

# GIS Analysis for Public and Environmental Health

## Water Quality

### HUC 4 subregion:

- HUC 4-0713
- IL
- central Illinois, centered around Peoria
- 64 TRI facilities located within the region

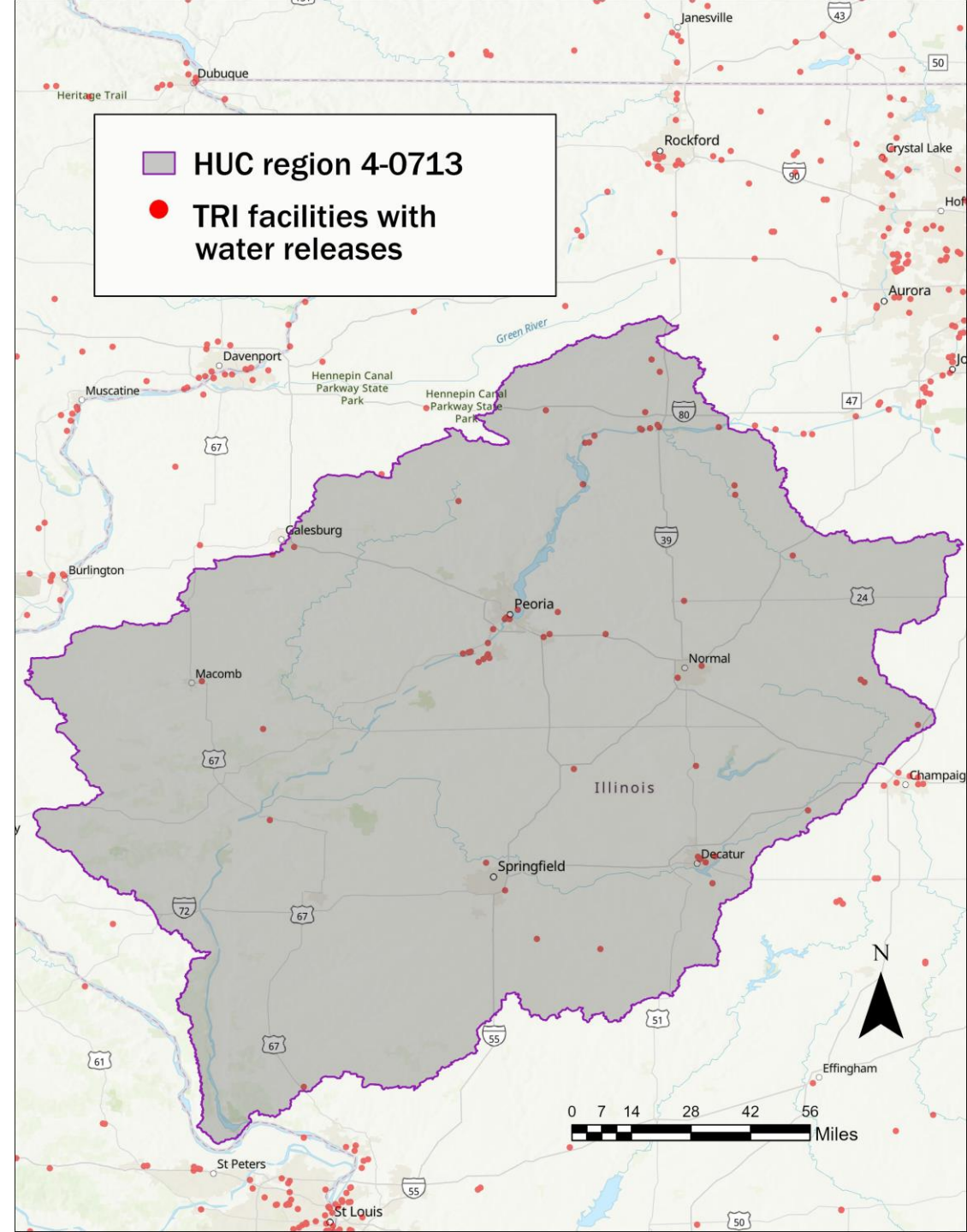
### Toxicity values summary:

Sum: 2116.27

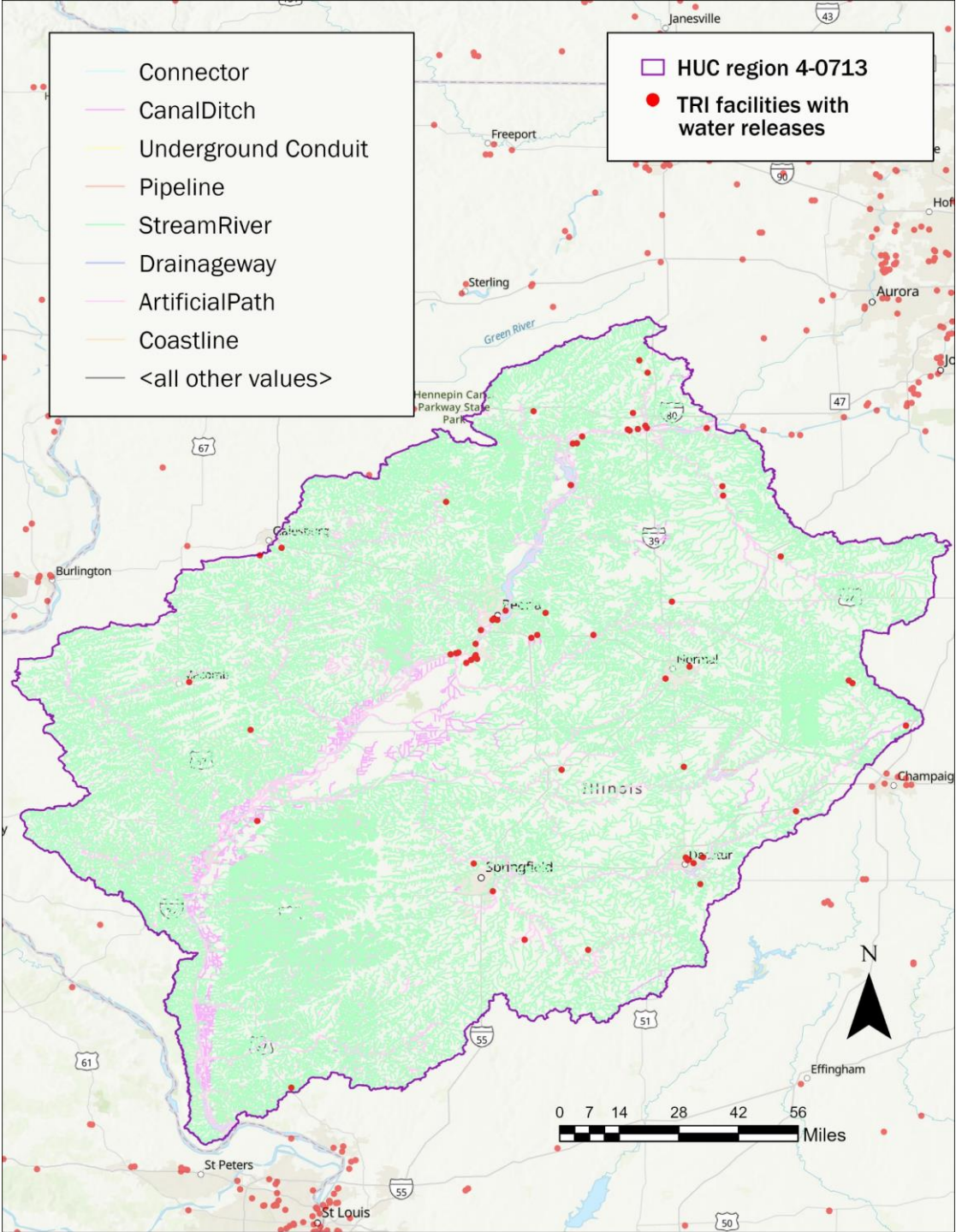
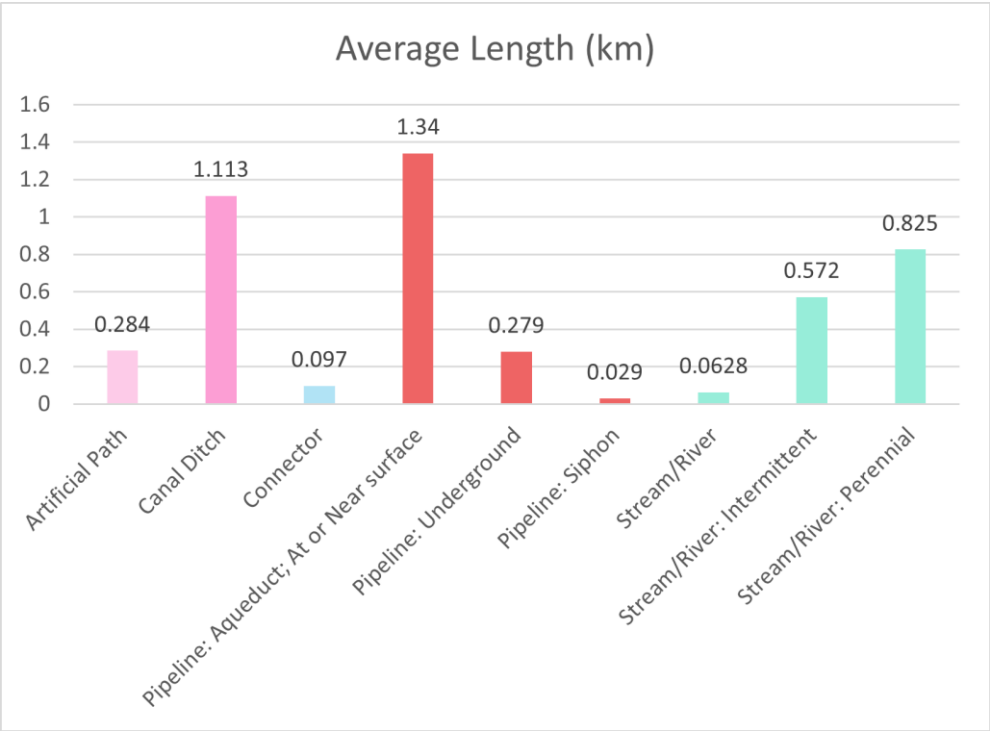
Average: 3.02

Min: 0.000001

Max: 482.23



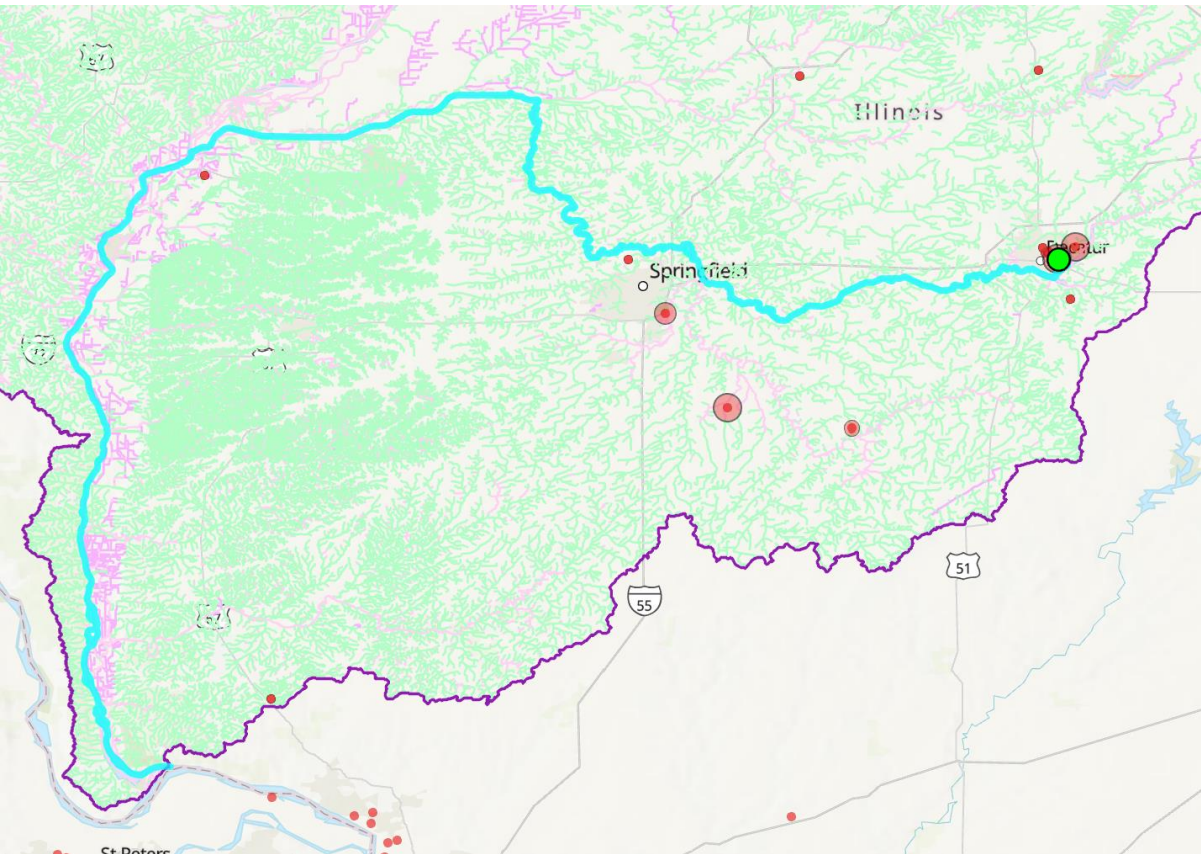
Connector: 701  
Canal Ditch: 1,143  
Stream/River: 4  
Stream/River Intermittent: 78,382  
Stream/River Perennial: 15,775  
Artificial Path: 19,007  
Pipeline:  
    Siphon: 2  
    Underground: 5  
    At or Near Surface: 5





# Downstream Trace from TRI facility

Flowline 65302



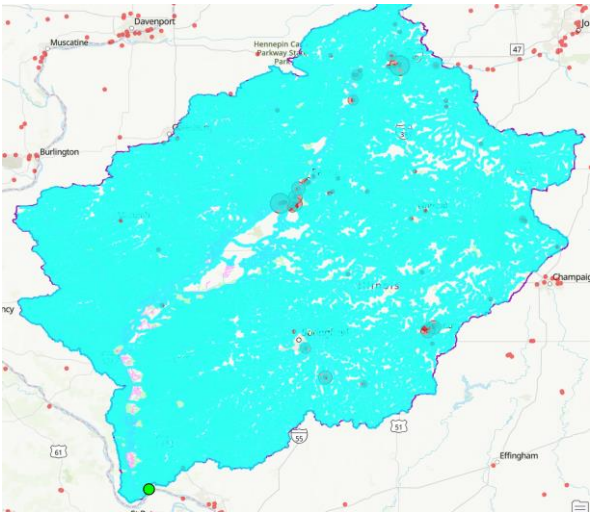
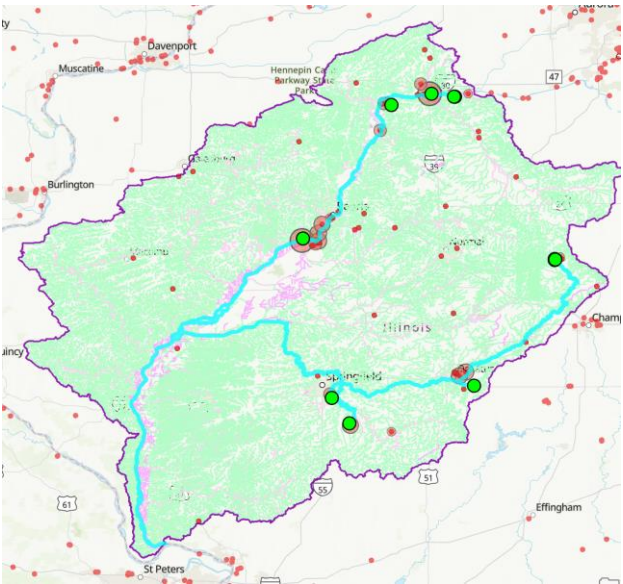
TRI facility of focus:

**Tate & Lyle Decatur**

Toxic water-release weight: 123.977

In HUC region 4-0713, almost all locations used as a starting point for ArcGIS Pro trace analysis leads back to the Illinois River and continues south, as seen on the map to the right.

# Downstream Trace from TRI Clusters

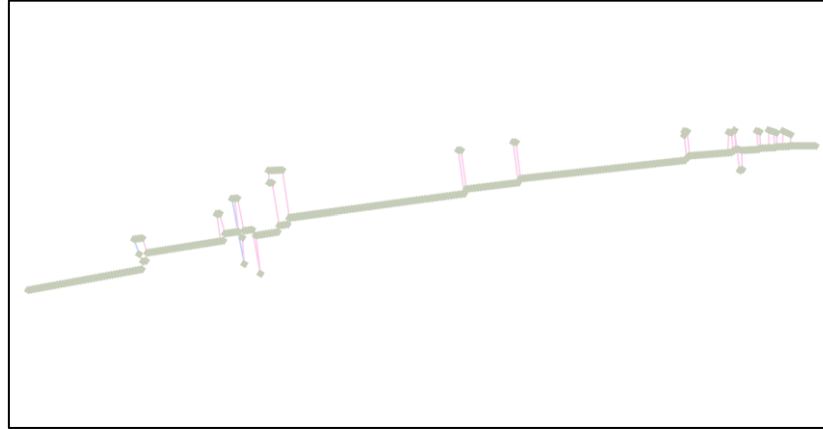


Upstream trace from a point on the southern end of the Illinois river within the focus HUC region showing how almost all of the water in the region flows into the Illinois river.

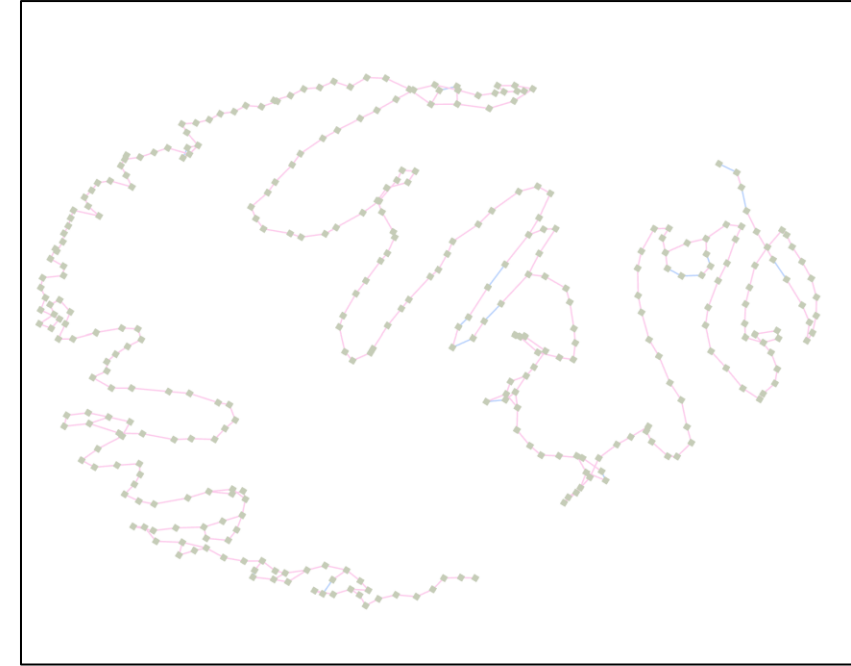
Geopositions diagram



Radial Tree diagram



Force Directed diagram



The Trace Hydrography Network method of analysis can be used for assessing environmental and public health by being able to track where toxic releases may go or where they might be coming from. In this region of central Illinois, there are quite a few state parks as well as farmland that are near rivers as well as TRI facilities. Starved Rock State Park for example is located adjacent to one of the bigger TRI facilities in the selected HUC region. Trace network can be used to track which TRI facilities may pose health risks to the people or wildlife in the area.