

AUTOMATED GEOSPATIAL WATERSHED ASSESSMENT (AGWA)

The WIC worked closely with NEMO to identify which portions of the project area have a higher risk of pollutant transport based on sediment and water yield using the Automated Geospatial Watershed Assessment (AGWA) model. AGWA is a GIS-based hydrologic modeling tool that provides qualitative estimates of runoff and erosion based on model inputs, watershed elements such as a Digital Elevation Model (DEM), subwatershed discretization, land use/cover, soil, and precipitation.

AGWA simulated a high precipitation event, which occurred on August 22, 1960 and resulted in 3.15 inches of precipitation over a 24-hour period. Water yield results (**Fig. 19**) demonstrate a direct relationship between water yield and impervious cover; ***the more developed and urbanized subwatershed units in the lower watershed yielded higher water runoff than the forested, upper watershed units***. Sediment yield results (**Fig. 20**) demonstrate an inverse relationship between impervious cover and sediment yield; ***the undeveloped, forested subwatershed units (most frequently in the upper watershed) were more likely to yield a higher sediment load during a precipitation event***.

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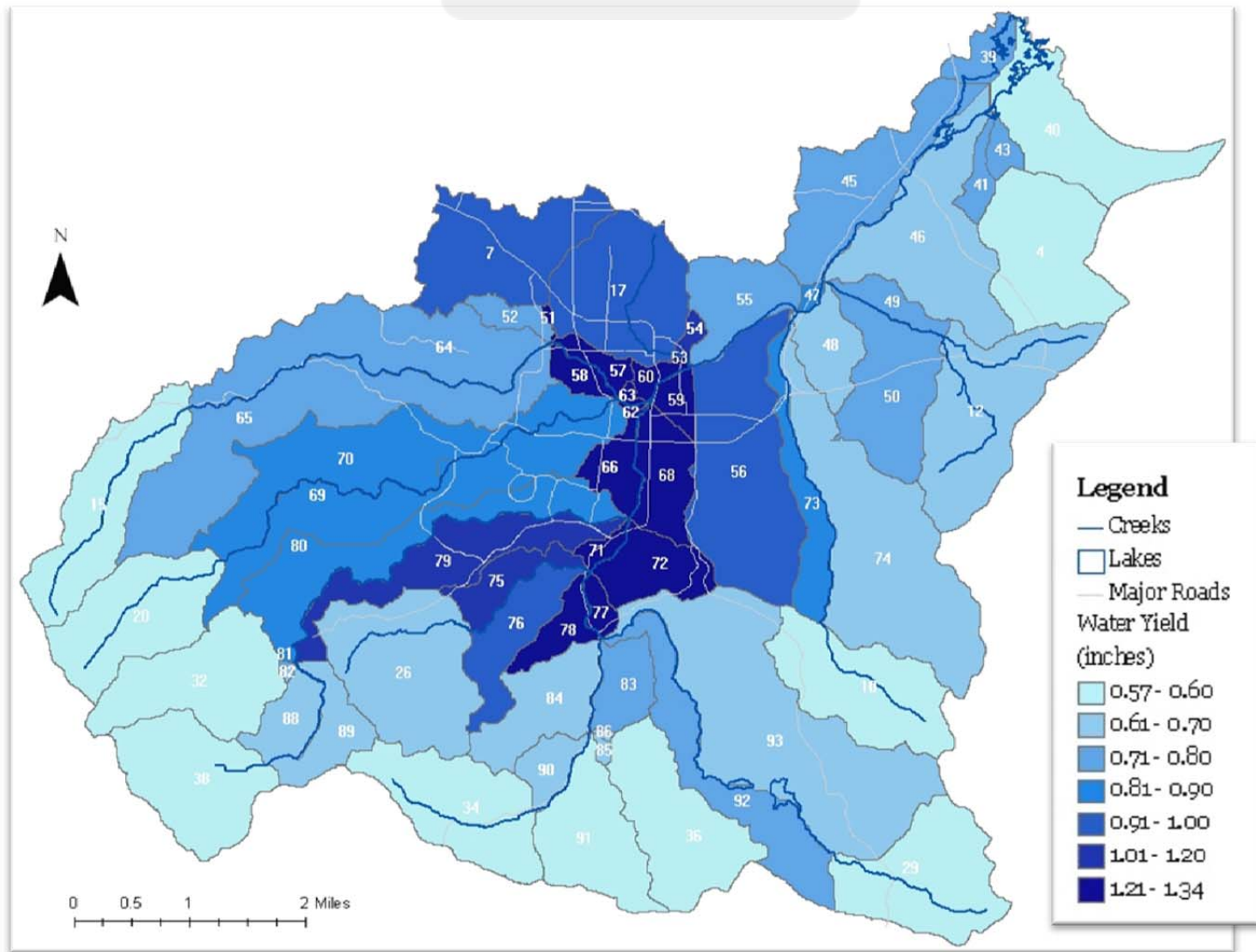
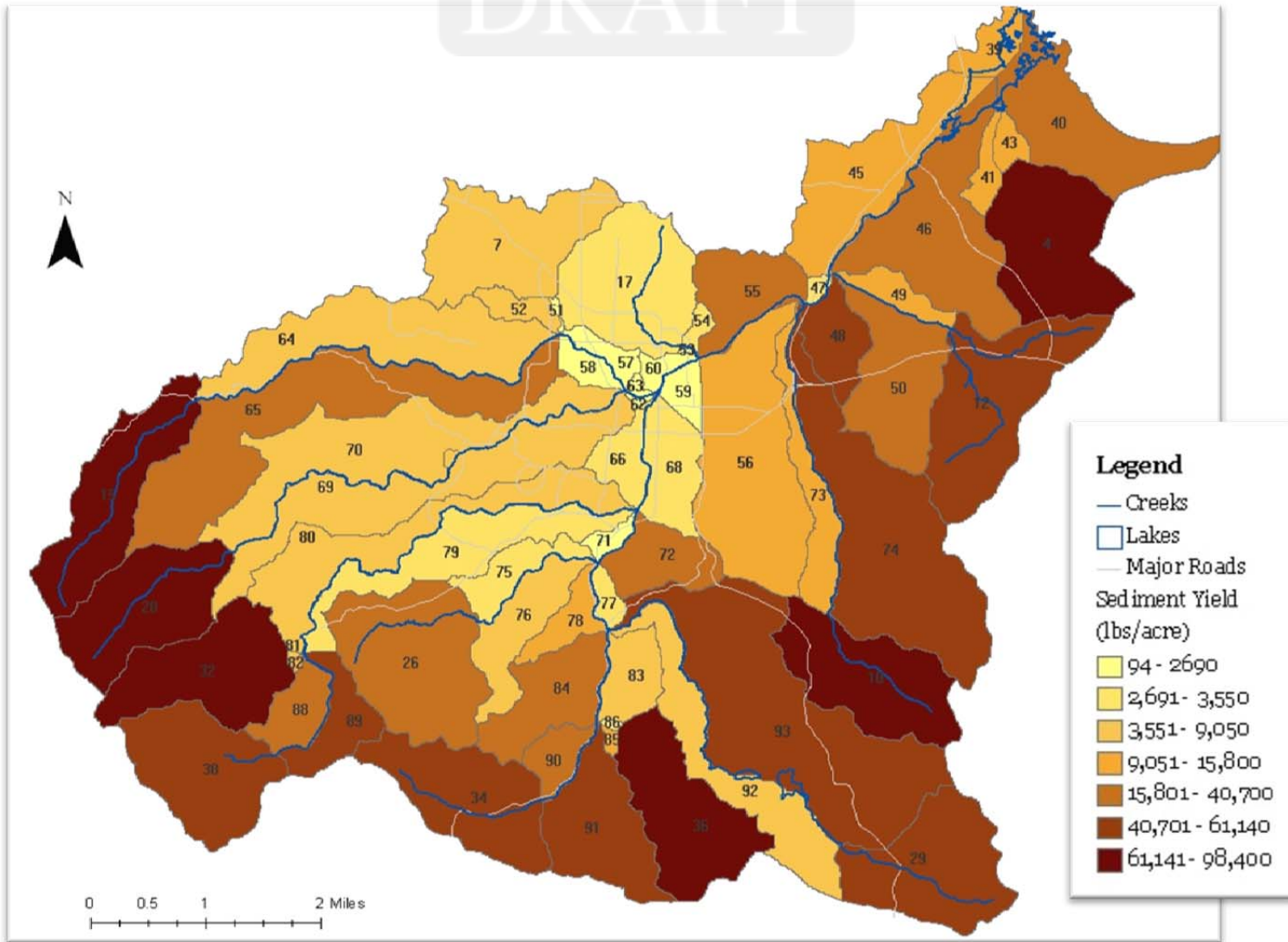


Figure 19: AGWA Water Yield

AGWA simulated a high precipitation event from August 22, 196 that resulted in 3.15 inches of precipitation over a 24-hour period. Water yield results demonstrate a direct relationship between water yield and impervious cover. The more developed and urbanized subwatershed units in the lower watershed yielded higher water runoff than the upper watershed units containing natural ground cover (forest).

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