

2.64

# Wisconsin DNR - Lake Level Monitoring Staff Gauge Survey Data Sheet

**Lake Information**  
Lake Name NEVA LAKE County LANGLADE

**Data Collectors**  
Primary Data Collector DAVE TLUSTY Email dtlusty@co.langlade.wi.us Phone No. (715) 627-6311  
Additional Data Collector(s) \_\_\_\_\_

**Reference Mark and Staff Gauge Information** *SEE DESCRIPTIONS ON ATTACHED SHEET*  
Reference Mark #1 (RM1) Reference Mark Type: \_\_\_\_\_  
Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_ Mean Sea Level Yes  No  Elevation: \_\_\_\_\_ Photograph   
Location Description: \_\_\_\_\_

Reference Mark #2 (RM2) Reference Mark Type: \_\_\_\_\_  
Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_ Mean Sea Level Yes  No  Elevation: \_\_\_\_\_ Photograph   
Location Description: \_\_\_\_\_

Reference Mark #3 (RM3) Reference Mark Type: \_\_\_\_\_  
Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_ Mean Sea Level Yes  No  Elevation: \_\_\_\_\_ Photograph   
Location Description: \_\_\_\_\_

**Staff Gauge**  
Latitude: 45° 16' 05.3" Longitude: -89° 06' 09.4" Mean Sea Level Yes  No  Elevation: \_\_\_\_\_ Photograph   
Location Description: 2016 GAUGE LOCATION IS VERY CLOSE TO 2015 LOCATION WHICH IS SHOWN ON NEXT SHEET

Date: 7/12/16 Time: 2:45 AM/PM AM DAT. TDN Check one: Install  Midseason  Removal

**Survey Stage 1 - Instrument at first height\***

	Reference Mark 1	Fore sight (FS1)	Calculated Elevation (CE1)
Given Elevation (GE <sub>RM1</sub> )	<u>100.00</u>		
Back sight 1 (BS1)	<u>+ 3.51</u>		
Height of Instrument (HI1)	<u>103.51</u>	<u>8.15</u>	= <u>95.36</u>
	HI1 - Staff Gauge	<u>3.64</u>	= <u>99.87</u>
	HI1 - Ref Mark 2	<u>2.66</u>	= <u>100.85</u>
	HI1 - Ref Mark 3		

Survey Equations:  
HI1 = GE<sub>RM1</sub> + BS1  
CE1 = HI1 - FS1

**Survey Stage 2 - Reset instrument at different height**

	Staff Gauge	Fore sight (FS2)	Calculated Elevation (CE2)
Calculated Elevation1	<u>95.36</u> ←		
Back sight 2 (BS2)	<u>+ 8.20</u>		
Height of Instrument (HI2)	<u>103.56</u>	<u>3.56</u>	= <u>100.00</u>
	HI2 - Ref Mark 1	<u>3.64</u>	= <u>99.87</u>
	HI2 - Ref Mark 2	<u>2.71</u>	= <u>100.85</u>
	HI2 - Ref Mark 3		

Survey Equations:  
HI2 = CE<sub>SG1</sub> + BS2  
CE2 = HI2 - FS2

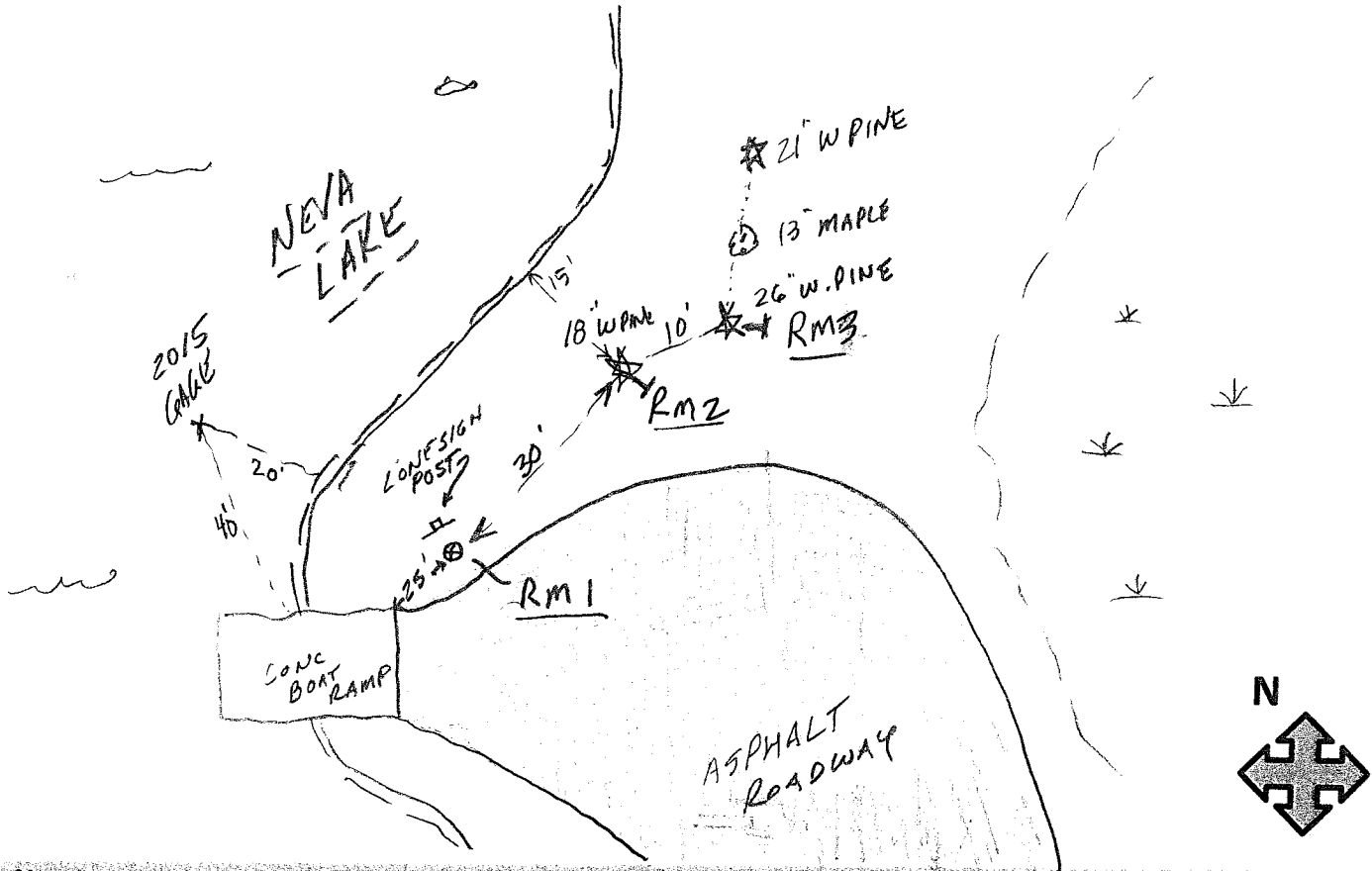
**Quality Assurance Checks:**  
Reference Mark 1: BS1 3.51 FS1 8.15  
GE = CE2 BS2 + 8.20 FS2 + 3.56  
11.71 = 11.71  
QA Equations:  
BS1 + BS2 = FS1<sub>SG</sub> + FS2<sub>RM1</sub>  
GE<sub>RM1</sub> = CE2<sub>RM1</sub>

\*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: 1.50 ft 7/12/16 DTLUSTY

Wisconsin DNR – Lake Level Monitoring  
**Staff Gage Calibration Data Sheet**

**Site Diagram including Staff Gage and Reference Marks**



**Notes**

RM 1 = 1" x 30" REBAR DRIVEN THRU ROCKY SOIL UNTIL  
 FLUSH WITH GROUND 2' SE OF NEVA SIGN POST &  
 8' NW OF ASPHALT EDGE

RM 2 60d SPIKE DRIVEN INTO EAST SIDE OF 18" W PINE  
 & FLUSH WITH GROUND

RM 3 60d SPIKE DRIVEN INTO EAST SIDE OF 18" W. PINE  
 & FLUSH WITH GROUND

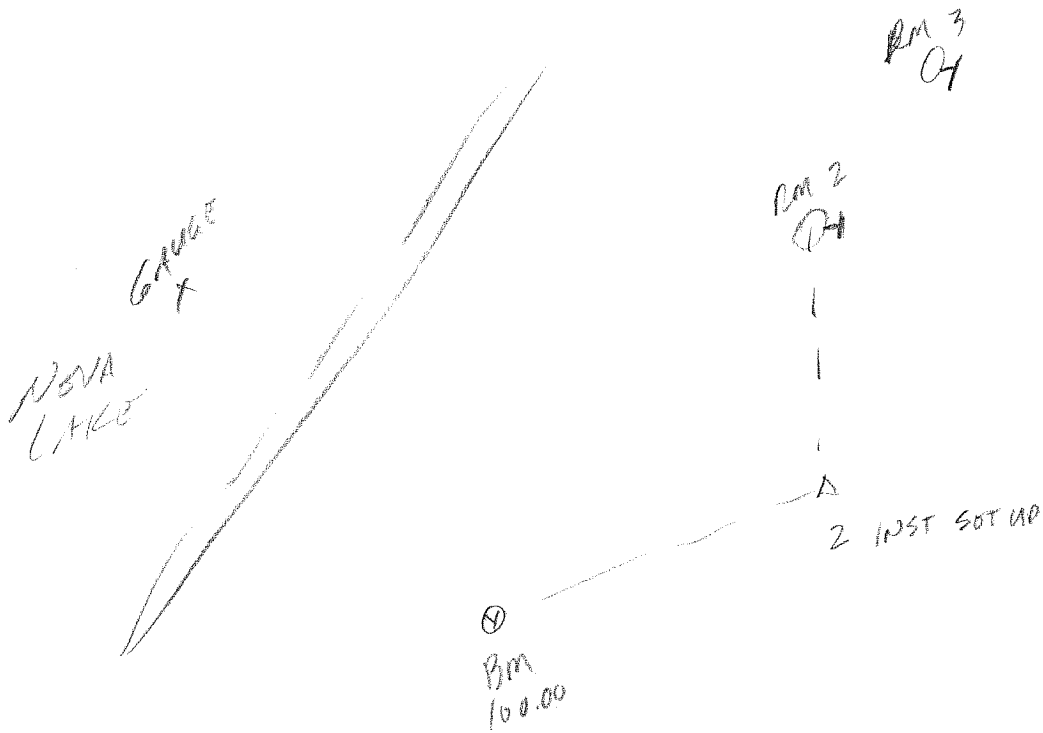
7/12/16 2016 GAUGE PRETTY CLOSE TO 2015 LOCATION. BUBBLE CENTERED BUT  
 POST & GAUGE LEAN TOWARDS SHORE.

**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 gage? Yes  No  Date: \_\_\_\_\_ Name: \_\_\_\_\_  
 Replace gage plate on staff gage? Yes  No  Date: \_\_\_\_\_ Name: \_\_\_\_\_  
 Replace post or wooden board? Yes  No  Date: \_\_\_\_\_ Name: \_\_\_\_\_



NOVA LAKE GAUGE FINAL SURVEY 11/23/16 D. TRUST  
 POINT FILE "NOVALK"

OCG: RANDOM PT 2

BS BM 100 @ AZ 268°

PREVIOUS  
 READINGS

PT 3	SHOT	RM 2	ELEV	MEAS	99.86	99.87
PT 4	SHOT	RM 2	ELEV	MEAS	100.85	100.85
PT 6	SHOT	GAUGE	(ROD HT 2.00)		95.38	95.36
PT 7	"	"	(ROD HT 3.00)		95.38	95.36

NEVALK\_PTS.TXT

1,	5000.0000000,	5000.0000000,	0.0000000,
2,	5000.0000000,	5000.0000000,	101.7599620, INST
3,	5023.9730915,	5007.7434826,	99.8622231, RM2
4,	5027.3276921,	5017.2484176,	100.8474221, RM3
6,	5024.5628246,	4951.4423318,	95.3812478, GAUGE
7,	5024.5252213,	4951.4652710,	95.3783915, GAUGE

NEVALK\_SHOTS.TXT

CM V6 Definitions: SS: Side Shot; TR: Traverse; OC: Occupied Coordinates;  
PC: Point Coordinates; CM: Comment; OS: Occupied Station;  
TS = time stamp; e = electronic; m = manual;

CM Time Stamp WED 05/24/06 09:43:59P

PC 1 5000.000000 5000.000000 0.000000

CM SCALE 1

CM BM 100.0000 5.0000 6.2900 0.00000 91.53210 14.256

OC 5000.000000 5000.000000 101.7599620

PC 2 5000.000000 5000.000000 101.7599620 BM

SS e HI:5.000 HR:6.290 RM2  
0 2 3 BAZ:268.00000 0.00000 AR:109.54030 ZA:91.22550  
SD:25.20000

SS e HI:5.000 HR:6.290 RM3  
0 2 4 BAZ:268.00000 0.00000 AR:124.15320 ZA:89.19510  
SD:32.31800

SS e HI:5.000 HR:1.000 GAUGE  
0 2 5 BAZ:268.00000 0.00000 AR:28.49590 ZA:98.45090  
SD:55.05600

SS e HI:5.000 HR:3.000 GAUGE  
0 2 6 BAZ:268.00000 0.00000 AR:28.49570 ZA:98.45120  
SD:55.05800

SS e HI:5.000 HR:4.000 GAUGE  
0 2 7 BAZ:268.00000 0.00000 AR:28.48290 ZA:97.43490  
SD:54.87800

PC 2 5000.000000 5000.000000 101.7599620 INST

OC 5000.000000 5000.000000 101.7599620 INST