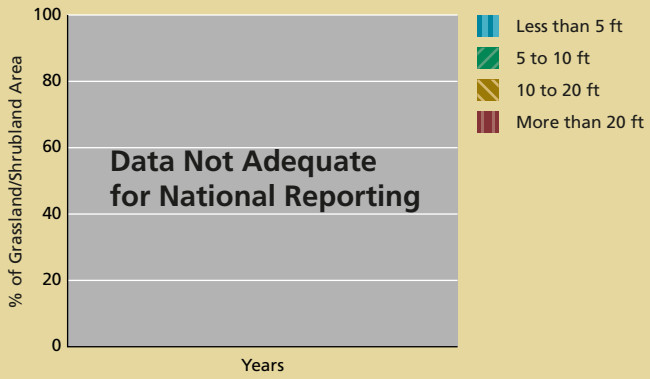
⊖ Depth to Shallow Groundwater

What Is This Indicator, and Why Is It Important? This indicator will describe the depth to shallow groundwater in grassland and shrubland areas. Specifically, it will report the percentage of grassland and shrubland areas where the depth to groundwater falls within several ranges (less than 5 feet, 5 to 10 feet, 10 to 20 feet and more than 20 feet). (The freshwater groundwater level indicator, p. 151, deals with deeper regional aquifers.)

When groundwater levels drop, wetland and streamside (or riparian) plant communities decline, springs and streams dry up, and lake levels drop.

Depth to Shallow Groundwater in Grasslands and Shrublands



Shallow groundwater aquifers are generally the primary water source for springs, seeps, wetlands, potholes, and riparian areas, all of which provide habitat for plants and animals. Groundwater levels can increase, or be recharged, directly from streams and rivers, or from the percolation through soil of rainwater or melted snow. This recharge is reduced when the ground is compacted or when it is covered completely (by development, for example), and less water can seep into the soil. Groundwater pumping can cause aquifer levels to drop, as can expansion of deep-rooted vegetation, such as pinyon–juniper and western juniper woodlands. Less commonly, higher water tables have provided additional flows to streams, wetlands, and springs.

Why Can't This Indicator Be Reported at This Time? Although depth to deep groundwater or regional aquifers is regularly measured in monitoring and withdrawal wells across the country, there are limited data on shallow aquifers. A few states have mapped shallow aquifer levels, but these data have not been integrated.

Integration of data on shallow groundwater from different studies, complemented by expanded monitoring, is needed to support reporting for this indicator. Because shallow groundwater depth is particularly important for the maintenance of riparian and wetland communities, measuring shallow groundwater depth along rivers and streams should be a higher priority than measuring it in other areas.

The technical note for this indicator is on page 260.