Third-Party Data Sources & Potential for Regional Sampling

GCSA Employee Training

Nienhuis Park Community Center

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Types of 3rd Party Data

Even new data can have issues.

- **Two types:**
  - ***Actual data*** *(as tables, GIS, reports, text, graphs, etc.);*
  - ***Study reports*** *(e.g., water quality impacts or assessments).*
- **Data sources available to the public:**
  - *Federal, state, regional, municipal, academic, non-profits, etc.*
  - *Websites, e-files, paper files, reports, GIS, etc.*
- **Older data is often hard to locate and use:**
  - *Representativeness & Comparability issues;*
  - *Many versions (drafts, "finals" that aren't, superseded, etc.)*
  - *Difficult to identify what's out there and how to get it.*
  - *Outdated methods, no QA, missing vital info, etc.*

Benefits of 3rd Party Data

- It's "free data" that is already collected for your use.
- Can compare to your own new data to possibly assess trends and changes in WQ.
- The sources of data (people) can help you with interpretation and the best ways to use the data.
- It's always better to have more data than less – assessments are more robust & certain (better science).
- Many existing data sets are used for purposes that affect MS4s (e.g., 303(d) listings & TMDLs) you can see how the data were used and be able to challenge the assessments or develop better implementation.

Problems With 3rd Party Data

- Short time period (many only 1 season or 1-2 years).
- Too few sampling events (often 1-6 total).
- Wrong location for your MS4 (sites not where needed).
- Limited parameters (e.g., only 2 metals or only bacteria).
- Large, complex studies are difficult to find the data you actually need.
- Representativeness and Comparability issues.
- Other "QA Issues" and lack of vital info.

START DATE	END DATE	LEAD AGENCY	TYPE OF WATER QUALITY STUDY IN TULSA AREA
1985	1987	INCOG	Bacteria sampling for water quality assessment - fecal coliform (FC) and fecal streptococcus (FS).
1990	1992	INCOG	Bacteria sampling for fate and correlation of indicators (FC, FS, E. coli, Enterococcus).
1992	1992	INCOG	Bacteria modeling study for WWTP discharge impacts and possible permit limits.
1998	2000	INCOG	Background heavy metals sampling for WWTP discharge permits. Sampled all WQ Standards metals, 12 events, 4 sites from Sand Springs to Bixby.
2009	2011	INCOG	303(d) parameter impairment assessment, 12 events, Arkansas River, Bird Creek and major tributaries.
2011	2011	INCOG	BOD5, nutrients, cadmium dissolved oxygen in Arkansas River for a semi-diurnal summer low flow study, 1-event, 8 sites, 5-6 hour intervals, 3 collections.
2012	2014	INCOG	303(d) parameter impairment assessment and regional bacteria TMDL trial sampling, 6 events, Arkansas River and tribs.
1986	2000	River Parks Authority	Bacteria sampling of Zink Lake area during recreational period to support Zink Lake EIS.

START DATE	END DATE	LEAD AGENCY	TYPE OF WATER QUALITY STUDY IN TULSA AREA (Cont.)
1983	1988	TCCHD	Monitoring of inorganics, bacteria and metals at one site per sq. mile in Tulsa County.
1998	2015	OWRB	Many parameters, Beneficial Use Monitoring Program (BUMP), two sites (Hwy 97 and Hwy 64).
1985	1996	USFWS	Monitoring of pesticides in fish tissue, approximately biennial.
1990	Present	Blue Thumb	Volunteer monitoring of tributaries with field kits for nutrients, dissolved oxygen and bacteria, fish, macroinvertebrates, habitat, ~6-8 sites; historic data for other sites no longer monitored.
2002	Present	City of Tulsa	NPDES permit compliance receiving stream monitoring by WWTP discharges.
1987	2000	City of Tulsa	Stream Monitoring Program of inorganics, metals, pathogens. Program replaced by stormwater permit sampling program.
2011	Present	City of Tulsa	2011 to Present - Tulsa began its Watershed Characterization Monitoring Program involving the physical, biological and analytical analysis of all the streams within Tulsa.
2016	Present	City of Tulsa	Re-start of an ongoing stream monitoring program with two Arkansas River and two Bird Creek sampling sites, each with multiple parameters.

Possible Regional Sampling In MCMs

- **MCM-1 (Public Education):**
  - *Environmental sampling not required.*
  - *Regional surveys showing effectiveness of multiple programs.*
- **MCM-2 (Public Participation):**
  - *Environmental sampling not required.*
  - *Regional surveys showing effectiveness of multiple programs.*
- **MCM-3 (Illicit Discharge Detection & Elimination):**
  - *Requirements for DWFS, source-tracing, but local only.*
  - *Regional data can help assess problems and locate sources.*

Possible Regional Sampling In MCMs

- **MCM-4 (Construction):**
  - *Envir. sampling not required except for local enforcement.*
  - *Construction too localized and temporary for regional sampling.*
- **MCM-5 (Post-Construction):**
  - *Envir. sampling not required; possible regional sampling for showing BMP effectiveness.*
  - *Regional surveys showing effectiveness of multiple programs.*
- **MCM-6 (Good Housekeeping):**
  - *Environmental sampling not required.*
  - *G.H. too localized for regional sampling.*

Special Conditions Regional Sampling

- **303(d) Waterbodies in MS4:**
  - ***Part III.A.1.d*** *"You must locate those areas likely to have illicit discharges and conduct* ***inspections*** *based on the priority areas in the watershed of your 303(d) listed waterbodies."*
  - *There are no specific OKR04 passages to conduct sampling or monitoring of 303(d) waterbodies.*
- **TMDL Waterbodies in MS4:**
  - *"Monitoring" requirements for TMDLs have not yet been "activated", but ODEQ will soon start the notification process.*
  - *Regional monitoring will likely be the best uses of resources to meet TMDL requirements.*

Concept of Regional Monitoring

- Single entity to coordinate all activities.
- Pool sufficient funding into a single program.
- Accountability, clarity, communication, education.
- Periodic regional effectiveness assessment, reporting.
- Coordination of local resources (equipment, manpower).
- QA: Training, SOPs, QAPP, data management.
- DQOs for all end users, meeting all needs.
- Transferability of all types and forms of data.
- Approvals from ODEQ; coordination with other authorities.
- Format and content for every MS4's Annual Report.
- Adjusting program to make "course corrections".

Questions ??

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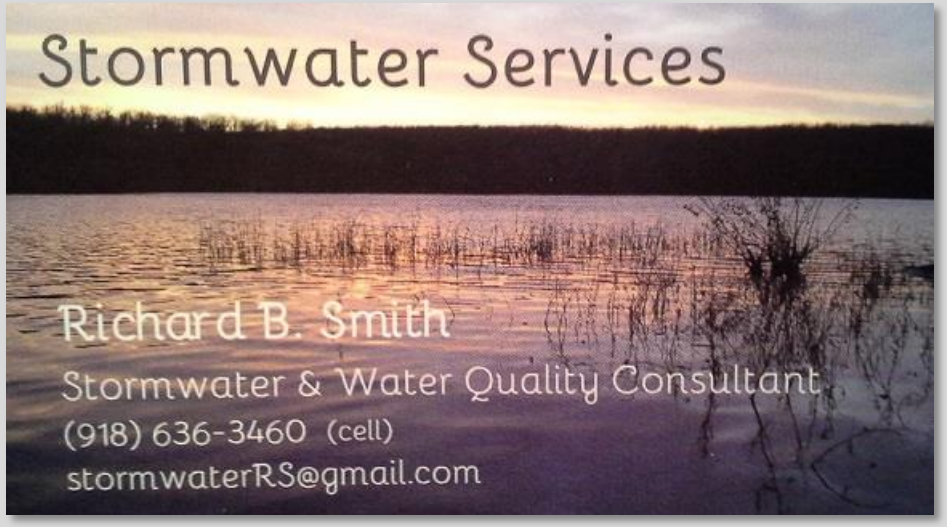

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