

Chairperson Exit Summary
Current Objectives and Future Direction of the Salinity Network Workgroup
November 14, 2018 Meeting

(Rick Copeland, Florida Department of Environmental Protection)

Below are summaries of the status of the current activities of the Salinity Network Workgroup (SNW), along with Rick's comments and thoughts about the future chairperson's role.

1. Coastal Salinity Monitoring Network. The network is operational. It consists of over 360 monitoring wells in the four northern water management districts (WMDs). Wells tap each aquifer that has a reasonable potential for saltwater encroachment. Note, a separate network exists within the areas covered by the South Florida Water Management District (SFWMD). Through cooperation, it is maintained by the U.S. Geological Survey (USGS), SFWMD, and local governmental entities.

Success: **The network is established network wells are being monitored.**

Comment: **If data are uploaded into WIN, the data will become more beneficial to the SNW. For example, see the discussion regarding "Mapper" below.**

2. Water Level – Salinity Analysis Mapper. Mapper is an on-line, inter-active data analysis tool developed by the USGS. Scott Prinos (USGS) has presented draft versions in previous SNW meetings. Once operational, viewers will be able to look at individual and groups of monitoring sites, and visually check them for relatively current conditions, and recent trends. The USGS will share portions of the computer code with the SNW, once data are entered into FDEP's Water Information Network (WIN) database.

Comment: **The program is on hold until data are uploaded into WIN.**

3. Groundwater Level Percentile Ranking Index. After a considerable amount of time, in May 2018, the SNW agreed on a single methodology for presenting groundwater levels by using a percentile ranking index. Each participating agency obtains groundwater level data from its network of water-level monitoring wells that are completed into the Floridan aquifer system. For the monitored wells, each agency developed its own method for reporting the representative monthly value (RMV) for each of their wells. Note the RMV is recorded as distance above sea level. RMVs can be the median of month, or the maximum value on the 27th of the month, or some other value.

Two index maps are to be produced each year; one for May (dry period) and one for September (wet period). For each May map, the most up-to-date May RMV is compared to all historic May RMVs. For the September map, the most up-to-date September RMV is compared to all historic September RMVs.

The RMVs are to be uploaded into WIN. Once in WIN, FDEP will generate statewide maps, and briefly explain the process for generating the percentile ranks and generalized water level conditions for the state. The program is being hampered because data transfer into WIN is incomplete.

Success: **The methodology to be used by all participating agencies is ready.**

Comment: **The program is on hold until data are uploaded into WIN.**

4. Salinity Groundwater Quality Index. During the meeting, Rick re-introduced the concept of the three-level saline groundwater quality index. It is taken from the USGS' Mapper program. Using chloride (Cl) as an indicator, the index is based on concentrations thresholds (See Table 1). After the presentation, a Southwest Florida Water Management District representative suggested a fourth category for concentrations greater than 10,000 mg/L.

Table 1. Proposed Three-Tiered Salinity Groundwater Quality Index

Concentration of Chloride (mg/L)	Classification
<250	Fresh
≥250-<1,000	Brackish
≥1,000	Salty

After Rick's presentation, Debra Harrington (FDEP) gave a presentation, proposing a more complex classification system. There were many advantages in the classification system proposed by Debra. For example, using several indicators, one could potentially identify the source of the groundwater. The disadvantage is that it might be too complex for the lay person.

Comment: **Future discussion for either proposed classification system is needed.**

5. Special Sampling Protocols for wells completed close to the freshwater/saltwater interface with the purpose of monitoring movement of isochlor lines. In south Florida, saltwater encroachment has been an ongoing issue since at least the 1930s. Over the years, many of the wells have been used to monitor changes in the 250 g/L isochlor lines. For these wells, an objective is to obtain a groundwater sample from the portion of the well screen, or open hole, that contains the greatest concentration of chloride. Many sampling Standard Operating Procedures (SOPs) require that the purging of the corresponding well, and sample collection be from the top of the water column. Unfortunately, these processes can potentially draw saltwater into the well casing. To combat this issue, the SNW proposed a FDEP sampling protocol rule change that uses micro-purging techniques. The proposed SOPs are only to be used for wells with greater than 10 feet screens or open holes, and for wells with no in-place plumbing, such as pumps.

After the May 2018 SNW meeting, Rick sent SNW representatives a series of documents pertaining to the proposed rule change. For a rule change to occur, there needs to be a significant interest from the group proposing the change. For this reason, one of the documents was a questionnaire, asking SNW representatives to address the issue of a need for the change.

By the November meeting, only four (an insignificant number of) representatives filled out the questionnaire. For this reason, Rick interpreted the response to indicate a lack of sufficient interest in the proposed sampling methodologies.

During the meeting discussions, a SNW representative from one of the WMDs, indicated that their current water management district SOP is adequate. Thus, changes are not needed. Another representative proposed that a guidance document could be used by the participating agencies instead of a rule change. It was suggested that a sampling methodology, used by the State of New Mexico, might serve as a “straw-man” model. From the model, the SNW might develop a guidance document for use in Florida. Rick agreed to send the New Mexico document to the SNW representatives. Upon reviewing the document, representatives are encouraged to send comments back to Rick.

Comment: After receiving comments, the future direction of the project needs to be decided by the workgroup. To complete the effort of this project, a chairperson is needed.

6. Incorporation of surface water monitoring sites. This has been a SNW objective for several years. However, until recently, not action has been taken. At the meeting, Chris Sedlacek (FDEP), presented analyses of trends at estuarine monitoring stations in the Tampa Bay area. The presentation was well received. One of the SNW representatives asked if estuarine monitoring be addressed by another workgroup of the Florida Water Resources Monitoring Council (FWRMC). The question is a good one.

Question and Comment: Should the issue of estuarine monitoring be addressed by the SNW, or another FWRMC workgroup? SNW representatives believe the Council needs to address this issue.

7. WIN Data. Dan Dourte discussed the status of uploading data into the FDEP WIN database. Each participating agency is making variable progress.

Question: Should the FWRMC find ways to assist the participating agencies load data into WIN?

8. Chairperson. This was Rick’s last meeting as Chairperson. Dan asked if someone would be willing to lead the SNW. Nobody volunteered. Thus, the SNW has no chair. What to

do? After the meeting, Jay, Carolyn, Dan, and Rick discussed several scenarios. The one that generated interest among us is investigating the feasibility of a rotating chair. Each volunteer would hold the chair position for no longer than one year (usually two meetings). The suggested responsibilities of the chair position are:

1. Work with the Balmoral Group to organize and develop agendas for at least two SNW meetings, usually held in May and November.
2. Make assignments or take the lead in making sure that SNW projects are progressing on schedule.
3. Prepare periodic status summaries of the progress of the SNW for the Florida Water Resource Monitoring Council.
4. Work with FDEP staff who are assigned to assist in making progress or completing SNW projects.

Comment: The Balmoral Group will investigate the feasibility of finding a SNW chairperson to serve as a rotating chair on a one-year basis.

Question: If a chair person cannot be found, what does the Monitoring Council recommend?