AUTOMATED JD FORM APPLICATION

**Problem Analysis**

**A. Background**

A jurisdictional determination (JD) form must be completed after all wetland and stream delineations and is the final approval on whether the wetlands in question fall under federal jurisdiction. The JD form has many spatial components that can be solved in GIS. Using ArcObjects to create a standalone application will easily allow users to input a project site to solve multiple spatial questions and input them into a Microsoft Office document.

**B. Goals**

Through a series of queries and selections, the application will allow the user to automate the entry of spatial information into a Microsoft Word document.

* Goal 1: Intersect project boundary with state boundaries to determine the state in which the site falls within
* Goal 2: Intersect project boundary with county boundaries to determine the county in which the site falls within
* Goal 3: Intersect project boundary with the hydrologic unite code (HUC) boundaries to determine the HUC code in which the site falls within
* Goal 4: Determine the center point of the project boundary and calculate the UTM coordinates
* Goal 5: Determine the center point of the project boundary and calculate the latitude/longitude coordinates
* Goal 6: Search for the nearest waterbody and retrieve the waterbody name
* Goal 7: Search for the nearest traditionally navigable waterbody and retrieve the waterbody name and distance from site
* Goal 8: Take all string values from above (goal 1-7) and input into a Microsoft word form using the Microsoft Office primary interop assemblies
* Goal 9: Save final word document at location specified by the user

**C. Users**

Small group of between 10-15 environmental scientists at Wetland Studies and Solutions, Inc.

* Low-level computer expertise
* Little to no GIS experience
* Application will be used multiple times per week