

## Exercise 2: USF Habitat Analysis

Note:

- You should try to complete this exercise using both ArcMap and ArcGIS Pro.
- You can solve this problem by using geoprocessing tools step by step. You should also try to use ModelBuilder to solve it.
- There are possibly multiple solutions. So, you should try to find more than one.

### Overview of the Project:

A new frog species was recently discovered in Tompkins County, New York. This species has been named as **USF** (*unusually smart frog*). There have been requests from both local government and the public to identify the best habitats of this frog so that appropriate protection measures can be taken in near future. There is also need to set up signs in those habitats for research and education purposes.



### Objective:

You need to determine those suitable habitats for *USF*. The specific objective of this exercise is to practice some spatial analysis tools.

We can assume the following:

1. It is believed that *USF* mostly lives within 1,000' from streams, lakes and wetlands.
2. The best habitat areas should be located on public lands.
3. The habitat areas must be, at least, 50' away from roads.

### Data Sources

The data to be used has been prepared in advance and is available on ELMS. The data include:

- County Boundary
- Hydrography (streams, lake boundaries, rivers, etc.)
- Roads
- Public Lands

All input data are projected using the State Plane projection and the datum is NAD83. The extent of all spatial data is defined by the boundary of Tompkins County.