

Appendix B

Datums and Elevations

Prepared by Nancy Johnson Dent.

Several historical documents indicate that some of the gages and benchmarks in this region may not be accurate and that they are not all relative to the same datum. Therefore, the data used for this study was all related to the NAVD 88 datum using survey points that were determined using a Global Positioning System (GPS). The conversion from NGVD 29 datum to the adjusted local datum was originally established at the Tiger Cat Dam to be 1268.02; this conversion value was used to compute the adjusted local datum from the NAVD 88 elevation¹⁰. Using this system, the structures are all relative to the same datum and the conversion to the adjusted local datum is constant.

The following table lists the initial local datum elevation for various benchmarks as reported when installed and the adjusted local datum elevation that was assumed for this study:

Benchmark Location	Name	Local Datum Elevation as reported when Installed	NAVD 88 Elevation	Adjusted Local Datum Elevation
Tiger Cat Dam	854B	93.81	1361.85*	93.83
	854C	99.01	1367.03*	99.01
Lake Placid Dam	879A	102.26	1370.20	102.18
	879B	93.52	1361.41	93.39
Little Round Lake Dam	1127C	85.34	1353.09	85.07
County Highway NN	1127E	82.56	1350.58	82.56

*NOTE: These elevations were obtained from WDNR documents.

Under these assumptions, the following table lists selected drainage system elevations in NAVD 88 and adjusted local datum:

Structure	Description	NAVD 88 Elevation	Adjusted Local Datum Elevation
Little Round Lake Dam	Sill in Center of East Opening	1343.74	75.72
	Sill in Center of West Opening	1343.81	75.79
County Highway NN	South Culvert Upstream Invert	1342.26	74.24
	North Culvert Upstream Invert	1342.21	74.19

¹⁰ The conversion from NGVD29 to NAVD88 was obtained after the data was adjusted and the conversion established. Near Round Lake the conversion ranges from -0.07 to -0.10 feet (Corpscon software).

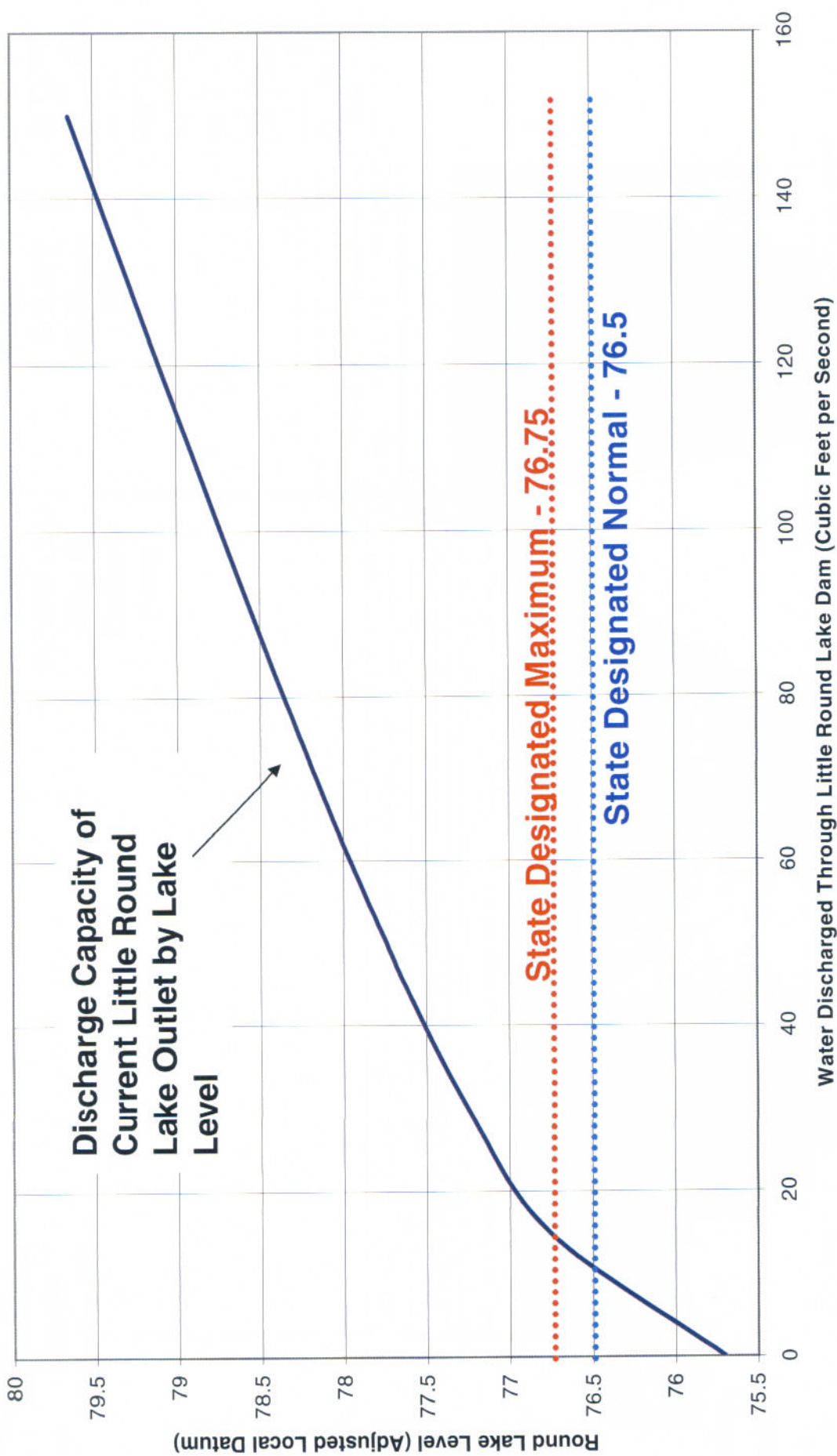


Figure 8
Round Lake Elevation Discharge Curve

NOTE: The datum used in this figure is explained in Section I.A.