Work Plan 2020-2021

1. Focus Topics

From the list of **Focus Topics** below, select one or more issues to focus on each year. Based upon the complexity of the issue, finances, and availability of existing information, the activities can range from **knowledge transfer activities** such as workshops, presentations at meetings, webinar meetings with presentations or focused discussion; **development of reference materials** such as surveys of membership, research and development of white papers, creating a web library, and populating web site with information from others; and other activities as appropriate.

Focus Topics: GWPC's ASR-MAR Workgroup has identified the following as **Focus Topics** for further discussion which will facilitate the use of this technology. In addressing these topics, recognition of the different types of ASR-MAR (deep vs shallow, active vs passive, technically complex vs simple) will need to be considered.

A. Site selection decisions and feasibility analysis that would bring all the factors together to evaluate the viability of a project – e.g., geology, water availability, targeted aquifer storage volumes, pre and post water treatment needs, infrastructure and transportation costs, finance, etc.
   i. Making injected water compatible with the native water and formation matrix such as stripping dissolved oxygen (DO) prior to injection.
   ii. Level of pretreatment needed prior to injection under the UIC program (e.g. is disinfection needed).

B. Predicting impact on the aquifer. How to implement a monitoring program for UIC wells. Monitoring, models, and techniques to predict the hydraulic and geochemical behavior of both recharged and extracted waters within the aquifer - during design and execution. How to account for time-of-travel for water – should there be quality standards related to the distance between the ASR system and other wells.

C. Challenges with ASR wells as the point of compliance under the SDWA UIC program and protection of the USDW.

D. How to reduce reactivity between injectate and receiving water (aquifer) including use cycling.

E. Compile and or provide information that has been compiled by others and make it readily available as online information for:
   i. states and/or communities that have included ASR-MAR in their Integrated Water Resources Planning,
   ii. case studies of sustainable and cost-effective MAR and ASR projects.
   iii. MAR and ASR State regulations and requirements.
   iv. water accounting methods that are being used for MAR and ASR
   v.

2. Knowledge Transfer Activities

A. The leadership team and staff will identify the topics to be addressed and the appropriate level of activity, which can include:
    1. Conduct "face-to-face technical sessions at meetings" to facilitate the transfer of information such as models and techniques that will help regulators, water managers, and practitioners.
    2. Examples of technology and treatment advances, which allow for reuse of different source waters for EAR (either ASR or MAR), can be presented or discussed at "face-to-face technical meetings".
B. Develop full or ½ day training workshops that focus on specific ASR-MAR topics for state regulators, researchers, and practitioners.
C. Develop and facilitate quarterly webinars which cover topics of interest, case studies, challenges, state spotlights, and roundtable discussions of problems.

Timeline:
Ongoing activity – "Face-to Face technical meetings"
1. Identify opportunities for the next event at the conclusion of each "face-to-face meeting".
2. Identify Focus Topic(s) within 45 days after end of meeting.
3. Develop the "face-to-face" agenda and decide on appropriate session type. (session, workshop, training class, etc.) within 45 days after topic is identified.
4. Identify potential speakers and contact them no later than 45 days after initial agenda development.
5. Include topic in Call for Abstracts and encourage speakers to submit abstracts.

Ongoing activity (d) – Quarterly Webinars
1. Identify potential topics, facilitator(s), speakers for a year out (for example in 2021 identify topics and facilitator for January, March, July, and November).
2. Identify tentative presenters and presentations and tentative date and time 60 days before webinar month.
3. Begin advertising 45 days before webinar.
4. Conduct webinar and gather information on future topics from the audience.
5. Review gathered information and begin planning for next webinar 60 days out.

3. Development of Reference Library and Glossary of Terms

A. Website "Library".
    1. If documents are available on **Focus Topics**, they will be shared by GWPC on the Workgroup website (if possible) so they can be made available to the Workgroup membership, regulators, water managers, and practitioners.
    2. Non GWPC documents can be referenced and linked. Linking to outside documents can be tricky because URLs can change, and content can change too. Or with the permission of the document source, copied and made available through a link to the document housed on the GWPC website.

3. Information presented at the GWPC meetings will, with author's permission, be posted on the Workgroup website. If presentations are given via a webinar, GWPC will try to capture the presentation and provide it on the Workgroup website.

Ongoing Activity
1. Once a **Focus Topic** is identified, begin call for information/references from the full Workgroup (but focus on Leadership team lead for the topic) and poll state members.
2. Solicit information from organizations and potential speakers on this topic.
3. GWPC will upload information to the Workgroup website as gathered and update periodically.

B. Develop a glossary of commonly used terms. GWPC will work with other organizations, research terms used, and solicit input from the Workgroup. The glossary will be posted on the Workgroup website for use by all. (Example format of common terms at https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NRMRL&dirEntryId=342610)

Ongoing Activity
1. Work with NGWA, State UIC managers, EPA, researchers, members of the Workgroup and others, such as International Symposium of Managed Aquifer Recharge ISMAR, to gather and provide information or references.
2. Provide gathered information to Workgroup, Leadership Team, Co-chairs, and interested parties for review prior to posting on Website.
3. Finish initial glossary list by Spring 2021 and update every 6 months

4. STATE REGULATION OF ASR, MAR, EAR – FUTURE PROJECT (FUNDING DEPENDENT)

A. Many different groups are developing compendia of existing state regulations. Under the Water Reuse Action Plan (WRAP), EPA will be publishing a report on AR/ASR in 2021 related to the UIC program. Another WRAP effort will focus on a white paper on the current state of practice and research associated with enhanced aquifer recharge (EAR) and ASR which will focus on EAR/ASR practices that may not be covered under the UIC program. NGWA is compiling some regulations related to MAR.

The Workgroup will work with these different groups to identify gaps in compiling state regulations (not including water rights issues). The Workgroup will work with the other groups, poll our members states, and develop either online references, or compendia of existing regulations. Focus will be on water quality and other criteria, not water rights.

Depending on what gaps are identified, the Workgroup may focus efforts on what different regulatory programs are allowing or requiring for monitoring of aquifer recharge projects in order to track and address public health challenges encountered during EAR/ASR/MAR operations.

B. Provide information on the website on methods to assess stored water quantity (actual or estimated), quantity reports and methods being used to estimate the effectiveness of EAR projects on available water quantity and how the stored water is to be used.

C. If warranted from the information generated under A and B, the Workgroup may develop a white paper which summarizes the information gathered.

5. FINANCING PROJECTS AND FINANCIAL ASSURANCE – FUTURE PROJECT (FUNDING DEPENDENT)

A. Gather Information on regulatory requirements for, and the types of, financial assurance needed for permitted EAR facilities. Links to regulatory programs financial assurance requirements will be posted on the GWPC Website. The Workgroup will summarize the different financial assurance methods being used to satisfy regulatory requirements in a white paper. The white paper can also identify those methods that are appropriate for community funded projects.