

**HISTORIC WATER AND WATERFRONT USE IN THE BUFFALO,
NEW YORK, RIVER WATERSHED**

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ABSTRACT: The textbook model of Great Lakes cities serves in the paper as a model not only for progress and urbanization but also as a time model for historic environmental impact. Buffalo, New York, serves as an example of this sequence, matching the model well. Native American uses and locations provide a contrast.

Most North American urban settlements began at some interface between land and water. Our ancestors looked upon these interfaces for a number of uses. The best known use in the context of urban historical geography is a transportation nexus, the so-called "break-in-bulk point," where the water aided transport and lowered its costs. The break-in-bulk points became the nuclei of settlements, and the water/land nexus gained another function besides transport. Under intense and dense adjacent settlement, the water became both accidentally and later purposefully, the solvent and transporter of the urban societies wastes as well as a source of drinking and cleaning water.

The sequence of development of cities as metropolitan areas on the Great Lakes has been generalized in the well known textbook by Paterson as the hypothetical Clee-Ron-Kee-O. I have used this model many times to describe the sequent occupance of the site of Buffalo to explain the land and water-scape of this city. This paper will deal with the sequence of degradation of the natural water in contrast to development. The model begins with a general description of earliest European occupance, describing the site as it was "discovered" by Europeans. Thus the swampy low and meandering deposition by tributary streams and inland beach ridges from earlier versions of the lake are visible in the first "map." The subsequent use of and modification of the "natural sites" are the subjects of the later maps. Map two deals with the coming of canals; its time frame is later than this development in Buffalo. Map three describes the elaboration of railroads and industries on the now controlled waterfront.

Fourth, we see turn of the century steelworks and grain elevators. Fifth, the beginnings of the end for earlier "improvements." Human landscape features predominate; as we approach the later sequences, the land-water nexus becomes an area of discard and later renewal. The metropolitan area replaces the original focus on the city, and city land values drop. Buffalo follows the model well; as a historical baseline, the use of older anthropological studies enable us to look at contrasting uses of the Buffalo River by native Americans both before and shortly after European contact. The most striking contrast is the natives avoidance of the changeable and vulnerable mouth of the typically slow but changeable Buffalo River, whose mouth drifted shut, but which rose (and rises) seven or eight feet in a not uncommon westerly storm. Typical Iroquoian settlements in the Buffalo River watershed appear inland near the tributary creeks that form the river some four riverine miles inland. With the

alienation of the land by the Holland Land Company, that company laid out the Buffalo Creek Reservation of the Seneca around the Buffalo River watershed but retained the lowest meanders and the mouth, and laid out their baroque city above a 25 foot "terrace." The mouth-side area was sold as "water lots." The Seneca made summer time treks toward the mouth of the River to fish and collect such plants as needed, then returned to upstream settlements. The Europeans subdivided and drew lines on what could only be seen as an irregular and shifting strand. As the Clee-Ron-Kee-O model demonstrates, one of the earliest tasks was to try to stabilize this mouth, to try to overcome the river's inevitable deposition there, enabling large and larger ships to use the river as a trans-shipment point. As the original site of Buffalo had the advantage of being the natural eastern end of shipping on the Great Lakes, Lake Erie also served after 1825 as a source of water for a 70+ mile stretch of the original Erie Canal, limited only by the shallow capacity of the canal. The large amount of traffic generated by the Erie Canal resulted in the perceived necessity to enlarge and modify the Buffalo River as a harbor. Additional slips and side canals were built almost immediately and they were used not only for local delivery, but rather quickly became open sewers for lower class and immigrant populations who lived adjacent to them. Contiguous factories used the canals for disposal of industrial wastes. With the coming of railroads in the third phase, some of these slips and lateral canals were in fact filled in: the stagnant Hamburg canal was replaced in situ by the Lehigh Valley railroad line to its 1917 passenger terminal. Previously this canal had disrupted the flow of tributary Little Buffalo Creek, and the first trunk sewer from a (presumed) spring source called the Hydraulics, one mile east of the original end of the Erie Canal. The Hamburg served to spread cholera in the epidemic of 1849, and was considered a major nuisance long before it was finally filled in. Like the Clee-Ron-Kee-O model, this canal was replaced by the Lehigh Valley R.R. terminal trackage, which in turn was torn down and used as part of the right of way of I-190, a radial connection to I-90, the New York State Thruway. The original Erie Canal north route along the Niagara River had also become a public nuisance and was also displaced by I-190.

Any study of the sequence of water use in Buffalo must also consider the supply of water for the needs of the growing 19th and 20th century city. The first sources of water aside from simple removal from the creeks and rivers were a number of wells in and about the walking city, i.e., its area and limits under the 1832 charter, before it reached its present area in 1853. Some of these were shallow and in natural sumps. Both the wells and the primitive disposal of human wastes in the canals served to spread cholera in Buffalo in the epidemic of 1849. In 1852 a water intake was built much too close to the original sewer outlet; disease was thus recycled with fatal results until a new interceptor sewer was built with its outlet considerably down stream and a new water intake built farther in the lake in the 1890's.

Like the Clee-Ron-Kee-O model, the harbor at Buffalo (a concept denied at one time by an Army Engineer) was created by breakwalls and moles, and the consistent dredging of the Buffalo River, to a depth of 21 feet for four miles. In 1967, the river was relieved of the burden of supplying cooling and processing water by the building of the Buffalo River intake, which supplied this water directly from Lake Erie. It is still deposited into the river however.

Like the model, the Buffalo River and Lake Erie waterfront has taken on an increasing recreational function. It has lost much of its industrial base as well as its port function, new recreational schemes, some embracing the still-functioning elevators of the country's largest flour milling center, are in plentiful if underfunded supply. Recreation alone has not "saved" the waterfront; its amenity is still hidden or of unknown value because of residual pollutants. It is a sign of a newer phase in Buffalo's relationship to the water of Lake Erie that ideas some quite impractical for removal of the present radia expressway are publicly discussed.