Groundwater-dependent ecosystems (GDEs)

ecosystems and species that rely on access to groundwater to maintain ecological structure and function, for at least some part of the year
1. Direct groundwater discharge

- Water table
- Discharge from bedrock
- Bedrock
- Peat
- Pumice

Diagram showing relative elevation and distance with markers for vegetation plot wells.
1. Direct groundwater discharge

(static hydroperiod)

spring

fen
2. Outcropping of the water table

2-3 km
2. Outcropping of the water table

*dynamic hydroperiod*
**Stresses**

- climate change
- groundwater extraction
- groundwater contamination
- direct impacts (e.g. filling, draining)
- invasive species
Evaluating climate change effects

- groundwater recharge / discharge
- timing & amount of precipitation
Wetland hydroperiod: natural range of variation

Feb 2006

May 1994
Groundwater extraction:

1. characterize GW flowpaths
2. quantify hydroperiod natural range of variation
3. find balance between extraction and ecosystem requirements
GDE Study Areas