

**Portage County**  
**Public Health and Groundwater Protection Ordinance**  
ORDINANCE #\_\_\_\_ TBD\_\_\_\_

Section 1: Introduction

- (1) Title: This Ordinance shall be referred to as the Public Health and Groundwater Protection Ordinance.
- (2) Authority. This ordinance is adopted under authority granted by ss.5902, 59.03, 59.70 and 92.11 Wis. Stats.

- (3) Purpose and Intent. The Purpose and intent of this ordinance is to promote the health and general welfare of the public by preventing the contamination of groundwater in Portage County by regulating local land use as well as water and waste management based on vulnerable geologic considerations such as permeable soils and permeable subsurface deposits of glacial drift which contain the bulk of the County's groundwater reserves.

It is not the intent of this ordinance to supersede or replace the Wisconsin agricultural non-point pollution performance standards and/or prohibitions found in NR 151, Wis. Admin. Code. The intent of this ordinance is to protect the public's health and welfare by preventing the contamination of the County's groundwater through local regulation of land use management practices and water extraction as they pertain to land application of wastes on permeable soils with low or marginal attenuation rates and to review or suspend the installation of additional high capacity wells within the Portage County until such time as current water extraction rates for agriculture can be determined to be balanced with public health, welfare, and quality of life, other economic needs, environmental interests, and property values of all County residents.

- (4) Declaration of Policy and Findings.

The Portage County Board of Supervisors recognizes the importance of adopting a precautionary approach to protecting groundwater quality, groundwater quantity, and that proper land use and waste management contribute to the protection of groundwater quality; public health and welfare; and the property tax base of the County. The goal of this ordinance is to promote the protection of public health, safety, livelihood and general welfare of the citizens of Portage County through proper land use, water and waste management on geologically vulnerable soils and glacial drift deposits of the Central Sands Region.

As of October 2016, cumulative historic testing of 11,398 groundwater samples taken over the 44-year period between November 2<sup>nd</sup> 1972 and October 19<sup>th</sup> 2016 in Portage County conducted by the University of Wisconsin-Stevens Point Environmental Analysis Lab, has shown that 19 % of the wells sampled in Portage County were not safe for human consumption due to high nitrate levels exceeding 10ppm, a standard now considered outdated and inadequate to address known public health concerns.

Wisconsin has a preventable action nitrate limit of 2mg/L:

[http://docs.legis.wisconsin.gov/code/admin\\_code/nr/100/140.pdf](http://docs.legis.wisconsin.gov/code/admin_code/nr/100/140.pdf).

In the past ten years alone 3,107 Portage County nitrate test results document 22% of samples are above the 10ppm standard, and in the past year, 325 Nitrate samples now indicate a rise to 26% above the federal standard across Portage County. Both Nitrate and Bacteria, especially those associated with fecal matter (E. coli, Campylobacter, and Salmonella) bring \*imminent and substantial endangerment to human health, \*"Imminent" if conditions that give rise to it are present, even though the actual harm may not be realized for years. (Supreme Court Case Meghrig vs Western, Inc. 516 US 479,485 (1996: <https://supreme.justia.com/cases/federal/us/516/479/case.html> ).

The EPA also sets a *non-enforceable* maximum contaminant level goal (MCLG) at which no known or anticipated adverse health effects occur and allows an adequate margin of safety. For carcinogens, the MCLG is zero. (SDWA, §1412 (b)(4); 42 U.S.C.300g-1(b)(4): <http://www.epw.senate.gov/sdwa.pdf>

Regarding Bacteria, the Federal Environmental Protection Agency (EPA) (MCL) for coliform bacteria requires responsible agencies to take 40 samples or more per month and to show that 5% or less of samples test positive for coliform in 1/mo. WI state standard NR 140.10 requires that bacteria must be absent from all water samples. (Wis. Admin. Code NR§ 140.10 Table 1:

[http://docs.legis.wisconsin.gov/code/admin\\_code/nr/100/140.pdf](http://docs.legis.wisconsin.gov/code/admin_code/nr/100/140.pdf)

Use of antibiotics at CAFO and other animal-related operations, is documented as being responsible for a significant majority of antibiotic use to treat Campylobacter, and Salmonella and pathogens and bacteria antibiotic resistant infections (CDC, ref. 89,90 p,21: <http://www.cdc.gov/nchs/products/ad.htm>

- (5) Currently, NR 214, Wis. Admin. Code, regulates land application of liquid industrial wastewater, byproducts and sludge; NR 204 Wis. Admin. Code regulates land application of municipal biosolids; NR 113, Wis. Admin. Code, regulates land application of septic tank

and holding tank waste; and NR151 and NR243 Wis. Admin. Code, through USDA NRCS Nutrient Management Standard 590, regulate land application of animal waste. According to the November 2015 Wisconsin Nutrient Management Update, 6% of Portage County's cropland was included in certified nutrient management plans on file with the Land and Water Conservation Department. Clearly the County's local percentages of wells testing nitrates at levels above the health standard for human consumption supports the conclusion that current regulations covering land application of fertilizers and animal, municipal, and human wastes in general are inadequate for protecting human health in the County's permeable soils and underlying glacial drift deposits.

The Portage County Board of Supervisors and concerned citizens of Portage County makes the following findings of fact based on the best available science and monitoring:

- (A) Based on current records on file with the County, at minimum (need to verify actual amount with LWCD) gallons of liquid manure, not including additional other wastes, including septage, biosolids and industrial wastewater are applied to rural lands each year in the County.
- (B) Land applications of the above mentioned wastes significantly impact groundwater quality by:
- Increasing the level of nitrate, particularly in vulnerable soils areas with poor soil attenuation (excessive leaching) characteristics. Refer to attached references.
  - Increasing the risk of pathogens and other contaminants, particularly in vulnerable soils areas with poor soil attenuation characteristics. Refer to attached references
- (C) Testing of private and public drinking water wells indicate increased nitrate levels are compromising public health in Portage County (see '5' above). Research suggests nitrate levels are a proven proxy for investigating different contaminants. For example, if the nitrate source is related to agricultural activities then pesticides are going to be more common. If the source is related to septic systems than we may expect to find pharmaceuticals or personal care products.
- (D) Nitrates and other contaminants present substantiated environmental and public health risks. elevated concentrations of nitrate in groundwater, the most prevalent contaminant in Portage County's groundwater, has been associated with the risk of Methemoglobinemia and other health concerns:  
<https://www.researchgate.net/publication/12414965> Blue Babies and Nitrate-Contaminated Well Water.

- (E) Based on available data and past implementation experience in Portage County, current generally accepted nonpoint source pollution abatement best management practices do not adequately protect the County's groundwater resources from contamination with excessive nutrients, microbial pathogens, and pharmaceuticals present in fertilizers and animal, municipal, and human waste applied to the land. For example, according to 2015 data submitted to DATCP, nearly 6% of the County's cropland is covered by nutrient management plans, but an additional 189,303 potential acres remain unregulated. In addition, current performance standards in NR 151 do not effectively address applications of non-farm wastes on cropland. See NR 151.07(2), Wis. Admin. Code, which excludes the application of industrial wastes and byproducts, municipal sludge regulation, and septage from the nutrient management standard.
- (F) In addition to the findings in (E) above, current research validates the limited benefits of accepted conservation practices in protecting public health and drinking water. The Wisconsin Department of Natural Resources reported in 2016 that of the 118 tested Community Water Systems in Portage County, 10.6% were above the 10 mg/L nitrate standard, and 31.8% were above the 5 mg/l (<http://dnr.wi.gov/topic/groundwater/GCC/nitrate.html>). Both the Village of Plover and Whiting have had to take additional measures to deal with high nitrates in community water supplies, as have other small communities in Portage County.
- (G) More specifically, the performance standards, prohibitions, conservation practices and technical standards developed under s. 281.16(3), Wis. Stats., are unable to adequately address relevant public health concerns due to multiple factors including failure to adequately address all waste source applications to vulnerable landscapes.
- (H) The following geographically vulnerable landscapes create unacceptably high levels of risk for groundwater contamination from waste applications:
- Landscapes with poor to marginal soil attenuation (excessive leaching characteristics) underlain by 0-150 feet of glacially deposited permeable sands and gravels (drift).
  - There is a high probability of groundwater contamination when fertilizers and animal, municipal, and human waste is applied to drainage features that contribute runoff water to surface water streams, wetlands or lakes as well as landscapes composed of permeable soils overlying permeable glacial drift containing groundwater deposits directly connected to surface waters such as

seepage lakes and streams. Such groundwater contamination will also lead to surface water contamination.

- (6) Applicability. This ordinance applies to all townships within Portage County that adopt this ordinance by local referendum.
- (7) Construction. This ordinance is to be interpreted liberally to affect the purposes of the ordinance. The ordinance does not abrogate, annul, impair, interfere with, limit, or repeal any existing ordinance or any other power granted by the Wisconsin Statutes.
- (8) Severability. The provision in this ordinance are severable. If any provision or its application to any person or circumstance is determined to be invalid, that invalidity will not affect any other provision or application that can be given effect without the invalid provision or application.

## **Section 2: Definitions.**

In this ordinance:

“Frozen ground” as per NR243.03 (24), Wis. Admin. Code, means soil that is frozen anywhere between the first ½ inch and 8 inches of soil as measured from the ground surface.

“Glacial Drift” as per USGS Glossary of Glacial Terminology means a collective term used to describe all types of glacier sedimentary deposits, regardless of the size or amount of sorting. The term includes all sediment that is transported by a glacier, whether it is deposited directly by a glacier or indirectly by running water that originates from a glacier.

“Industrial wastewater” means wastewater from food, dairy, and other industrial facilities.

“LWCC” means Portage County Land and Water Conservation Committee.

“LWCD” means Portage County Land and Water Conservation Division.

“NRCS” means Natural Resources Conservation Service.

“Permeable” as per USGS Glossary means the ability of a material to allow the passage of a liquid, such as water through rocks. Permeable materials, such as gravel and sand, allow water to move quickly through them, whereas unpermeable material, such as clay, don't allow water to flow freely.

“Person” means an individual, corporation, partnership, cooperative association, limited liability company, trust, or other legal organization or entity.

“Saturated soils” as per NR 243.03(57), Wis. Admin. Code, means soils where all pore spaces are occupied by water and where any additional inputs of water or liquid wastes cannot infiltrate into the soil.

“Septage” as per NR 113.03(55), Wis. Admin. Code, means the wastewater or contents of septic or holding tanks, dosing chambers, grease interceptors, seepage beds, seepage pits, seepage trenches, privies or portable restrooms.

“Sewage sludge”, “sludge” or “biosolids”, as per NR 204.03(55), Wis. Admin. Code, means the solid, semi-solid or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes scum or solids removed during primary, secondary or advanced wastewater treatment processes and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of a sewage sludge incinerator or grit or screenings generated during preliminary treatment of domestic sewage in a treatment works. *(Note” all three items defined here are interchangeable, and recognized by the LWCD, as they are all in common use).*

“Snow-covered ground”, as per NR 243.03(60), Wis. Admin. Code, means areas of a field covered with any amount of snow.

“USDA” means United States Department of Agriculture.

“Vulnerable geographical landscapes” as per Glossary of Statistical Terms means a geographical area likely to be damaged or disrupted, on account of its nature or location, by the impact of a particular hazard.

“Waste” means septage, sewage sludge, sludge, biosolids, industrial waste, animal wastes, or any combination of these materials.

### **Section 3: Regulation of Local Soil and Water Resource Management Practices to s. 92.11, Wis. Stats.**

- (1) Application of this ordinance un any town is subject to approval by a majority of all votes cast in the town in a referendum conducted in accordance with sec. 92.11, Wis. Stats., using the following question:

“Shall the town approve the application of Portage County Ordinance #\_\_\_\_TBD\_\_ to the town in order to prevent groundwater pollution, protect human health, prevent the spread of disease, and promote the general welfare of the citizens of Portage County by regulating local land use and management practices in the town, specifically through controlling the application of wastes on areas of vulnerable landscapes or permeable soils overlying permeable glacial drift deposits.

- (2) Land Use Management Restrictions

- (A) Wastes shall not be mechanically applied to land, or allowed to directly drain to, vulnerable landscapes with permeable soils overlying permeable glacial drift deposits during the time period of January 1<sup>st</sup> through April 15<sup>th</sup>, unless an exemption is issued, in writing, by the Land and Water Conservation Committee. On or about March 10<sup>th</sup>

- the Land and Water Conservation Committee will meet, and may take action to amend the April 15<sup>th</sup> date mentioned above.
- (B) Wastes shall not be mechanically applied to vulnerable landscapes of permeable soils overlying permeable glacial drift deposits when the soil is frozen, snow-covered or saturated; when snow is actively melting such that water is flowing off the field; or precipitation capable of producing runoff is forecast within twenty-four (24) hours of application.
  - (C) Temporarily stockpiling or stacking wastes on vulnerable landscapes of permeable soils overlying permeable glacial drift deposits shall not occur during the time period of January 1<sup>st</sup> through April 15<sup>th</sup>, unless an exemption is issued, in writing, by the Land and Water Conservation Committee. Exempted stockpiling or stacking locations shall comply with the criteria for animal waste found in Table 10 of the USDA Natural Resources Conservation Service Technical Standard 313, hereby incorporated by reference. See USDA NRCS Standard Code 313, Table 10 attached to this ordinance.
  - (D) All human and animal waste materials and fertilizers must be applied in accordance with an approved nutrient management plan approved by the LWCD.
  - (E) All irrigated land exceeding 10 acres must be done in accordance with an irrigation management plan approved by the LWCD.
  - (F) In areas of the county where nitrates exceed 5 mg/l farm fields exceeding 40 acres using nitrogen fertilizers or animal, municipal, or human waste must sample the upper two feet of soil following crop removal to determine if current management practices are adequately protecting groundwater. If a financial hardship is demonstrated the farm can ask for financial assistance to achieve this sampling.
  - (G) Aerial spraying of wastes shall be suspended within the Portage County until such time as current best practice aerial application protocols can be determined to be balanced with the needs, public health concerns and environmental interests of all County residents.

#### **Section 4: Land and Water Conservation Committee Powers**

- (1) The Land and Water Conservation Committee (LWCC), is authorized to hear and decide appeals where it is alleged there is an error in any decision, determination, or order issued by the County Conservationist, except that this authority does not include the authority to hear appeals from a citation or any decision, determination, or order that may be appealed to the circuit court or that is otherwise subject to judicial review. Appeals under this ordinance will be conducted in accordance with Wis. Stat. Ch. 68.

- (2) The LWCC, upon written request by a landowner, may grant exemption to land use and management restrictions in Section 3 upon submission of a spreading or stacking plan to adequately minimize the public health and environmental risks.
- (3) Specific sites may be reviewed by the LWCC upon written request of the landowner, and if contrary evidence to the geologic and soils mapping evidence is provided using technology currently found acceptable to the Wisconsin Geological and Natural History Survey, the LWCC may, after consultation with the Land and Water Conservation Division (LWCD) amend the mapping designation.
- (4) The LWCC may consult with the county public health department and other appropriate resources to obtain accurate public health data and expertise necessary to the administration of the ordinance.

#### **Section 5: Administration.**

- (1) Department Responsibilities. This ordinance shall be administered by the Land and Water Conservation Division and the County Conservationist shall:
  - (A) Keep an accurate record of all inspections, and other official actions.
  - (B) Investigate complaints relating to compliance with this ordinance.
  - (C) Perform any other duties specified in this ordinance
- (2) Inspection Authority. The LWCD is authorized pursuant to Wis. Stat. sec. 92.07(14) to enter upon any lands affected by this ordinance to inspect the land to determine compliance with this ordinance. If permission to enter lands is not given by the landowner, entry may be gained pursuant to Wis. Stat. sec. 66.0119. Refusal to grant permission to enter lands affected by this ordinance for purposes of inspection shall be considered a violation of this ordinance.
- (3) Citation Authority. The County Conservationist, or his/her designee, may issue a citation for any violation of this ordinance.
- (4) Referral Authority. The County Conservationist may refer a violation of this ordinance to the County's Corporation Counsel for legal action.
- (5) Other Enforcement Means. Nothing in this section may be construed to prevent the County from using any other lawful means to enforce this ordinance, and does not limit or prevent the County Conservationist from taking other emergency or interim action, including an abatement order, to prevent or mitigate imminent harm to public health and safety or other actions otherwise authorized by law.

#### **Section 6: Violations.**

- (1) It is unlawful to violate any provision in this ordinance.
- (2) It is unlawful for any person to knowingly provide false information, make a false statement, or fail to provide, or misrepresent any material fact to a county agent, board,

commission, committee, department, employee, officer, or official acting in an official capacity under this ordinance.

- (3) It is unlawful for a person to disobey; fail, neglect, or refuse to comply with; or otherwise resist an order issued pursuant to this ordinance.
- (4) A separate offense is deemed committed on each day that a violation occurs or continues.
- (5) The failure of any agent, board, commission, committee, department, employee, officer, or official to perform any official duty imposed by this code will not subject the agent, board, commission, committee, department, employee, officer, or official to the penalty imposed for a violation of this code unless a penalty is specifically provided.

#### **Section 7: Penalties.**

- (1) This ordinance may be enforced through civil forfeiture or through issuance of an injunction by the circuit court in an action initiated by the County or LWCC. The court may award reasonable attorney fees to any plaintiff in a successful action for enforcement through injunction.
- (2) A person will, upon conviction for a violation of this ordinance, forfeit not less than \$500 nor more than \$1,000 for each offense, together with costs of prosecution for each violation, and may be ordered to take such action as is necessary to abate the offense within a specified time.
- (3) The minimum and maximum forfeitures specified in this section are doubled each time that a person is convicted for the same violation of this ordinance within a 24-month period.
- (4) A person who has the ability to pay a forfeiture entered pursuant to this ordinance, but who fails or refuses to do so may be confined in the county jail until the forfeiture and costs are paid, but the period of confinement may not exceed 30 days. In determining whether a person has the ability to pay, all items of income and all assets may be considered regardless of whether the income or assets are subject to garnishment, lien, or attachment by creditors.
- (5) In the event an offense is not abated as ordered, Portage County may take such action as is necessary to abate the offense and the cost of such abatement will become a lien upon the person's property and may be collected in the same manner as taxes.

## Section 8: Selected References.

- A. Bedrock Geology of Portage County Map:  
<http://ww3.co.portage.wi.us/groundwater/undrstnd/geol2.htm>
- B. Center for Disease Control (CDC) Reference:  
<http://www.cdc.gov/nchs/products/ad.htm>
- C. Depth to Bedrock Map, Wisconsin and Portage County:  
<http://ww3.co.portage.wi.us/groundwater/undrstnd/Images/wipcdep5.jpg>
- D. Methemoglobinemia: Blue Babies and Nitrate Contamination Article Link:  
[https://www.researchgate.net/publication/12414965\\_Blue\\_Babies\\_and\\_Nitrate-Contaminated\\_Well\\_Water](https://www.researchgate.net/publication/12414965_Blue_Babies_and_Nitrate-Contaminated_Well_Water)
- E. TITLE XIV OF THE PUBLIC HEALTH SERVICE ACT, SAFETY OF PUBLIC WATER SYSTEMS (SAFE DRINKING WATER ACT)Q:\COMP\ENVIR2\SDWA
- F. <http://www.epw.senate.gov/sdwa.pdf>
- G. NR 151.07(2), Wis. Admin. Code:  
[http://docs.legis.wisconsin.gov/code/admin\\_code/nr/100/151.pdf](http://docs.legis.wisconsin.gov/code/admin_code/nr/100/151.pdf)
- H. Soil and Aquifer Properties and Their Effect on Groundwater, Portage County, Wisconsin:  
<http://ww3.co.portage.wi.us/groundwater/undrstnd/soil.htm>
- I. Soil Attenuation of Contaminants Map, Portage County, Wisconsin:  
<http://ww3.co.portage.wi.us/groundwater/undrstnd/Images/soilatn5.jpg>
- J. Soil Attenuation/ Soil Filtering Capability, Portage County, Wisconsin:  
<http://ww3.co.portage.wi.us/groundwater/undrstnd/soil.htm>
- K. Supreme Court Case Meghrig vs Western, Inc. 516 US 479,485 1996:  
<https://supreme.justia.com/cases/federal/us/516/479/case.html>
- L. Surface Geology with Groundwater Province Boundaries Map, Portage County, Wisconsin:  
<http://ww3.co.portage.wi.us/groundwater/undrstnd/geol4.htm>
- M. Trends in Nitrate Concentrations: GCC Report to the legislature  
<http://dnr.wi.gov/topic/groundwater/GCC/nitrate.html>
- N. USDA, NRCS Conservation Practice Standard Waste Storage Facility Code 313:  
[http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs143\\_026465.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_026465.pdf)
- O. Wisconsin Administrative Code 140:  
[http://docs.legis.wisconsin.gov/code/admin\\_code/nr/100/140.pdf](http://docs.legis.wisconsin.gov/code/admin_code/nr/100/140.pdf)
- P. Wisconsin Administrative Code 113:  
[http://docs.legis.wisconsin.gov/code/admin\\_code/nr/200/213.pdf](http://docs.legis.wisconsin.gov/code/admin_code/nr/200/213.pdf)
- Q. Wisconsin Legislative Code NR 200.10:  
[http://docs.legis.wisconsin.gov/code/xrefs/xrefs/admin\\_code\\_nr/3545](http://docs.legis.wisconsin.gov/code/xrefs/xrefs/admin_code_nr/3545)
- R. Wisconsin Nutrient Management Update website:  
<https://datcp.wi.gov/Documents/NMUpdate2015.pdf>
- S. Wisconsin Stat. 66.0119:  
<https://docs.legis.wisconsin.gov/statutes/statutes/66/1/0119>
- T. Wisconsin Stats. 9211:  
<http://docs.legis.wisconsin.gov/statutes/statutes/92.pdf>

Additional Notes:

