Groundwater Pumping
Managing the Challenges of our Shared Water Resources within the Central Sands

Don Last, UW Extension retired
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Groundwater Uses in the Central Sands: Conflicting Claims on Shared Water Resources

Image: USDA

Image: Barbara Gifford, Friends of the Little Plover River
Groundwater and Wisconsin Agriculture

Map: Wisconsin DNR
Groundwater and Wisconsin Agriculture
### Groundwater and Wisconsin Agriculture

#### Table 1. Central Wisconsin Agricultural Irrigation: Actual Versus Potential

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>Water use in millions of gallons per year</th>
<th>Actual acres under irrigation</th>
<th>Potential acres under irrigation</th>
<th>Actual acres as percentage of potential acres</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1979)</td>
<td>(1978)</td>
<td>(500-1000)</td>
<td>(1000+)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Total)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adams</td>
<td>4,180</td>
<td>122,125</td>
<td>297,952</td>
<td>420,007</td>
</tr>
<tr>
<td>Jackson</td>
<td>19</td>
<td>247,521</td>
<td>—</td>
<td>247,521</td>
</tr>
<tr>
<td>Juneau</td>
<td>731</td>
<td>328,619</td>
<td>111,766</td>
<td>440,385</td>
</tr>
<tr>
<td>Marathon</td>
<td>123</td>
<td>77,418</td>
<td>—</td>
<td>77,418</td>
</tr>
<tr>
<td>Marquette</td>
<td>240</td>
<td>263,195</td>
<td>296,725</td>
<td>6</td>
</tr>
<tr>
<td>Monroe</td>
<td>41</td>
<td>534,705</td>
<td>—</td>
<td>534,705</td>
</tr>
<tr>
<td>Portage</td>
<td>10,000</td>
<td>209,357</td>
<td>147,749</td>
<td>357,106</td>
</tr>
<tr>
<td>Waupaca</td>
<td>516</td>
<td>113,947</td>
<td>7,324</td>
<td>121,171</td>
</tr>
<tr>
<td>Waushara</td>
<td>5,340</td>
<td>265,104</td>
<td>100,044</td>
<td>365,148</td>
</tr>
<tr>
<td>Wood</td>
<td>166</td>
<td>48,932</td>
<td>20,309</td>
<td>69,241</td>
</tr>
<tr>
<td>Area</td>
<td>21,356</td>
<td>1,981,258</td>
<td>948,239</td>
<td>2,929,497</td>
</tr>
</tbody>
</table>

Note: Yields > 500 gallons per minute.
POTENTIAL VERSUS ACTUAL DEVELOPMENT OF IRRIGATED AGRICULTURE IN CENTRAL WISCONSIN

DONALD LAST

UWEX Department of Environmental Resources
Stevens Point, Wisconsin

Abstract

Only 5 percent of the ten-county central sands area of Wisconsin having conditions suitable for irrigated agriculture is now actually being used for that purpose. Nearly 3 million acres in the region have an underground water supply great enough to sustain high capacity irrigation wells. Yet only 133,000 acres of cropland are presently being irrigated. A doubling or tripling of the irrigated cropland in the area is possible by 1990. Development of irrigated agriculture has had an impact on the economy and the natural resources of the area. Careful planning and decision-making is needed now so that the irrigation potential of central Wisconsin is realized by anticipation and not by accident.
Benefits, concerns of Central Sands irrigation examined

The study by Mr. Hennings and I.D. Lippelt, Madison, resulted in a set of water table elevation maps, a regional aquifer potential map, and smaller aquifer potential maps. The researchers recommend that a restudy of the region be made every five to 10 years. Similar studies are planned for other areas of the state. Mr. Hennings visited the River Country RC&D in Eau Claire recently to explain the scope of such a study in western Wisconsin counties.

Joe Tuss, deputy secretary of agriculture for Wisconsin, provided the conference with some economic background on the Golden Sands success story.

"Fifteen years ago about one-fifth of the land area in the Golden Sands counties was used..."
ECONOMIC AND ENVIRONMENTAL IMPACTS

March 23, 1982
Stevens Point, Wisconsin
The Groundwater-Surface Water Connection

Image: Wisconsin Geological and Natural History Survey.
Irrigation: How Much Impact?

Image: Kate Golden, Wisconsin Center for Investigative Journalism
Rights to Groundwater: What are They?

Context
Wisconsin’s Public Trust Document
Workgroup Goals

1. Ensure that “public rights” in Central Sands waters of the state, including but not limited to reasonable base stream flows and lake levels, are not impaired by groundwater pumping.

2. Accommodate, to the extent feasible, the reasonable use of Central Sands groundwater by agriculture, industry, communities, and other users - consistent with the protection of “public rights” in waters of the state.

3. Ensure reasonably fair and reliable access to groundwater among competing users, both now and in the future.

4. Provide reasonable continuity of access to existing groundwater users, and reasonable opportunity for access to new users.

5. Encourage water conservation by all, for the benefit of all.

6. Act on the basis of sound information.
Next Up: Notable Recent Efforts

Adam Freihoefer - WI DNR
*The Lake Connection: Implementing 2017 Wisconsin Act 10*

Erin O’Brien - Wisconsin Wetlands Association
*An Introduction to the Little Plover River Watershed Enhancement Project*
Groundwater Quantity Panelists

- Don Last (facilitator) - UWEX retired
- Skip Hansen - Lakeshore land owner, Central Sands Water Action Coalition
- Mike Carter - CEO, Bushman's Inc.
- Ken Bradbury - Director, WI Geological and Natural History Survey
- Tamas Houlihan - Executive Director, WI Potato Vegetable Growers Association
- Kara O’Connor - Government Relations Director, WI Farmers Union