



Chapter 27

Shoreland Zoning Code

2016

Chapter 26

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SHORELAND ZONING CODE

1.0 STATUTORY AUTHORIZATION, FINDING OF FACT, STATEMENT OF PURPOSE AND TITLE.

1.1 **STATUTORY AUTHORIZATION.** This ordinance is adopted pursuant to the authorization in s. 59.692, Stats, to implement 59.692 and 281.31, Stats.

1.2 **FINDING OF FACT.** Uncontrolled use of the shorelands and pollution of the navigable waters of Winnebago County will adversely affect the public health, safety, convenience, and general welfare and impair the tax base. The legislature of Wisconsin has delegated responsibility to the counties to further the maintenance of safe and healthful conditions; prevent and control water pollution; protect spawning grounds, fish and aquatic life; control building sites, placement of structures and land uses; and to preserve shore cover and natural beauty. This responsibility is hereby recognized by Winnebago County, Wisconsin.

1.3 **PURPOSE AND INTENT.** (NR 115.01) For the purpose of promoting the public health, safety, convenience and welfare, and promote and protect the public trust in navigable waters this ordinance has been established to:

(1) FURTHER THE MAINTENANCE OF SAFE AND HEALTHFUL CONDITIONS AND PREVENT AND CONTROL WATER POLLUTION THROUGH:

- (a) Limiting structures to those areas where soil and geological conditions will provide a safe foundation.
- (b) Establishing minimum lot sizes to provide adequate area for private on-site waste treatment systems.
- (c) Controlling filling and grading to prevent soil erosion problems.
- (d) Limiting impervious surfaces to control runoff which carries pollutants.

(2) PROTECT SPAWNING GROUNDS, FISH AND AQUATIC LIFE THROUGH:

- (a) Preserving wetlands and other fish and aquatic habitat.
- (b) Regulating pollution sources.
- (c) Controlling shoreline alterations, dredging and lagooning.

(3) CONTROL BUILDING SITES, PLACEMENT OF STRUCTURES AND LAND USES THROUGH:

- (a) Prohibiting certain uses detrimental to the shoreland-wetlands.
- (b) Setting minimum lot sizes and widths.
- (c) Setting minimum building setbacks from waterways.
- (d) Setting the maximum height of near shore structures.

(4) PRESERVE AND RESTORE SHORELAND VEGETATION AND NATURAL SCENIC BEAUTY THROUGH:

- (a) Restricting the removal of natural shoreland cover.
- (b) Preventing shoreline encroachment by structures.
- (c) Controlling shoreland excavation and other earth moving activities.
- (d) Regulating the use and placement of boathouses and other structures.

1.4 **TITLE.** Shoreland Zoning Code for Winnebago County, Wisconsin.

2.0 GENERAL PROVISIONS.

2.1 **AREAS TO BE REGULATED.** Areas regulated by this ordinance shall include all the lands (referred to herein as shorelands) in the unincorporated areas of Winnebago County which are:

- (1) Within one thousand (1,000) feet of the ordinary high-water mark of navigable lakes, ponds or flowages. (NR 115.03(8)) Lakes, ponds or flowages in Winnebago County shall be presumed to be navigable if they are listed in the Wisconsin Department of Natural Resources publication FH-800 2009 "Wisconsin Lakes" book available electronically at the following web site: <http://dnr.wi.gov/lakes/lakebook/wilakes2009bma.pdf> or are shown on United States Geological Survey quadrangle maps (1:24,000 scale), or other zoning base maps.

(2) Within three hundred (300) feet of the ordinary high-water mark of navigable rivers or streams, or to the landward side of the floodplain, whichever distance is greater. (NR 115.03(8)) Rivers and streams in Winnebago County shall be presumed to be navigable if they are designated as perennial waterways or intermittent waterways on United States Geological Survey quadrangle maps (1:24,000). Flood hazard boundary maps, flood insurance rate maps, flood boundary-floodway maps, county soil survey maps or other existing county floodplain zoning maps shall be used to delineate floodplain areas

(3) The provisions of this chapter apply to regulation of the use and development of unincorporated shoreland areas. Unless specifically exempted by law, all cities, villages, towns, counties and, when s. 13.48 (13), Stats, applies, state agencies are required to comply with, and obtain all necessary permits under, local shoreland ordinances. The construction, reconstruction, maintenance or repair of state highways and bridges carried out under the direction and supervision of the Wisconsin Department of Transportation is not subject to local shoreland zoning ordinances if s. 30.2022 (1), Stats, applies. (NR 115.02) Shoreland zoning requirements in annexed or incorporated areas are provided in s. 61.353 and s. 62.233, Stats.

(4) Determinations of navigability and ordinary high-water mark location shall initially be made by the zoning administrator. When questions arise, the zoning administrator shall contact the appropriate office of the Department for a final determination of navigability or ordinary high-water mark. The county may work with surveyors with regard to s. 59.692(1h).

(5) Under s. 281.31(2m), Stats, notwithstanding any other provision of law or administrative rule promulgated thereunder, this shoreland zoning ordinance does not apply to:

(a) Lands adjacent to farm drainage ditches if:

1. Such lands are not adjacent to a natural navigable stream or river;
2. Those parts of such drainage ditches adjacent to such lands were not navigable streams before ditching; and

(b) Lands adjacent to artificially constructed drainage ditches, ponds or stormwater retention basins that are not hydrologically connected to a natural navigable water body.

2.2 SHORELAND-WETLAND MAPS. The most recent version of the Wisconsin Wetland Inventory as depicted on the Department of Natural Resources Surface Water Data Viewer is made part of this ordinance. The maps can be viewed at <http://dnrmaps.wi.gov/SL/Viewer.html?Viewer=SWDV&runWorkflow=Wetland>.

2.3 COMPLIANCE. The use of any land; the size, shape and placement of lots; the use, size, type and location of structures on lots; the installation and maintenance of water supply and waste disposal facilities; the filling, grading, lagooning, and dredging of any lands; the cutting of shoreland vegetation; and the subdivision of lots shall be in full compliance with the terms of this ordinance and other applicable local, state or federal regulations. Property owners, builders and contractors are responsible for compliance with the terms of this ordinance.

(1) Zoning permit required. A zoning permit shall be required, when applicable, for those uses specified in sections 3.0 and 11.0 of this code.

(2) Erosion control permit required. An erosion control permit shall be required, when applicable, under section 8.0 of this code.

(3) Impervious surface zoning permit required. An impervious surface zoning permit shall be required under the following instances:

- (a) The addition of any impervious surface within 300 ft. of a navigable body of water, except those structures specifically exempted in section 9.8.
- (b) The relocation or modification of an existing impervious surface with a similar or different impervious surface.

A zoning permit under the Shoreland Zoning Code may not be required in several instances of development; however, that development may require permits or approvals under a different code adopted pursuant to other

statutory requirements, such as floodplain zoning, general zoning, sanitary codes, building codes, or even stormwater erosion control.

2.4 MUNICIPALITIES AND STATE AGENCIES REGULATED. Unless specifically exempted by law, all cities, villages, towns, and counties are required to comply with this ordinance and obtain all necessary permits. State agencies are required to comply when s. 13.48(13), Stats, applies. The construction, reconstruction, maintenance and repair of state highways and bridges by the Wisconsin Department of Transportation are exempt when s. 30.2022(1), Stats, applies.

2.5 ABROGATION AND GREATER RESTRICTIONS. (s. 59.692(5), Stats) The provisions of this ordinance supersede any provisions in a county zoning ordinance that solely relate to shorelands. In other words if a zoning standard only applies to lands that lie within the shoreland and applies because the lands are in shoreland, then this ordinance supersedes those provisions. However, where an ordinance adopted under a statute other than s. 59.692, Stats, does not solely relate to shorelands and is more restrictive than this ordinance, for example a floodplain ordinance, that ordinance shall continue in full force and effect to the extent of the greater restrictions.

(1) (s. 59.692(2)(a), Stats) This ordinance shall not require approval or be subject to disapproval by any town or town board.

(2) (s. 59.692(2)(b), Stats.) If an existing town ordinance relating to shorelands is more restrictive than this ordinance or any amendments thereto, the town ordinance continues in all respects to the extent of the greater restrictions but not otherwise.

(3) This ordinance is not intended to repeal, abrogate or impair any existing deed restrictions, covenants or easements. However, where this ordinance imposes greater restrictions, the provisions of this ordinance shall prevail.

(4) The following provisions of the Winnebago County Town/County Zoning Code are hereby incorporated by reference. These provisions shall only apply to the shoreland area where they impose greater restrictions than this ordinance otherwise imposes.

(5) (s. 59.692(1d)(b), Stats) This ordinance may establish standards to regulate matters that are not regulated in NR 115, but that further the purposes of shoreland zoning as described in section 1.3 of this ordinance,

(6) (s. 59.692(1k)(a)1, Stats) Counties may not establish shoreland zoning standards in a shoreland zoning ordinance that requires any of the following:

(a) Approval to install or maintain outdoor lighting in shorelands, impose any fee or mitigation requirement to install or maintain outdoor lighting in shorelands, or otherwise prohibits or regulates outdoor lighting in shorelands if the lighting is designed or intended for residential use.

(b) Requires any inspection or upgrade of a structure before the sale or other transfer of the structure may be made.

(7) (s.59.692(7), Stats) The construction and maintenance of a facility is considered to satisfy the requirements of a shoreland zoning ordinance if:

(a) The department has issued all required permits or approvals authorizing the construction or maintenance under ch. 30, 31, 281, or 283.

A "facility" means any property or equipment of a public utility, as defined in s. 196.01 (5), or a cooperative association organized under ch. 185 for the purpose of producing or furnishing heat, light, or power to its members only, that is used for the transmission, delivery, or furnishing of natural gas, heat, light, or power.

2.6 INTERPRETATION. (59.69(13), Stats) In their interpretation and application, the provisions of this ordinance shall be liberally construed in favor of the county and shall not be deemed a limitation or repeal of any other powers granted by Wisconsin Statutes. Where a provision of this ordinance is required by statute and a standard in ch. NR 115, Wis. Adm. Code, and where the ordinance provision is unclear, the provision

shall be interpreted in light of the statute and ch. NR 115 standards in effect on the date of the adoption of this ordinance or in effect on the date of the most recent text amendment to this ordinance.

2.7 ADDITIONAL LOCAL REGULATIONS.

(1) In addition to meeting the regulations contained in this chapter, development shall comply with all applicable regulations in the general code for Winnebago County, including the following chapters:

- (a) Chapter 18 Subdivision and Platting
- (b) Chapter 20 Non-Metallic Mining Reclamation
- (c) Chapter 23 Town/County Zoning Code
- (d) Chapter 24 Wittman Regional Airport Zoning Code
- (e) Chapter 26 Floodplain Zoning Code
- (f) Chapter 28 Stormwater Management and Construction Site Erosion Control

In all cases, the strictest of the applicable provisions shall apply.

(2) Land located in the vicinity of the Outagamie County Regional Airport may also be subject to additional land use regulations as may be adopted by Outagamie County under s. 114.136, Wis. Stats.

2.8 SEVERABILITY. If any portion of this ordinance is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this ordinance shall not be affected.

3.0 SHORELAND-WETLAND DISTRICT. (NR 115.04)

3.1 DESIGNATION. The Final Wisconsin Wetlands Inventory Maps for Winnebago County, dated July 5, 1986 and subsequently amended, were utilized to assist in the preparation and identification of wetlands identified on the aerial photographs and accordingly are made a part of this Ordinance and are adopted by reference. The review and adoption of amendments to the Wisconsin Wetland Inventory Map shall be completed in accordance with Section NR 115.04(2) Wis. Admin. Code. The most recent Wisconsin Wetland Inventory Maps are also depicted on the Department of Natural Resources Surface Water Data Viewer (<http://dnr-maps.wi.gov/SL/Viewer.html?Viewer=SWDV&runWorkflow=Wetland>). All the notations, references and other information shown thereon shall be as much a part of this Ordinance as if the matters and information set forth by said maps were all fully described herein. Said maps shall be kept on file in the offices of the County Zoning Department and are periodically updated as amendments are made, and are for general informational purposes only. All other wetlands subsequently identified, or removed, by the Zoning Administrator, County Zoning Department, ACOE or the WDNR within the shoreland boundaries but not noted on the Wisconsin Wetland Inventory Maps, are subject to regulations contained in the Shoreland-Wetland District. Said newly determined areas shall be noted on the Shoreland Ordinance Zoning Maps as appropriately designated within six (6) months of said determination.

(1) LOCATING SHORELAND-WETLAND BOUNDARIES. (NR 115.04(b)2.note) Where an apparent discrepancy exists between the shoreland-wetland district boundary shown on the Wisconsin Wetland Inventory and actual field conditions, the county shall contact the Department to determine if the map is in error. If the Department determines that a particular area was incorrectly mapped as wetland or meets the wetland definition but was not shown as wetland on the map, the county shall have the authority to immediately grant or deny a shoreland zoning permit in accordance with the applicable regulations based on the Department determination as to whether the area is wetland. In order to correct wetland mapping errors on the official zoning map, an official zoning map amendment must be initiated within a reasonable period of time.

3.2 PURPOSE. This district is created to maintain safe and healthful conditions, to prevent water pollution, to protect fish spawning grounds and wildlife habitat, to preserve shore cover and natural beauty and to control building and development in wetlands whenever possible. When development is permitted in a wetland, the development should occur in a manner that minimizes adverse impacts upon the wetland.

3.3 PERMITTED USES. (NR 115.04(3)) The following uses shall be allowed, subject to general shoreland zoning regulations contained in this ordinance, the provisions of chs. 30, 31, and 281.36, Stats, and the provisions of other applicable local, state and federal laws:

(1) Activities and uses which do not require the issuance of a zoning permit, but which must be carried out without any filling, flooding, draining, dredging, ditching, tiling or excavating:

- (a) Hiking, fishing, trapping, hunting, swimming, and boating;
- (b) The harvesting of wild crops, such as marsh hay, ferns, moss, wild rice, berries, tree fruits, and tree seeds, in a manner that is not injurious to the natural reproduction of such crops;
- (c) The pasturing of livestock;
- (d) The cultivation of agricultural crops;
- (e) The practice of silviculture, including the planting, thinning, and harvesting of timber; and
- (f) The construction or maintenance of duck blinds.

(2) Uses which do not require the issuance of a zoning permit and which may include limited filling, flooding, draining, dredging, ditching, tiling, or excavating but only to the extent specifically provided below:

- (a) Temporary water level stabilization measures necessary to alleviate abnormally wet or dry conditions that would have an adverse impact on silvicultural activities if not corrected;
- (b) The cultivation of cranberries including flooding, dike and dam construction or ditching necessary for the growing and harvesting of cranberries,
- (c) The maintenance and repair of existing agricultural drainage systems including ditching, tiling, dredging, excavating and filling necessary to maintain the level of drainage required to continue the existing agricultural use. This includes the minimum filling necessary for disposal of dredged spoil adjacent to the drainage system provided that dredged spoil is placed on existing spoil banks where possible;
- (d) The construction or maintenance of fences for the pasturing of livestock, including limited excavating and filling necessary for such construction or maintenance;
- (e) The construction or maintenance of piers, docks or walkways built on pilings, including limited excavating and filling necessary for such construction and maintenance; and
- (f) The maintenance, repair, replacement or reconstruction of existing town and county highways and bridges, including limited excavating and filling necessary for such maintenance, repair, replacement or reconstruction.

(3) Uses which require the issuance of a zoning permit and which may include limited filling, flooding, draining, dredging, ditching, tiling or excavating, but only to the extent specifically provided below:

- (a) The construction and maintenance of roads which are necessary to conduct silvicultural activities or agricultural cultivation, provided that:
 1. The road cannot as a practical matter be located outside the wetland;
 2. The road is designed and constructed to minimize adverse impact upon the natural functions of the wetland enumerated in section 3.5(2);
 3. The road is designed and constructed with the minimum cross-sectional area practical to serve the intended use; and
 4. Road construction activities are carried out in the immediate area of the roadbed only.
- (b) The construction or maintenance of nonresidential buildings, provided that:
 1. The building is essential for and used solely in conjunction with the raising of waterfowl, minnows or other wetland or aquatic animals; or some other use permitted in the shoreland-wetland district;
 2. The building cannot, as a practical matter, be located outside the wetland;

3. Such building is not designed for human habitation and does not exceed 500 sq. ft. in floor area; and
 4. Only limited filling or excavating necessary to provide structural support for the building is authorized.
- (c) The establishment of public and private parks and recreation areas, natural and outdoor education areas, historic and scientific areas, wildlife refuges, game bird and animal farms, fur animal farms, fish hatcheries, and public boat launching ramps and attendant access roads, provided that:
1. Any private development is used exclusively for the permitted use and the applicant has received a permit or license under ch. 29, Stats, where applicable;
 2. Filling or excavating necessary for the construction or maintenance of public boat launching ramps or attendant access roads is allowed only where such construction or maintenance meets the criteria in section 3.3(3)(a); and
 3. Ditching, excavating, dredging, or dike and dam construction in public and private parks and recreation areas, natural and outdoor education areas, historic and scientific areas, wildlife refuges, game bird and animal farms, fur animal farms, and fish hatcheries is allowed only for the purpose of improving wildlife habitat and to otherwise enhance wetland values.
- (d) The construction or maintenance of electric, gas, telephone, water and sewer transmission and distribution facilities, by public utilities and cooperative associations organized for the purpose of producing or furnishing heat, light, power or water to their members and the construction or maintenance of railroad lines provided that:
1. The transmission and distribution facilities and railroad lines cannot, as a practical matter, be located outside the wetland;
 2. Such construction or maintenance is done in a manner designed to minimize adverse impact upon the natural functions of the wetland enumerated in section 3.5(2).

3.4 PROHIBITED USES. (NR 115.04(4)) Any use not listed in sections 3.3(1), 3.3(2) or 3.3(3) is prohibited, unless the wetland or portion of the wetland has been rezoned by amendment of this ordinance in accordance with section 3.5 of this ordinance and s. 59.69(5)(e), Stats.

3.5 REZONING OF LANDS IN THE SHORELAND-WETLAND DISTRICT. (NR 115.04(2))

- (1) For all proposed text and map amendments to the shoreland-wetland provisions of this ordinance, the appropriate office with the Department shall be provided with the following:
- (a) A copy of every petition for a text or map amendment to the shoreland-wetland provisions of this ordinance, within 5 days of the filing of such petition with the county clerk. Such petition shall include a copy of the Wisconsin Wetland Inventory map adopted as part of this ordinance describing any proposed rezoning of a shoreland-wetland;
 - (b) Written notice of the public hearing to be held on a proposed amendment at least 10 days prior to such hearing;
 - (c) A copy of the county zoning agency's findings and recommendations on each proposed amendment within 10 days after the submission of those findings and recommendations to the county board; and
 - (d) Written notice of the county board's decision on the proposed amendment within 10 days after it is issued.
- (2) A wetland, or a portion thereof, in the shoreland-wetland district shall not be rezoned if the proposed rezoning may result in a significant adverse impact upon any of the following:
- (a) Storm and flood water storage capacity;

- (b) Maintenance of dry season stream flow, the discharge of groundwater to a wetland, the recharge of groundwater from a wetland to another area, or the flow of groundwater through a wetland;
- (c) Filtering or storage of sediments, nutrients, heavy metals or organic compounds that would otherwise drain into navigable waters;
- (d) Shoreline protection against soil erosion;
- (e) Fish spawning, breeding, nursery or feeding grounds;
- (f) Wildlife habitat; or
- (g) Wetlands both within the boundary of designated areas of special natural resource interest and those wetlands which are in proximity to or have a direct hydrologic connection to such designated areas as defined in NR 103.04, Wis. Adm. Code, which can be accessed at the following web site: <http://www.legis.state.wi.us/rsb/code/nr/nr103.pdf>.

(3) If the Department notifies the county zoning agency that a proposed text or map amendment to the shoreland-wetland provisions of this ordinance may have a significant adverse impact upon any of the criteria listed in section 3.5(2) of this ordinance, that amendment, if approved by the county board, shall contain the following provision:

"This amendment shall not take effect until more than 30 days have elapsed after written notice of the county board's approval of this amendment is mailed to the Department of Natural Resources. During that 30-day period the Department of Natural Resources may notify the county board that it will adopt a superseding shoreland ordinance for the county under s. 59.692(6), Stats. If the Department does so notify the county board, the effect of this amendment shall be stayed until the s. 59.692(6), Stats, adoption procedure is completed or otherwise terminated."

4.0 LAND DIVISION REVIEW AND SANITARY REGULATIONS. (NR 115.05(2))

4.1 LAND DIVISION REVIEW. (NR 115.05(2)) The county shall review, pursuant to s. 236.45, Stats, all land divisions in shoreland areas which create 3 or more parcels or building sites of 5 acres each or less within a 5-year period. In such review all of the following factors shall be considered:

- (1) Hazards to the health, safety or welfare of future residents.
- (2) Proper relationship to adjoining areas.
- (3) Public access to navigable waters, as required by law.
- (4) Adequate stormwater drainage facilities.
- (5) Conformity to state law and administrative code provisions.

4.2 PLANNED UNIT DEVELOPMENT (PUD). (NR 115.05(1)(a)4)¹

(1) **PURPOSE.** The Planned Unit Development is intended to permit smaller non-riparian lots where the physical layout of the lots is so arranged as to better assure the control of pollution and preservation of ground cover than would be expected if the lots were developed with the normal lot sizes and setbacks and without special conditions placed upon the Planned Unit Development at the time of its approval. A condition of all Planned Residential Unit Development is the preservation of certain open space, preferably on the shoreland, in perpetuity.

¹ Planned unit development standards, as written, grant back lot access (key holing) without applying frontage requirement standards to determine overall density. This comports to NR115.05(1)(a)4. Counties may optionally include requirements to limit overall density based upon minimum frontage standards as well. These types of developments may also be known as conservation subdivisions or planned residential development. The provisions of NR 115.05(1)(a)4 apply to these types of developments where there may be a combination of a density bonus, smaller lot size and preservation of open space.

(2) **REQUIREMENTS FOR PLANNED UNIT DEVELOPMENT.** The county Planning and Zoning Committee may at its discretion, upon its own motion or upon petition, approve a Planned Unit Development Overlay District upon finding, after a public hearing, that all of the following facts exist:

- (a) **Area.** The area proposed for the Planned Unit Development shall be at least 2 acres in size or have a minimum of 200 feet of frontage on a navigable water.
- (b) **Lots.** Any proposed lot in the Planned Unit Development that does not meet the minimum size standards of sections 5.2 and 5.3 shall be a non-riparian lot.
- (c) **Lot sizes, widths, setbacks, and vegetation removal.** When considering approval of a Planned Unit Development the governing body shall consider whether proposed lot sizes, widths, and setbacks are of adequate size and distance to prevent pollution or erosion along streets or other public ways and waterways. Increased shoreland setbacks shall be a condition of approval as a way of minimizing adverse impacts of development. Shore cover provisions in section 7.2 shall apply except that maximum width of a lake frontage opening shall be 100 feet and minimum vegetative buffer depth shall be increased to offset the impact of the proposed development.

4.3 SANITARY REGULATIONS. (NR 115.05(3)) The county shall adopt sanitary regulations for the protection of health and the preservation and enhancement of water quality.

- (1) Where public water supply systems are not available, private well construction shall be required to conform to ch. NR 812, Wis. Adm. Code.
- (2) Where a public sewage collection and treatment system is not available, design and construction of private on-site waste treatment system shall, prior to July 1, 1980, be required to comply with ch. SPS Comm 383, Wis. Adm. Code, and after June 30, 1980 be governed by a private sewage system ordinance adopted by the county under s. 59.70(5), Stats.

5.0 MINIMUM LOT SIZE. (NR 115.05(1))

5.1 PURPOSE. (NR115.05(1)(a)) Minimum lot sizes in the shoreland area shall be established to afford protection against danger to health, safety and welfare, and protection against pollution of the adjacent body of water.

5.2 SEWERED LOTS. (NR 115.05(1)(a)1) **MINIMUM AREA AND WIDTH FOR EACH LOT.** The minimum lot area shall be 10,000 sq. ft. and the minimum average lot width shall be 65 feet.

5.3 UNSEWERED LOTS. (NR 115.05(1)(a)2) **MINIMUM AREA AND WIDTH FOR EACH LOT.** The minimum lot area shall be 20,000 sq. ft. and the minimum average lot width shall be 100 feet.

5.4 SUBSTANDARD LOTS. (NR 115.05(1)(a)3)² A legally created lot or parcel that met minimum area and minimum average width requirements when created, but does not meet current lot size requirements, may be used as a building site if all of the following apply:

- (1) The substandard lot or parcel was never reconfigured or combined with another lot or parcel by plat, survey, or consolidation by the owner into one property tax parcel.
- (2) The substandard lot or parcel has never been developed with one or more of its structures placed partly upon an adjacent lot or parcel. (Lots that have had development over the lot lines should be combined with a legal description and recorded with a new deed prior to new development occurring.)

² Substandard lots that have been reconfigured by a certified survey map or consolidated into one legal description with the Register of Deeds, which result in a larger (closer to conforming) lot should be allowed to be utilized as a building site. Lots that have a legal description for each substandard lot on record with the Register of Deeds but have one tax parcel number assigned by the Real Property Lister or Assessor for taxing/assessing purposes should be considered separate building sites and should not be considered consolidated.

- (3) The substandard lot or parcel is developed to comply with all other ordinance requirements.

5.5 **OTHER SUBSTANDARD LOTS.** Except for lots which meet the requirements of section 5.4 a zoning permit for the improvement of a lot having lesser dimensions than those stated in sections 5.2 and 5.3 shall be issued only if a variance is granted by the board of adjustment.

6.0 BUILDING SETBACKS. (NR 115.05(1)(b)) Permitted building setbacks shall be established to conform to health, safety and welfare requirements, preserve natural beauty, reduce flood hazards and avoid water pollution.

6.1 **SHORELAND SETBACKS.** (NR115.05(1)(b)1) Unless exempt under section 6.1(1), or reduced under section 6.2, a setback of 75 feet from the ordinary high-water mark of any navigable water to the nearest part of a building or structure shall be required for all buildings and structures.

(1) **EXEMPT STRUCTURES.** (NR 115.05(1)(b)1m) and s. 59.692(1k)(a)(6). All of the following structures are exempt from the shoreland setback standards in section 6.1:

- (a) Boathouses that meet the special standards for boathouses within the Town/County Zoning Code, are located entirely above the ordinary high water mark and entirely within the access and viewing corridor, that do not contain plumbing, and are not used for human habitation. The roof of a boathouse may be used as a deck provided that:
 - 1. The boathouse has a flat roof.
 - 2. The roof has no side walls or screens.
 - 3. The roof may have a railing that meets the Department of Safety and Professional Services standards.
- (b) Open-sided and screened structures such as gazebos, decks, patios and screen houses in the shoreland setback area that satisfy the requirements in s. 59.692(1v), Stats:
 - 1. The part of the structure that is nearest to the water is located at least 35 feet landward from the ordinary-high water mark.
 - 2. The floor area of all the structures in the shoreland setback area will not exceed 200 square feet.
 - 3. The structure that is the subject of the request for special zoning permission has no sides or has open or screened sides.
 - 4. The county must approve a plan that will be implemented by the owner of the property to preserve or establish a vegetative buffer zone that covers at least 70% of the half of the shoreland setback area that is nearest to the water. The design of the vegetative buffer zone shall follow the standards for the establishment of a primary buffer, as described in section 13 of this ordinance.³
- (c) Fishing rafts that are authorized on the Wolf River and Mississippi River under s. 30.126, Stats.
- (d) Broadcast signal receivers, including satellite dishes or antennas that are one meter or less in diameter and satellite earth station antennas that are 2 meters or less in diameter.
- (e) Utility transmission and distribution lines, poles, towers, water towers, pumping stations, well pumphouse covers, private on-site wastewater treatment systems that comply with ch. SPS Comm 383, Wis. Adm. Code, retaining walls used solely for the purpose of retaining soil required for floodplain compliance, retaining walls when used solely for the purpose of controlling erosion on shorelines with greater than 20% slope, and other utility structures that have no feasible alternative location outside of the minimum setback and that employ best management practices to infiltrate or otherwise control storm water runoff from the structure.
- (f) Walkways, stairways or rail systems that are necessary to provide pedestrian access to the shoreline, that provide the minimum relief necessary by being constructed in a straight line between the principal structure and the shoreline, and are a maximum of 60-inches in width.

³ The statutory requirements under s. 59.692(1v) which require the establishment of a vegetative buffer for the construction of open sided structures is not superseded by s. 59.692(1f)(a).

- (g) Devices or systems used to treat runoff from impervious surfaces.

(2) **EXISTING EXEMPT STRUCTURES.** (s.59.692(1k)(a)2m, Stats)⁴ Existing exempt structures may be maintained, repaired, replaced, restored, rebuilt and remodeled provided the activity does not expand the footprint and does not go beyond the three-dimensional building envelope of the existing structure. Counties may allow expansion of a structure beyond the existing footprint if the expansion is necessary to comply with applicable state or federal requirements.

6.2 REDUCED PRINCIPAL STRUCTURE SETBACK. (s.59.692(1n), Stats) A setback less than the 75 feet required setback from the ordinary high water mark shall be permitted for a proposed principal structure and shall be determined as follows:

- (1) Where there are existing principal structures in both directions, the setback shall equal the average of the distances the two existing principal structures are set back from the ordinary high water mark provided all of the following are met:
- (a) Both of the existing principal structures are located on adjacent lot to the proposed principal structure.
 - (b) Both of the existing principal structures are located within 250 feet of the proposed principal structure and are the closest principal structure.
 - (c) Both of the existing principal structures are located less than 75 feet from the ordinary high water mark.
 - (d) The average setback shall not be reduced to less than 35 feet from the ordinary high water mark of any navigable water.⁵
- (2) Where this is an existing principal structure in only one direction, the setback shall equal the distance the existing principal structure is set back from the ordinary high water mark and the required setback of 75 feet from the ordinary high water mark provided all of the following are met:
- (a) The existing principal structure is located on adjacent lot to the proposed principal structure.
 - (b) The existing principal structure is located within 250 feet of the proposed principal structure and is the closest principal structure.
 - (c) The existing principal structure is located less than 75 feet from the ordinary high water mark.
 - (d) The average setback shall not be reduced to less than 35 feet from the ordinary high water mark of any navigable water.

6.3 RESERVED

6.4 FLOODPLAIN STRUCTURES. (NR 115.05(1)(b)2) Buildings and structures to be constructed or placed in a floodplain shall be required to comply with any applicable floodplain zoning ordinance.

7.0 VEGETATION. (NR 115.05(1)(c))

7.1 PURPOSE. (NR 115.05(1)(c)1) To protect natural scenic beauty, fish and wildlife habitat, and water quality, a county shall regulate removal of vegetation in shoreland areas, consistent with the following: The county shall establish ordinance standards that consider sound forestry and soil conservation practices, as well as the effect of vegetation removal on water quality, including soil erosion, and the flow of effluents, sediments and nutrients.

⁴ Section 59.692(1k)(a)2m, Stats, prohibits counties from requiring any approval or imposing any fee or mitigation requirement for the activities specified in section 6.1(2). However, it is important to note that property owners may be required to obtain permits or approvals and counties may impose fees under ordinances adopted pursuant to other statutory requirements, such as floodplain zoning, general zoning, sanitary codes, building codes, or even stormwater erosion control.

⁵ s. 59.692(1d)(a), Stats, requires counties to adopt the standards consistent with section 6.2(1) for reducing the shoreland setback.

7.2 ACTIVITIES ALLOWED WITHIN A VEGETATIVE BUFFER ZONE. (NR 115.05(1)(c)2)⁶ To protect water quality, fish and wildlife habitat and natural scenic beauty, and to promote preservation and restoration of native vegetation, the county ordinance shall designate land that extends from the ordinary high water mark to a minimum of 35 feet inland as a vegetative buffer zone and prohibit removal of vegetation in the vegetative buffer zone except as follows:

- (1) The county may allow routine maintenance of vegetation.
- (2) The county may allow removal of trees and shrubs in the vegetative buffer zone to create access and viewing corridors. Per s. 59.692(1f)(b), Stats, the viewing corridor may be at least 35 feet wide for every 100 feet of shoreline frontage. The viewing corridor may run contiguously for the entire maximum width of shoreline frontage owned.
- (3) The county may allow removal of trees and shrubs in the vegetative buffer zone on a parcel with 10 or more acres of forested land consistent with “generally accepted forestry management practices” as defined in s. NR 1.25 (2) (b), Wis. Adm. Code, and described in Department publication “Wisconsin Forest Management Guidelines” (publication FR-226), provided that vegetation removal be consistent with these practices.
- (4) The county may allow removal of vegetation within the vegetative buffer zone to manage exotic or invasive species, damaged vegetation, vegetation that must be removed to control disease, or vegetation creating an imminent safety hazard, provided that any vegetation removed be replaced by replanting in the same area as soon as practicable.
- (5) The county may authorize by permit additional vegetation management activities in the vegetative buffer zone. The permit issued under this subd. par. shall require that all management activities comply with detailed plans approved by the county and designed to control erosion by limiting sedimentation into the waterbody, to improve the plant community by replanting in the same area, and to maintain and monitor the newly restored area. The permit also shall require an enforceable restriction to preserve the newly restored area.

8.0 FILLING, GRADING, LAGOONING, DREDGING, DITCHING AND EXCAVATING. (NR115.05(1)(d))

8.1 GENERAL STANDARDS. Filling, grading, lagooning, dredging, ditching or excavating which does not require a permit under section 8.2 may be permitted in the shoreland area provided that:

- (1) It is not done within the vegetative buffer zone unless necessary for establishing or expanding the vegetative buffer.
- (2) It is done in a manner designed to minimize erosion, sedimentation and impairment of fish and wildlife habitat.
- (3) Filling, grading, lagooning, dredging, ditching or excavating in a shoreland-wetland district meets the requirements of sections 3.3 and 3.4 of this ordinance.
- (4) All applicable federal, state and local authority is obtained in addition to a permit under this ordinance.
- (5) Any fill placed in the shoreland area is protected against erosion by the use of riprap, vegetative cover or a bulkhead.

8.2 PERMIT REQUIRED. An erosion control permit is required for any shoreland filling, grading, lagooning, dredging, ditching, and excavating within the shoreland district which meets or exceeds any of the following limits:

⁶ Section 59.692(1f)(a), Stats, prohibits counties from requiring a property owner to establish a vegetative buffer zone on previously developed land or expand an existing vegetative buffer zone. However, as part of a counties shoreland mitigation standards, the establishment or expansion of the vegetative buffer may remain an option.

- (1) Shoreland lots 43,000 sq. ft. or less in size:
 - (a) Land disturbance of 2,000 sq. ft. or more.
- (2) Shoreland lots greater than 43,000 sq. ft. in size:
 - (a) Land disturbance of 4,000 sq. ft. or more.
 - (b) Excavation or filling of 400 cubic yards or more.
 - (c) Installation or construction of a driveway over 125 ft. in length.

8.3 PERMIT CONDITIONS. In granting a permit under section 8.2, the County shall attach the following conditions, where appropriate:

- (1) The smallest amount of bare ground shall be exposed for as short a time as feasible.
- (2) Temporary ground cover (such as mulch or jute netting) shall be used and permanent vegetative cover shall be established.
- (3) Diversion berms or bales, silting basins, terraces, filter fabric fencing, and other methods shall be used to prevent erosion.
- (4) Lagoons shall be constructed to avoid fish trap conditions.
- (5) Fill shall be stabilized according to accepted engineering standards.
- (6) Filling shall comply with any local floodplain zoning ordinance and shall not restrict a floodway or destroy the flood storage capacity of a floodplain.
- (7) Channels or artificial watercourses shall be constructed with side slopes of two (2) units horizontal distance to one (1) unit vertical or flatter which shall be promptly vegetated, unless bulkheads or riprap are provided.

9.0 IMPERVIOUS SURFACE STANDARDS. (NR 115.05(1)(e))

9.1 PURPOSE. Establish impervious surface standards to protect water quality and fish and wildlife habitat and to protect against pollution of navigable waters. County impervious surface standards shall apply to the construction, reconstruction, expansion, replacement or relocation of any impervious surface on a riparian lot or parcel and any nonriparian lot or parcel that is located entirely within 300 feet of the ordinary high-water mark of any navigable waterway.

9.2 CALCULATION OF PERCENTAGE OF IMPERVIOUS SURFACE. (NR 115.05(1)(e)1) Percentage of impervious surface shall be calculated by dividing the surface area of the existing and proposed impervious surfaces on the portion of a lot or parcel that is within 300 feet of the ordinary high-water mark by the total surface area of that lot or parcel, and multiplied by 100. Impervious surfaces described in sections 9.6 and 9.8 shall be excluded from the calculation of impervious surface on the lot or parcel.

- (1) If an outlot lies between the ordinary high water mark and the developable lot or parcel and both are in common ownership, the lot or parcel and the outlot shall be considered one lot or parcel for the purposes of calculating the percentage of impervious surface.
- (2) If there is an outlot, parcel or road that is owned by some other entity, for example a hydroelectric facility or a town or county, then it should be determined what level of control the property owner has over that portion of the lot. If a property owner has no or little say over development on that portion of the lot then impervious surfaces on that portion of the lot should be calculated separately.
- (3) For properties that have been "condominiumized", the impervious surface calculations apply to the entire property. The property is still under one legal description and the proposed expansion to a unit

is not the only impervious surface calculated since the regulation states lot or parcel and not a unit. Mitigation applies to the property as a whole and not just to the portion of the frontage that might be in front of the unit impacted.

Determining which lots or what portions of lots are within 300 feet of the ordinary high water mark of a navigable body of water shall be completed by staff utilizing Winnebago County GIS, staff onsite, or survey which references staff delineation of the ordinary high-water mark. Staff shall determine the amount of existing and proposed impervious surface area and percentage of the subject parcel. The square footage of an impervious surface shall be measured from an above viewpoint around the exterior of the surface, including overhangs of any building.

9.3 GENERAL IMPERVIOUS SURFACE STANDARD. (NR 115.05(1)(e)2) Except as otherwise allowed in sections 9.4 through 9.6, the county shall allow up to 15% impervious surface on the portion of a lot or parcel that is within 300 feet of the ordinary high-water mark.

9.4 IMPERVIOUS SURFACE STANDARD FOR HIGHLY DEVELOPED SHORELINES. (NR 115.05(1)(e)2m and s. 59.692(1k)(am)2, Stats) The county at its discretion may adopt an ordinance for highly developed shorelines allowing up to 30% for residential land use and up to 40% for commercial, industrial or business land uses for lands that meets one of the following standards:

- (1) The highly developed shoreline is identified as an Urbanized Area or Urban Cluster in the 2010 US Census or has a commercial, industrial, or business land use as of January 31, 2013.
- (2) After conducting a hearing and receiving approval by the department of natural resources, the county has mapped additional areas of highly developed shorelines that are at least 500 feet in length and meet at least one of the following criteria:
 - (a) The majority of the lots are developed with more than 30% of impervious surface area.
 - (b) Located on a lake served by a sewerage system as defined in NR 110.03(30), Wis. Adm. Code.
 1. These areas are depicted on the official Winnebago County "Active Sanitary Sewer Districts" map.
 - (c) The majority of the lots contain less than 20,000 square feet in area.

9.5 MAXIMUM IMPERVIOUS SURFACE STANDARD. (NR 115.05(1)(e)3) A property may exceed the impervious surface standard under 9.3 or 9.4 provided the following standards are met:

- (1) For properties where the general impervious surface standard applies under section 9.3, a property owner may have more than 15% impervious surface but not more than 30% impervious surface on the portion of a lot or parcel that is within 300 feet of the ordinary high-water mark.
- (2) For properties on shorelands where the impervious surface standard for highly developed shorelines applies under 9.4, a property owner may have more than 30% impervious surface but not more than 40% impervious surface for residential land uses. For commercial, industrial or business land uses a property owner may have more than 40% impervious surface but not more than 60% impervious surface.
- (3) For properties that exceed the standard under 9.3 or 9.4 but do not exceed the maximum standard under 9.5(1) or 9.5(2), a permit can be issued for development with a mitigation plan that meets the standards found in section 13.0.

9.6 TREATED IMPERVIOUS SURFACES. (NR115.05(1)(e)3m and s. 59.692(1k)(a)5, Stats)^{7,8} Impervious surfaces that can be documented to demonstrate they meet either of the following standards by a professional engineer or architect shall be excluded from the impervious surface calculations under section 9.2:

- (1) The impervious surface is treated by devices such as stormwater ponds, constructed wetlands, infiltration basins, rain gardens, bio-swales or other engineered systems.
- (2) The runoff from the impervious surface discharges to an internally drained pervious area that retains the runoff on or off the parcel and allows infiltration into the soil.

To qualify for the statutory exemption, property owners shall submit a complete zoning permit application that includes the following:

- (1) Calculations showing how much runoff is coming from the impervious surface area;
- (2) Documentation that the runoff from the impervious surface is being treated by a proposed treatment system, treatment device, or internally drained area; and
- (3) An implementation schedule and enforceable obligation on the property owner to establish and maintain the treatment system, treatment devices, or internally drained area. The enforceable obligations shall be evidenced by an instrument recorded in the office of the Register of Deeds prior to the issuance of the permit.

9.7 EXISTING IMPERVIOUS SURFACES. (NR 115.05(1)(e)4) For existing impervious surfaces that were lawfully placed when constructed but that do not comply with the impervious surface standard in sections 9.3 or 9.4 or the maximum impervious surface standard in section 9.5, the property owner may do any of the following:

- (1) Maintain and repair the existing impervious surfaces;
 - (2) Replace existing impervious surfaces with similar surfaces within the existing building envelope;
- or
- (3) Relocate or modify an existing impervious surface with similar or different impervious surface, provided that the relocation or modification does not result in an increase in the percentage of impervious surface that existed on the effective date of the county shoreland ordinance, and the impervious surface meets the applicable setback requirements in sections 6.1 or 6.2.

9.8 EXEMPT STRUCTURES FROM IMPERVIOUS SURFACE CALCULATION. Generally, and with the approval of the Zoning Administrator, the surface area of the following and similar structures shall not be included when calculating a property's impervious surface total due to their unique size, shape, or limited addition of impervious surfaces:

- (1) Birdhouses
- (2) Fences
- (3) Mailboxes
- (4) Flagpoles and utility poles
- (5) Propane tanks
- (6) Well casings

⁷ The provisions in section 9.6 are an exemption from the impervious surface standards and as such should be read and construed narrowly. As such, a property owner is entitled to this exemption only when the runoff from the impervious surface is being treated by a sufficient (appropriately sized) treatment system, treatment device or internally drained. Property owners that can demonstrate that the runoff from an impervious surface is being treated consistent with section 9.6 will be considered pervious for the purposes of implementing the impervious surface standards in this ordinance. If a property owner or subsequent property owner fails to maintain the treatment system, treatment device or internally drained area, the impervious surface is no longer exempt under section 9.6.

⁸ The impervious surface standards in this ordinance shall not be construed to supersede other provisions in the county shoreland ordinance. All of the provisions of the county shoreland ordinance still apply to new or existing development.

- (6) Retaining walls
- (7) Basketball hoops
- (8) Air conditioning and heating units when situated on a pad no larger than the unit
- (9) Children's play structures (swing sets), except those portions with roofs or floors/foundations
- (10) Fire pit rings with no base and less than 4 feet in diameter

10.0 HEIGHT. (NR 115.05(1)(f))

To protect and preserve wildlife habitat and natural scenic beauty, on or after February 1, 2010, a county may not permit any construction that will result in a structure taller than 35 feet within 75 feet of the ordinary high-water mark of any navigable waters.

11.0 NONCONFORMING USES AND STRUCTURES. (NR 115.05(1)(g))⁹

11.1 DISCONTINUED NONCONFORMING USE. (NR 115.05(1)(g)3) If a nonconforming use is discontinued for a period of 12 months, any future use of the building, structure or property shall conform to the ordinance.

11.2 MAINTENANCE, REPAIR, REPLACEMENT OR VERTICAL EXPANSION OF NONCONFORMING STRUCTURES. (s. 59.692(1k)(a)2,4 and (b), Stats)¹⁰ An existing structure that was lawfully placed when constructed but that does not comply with the required shoreland setback may be maintained, repaired, replaced, restored, rebuilt or remodeled if the activity does not expand the footprint of the nonconforming structure. Further, an existing structure that was lawfully placed when constructed but that does not comply with the required shoreland setback may be vertically expanded unless the vertical expansion would extend more than 35 feet above grade level or change the primary use of the structure, such as the vertical expansion of a deck or patio into a covered or enclosed sunroom. Counties may allow expansion of a structure beyond the existing footprint if the expansion is necessary to comply with applicable state or federal requirements.

11.3 LATERAL EXPANSION OF NONCONFORMING PRINCIPAL STRUCTURES WITHIN THE SETBACK. (NR 115.05(1)(g)5) An existing principal structure that was lawfully placed when constructed but that does not comply with the required building setback per section 6.1 may be expanded laterally, provided that all of the following requirements are met:

- (1) The use of the structure has not been discontinued for a period of 12 months or more if a nonconforming use.
- (2) The existing principal structure is at least 35 feet from the ordinary high-water mark.
- (3) Lateral expansions are limited to a maximum of 200 square feet over the life of the structure. No portion of the expansion may be any closer to the ordinary high-water mark than the closest point of the existing principal structure.
- (4) The county shall issue a permit that requires a mitigation plan that shall be approved by the county and implemented by the property owner by the date specified in the permit. The mitigation plan shall meet the standards found in section 13.0.

⁹ NR115.05(1)(b)1m lists structures that are exempt from the shoreland setback. These structures are considered conforming structures and are not considered nonconforming structures. Structures that were granted variances or illegally constructed structures are not considered nonconforming structures.

¹⁰ Sections 59.692(1k)(a) 2,4 and (b), Stats, prohibits counties from requiring any approval or imposing any fee or mitigation requirement for the activities specified in section 11.2. However, it is important to note that property owners may be required to obtain permits or approvals and counties may impose fees under ordinances adopted pursuant to other statutory requirements, such as floodplain zoning, general zoning, sanitary codes, building codes, or even stormwater erosion control.

(5) All other provisions of the shoreland ordinance shall be met.

11.4 EXPANSION OF A NONCONFORMING PRINCIPAL STRUCTURES BEYOND SETBACK. (NR 115.05(1)(g)5m) An existing principal structure that was lawfully placed when constructed but that does not comply with the required building setback under section 6.1 may be expanded horizontally, landward, or vertically provided that the expanded area meets the building setback requirements per section 6.1 and that all other provisions of the shoreland ordinance are met. A mitigation plan is not required solely for expansion under this paragraph, but may be required per section 9.0.

11.5 RELOCATION OF NONCONFORMING PRINCIPAL STRUCTURES. (NR 115.05(1)(g)6) An existing principal structure that was lawfully placed when constructed but that does not comply with the required building setback per section 6.1 may be relocated on the property provided all of the following requirements are met:

- (1) The use of the structure has not been discontinued for a period of 12 months or more if a nonconforming use.
- (2) The existing principal structure is at least 35 feet from the ordinary high-water mark.
- (3) No portion of the relocated structure is located any closer to the ordinary high-water mark than the closest point of the existing principal structure.
- (4) The county determines that no other location is available on the property to build a principal structure of a comparable size to the structure proposed for relocation that will result in compliance with the shoreland setback requirement per section 6.1.
- (5) The county shall issue a permit that requires a mitigation plan that shall be approved by the county and implemented by the property owner by the date specified in the permit. The mitigation plan shall meet the standards found in section 13.0, and include enforceable obligations of the property owner to establish or maintain measures that the county determines are adequate to offset the impacts of the permitted expansion on water quality, near-shore aquatic habitat, upland wildlife habitat and natural scenic beauty. The mitigation measures shall be proportional to the amount and impacts of the replaced or relocated structure being permitted. The obligations of the property owner under the mitigation plan shall be evidenced by an instrument recorded in the office of the County Register of Deeds.
- (6) All other provisions of the shoreland ordinance shall be met.

12.0 MAINTENANCE, REPAIR, REPLACEMENT OR VERTICAL EXPANSION OF STRUCTURES THAT WERE AUTHORIZED BY VARIANCE. (s. 59.692(1k)(a)2. and (a)4.)¹¹

A structure of which any part has been authorized to be located within the shoreland setback area by a variance granted before July 15, 2015 may be maintained, repaired, replaced, restored, rebuilt or remodeled if the activity does not expand the footprint of the authorized structure. Additionally, the structure may be vertically expanded unless the vertical expansion would extend more than 35 feet above grade level. Counties may allow expansion of a structure beyond the existing footprint if the expansion is necessary to comply with applicable state or federal requirements.

13.0 MITIGATION. (NR 115.05 (1)(e)3, (g)5, (g)6)

When the county issues a permit requiring mitigation under sections 9.5, 11.3 and 11.5 the property owner must submit a complete permit application that is reviewed and approved by the county. The application shall include the following:

- (1) A site plan that describes the proposed mitigation measures.

¹¹ Section 59.692(1k)(a)2.prohibits counties from requiring any approval or imposing any fee or mitigation requirement for the activities specified in section 12. However, it is important to note that property owners may be required to obtain permits or approvals and counties may impose fees under ordinances adopted pursuant to other statutory requirements, such as floodplain zoning, general zoning, sanitary codes, building codes, or even stormwater erosion control.

- (a) The site plan shall be designed and implemented to restore natural functions lost through development and human activities.
 - (b) The mitigation measures shall be proportional in scope to the impacts on water quality, near-shore aquatic habitat, upland wildlife habitat and natural scenic beauty.
- (2) An implementation schedule and enforceable obligation on the property owner to establish and maintain the mitigation measures.
- (a) The enforceable obligations shall be evidenced by an instrument recorded in the office of the Register of Deeds.
- (3) Additional information specific to the type of mitigation, as described in the following sections.

13.1 MITIGATION REQUIRED

The number of mitigation points required for certain types of development are described in Table 13-1. If proposed development falls under multiple categories, then the number of mitigation points required shall accumulate.

Table 13-1

Proposed Development Condition	Mitigation Required
Impervious surface coverage greater than 15% but less than 20%	2 points
Impervious Surface coverage between 20% to 30%	3 Points
Lateral Expansion of nonconforming principal structure within the shoreland setback	3 points
Re-location of a nonconforming principal structure within the shoreland setback	1 point
Highly Developed Shorelines – Residential impervious surface coverage between 30% and 40%, Commercial, industrial, or business impervious coverage between 40% and 60%	3 points

13.2 MITIGATION OPPORTUNITIES

The mitigation options available are described in Table 13-2 and described further in this section. Several types of mitigation opportunities may be utilized in order to meet the number of mitigation points required. Points used to satisfy one mitigation requirement may not contribute to the points needed to satisfy another mitigation requirement.

Table 13-2

Opportunities for Mitigation	Mitigation Points Earned
Sea wall removal and bank stabilization	3 points
Replacement of an existing non-compliant POWTS (septic system) with a compliant system	3 points
Removal of a structure within the shoreland setback	Up to 3 points
Establishment of a primary buffer	3 points
Existing compliant primary buffer	3 points
Installation of or an existing Recreational Buffer Area	2 points
Bank Stabilization of an unprotected shoreline	2 points
Reduction of allowable viewing and access corridor	Up to 2 points
Removal of a boat slip	1 point
Removal of boathouse allowance	2 points

(1) **Sea wall removal and bank stabilization:** Removal of an existing sea wall followed by stabilization of the bank using rip-rap, boil-logs, native vegetation, or other suitable stabilization practices. A sea wall is a vertical shoreline stabilization structure usually constructed of railroad ties, wood beams, or concrete, located at the OHWM, and constructed to deflect wave-action and armor the bank. This mitigation option shall meet the following standards:

- (a) All components of the existing sea wall must be removed and followed with the installation of approved bank stabilization measures.
- (b) Permitting and approval of this project and determination of appropriate design standards will be handled by the Wisconsin DNR.
- (c) Written confirmation of DNR concurrence of the project must be provided to the Zoning Office prior to permit issuance.
- (d) Completion of the sea wall removal and bank stabilization shall occur within one (1) year of permit issuance, with the property owner providing the Zoning Office written confirmation of the DNR's approval of the work that was completed.

(2) **Replacement of an existing non-compliant POWTS (septic system) with a compliant system:** Replacement of an existing POWTS that is non-compliant with the current plumbing codes with a code compliant system. The system must be non-compliant by discharging sewage or partially treated sewage to surface water, groundwater, a zone of seasonal saturation, a drain tile, a zone of bedrock, the ground surface, or into the structure served. This mitigation option must meet the following standards:

- (a) A Certified Soil Tester or Master Plumber shall confirm the failure of the system as specified above; this confirmation shall be provided to the Zoning Office in writing.
- (b) Prior to zoning permit issuance a sanitary permit shall be issued by the Zoning Office in accordance with Chapter 16 of the Winnebago County Sanitary Ordinance as well as SPS 383 of the Wisconsin Administrative Code.
- (c) Installation of the replacement POWTS shall occur within one (1) year of the date of the issuance of the zoning permit.

(3) **Removal of a structure within the shoreland setback:** Removal of a structure or an accumulation of structures, as defined in this ordinance, which does not comply with applicable setback for the specific structure. Size of the structure(s) removed shall determine the amount of points earned as described in table 13-3. This mitigation option shall meet the following standards:

- (a) The area proposed for removal must be described by a registered land surveyor for both building footprint and the proximity to the OHWM.
- (b) The structure must be removed and the area of removal shall be revegetated with native plants.
- (c) Survey showing location and sizes of proposed structure being removed shall be submitted prior to permit issuance.
- (d) Structure shall be removed and vegetation shall be established within one (1) year of permit issuance.

Table 13-3

Structure Size Being Removed	Mitigation Points Earned
0-250 square feet	1 point
250-500 square feet	2 points
Greater than 500 square feet	3 points

(4) **Establishment of a primary buffer:** A buffer shall be installed extending from the OHWM inland a minimum of 35 feet. The buffer must include trees, shrubs, and ground cover. Mowing in this area is expressly prohibited. This mitigation option shall meet the following standards:

- (a) A vegetative buffer plan shall be designed and submitted by an engineer, landscape architect, or surveyor.

- (b) The vegetative buffer plan, once approved by the Zoning Office, as well as an implementation schedule with enforceable obligation on the property owner to establish and maintain the mitigation measures shall be recorded with the Winnebago County Register of Deeds.
- (c) The minimum plantings for an approved buffer are: one (1) tree per 200 square feet and 2 shrubs per 100 square feet of buffer area. Ground cover shall be provided to establish complete coverage of the exposed soil in one (1) growing season.
- (d) Plantings shall be located as to provide coverage except for viewing and access corridors as allowed in section 7.2.
- (e) Plantings shall be selected from the document provided in Appendix A or any other appropriate non-invasive species.
- (f) A vegetative buffer plan shall be approved by the Zoning Office and appropriate agreement recorded with the Register of Deeds prior to permit issuance.
- (g) The professional who designed the plan shall submit confirmation on installation of approved plan within one (1) year of permit issuance.

(5) **Existing compliant primary buffer:** An existing vegetative buffer that meets the density standards for trees, shrubs, and ground cover and extends from the OHWM inland a minimum of 35 feet. This mitigation option must meet the following standards:

- (a) An engineer, landscape architect, or surveyor shall confirm the existing buffer meets the standards described in section 13.2(4) and submit written documentation of the buffer to the Zoning Office.
- (b) The written documentation of the buffer as well as an implementation schedule with enforceable obligation on the property owner to establish and maintain the mitigation measures shall be recorded with the Winnebago County Register of Deeds. These documents must be recorded with the Register of Deeds prior to permit issuance.

(6) **Establishment of or having an existing recreational buffer area:** A buffer shall be installed or maintained extending from the OHWM inland a minimum of 15 feet. The buffer must include trees, shrubs, and ground cover. Mowing in this area is expressly prohibited. This mitigation option shall meet the following standards:

- (a) A Recreational Buffer being installed shall be installed in accordance with the Standards for the Establishment of a primary buffer (section 13.2(4)).
- (b) An Existing Recreational Buffer shall be approved in accordance with the Standards for Existing Compliant Primary Buffers (section 13.2(5)).

(7) **Bank stabilization of an unprotected shoreline:** Installation of stabilization measures such as rip-rap, boil-logs, native vegetation, or other suitable stabilization practices on a bank that is otherwise unprotected to erosion from wave action or current. This mitigation option shall meet the following standards:

- (a) This option is only applicable on shorelines that are previously unprotected.
- (b) Permitting and approval of this project and determination of appropriate design standards will be approved by the Wisconsin DNR. Written confirmation of DNR concurrence of the project must be provided to the Zoning Office prior to permit issuance.
- (c) Completion of the bank stabilization shall occur within one (1) year of permit issuance, with the property owner providing the Zoning Office written confirmation of the DNR's approval of the work that was completed.

(8) **Reduction of allowable viewing and access corridor:** The allowable viewing and access corridor shall be reduced by 15 feet in width and planted into an approved shoreland buffer. The buffer must include trees, shrubs, and ground cover. Mowing in this area is expressly prohibited. This mitigation option shall meet the following standards:

(9) **Removal of a boat slip:** The installation of bank stabilization methods for the removal of a boat slip to return the shoreline to its natural location. This mitigation option shall meet the following standards:

- (a) The installation of DNR approved bank stabilization measures to remove a boat slip and return the shoreline to its natural location. The boat slip must have been manmade and for the purpose of launching watercraft; Zoning Staff shall have final determination of applicability.
- (b) Permitting and approval of this project and determination of appropriate design standards will be handled by the Wisconsin DNR. Written confirmation of DNR concurrence of the project must be provided to the Zoning Office prior to permit issuance.
- (c) Completion of the bank stabilization shall occur within one (1) year of permit issuance, with the property owner providing the Zoning Office written confirmation of the DNR's approval of the work that was completed.
- (d) This option can be utilized alone or with either of the other bank stabilization mitigation options.
- (e) One point shall be granted for each boat slip removed.

(10) **Removal of Boathouse Allowance:** The property owner agrees to permanently defer their right to a boathouse on the property. This mitigation option shall meet the following standards:

- (a) The property owner shall draft and record a document with the Winnebago County Register of Deeds Office, which has been approved by Zoning Staff, stating that they are waiving their right to a boathouse on the subject property.
- (b) This document must be maintained in perpetuity or until written release is granted from the Winnebago County Zoning Department.

14.0 ADMINISTRATIVE PROVISIONS. (NR 115.05(4))

The shoreland zoning ordinance adopted by each county shall require all of the following:

14.1 ZONING ADMINISTRATOR.

- (1) **Designation.** The zoning administrator designated under ch. 23 (Town/County Zoning Code) of the general code shall serve as the zoning administrator referred to in this chapter.
- (2) **Duties and powers.** The zoning administrator is authorized to administer this chapter and shall have the following duties and powers:
 - (a) Develop and maintain a system for issuing permits for all new construction, development, reconstruction, structural alteration or moving of buildings and structures.
 - (b) Conduct on-site inspections of approved projects to ensure compliance with this chapter and terms of approval.
 - (c) Administer the procedure for variances and conditional uses.
 - (d) Maintain a complete record of all proceedings before the board of adjustment and the Planning and Zoning Committee.
 - (e) Make determinations regarding navigability of streams and other water bodies and keep a written record of such decisions.
 - (f) Establish the location of ordinary high-water marks and keep written a record of such decisions.
 - (g) Maintain a list of nonconforming uses and structures.
 - (h) Provide written notice to the appropriate regional office of the Department of Natural Resources as required by this chapter, including variance applications and decisions, conditional use applications and decisions, administrative appeals, proposed amendments to this chapter (text and map), interpretations, and proposed land divisions. Upon written request, the zoning administrator shall provide a copy of any permit issued under this chapter to the appropriate regional office of the Department of Natural Resources.
 - (i) Maintain the shoreland-wetland map as described in sections 2.2 and 3.1, along with all approved map amendments.

- (j) The establishment of appropriate penalties for violations of various provisions of the ordinance, including forfeitures. Compliance with the ordinance shall be enforceable by the use of injunctions to prevent or abate a violation, as provided in s. 59.69(11), Wis. Stats.
- (k) The prosecution of violations of this chapter.
- (l) Any other duty or power necessary in the administration of this chapter.

14.2 PLANNING AND ZONING COMMITTEE.

The Planning and Zoning Committee established under ch. 23 (Town/County Zoning Code) of the general code shall have the following duties and responsibilities:

- (1) Oversee the activities of the zoning administrator.
- (2) Review and advise the Winnebago County board of county supervisors on all proposed amendments to this chapter.
- (3) Hear and decide conditional uses.

14.3 BOARD OF ADJUSTMENT.

- (1) **Establishment.** The board of adjustment created under ch. 23 (Town/County Zoning Code) of the general code shall serve as the board of adjustment referred to in this chapter.
- (2) **Powers and duties.** The board of adjustment shall have the authority to hear and decide administrative appeals where it is alleged there is an error in any order, requirement, decision, or determination made by an administrative official in the enforcement or administration of this chapter and hear and decide dimensional variances according to Division 12 of Article 7 ch. 23 Town/County Zoning Code.

14.4 ADMINISTRATIVE APPEALS.

Any person aggrieved by a final decision of the zoning administrator may file an administrative appeal pursuant to the procedures and requirements in ch. 23 (Town/County Zoning Code) of the general code.

14.5 PERMITS.

- (1) **When required.** A zoning permit or erosion control permit shall be obtained as required before any new development is initiated.
- (2) **Expiration.** A zoning permit or erosion control permit issued under the authority of this chapter shall expire 12 months from date of issuance if no substantial work has commenced. Upon written petition, the zoning administrator may grant a one-time extension for a maximum of 180 days for good and sufficient cause.

14.6 CERTIFICATE OF COMPLIANCE.

- (1) **When required.** No land shall be occupied or used and no building hereafter erected, altered or moved shall be occupied, until a certificate of compliance is issued by the zoning administrator.
 - (a) The certificate of compliance shall certify that the building or premises or part thereof, and the proposed use thereof, conform to the provisions of this ordinance.
 - (b) Application for such certificate shall be concurrent with the application for a zoning permit.
 - (c) The certificate of compliance shall be issued within 10 days after notification of the completion of the work specified in the zoning permit, if the building or premises or proposed use thereof conforms with all the provisions of this chapter.
- (2) **Temporary certificates.** The zoning administrator may issue a temporary certificate of compliance for part of a building, pursuant to rules and regulations established by the county board.

(3) **Request for certificate.** Upon written request from the owner, the zoning administrator shall issue a certificate of compliance for any building or premises existing at the time of the adoption of this chapter, certifying after inspection the extent and type of use made of the building or premises and whether or not such use conforms to the provisions of this chapter.

14.7 CONDITIONAL USES.

(1) **General procedures.** The procedures and requirements enumerated in ch. 23 (Town/County Zoning Code) of the general code shall be followed. In addition, the zoning administrator shall send a copy of the public hearing notice to the appropriate district office of the Department of Natural Resources at least 10 days prior to the public hearing. Within 10 days of issuing the final decision, the zoning administrator shall send a copy of the written decision to the appropriate regional office of the Department of Natural Resources.

(2) **Application materials.** In addition to the application materials required under ch. 23, the zoning administrator, may require the applicant to furnish the following information:

- (a) A plan of the area showing surface contours, soil types, ordinary high-water marks, ground water conditions, subsurface geology and vegetative cover.
- (b) Location of buildings, parking areas, traffic access, driveways, walkways, piers, open space and landscaping.
- (c) Plans of buildings, sewage disposal facilities, water supply systems and arrangement of operations.
- (d) Specifications for areas of proposed filling, grading, lagooning or dredging.
- (e) Other pertinent information necessary to determine if the proposed use meets the requirements of this ordinance.
- (f) Rationale for why the proposed special exception meets all of the special exception criteria listed in the ordinance

(3) **Review criteria.** In addition to the review criteria for conditional uses specified in ch. 23, the Planning and Zoning Committee shall evaluate the effect of the proposed use upon:

- (a) The maintenance of safe and healthful conditions.
- (b) The prevention and control of water pollution including sedimentation.
- (c) Compliance with local floodplain zoning ordinances and opportunity for damage to adjacent properties due to altered surface water drainage.
- (d) The erosion potential of the site based upon degree and direction of slope, soil type, and vegetative cover.
- (e) The location of the site with respect to existing or future access roads.
- (f) The need of the proposed use for a shoreland location.
- (g) The compatibility of the proposed use with uses on adjoining parcels.
- (h) The amount of liquid and solid wastes to be generated and the adequacy of the proposed disposal systems.

(4) **Imposition of conditions.** In approving a conditional use, the Planning and Zoning Committee may not impose a condition that is more restrictive than any of the specific standards in the chapter. Where this chapter is silent as to the extent of restriction, the committee may impose conditions of approval deemed necessary to carry out the purpose of this chapter. Such conditions may include specifications for, without limitation because of specific enumeration: type of shore cover; specific sewage disposal and water supply facilities; landscaping and planting screens; period of operation; operational control; sureties; deed restrictions; location of piers, docks, parking and signs; and type of construction.

14.8 VARIANCES.

(1) **Generally.** The Board of Adjustment may, upon appeal, grant a variance from the standards of this chapter if an applicant convincingly demonstrates that (1) literal enforcement of this chapter will cause

unnecessary hardship; (2) the hardship is due to unique property conditions, not common to adjacent lots or premises; (3) the variance is not contrary to the public interest; and (4) the variance is consistent with the purpose of this chapter.

- (a) **Relaxation of standards for persons with disabilities.** The zoning administrator may issue a special permit to relax the standards of this ordinance in order to provide reasonable accommodations as required by provisions of federal and state law. Such relaxation shall be the minimum necessary to be consistent with federal guidelines for accommodation of persons with disabilities and shall, where practicable, be terminated when the facility is no longer used by the disabled person. A person applying for a permit for construction under this section shall establish the nature and extent of the disability and that the relaxation requested is the minimum necessary to provide reasonable use of the facility. A deed restriction or affidavit for the reasonable accommodation shall be filed with the register of deeds.

(2) **General procedures.** The procedures and requirements enumerated in ch. 23 (Town/County Zoning Code) of the general code shall be followed. In addition, the zoning administrator shall send a copy of the public hearing notice to the appropriate district office of the Department of Natural Resources at least 10 days prior to the public hearing. Within 10 days of issuing the final decision, the zoning administrator shall send a copy of the written decision to the appropriate regional office of the Department of Natural Resources.

(3) **Additional criteria.** In addition to the criteria in subsection (a), to qualify for a variance under FEMA regulations, the following criteria must be met:

- (a) The variance shall not cause any increase in the regional flood elevation;
- (b) Variances can only be granted for lots that are less than 0.5 acres and are contiguous to existing structures constructed below the regional flood elevation;
- (c) Variances shall only be granted upon a showing of good and sufficient cause, shall be the minimum relief necessary, shall not cause increased risks to public safety or nuisances, shall not increase costs for rescue and relief efforts, and shall not be contrary to the purpose of the chapter.

(4) **Limitations.** A variance shall not (1) grant, extend, or increase any use prohibited in the shoreland district; (2) be granted for a hardship based solely on an economic gain or loss; or (3) be granted for a hardship which is self-created.

- (a) **Imposition of conditions.** In granting a variance, the Board of Adjustment may not impose a condition that is more restrictive than any of the specific standards in the chapter. Where this chapter is silent as to the extent of restriction, the board may impose conditions of approval deemed necessary to affect the purpose of this chapter.

14.9 AMENDMENTS.

(1) **General procedure.** Amendments to this chapter shall follow the procedures and requirements in ch. 23 (Town/County Zoning Code) of the general code. In addition, the zoning administrator shall send a copy of the public hearing notice to the appropriate district office of the Department of Natural Resources at least 10 days prior to the public hearing. Within 10 days of issuing the final decision, the zoning administrator shall send a copy of the written decision to the appropriate regional office of the Department of Natural Resources

(2) **Rezoning prohibited.** A wetland, or a portion thereof, in the shoreland-wetland district shall not be rezoned if the proposed rezoning may result in a significant adverse impact upon any of the following:

- (a) storm and flood water storage capacity;
- (b) maintenance of dry season stream flow, the discharge of groundwater to a wetland, the recharge of groundwater from a wetland to another area, or the flow of groundwater through a wetland;
- (c) filtering or storage of sediments, nutrients, heavy metals or organic compounds that would otherwise drain into navigable waters;
- (d) shoreline protection against soil erosion;

- (e) fish spawning, breeding, nursery or feeding grounds;
- (f) wildlife habitat; or
- (g) wetlands both within the boundary of designated areas of special natural resource interest and those wetlands which are in proximity to or have a direct hydrologic connection to such designated areas as defined in NR 103.04, Wis. Admin. Code, which can be accessed at the following website: <http://www.legis.state.wi.us/rsb/code/nr/nr103.pdf>.

(3) **Required provision.** If the Department of Natural Resources notifies the Planning and Zoning Committee that a proposed text or map amendment to the shoreland-wetland provisions of this chapter may have a significant adverse impact upon any of the criteria listed above, that amendment, if approved by the county board, shall contain the following provision:

“This amendment shall not take effect until more than 30 days have elapsed after written notice of the county board's approval of this amendment is mailed to the Department of Natural Resources. During that 30-day period, the department may notify the county board that it will adopt a superseding shoreland ordinance for the county under s. 59.971(6), Wis. Stats. If the department notifies the county board, the effect of this amendment shall be stayed until the s. 59.971(6), Wis. Stats., adoption procedure is completed or otherwise terminated.”

14.10 RECORD OF NONCONFORMING USES AND STRUCTURES.

The zoning administrator shall maintain a list of those properties that contain a nonconforming use and/or structure.

14.11 APPLICATION FEES AND OTHER CHARGES.

- (1) **Assessment of fees.** From time to time, the Board of County Supervisors may by resolution establish application fees and other charges it deems necessary in the administration of this chapter.
- (2) **Timing for payment.** Application fees shall be paid at the time the application is submitted for review.
- (3) **Doubling of application fee.** If an activity which requires prior authorization under this chapter is started before the authorization is granted, the application fee is automatically doubled unless the Board of County Supervisors specifically establishes a different fee by resolution. Payment of such fee shall not release the applicant from full compliance with this chapter nor from prosecution for violation of this chapter.
- (4) **Refunds.** Application fees are nonrefundable, except when the application and fee were accepted by the zoning administrator or county staff in error.

14.12 ENFORCEMENT AND PENALTIES.

Any development, any building or structure constructed, moved or structurally altered, or any use established after the effective date of this ordinance in violation of the provisions of this ordinance, by any person, firm, association, corporation (including building contractors or their agents) shall be deemed a violation. The zoning administrator or the Planning and Zoning Committee shall refer violations to the county's corporation counsel who shall expeditiously prosecute violations. Any person, firm, association or corporation who violates or refuses to comply with any of the provisions of this ordinance shall be subject to a forfeiture of not less than \$10.00 nor more than \$200.00 per offense, together with the taxable costs of action. Each day which the violation exists shall constitute a separate offense. Every violation of this ordinance is a public nuisance and the creation thereof may be enjoined and the maintenance thereof may be abated pursuant to s. 59.97(11), Wis. Stats.

15.0 DEFINITIONS.

For the purpose of administering and enforcing this ordinance, the terms or words used herein shall be interpreted as follows: Words used in the present tense include the future; words in the singular number include the plural number; and words in the plural number include the singular number. The word "shall" is mandatory, not permissive. All distances unless otherwise specified shall be measured horizontally.

The following terms used in this ordinance mean:

- (1) "Access and viewing corridor" (NR 115.03(1d)) means a strip of vegetated land that allows safe pedestrian access to the shore through the vegetative buffer zone.
- (2) "Accessory structure" means a subordinate structure on the same property as the principal structure which is devoted to a use incidental to the principal use of the property. Accessory structures include, but are not limited to, detached garages, sheds, barns, gazebos, patios, decks, swimming pools, hot tubs, fences, retaining walls, driveways, parking lots, sidewalks, detached stairways and lifts.
- (3) "Boathouse" (NR 115.03(1h)) means a permanent structure used for the storage of watercraft and associated materials and includes all structures which are totally enclosed, have roofs or walls or any combination of these structural parts.
- (4) "Building envelope" (NR 115.03(1p)) means the three dimensional space within which a structure is built. (Still used in Section 9 – Impervious surface section)
- (5) "County zoning agency" (NR 115.03(2)) means that committee or commission created or designated by the county board under s. 59.69(2)(a), Stats, to act in all matters pertaining to county planning and zoning. The County zoning agency for Winnebago County is the Planning and Zoning Committee, also known as the "P&Z".
- (6) "Department" (NR 115.03(3)) means the Department of Natural Resources.
- (7) "Drainage system" means one or more artificial ditches, tile drains or similar devices which collect surface runoff or groundwater and convey it to a point of discharge.
- (8) "Existing development pattern" (NR 115.03(3m)) means that principal structures exist within 250 feet of a proposed principal structure in both directions along the shoreline.
- (9) "Floodplain" (NR 115.03(4)) means the land which has been or may be hereafter covered by flood water during the regional flood. The floodplain includes the floodway and the flood fringe as those terms are defined in ch. NR 116, Wis. Adm. Code.
- (10) "Footprint" means the land area covered by a structure at ground level measured on a horizontal plane. The footprint of a residence or building includes the horizontal plane bounded by the furthest exterior wall and eave if present, projected to natural grade. For structures without walls (decks, stairways, patios, carports) – a single horizontal plane bounded by the furthest portion of the structure projected to natural grade. Note: For the purposes of replacing or reconstructing a nonconforming building with walls, the footprint shall not be expanded by enclosing the area that is located within the horizontal plane from the exterior wall to the eaves projected to natural grade. This constitutes a lateral expansion under NR 115 and would need to follow NR 115.05 (1)(g)5.
- (11) "Generally accepted forestry management practices" (NR 1.25(2)(b), Wis. Adm. Code) means forestry management practices that promote sound management of a forest. Generally accepted forestry management practices include those practices contained in the most recent version of the department publication known as Wisconsin Forest Management Guidelines and identified as PUB FR-226.
- (12) "Impervious surface" (NR 115.03(4g)) means an area that releases as runoff all or a majority of the precipitation that falls on it. "Impervious surface" excludes frozen soil but includes rooftops, sidewalks, driveways, parking lots, and streets unless specifically designed, constructed, and maintained to be pervious. Roadways as defined in s. 340.01(54), Wis. Adm. Code, or sidewalks as defined in s. 340.01(58), Wis. Adm. Code, are not considered impervious surfaces.
- (13) "Lot" means a continuous parcel of land, not divided by a public right-of-way, and sufficient in size to meet the lot width and lot area provisions of this ordinance.
- (14) "Lot area" means the area of a horizontal plane bounded by the front, side, and rear lot lines of a lot, but not including the area of any land below the ordinary high water mark of navigable waters.

- (15) "Lot of record" means any lot, the description of which is properly recorded with the Register of Deeds, which at the time of its recordation complied with all applicable laws, ordinances, and regulations.
- (16) "Mitigation" (NR 115.03(4r)) means balancing measures that are designed, implemented and function to restore natural functions and values that are otherwise lost through development and human activities.
- (17) "Navigable waters" (NR 115.03(5)) means Lake Superior, Lake Michigan, all natural inland lakes within Wisconsin and all streams, ponds, sloughs, flowages and other waters within the territorial limits of this state, including the Wisconsin portion of boundary waters, which are navigable under the laws of this state. Under s. 281.31(2)(d), Stats, notwithstanding any other provision of law or administrative rule promulgated thereunder, shoreland ordinances required under s. 59.692, Stats, and ch. NR 115, Wis. Adm. Code, do not apply to lands adjacent to:
- (a) Farm drainage ditches where such lands are not adjacent to a natural navigable stream or river and such lands were not navigable streams before ditching; and
 - (b) Artificially constructed drainage ditches, ponds or stormwater retention basins that are not hydrologically connected to a natural navigable water body
- (18) "Ordinary high-water mark" (NR 115.03(6)) means the point on the bank or shore up to which the presence and action of surface water is so continuous as to leave a distinctive mark such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other easily recognized characteristics.
- (19) "Previously developed" means a lot or parcel that was developed with a structure legally placed upon it.
- (20) "Regional flood" (NR 115.03(7)) means a flood determined to be representative of large floods known to have generally occurred in Wisconsin and which may be expected to occur on a particular stream because of like physical characteristics, once in every 100 years.
- (21) "Retaining wall" means a structure designed to restrain soil to unnatural slopes.
- (22) "Routine maintenance of vegetation" (NR 115.03(7m)) means normally accepted horticultural practices that do not result in the loss of any layer of existing vegetation and do not require earth disturbance.
- (23) "Shoreland" (NR 115.03(8)) means lands within the following distances from the ordinary highwater mark of navigable waters: 1,000 feet from a lake, pond or flowage; and 300 feet from a river or stream or to the landward side of the floodplain, whichever distance is greater.
- (24) "Shoreland setback" also known as the "Shoreland setback area" in s. 59.692(1)(bn), Stats, means an area in a shoreland that is within a certain distance of the ordinary high-water mark in which the construction or placement of structures has been limited or prohibited under an ordinance enacted under section 59.692, Stats.
- (25) "Shoreland-wetland district" (NR 115.03(9)) means a zoning district, created as a part of a county zoning ordinance, comprised of shorelands that are designated as wetlands on the Wisconsin wetland inventory maps prepared by the department.
- (26) "Special exception (conditional use)" (NR 115.03(10)) means a use which is permitted by this ordinance provided that certain conditions specified in the ordinance are met and that a permit is granted by the board of adjustment or, where appropriate, the planning and zoning committee or county board.
- (27) "Structure" (s.59.692(1)(e), Stats) means a principal structure or any accessory structure including a garage, shed, boathouse, sidewalk, walkway, patio, deck, retaining wall, porch or firepit.

(28) "Substandard lots" means a legally created lot or parcel that met minimum area and minimum average width requirements when created, but does not meet current requirements for a new lot.

(29) "Unnecessary hardship" (NR 115.03(11)) means that circumstance where special conditions, which were not self-created, affect a particular property and make strict conformity with restrictions governing area, setbacks, frontage, height or density unnecessarily burdensome or unreasonable in light of the purposes of this ordinance.

(30) "Variance" means an authorization granted by the board of adjustment to construct, alter or use a building or structure in a manner that deviates from the dimensional standards of this ordinance.

(31) "Wetlands" (NR 115.03(13)) means those areas where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which have soils indicative of wet conditions.

(32) "Zoning administrator" means the individual so designated by the county executive for Winnebago County to perform those duties enumerated in chapters 23 (Town/County Zoning Code) and 27 (Shoreland Zoning Code) of the general code of Winnebago County.

Appendix A



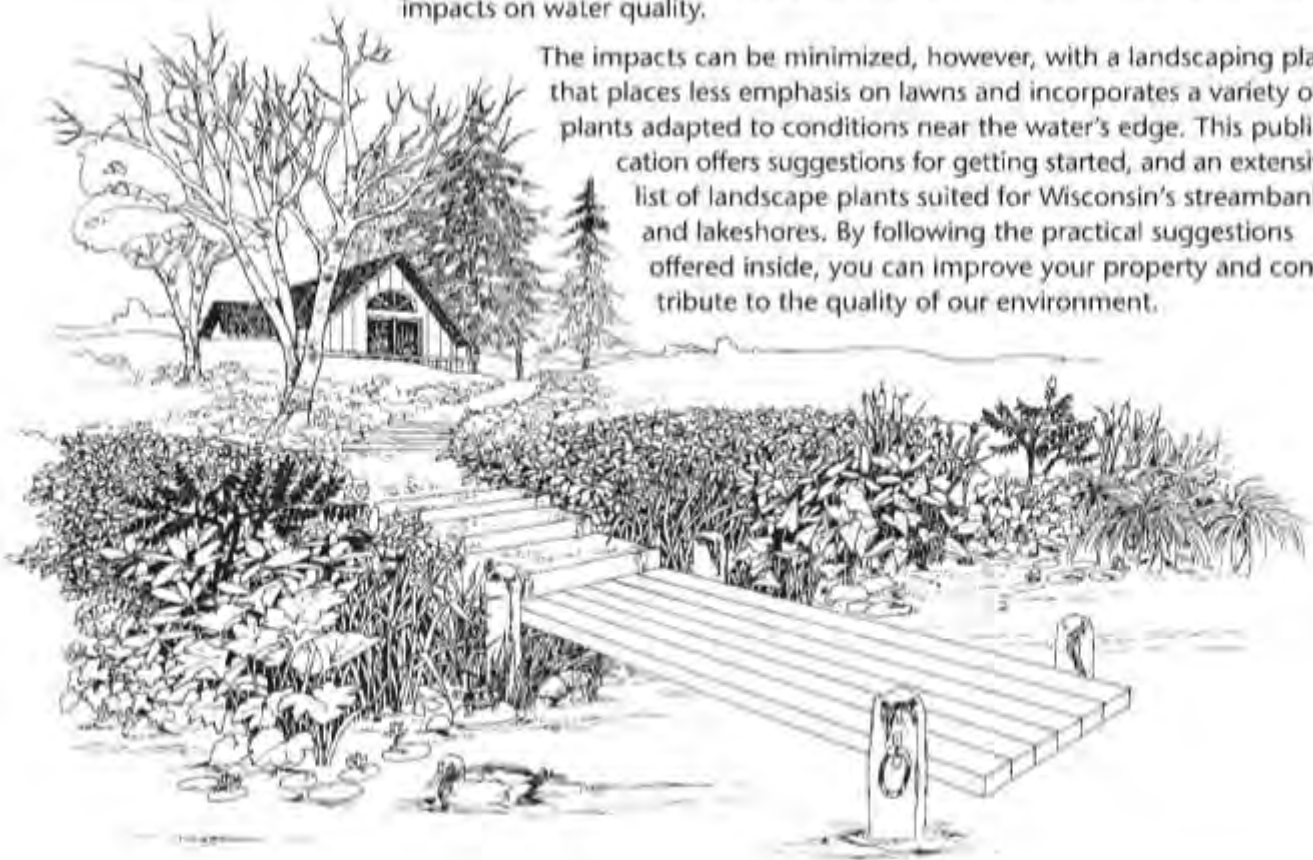
Shoreline Plants and Landscaping

A SERIES OF WATER QUALITY FACT SHEETS FOR RESIDENTIAL AREAS

Wisconsin's lakes and streams offer an escape for residents and visitors alike. From northwoods flowages to southeastern glacial lakes laced throughout the state, our waters provide abundant recreational opportunities, as well as a chance to simply get away from the sights and sounds of an urbanizing society.

The escape has become so popular that many lakeshores and streambanks are now growing more houses than trees, often with more consequences than meet the eye. Soil exposed during construction can wash into the water, and the development itself permanently alters a portion of the natural landscape. Buildings and access drives replace vegetation, increasing the amount of storm water runoff and pollutants entering the lake or stream. Owners of the new home often bring with them traditional landscaping ideas centered on the conventional yard. Too often that means manicured lawns extending to the water's edge, along with the fertilizer and pesticide applications that are the norm in the cities and villages left behind. Over time, and combined with other sources of pollution, shoreline development can have profound impacts on water quality.

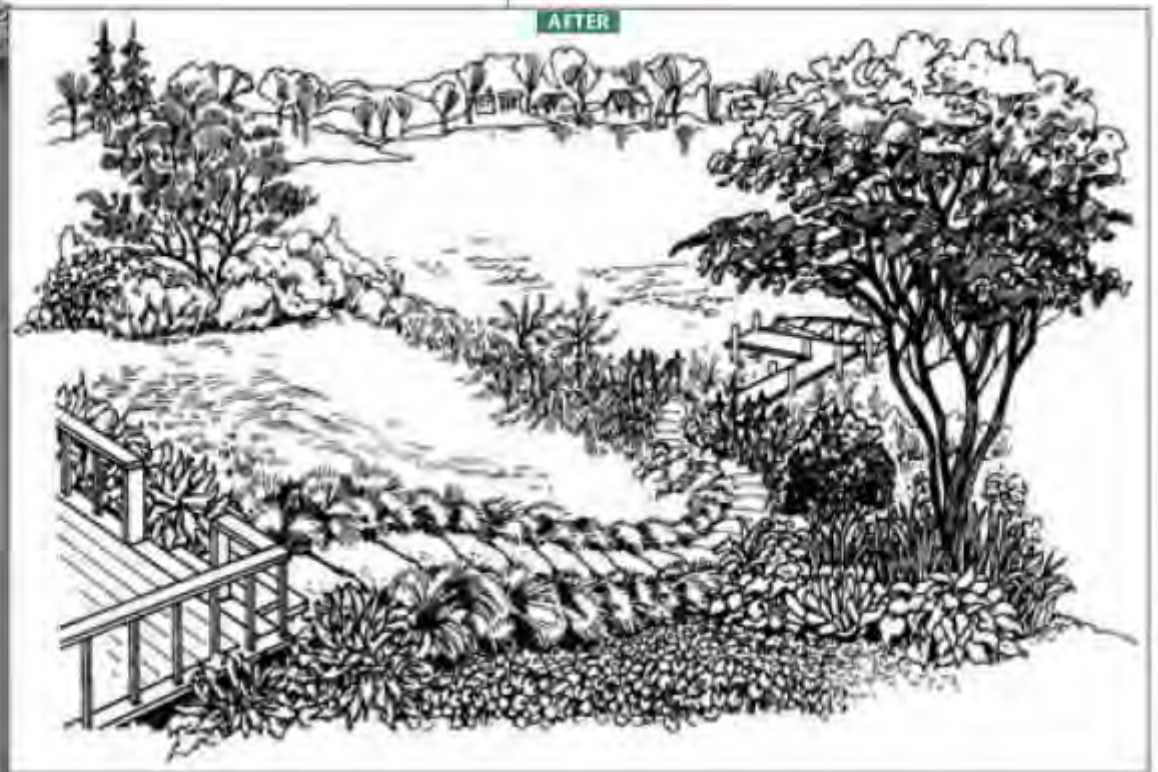
The impacts can be minimized, however, with a landscaping plan that places less emphasis on lawns and incorporates a variety of plants adapted to conditions near the water's edge. This publication offers suggestions for getting started, and an extensive list of landscape plants suited for Wisconsin's streambanks and lakeshores. By following the practical suggestions offered inside, you can improve your property and contribute to the quality of our environment.



BEFORE & AFTER: ALTERNATIVES TO THE TRADITIONAL LAWN

Grass planted to the water's edge (top illustration) is seldom the best choice, from either an esthetic or water quality standpoint. Why not try an alternative (bottom illustration)? Substituting a variety of plants for at least parts of the lawn has numerous advantages:

- ✓ Screens undesirable views while framing good ones.
- ✓ Reduces the time spent on lawn maintenance and reliance on fertilizers and other lawn chemicals.
- ✓ Helps filter pollutants that wash off roofs, driveways and other hard surfaces.
- ✓ Preserves the natural appearance of the shoreline.
- ✓ Offers better protection against shoreline erosion and requires less formal repair.
- ✓ Provides increased diversity and improved habitat for wildlife.



GETTING STARTED - LANDSCAPING AND PLANT SELECTION

Protecting the Water During Construction

With development comes bare soil, but careful planning can minimize erosion and the resulting water quality problems.

- The further the construction site is from the lake or stream and the less ground that is disturbed, the better for water quality. Greater setbacks from the water can also help overcome site limitations such as wet soils or steep slopes.
- Indiscriminate removal of trees during construction promotes soil erosion and is also a questionable practice from the standpoint of property values. A better alternative is to carefully trim trees to frame views of the lake and screen undesirable views.
- During construction, use filter fabric fences or straw bales as temporary sediment barriers along the shoreline.
- Immediately after construction of any soil-disturbing activity, the soil should be seeded, sodded or planted to natural vegetation and mulched. Once established, the vegetation becomes a permanent sediment filter. A fact sheet on Lawn Establishment (A3434) is available from county UW-Extension offices.

Landscaping for Established Yards

Proper landscape design and selection of plant material can greatly reduce the effects of shoreline development on water quality. Lawns groomed right up to the water's edge can be redesigned to allow a buffer zone along the lake or stream. Banks can be planted to stabilize the soil and eliminate lawn mowing and fertilizing.

Treatments can vary from low-cost, limited alterations to moderate-cost, significant changes. The specific treatment chosen depends on the site and desires of the property owner, but here are a few basics:

- Leaving a 35-foot (or wider) buffer of unmowed turf along shorelines is the first step in reducing runoff of soil, fertilizer and pesticides. The grasses

will grow 12-24" tall before going to seed. Mow the buffer zone's inland edge along a natural-looking curve. Also, use a smooth-flowing curve when mowing pathways through the buffer zone to the water's edge.

- Planting appropriate bulbs, perennial flowers, and groundcovers in the grasses of a buffer zone will add seasonal diversity. Working up small areas and mulching around new plantings will reduce competition from the grasses and reduce runoff of rainfall or melting snow.
- Native plants are best adapted to Wisconsin's climate and blend in well with the natural shoreline landscape.
- Planted through the grass in the buffer zone, native flowers can provide an ever-changing foreground to the view of the water. The buffer zone can be planted to native shore plants and prairie by gradually working up small areas (to reduce potential erosion) and seeding or transplanting shallow water plants or wet prairie grasses and forbs. UW-Extension's Prairie Primer (G2736) provides prairie restoration and maintenance details. Over time, the native plants will spread, filling in the buffer zone with drifts of color.
- Although the view toward the water is often pleasing, there may be visual elements that are unappealing. The noise of lake activities may also be disruptive. Trees and shrubs in the buffer zone can frame good views, screen poor views, and reduce sounds. Incorporating trees and shrubs in mulched planting beds reduces runoff, improves moisture/temperature conditions and provides a natural appearance. Gradually the whole shoreline can be planted to create a woodland setting with openings for visual and physical access to the water.

LANDSCAPE PLANT HARDINESS ZONES:

When selecting shoreline landscape plants from the list that follows, be sure they are identified as hardy for your area. While some plants may survive in a sheltered spot north of their recommended zone, it is usually best to plant reliable hardy species.

ZONE



A Guide to Shoreline Landscape Plants

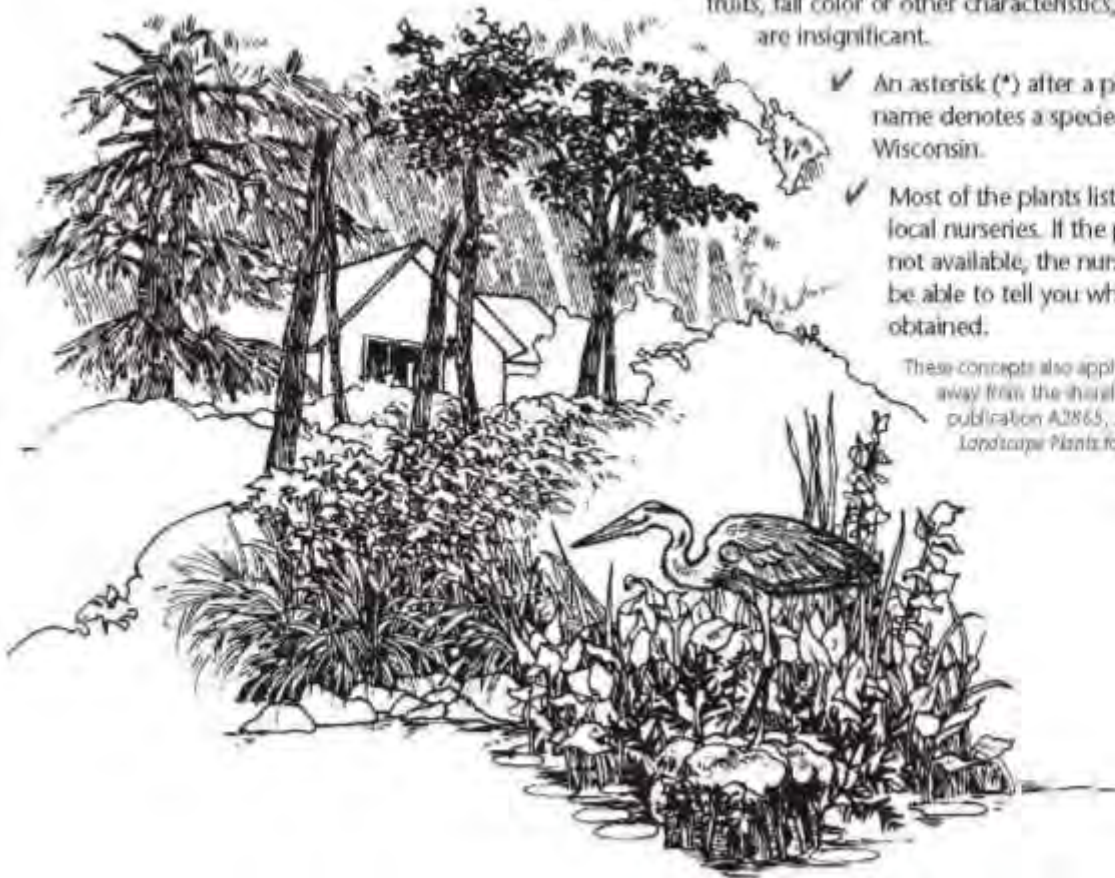
The list of plants on the following pages includes most of the better ornamental plant species and cultivars (cultivated varieties) that are usually available for sale in Wisconsin. The list includes the botanical and common names of recommended plants, growth rate (F = fast, M = medium, S = slow), hardiness zone and plant characteristics. When selecting plants, please keep the following points in mind:

- ✓ Wisconsin is divided into six zones based on minimum winter temperatures. (See map on previous page.) Always try to select plants that are hardy in your area.
- ✓ Be sure to review all the plant characteristics before you select trees, shrubs and ground covers for your situation. Many plants are sensitive to poorly drained soil conditions. Use only species tolerant of poor drainage in low, wet spots. Where shade is indicated as one of the plant characteristics, it refers to tolerance, not a requirement for shade.
- ✓ When selecting plants, one often tends to consider the flower display first. However, it is also important to consider the year-round interest the plant will provide in the landscape. Remember that a flower display often lasts only a week or two, while other interesting features such as the bark or fruits may be noticeable for several months. Where the list includes no mention of flowers, fruits, fall color or other characteristics, those features are insignificant.

- ✓ An asterisk (*) after a plant's botanical name denotes a species native to Wisconsin.

- ✓ Most of the plants listed are available at local nurseries. If the plant you desire is not available, the nursery dealer should be able to tell you where it can be obtained.

These concepts also apply to landscape plants away from the shoreline. Refer to Extension publication A2865, *A Guide to Selecting Landscape Plants for Wisconsin*.



— Evergreen Trees

The evergreen trees and shrubs listed on this page are recommended because they generally do well in moist or wet soil conditions. Some do best in sun; others do best in partial or full shade.

PLANT NAMES		GROWTH RATE	MATURE SIZE	PLANT CHARACTERISTICS
botanical	common			
<i>Picea glauca</i> *	White Spruce	M	3a	Moist soil; sun. Insignificant flowers; fruits are 2" cones; 70' height; light green foliage.
<i>Pinus strobus</i> *	Eastern White Pine	M	3a	Moist soil; sun. Insignificant flowers; fruits are 5-8" cones; 75' height; picturesque, soft, green foliage; subject to blister rust.
<i>Thuja occidentalis</i> *	American Arborvitae	M	3a	Moist soil; partial shade. Insignificant flowers; fruits are 1/2" cones; 40' height; light green, soft, scale-like foliage.
<i>Thuja occidentalis</i> 'Techny'	Techny American Arborvitae	S	3b	Moist soil; partial shade. Insignificant flowers; fruits are 1/2" cones; 20' height; deep green foliage.
<i>Thuja canadensis</i> *	Canadian Hemlock	M	3a	Moist soil; shade. Insignificant flowers; fruits are 1/2" cones; 75' height; soft, feathery foliage.



— Evergreen Shrubs

PLANT NAMES		GROWTH RATE	MATURE SIZE	PLANT CHARACTERISTICS
botanical	common			
<i>Juniperus chinensis</i> 'Pfitzerana'	Pfitzer Juniper	F	4a	Dry soil; sun. No flowers or fruits; 8' height; wide spreading; green foliage.
<i>Juniperus chinensis</i> <i>procumbens</i>	Japanese Garden Juniper	M	4b	Dry soil; sun. No flowers or fruits; 18" height; creeping; blue-green foliage.
<i>Juniperus communis</i> <i>depressa</i> *	Oldfield Common Juniper	M	3a	Dry soil; sun. Insignificant flowers; light green fruits; 4' height; spreading light green foliage.
<i>Juniperus horizontalis</i> *	Creeping Juniper	M	3a	Dry soil; sun. Insignificant flowers; light green to silvery fruit; 4'-18" height; creeping; gray-green to blue-green foliage.
<i>Taxus cuspidata</i> 'Squama'	Spreading Japanese Yew	M	4b	Moist soil; shade. Insignificant flowers; fruits; 6' height; spreading; dark green foliage.
<i>Thuja occidentalis</i> 'Hetz Midget'	Hetz Midget Arborvitae	S	3a	Moist soil; half shade. Insignificant flowers; fruits; 18" height; globe; bright green foliage.
<i>Thuja occidentalis</i> 'Woodwardii'	Woodward Globe Arborvitae	M	3a	Moist soil; half shade. Insignificant flowers and fruits; 6' height; globe; bright green foliage.

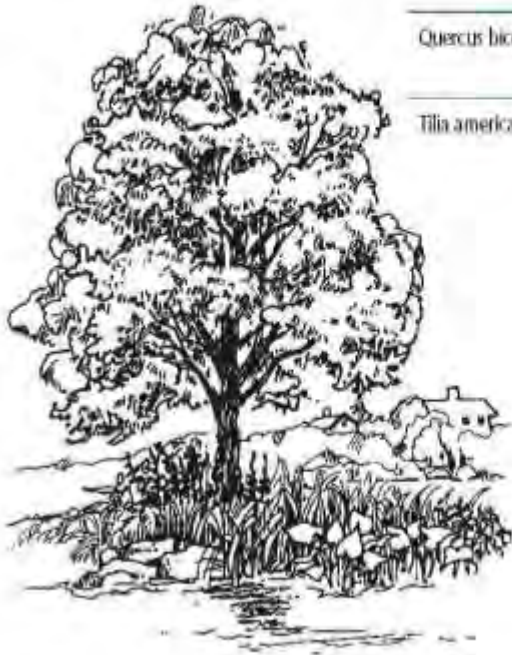


— Deciduous Trees

The deciduous trees and shrubs recommended here generally do well in moist or wet soil conditions. Some do best in sun, others do best in partial or full shade.

TALL DECIDUOUS TREES (40-100' HEIGHT)

PLANT NAMES		GROWTH RATE	HARVEST VALUE	PLANT CHARACTERISTICS
Botanical	Common			
<i>Acer rubrum</i> *	Red Maple	F	3a	Moist, acid soil; tolerates poor drainage; sun to semi-shade. Red flowers; fruits are winged samaras; yellow, orange, or red fall color; salt sensitive.
<i>Acer saccharinum</i> *	Silver Maple	F	3a	Moist soil; tolerates poor drainage; sun. Red flowers; fruits are winged samaras; yellowish or no fall color; competitive roots; weak wood.
<i>Acer saccharum</i> *	Sugar Maple	M	3a	Rich, moist soil; shade. Yellow flowers; fruits are winged samaras; yellow, orange, or red fall color; salt and stress sensitive.
<i>Fraxinus americana</i> *	White Ash	M	3a	Moist soil; tolerates poor drainage; sun. Insignificant flowers; fruits are winged samaras; orange to purple fall color; dioecious (male and female plants).
<i>Fraxinus pennsylvanica</i> *	Green Ash	F	3a	Dry to wet soil; tolerates poor drainage; sun. Insignificant flowers; fruits are winged samaras; yellow fall color; salt tolerant; weak wood.
<i>Gleditsia triacanthos</i> *	Common Honeylocust	F	4a	Moist soil; tolerates poor drainage; sun. Dioecious; insignificant flowers; female produces seed pod; yellow fall color; thorns; salt tolerant.
<i>Quercus bicolor</i> *	Swamp White Oak	S	4a	Moist to wet soil; tolerates poor drainage; sun. Insignificant flowers; fruits are acorns; no fall color.
<i>Tilia americana</i> *	Basswood	M	3a	Rich, moist soil; sun or shade. Fragrant, tiny white flowers in early summer; nut-like pea-sized fruits; yellowish or no fall color; salt sensitive.

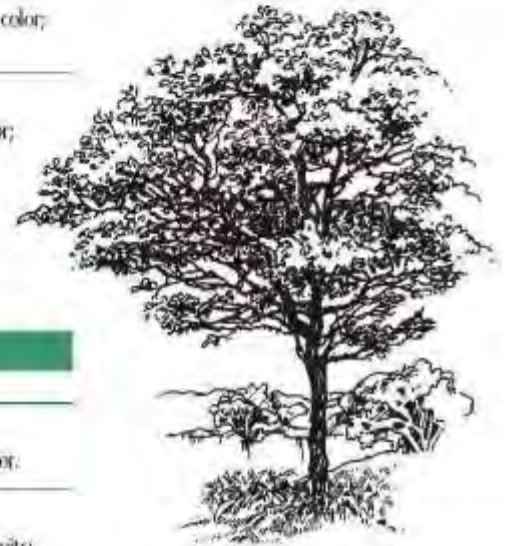


MEDIUM DECIDUOUS TREES (30-40' HEIGHT)

PLANT NAMES		GROWTH RATE	HARDINESS ZONE	PLANT CHARACTERISTICS
botanical	common			
<i>Alnus glutinosa</i>	European Alder	F	4a	Wet soil; tolerates poor drainage; sun to partial shade. Catkins; cone-like fruits; no fall color.
<i>Betula nigra</i> *	River Birch	M	4b	Wet to dry acid soil; tolerates poor drainage; sun. Catkins; small, cone-like fruits; yellow fall color; cinnamon-colored, peeling bark.
<i>Betula platyphylla japonica</i> "Whitespire"	Whitespire Birch	M	3a	Moderate soils; tolerates hot sites; sun. Catkins; small cone-like fruits; yellow fall color; resistant to bronze birch borer.
<i>Ostrya virginiana</i> *	Ironwood	S	3b	Dry to moist soil; shade. Catkins; hop-like fruits; yellowish fall color; elm-like leaves.

LOW DECIDUOUS TREES (15-30' HEIGHT)

PLANT NAMES		GROWTH RATE	HARDINESS ZONE	PLANT CHARACTERISTICS
botanical	common			
<i>Alnus rugosa</i> *	Speckled Alder	M	4a	Wet soil; tolerates poor drainage; sun. Catkins; small, cone-like fruits; no fall color.
<i>Amelanchier laevis</i> *	Allegheny Serviceberry	S	3a	Moist soil; partial shade. White flowers; edible red to blue-black fruits; orange to red fall color.
<i>Carpinus caroliniana</i> *	American Hornbeam	S	3b	Moist soil; shade. Catkins; fruits are small nutlets; orange fall color; smooth gray muscle-like trunk.
<i>Cornus alternifolia</i> *	Pagoda Dogwood	M	3a	Cool, moist soil; shade. White flowers; blue-black fruits on red stalks; maroon fall color.
<i>Crataegus species</i> *	Hawthorn	M	4a	Dry to moist soils; sun. White flowers; red fruits; yellow to orange fall color; thorns.
<i>Salix pentandra</i>	Laurel Willow	M	3a	Wet soil; sun. Catkins; insignificant fruits; yellowish fall color; dense habit.



— Deciduous Shrubs

These deciduous shrubs are recommended because they generally do well in moist or wet soil conditions. Some do best in sun, others do best in partial or full shade.

TALL DECIDUOUS SHRUBS (8-14' HEIGHT, PLANT 5-7' APART)

PLANT NAMES		GROWTH HABIT	MOISTURE PREFERENCE	PLANT CHARACTERISTICS
botanical	common			
<i>Cornus racemosa</i> *	Gray Dogwood	F	4b	Dry to wet soil; partial shade to shade. White flowers; white fruits; purple fall color.
<i>Cornus sericea</i> *	Redosier Dogwood	F	3a	Moist to wet soil; tolerates poor drainage; sun. White flowers; white fruits; red twigs; purple leaves in fall.
<i>Luonymus atropurpurea</i> *	Eastern Wahoo	F	4b	Moist soil; shade. Tiny purple flowers; bitter-sweet fruits; orange to purple fall color.
<i>Hamamelis virginiana</i> *	Common Witchhazel	F	4a	Moist soil; shade. Yellow flowers in October; insignificant fruits; yellow fall color.
<i>Physocarpus opulifolius</i> *	Eastern Ninebark	F	3a	Dry to moist soil; partial shade. White flowers; red, capsular fruits; yellowish fall color; shredded bark.
<i>Viburnum dentatum</i>	Arrowwood Viburnum	F	4a	Moist soil; shade. White flowers; blue fruits; maroon fall color.
<i>Viburnum lentago</i> *	Nannyberry Viburnum	F	3a	Dry to moist soil; sun or shade. White flowers; black fruits; maroon fall color.
<i>Viburnum prunifolium</i> *	Blackhaw Viburnum	F	4a	Dry to moist soil; partial shade. White flowers; black fruits; maroon fall color.
<i>Viburnum trilobum</i> *	Cranberrybush Viburnum	F	3a	Moist soil; shade. Lacy, white flowers; persistent, edible red fruits; maroon fall color.

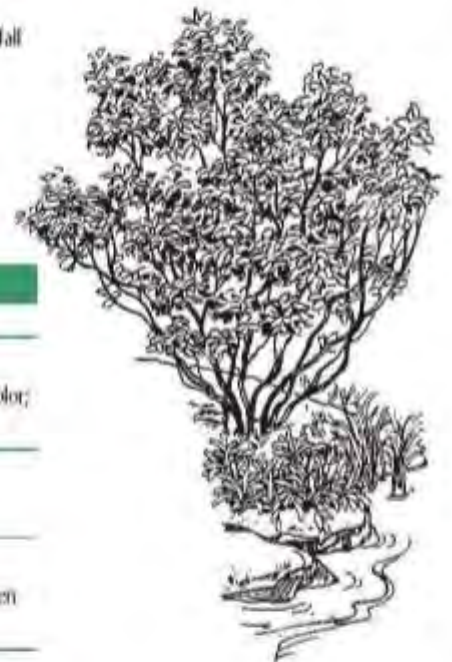


MEDIUM DECIDUOUS SHRUBS (5-8' HEIGHT, PLANT 3-4' APART)

PLANT NAMES		CROWN HGT.	SHADE TOL. ZONE	SOIL CHARACTERISTICS
botanical	common			
<i>Aronia arbutifolia</i>	Red Chokeberry	F	4b	Wet soil; tolerates poor drainage; shade. White flowers; red fruits; red fall color.
<i>Corylus americana</i> *	American Filbert (Hazelnut)	M	3a	Dry soil; shade. Catkins; fruits are hazelnuts; orange fall color.
<i>Ilex verticillata</i> *	Winterberry	F	4a	Wet, acid soil; tolerates poor drainage; sun to partial shade. Dioecious; red fruits; yellowish fall color.
<i>Viburnum cassinoides</i> *	Withrod Viburnum	M	4a	Wet, acid soil; tolerates poor drainage; partial sun to shade. White flowers; pink to red to blue fruits; red fall color.

LOW DECIDUOUS SHRUBS (2-5' HEIGHT, PLANT 2½' APART)

PLANT NAMES		CROWN HGT.	SHADE TOL. ZONE	SOIL CHARACTERISTICS
botanical	common			
<i>Amelanchier stolonifera</i> *	Running Serviceberry	M	3a	Dry soil; shade. White flowers; edible red fruits; orange fall color; suckering habit.
<i>Aronia melanocarpa</i> *	Black Chokeberry	M	3b	Wet soil; shade. White flowers; black fruits red fall color.
<i>Rhododendron</i> x 'JFM'	JFM Hybrid Rhododendron	S	4a	Moist, acid soil; sun. Lavender flowers; insignificant fruits; evergreen leaves turn purple in fall.
<i>Ribes alpinum</i>	Alpine Currant	F	3a	Dry to moist soil; partial sun to shade. Insignificant flowers and fruits; yellowish fall color; good hedge plant.
<i>Spiraea japonica</i> Little Princess	Little Princess Spiraea	M	4a	Dry to moist soil; sun. Pale pink flowers; insignificant fruits; yellowish fall color; compact habit.
<i>Viburnum acerifolium</i> *	Mapleleaf Viburnum	M	3a	Moist soil; shade. White flowers; black fruits; maroon fall color.
<i>Viburnum opulus</i> 'Nanum'	Dwarf European Cranberrybush	M	3a	Moist soil; shade. No flowers or fruits; maroon fall color; twiggy.



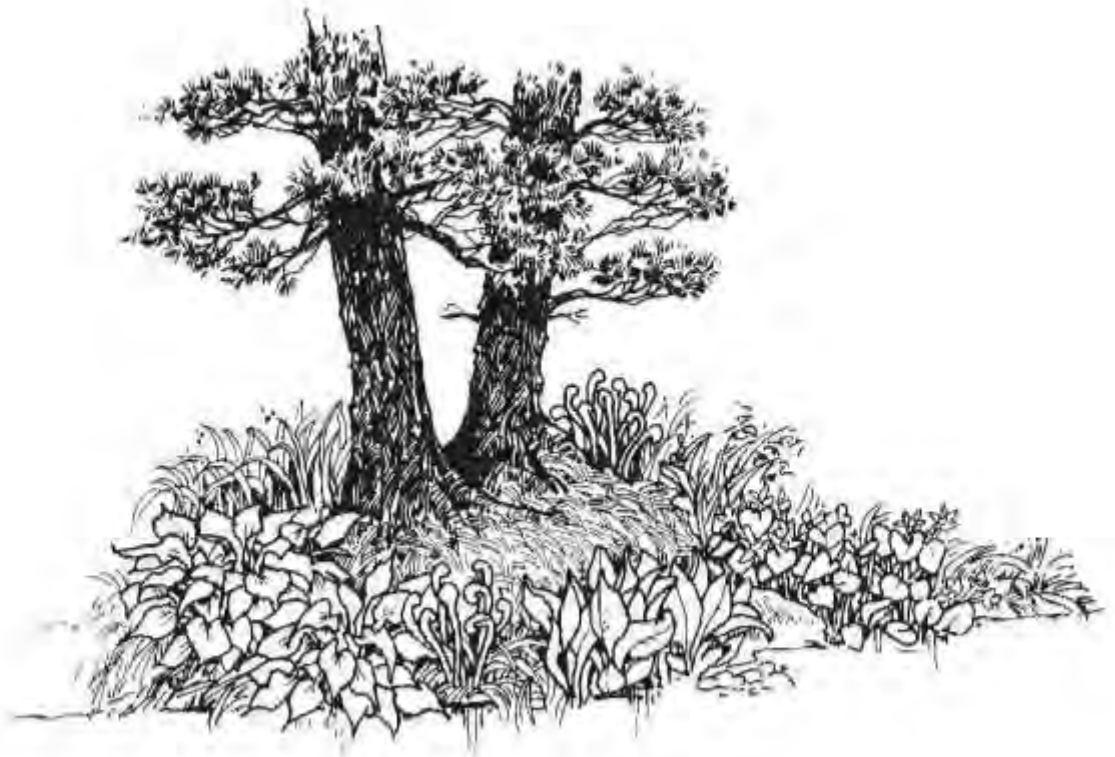
— Wet Forest Groundlayer Plants

After a shade pattern is established by trees and shrubs, these plants can be incorporated in the ground layer.

PLANT NAMES		WET FOREST	WET FOREST	WET FOREST
Botanical	Common	Code	Code	Code
<i>Amphicarpa bracteata</i> *	Hog Peanut	—	3a	Moist soil; shade. Pea-like lilac flowers in late summer; fleshy one-seeded fruit pods; delicate twining vine.
<i>Arisaema dracontium</i> *	Green Dragon	—	4a	Moist soil; shade. Green flowers in spring; insignificant fruits; 1-4' height; leaves divided into 5-15 pointed segments.
<i>Aster lateriflorus</i> *	Calico Aster	—	3a	Moist soil; shade. White flowers with purple centers in fall; insignificant fruits; 1-4' height; coarsely toothed leaves.
<i>Caltha pulustris</i> *	Marsh Marigold (Cowslip)	—	3a	Moist soil; partial shade. Large yellow flowers in early spring; insignificant fruits; 1-2' height; glossy, roundish leaves; thick hollow stems.
<i>Geum canadense</i> *	White Avens	—	3a	Moist soil; shade. White flowers in summer; bristly seed receptacles; 1½-2½' height; lower leaves usually divided into 3's.
<i>Impatiens capensis</i> *	Spotted Jewelweed	—	3a	Wet soil; shade. Spotted orange pendulant flowers in summer; ripe seed pods pop when touched; 2-5' height; succulent, juicy stems.
<i>Matteuccia struthiopteris pennsylvanica</i> *	Ostrich Fern	—	3a	Moist soil; shade. Insignificant flowers and fruits; 4-5' height; large, coarse textured fronds.
<i>Menispermum canadense</i> *	Moonseed	—	4b	Moist soil; shade. Clusters of small white flowers in early summer; black fruits resemble grapes; woody climber; large variable leaves (nearly round to 3-7 shallow lobes).
<i>Mertensia virginica</i> *	Virginia Bluebells	—	3a	Moist soil; shade. Nodding trumpet-like blue flowers in spring; insignificant fruits; 1-2' height; smooth strongly veined, oval leaves; succulent stems.
<i>Onoclea sensibilis</i> *	Sensitive Fern	—	3a	Moist soil; shade to sun. Insignificant flowers and fruits; 1-2½' height; large leaflets on fronds.
<i>Pedicularis canadensis</i> *	Wood Betony	—	3a	Moist soil; shade. Yellow or red flowers in spring; insignificant fruits; ½-1' height; long, soft-hairy, often reddish leaves.

(WET FOREST GROUND LAYER PLANTS – CONTINUED)

Botanical	Common	Soil	Light	Plant Characteristics
<i>Viola pumila</i> *	Clearweed	—	3a	Moist soil; shade Small green flowers in leaf axils in late summer; insignificant fruits; ½-1 ½' height; nettle-like (non-stinging) leaves; smooth translucent stems.
<i>Ranunculus septentrionalis</i> *	Swamp Buttercup	—	3a	Wet soil; shade. Yellow flowers in spring; insignificant fruit; 1-2' height; leaves in 3 segments; weak, hollow stems.
<i>Symplocarpus foetidus</i> *	Skunk Cabbage	—	3a	Wet soil; partial shade. Green/purple sheath-like sheath covers green flow- ers in very early spring; insignificant fruit; 1-3' height; large, broad leaves appear after flowering; leaves have fetid odor if crushed.
<i>Viola pedata</i> *	Marsh Blue Violet	—	4a	Wet soil; shade. Dark violet flowers in spring; flower stems taller than leaves; insignificant fruits; ½-1' height; heart-shaped leaves.



— Groundcover & Bankcover Plants

Groundcover and bankcover plants can replace conventional grasses, and the fertilizing and mowing involved.

GROUNDCOVERS

PLANT NAME		CLIMATE ZONE	PLANT CHARACTERISTICS
botanical	common		
<i>Ajuga reptans</i>	Bugleweed or Carpet Bugle	—	4a Moist soil; shade. White, red, purple, or blue flowers in late spring; 4-6" height; green to purplish evergreen foliage; ground cover.
<i>Arctostaphylos uva-ursi</i> *	Bearberry	—	3a Dry, acid soil; sun to partial shade. Small, terminal, white flowers in spring; small red berry; 6" height; paddle-shaped, evergreen leaves; trailing shrub; ground cover.
<i>Asarum canadense</i> *	Canada Wildginger	—	3a Rich, moist soil; shade. Ground-level, cup-shaped, 3-pointed red-brown flowers in spring; 6" height; large, heart-shaped leaves; ground cover.
<i>Convallaria majalis</i>	Lily-of-the-valley	—	3a Moist soil; shade. Fragrant white flowers in spring; 8" height; dark green foliage; ground cover.
<i>Euonymus fortunei</i> 'Colorata'	Purpleleaf Wintercreeper	—	4b Moist soil; shade. Insignificant flowers; 6-18" height; evergreen leaves turn purple in winter; only fully hardy in SE Wisconsin, needs shelter from winter sun and wind; ground cover.
<i>Hosta</i> cultivars	Hosta or Plantainlily	—	3a Moist soil; shade. White or lavender flowers in summer or early fall; 6-24" height; green, blue, gold and variegated leaves; ground cover.
<i>Juniperus</i> species	Juniper	—	3-4 Dry soil; sun. Insignificant flowers; some have berry-like fruits; 6-24" height; needled evergreen; ground or bank cover.
<i>Lycopodium clavatum</i> *	Running Pine	—	3a Moist, acid soil; shade. Insignificant flowers; 2-6" height; creeping or erect stems; ground cover.
<i>Pachysandra terminalis</i>	Japanese Pachysandra	—	4b Moist soil; shade. White flowers in summer; 6-8" height; evergreen foliage; only fully hardy in SE Wisconsin, needs shelter from winter sun and wind; ground cover.
<i>Phlox subulata</i>	Moss Phlox	—	3a Dry, infertile soil; sun. Small clustered, pink or white flowers in spring; 6" height; needle-like, semi-evergreen leaves; ground cover.
<i>Potentilla tridentata</i> *	Wireleaf Cinquefoil	—	3a Dry soil; sun. White flowers in early summer; 6" height; wine-red fall color; ground cover.
<i>Rhus aromatica</i> 'Gro-Low'	Gro-Low Fragrant Sumac	—	3a Dry soil; sun. Insignificant flowers; 30" height; fragrant foliage; orange-maroon fall color; ground or bank cover.
<i>Sedum</i> species	Sedum or Stonecrop	—	3-5 Dry, infertile soil; sun. White, yellow, pink, or purple flowers in spring, summer or fall; 2-10" height; succulent plant; ground cover.



DECIDUOUS BANKCOVER SHRUBS

PLANT NAMES		GROWTH HABIT	HARDINESS ZONE	PLANT CHARACTERISTICS
botanical	common			
<i>Amelanchier stolonifera</i> *	Running Serviceberry	M	3a	Dry soil; shade. White flowers; edible red fruits; 3-4' height; orange fall color; suckering habit.
<i>Cornus sericea</i> *	Redosier Dogwood	F	3a	Moist to wet soil; tolerates poor drainage; sun. White flowers; white fruits; 8' height; purple fall color; red twigs; spreading habit.
<i>Diervilla lonicera</i> *	Dwarf Bushhoneysuckle	M	3a	Dry soil; shade. Yellow flowers; insignificant fruits; 3' height; mounded habit.
<i>Rhus aromatica</i> *	Fragrant Sumac	F	3a	Dry soil; sun. Greenish-yellow flowers; red fruits; 4' height; orange-maroon fall color; fragrant foliage; mounded habit.
<i>Rosa virginiana</i>	Virginia Rose	F	4a	Moist to dry soil; sun. Pink flowers; persistent red fruits (hips); 4' height; red stems; suckering habit.
<i>Salix repens</i> var. <i>nitida</i>	Silver Creeping Willow	F	4b	Moist soil; sun. Insignificant flowers and fruits; 2' height; silvery foliage; spreading habit.
<i>Symphoricarpos orbiculatus</i>	Indiancument Cornberry	M	3b	Dry soil; shade. White flowers; pink fruits; 3' height; suckering habit.

EVERGREEN BANKCOVER SHRUBS

PLANT NAMES		GROWTH HABIT	HARDINESS ZONE	PLANT CHARACTERISTICS
botanical	common			
<i>Juniperus chinensis</i> 'Pfitzerana'	Pfitzer Juniper	M	4a	Dry soil; sun. No flowers or fruits; 6' height; rich green foliage; wide spreading.
<i>Juniperus chinensis procumbens</i>	Japanese Garden Juniper	M	4b	Dry soil; sun. No flowers or fruits; 18" height; blue-green foliage; creeping.
<i>Juniperus communis depressa</i> *	Oldfield Common Juniper	M	3a	Dry soil; sun to partial shade. Insignificant flowers; berry-like blue-green fruits; light green foliage turns brown in winter.
<i>Juniperus horizontalis</i> *	Creeping Juniper	M	3a	Dry soil; sun. Insignificant flowers; some have berry-like fruits; variable foliage color; subject to blight disease.
<i>Juniperus Sabina</i> 'Calgary Carpet'	Calgary Carpet Savin Juniper	M	5a	Dry soil; sun. No flowers or fruits; 8" height; soft green foliage; low spreading.
<i>Taxus cuspidata</i> 'Espana'	Spreading Japanese Yew	M	4b	Dry to moist soil; shade. Insignificant flowers; red fruits; 6' height; dark green foliage; only fully hardy in SE Wisconsin.



Grasses, Forbs & Aquatics

Most aquatic plants have not been extensively studied for landscape purposes. However, landowners can help establish stable, diverse plant communities by encouraging these plants along the water's edge.

MOIST SHORE AREAS (MOIST TO WET SOILS IN FULL SUN)

PLANT NAMES		GROWTH HABIT	HARDINESS ZONE	PLANT CHARACTERISTICS
botanical	common			
<i>Andropogon gerardii</i> *	Big Bluestem Grass	—	3a	Flowers/seed heads branch into three parts; looks like a turkey's foot in fall; 3-8' height; lush green leaves turn to reddish fall color; stems blue/purple; most prevalent of all prairie grasses.
<i>Asclepias incarnata</i> *	Swamp Milkweed	—	3a	Pink flowers in midsummer; 2-4' height; narrow, lance-shaped, smooth-edged leaves.
<i>Aster novae-angliae</i> *	New England Aster	—	3a	Bright violet, rose, or magenta flowers with yellow centers in late fall; 2-6' height; important late-season nectar source for a variety of butterflies.
<i>Aster simplex</i> *	Panicled Aster	—	3a	White flowers in fall; 3-6' height; short, stalked, willow-like leaves.
<i>Calamagrostis canadensis</i> *	Canada Bluejoint Grass	—	3a	Typical grass flowers and seeds in fall; 2-4' height; grows in heavy dumps.
<i>Cicuta maculata</i> *	Cowbane or Water Hemlock	—	3a	White flowers in large umbel in summer; 3-6' height; twice- or three-compound leaves; stem streaked with purple; poisonous.
<i>Dodecatheon meadia</i> *	Shooting Star	—	3a	Pink flowers with swept back petals in spring; 1-2' height; leaves in rosette at ground level.
<i>Eupatorium maculatum</i> *	Spotted Joe-Pye Weed	—	3a	Flat-topped clusters of pale purple flowers in late summer; 4-6' height; stem is deep purple.
<i>Gallium boreale</i> *	Northern Bedstraw	—	3a	Tiny white clustered flowers in early summer; 1-3' height; narrow leaves in whorls of four.
<i>Gentiana andrewsii</i> *	Bottle Gentian	—	3a	Bright blue flowers in late fall never fully open; 1-2' height.
<i>Hypoxis hirsuta</i> *	Stargrass	—	4a	Six-pointed star-like yellow flowers in summer; 3-7' height; narrow grass-like leaves.
<i>Iris versicolor</i> *	Blue Flag (Wild Iris)	—	3a	Showy lavender flowers in late spring; 2-3' height; graceful, sword-like leaves.
<i>Lilium superbum</i> *	Turk's-Cap Lily	—	4a	Large, nodding, bright orange flowers with maroon-spotted petals in summer; 3-6' height.
<i>Panicum virgatum</i> *	Switch Grass	—	3a	Typical grass flowers and seeds in fall; 3-6' height; can be aggressive; thick stands make good winter and early spring wildlife cover.
<i>Phlox pilosa</i> *	Downy Phlox	—	3a	Pale purple flowers in late spring; 2-3' height; narrow, pointed leaves.
<i>Pycnanthemum</i> species*	Mountain Mint	—	3a	Flat-topped, branching clusters of white flowers in late summer; 1-3' height; square stems, mint-like odor if crushed.



(MOIST SHORE AREAS – CONTINUED)

PLANT NAMES		GROWTH RATE	HARDINESS ZONE	PLANT CHARACTERISTICS
botanical	common			
<i>Rudbeckia hirta</i> *	Black-eyed Susan	—	3a	Showy, big single yellow flowers with chocolate-colored center disks in summer; 1-3' height; easy to grow.
<i>Sorghastrum nutans</i> *	Indian Grass	—	3a	Flower clusters filled with short, soft, golden-brown hairs; typical grass seed head in fall; 4-8' height; grows rapidly.
<i>Spartina pectinata</i> *	Prairie Cordgrass	—	3a	Flowers and seed heads arranged on one side of stem in fall; 3-5' height; gracefully arching narrow leaves; bright yellow fall color.
<i>Thalictrum dasycarpum</i> *	Meadow Rue	—	3a	Delicate white dioecious flowers in spring; 2-5' height; lacy bluish-green leaves.
<i>Veronicastrum virginicum</i> *	Culver's Root	—	3a	White tube-like flowers in mid-summer; 2-5' height; slender, sharp-toothed leaves in whorls of 3-7.
<i>Viola cucullata</i> *	Marsh Blue Violet	—	3a	Violet flowers taller than leaves in spring; 5-10" height.
<i>Zizia aurea</i> *	Golden Alexanders	—	3a	Tiny golden flowers in spring; 1-3' height; doubly compound leaves; red-tinged stems.

SHALLOW WATER TO WET SHORE PLANTS

PLANT NAMES		GROWTH RATE	HARDINESS ZONE	PLANT CHARACTERISTICS
botanical	common			
<i>Acorus calamus</i> *	Sweet Flag	—	3a	Flowers are spadix of small greenish-yellow florets in early summer; 1-4' height; rigid, sword-like leaves; flat, blade-like stem.
<i>Phragmites communis</i> *	Giant Reed Grass	—	4a	Graceful, plumed tan flowers and fruiting heads in late summer; 8-12' height; aggressive once established.
<i>Sagittaria latifolia</i> *	Arrowhead	—	3b	White flowers in whorls of three in summer; 1-3' height; lance-like to broad, arrow-shaped leaves.
<i>Scirpus species</i> *	Bulrushes	—	3-4	Solitary or clustered spikelet flowers in summer; 6-8' height; grass-like leaves at base of plant.
<i>Sparaganium eurycarpum</i> *	Giant Bur-Reed	—	3b	Green to brown flowers; fruits are bur-like balls; 4-6' height; linear iris-like leaves.
<i>Typha latifolia</i> *	Cattail	—	3a	Brown head of tightly packed flowers; fruits are attached to fluffy, cotton-like material; 3-9' height; erect, blade-like leaves.



A FEW FINAL THOUGHTS

Some factors affecting shoreline development are beyond an individual's control. The property may have been developed and landscaped long ago; zoning code requirements may offer little flexibility for preserving vegetation on the lot; or options may be limited by surrounding properties. However, there are probably some shoreline landscaping or plant selection tips described inside that can improve both your property and water quality.

If you are proceeding with plans and permits to build, proper construction site practices are summarized in the fact sheet, *Erosion Control for Home Builders* (GWQ001), available in county UW-Extension offices.

Remember, most Wisconsin lakeshores started out being wooded, and such lots today are the ones often commanding high selling prices. If you want to maintain some conventional lawn away from the shoreline, refer to other facts sheets in the *Yard Care and the Environment* series for management suggestions.

If you have any questions about the suitability of a particular plant for your landscaping situation, contact your county UW-Extension office or a local nursery.



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A publication of the University of Wisconsin-Extension in cooperation with the Wisconsin Department of Natural Resources.

Authors: Dan Wilson and Gary Korb, UW-Extension. Portions of this fact sheet adapted from *Shoreline Landscape Plants* by Thomas Wilson and Dan Wilson, UW-Extension.

Illustrations: Carol Watkins

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Editing and design by the Environmental Resources Center, University of Wisconsin-Extension.

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
**GWQ014 Shoreline Plants
and Landscaping**
DNR WR-461-94
R-09-99-10M-30-S

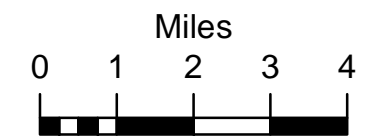
Active Sanitary Sewer Districts Map



Winnebago County, Wisconsin

Legend

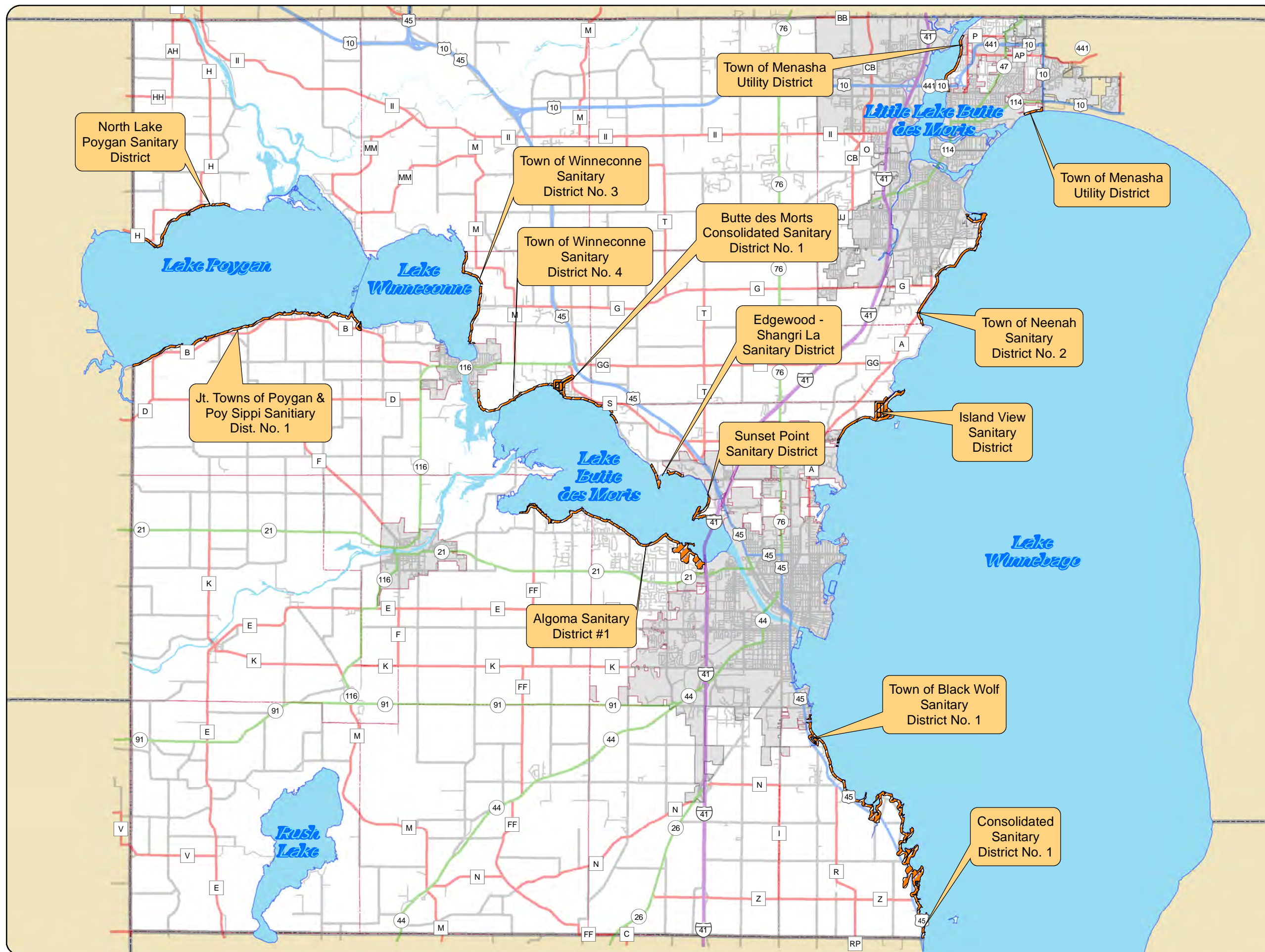
-  Sewered Sanitary Districts
-  Lakes
-  County Boundary



1 in = 2.5 miles



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Chapter 27

History Index

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27.6	Administration	
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27-1 – 27.15	Chapter 27 Revised to include mandatory DNR Regulations	October 18, 2016