Check Your Watershed Day: Utility of the data for interpreting baseflow models in watersheds
Tuesday, May 6, 2008
CLOCA Boardroom
9:30am – 3:20pm

Minutes:

Participants: Sarah Hogg., Andrea H., Les Stanfield, Joyce Chau, Amber Langmuir, Jeff McNiece, Pam Lancaster, Mark Peacock, Brian Morrison, Jamie Duncan, Christine Tu, Frank Kenny, Heather Brooks, Steve Holysh

Action items:

- Sarah and Les to complete the QA/QC analysis and forward ASAP
- Mark P to look into using LFLOW to help interpret the data
- Les S and Frank K to look into what is happening between LFlow and OSIS to ensure they are not duplicating effort and are compatible.

- Presentations by Les S. and Sarah H on sources of variances in low flow surveys and preliminary results of the 2007 check your watershed day.

  Synopsis:

  - There is much more variability in low flow data that is spatial or temporal in nature relative to small differences in field collection approaches.
  - Interesting observations in Wilmot Creek where there was general agreement between 1995 and 2006 interpretations with a couple of interesting outliers that identify areas that should be followed up.
  - There were challenges in obtaining the summary data for CYWD that have delayed the analysis that could be completed to date, i.e., discharge summaries only generated as of last Friday to match with catchment polygons
  - Sarah showed one example of how relative flows can be illustrated through a mapping process and how sinks and sources can be identified using this type of data.

  Comments/suggestions:

  1. illustrate flows using a variety of summary approaches to assist with developing understanding of "How the system works"
  2. try flux (discharge/unit area) and % of flow to bottom of watershed from each subwatershed and then the proportional flow within each subwatershed (i.e., tiered approach)

- Presentation by Frank K and Steve H, Re: linkages to source water protection and watershed planning

  - MNR lead for developing water budgets and low flow budgets. In the documentation, it has been recommended that low flow surveys be used, so it is a nice fit to CYWD.

- With low flow surveys it is often orders of magnitude differences in flow that indicate areas of interest (i.e., problems with data layers, anomalies in flows etc.)
- The CYWD protocol should be able to identify these important conditions, acting as a broad characterization tool at a landscape level, e.g. the Oak Ridges Moraine.
- In many areas Lflow surveys are more likely to be useful with watershed planning initiatives.
- The WRIP group is leading a project to develop a Lflow database and application that might be useful to help summarize this data. The intent is to have data transferability between and integration with other databases to avoid data management problems. There is communication between Silvia's group (Fish web collaborative and Ontario Stream Information System) and Lflow group, but this can be improved. There will be a training date for CAs at the end of June. TRCA and GRCA data may provide a good testing ground for the database.
- Source Water Protection is strongly linked to drinking water. There is a surface-water based coarse assessment (Tier 1), but its focus is not watershed planning. The low flow survey is out of the scope of source water protection, so the amount of source water funding is uncertain.

- Discussion on Protocol issues:

No major issues were identified with the existing CWD protocol however, it was difficult to evaluate as the QA/QC data has not yet been presented.

- Sarah and Les expressed concerns in the quality of the QA/QC data that has nothing to do with the protocol but in our training and communication abilities
- Concern that the data collected is marketed appropriately as a reconnaissance tool for characterizing flow rather than a "legally defensible" set of data
- Citizens should be clear that the CA's would not consider this data for legal decisions.

Action: Sarah and Les to complete the QA/QC analysis and forward ASAP

- How might CA's and others use the data?
  - It is appropriate as a characterization tool of low flow conditions
  - If the protocol is appropriate for answering local questions it will be useful for characterizing larger scale issues. This requires that information on suitability of flows for representing low flow conditions be documented.
  - Trend in time analysis (comparisons between years as was demonstrated with the Wilmot data (ed note: this requires some accounting of weather data)
  - Large scale analysis, i.e., the Oak Ridge Moraine
  - Filling data gaps including areas not covered by road access where volunteers might assist with gaining access
  - Building datasets across watersheds to be able to detect patterns of change, e.g. is urbanization affecting flow conditions?
  - For potential CYWD CA partners, there are 2 groups: one is where CYWD is an add-on to their existing activities; another is where such monitoring programs/resources aren't in place.

- Concerns:
  - Potential misuse or misrepresentation of the data by citizens and developers (to defend a development), especially if maps are produced.
  - Data determining different results than those officially published by a CA may lead to conflicts due to insufficient or incorrect understanding of both datasets
  - There are different data needs at different scales. At a high overall scale, CYWD data may be applicable. At a decision-making scale (local), a site-specific data is necessary. For example, at the municipal/OMB level, the site-specific knowledge will be used, e.g. CA generated data about their watershed, not the general characterization data generated from CYWD.
  - If it is a data-collection event, it is putting responsibility to the volunteers to collect this data. There is liability in ignoring CYWD data.

- Additional Benefits of CYWD
  - Regardless of the data quality it is a valuable stewardship tool
  - There are other ancillary data collected that is useful, e.g. inventorying fish barriers, catching road densities, gradients, etc.

- Ideas to improve CYWD data and delivery
  - better training esp. as to where to collect the data (i.e., crossovers)
  - potentially have crews use two techniques per site (esp. where culverts are perched)
  - make sure to identify priority areas where data gaps exist that the CA really wants sampled
  - provide coordinates for known sites on the field sheets and encourage the use of GPS to verify location of sites
  - Advertise as an opportunity to "build a knowledge base within a watershed"
  - Consider different approaches to mapping the data and the new LFlow tool might be able to assist with this.
  - Adding on additional monitoring components to CYWD, e.g. having volunteers landowners to out to unreachable streams where CA staff are unable to sample to accessibility and time constraints
  - Applying a model of a CA, NGO, and community group for each CYWD watershed to share the workload.
  - **Action:** Mark P to look into using LFLOW to help interpret the data

Next Steps:
Future steering committee to involve leaders from participating CA's, CEW and leaders from action based citizen groups (such as TU, OFAH, Credit River Anglers, Ducks Unlimited)

Action: Les S and Frank K to look into what is happening between LFlow and OSIS to ensure they are not duplicating effort and are compatible.