

Utilizing a Web-Based Geographic Information System for Project Collaboration, Great Lakes Legacy Act, Otter Creek Sediment Site

David A. Klatt (David.Klatt@CH2M.com) (Jacobs Engineering, Chicago, IL, USA)
Brenda Jones (Jones.Brenda@epa.gov) (US EPA, Chicago, IL, USA)

Background/Objectives. Until recently, GIS technology was largely applied to environmental projects by GIS specialists who manipulated the data behind the scenes, and provided static information outputs to end users like project managers, scientists, and stakeholders. Now, web-based GIS tools are much more accessible to end users so they can directly interact with multi-media spatial data using computers, tablets, or smartphones. Web-based GIS tools applied to environmental projects can increase efficiency, information retrieval, and collaboration, especially for larger projects with multiple stakeholders in different locations and many types of data and project information. The objective of this presentation is to describe example applications of web-based GIS technology at a typical contaminated sediment site, including collaborative use among multiple stakeholders, integration of drone aerial photography, and other possible applications such as field-based electronic data capture (eDC) options (e.g., field tablets) to improve or supplement manual field data practices.

Approach/Activities. A web-based GIS tool was developed for the Otter Creek Great Lakes Legacy Act sediment project in Toledo, Ohio to provide easy access to a wide variety of site-related multi-media information, including lab data, hydraulic stream data, aerial photography and videos, design plans, and other key site data. Multiple stakeholders effectively utilized the tool for a two-day Value Engineering (VE) meeting, and it will continue to be used as the project evolves. The use of electronic data capture and other GIS applications at other sites will be discussed, including integration with a web-GIS.

Results/Lessons Learned. The creation and use of a web-based GIS tool for this project established the utility and advantages of this technology for ease of information retrieval, sharing, and collaboration among a group of end-user stakeholders, without the active participation of a GIS specialist. However, in order for your GIS specialist to create an effective web-GIS tool for a project, planning and forethought are necessary. A project team needs to gain a good understanding of the end user needs and types of multi-media data to be included, as well as the technical GIS, data storage, and security options and limitations. Lessons learned from the Otter Creek project, and similar projects, will be discussed. In conclusion, the GIS technology itself is not new, but the ability for end users like project managers, scientists, and stakeholders to use web-based GIS tools and retrieve spatial information is expanding rapidly.