

Session 4
Principles to Practice: Soils

Speaker: Ben Falk

- To protect the soil, it's critical to understand the relationship between soil and water
 - Soil particles form over the timescale of millennia. Erosion removes that soil over the timescale of hours.
 - A key aspect of soil management is erosion prevention.
- During Vermont's biggest flood since 1920s, truckloads of sediment were carried away in rivers
 - Even during this extreme event, extensive vegetative cover on Falk's farm prevented water erosion. The water flow on his hillside was clear of sediment.
- "Make it hard for water to leave."
 - Through swales and landscape design, Falk designed his farm so that water has to travel about a mile to leave the property.
 - Before this, water only had to travel 800-1200 ft. to escape.
 - The difference between directly moving downhill vs. being re-directed through swales
 - Falk cleared forest (not always recommended), laid woody debris contour, then cut swales and shaped. Perennials planted along swale contours.
 - 90-95% of water infiltrating into ground
 - If it went to the river, it was hours to days later
 - Swales are a simple but powerful technique. It's not appropriate everywhere, but it can be very useful.
- Soil profile of Falk's farm: 2-12 inches of soil on bedrock.
 - Water allows vegetation to thrive on this very limited soil profile.