Wisconsin DNR – Lake Level Monitoring 5/15/2025

Staff Gauge Survey Data Sheet

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 Moved Gauge

Latitude: _____ Longitude: _____ Mean Sea Level Yes ☐ No ☐ Elevation: 1190.22 Photograph ☐

Location Description: _____

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

Survey Stage 1 - Instrument at first height*

Water FS1 9.91
Elev. = 1187.57

	Reference Mark 1		Fore sight (FS1)	Calculated Elevation (CE1)
Given Elevation (GE_{RM1})	1195.85			
Back sight 1 (BS1)	+ 1.63			
Height of Instrument (HI1)	1197.48	- Staff Gauge	11.72	= 1185.76
	HI1	- Ref Mark 2	6.40	= 1191.08
	HI1	- Ref Mark 3	7.64	= 1189.84

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	1185.76			
Back sight 2 (BS2)	+ 11.69			
Height of Instrument (HI2)	1197.45	- Ref Mark 1	1.59	= 1195.86
	HI2	- Ref Mark 2	6.36	= 1191.09
	HI2	- Ref Mark 3	7.60	= 1189.85

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

Quality Assurance Checks:

Reference Mark 1: GE = CE2

BS1 1.63 + BS2 11.69 = 13.32

FS1 11.72 + FS2 1.59 = 13.31

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.

EGAD # 3200-2018-45

WISCONSIN DEPT. OF NATURAL RESOURCES

Wisconsin DNR – Lake Level Monitoring

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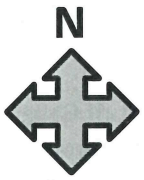
Lake Level Reading: 1.82 ft

Revised 2016

Site Diagram (including Staff Gauge and Reference Marks)



Notes

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: _____

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