Geographic Information System (GIS) Development for Plaster Creek Watershed
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Introduction
The Plaster Creek Watershed is one of the most polluted watersheds in Michigan and suffers from significant ecological impairments, such as extremely high concentrations of E. Coli, sedimentation, and human environmental injustices. Yet these specific ecological and sociological problems cannot be adequately addressed without first developing a spatial understanding of the watershed.

The creation and use of online GIS applications can communicate watershed health issues to the wider community in an accessible, relatable way. Our project aims to update the Plaster Creek Interactive Online GIS and create an online Story Map Journal to help professors, students, community members, and local policymakers better understand the Plaster Creek Watershed’s challenges and its potential for restoration.

Methods
1. Acquired data from a variety of sources (EPA, USGS, CDC, US Census Bureau, etc.)
2. Visualized data by creating spatial layers and maps using ArcMap.
3. Published maps and data layers on ArcGIS Online.
4. Created an online Story Map Journal using ArcGIS Online.
5. Filmed video footage and recorded audio for educational videos.
6. Produced a number of educational videos using Camtasia Studio editing software.

Results
1. Created various new spatial layers for the Plaster Creek Interactive Online GIS, including:
   - Land use
   - Impervious surfaces
   - E. Coli concentrations
   - Demographics (racial distribution and poverty levels)
   - Health risks (cancer, respiratory, neurological)
2. Built a Map Journal telling the story of Plaster Creek, from its problems to restoration efforts.
3. Produced educational videos in order to help viewers better understand what is going on in the watershed.

Conclusions
We created a series of maps that were incorporated into an online Story Map Journal and will ultimately be integrated into the Plaster Creek Interactive Online GIS. We hope the public will utilize these resources to aid future restoration efforts.

References