

Wisconsin DNR – Lake Level Monitoring Staff Gauge Survey Data Sheet

Lake Information

Lake Name Bass [Sections 14, 23 and 24 - Meemon] County Burnett

Data Collectors

Primary Data Collector Jason Towne Email jtowne@burnettcounty.org Phone No. (715) 349-2599
 Additional Data Collector(s) Luke Meier

Reference Mark and Staff Gauge Information

Reference Mark #1 (RM1) Reference Mark Type: Mag Nail in E
 Latitude: 45 51 26.7 Longitude: 92 18 01.9 Mean Sea Level Yes No Elevation: 967.01 Photograph
 Location Description: _____

Reference Mark #2 (RM2) Reference Mark Type: Nail in tree
 Latitude: 45 51 26.3 Longitude: 92 18 02.2 Mean Sea Level Yes No Elevation: 967.20 Photograph
 Location Description: _____

Reference Mark #3 (RM3) Reference Mark Type: Nail in sign
 Latitude: 45 51 26.6 Longitude: 92 18 01.5 Mean Sea Level Yes No Elevation: 966.64 Photograph
 Location Description: _____

Staff Gauge

Latitude: 45 51 25.6 Longitude: 92 18 03.7 Mean Sea Level Yes No Elevation: 959.43 Photograph
 Location Description: _____

Date: 4/12/17 Time: 10:30 AM PM Check one: Install Midseason Removal

Survey Stage 1 - Instrument at first height*

	Reference Mark 1	Fore sight (FS1)	Calculated Elevation (CE1)	
Given Elevation (GE _{RM1})	<u>967.01</u>			Survey Equations: HI1 = GE _{RM1} + BS1 CE1 = HI1 - FS1
Back sight 1 (BS1)	+ <u>2.39</u>			
Height of Instrument (HI1)	<u>969.40</u>	<u>9.97</u>	= <u>959.43</u>	
	HI1 - Ref Mark 2	<u>2.20</u>	= <u>967.20</u>	
	HI1 - Ref Mark 3	<u>2.76</u>	= <u>966.64</u>	

Survey Stage 2 – Reset instrument at different height

	Staff Gauge	Fore sight (FS2)	Calculated Elevation (CE2)	
Calculated Elevation1	<u>959.43</u> ←			Survey Equations: HI2 = CE _{SG1} + BS2 CE2 = HI2 - FS2
Back sight 2 (BS2)	+ <u>10.45</u>			
Height of Instrument (HI2)	<u>969.88</u>	<u>2.88</u>	= <u>967.00</u>	
	HI2 - Ref Mark 2	<u>2.69</u>	= <u>967.19</u>	
	HI2 - Ref Mark 3	<u>3.25</u>	= <u>966.63</u>	

Quality Assurance Checks:

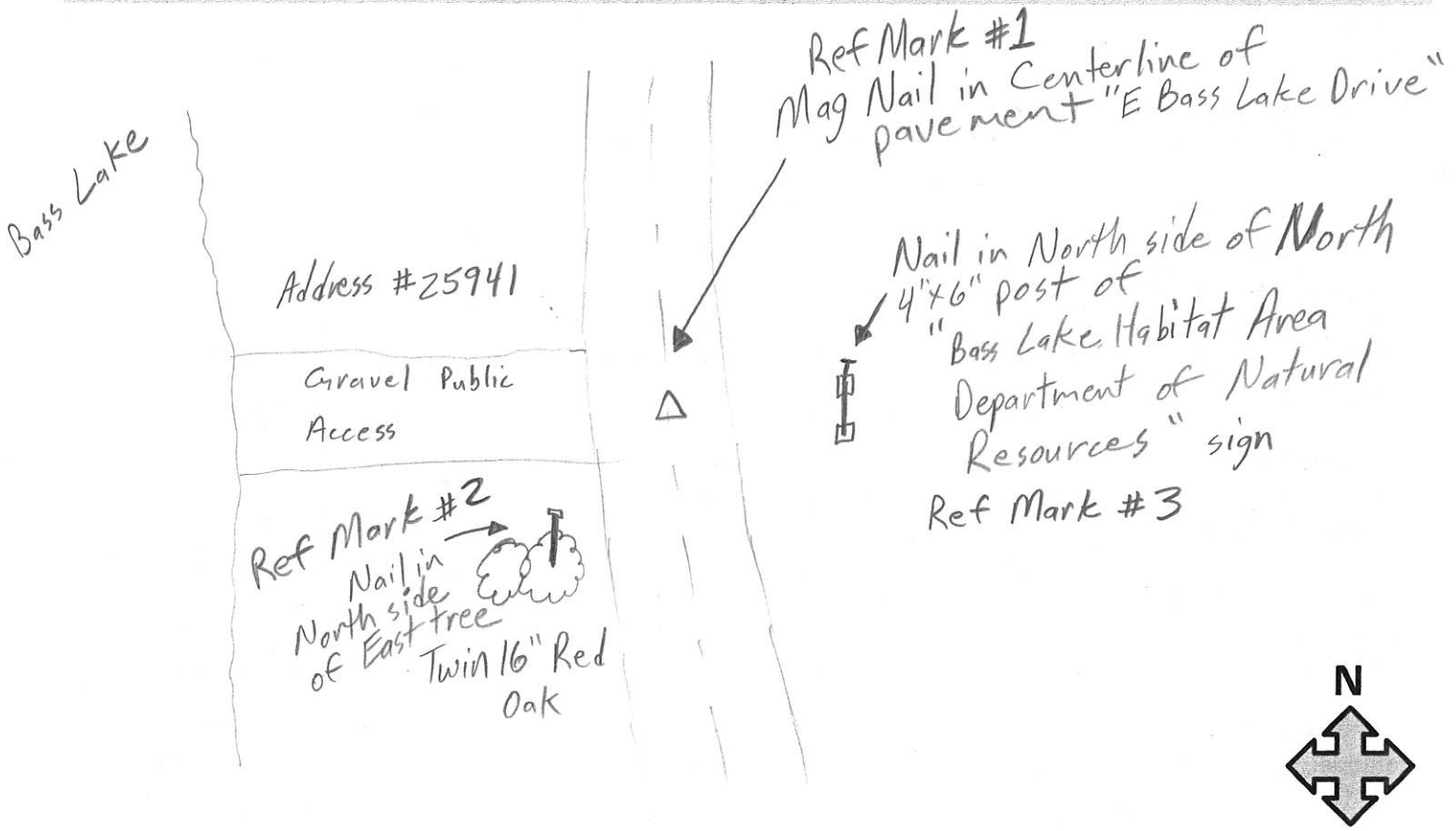
Reference Mark 1: BS1 2.39 FS1 9.97 QA Equations:
 GE = CE2 BS2 + 10.45 FS2 + 2.88 BS1 + BS2 = FS1_{SG} + FS2_{RM1}
12.84 = 12.85 GE_{RM1} = CE2_{RM1}

*Accept Survey Stage 1 if QA checks within 0.01 ft. Use calculated elevations 1 for the rest of the season unless the gauge moves.

Lake Level Reading: 961.89 ft

Wisconsin DNR – Lake Level Monitoring
Staff Gauge Survey Data Sheet

Site Diagram (including Staff Gauge and Reference Marks)



Notes

Ref marks 1, 2, 3 and the gauge are based on a level loop starting at NGS Benchmark BASS MEENON (PID DN5431) which has an elevation of 966.37 NAVD88 Ortho Height in feet.

Data Management

Survey Data uploaded to SWIMS? Yes No Date: _____ Name: _____

Photographs uploaded to SWIMS? Yes No Date: _____ Name: _____

Data Sheet scan uploaded to SWIMS? Yes No Date: _____ Name: _____

Equipment Maintenance

Replace bolts/screws on staff gauge? Yes No Date: _____ Name: _____

Replace gauge plate on staff gauge? Yes No Date: _____ Name: _____

Replace post or wooden board? Yes No Date: _____ Name: _____