



## INSTITUTIONAL SETTING AND PURPOSE

The Environmental Protection Agency (EPA) of Ireland manages the Groundwater Monitoring Programme, following the Article 8 of the Water Framework Directive (WFD). The purpose of the Network is to assess the general status of groundwater quality and levels in the Republic of Ireland to protect the source

for public and private drinking water supplies and associated surface water and ecological receptors. Additional groundwater monitoring is carried out by the local authorities, academic research institutions, private consultants and the Geological Survey of Ireland.

## CHARACTERISTICS OF THE NETWORK

The groundwater level monitoring network is focused on groundwater bodies that are considered “at risk” from depletion due to over-abstraction, which are very few in Ireland. Its purpose is to help assess how groundwater levels and flows to surface water receptors are affected by groundwater abstractions. At the moment, the network has 126 active monitoring stations.

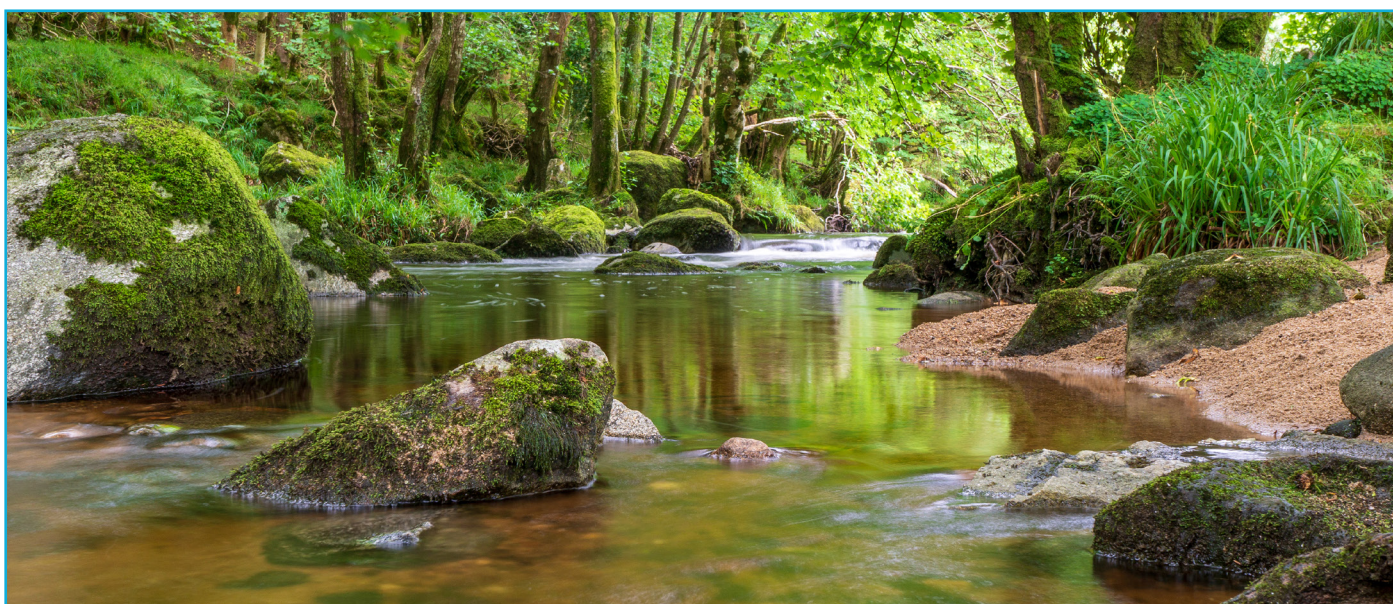
Other monitoring networks are dedicated to “not at risk” groundwater bodies with the purpose of helping to improve the conceptual understanding of the flow of groundwater.

Both wells and springs are part of the groundwater monitoring network. In wells, the groundwater level is measured using a combination of data loggers and manual dipping. Discharge from springs is generally measured using water level/flow rating curve relationships, with ultrasonic flow measurement de-

vices at some sites. At some other spring sites, stop flows are measured using flow meters without continuous flow measurement. Where there is no continuous water level (and stage-discharge rating curves) or velocity measurements at springs, single spot flow measurements are taken, i.e. the flow is measured at the time of the water quality sample to calculate chemical loads from the springs.

The EPAHydroNet portal shows the location of the groundwater levels monitoring stations, and time series data, which is also available for downloading, figure on next page.

As groundwater abstractions are typically not a significant issue in Ireland (~80% of the volume of water comes from surface water), groundwater levels are not something EPA extensively monitor.



*Figure 1 - Glencree River slow moving through green trees*

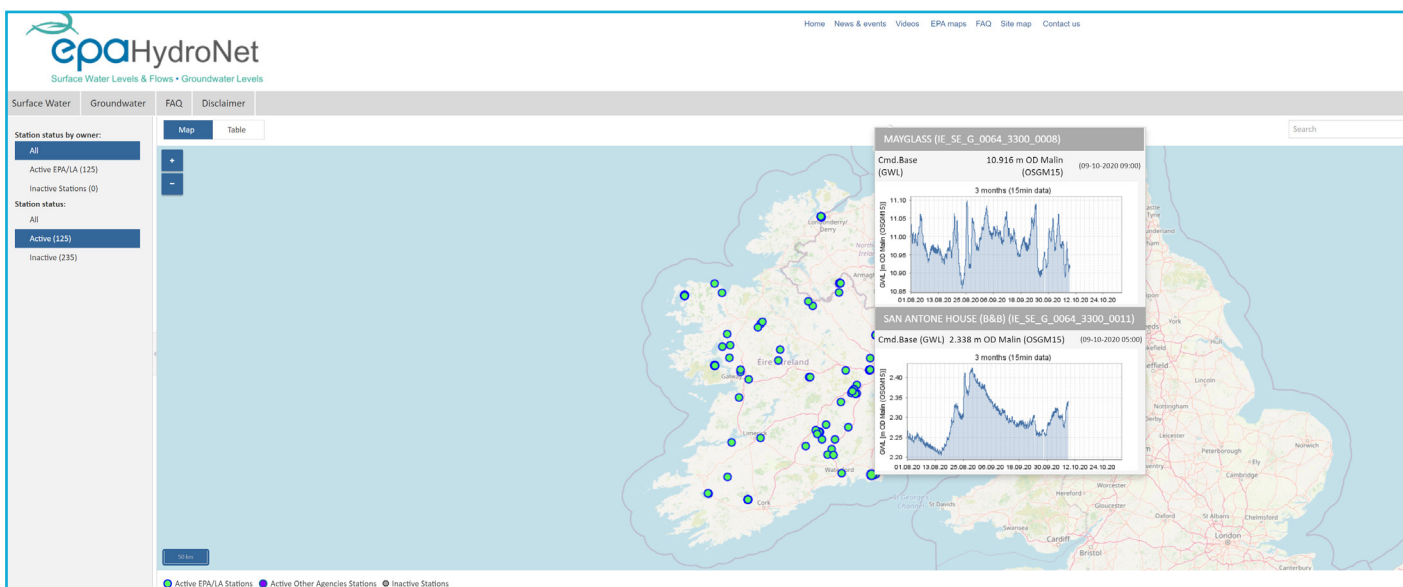


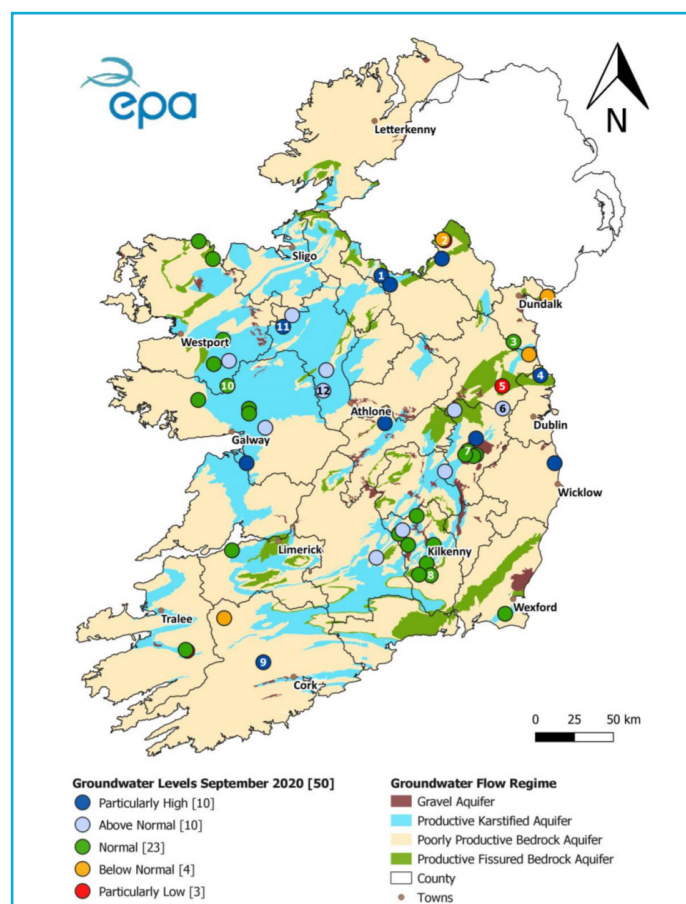
Figure 2 – EPAHydroNet web portal

## PROCESSING AND DISSEMINATION

Groundwater level data is used to support WFD assessments. Separate to this, EPA just completed water resource and abstraction impact assessments for groundwater and surface water, and material relating to this will be going on the official website later on this year.

EPA is also developing a 1-page water bulletin, that graphically/visually shows how groundwater levels, river flows and lake levels are relative to the seasonal averages and 95%iles. EPA completed the work and is in the process of preparing them for online publication; the aim being to have monthly bulletins.

Figure 3 – Groundwater levels reported in September 2020, source: EPA Water Bulletin



## Sources

- **Environmental Protection Agency (EPA), groundwater level monitoring** - <http://www.epa.ie/water/wm/groundwater/level;>
- **EPA HydroNet, groundwater levels** - <http://www.epa.ie/hydronet/#Groundwater;> and
- **Feedback from EPA** - received on 20-03-2020.