

## **Chapter 7 South Fish Creek Watershed Animal Waste Storage and Management**

### **FINDINGS:**

The Bayfield County Board of Supervisors makes the following findings:

- 1.** The predominant farmed soils in Bayfield County are clay-looms originating from glacial till. With high bulk density and slow infiltration, runoff during the spring snowmelt and after heavy rains is common.
- 2.** To farm the clay soils of Bayfield County, agricultural producers maintain extensive surface drainage networks to rapidly remove excess water.
- 3.** Drainage practices that increase runoff rates from agricultural lands lead to higher peak flows in streams, resulting in increased streambank erosion and consequent loading of particulate phosphorus and sediment into downstream surface waters.
- 4.** As such, the primary threat from agriculture to surface water in Bayfield County is from surface run-off carrying sediment, nutrients, and manure.
- 5.** Phosphorus loading in surface waters and consequent algal blooms constitute a threat to human health due to toxins produced by the algae.
- 6.** Microbiological pathogens from manure in runoff and surface waters constitute a threat to human health.
- 7.** Most erosion, sedimentation, and nutrient loss from agricultural lands occur during spring snowmelt and during large storm events.
- 8.** Historical precipitation data and future climate modeling indicate the Chequamegon Bay region is and will continue to receive more precipitation in larger storm events.
- 9.** Increasing manure and fertilizer applications within a watershed is likely to increase nutrient loading into surface waters within that watershed.
- 10.** The required manure storage capacity for Concentrated Animal Feeding Operations under NR 243 Wis. Adm. Code, given the climate and soils of Bayfield County, is likely inadequate to ensure no winter manure applications.
- 11.** The short growing season for grain crops such as corn, soybeans, and sunflowers, and the likelihood of saturated or frozen ground conditions after harvest increases the likelihood that manure cannot be applied after harvest, and consequently, livestock operations covered by NR 243 relying on application of manure in the fall after harvest of grain crops are likely to utilize emergency spreading allowances for winter applications of manure.
- 12.** Manitowoc County in Wisconsin, with soils similar to those found in Bayfield County, has implemented additional limits on mechanical application of manure in order to achieve water quality standards in surface waters.

- 13.** The phosphorus levels in South Fish Creek in northeast Bayfield County have exceeded the maximum thresholds permitted under NR 102.06 Wis. Adm. Code in 2014 and 2015. (Lehr, 2015)
- 14.** The phosphorus levels in nearshore areas of Chequamegon Bay have exceeded the maximum thresholds permitted under NR 102.06 Wis. Adm. Code in 2014 and 2015. (Lehr, 2015)
- 15.** The Wisconsin Department of Natural Resources, Bureau of Drinking Water and Groundwater, “Source Water Assessment For Ashland Water Utility, Ashland, Wisconsin, March 27, 2003” has determined:
  - a.** The City of Ashland, Wisconsin, located on the south shore of Lake Superior’s Chequamegon Bay, relies solely on source water from the bay to provide drinking water to its residents. (p.2)
  - b.** The area providing Ashland’s source water includes the watersheds of Bono Creek, Boyd Creek, Whittlesey Creek, and the north and south branches of Fish Creek, located in Bayfield County. These streams drain an area of relatively flat, impermeable red clay soils, resulting in heavy sedimentation. (p.5)
  - c.** The source area contains a mixture of agricultural activities identified by the Department as having negative impacts on the south branch of Fish Creek (South Fish Creek). (p.6)
  - d.** The shallow nature of Chequamegon Bay has multiple negative impacts on source water quality, including warmer summer and autumn temperatures, more easily suspended lake bottom sediments and less dilution of contaminants entering the bay. (p.7)
  - e.** The normal counterclockwise circulation pattern in the bay negatively impacts source water by drawing the discharge of the Fish Creek and Bay City Creek east along the shoreline towards the drinking water intake. (p.8)
  - f.** Ashland’s municipal water supply has one surface water intake located in southeastern Chequamegon Bay. The calculated sensitivity of the intake—defined as the likelihood that source water will be impacted by contaminants due to the intrinsic physical attributes of the source water area—is very high. (p.9)
  - g.** Concentrated animal feeding operations (over 1000 animal units) have the potential to contribute pollutants such as inorganic, synthetic organic, microbial contaminants as well as hormones and antibiotics to the source water. (p.10)
  - h.** Ashland’s source water quality is significantly impacted by local factors and highly susceptible to contamination. (p.14)
  - i.** Manure management is a recommended means of dealing with negative impacts on Ashland’s source water. (p.15)

Based on the foregoing findings, the Board further finds that the following regulations pertaining to the operations of Concentrated Animal Feeding Operations within the South Fish Creek watershed are necessary to achieve water quality standards under section 281.15 of the Wisconsin Statutes and to protect public health and safety.

**Sec 5-7-1 Authority.** This chapter is adopted under authority granted under Section 59.02, 59.03, 59.70, 92.15, and 92.16 of the Wisconsin State Statutes.

**Sec. 5-7-2 Applicability.** All Concentrated Animal Feeding Operations, as defined in Sec. 5-6-3(b) of the Bayfield County Code of Ordinances, located or utilizing owned or rented land within the South Fish Creek watershed in Bayfield County for the housing of livestock, production of crops, spreading of manure, or any other agricultural activity shall comply with the regulations in this chapter.

**Sec. 5-7-3 Interpretation.** In their interpretation and application, the provisions of this chapter shall be held to be minimum requirements and shall be liberally construed in favor of Bayfield County, and shall not be deemed a limitation or repeal of any other power granted by the Wisconsin State Statutes.

**Sec. 5-7-4 Severability Clause.** If any provision or portion of this chapter is ruled invalid by a court, the remainder of the chapter shall not for that reason be rendered ineffective.

**Sec. 5-7-5 Effective Date.** This chapter shall become effective upon its adoption and publication by the Bayfield County Board of Supervisors and approval by the Wisconsin Department of Natural Resources under s. 92.15 of the Wisconsin Statutes and NR 151.096 of the Wisconsin Administrative Code.

**Sec. 5-7-6 Definitions.** Definitions herein are to conform to the provisions set forth in the Wisconsin Administrative Code and Bayfield County Code.

- (a) **Compliance Order.** A document or notification from the Land Conservation Committee, or their designee, outlining the nature of the violation(s) of the provisions of this chapter and corrective measures.
- (b) **Conduit to a Navigable Water.** A natural or man-made area or structure that discharges to a navigable water via channelized flow. This includes open tile line intake structures, open vent pipes, sinkholes, agricultural well heads, drainage ditches that discharge to navigable waters and grassed waterways that drain directly to a navigable water.
- (c) **Intermittent Stream.** A watercourse with a bed and bank where water does not flow continuously and that is identified as an intermittent stream on a United States Geological Survey 1:24,000 quadrangle map.

- (d) **Manure**. Excreta from livestock, poultry, or other animals. Manure includes the following when intermingled with excreta in normal farming operations: debris including bedding, water, soil, hair, and feathers; processing derivatives including separated sand, separated manure solids, precipitated manure sludges, supernatants, digested liquids, composted biosolids, and process water; and runoff collected from barnyards, animal lots, and feed storage areas.
- (e) **Manure Storage Facility**. An impoundment made by constructing an embankment or excavating a pit or dugout or by fabricating a structure to contain manure and other animal or agricultural wastes that has a volume of 500 cubic feet or more and a depth of 2 feet or more.
- (f) **Nutrient Management Plan**. A plan that outlines the management and crediting of nutrients from all nutrient sources including soil reserves, commercial fertilizer, manure, organic byproducts, legume crops, and crop residues. All nutrient sources shall be accounted for and properly utilized. This plan must meet the current NRCS 590 standard, and NR 243 where applicable, and applies to all fields where plant nutrient sources and soil amendments are applied during the course of a rotation. Management includes the rate, method, and timing of the application of all sources of nutrients to minimize the amount of nutrients entering surface water and groundwater. The plan includes manure nutrient testing and routine soil testing and is developed according to USDA –NRCS Technical Standard 590.
- (g) **Operator**. A person responsible for the oversight or management of equipment, facilities or livestock at a livestock operation, or is responsible for land management in the production of crops.
- (h) **Perennial stream**. A channel where water flows continuously and that is identified as a perennial stream on a United States Geological Survey 1:24,000 quadrangle map.
- (i) **One hundred (100)-year, twenty-four (24)-hour rainfall event**. A rainfall event measured in terms of the depth of rainfall occurring within a twenty-four(24)-hour period and having an expected recurrent interval of once in one hundred (100) years.

**Sec. 5-7-7 Manure storage capacity.** Animal manure storage facilities shall be properly designed to provide a minimum of 540 days of manure storage. In addition, liquid manure storage and containment facilities shall also have markers near the bottom of the facility indicating the levels at which the facility provides 180 and 270 days of storage, respectively. Such capacity shall include storage at all times for direct precipitation and runoff from a 100 yr, 24 hr storm event.

Liquid storage facilities shall be emptied so that the 270-day level indicator is visible on at least one day between July 15 and September 1. In addition, the storage facility shall be emptied so that the 180-level indicator is visible on at least one day between October 15 and November 30. The operator shall record the days on which the 270-day and

180-day level indicators were visible and send a photo of the indicator to the Bayfield County Land Conservation Department. In the event the facility is not emptied to show the 270-day level indicator for any reason AND the facility is not emptied to show the 180-day level indicator by November 30 of the same calendar year for any reason, the operator shall transfer the manure to another manure storage facility or waste treatment plant in such quantity as to empty the facility to show the 180-day level indicator by December 10 of that calendar year.

If the facility was emptied to show the 270-day level indicator in the required time period, but was not emptied to show the 180-day level indicator during the required time period for any reason, the operator shall submit a written plan to the Land Conservation Department for approval by December 5 showing how the storage facility shall be emptied to show the 180-day level indicator by December 15 of that calendar year. Such a plan may include land-spreading the manure subject to any applicable local, state, or federal restrictions and upon approval by the Land Conservation Department. Approval of any proposed land-spreading by the Department shall depend on the ground conditions of the fields proposed for spreading, the method and rate of spreading, the forecasted weather during that time, and the Land Conservation Department's determination of the risk of runoff from such land-spreading. Land-spreading shall not be an option unless the operator can demonstrate that weather conditions or other factors beyond the operator's control prevented the spreading that otherwise would have resulted in emptying the pit to the required level by the required time.

**Sec. 5-7-8 Spreading windows.** The annually updated nutrient management plan required under NR 243.14 Wis. Adm. Code shall include for each cropping year at least three distinct manure spreading windows in which at least 1/3 of the total manure produced and stored annually by the animal feeding operation is capable of being mechanically applied according to the spreading rates allowed by the nutrient management plan. Spreading windows include, but are not limited to: prior to planting in the spring, after each harvest of hay or perennial forage in the summer and fall, after harvest of small grains in the summer and fall, after harvest of corn or soybeans in the fall, or at any other time when the ground is not frozen or snow-covered and the application is allowable under the NR 243.14 Wis. Adm. Code.

**Sec. 5-7-9 Phosphorus.** For fields within the South Fish Creek watershed, the operator may not increase soil test phosphorus levels over a 4-year crop rotation unless the operator can demonstrate that deliverability of phosphorus to the impaired waterbody will not increase as a result of increases in soil test phosphorus in the field. The operator may not raise soil test phosphorus levels over a 4-year crop rotation above the optimum level for the highest phosphorus demanding crop in the rotation for a field with soil test phosphorus levels below optimum levels. In addition, for fields within the South Fish Creek watershed, the Phosphorus Index shall not be higher than 2 for any single cropping year in the rotation. The application of this provision shall be suspended if and when it is satisfactorily demonstrated to the County Board that the phosphorus levels in the South Fish Creek watershed have not exceeded the maximum permitted levels of phosphorus under NR 102.06 for at least two consecutive years immediately preceding such determination, but any such suspension shall terminate upon a subsequent satisfactory demonstration to the County Board that such levels

have again been in excess of the maximum permitted levels for at least two consecutive years.

**Sec 5-7-10 Further limits on mechanical application of manure.** Mechanical application of manure is only permitted to meet crop needs and is subject to the following limitations:

- (a) Manure or process wastewater may not be applied by any means when precipitation capable of producing runoff is forecast by the National Weather Service within 48 hours of the time of planned application. In addition, manure or process wastewater may not be applied by any means on days with a high or medium risk of runoff as indicated in the Runoff Risk Advisory Forecast by the Wisconsin Manure Management Advisory System.
- (b) No manure at any time of the year may be mechanically applied to any channel or concentrated flow area that flows to an intermittent stream, lake, perennial stream, pond, or sinkhole. This includes all conduits to intermittent stream or navigable waters.
- (c) No manure at any time of the year may be mechanically applied to land within 100 feet of an active or inactive well unless that well has been abandoned per USDA-NRCS Technical Standard 351. Manure that is mechanically applied to land that is more than 100, but less than 300 feet, and is upslope of an active or inactive well and that drains to a well must be incorporated into the soil within 48 hours of application.
- (d) No manure at any time of the year may be mechanically applied to land that is within 300 feet of and that drains to a drainage tile surface inlet, intermittent stream, or perennial stream, unless the manure is incorporated into the soil within 48 hours of application.
- (e) No manure at any time of the year may be mechanically applied to land that is within 1,000 feet of a lake or pond and that drains to the lake or pond unless it is incorporated into the soil within 48 hours of application.
- (f) Spreading restrictions listed in this article shall be in addition to any other rules or provisions regulating the mechanical application of animal manure including, but not limited to, WPDES permits issued under NR 243 or Operations Permits issued by Bayfield County. In the case of conflict, the most stringent provisions shall apply.

**Sec. 5-7-11 Inspection Authority.** Bayfield County, or its designee, is authorized to enter upon any lands affected by this chapter to inspect the land or manure storage facility to determine compliance with this chapter.

**Sec. 5-7-12 Penalties and Enforcement.**

- (a) Any violation of this chapter shall be punishable by a forfeiture of not less than \$100 or more than \$5000 per day for each violation of this chapter, plus the costs of prosecution, including the County's reasonable attorney fees and costs. Each day of violation shall constitute a separate offense.

- (b)** In addition, the County Board, or its designee, may issue a notice of violation and order that specifies required remedial action, which may include a stop operations and work order, or the Board may impose or seek any other available enforcement remedy, including injunctive relief.