cords would likely be aspen, resulting in renewal of about 2,900 to 4,000 hectares (7,000 to 10,000 acres) of aspen forest per year.

**Commercial timber harvests would allow for more affordable, sustainable, and regular habitat maintenance**

Commercial aspen harvests feed the mill and promote development of a balanced age-class distribution over time and space that, in turn, provides attractive habitat for woodcock across the landscape. By comparison, non-commercial habitat management is expensive and labor intensive. To create 2,900 to 4,000 hectares (7,000 to 10,000 acres) of renewed aspen forest per year using non-commercial treatments could cost about \$150 per 0.4 hectare (1 acre), or about \$1.5 million per year. Mechanical treatment options are slow and expensive:

- Hydroaxing: 8 hectares (20 acres) per day
- Anchor chain and roller chopping: 4 hectares (10 acres) per day
- Shearing with bulldozers: 4 hectares (10 acres) per day

Due to the cost, stand rotation could likely be lengthened to 70–80 years, resulting in older, less vigorous stands and poorer, lower density regeneration after harvest. In reality, you would not do it. You would wait until you had a market for the timber.

Another novel idea for increasing area of woodcock habitat: consider dialing back rotation age. Michigan’s aspen resource is typically harvested on a 40–70-year rotation cycle (60 years on average; Fig. 2). Yet aspen gen-

erally provides high quality habitat for woodcock in the 10–40-year age classes. What if you dialed back average rotation age?

- Move 60-year rotation to a 50-year rotation = 12% more high quality habitat
- Move 60-year rotation to a 40-year rotation = 30% more high quality habitat

Supporting expansion and maintenance of Michigan’s forest products industry is good for woodcock habitat, good for human habitat, and good for local jobs! Good for local rural development! Take, for example, the theoretical new OSB plant. An average plant could provide 200–300 direct jobs, support an additional 600 jobs through indirect and induced employment effects, and provide \$22 million in labor income. Often these plants are located in rural communities, and provide steady, good-paying wages. Another example: Michigan was recently successful in attracting an international leader in forest-products manufacturing, Arauco, to build a state-of-the-art particleboard plant in Grayling. The company will make a >\$4 billion investment in the plant and employ 200 workers in full-time, permanent jobs. Think about the support that the new plant and 200 new full-time jobs will provide to the local economy, and local schools, in a community where 50% of the students are eligible for free or reduced-price lunches.

Another way to look at this issue: How are you as a community of wildlife professionals aligned with your Governor’s priorities? With your state’s vision? What were Governor Snyder’s priorities in year one, year four, and year eight? Jobs, Jobs and Jobs! So how can you as employees and leaders of your respective agencies become more engaged with the forest products industry? Start by building a relationship with your state economic development

corporation so they are keyed in on the wildlife habitat/jobs/rural economy linkage. Give them the breakdown on assets, locations, and opportunities so they can lobby wood-products corporations to locate in your state, particularly those industries that use significant quantities of aspen. Become engaged in forest-products business attraction and development as a community of wildlife professionals, lend support in the media and during the attraction process. Let prospective companies know that the wildlife community is interested and supportive.

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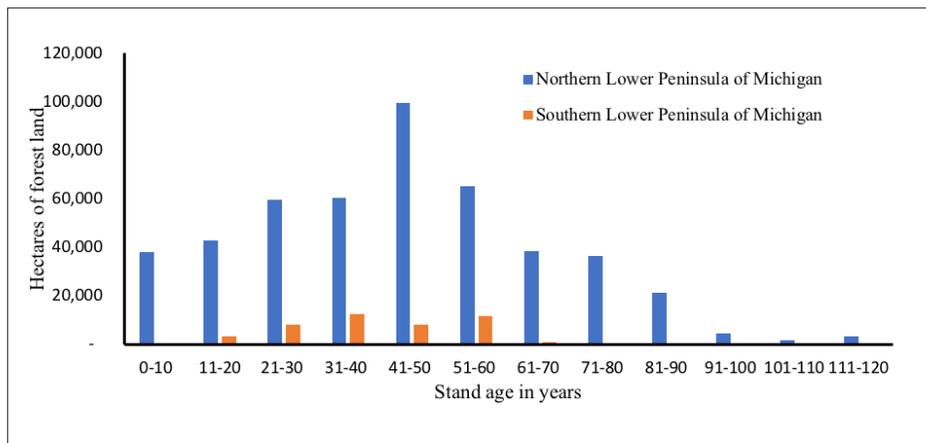
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**Figure 2.** Aspen forest cover in Northern Lower Peninsula of Michigan and Southern Lower Peninsula of Michigan by stand age (based on recent Forest Inventory and Analysis (FIA) inventory cycle 2011–2016; Data source: USDA Forest Service FIA EVALIDator Version 1.6.0.03a).