

**BEFORE THE WISCONSIN
DEPARTMENT OF NATURAL RESOURCES**

**DECLARATORY RULING
IN THE MATTER OF THE
ORDINARY HIGH-WATER
MARK OF BASS LAKE, ST.
CROIX COUNTY**

INF-WC-2004-0034ST

FINDINGS OF FACT

1. On December 1st, 2003, the Department of Natural Resources ("DNR") held a public hearing regarding its intention to issue a ruling pursuant to s. 227.41, Stats., declaring the elevation of the Ordinary High Water Mark ("OHWM") of Bass Lake. A press release of the public hearing was noticed on the DNR web page and sent to 12 local newspapers (Exhibit F).
2. The hearing examiner was Dale Lang, DNR Northern Region Habitat Coordinator. The public hearing began at 6:00 pm and concluded at 8:00 pm and was recorded by Mr. Lang on cassette tape. The DNR extended the period for written comments through January 15, 2004. The hearing examiner notes, appearance slips, and recording of the public hearing and written public comments are included in Exhibit F.
3. Prior to scheduling a public hearing, DNR had received numerous controversial letters and public comments about the elevation of the OHWM of Bass Lake. The elevation of the OHWM delineates the boundary or lateral extent of a natural waterbody. Areas below or waterward of the OHWM are lake bed, while areas above or landward of the OHWM are land. The OHWM determines that point along the shore and waterward wherein the State's public trust responsibilities apply to activities regulated under Chapter 30, Stats.
4. Historically, DNR staff had determined the elevation of the OHWM on Bass Lake. Since then some parties have asserted that the OHWM has changed since DNR's last determination.
5. In an attempt to resolve the controversy surrounding the elevation of the OHWM on Bass Lake, as an interested person under s. 227.41, Stats., and to provide other interested persons an opportunity to seek judicial review under ss. 227.41 and 227.52, Stats., the DNR decided to:
 - Schedule a hearing to allow the public full opportunity to offer information to DNR regarding the elevation of the Bass Lake OHWM.
 - Consider the information provided at hearing.
 - Issue a ruling under s. 227.41, Stats., declaring the elevation of the OHWM on Bass Lake.

6. According to a DNR lake survey map dated 1960, Bass Lake has a surface area of 301 acres, a maximum depth of 33 feet, and approximately 5.9 miles of shoreline. Bass Lake has one public boat landing and is navigable in fact. The lake is located in Sections 23 and 26, T30N, R19W in the Towns of Somerset and St. Joseph (Exhibit C).
7. Bass Lake is a landlocked, glacial pothole lake. Water level is determined by the amount of rainfall, watershed runoff, groundwater input (groundwater discharge to the lake) and output (groundwater recharge from the lake), and by the amount of water pumped out of the lake. (Exhibit C).
8. For a period of record between 1953 and 2002, Bass Lake water elevations have fluctuated 12.68 feet ranging between 876.37 feet above mean sea level (MSL, 1912 Adjustment) and 889.05 MSL (Exhibit C).
9. The DNR uses the common law definitions cited in the Conclusions of Law and guidance from the Waterway and Wetland Handbook, Chapter 40, Ordinary High-Water Mark (Exhibit D) to determine the OHWM.
10. Recorded Bass Lake water levels show a substantial change from 1974 to 1975, when the water elevation increased by 5.95 feet (from a yearly average of 876.47 to 882.42 feet MSL). Water levels showed another substantial change in 1995 – 1997 when water levels were recorded above the 888.00 MSL elevation. (Exhibit F, Public comment letter from Bonestroo and Assoc., St. Joseph Town Engineer).
11. The DNR declared the following historical OHWM elevations for Bass Lake (Exhibit C):
 - 1981 OHWM declared at 884.61 feet MSL
 - 1986 OHWM declared at 886.11 feet MSL
 - 1988 OHWM declared at 886.10 feet MSL
 - 1998 OHWM declared at 888.30 feet MSL
 - 2002 OHWM declared at 888.39 feet MSL
12. In a December 17, 1999 letter to St. Croix County Zoning, Gary Lepak, DNR Water Management Engineer and professional engineer, determined the regional flood elevation for Bass Lake to be 890.00 MSL
12. On September 11, 2003, two teams of DNR staff, each accompanied by representatives of St. Croix County, conducted a site inspection of Bass Lake for the purpose of determining the OHWM (Exhibit A).
13. In a memo to the file, Ms. Eunice Post, DNR Water Management Specialist, documented four site-specific conditions that she observed at specified elevations during the site inspection. The site conditions she observed indicate the elevation of an OHWM using criteria described by the Supreme Court in *Diana Shooting Club v. Husting*, 156 Wis. 261, 272 (1914); *Lawrence v. American Writing Paper Company* 144 Wis. 556, 562 (1911); *State v. McDonald Lumber Company*, 18 Wis. 2d 173 (1962); and *State v. Trudeau*, 139 Wis. 2d 91 (1987).
14. The four site-specific conditions Ms. Post observed and documented at specific elevations during the site inspection are:

- a) An elevation that was the highest elevation where vegetation commonly found at or below the OHWM occurred.
 - b) An elevation where gleyed soils were present below this elevation. Gleyed soils indicate totally saturated soil conditions, the presence of water all or most of the time, and anaerobic soil conditions.
 - c) An elevation that is the lowest point of erosion mark on a sand/gravel shelf shoreline.
 - d) An elevation at which terrestrial vegetation at and below this elevation showed signs of stress.
15. Field notes of Mr. Gregory Breese, DNR Aquatic Habitat Expert, indicate a clear differentiation at 886.90 MSL between a hydric soil (10YR 2/1, mottle common, moist) and a gleyed soil (10YR 6/1, mottles abundant & pronounced, S-7 NRCS modifier). Mr. Breese determined the OHWM to be at the elevation where there was a physical change between these two soil layers.
 16. In a memo to the file, Mr. John Paddock, DNR St. Croix Basin Supervisor and professional engineer, described how he performed a level loop survey to determine the elevation of the point flagged as the OHWM based on the site inspection observations noted above. The corrected elevation of the point describing the OHWM was 886.90 MSL.
 17. Ms. Post summarized the September 11, 2003 fieldwork at the December 1st, 2003 public hearing (Exhibit A)
 18. At the same hearing, John Smyth and Paul Bockenstedt, from Bonestroo, Rosene, Anderlik and Associates and representing the Town of St. Joseph, presented a report dated November 18, 2003 ("Bonestroo report"). The Bonestroo report described site conditions that Smyth and Bockenstedt used to determine their OHWM elevation according to the way they interpreted the Waterway and Wetland Handbook, Chapter 40 (Exhibit G).
 19. The Bonestroo report described 3 zones of "inundation" at one site on the lake. The inundation zone between 884.6 and 885.6 MSL was dominated by plants capable of surviving 1 to 2 weeks of 6 -12 inches of water. Plants capable of surviving standing water for hours to a few days dominated the inundation zone between 885.6 to 886.3 MSL. Above 886.3 MSL, the zone was dominated by plants not subject to saturation or inundation (Exhibit G).
 20. The Bonestroo report also summarized the historical water levels for Bass Lake, noting that "out of the 26 years where water levels of Bass Lake were available, 19 of the years had water levels that did not exceed 885.6 MSL water level elevation." (Exhibit G)
 21. The Bonestroo report concluded that the OHWM is located at 885.6 MSL, a foot above the current water level of 884.6 MSL (Exhibit G) and 1.3 feet below the OHWM elevation set by DNR staff.
 22. The Waterway and Wetland Handbook, Chapter 40 that is used as guidance by DNR staff provides a list of plants that indicates whether each type of plant is

generally found below, above and below (transitional plants), or above the OHWM. Within the zone above 886.3 MSL, described by the Bonestroo report as "not subject to inundation," two plant types (*Juncus* sp. and *Carex* spp.) that the list indicates are generally found below the OHWM, were observed. Also, two plant types (*Populus deltoides* and *Iris versicolor*) that the list indicates are generally found in the transitional zone around the OHWM, were observed within the zone Bonestroo purports is above the OHWM.

23. The Bonestroo report did not provide information about non-vegetative biological or physical indicators as outlined in the Waterway and Wetland Handbook, Chapter 40, Ordinary High-Water Mark.
24. On July 23, 1997, DNR issued to the Bass Lake Rehabilitation District ("BLRD") a permit under s. 30.12 Stats., to install a lake pumping system (Exhibit B).
25. According to the 1997 permit (docket #3-WC-97-1036ST), BLRD may operate the pump only if the lake level is higher than 886.00 MSL. The pump may discharge at a maximum rate of 4.5 cubic feet per second.
26. Mr. Bill Lawson, who serves on the Bass Lake Rehabilitation District Board and was instrumental in having the pumping system installed, provided public comment that Barr Engineering, who designed the pumping system, stated that the lake could "bounce" 1 foot or so higher due to heavy rains or spring runoff. (Exhibit F).

CONCLUSION OF LAW

1. DNR is responsible for determining whether or not waterways of the state are public or private pursuant to s. 30.10, Stats..
2. DNR has the authority, as well as the obligation, to determine whether the waters of the state are navigable in fact, public, and subject to the regulations under ch. 30, Stats. See s. 30.10, Stats., and *Turkow v. DNR*, 216 Wis. 2d 272, 576 N. W. 2d. 288 (Ct. App. 1998).
3. DNR is the State agency responsible for insuring all public waters are held in trust for the benefit of the public. Part of this responsibility includes determining the physical limits or extent of it public trust responsibilities. The state's public trust responsibilities extend from the waterway landward to the ordinary high water mark as identified by the DNR.
4. The OHWM establishes the boundaries of the public trust in navigable waters. Public title to beds of natural navigable lakes extends to areas below the OHWM that may be covered with aquatic vegetation. Lakebed may be heavily vegetated by plants rising far above the water. *State v. Trudeau*, 139 Wis. 2d 91 (1987).
5. "The OHWM is the point on the bank or the shore up to which the presence and action of surface water is so continuous as to leave a distinct mark either by erosion, destruction of terrestrial vegetation, or other easily recognized characteristic." *Diana Shooting Club v. Husting*, 156 Wis. 261, 272 (1914); also *Lawrence v. American Writing Paper Company*, 144 Wis. 556, 562 (1911); also

State v. McDonald Lumber Company, 18 Wis. 2d 173 (1962); also *State v. Trudeau*, 139 Wis. 2d 91 (1987) (Exhibit E).

6. Courts have declined to uphold OHWM determinations that were not based upon biological or physical indicators. In the case of *State v. McDonald Lumber Co.*, 18 Wis. 2d 173 (1962), the court refused to adopt the state's attempt to prove the elevation of the OHWM based upon averaging high-water level elevations.
7. For Bass Lake, a change in the OHWM will not change the jurisdictional zone for county shoreland zoning which is measured pursuant to s. 59.692(1)(b)1. Stats. That statute requires zoning jurisdiction on glacial pothole lakes to be measured from the high-water mark and not the OHWM.

DISCUSSION

The DNR file contains correspondence from many different groups of people who have an interest in the elevation of Bass Lake's OHWM.

- Some riparian owners have primary residences or accessory structures that were built at a lower elevation and closer to the water's edge when water levels were lower. With the high water levels between 1995 and 1997 and the higher OHWMs those higher water levels eventually created, some structures currently are at, or below the OHWM of 888.39 MSL that DNR determined in 2002.
- The Town of St. Joseph owns a roadway (132nd Street) that was closed to traffic when rising water levels in 1994 placed the road below the OHWM of 888.3 MSL that DNR determined in 1988. The Town has indicated a desire to reopen the road to vehicular traffic.
- The riparian property owners adjacent to 132nd Street have filed a permit with the DNR to remove the roadway and install conventional shore protection.
- The Bass Lake Rehabilitation District has indicated it believes that a higher OHWM elevation will better protect Bass Lake from development and preserve water quality by prohibiting the opening of 132nd Street.

While all these issues may be important, they may not be considered in determining the elevation of the OHWM of Bass Lake, which is the only issue addressed in this declaratory ruling. The Supreme Court of Wisconsin has provided very specific instructions for determining the elevation of the OHWM. DNR has based the Bass Lake OHWM declared in this ruling on the court's instructions and more than a dozen pages of DNR guidance in the Waterway and Wetland Handbook that help DNR interpret and apply the method of determining the OHWM endorsed by the Wisconsin courts. This declaratory ruling is only concerned with the correct determination of the OHWM.

There was no biological information presented in the public hearing or public comment period to support the existing OHWM elevation of 888.3 MSL. Some public comments refer to the erosional line that still exists near this elevation, but provide no additional information on other indicators that would support determining that this elevation is the OHWM of Bass Lake.

Using the indicators of the OHWM endorsed by Wisconsin courts, the issue is whether the information in the record supports the DNR proposed OHWM elevation of 886.90 MSL, the Bonestroo report proposed OHWM of 885.6 MSL, or another elevation entirely.

The Bonestroo report was well prepared and accurately describes the vegetation found at the site analyzed in the report. However, the Bonestroo report analyzes the plant community at the site based upon the most commonly occurring species at each point, a method appropriate for delineating wetlands but not sufficient to determine an OHWM. By using an analysis paralleling the wetland delineation method, the Bonestroo report incorrectly determined the OHWM at 885.60 MSL. The report documents at an elevation of 886.3 MSL (above its proposed OHWM), two species that commonly occur below the OHWM and two species generally found within the transition zone near the OHWM (i.e. above and below the OHWM).

The Bonestroo report only examined one site and did not document corroborative physical indicators. The report did not examine stressed terrestrial plants. Stressed terrestrial and aquatic plants are important in determining the OHWM on waterbodies with broad transitional zones. While aquatic plants can grow somewhat above and terrestrial plants can grow somewhat below the OHWM, the plants will show signs of stress from too little or too much water, respectively. Determining the elevations at which aquatic and terrestrial plants show stress helps staff locate the OHWM more precisely.

DNR field notes and observations are summarized in Ms. Eunice Post's memo to the file dated December 1st, 2003. DNR staff divided into two teams and with assistance from St. Croix County staff examined two different sites on the lake. Mr. Gregg Breese, DNR West Central Regional Aquatic Habitat Expert led one team. As the Aquatic Habitat Expert, Mr. Breese has more than 7 years of experience determining OHWMs and is responsible for training staff and ensuring consistency decisions within the West Central Region. Ms. Post led the second team. Ms. Post has been determining OHWMs as part of her DNR responsibilities for more than 11 years.

Most notably, both teams observed a transitional zone of vegetation at their initial sites, making it difficult to flag a definitive OHWM elevation. DNR staff then selected two additional sites each to further document OHWM indicators. Ms. Post's memo specifically discounts elevations of 887.39 MSL and 887.79 MSL due to the presence of unstressed terrestrial vegetation, which indicated that water levels did not reach that elevation very often. Another site with an elevation of 885.02 MSL was discounted as the OHWM because it was so highly disturbed that it was difficult to discern OHWM indicators.

A fourth site with an elevation of 886.90 MSL was examined and found to possess both physical and biological indicators of the OHWM. At this point on the shore the vegetation was entirely hydrophytic or "water loving," indicating the recurring presence of water, and the terrestrial plants immediately above the zone of exclusively hydrophytic plants showed signs of stress. The entire soil profile was classified as hydric, but the OHWM was delineated at the "B" horizon due to gleyed soil conditions. This "gleyed" soil break was common throughout the bay at approximately the same elevation. At this

elevation of 886.90 MSL, the DNR teams noted the distinct erosional line of a sand/gravel shelf and noted this was the lowest erosional line present above the existing water level.

Additional information in the 1997 ch. 30 permit issued to the Bass Lake Rehabilitation District and supplied through public comments by Mr. Bill Lawson indicate that if lake levels rise in the future, the pumping system now in place will maintain the lake level at around 886.00 MSL, with a potential for about a 12 inch "bounce" or rise in water levels during rain events. Although no one knows whether lake levels will rise again, if waters levels do rise, because of pumping the recurring maximum high water level will be approximately 887.00 MSL.

DECISION

The DNR has carefully reviewed the information provided as Exhibits A through E and the public comments now included in Exhibit F. Based upon the Findings of Facts and Conclusions of Law, the DNR declares the Ordinary High Water Mark of Bass Lake to be 886.90 MSL.

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that Wisconsin Statutes and Wisconsin Administrative Code establishes time periods within which request to review this Department of Natural Resources decision.

For judicial review of a decision pursuant to ss. 227.41(1), 227.52, and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate court and serve the petition on the Secretary of the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

Dated at Madison, Wisconsin April 10, 2004

By Scott Hassett
Scott Hassett, Secretary