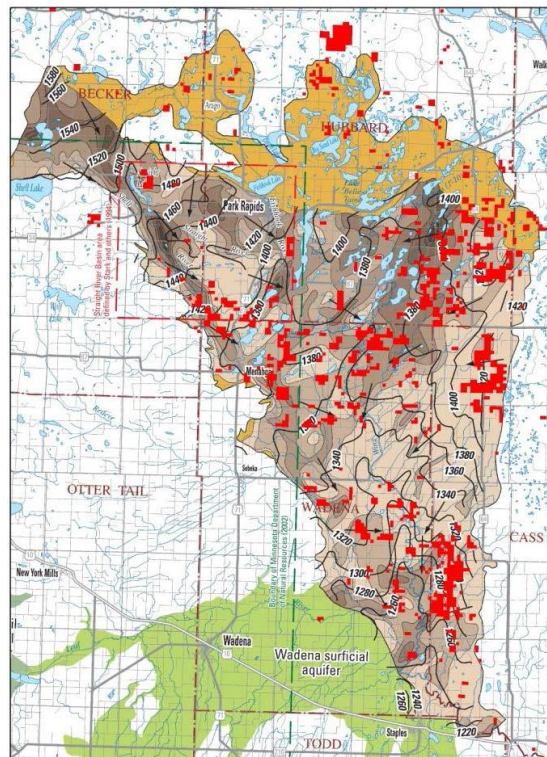


## Protecting Pineland Sands Aquifer Forestlands and Aquatic Habitat Project

Richard Peterson MN DNR Forestry April 2016

**Background:** There are 60,000 acres of industrial timberland in Cass, Hubbard and Wadena counties, almost all of which is over the Pinelands Sands Aquifer (see the attached map of aquifer depth, with industrial timberland parcels in red). The Pineland Sands Area is a glacial outwash area characterized by fine to coarse grained sands and gravels which are well drained. These sandy soils also infiltrate a significant amount of precipitation making them important groundwater recharge areas. The water table aquifer and surface water bodies in this area are interconnected and dependent on one another. Withdrawals in the water table aquifer can cause lower water levels in the nearby wetlands, lakes and streams. Some of the streams are designated trout streams and highly dependent on a cold groundwater supply. Many of the industrial timberlands in the area around Park Rapids are being sold to the potato industry and converted to irrigated agriculture (over 10,000 acres converted to date). As additional 20,000+ acres of industrial timberlands are at high/medium risk for conversion.



**Pinelands Sands Aquifer with Industrial Timberland Parcels shown in red. (Peter Jacobson 2012)**

**LSOHC Project:** This project is an effort by the Minnesota DNR to identify and protect with fee acquisition several thousand acres of priority forestland and associated habitats in the Pine Lands Aquifer area of Minnesota that is experiencing significant deforestation as a result of conversion of forests to irrigated agriculture. The resulting sales and forestland conversions have many resource impacts that would be addressed through the project including:

- Forest fragmentation and upland habitat loss including the loss of sandy upland mixed jack pine, oak and aspen forests which are the best year-round forested deer habitats.
- Impacts to forest stands containing rare plant communities, and rare plants and animals.
- Loss of future timber production that can impact local mills and jobs.
- Impacts to surface and ground water quality and quantity including potential nitrate concerns and reduced groundwater discharge to lakes, rivers and wetlands.
- Reduced access to public lands for management and recreational purposes.

**Results of Priority Protection Efforts to date:** Minnesota DNR used an interdisciplinary team to assess impacts of forest conversion, and identified the highest priority to acquire or protect those lands most likely to be converted to agriculture where the conversion would have the greatest impact to groundwater and other resource values.

DNR LSOHC Funded Projects:

DNR Pineland Sands Aquifer Forestlands and Aquatic Habitat Project

- Phase 1: FY15 \$1,050; 900 Acre Jack Pine SNA (Completed), 420 acre State Forest (near completion) – both in Hubbard County
- Phase 2: FY2016 \$2,180: Proposal will fund up to 1300+ acres of State Forest and Wildlife Management Areas (in progress)- Wadena County

Other LSOHC Protection Efforts in the Pinelands Sands Aquifer:

- FY2016 Trust for Public Land: 700 acres of State WMA Completed –Wadena County
- FY2017 Minnesota Deer Hunters Association: Proposal would fund acquisition of up to several thousand acres–(pending the outcome of 2016 Legislation) - Cass, Hubbard, & Wadena County
- Cass County: Multiple proposals have funded some parcels in the aquifer.



**Conversion of pine to agriculture in the Pinelands Sands Aquifer Area of Minnesota**