



James Madison Park

Project Update

January 3, 2018

Baird.

Innovation Engineered.

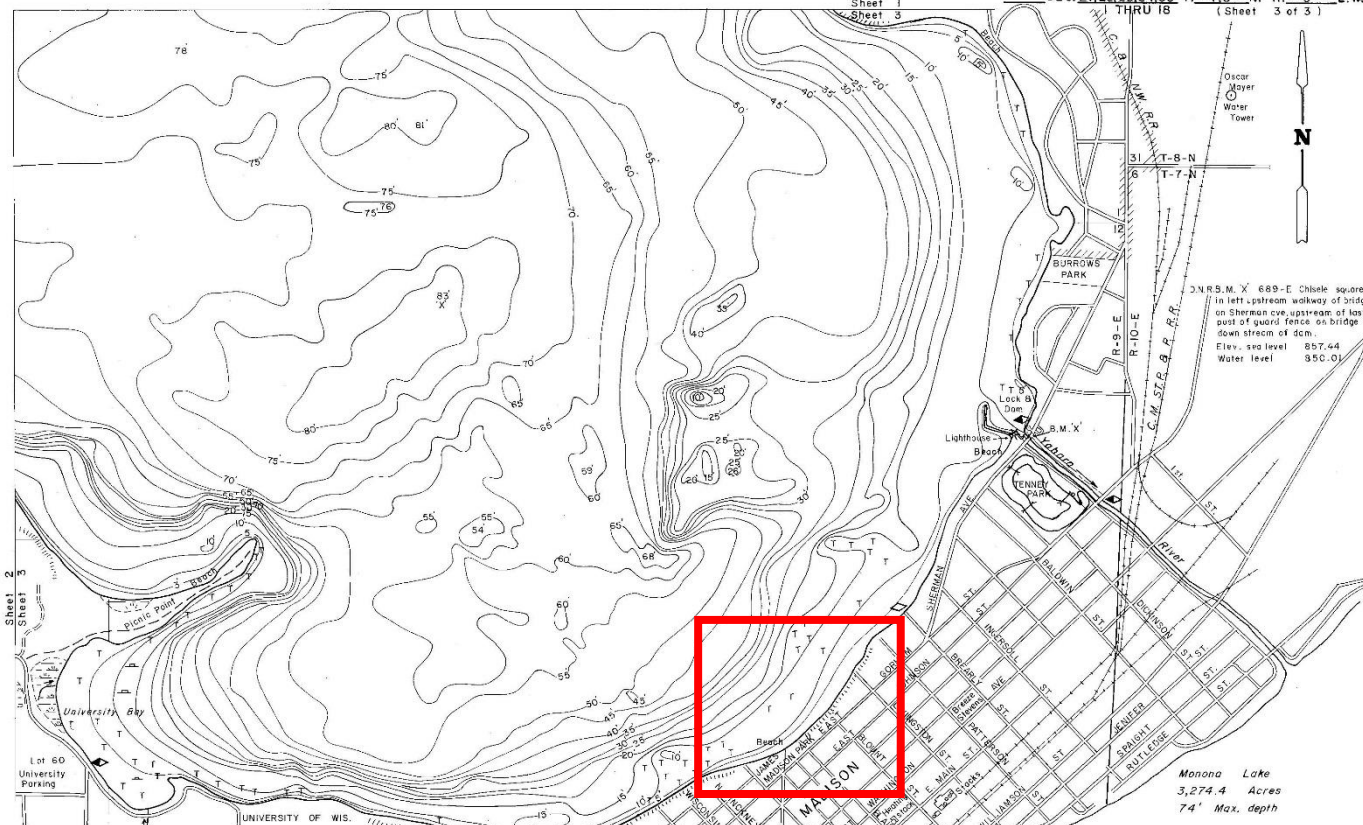
baird.com

Historic Lakebed Survey (1981)

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

LAKE SURVEY MAP

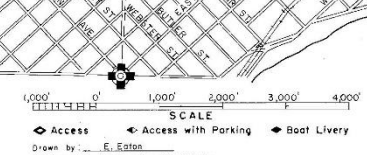
MENDOTA
LAKE
DANE COUNTY
SEC. 27, 28, 33, 34, 35 T. 7-B-N. R. 9-E
THRU 1B (Sheet 3 of 3)



EQUIPMENT RECORDING SONAR MAPPED

TOPOGRAPHIC SYMBOLS	JULY 1981	LAKE BOTTOM SYMBOLS
(B) Brush	Sleep slope	P. Peat
(W) Partly wooded	— Indefinite shoreline	Mk. Muck
(W) Wooded	(M) Marsh	C. Clay
(C) Cleared	(S) Spring	M. Marl
(P) Pastured	(I) Intermittent stream	Sd. Sand
(A) Agricultural	(P) Permanent inlet	Sl. Silt
B.M. Bench Mark	(O) Permanent outlet	G. Gravel
(D) Dwelling	(D) Dam	R. Rubble
(R) Rest	D.N.R. State owned land	Bc. Bedrock
(C) Camp		

LAKE BOTTOM SYMBOLS	1981
(B) Boulders	Non Rise Hall
(S) Slumps & Snags	(R) Rock danger to navigation
(V) Submergent vegetation	(E) Emergent vegetation
(F) Floating vegetation	(B) Brush shelters



SPECIES OF FISH	Abundant	Present
Muskie	X	
N. Pike	X	
Walleye	X	
I.M. Bass	X	
S.M. Bass	X	
Panfish	X	
Trout		X

Monona Lake
3,274.4 Acres
74' Max. depth

WATER AREA 9,842.46 ACRES
UNDER 3 FT. 9 %
OVER 20 FT. 70 %
MAX. DEPTH 83 FEET
TOTAL ALK. 140 P.P.M.
VOLUME 413,230.52 ACRE FT.
MAIN SHORELINE 21,923 MI.
ISLAND SHORELINE MI.

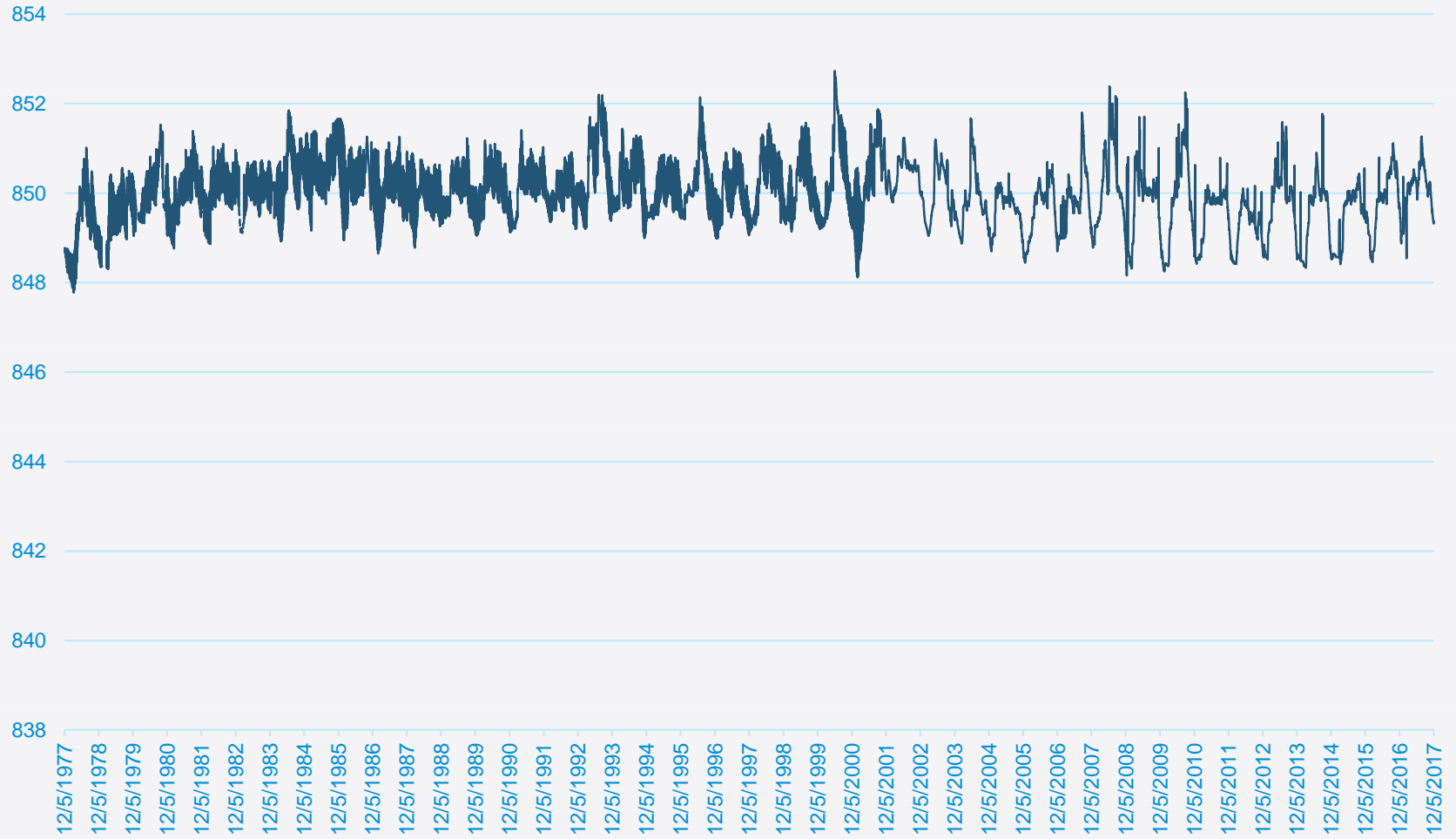
B. 1981

Updated Lakebed Survey (Nov. 2017)



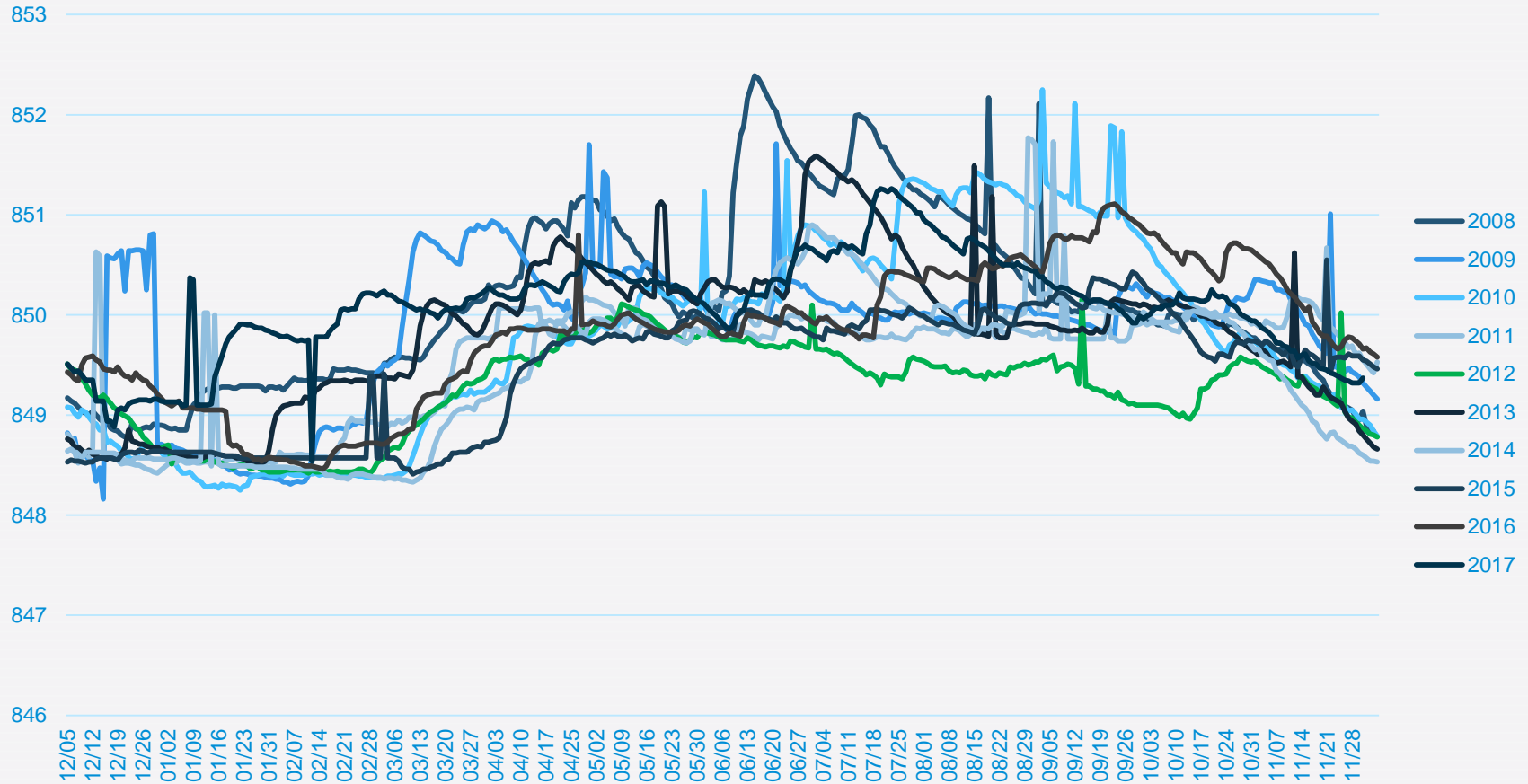
Historic Water Levels

Water Levels 1977 - 2017



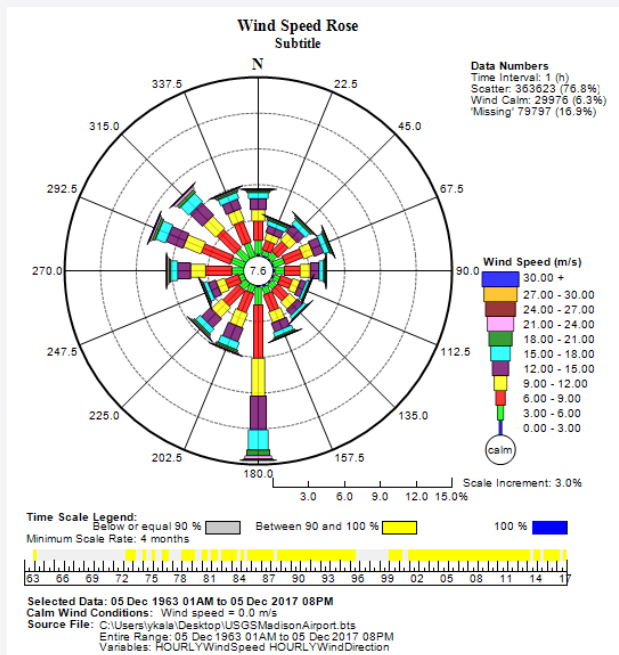
Seasonal Water Level Fluctuation

Seasonal and Annual Variation 2008 - 2017

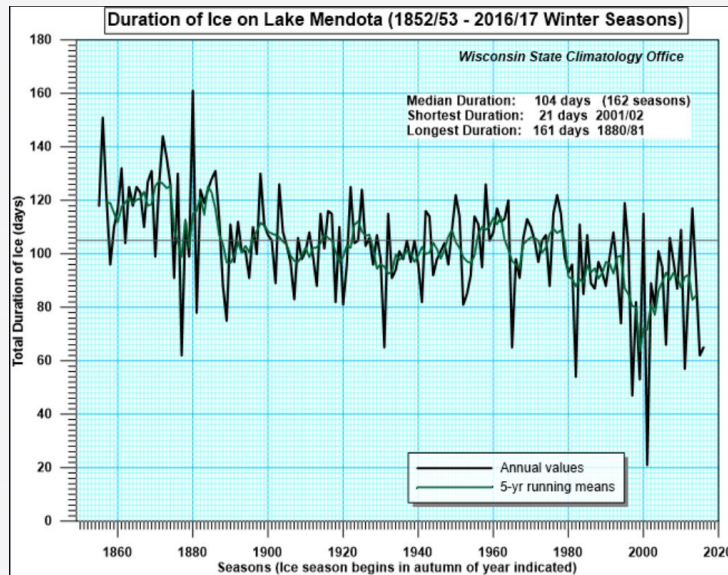


Wind and Wave Data

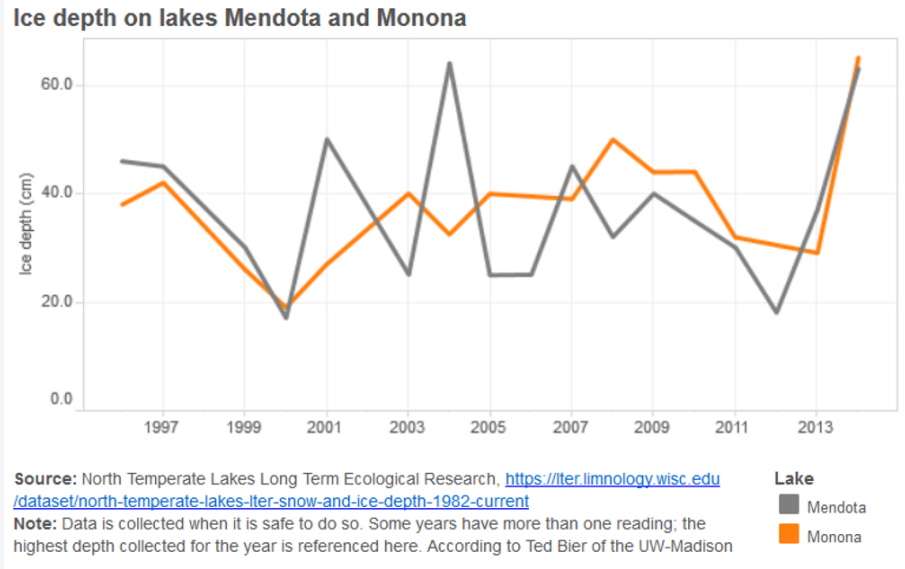
- Maximum fetch is ~ 4.7 miles to NW-N
- Maximum wave conditions in deep water (offshore of site) for extreme (50-60 mph) winds are $H_s \sim 4.5\text{-}5.5\text{ ft}$, $T_p \sim 4\text{-}5\text{ s}$
- Wave conditions at shoreline will be smaller due to shallow water effects (in particular, depth-limited breaking)



Historic Ice Cover & Depth



Source: Wisconsin State Climatology Office



Source: North Temperate Lakes Long Term Ecological Research, <https://lter.limnology.wisc.edu/dataset/north-temperate-lakes-lter-snow-and-ice-depth-1982-current>
 Note: Data is collected when it is safe to do so. Some years have more than one reading; the highest depth collected for the year is referenced here. According to Ted Bier of the UW-Madison

Site Visit

