

WORKSHOPS

Double Feature: WICDI's Summer In-Person and Virtual Workshops, Part 1



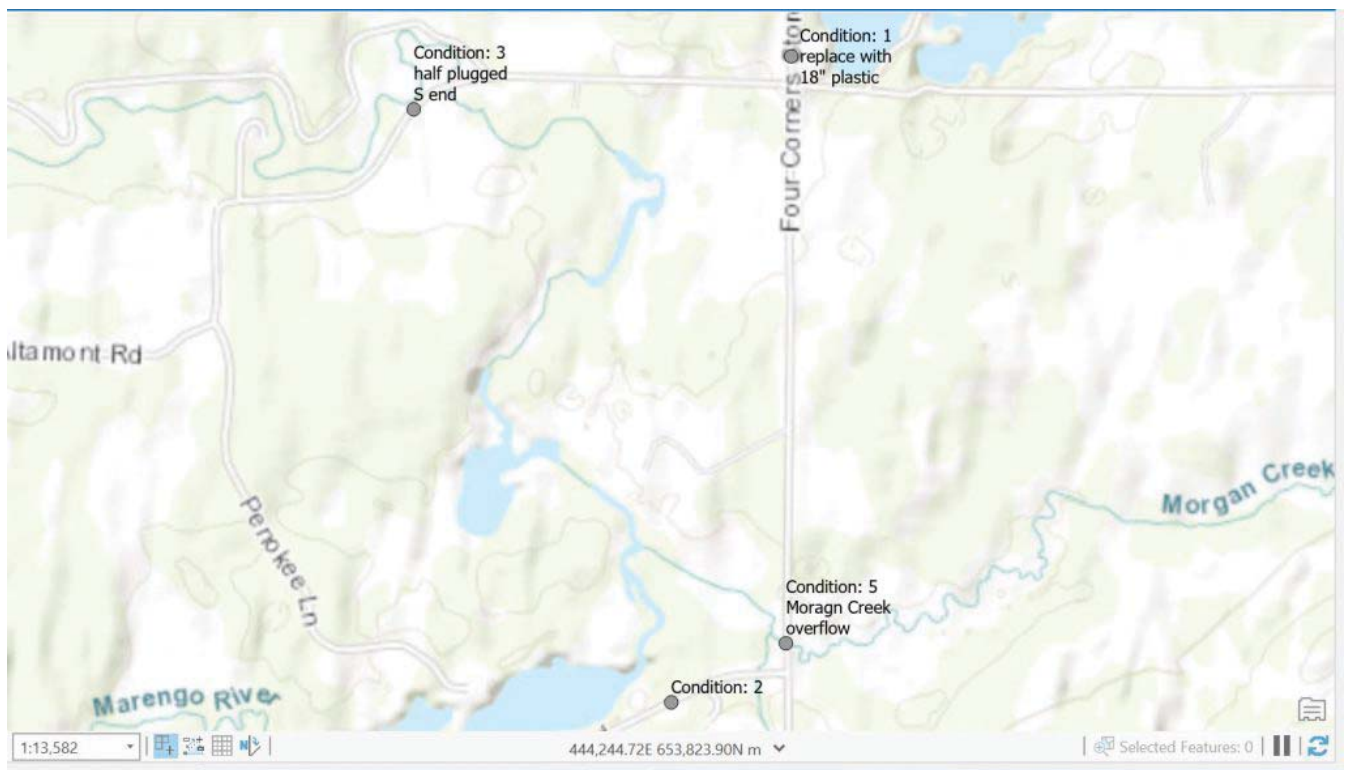
An innovative bridge ensures no more culvert washouts at this site.

After three virtual events, we at WICDI were thrilled to have the opportunity to organize an in-person workshop in a small-group setting this past July. For this field-based event, Community of Practice connections led us to Lincoln Township, in Bayfield County. Mark Dryer, Chairman of Lincoln, had reached out to us back in 2020 after taking an interest in our culvert database. In our conversations, we learned of the care and effort he and fellow Lincoln supervisors, road foremen and road crew members put into maintaining their culverts and securing funding for mitigation efforts. Mark graciously offered to host us and a small group of participants in his and his wife Pam's backyard so that we could learn more from them, while sharing our culvert database and collection tools.



Genevieve and I present a few paper “slides” on WICDI to the group.

We used a map of Lincoln’s culverts compiled by Mark and Suzi Smith (former GIS Specialist for the Lake Superior Bad River Band, now working for the BLM in Alaska!) to identify a few key sites to visit and discuss during our workshop. Dan Vaillancourt, Lincoln roads supervisor, helped us choose culvert sites that were easily accessible and varied in terms of the culverts’ size and condition.



My draft map of our workshop route, using Mark’s culvert data as a guideline.

In anticipation of the workshop, we also created two versions of a culvert data collection survey form – one through Esri’s [Survey123](#), and one through a free and open-source tool called [KoBoCollect](#). These surveys require Wi-Fi (and in the case of Survey123, a license from Esri) to download initially. However, once downloaded, they can be accessed in the field anytime – with or without a Wi-Fi connection – allowing road crews to gather standardized culvert

data using their smartphones or a tablet. WICDI plans to offer future training events to get townships set up with these surveys; some as, like Ashland County, are already in the early stages of collecting culvert data by sending a survey link out to their townships.

The screenshot shows the 'WICDI Kobo Mini Form' interface. It includes a header with the 'KoBoToolbox' logo and a printer icon. The form has several sections: a 'Date' field with a date picker (showing 'yyyy-mm-dd'), an 'RSX ID' field with a description, and a 'Culvert Location' section with latitude, longitude, altitude, and accuracy fields. A map is displayed on the right side of the form, showing a street grid with labels like 'West Bayview Street', 'Spring Street', 'Regent Street', 'Bowen Court', 'St James Court', 'Mound Street', 'Chandler Street', 'Vilas', 'Huron Street', and 'Adams Street'. The map is credited to 'OpenStreetMap & Vahan Bolnisi & Humanitarian OpenStreetMap Team'.

The screenshot shows the 'WICDI Culvert Collection Mini Survey' form. It has a green header with the title. Below the header is a description of the survey. The form is divided into five numbered sections: 1. Basic Information, 2. Date* (with a date picker showing '9/13/21'), 3. Agency (with a text field), 4. RSX ID (with a text field), and 5. Culvert Location* (with a text field). The form is titled 'Page 1 of 4'.

WICDI culvert collection survey forms: KoBoCollect (left) and Survey123 (right).

After creating our surveys and planning the stops on our culvert “tour”, we drove out to Lincoln and met Mark and the rest of the workshop participants. To start the morning, we gave a brief overview of WICDI and our goals for the workshop, then invited introductions from the group, and finally spent some time discussing our surveys. After finishing our discussions and coffee, we headed out on the culvert tour.



Dan Vaillancourt walks me through the process of determining this culvert's condition as USFS' Chris Ester examines the stream bank.

At each site, a few speakers from Lincoln detailed the culvert's history, especially noting information they had used to successfully receive mitigation funds post-floods. Notable speakers along with Dan Vaillancourt were Curt Anderson, Lincoln road foreman, and Jim Erickson, Lincoln road crew member. Chris Ester of the US Forest Service also gave a short and informative presentation on the Great Lakes Stream Crossing Inventory handing out copies of their thorough culvert survey to participants.



Chris highlights a few of the most important culvert risk factors from the GLSCI survey.

We wrapped up at a unique site – a culvert that was actually upgraded to a bridge (see top photo), thanks to hard work and perseverance by Lincoln road staff. After an initial washout, they had replaced the culvert to USFS specifications – top-notch hydroengineering and design – only to have it wash out again in the floods of 2018. By documenting the entire process, Lincoln was able to prove to FEMA that the only sustainable solution was, literally, a bridge over the troubled waters. This new bridge not only features an incredibly deep pylon base, but also an innovative “floating” wooden top that can detach from the base and float downstream in the event of severe flooding, saving the majority of the bridge from being wiped out.



Near Mark Dryer's house, the Marengo River cuts a new, wider path after the 2018 floods. The river valley has begun to repopulate with plant life in the few years since the storms – as Mark says, “Short of climate change making it worse, it still does what rivers do.”

After caravanning the short distance back to Mark and Pam's house, we ended the day by inviting participants to a follow-up virtual workshop on collection tools – but that's a subject for another blog post. I'd like to send a huge thank-you out to Mark and Pam (not to mention their three beautiful dogs) and the rest of the workshop participants.