

Wisconsin DNR – Lake Level Monitoring
Staff Gauge Survey Data Sheet

9/11/2025

Lake Information

Lake Name Vincent Lake County Polk

Data Collectors

Primary Data Collector _____ Email _____ Phone No. _____
() -
Additional Data Collector(s) _____

Reference Mark and Staff Gauge Information

Reference Mark #1 (RM1) Reference Mark Type: NW Cor. concrete patio
Latitude: _____ Longitude: _____ Mean Sea Level Yes ☐ No ☐ Elevation: 1195.85 Photograph ☐
Location Description: _____

Reference Mark #2 (RM2) Reference Mark Type: High point on boulder
Latitude: _____ Longitude: _____ Mean Sea Level Yes ☐ No ☐ Elevation: 1191.07 Photograph ☐
Location Description: Boulder on north side of yard

Reference Mark #3 (RM3) Reference Mark Type: High Point on Rock
Latitude: _____ Longitude: _____ Mean Sea Level Yes ☐ No ☐ Elevation: 1189.84 Photograph ☐
Location Description: Rock on south side of yard 2' northerly of oak tree near water

Staff Gauge X
Latitude: _____ Longitude: _____ Mean Sea Level Yes ☐ No ☐ Elevation: 1185.75 Photograph ☐
Location Description: _____

Date: _____ Time: _____ AM/PM Check one: Install ☐ Midseason ☐ Removal ☐

Survey Stage 1 - Instrument at first height*

	Reference Mark 1	Fore sight (FS1)	Calculated Elevation (CE1)	Water FS1 9.39 Elev. = 1187.45
Given Elevation (GE_{RM1})	<u>1195.85</u>			
Back sight 1 (BS1)	<u>0.99</u>			
Height of Instrument (HI1)	<u>1196.84</u>			
	- Staff Gauge	<u>11.09</u>	= <u>1185.75</u>	
	- Ref Mark 2	<u>5.76</u>	= <u>1191.08</u>	
	- Ref Mark 3	<u>7.00</u>	= <u>1189.84</u>	

Survey Equations:
 $HI1 = GE_{RM1} + BS1$
 $CE1 = HI1 - FS1$

Survey Stage 2 – Reset instrument at different height

	Staff Gauge	Fore sight (FS2)	Calculated Elevation (CE2)	
Calculated Elevation1	<u>1185.75</u>			
Back sight 2 (BS2)	<u>+ 11.15</u>			
Height of Instrument (HI2)	<u>1196.90</u>			
	- Ref Mark 1	<u>1.05</u>	= <u>1195.85</u>	
	- Ref Mark 2	<u>5.82</u>	= <u>1191.08</u>	
	- Ref Mark 3	<u>7.05</u>	= <u>1189.85</u>	

Survey Equations:
 $HI2 = CE_{SG1} + BS2$
 $CE2 = HI2 - FS2$

Quality Assurance Checks:

Reference Mark 1: BS1 0.99 FS1 11.09
GE = CE2 BS2 + 11.15 FS2 + 1.05
12.14 = 12.14

QA Equations:
 $BS1 + BS2 = FS1_{SG} + FS2_{RM1}$
 $GE_{RM1} = CE2_{RM1}$

*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.

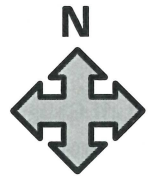


Staff Gauge Survey Data Sheet

Lake Level Reading: 1.70 ft

Revised 2016

Site Diagram (including Staff Gauge and Reference Marks)



Notes

[illegible]

Data Management

Survey Data 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: _____

