

MANAGED RECHARGE: FREQUENTLY ASKED QUESTIONS

1. What is Managed Recharge?

Managed recharge occurs when surface water or treated wastewater is intentionally added to an aquifer or the zone of saturation below the water table.

2. How is Managed Recharge conducted?

Managed recharge intentionally adds surface water or treated wastewater to an aquifer either through injection wells or by applying water to the land surface (land application), allowing the water to infiltrate downward through the soils to the water table. Injection wells are regulated by the Idaho Department of Water Resources (IDWR). The Idaho Department of Environmental Quality (DEQ) has the authority to approve Ground Water Quality Monitoring Programs for recharge by land application.

3. What kind of water can be used for recharge by land application?

Generally, water proposed for recharge by land application is surface water diverted from a canal into a recharge basin. One of the concerns about surface waters is that they often contain parasitic protozoans, such as giardia and cryptosporidium. Surface water may also be subject to pathogenic microbial constituents and other potential contaminants related to land use along the delivery system and within the recharge area.

DEQ has authority, under Section 600 of IDAPA 58.01.16, *Wastewater Rules*, to approve a Ground Water Quality Monitoring Program for managed recharge projects where surface water is land applied with the intent to recharge an underlying aquifer. An approved Ground Water Quality Monitoring Program for recharge by land application demonstrates that the soil and geology at a recharge site provides the level of treatment that will not allow movement of contaminants into the underlying ground water and that the soils and vegetative cover are capable of removing contaminants from the recharge water. An approved monitoring program will also include water quality sampling, frequency, and reporting appropriate for the recharge site and existing water quality.

4. Does DEQ require a permit for Managed Recharge with surface water?

DEQ does **NOT** require a permit to **conduct** managed recharge by land application of surface waters, but DEQ does have authority to approve a Ground Water Quality Monitoring Program for managed recharge by land application, under Section 600 of IDAPA 58.01.16, *Wastewater Rules*. An approved Ground Water Quality Monitoring Program is adequately designed to protect ground water quality from microbial contaminants that are often present in surface water, as well as other potential contaminants related to land use.

Note: Non-contact cooling water is not considered wastewater and can be land applied as recharge water with an approved Ground Water Quality Monitoring Program.

5. Does DEQ require a permit for Managed Recharge with treated wastewater?

Yes, only if the water intended for recharge is treated wastewater, including Class A effluent, then the project is subject to permitting under the DEQ *Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater* (IDAPA 58.01.17).

6. Are there any other permits required for Managed Recharge?

Yes, a permit is required from the Idaho Department of Water Resources (IDWR) if the recharge occurs through injection wells. DEQ does NOT regulate recharge using injection wells. IDWR manages injection well programs in Idaho.

7. What is DEQ's role in Managed Recharge?

DEQ is authorized to approve a Ground Water Quality Monitoring Program for recharge projects *by land application*. An approved Ground Water Quality Monitoring Program is adequately designed to protect ground water quality.

DEQ does **NOT** approve recharge by injection wells. The Idaho Department of Water Resources manages injection well programs in Idaho.

8. What authority does DEQ have for approving a monitoring program?

The DEQ *Wastewater Rules* (IDAPA 58.01.16), Section 600, *Land Application of Wastewater(s) or Recharge Waters*, state that "Provision must be made for monitoring the quality of the ground water in proximity of the application site. The ground water monitoring program is subject to approval by the Department."

Additionally, the DEQ *Ground Water Quality Rule* (IDAPA 58.01.11), Section 301, *Management of Activities with the Potential to Degrade Aquifers*, directs such activities to be managed in a manner to maintain or improve existing ground water quality and references Section 200, *Ground Water Quality Standards*. The Ground Water Quality Standards apply to recharge by land application and recharge via injection wells, a program managed by IDWR.

9. Why does DEQ have to approve a monitoring program?

Recharge by land application has the potential to impact the quality of ground and surface water. A monitoring program is necessary to determine if recharge activities are degrading ground water quality and/or adversely impacting beneficial uses.

Section 600 of IDAPA 58.01.16, *Wastewater Rules*, authorizes DEQ to approve a ground water quality monitoring program for managed recharge sites using land application of recharge water. The frequency and data submittal will depend on:

- the nature and volume of recharge water,
- the frequency and duration of application, and
- the characteristics of the site's soil and underlying geologic material.

Section 600 of the *Wastewater Rules* further defines that the basis for evaluating and approving a monitoring program is determined by the following items:

- the type of recharge water for land application will not adversely affect a beneficial use of waters of the state;
- the nature of the soil and underlying geologic materials at the site provides reasonable assurance that the level of treatment is adequate to prevent pollutants in recharge water from reaching ground water; and
- the soils and vegetative cover has the ability to remove pollutants in the recharge water.

DEQ will review each Ground Water Quality Monitoring Program and evaluate whether it sufficiently characterizes the physical conditions of the recharge site, the existing ground water quality, and the quality of the water intended for recharge. DEQ will approve Ground Water

Quality Monitoring Programs that are designed to provide sufficient information to indicate if ground water quality is affected by the recharge project. The level of detail of a monitoring program **will vary** depending on the characteristics of the recharge site and existing surface and ground water quality.

10. Canals have been leaking water for years without any problems, so why is DEQ requiring a monitoring program?

DEQ **does not** require a monitoring program for leaking water delivery structures. DEQ recognizes that recharge occurs through the canal delivery systems. However, that incidental recharge occurs with small amounts of water leaking from a narrow canal which can extend for miles. Incidental losses from canals can be substantial but the leakage occurs over a large linear area and potential contaminants are diluted by this dispersed recharge activity, rarely creating water quality problems.

For managed recharge by land application, the recharging water is confined to a basin, in a much smaller area, which can concentrate potential pollutants in the recharge water. In effect this basin recharge is confined to several hundred acres, where as canal leakage extends 30 to 40 miles. Concentrating potential contaminants into a basin has the potential to create water quality problems if the recharge site is not constructed or operated properly. The soils at the recharge site should be capable of filtering contaminants from the recharge water prior to reaching the water table. If the site does not naturally have capable soils, constructing a recharge basin is an option.

11. What should be included in a Ground Water Monitoring Program?

A Ground Water Monitoring Program should include a Project Description, Recharge Area Characterization, Evaluation of Potential Impacts, Water Quality Monitoring Program, and Management Practices.

In 2006, along with assistance from IDWR, DEQ prepared "Guidance for Developing a Ground Water Quality Monitoring Program for Managed Recharge Projects by Land Application" which describes all elements that DEQ will consider in reviewing a monitoring program. The guidance is **NOT A RULE**; it is intended to assist parties interested in developing a recharge project by land application and includes examples of two approved monitoring programs. The guidance is accessible on the DEQ Web site at

http://www.deq.idaho.gov/water/data_reports/ground_water/monitoring/recharge_guidance_0806_revision.pdf

12. How long does it take to get DEQ approval for recharge?

DEQ does NOT approve or disapprove recharge projects. DEQ does have authority to approve a ground water monitoring program for a recharge project. DEQ may provide public notice to all potentially impacted property owners within the potential zone of influence by the recharge activity. Generally, a public comment period is open for 30 days following public notification. DEQ anticipates approval or disapproval within 30 days following the end of the public comment period. DEQ highly recommends that parties interested in conducting a recharge project contact DEQ for a pre-project consultation. DEQ realizes that timing of water availability for recharge is critical and encourages parties interested in a managed recharge project to have the water quality monitoring program approved well in advance of the anticipated start of a recharge project.