

## Chapter NR 347

### REGULATION OF DREDGING PROJECTS

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**NR 347.01 Purpose and policy.** (1) The purpose of this chapter is to implement the provisions of s. 30.20, Stats., which requires a contract or permit for the removal of material from the beds of waterways; s. 144.04, Stats., which establishes a wastewater treatment facility plan approval program; ss. 144.43 through 144.47, Stats., which authorize the solid waste management program; ss. 144.60 through 144.74, Stats., which establish a hazardous waste management program; and ch. 147, Stats., which establishes the WPDES program as they apply to dredging projects. This chapter specifies definitions, required project and environmental information, standards and procedures to assist dredging project applicants and the department.

(2) It is the department's policy to encourage reuse of dredged material; to minimize turbidity in waters adjacent to the removal site during removal of bed material; to avoid environmentally sensitive locations for disposal, rehandling or treatment facilities; to minimize the impact of disposal, rehandling or treatment facilities on groundwater resources; and to minimize the concentration of pollutants, including hazardous substances, in return flow to surface water and groundwater. It is also the department's policy to fully implement the provisions of s. 144.025, Stats., and s. NR 1.95, Wis. Adm. Code, as they apply to dredging projects.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR. 347.02 Applicability.** The provisions of this chapter apply to the removal of material from the beds of waterways; the transport of that material from the removal site to the site of the disposal, rehandling or treatment facility; the separation or disposal of the solid and liquid fractions of the slurry in the disposal, rehandling or treatment facility; the discharge of the carriage water or interstitial water to either surface water or groundwater; and the location, design, operation, restoration and continued maintenance of the disposal, rehandling or treatment facility.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.03 Definitions.** (1) "Carriage water" means the water portion of a slurry of water and dredged material that is pumped by the dredge from the removal site to the disposal, rehandling or treatment facility.

(2) "Carriage water return flow" means the carriage water which is returned to a receiving water after separation of the dredged material from the carriage water in the disposal, rehandling or treatment facility.

(3) "Contract" means a binding written agreement between the department and a dredging applicant authorizing the removal of material from the bed of a navigable lake or outlying water.

(4) "Department" means the department of natural resources.

(5) "Disposal facility" means a site or facility for the ultimate disposal of dredged materials.

(6) "Dredging" means any part of the process of the removal of material from the beds of waterways; transport to a disposal, rehandling or treatment facility; treatment of the material; discharge of carriage or interstitial water; and disposal of the material.

(7) "Effluent limitation" means any restriction, including schedules of compliance, established by the department on quantities, rates and concentrations of chemical physical, biological and other constituents which are discharged from disposal, rehandling or treatment facilities into waters of the state.

(8) "Environmental pollution" as defined in s. 144.01(3), Stats., means the contaminating or rendering unclean or impure the air, land, or waters of the state or making the same injurious to public health, harmful for commercial or recreational use, or deleterious to fish, bird, animal or plant life.

(9) "Environmental safeguards" means those conditions included in an authorization for a dredging project which provide reasonable assurances that the project will not result in environmental pollution.

(10) "Environmentally sensitive area" means an area which may be especially susceptible to damage by dredging or the disposal, rehandling or treatment of dredged materials, including, but not limited to: areas within 1,000 feet of a navigable lake, pond or flowage; areas within 300 feet of a navigable stream; floodplains; wetland areas; critical habitat areas; areas where the department finds that there is a reasonable probability that disposal, rehandling or treatment within such area will have a detrimental effect on surface or groundwater; and areas within 1200 feet of a public or private water supply.

(11) "Hazardous wastes" as defined in s. 144.61(5), Stats., means any solid waste identified as hazardous waste under s. NR 181.12, Wis. Adm. Code.

(12) "Hydraulic dredging" means the removal and transport of dredged material in a slurry.

(13) "Interstitial water" means water contained in the interstices or voids of soils or rocks in the dredged materials.

(14) "Mechanical dredging" means dredging done by other than hydraulic dredging.

(15) "PCBs" means those materials defined in s. 144.79 (1) (a), Stats.

(16) "Rehandling facility" means a site or facility used in the transportation of dredged material to a treatment or disposal facility.

(17) "Slurry" means a mixture of dredged material and carriage water.

(18) "Treatment facility" means a natural or artificial confinement facility for the separation of dredged material solids from the interstitial or carriage water.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.04 Permits and approvals required.** (1) All private and municipal dredging projects require a permit or contract under s. 30.20, Stats.

(2) An individual Wisconsin pollutant discharge elimination system (WPDES) permit under ch. 147, Stats., is required for dredging project discharges which do not meet the applicability criteria for a general WPDES permit.

(3) Plan approval under s. 144.04, Stats., is required for dredging projects which include a dredged material treatment facility.

(4) All dredging projects require review under s. 144.44, Stats., and ch. NR 180, Wis. Adm. Code.

(5) Sites and facilities for the disposal of hazardous wastes and PCBs shall be licensed under ss. 144.64 and 144.79, Stats.

(6) A preliminary specification of applications required for each dredging project shall be made in s. NR 347.05 (3). A final specification of applications required for each dredging project shall be made in s. NR 347.05 (6).

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.05 Application and analytical requirements.** (1) Prior to submission of an application, anyone seeking to remove material from the beds of waterways shall confer with the department about the proposed project and about necessary preliminary information to be submitted.

(2) On the basis of the discussion in sub. (1), the applicant shall provide preliminary information which may include:

(a) Name of waterbody and location of project;

(b) Volume of dredged material;

(c) Dredging method and equipment;

(d) Proposed disposal facility; and

(e) Sediment sampling and analysis under s. NR 347.07 (2) (a) 1.

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(3) The department shall review the preliminary information within 30 days of its receipt, shall make a preliminary specification of applications required and shall advise the applicant of further information requirements. Such requirements may include:

(a) For mechanical dredging projects involving less than 3,000 cubic yards of material which is not contaminated with hazardous wastes or PCBs:

1. Disposal site information required under s. NR 347.08 and 347.11;
2. Dredging site information required under s. NR 347.10 (2);
3. Discharge permit information required under s. NR 347.09 unless the project meets the applicability criteria for a general discharge permit;
4. Treatment facility information required under s. NR 347.11 (1) and (2) (a) to (i) and (p) to (r), if a treatment facility is proposed.

(b) For all other projects the applicant shall submit all information required under ss. NR 347.07 to 347.11 unless an exemption is provided in sub. (5).

(4) In specific situations as outlined in this subsection, the following additional information requirements shall apply unless an exemption is provided in sub. (5):

(a) Chemical analyses specified in ss. NR 347.07 and 347.10 of material to be dredged shall be required for dredging projects in waters named in s. NR 347.04 (4) (a) 1. and may be required in waters receiving or which have received municipal or industrial wastewater discharges upstream of the dredging project location.

(b) The department may require more information than specified in ss. NR 347.07 to 347.10 for those projects involving potentially hazardous wastes or PCBs; large amounts of dredged materials; disposal, rehandling or treatment facilities; or the use of environmentally sensitive areas as either dredging or disposal sites.

(5) (a) The department may exempt from a portion of the information requirements contained in ss. NR 347.07 to 347.10 those projects which do not involve the dredging or disposal of hazardous wastes or PCBs; do not include disposal, rehandling or treatment facilities; or do not involve the use of environmentally sensitive areas as either dredging or disposal sites.

(b) Applicants for mechanical dredging projects are not required to submit information under ss. NR 347.10 (3) and (4) and 347.11 (2) (j) to (o).

(6) The department shall review all information and make a final specification of applications required.

(7) (a) Applications will not be considered complete until:

1. All information required under this section is supplied to the department; and

2. The appropriate environmental impact review is completed under s. 1.11, Stats.

(b) Applications shall indicate who performed all sampling and analyses.

(8) Analyses to demonstrate compliance with this section shall be made in accordance with a list of analytical methods entitled "WDNR approved methods for analyses of dredged material", Wisconsin Department of Natural Resources, Madison, Wisconsin. Copies of this document are available for inspection at the office of the department of natural resources, the secretary of state's office and the office of the revisor of statutes, and may be obtained for personal use from the Wisconsin Department of Natural Resources, P.O. Box 7921, Madison, Wisconsin 53707.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.06 Department review of applications.** (1) The department shall review the information received under s. NR 347.05 in the following manner:

(a) Initial review of the WPDES permit application shall be made to determine if the proposed project meets the applicability criteria for a WPDES general permit issued under s. 147.023, Stats. If the proposed dredging project meets those criteria, project review under ch 147, Stats., is completed. If the proposed project does not meet the applicability criteria for the general permit, the permit application shall be processed as an individual WPDES permit application.

(b) Wastewater treatment facility plans shall be reviewed under s. 144.04, Stats., s. NR 1.95, and chs. NR 108, 115 and 116, Wis. Adm. Code.

(c) Dredging permit or contract applications shall be reviewed under s. 30.20, Stats., s. NR 1.95 and chs. NR 115, 116, 345 and 346, Wis. Adm. Code.

(d) Solid waste review shall be performed under s. 144.44, Stats., and ss. NR 180.13 and 1.95, Wis. Adm. Code.

(e) Hazardous wastes and PCB review shall be performed under ss. 144.64 and 144.79, Stats., and chs. NR 157 and 181, Wis. Adm. Code.

(2) After compliance with applicable notice and hearing requirements in s. NR 347.15, the department shall grant or deny the authorities requested.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.07 Sediment sampling and analysis.** (1) Unless exempted under s. NR 347.05 (5), the applicant shall collect and analyze data on sediments to be dredged in the manner outlined in this section.

(2) Sediment sampling shall be performed in accordance with this subsection. (a) Number of samples:

1. For dredging projects involving the removal of less than 3,000 cubic yards of material, at least one core sample shall be taken at each dredging project site where the department determines, based on available

information, that a potential for hazardous wastes in the sediments exists. If the department determines that no potential for hazardous wastes in the sediment exists, no core sample for this type of project will be required.

2. For all dredging projects involving the removal of 3,000 cubic yards or more of material, at least one core sample shall be taken for each project:

a. One core sample shall be taken at every tributary inflow or point source discharge adjoining the proposed dredging area.

b. For lakes, an additional core sample shall be taken at mid-lake or at maximum depth within the proposed dredging area and not more than 3 additional core samples shall be taken at other locations where the department determines, based on available information, that hazardous wastes or PCBs may exist.

c. For rivers and harbors, additional core samples shall be taken in areas where the department determines, based on available information, that hazardous wastes or PCBs may exist.

(b) Method of taking samples. 1. All samples shall be taken with a core sampler, using appropriate liners for parameters to be analyzed.

2. For rivers, lakes and harbors, the core sample shall be taken to the project depth plus 2 feet.

3. Samples shall be preserved moist, at 4°C, in an oxygen-free environment, in glass containers.

(3) Tests to be performed on samples. (a) All river and harbor sediment samples and the top 3 feet of lake sediment samples shall be analyzed for pH, percent sand, silt and clay, percent solids, volatile residue, total Kjeldahl nitrogen, ammonia nitrogen, total phosphorus, cadmium, total chromium, and if carriage water return is anticipated, settleability.

(b) Based on available information, additional analyses may be required for certain water bodies as follows:

1. Sediments from water bodies treated with algicides or arsenicals shall be considered for copper or arsenic analyses.

2. Sediments from water bodies with past or present industrial or municipal discharges shall be considered for lead, zinc, copper, nickel, barium, mercury, oil, grease, PCBs, or other appropriate analyses.

3. Sediments from heavily farmed watersheds shall be considered for analyses for the following pesticides or herbicides: aldrin, dieldrin, chlordane, endrin, heptachlor, lindane, toxaphene, DDT, or appropriate analyses.

(c) Bulk sediment analyses shall be performed as follows:

1. Core samples shall be divided into one-foot segments and each segment shall be analyzed for the appropriate characteristics.

2. Results shall be reported as milligrams per kilogram (mg/kg) on a dry weight basis.

3. Bulk sediment analyses results shall be compared by the department to "Guidelines for the Pollutional Classification of Great Lakes Harbor Sediments", by the U.S. Environmental Protection Agency, Region V. Copies of this document are available for inspection at the office of the department of natural resources, the secretary of state's office and the office of the revisor of statutes, and may be obtained for personal use from the Central Regional Laboratory, U.S. Environmental Protection Agency, 536 South Clark, Chicago, IL 60604. If the pollutant concentrations fall below the heavily polluted category, the department will not normally require additional chemical analyses. If pollutant concentrations fall within the heavily polluted category, the department may require additional chemical analyses to determine the pollutant mobility, including elutriate tests, toxic extraction test, and interstitial water analysis.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.08 Information required for solid waste and hazardous waste approval.** Except as provided in s. NR 347.05, information required in the application for solid waste and hazardous waste program review is specified in s. NR 180.13, Wis. Adm. Code, and ch. NR 181, Wis. Adm. Code.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.09 Information required for individual WPDES permits.** Except as provided in s. NR 347.05, for those projects which do not qualify under a WPDES general permit for dredging projects, information required in the WPDES application is specified on forms referenced in s. NR 200.10, Wis. Adm. Code, or provided by the U.S. environmental protection agency.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.10 Information required for s. 30.20, Stats., approval.** Except as provided in s. NR 347.05, information required for applications under s. 30.20, Stats., shall include:

- (1) Sediment sampling and analysis data required by s. NR 347.07;
- (2) Dredging site information including:
  - (a) Water body name;
  - (b) Site location boundaries within waterbody;
  - (c) Existing bottom contours;
  - (d) Proposed finished bottom contours;
  - (e) Contour interval, and
  - (f) Elevation datum.
- (3) Proposed carriage water return flow characteristics for hydraulic dredging projects, including:
  - (a) Suspended solids concentration based on settleability test or other pilot plant testing;
  - (a) Flow rate;

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- (c) Temperature;
  - (d) Dissolved oxygen;
  - (e) 5-day biochemical oxygen demand;
  - (f) Chemical oxygen demand;
  - (g) Ammonia-nitrogen;
  - (h) pH;
  - (4) Proposed carriage water return flow discharge point; and
  - (5) Proposed sediment sampling program including number of sampling points, location and depth.
- (6) Values for characteristics under sub. (3) (d) to (h), as well as any other pollutant characteristics required by the department, shall be determined by elutriate testing using sediment samples collected under s. NR 347.07.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.11 Information required for s. 144.04, Stats., plan approval.** Except as provided in s. NR 347.05, information required in the application for plan approval under s. 144.04, Stats., for the treatment facilities shall be prepared by a Wisconsin registered engineer and shall include:

- (1) Site conditions, including:
  - (a) Depth to water table;
  - (b) Foundation suitability information, which shall include:
    - 1. For dike heights greater than 20 feet, borings to a depth of 20 feet or to bedrock, whichever is less, shall be taken at an interval of not more than 400 feet along the center line of the proposed dike. The borings shall be classified according to the unified soil classification system. At each boring, the standard penetration test shall be conducted at 5-foot intervals.
    - 2. For dike heights less than 20 feet, the subsurface material classifications to a minimum depth of 5 feet shall be made in accordance with the unified soil classification system.
- (2) Settling basin characteristics, including:
  - (a) Embankment materials;
  - (b) Embankment side slopes or sheet piling wall thickness and shape;
  - (c) Embankment top width;
  - (d) Embankment permeability;
  - (e) Basin surface area;
  - (f) Plan view;
  - (g) Depth;



- (h) Volume;
- (i) Basin cross-section views;
- (j) Spur dikes (training baffles);
- (k) Outlet weir design;
- (l) Outlet weir operation;
- (m) Sand filters (if required);
- (n) Sand filter operation;
- (o) Detention time (when site is filled to capacity);
- (p) Rehandling operation (optional);
- (q) Basin bottom contours; and
- (r) Post dredging restoration and maintenance plans.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.12 Wisconsin environmental policy act.** All dredging projects shall be reviewed under ss. 1.11 and 23.11 (5), Stats., and ch. NR 150, Wis. Adm. Code.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.13 Standards.** (1) Surface water discharge effluent limitations shall be determined under chs. NR 102 to 104 and 217, Wis. Adm. Code.

(2) Discharge to groundwater shall be in accordance with the requirements of s. NR 214.08, Wis. Adm. Code, except in those cases where the facility is regulated by a solid waste license issued under ch. NR 180, Wis. Adm. Code.

(3) Dredging projects shall conform to statutory standards in s. 30.20, Stats.

(4) Bottom slopes within the dredged area shall be no steeper than 1 foot vertical to 4 feet horizontal unless it can be demonstrated that a steeper slope will not lead to an unstable bottom or to dangerous conditions.

(5) Dredged material treatment facility containment structures shall conform to the following standards:

(a) The design load on the foundation shall be no greater than 1/3 of the ultimate bearing capacity.

(b) Earthen dikes shall have the following characteristics:

1. Outside side slopes shall be 1 vertical to 5 horizontal or flatter unless an engineering analysis justifies use of a steeper slope based on a factor of safety of at least 1.4. In no case shall sideslopes be steeper than 1 vertical to 2 horizontal.

2. Top width shall be maintained for vehicle access and dike stability. Minimum top width shall be 10 feet unless information is submitted to the department which provides justification for a lesser width.

3. Freeboard shall be built into the design to provide 2 feet between the top of any design or expected flood water surface on the inside or outside of the dike. Freeboard in excess of 2 feet may be required to accommodate wave action.

4. Seepage through the dike shall not reduce the slope stability below a factor of safety of 1.4.

5. Adequate clearing and grubbing of the existing ground surface shall be completed prior to initiation of the dike construction.

6. Construction shall be equal to or greater than design standards including any required compaction.

7. Certification that dikes are constructed according to the approved plans shall be made by an engineer registered to practice in the state of Wisconsin or an engineering employe of the federal government or state of Wisconsin.

8. Wind and water erosion protection for containment facility embankments shall be included in the facility design. The design shall include an identification of potential sources of erosion. The design shall indicate how those potentials have been considered in the selection of embankment location, materials, slope, vegetation cover or other erosion resistant coverings.

9. Erosion controls and design for construction, operation and long-term care phases of the confined disposal facility shall be in accordance with Wisconsin department of transportation, division of highways specifications for road and bridge construction.

10. The responsibility for erosion control shall pass from the applicant to the property owner once the project has been determined to be stabilized by the department.

(6) Hazardous waste shall be disposed in accordance with the requirements of ch. NR 181, Wis. Adm. Code.

(7) Solid waste disposal sites shall be maintained in a nuisance free and aesthetic manner.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.14 Notice and hearing requirements.** (1) Except as provided in sub. (2) or (3), a hearing may be requested under s. 227.064, Stats., relative to the department's granting or denial of a permit under this chapter under s. 30.20, Stats., or any plan approval issued under this chapter.

(2) Notice and hearing procedures for any solid waste or hazardous waste approval required under this chapter shall be in accordance with s. 144.44, Stats.

(3) Notice and hearing procedures for any WPDES permit processed under this chapter shall be in accordance with ch. NR 3, Wis. Adm. Code.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.15 Monitoring, reporting and enforcement.** (1) **SURVEILLANCE.** (a) The applicant shall contact the department 7 days prior to the commencement of dredging to provide an opportunity for the department to review all required environmental safeguards to assure they are in place and operable prior to the initiation of dredging.

(b) The department may inspect the dredging project during operation to determine whether requirements of permits and approvals are being met.

(2) **MONITORING.** (a) For those projects authorized in part by either an individual or a general WPDES permit, monitoring, analyses and reporting shall be performed as specified in the appropriate WPDES permit.

(b) Project characteristics to be monitored may include but are not limited to carriage water return flow, total suspended solids and dissolved oxygen concentrations, effluent and receiving water temperatures, receiving stream flow rates, effluent ammonia-nitrogen concentration, and pH.

(c) The department is authorized to enter onto the premises to conduct effluent sampling at any time.

(3) **SUSPENSION OF WORK.** At any time the department determines that project performance is not in compliance with approval conditions it shall order the applicant to suspend work. Any order issued under this subsection does not limit other enforcement actions or penalties. Thereafter, the department and applicant shall analyze operational deficiencies and the department shall prescribe changes necessary to bring project operation into conformance with permit or contract conditions.

(4) **PENALTIES.** (a) Each violation of the conditions of a permit or contract issued under s. 30.20, Stats., or this chapter, may result in a forfeiture of up to \$1000. The permit or contract may be rescinded and appropriate restoration orders may be issued as authorized by ss. 23.79, 30.20 (1) (c) and 30.03, Stats.

(b) The enforcement provisions of s. 147.21, Stats., shall apply to any violations of either general or individual WPDES permits associated with dredging projects authorized in part by this chapter.

(c) The enforcement provisions of ss. 144.47 and 144.99, Stats., and ch. NR 180, Wis. Adm. Code, shall apply to dredging material disposal activities authorized in part by this chapter.

(d) The enforcement provisions of ss. 144.73 and 144.74, Stats., shall apply to any hazardous waste activities associated with dredging projects authorized in part by this chapter.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

**NR 347.16 Severability.** Should any section, paragraph, phrase, sentence or clause of this chapter be declared invalid or unconstitutional for any reason, the remainder of this chapter shall not be affected thereby.

**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.

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**History:** Cr. Register, August, 1981, No. 308, eff. 9-1-81.