

Protocol for Rangeland Soil Health Indicator

Step Procedure

- 1 Select sites representative of soil and management.
- 2 Dig a small pit about 20 cm deep to expose a vertical cut in the soil.
- 3 Examine the soil structure both in place and in hand.
For the surface layer (0-10 cm) and the subsoil (10-20 cm) do the following steps:
- 4 Record the soil type, grade and size.

Type

Angular Blocky: imperfect cubes with sharp angles

Columnar: vertically elongated units with rounded, often bleached, tops

Granular: imperfect spheres, usually sand sized

Massive: cohesive mass

Platy: horizontally flattened or compressed

Prismatic: vertically elongated units with flat tops

Single Grain: unconsolidated mass such as loose sand

Subangular Blocky: imperfect cubes with rounded edges

Surface Crust: surface covered with thin cohesive layer sealing out water

Wedges: interlocking lenses that terminate in acute angles

Grade

Weak: barely observable in place or in hand

Moderate: evident in place or in hand

Strong: distinct in place, separates cleanly in hand

Size

See dimensions in table.

- 5 Record the abundance and continuity of macropores (spaces between aggregates).
See dimensions in table.
- 6 Assign the most limiting rating.

Rangeland Soil Health Indicator (Field Form)

Ranch:		Location:					
Observer:		Date:					
Soil Layer	Depth	Structure			Macropores (Space between Aggregates)		Rating
		Type of Aggregate	Grade	Size	Abundance	Continuity	
Surface	0-10 cm						
Subsoil	10-20 cm						
Choices		Angular Blocky Granular Subangular Blocky	Strong	> 5 mm	> 5 /dm ²	> 15 cm	Superior
		Columnar Prismatic Single Grain, Sand Wedge	Moderate	1 to 5 mm	2 to 5/dm ²	5 to 15 cm	Satisfactory
		Massive Platy Single Grain, Not Sand Surface Crust	Weak	< 1 mm	< 2/dm ²	< 5 cm	Unsatisfactory