

Environment, Energy, and Transportation



Environment, Energy, and Transportation Subcommittee

Nathan Sandwick, Chair	Portage County UW-Extension
David Adamczak	Portage County ADRC
Alex Beyer	Portage County Solid Waste Department
Lindsay Benaszkeski	Portage County Health and Human Services
Walter Clark	UW-Stevens Point Risk and Safety Management
Shiba Kar	University of Wisconsin-Stevens Point
Bev Laska	Green Circle Trail Development
Jen McNelly	Portage County Planning and Zoning
Carrie Diamond Porter	Greater Wisconsin Agency on Aging Resources

"Good management is the art of making problems so interesting and their solutions so constructive that everyone wants to get to work and deal with them."

Paul Hawken

Environment, Energy, and Transportation

Section Summary

Strengths and Progress

- Portage County updated its Groundwater Management Plan in 2017 as recommended by the Groundwater Citizens Advisory Committee that comprises a volunteer citizen representative from each municipality.
- Interest and participation in simple energy efficiency improvement programs are high. The number of renewable energy installations in the county continues to grow.
- Stevens Point will receive \$390,141 of federal funds to create 13.16 miles of bicycle lanes, urban shoulders, and shared lane marking on existing streets.
- A merger of city transit and county elderly and disabled transportation programs has been approved by the Portage County Board in 2017 to increase efficiency and expand service.
- Portage County is home to two pioneer institutions: the University of Wisconsin-Stevens Point, which offered the nation's first conservation education major in 1945, and the Midwest Renewable Energy Association (MREA) which has been promoting renewable energy throughout the Midwest since 1990.

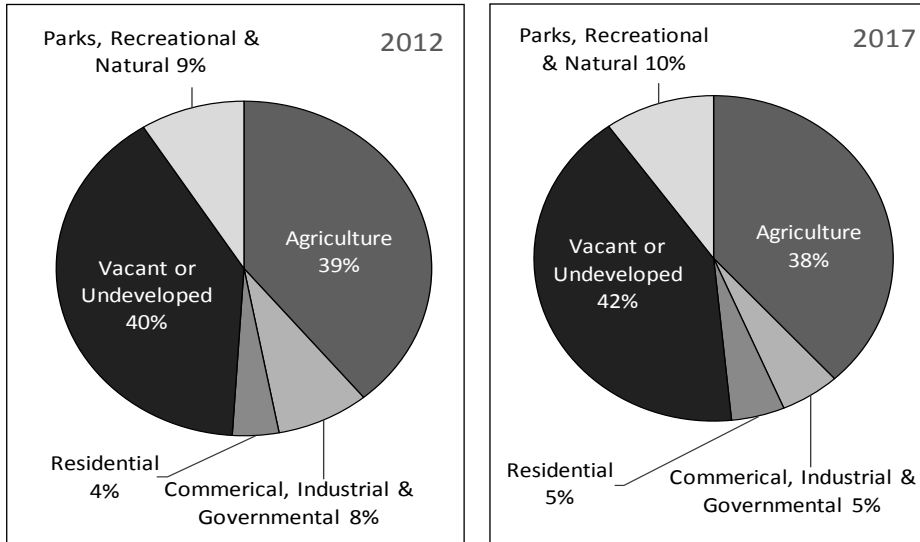
Challenges and Opportunities to Improve

- There is a continued loss of medium-sized farms.
- Radon is a concern in Portage County. In homes where high levels are detected, active ventilation typically provides a remedy.
- Further development of diverse stakeholders' ideas and experiences in protecting groundwater resources may help address growing groundwater quality and quantity concerns.
- As our energy consumption outweighs local production, we rely on imported resources. Requirements that a share of power come from renewable sources are largely met using out-of-state hydroelectric plants.
- A mix of transportation options may help to draw new talent and workers to the area and help to keep older adults and people with disabilities engaged in community life.
- Public investment in roads and bridges have not kept up with increasing maintenance costs.

Opportunities for Action

For Individuals	Engage in opportunities to discuss your hopes for the future of your community. Test drinking water wells annually, and test your home for radon. Properly dispose of solid and hazardous wastes. Seek information from the County Solid Waste Department, with facilities in Plover. Explore options to get to work such as carpooling, walking, biking, and public transit.
For Organizations	Promote use of free radon test kits from the Portage County Department of Health and Human Services. Support collaboration to address natural resource issues. Promote transit, biking and walking for employees to improve their health and ease parking issues.
For the Community	Explore alternative development patterns impacting environment, energy and transportation; pursue a compelling vision. Continue to assess water quality county-wide. Enact and support policies encouraging energy conservation and renewable energy. Implement the bike/ped plan. Continue and expand transit and transportation programs.

Key Measure: Portage County Land Use Comparison, 2012 & 2017



Key Measure: Farmland in Portage County- Agricultural Acres and Irrigated Acreage, 2002, 2007 & 2012

	2002	2007	2012	% of Total Land Area (2012)
Land in Farms (Acres)	292,109	281,575	278,673	53%
Irrigated Farms (Acres)	N/A	147,171	157,592	30%
Actual Irrigated (Acres)	92,330	91,718	92,544	18%

Land in farms: Total acreage in all farms in Portage County

Irrigated farms: Total acreage of all farms that utilize irrigation in Portage County

Actual irrigated acres: Acreage that is irrigated in Portage County

COMMUNITY PERSPECTIVES

There have been minimal changes in the County land use between 2012 and 2015.

Portage County encompasses 1 city, 9 villages, and 17 towns. A majority of the County population (59%) is concentrated in the City of Stevens Point and the Villages of Whiting, Park Ridge, and Plover. Approximately 4% live in the 6 "rural villages" (Almond, Amherst, Amherst Junction, Junction City, Nelsonville, and Rosholt) situated amid the more rural landscapes of the county. One-third of the county population resides in the unincorporated areas of the 17 towns. With a nice variety of compact communities and lightly-populated rural areas, Portage County offers many of the best qualities of the city and the country.

The county's population is projected to increase by nearly 6,000 people by 2040, with nearly 90% of that increase (5,300)

expected within Stevens Point and the Village of Plover. It is also anticipated that much of this new growth will continue to take place in urban fringes as Stevens Point and Village of Plover continue to grow outward into the Towns of Plover, Hull, and Stockton.

The two largest land uses are agricultural lands and "vacant/undeveloped" lands. Parks/Recreation/Natural Areas make up the third largest land use category at 9.9%. These lands could be publicly or privately owned. Public lands in this category include state, county, or town parks, nature preserves, boat landings, and athletic fields, while private lands include golf courses and campgrounds. The Natural Areas include shore lands, wetlands, floodplains, and steep slopes, as well as all water features within Portage County.

DATA HIGHLIGHTS

- Portage County encompasses 526,026 acres.
- The State of Wisconsin Department of Administration estimated Portage County's population was 70,940 in 2015, up from 70,019 in 2010.
- As of 2014, a county-wide inventory of parks includes a state park, 27 county parks, 65 urban area parks, 38 town parks, 32 village parks, and 67 public access points for Portage County lakes and rivers.
- Portage County currently has 1,173 acres of land protected with conservation-easements held by North Central Conservancy Trust; much of these are privately-owned lands.
- In the 2017 LIFE in Portage County Survey, 85.6% of respondents said they agreed or strongly agreed that they are satisfied with area parks and recreation opportunities.

SOURCES

- Portage County Planning and Zoning Department**
<http://www.co.portage.wi.us/departments/planning-zoning>
- United States Department of Agriculture**
Census of Agriculture
<https://www.agcensus.usda.gov/index.php>
- Portage County Comprehensive Outdoor Recreation Plan 2012 - 2016** (rev. 4/15/2014)
- North Central Conservancy Trust**
www.ncctwi.org
- Wisconsin Department of Administration**
http://www.doa.state.wi.us/section_detail.asp?linkcatid=11&linkid=64&locid=9

DATA HIGHLIGHTS

- Of radon tests completed in Portage County from 1995 to 2016, 51% were greater than or equal to the EPA action level of 4.0 pCi/L.
- The closest air monitoring station for ozone is located at Lake DuBay in Marathon County. The average ozone levels have consistently met the National Ambient Air Quality Standard with a slight downward trend since 2001.
- From 2005 to 2015, industries in Portage County have reported a decrease in 4 of the 6 EPA's most common pollutants.
- Indoor air quality has been linked to many negative health effects, including asthma and lung cancer. The top two major residential air quality concerns are radon and carbon monoxide.

Key Measure: Portage County Radon Data, 1995-2016

Zip code	City	Avg. Radon Level (pCi/L)	Max. Radon Level (pCi/L)	# Homes Tested	# Homes ≥ 4.0 pCi/L	% Homes ≥ 4.0 pCi/L
54406	Amherst	7.47	51.4	106	67	63.21%
54473	Rosholt	11.6	45.5	75	62	82.67%
54423	Custer	13.6	82.1	101	77	76.24%
54482	Stevens Point	7.26	56.7	292	180	61.64%
54407	Amherst Junction	8.43	57.8	52	34	65.38%
54443	Junction City	13.44	57.9	47	32	68.09%
54481	Stevens Point	4.94	113.5	443	193	43.57%
54467	Plover	4.98	23.5	253	127	50.20%
54909	Almond	5.19	14.2	19	10	52.63%
54921	Bancroft	4.92	10.8	13	7	53.85%
54966	Plainfield	3.33	6.5	18	5	27.78%
54494	Wisconsin Rapids	3.2	27.2	722	206	28.53%

Key Measure: Industrial Air Emission Trends for the Environmental Protection Agency's Six Most Common Pollutants, 2005-2015

Emissions	Portage County Emissions in Tons 2005-2015			% Change from 2005 to 2015
	2005	2010	2015	
Carbon Monoxide (CO)	567.13	485.01	200.17	-64.70%
Nitrogen Oxides (Nox)	767.73	530	426.6	-44.43%
Particulate Matter (PM)	293.42	198	256	-12.75%
Particulate Matter (PM10)	154.06	86.74	185.54	20.43%
Volatile Organic Compounds (VOC)	573.79	612.18	697.88	21.63%
Sulfur Dioxide (SO2)	370.27	346.74	45.76	-87.64%

Lead (Pb): Facilities need to report lead emissions if they emit more than 400 pounds in one year and there are currently no facilities in Portage County meeting that criteria.

SOURCES

- Wisconsin Department of Health Services**
Radon Information for Wisconsin
<http://www.dhs.wisconsin.gov/radon/>
Map of Wisconsin Indoor Radon Levels
<http://wi-dhs.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=a0f619747b5e4e72bce960619e6663e8>
Carbon Monoxide
<http://www.dhs.wisconsin.gov/air/co.htm>
- Wisconsin Department of Natural Resources**
Historical Air Emission Information
<http://dnr.wi.gov/topic/AirEmissions/>
- United States Environmental Protection Agency**
Particulate Matter (PM) Pollution
<https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>

COMMUNITY PERSPECTIVES

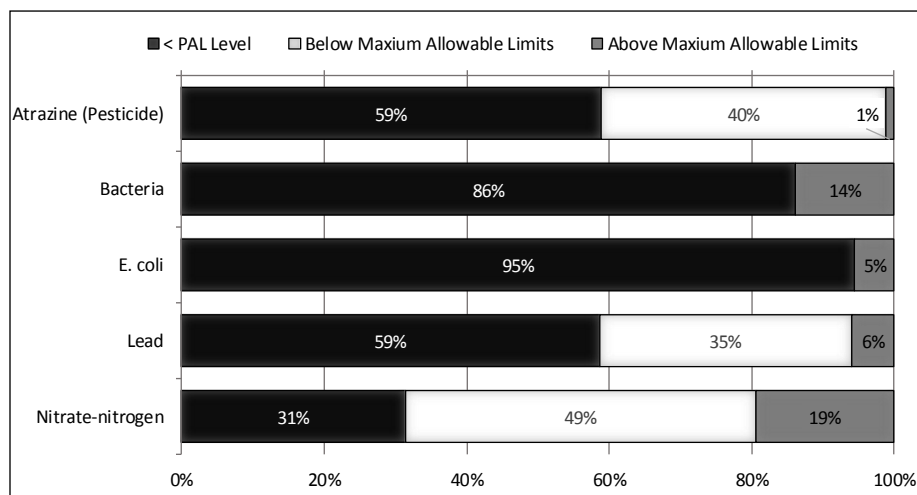
Overall air quality for Portage County continues to be good. Local air quality can be affected by regulated and unregulated sources including stationary sources (industrial facilities and factories), mobile sources (vehicles) and area sources (households and wood burning). A rising concern in the state is the level of fine airborne particulates related to wood burning. Particulates comes in many sizes and shapes and can be made up of hundreds of different chemicals. As a state, Wisconsin ranks second highest for the use of outdoor wood burners for residential heating. There are no federal performance standards that outdoor wood burners are required to meet.

Radon is the primary indoor air quality concern in Portage County and is the leading cause of lung cancer in non-smokers. In Wisconsin, 25% of homes have radon over 4 pCi/L in basements and the average radon level in the lowest lived-in floors of homes in

Wisconsin is about 1.8 pCi/L. Radon is a naturally occurring, odorless, radioactive gas and enters indoors spaces through the building foundation. The geology of Portage County contributes to high levels of radon and every home should be tested. High levels of indoor radon can be reduced by installing mitigation systems.

Carbon monoxide is an odorless and tasteless gas that can cause dizziness, confusion, unconsciousness and death. People can be exposed to dangerous levels of CO when charcoal, gas, oil, or wood are burned in poorly ventilated areas. Breathing automobile exhaust in a closed area can also result in CO poisoning. Carbon monoxide is the most common cause of fatal poisonings and about 50% of all CO poisonings occur in the home. Wisconsin State Law now requires carbon monoxide (CO) detectors in all residences in Wisconsin.

Key Measure: Percent of Portage County Private Wells Below and Above Maximum Allowable Contaminant Levels (MAL) and Preventative Action Levels (PAL), 1991-2016



COMMUNITY PERSPECTIVES

Groundwater is the source of all municipal and private drinking water systems in Portage County, so groundwater quality is drinking water quality. Groundwater quality contaminants can generally be divided into two categories: naturally-occurring and human-induced contaminants. In Portage County, the majority of the naturally-occurring contaminants (iron, radioactivity, and hardness of the water) are related to the local geology. The most prevalent human-induced contaminants, nitrate-nitrogen and pesticides, are associated with specific land uses such as agriculture and private onsite wastewater treatment systems.

Residents who receive their drinking water from a municipal system are protected by the Environmental Protection Agency's (EPA) Safe Drinking Water Act, which sets water quality standards, including health-risk-based maximum contaminant levels (MCL's) to protect human health. Plover and Whiting use ion exchange treatment, Amherst and Junction City have both had to install new wells, and Stevens Point has had to discontinue use of one well due to nitrate-nitrogen concentrations exceeding MCL's.

Drinking water standards legally apply only to public water supply systems. This is why private well owners are strongly encouraged to test their water

supplies annually and are advised to use the standards as a guide for making their own water quality decisions. Private drinking water wells that have submitted samples show approximately 19% exceed the state and federal drinking water standard for nitrate-nitrogen, 6% exceed the drinking water standard for lead, and 1% of samples exceed the standard for Atrazine, a common agricultural pesticide.

Portage County has a long established groundwater management program to address land use related contaminants. The program includes wellhead protections plans and ordinances for all five municipal water systems in the county and a county-wide groundwater management plan. Where contaminants occur at concerning levels, alternative water sources or water treatment options may potentially provide a remedy depending on the situation, yet there may be disputes about who must pay. In 2017 the County will conduct its first County-wide sampling of drinking water quality to assess conditions throughout the entire county.

DATA HIGHLIGHTS

- In Portage County there are 5 municipalities with drinking water systems supplying water to residents and enterprises, and there are approximately 18,700 private wells.
- Nitrate-nitrogen is the most common contaminant in Portage County private wells, with 19% testing above the drinking water standard.
- Atrazine is the most commonly-found pesticide in Portage County private wells, with 1% exceeding the drinking water standard.
- The 2017 LIFE Community Survey reported only 27% of homeowners who had a private well had it tested annually. The number one reason why they did not test was because they were unaware that the well should be tested annually.
- To view the water quality results of well water samples throughout the entire county, visit the Wisconsin Well Water Viewer.

SOURCES

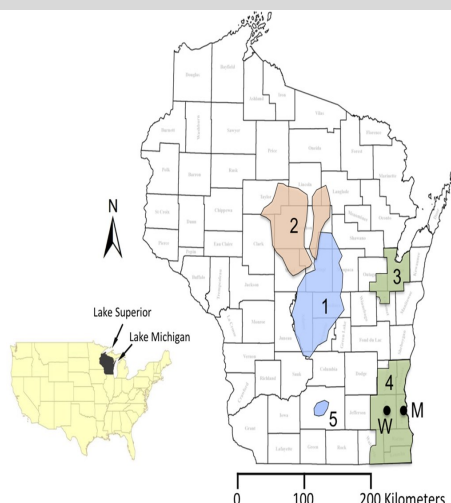
- Center for Watershed Science and Education**
Well Water Viewer
<https://www.uwsp.edu/cnr-ap/watershed/Pages/WellWaterViewer.aspx>
- Portage County Water Resources**
<http://www.co.portage.wi.us/departments/planning-zoning/groundwater-management>
- Wisconsin Department of Natural Resources Drinking Water Systems**
[http://prodoasext.dnr.wi.gov/inter1/pws2\\$.startup](http://prodoasext.dnr.wi.gov/inter1/pws2$.startup)
- 2017 LIFE in Portage County Community Survey**

DATA HIGHLIGHTS

- There are currently 1,269 active high capacity wells in Portage County, up from 1,088 in 2011.
- Portage County is the largest user of groundwater in the state of Wisconsin.

Map: Groundwater Susceptible Areas in Wisconsin:

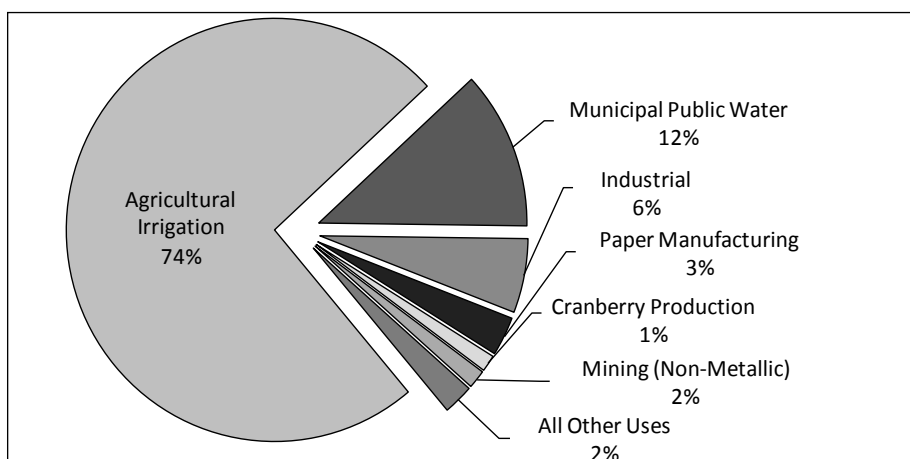
1. Central Sand Plain
2. Groundwater deficient portion of north central Wisconsin
3. Northeast groundwater management area
4. Southeast groundwater management area
5. Areas of declining water in Dane County



Key Measure: Water Use Over Time, 2011-2015

Portage County Water Use by Year (millions of gallons per day)					
	2011	2012	2013	2014	2015
Groundwater Withdrawals	21.09	34.90	26.82	21.39	20.98
Surface Water Withdrawals	4.02	7.82	7.39	5.57	5.91
Total Water Use	25.11	42.72	34.21	26.96	26.89

Key Measure: Portage County Groundwater Water Use by Sector, 2015



COMMUNITY PERSPECTIVES

Everyone in Portage County relies on and utilizes groundwater. All of the drinking water, approximately 87% of irrigation water, and approximately 68% of industrial water is pumped from groundwater. As usage of groundwater increases, concerns over groundwater quality and quantity grow. Groundwater quantity is commonly discussed with regard to stream flows and water levels, and it is affected both naturally and by human activity. Portage County has been identified as one of the groundwater deficient counties in central Wisconsin. As usage increases, concerns about water quantity and water quality will grow.

Portage County leads the state in the amount of groundwater that it withdraws, with over 20 billion gallons being pumped in 2015. The biggest use of groundwater in Portage County every year since 2011 has been agricultural irrigation, followed by municipal water use and industrial uses. It may appear that water use over time has decreased, however water use in a given year is highly dependent on the amount of precipitation received. In a dry year,

such as 2012, water use across all sectors increases. Since 2012, Portage County has had above average rainfall, which contributes to lower groundwater pumping.

Large amounts of groundwater are often pumped through a high capacity well, which is any well or combination of wells on the same property that pumps 70 gallons of water per minute or more. The Department of Natural Resources regulates all aspects of high capacity wells. Portage County currently has one of the highest densities of high capacity wells in the state, with more high capacity wells being installed each year.

Groundwater quantity is a growing concern in Portage County and the County recognizes the need to pay greater attention to the issue and pursue solutions and development options that work for all users. This is highlighted in the Portage County Groundwater Management Plan.

SOURCES

- **Wisconsin Well Water Viewer**
https://gissrv2.uwsp.edu/cnr/gwc/pw_web/
- **Resources 2015**
"Groundwater Quantity and Quality Issues in a Water-Rich Region: Examples from Wisconsin, USA" (Luczaj & Masarik, 2015)
<http://www.mdpi.com/2079-9276/4/2/323/htm>
- **Wisconsin Department of Natural Resources Water Use Division**
<http://dnr.wi.gov/topic/WaterUse/documents/WithdrawalReportDetail.pdf>

Key Measure: Listed Impairments to Waterways in Portage County

Waterway	Pollutant	Impairment	Listed
Bear Creek	Total Phosphorus	Water Quality Use Restrictions	4/1/2016
Collins Lake	Mercury	Contaminated Fish Tissue	4/1/2002
Collins Lake	Total Phosphorus	Excess Algal Growth	4/1/2002
Lake Du Bay	Total Phosphorus	Excess Algal Growth	4/1/2014
Little Eau Pleine River	Total Phosphorus	Degraded Biological Community	4/1/2014
Mill Creek	Total Phosphorus	Low dissolved oxygen	4/1/1998
Spring Lake	Total Phosphorus	Impairment Unknown	4/1/2016
Tree Lake	Unknown Pollutant	Excess Algal Growth	4/1/2014
Waupaca River	Unknown Pollutant	Elevated Water Temperature	4/1/2016
Wisconsin River	PCBs	Contaminated Fish Tissue	4/1/1998
Wisconsin River	Mercury	Contaminated Fish Tissue	4/1/1998
Wolf Lake	Total Phosphorus	Impairment Unknown	4/1/2016

COMMUNITY PERSPECTIVES

Portage County surface waters are made up of lakes, rivers, streams and wetlands. Two major river basins discharge water from the county. The Wisconsin River drains the western portion of the county. The Tomorrow Waupaca River and Flume Creek drain east to the Wolf River. Various protections and initiatives help keep waterways healthy, swimmable, and fishable.

Portage County groundwater and surface water are directly connected. The cycle of precipitation, groundwater recharge and discharge to surface waters is a balanced natural system. During drier years, less recharge occurs, and water levels and stream levels can decline. During wet years, recharge is greater, and levels and stream flows can increase. Lake and stream levels are also affected by human activities that draw water. The impact of pumping groundwater from high capacity wells has been evident in decreasing lake water levels and streams flows within the county. There are diverse and dynamic ecosystems that rely on adequate water levels in surface waters for their survival.

The Wisconsin DNR defines impaired waterways as those that do not meet the water quality standard or those that cannot be used for the purposes for which they were classified. As listed by the DNR, there are currently twelve impairments among ten waterways in Portage County - up from just three waterways listed as impaired in 2012. Some of the Portage County lakes are

experiencing loss of habitat due to development and land use practices, reduced water quality, and the spread of invasive species.

Twenty-nine lakes in Portage County have a lake management plan to identify goals and action items to protect and/or maintain desired conditions in a lake and watershed. Sixteen lakes and rivers in Portage County are part of the Citizen Lake Monitoring Network through the Wisconsin DNR. Citizen volunteers help monitor water quality conditions and trends, and aquatic invasive species. This information is used to set priorities for lake protection, restoration, and funding. Many waterfront property owners and the County Park system have taken steps to improve shoreland and lake habitat.

The Wisconsin River is a treasure enhanced by preventing pollution throughout its drainage basin. To address algal blooms in downstream reservoirs there will need to be less phosphorus pollution.

Portage County's first farmer-led watershed council (Farmers of Mill Creek) formed in 2016 in collaboration with the Friends of Mill Creek Watershed and began testing practices aimed at improving the creek's water quality.

The surface waters of Portage County provide important habitat as well as recreational opportunities and aesthetic beauty for County residents and guests.

DATA HIGHLIGHTS

- Portage County has roughly 22 square miles of water which equals 2.7% total land in Portage County. There are approximately 147 lakes and rivers. Among these surface waters are 9 lakes that have areas greater than 100 acres and 255 miles of trout streams.
- The DNR lists 45 lakes and rivers as having invasive species populations. The most prevalent invasive foliage is the Eurasian Water-milfoil and the most prevalent invasive animal is the Banded Mystery Snail.
- According to the 2017 LIFE in Portage County Survey, 63.9% of respondents agree or strongly agree that our lakes and rivers are clean.

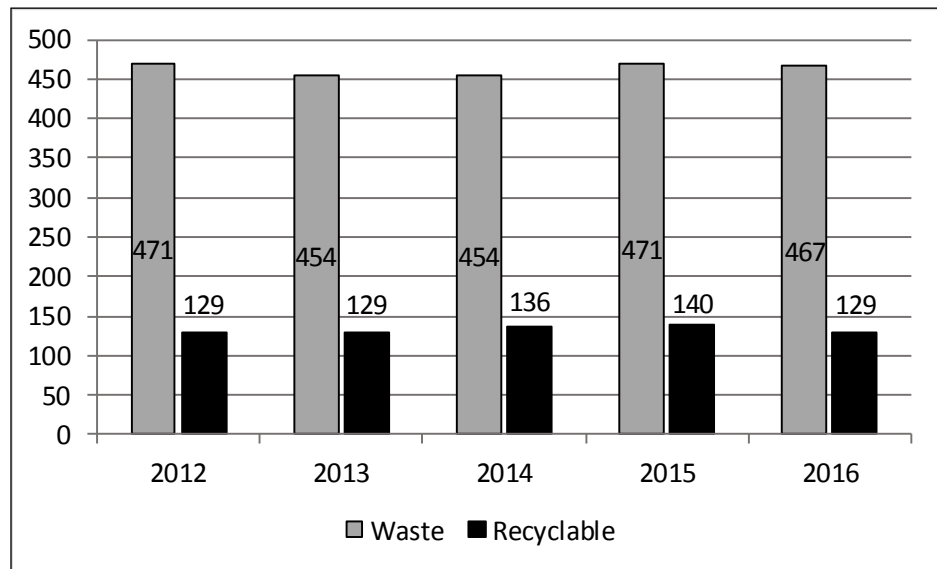
SOURCES

- Wisconsin Department of Natural Resources**
Impaired Water Search
<http://dnr.wi.gov/water/impairedSearch.aspx>
Find a Lake
<http://dnr.wi.gov/lakes/lakepages/Results.aspx?location=50>
Aquatic Invasive Species
<http://dnr.wi.gov/lakes/invasives/AISByWaterbody.aspx?location=50>
Citizen Lake Monitoring Network
<http://dnr.wi.gov/lakes/clmn/>
Classified Trout Streams
<http://dnr.wi.gov/water/troutlist.aspx?code=Portage>
 - Portage County Lakes Study**
<http://www.co.portage.wi.us/departments/planning-zoning/land-and-water-conservation/lakes-study>
- See also:
- UW-Extension Lakes**
Wisconsin River flyover video
<http://vimeo.com/20854491>

DATA HIGHLIGHTS

- The Portage County Solid Waste Department helps with proper disposal of materials banned from landfills.
- Outside of curbside waste and recycling programs, other materials recycled in 2016 were: 958 appliances (air conditioning units, refrigerators, microwaves, washers & dryers, stoves and dehumidifiers), 7,253 fluorescent bulbs, 547 pounds of batteries, 61,787 pounds of electronics (televisions, computers and printers), 1,376 pounds of lighting ballasts, 20.07 tons of vehicle tires, 1,795 gallons of used oil, and 220 gallons of antifreeze.
- The Solid Waste Department's household hazardous waste program runs from March through November, serves approximately 160 households each year, and collects 7,000-9,000 pounds of paints, cleaners, pesticides, herbicides, aerosols, and other hazardous materials each year.
- In 2016 over 1,600 pounds of medical or laboratory items with sharp or pointed edges (sharps) were collected through a disposal program that allows residents to safely dispose of sharps at cooperating local pharmacies free of charge.

Key Measure: Curbside Waste Collected in Portage County, Pounds per Capita, 2012-2016



COMMUNITY PERSPECTIVES

Portage County's waste management facilities are centrally located in Plover, near County Highway B and Interstate 39. Curbside garbage and recycling typically goes there. The facility also offers drop-off services, electronics recycling, appliance & tire recycling, waste oil & anti-freeze recycling, and household hazardous materials disposal.

Waste brought to the transfer station goes to an area landfill. Cranberry Creek Landfill is privately-owned in Wisconsin Rapids, and the Marathon County Landfill is in Ringle. Portage County has a long-term contract to dispose of material at Ringle. Both landfills have capacity with room for expansion.

Recyclable materials are accepted at no charge at the Portage County facility: #1-#7 plastics, mixed paper, newsprint, cardboard, glass containers, aluminum cans, and bi-metal cans. The facility is owned by Portage County and operated by Advanced Disposal, as contracted through 2019. There is revenue-sharing when the market rate for saleable product exceeds the processing fee for recyclables generated in Portage County. The facility has the capacity to process approximately 20,000 tons of single-stream recyclables per year - about 4 times more material than is currently generated within Portage County. To

achieve economically viable levels for processing, materials are currently brought into the facility for processing from several surrounding counties, including Marathon, Taylor, Waupaca, and Wood.

Wisconsin waste reduction and recycling law recognizes reduction, reuse, recycling, and composting among waste management options preferable to land disposal and burning. It establishes requirements and resources for local recycling programs, and state agency duties concerning purchase of recycled products, handling recyclables, standards for product labeling, and use of recycled road construction materials.

Residents must properly dispose of or recycle household hazardous or special wastes. Most respondents to the 2017 LIFE in Portage County Survey indicated that they do so "regularly" (74.5%). Among those who do so only "sometimes" (23.1%) or "never" (2.4%), nearly half were "not sure where to take waste for disposal and/or recycling."

SOURCES

- **Portage County Solid Waste Department**
<http://www.co.portage.wi.us/departments/solid-waste>
- **Wisconsin Department of Natural Resources**
<http://dnr.wi.gov/files/pdf/pubs/wa/wa422.pdf>
- **Wisconsin Legislative Fiscal Bureau Informational Paper 70, January, 2013**

Key Measure: Portage County Savings Supported by Focus on Energy

Sector	Year	No. of participants	Participation rate	Energy bill savings per participant (\$)	Incentive dollars per participant (\$)
Residential	2016	2387	8.6%	\$ 43	\$ 72
	2015	575	2.1%	\$ 78	\$ 257
Commercial	2016	85	1.6%	\$ 5,011	\$ 3,597
	2015	128	2.3%	\$ 6,891	\$ 4,059
Industrial	2016	27	2.3%	\$ 10,442	\$ 19,550
	2015	23	1.9%	\$ 18,441	\$ 24,811

COMMUNITY PERSPECTIVES

Portage County residents taking steps to conserve energy are often supported by incentives, information resources and training. This can be encouraged more. Impacts of Wisconsin's Focus on Energy incentives routinely show that conservation can yield net benefits. Continued funding for this is important to Portage County residents, businesses and institutions exploring opportunities to become more sustainable.

Complimentary initiatives by utility companies can also encourage energy conservation. For instance, in 2011 and 2012, Wisconsin Public Service (WPS) conducted a project in Plover where over 7,500 residents and businesses reduced energy use by 2,732,798 kWh - enough to power 317 average homes per year. Plover received energy-saving LED lighting upgrades at the Woyak Sports Complex and Village Hall as a reward for the program's success.

Education, awareness and institutional support also help initiate energy conservation. The Wisconsin Center for Environmental Education's (WCEE) KEEP program continues to support energy conservation in Portage County. The Midwest Renewable Energy Association (MREA) Energy Fair draws about 15,000 participants every year. MREA also advocates, shares expertise, and trains renewable energy development professionals. To find out how much electricity their home appliances use, residents may check out a meter from the Portage County library system along with other informative materials.

State and County level incentives and policies on energy conservation and pricing influence citizens' energy use.

Regulated utility companies in Wisconsin have been allowed to lower rates for power and gas and increase monthly fixed charges. A concern about these shifts toward fixed charges is that customers capture less of the economic value of conservation and efficiency. High-use customers now see a lower bill, and low-use customers spend more to stay connected. For a reliable and efficient system, pricing and policies should help customers benefit from conserving while connected.

Efficient use of resources is an important consideration for economic productivity and security. Manufacturing activities tend to directly require high energy inputs compared to other industries. At home, energy bills make up a considerable share of household budgets among people with limited incomes. Financial stability could be improved by pursuing efficiency improvements in housing stock including multi-family buildings. There is much security to be gained through concerted energy efficiency and conservation efforts.

DATA HIGHLIGHTS

- Focus on Energy projects in Portage County saved \$1,351,197 in 2015, and \$809,408 in 2016. In the state, benefits of the program outweigh costs 3 to 1.
- Wisconsin Focus on Energy residential programs incentivize simple changes such as switching to efficient lighting and appliances. Since 2001 they have helped over 22,000 homeowners save over \$70 million in energy costs.
- UW-Stevens Point participated in the voluntary carbon market and earned about \$36,000 on the sale of carbon credits that came from using less coal in 2015. It is a Green Ribbon sustainable campus with a carbon neutral plan.
- The Stevens Point wastewater treatment plant adopted new technology to use the waste (biomass) to generate enough heat and electricity to meet about 85% of the heat and often greater than 90% of the electricity needed in a month.
- In buildings operated and controlled by Portage County government, energy efficiency improvements made between 2009 and 2015 cut annual electricity use by 763,000 kWh (15%) and annual natural gas consumption by an estimated 27,500 therms (11%); this amounts to an annual cost savings of about \$80,000.

SOURCES

- Wisconsin Focus on Energy**
<https://www.focusonenergy.com/about/evaluation-reports>
- Wisconsin Public Service**
2012 Corporate Citizenship Report
- Portage County Energy Report, 2015**
<http://www.co.portage.wi.us/home/showdocument?id=7548>

DATA HIGHLIGHTS

- Installation of renewable energy projects continues and there are now an estimated 164 projects completed in Portage County (compared to the 104 estimated in 2012). Most of these are solar PV installations.
- Most of Portage County's electric power comes from the Weston Power Plant site near Wausau. With its state of the art pollution control technologies, the newest facility there went online in 2008 and got a "Best Facility Award" from the International Society of Automation in 2012.
- Wisconsin has no coal, natural gas, crude oil, or nuclear resources. Imported coal is burned to generate half (52%) of the state's electric power. Interstate pipelines provide the natural gas burned to generate about 25%. The rest of the electricity comes from nuclear (15%) and renewables (9%) including hydro, wind and biomass.
- Our current energy mix includes 9% generated from renewable sources, and most of this comes from hydropower.
- Energy efficiency is in a sense the cheapest energy resource in Wisconsin at \$19 per MWh.

SOURCES

- **RENEW Wisconsin**
<http://www.renewwisconsin.org/data/projectsmap.html>
- **Wisconsin Public Service Commission**
Personal correspondence
- **Midwest Energy Efficiency Alliance**
<http://www.mwalliance.org/sites/default/files/media/Wisconsin-Fact-Sheet-1.30.17.pdf>

Key Measure: Generation Capacity in Mega Watts (MW) of Power Plants in Portage County, 2016

Plant Name	Municipality	Primary fuel	Capacity (MW)
Big Plover Mills	Stevens Point	Hydro	0.525
Deer Ridge Dairy/Gordondale Farms	Nelsonville	Biogas	0.14
Du Bay	Town of Eau Pleine	Hydro	7.2
Stevens Point	Stevens Point	Hydro	4.8
Stevens Point Mill	Stevens Point	Natural gas	7.6
Stevens Point Sewage Disposal	Stevens Point	Biogas	0.18
Whiting	Whiting	Hydro	5.1
Whiting Mill	Stevens Point	Coal	4.1
Jordan Pond Hydroelectric	Hull	Hydro	0.35

Key Measure: Renewable Energy Projects Completed in Portage County, 2017

Type	Number	Capacity installed
Biogas	2	280 KWh
Solar PV	152	873.4 KWh
Wind	8	100 KWh
Solar Thermal	2	4,821 Sq. ft

COMMUNITY PERSPECTIVES

Six utility companies provide electricity or natural gas service in Portage County, including Alliant Energy, Central Wisconsin Electric Cooperative (CWEC), WE Energies and Wisconsin Public Service (WPS). Certain price controls are set by Public Service Commission of Wisconsin (PSC) led by three appointed commissioners. With the establishment of the PSC in 1907, Wisconsin was the first state to regulate private utilities to have them offer efficient, reliable service at reasonable prices.

Several small scale power plants help to meet industrial and ag business power demands with efficiencies of onsite energy production and resource use. Solar PV and thermal installations continue to be used at homes and businesses. Biomass energy from biogas, wood, waste, and energy crops also shows further potential.

Incentives for energy efficiency exist with some policy limitations. Wisconsin's Focus on Energy offers incentives of up to \$2,200 for 20 kilowatt-hour solar photovoltaic (PV)

installations. Customers who generate some electricity onsite may use it to offset their electric bills. They may also sell excess generated electricity back to the utility company although it may be at wholesale price. A federal tax credit for solar energy installations is also scheduled to apply to up to 30% of costs until 2019, and then gradually phase out by 2022.

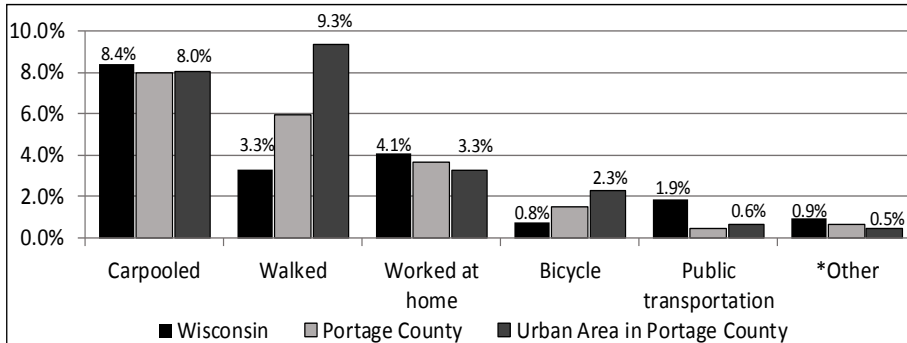
Wisconsin energy policy requires that a portion of each utility company's power come from renewable sources. Utility companies often import hydropower from other locations, as allowed.

As energy users meet their needs with efficiency and renewable energy instead of fossil fuels, they also help reduce greenhouse gas emissions. Portage County passed a resolution in 2017 that allows Property Assessed Clean Energy (PACE) financing, which may interest commercial property owners facing high cost projects. Continuing helpful energy incentives and addressing challenges that remain may help Portage County find a path to an energy-secure future.

Key Measure: Use of Public Transportation Services, 2016

	Stevens Point Transit	Stevens Point Para-Transit	Plover Taxi Public Transit	ADRC Bus	Volunteer Driver	DAV/VTS (service for veterans)
Number of Trips	221,754	10,385	25,435	11,363	3,518	967

Key Measure: Means of Transportation to Work Other Than Drive Alone, 2011-2015



COMMUNITY PERSPECTIVES

People of Portage County conduct business, get to work, go to appointments and recreate using a variety of transportation modes such as walking, biking, taking public transportation, and driving vehicles.

Transportation options allow older adults and people with disabilities to remain living at home and to be active in the community. Older adults typically outlive their driving ability by 6 to 10 years, which is a long time to be dependent on others for rides. In the 2017 LIFE in Portage County Survey, 57.7% of respondents ages 65 and up agreed or strongly agreed about being "satisfied with public transportation in Portage County"; 17.6% disagreed or strongly disagreed.

Portage County has a high percentage of commuters who walk or bike to work. The appeal of communities where one can get around without driving and without burning a lot of fuel makes public transportation and facilities for walking and biking important for sustaining a diverse community and a strong economy. According to the United Way ALICE Report, as many as 39% of Portage County households are in poverty or struggle to afford basic costs of living such as transportation. The average

cost of vehicle ownership and operation in 2016 averages about \$8,698 (AAA) and is out of the reach of many. There are 1,300 zero-vehicle households in Portage County. Alternatives help anyone get to work, conduct business and access medical care without having to own a vehicle.

Local coordination among transportation programs and improvement of bike and pedestrian infrastructure is crucial. A merger of city transit and county transportation programs was approved by the County Board in 2017 and is expected to improve and expand service. The Portage County Bicycle and Pedestrian Plan adopted in 2014 provides guidance for improving active transportation options in urban and rural areas of the county. The City of Stevens Point was awarded \$390,141 in federal funds through the WisDOT Transportation Alternative Program to fund a community-wide project that will create 13.16 miles of bicycle lanes, urban shoulders, and shared lane marking on existing streets.

DATA HIGHLIGHTS

- Most working adults in Portage County get to work by driving alone (79.8%) or carpooling (8.0%). As compared to Wisconsin as a whole, Portage County has a greater share of commuters biking (1.5%) and walking (6.0%).
- About 3% of commuters living in Stevens Point and Park Ridge bike to work. Among Portage County municipalities, Stevens Point has the highest share of commuters who walk to work (13.7%). The Village of Whiting has the highest share of workers who take public transportation to work (1.5%).
- In the 2017 LIFE Community Survey, among respondents who indicated that they have a disability, 47.5% agree or strongly agree that they are satisfied with public transportation in Portage County.

SOURCES

- **Portage County Aging and Disability Resource Center and Stevens Point Transit**
- **United States Census**
American Community Survey (2011-2015)
<https://www.census.gov/programs-surveys/acs/>
- **Surface Transportation Policy Project**
"Aging Americans: Stranded without Options" (Bailey, 2004)
- **AAA**
newsroom.aaa.com/2015/04/annual-cost-operate-vehicle-falls-8698-finds-aaa-archive/
- **Portage County Bike/Ped Plan**
portagecobikepedplan.wordpress.com/
- **United Way ALICE Report for Wisconsin**
<http://www.unitedwaypoco.org/ALICE>

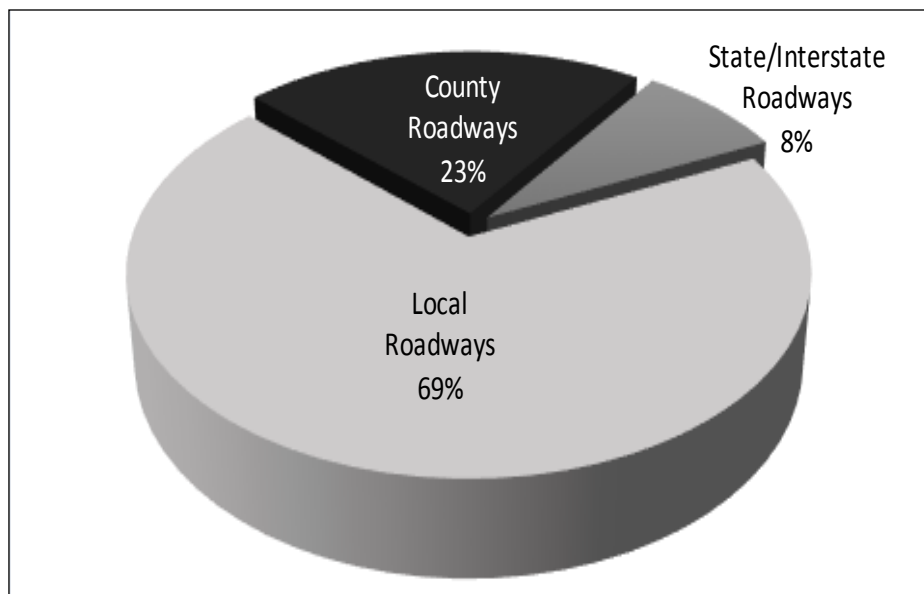
DATA HIGHLIGHTS

- Of the road system, 10% is rated poor to fair, (compared with 27% throughout the state) and 33% is rated in good to excellent condition.
- More than 66% of the county road system is in need of rehabilitation, reconstruction, and maintenance.
- Of the 87 county, town, village, and city bridges, 3 are classified as functionally obsolete, 5 are classified as structurally deficient, and 3 are classified as both structurally deficient and functionally obsolete.
- According to the 2017 LIFE Community Survey, just 47.2% of respondents agree or strongly agree that streets, roads, and highways are well maintained.
- In 2015, miles driven in Portage County were 2,430,878 daily and 887,270,470 annually.
- Driving on roads that need repair costs the average Wisconsin motorist an estimated \$637/year.
- Annual funding for Portage County roads is roughly \$4 million in county levy, and on average, \$1.8 million in State General Transportation Aids (GTA).

SOURCES

- **Portage County Highway Department**
<http://www.co.portage.wi.us/departments/highway-department>
- **U.S. Department of Transportation**
U.S. Department of Transportation, Federal Highway Administration. Highway Statistics 2015, Table HM-10: Highway Statistics 2014, Public Road Length-2015-2016. www.transportation.gov
- **TRIP**
Key Facts (Wisconsin), May 2017
www.tripnet.org/docs/Fact_Sheet_WI.pdf

Key Measure: Miles of Roads in Portage County, 2016



COMMUNITY PERSPECTIVES

Transportation infrastructure in Portage County includes roads, bridges, sidewalks and bike paths and is how Portage County residents move through the community.

The designation (local, county or state) of each road generally indicates who is responsible for repair, replacement and winter maintenance. The trend seen by the County Highway Department is that funding from tax levy and State General Transportation Aids (GTA) is only able to fund day-to-day maintenance activities (brushing, mowing, signs, pavement marking, snow plowing) and pavement preservation (crack filling, chipsealing, wedging, small culvert replacements).

Significant system improvements have primarily relied on borrowing. This leads to an aging infrastructure. The department's 7-year plan stretched the average pavement replacement schedule from 30-35 years to a 41 year average replacement due to lack of funding.

The Portage County Countywide Bicycle and Pedestrian Plan adopted in 2014 provides recommendations for improvements to bike and pedestrian amenities in the county. The City of Stevens Point received a

Transportation Alternatives Program grant in 2016 to improve cycling infrastructure throughout the city. Bicycle lanes currently exist on portions of seven streets in Stevens Point. With the reconstruction of Business 51 in Plover, bike lanes were added to improve biking safety.

Canadian National Railroad operates freight lines that traverse Portage County. Direct rail services are provided to many industrial and commercial clients. Residents have strong concerns where trains block roads and private drives for long periods of time.

Daily regional passenger air services are available through the Central Wisconsin Airport located in Mosinee. The Stevens Point airport allows for private airplane travel for individuals and local businesses.

Lasting infrastructure can shape development, affect the convenient use and enjoyment of existing buildings, and impact neighborhood appeal. Expectations to maintain our vast road network are met with limited funding and reasonable doubt as to how long fossil fuel consumption for vehicles can last or be tolerated to such an extent as now. Communities may need robust plans for safe, efficient transportation options suited for what may be a low-carbon future and changing world.