

Workshop Announcement:
Economics of Managed Aquifer Recharge

June 26, 2019

Economic Research Service
355 E Street SW
Washington, DC 20024

The USDA Economic Research Service (ERS), in collaboration with the University of Arkansas, will host a one-day workshop on the Economics of Managed Aquifer Recharge (MAR). The workshop will feature research presentations from ERS and partnering universities (University of California Davis, University of California Riverside, University of Arkansas), Agricultural Research Service (ARS), US Geological Survey (USGS), and other institutions, as well as panel discussions to address challenges and opportunities for MAR practice implementation.

Workshop motivation: In many areas of the U.S., reliance on groundwater withdrawals for irrigated production has resulted in significant aquifer declines. Increasingly, water managers are seeking strategies to enhance groundwater reserves for drought resilience and long-term sustainability of the irrigated farm sector and impacted ecosystems. Managed Aquifer Recharge (MAR), which encompasses a suite of methods involving the intentional replenishment of aquifer reserves, holds promise as a way to mitigate groundwater depletion. Recent state-level groundwater management legislation has increased producer incentives for MAR adoption. Meanwhile, new USDA practice guidelines are needed to support anticipated increases in conservation payments and technical assistance for MAR expansion.

Workshop objectives: The goal of the workshop is to 1) share information among researchers across agronomic, hydrologic, legal, and economic disciplines on regional potentials for MAR, 2) assess the various factors that influence economic incentives for MAR adoption, and 3) provide information to policy makers and program managers that can help inform effective MAR strategies.

Policy concerns: The viability of MAR expansion will depend on economic incentives and cost-effectiveness, infrastructure needs, geophysical and institutional constraints, and other factors that differ regionally. Issues addressed at the workshop will include:

- Groundwater sub-basins experiencing aquifer decline with potential for recharge expansion;
- Suitability of surface and sub-surface soils and aquifer characteristics;
- Capacity to store, convey and apply seasonal water supplies, and associated water costs;
- Applicability of alternative MAR strategies — including passive recharge on cropland and open-basins, and active recharge via injection wells;
- Modified cropping systems and crop-yield tolerance under alternative recharge regimes;
- Potential co-benefits (e.g., habitat, flood management) and offsite costs (e.g., water quality);
- Investments in off-farm/on-farm infrastructure, land easement acquisition, and management systems to support recharge expansion; and
- Institutional reforms (e.g., water rights, water marketing, beneficial use) that may be required.

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