

Testimony supporting **SB 176**, designating the Scobey Series, as Montana's Official State Soil.

Offered at the Senate Agriculture, Livestock and Irrigation Committee hearing.

State Capital, Helena, February 3, 2015.

SENATE AGRICULTURE

Exhibit No. 2

Date 2/3/15

Bill No. SB 176

Senator Brown, members of the Committee,

I am Gerald Nielsen from Bozeman, retired from MSU after teaching Soil Science for 45 years, and now co-owner of Bitterroot Turf Farm near Corvallis.

State symbols call attention to state treasures. Twenty-one states have designated a soil as a state symbol. I hope Montana will too.

Let me introduce to you, the Scobey Soil Series, "the star" of this hearing, represented here as a vertical slice or monolith taken from a Scobey clay loam at the Ag. Research Center near Conrad. Scobey is one of some thirteen hundred soils in Montana; an old-timer, named and mapped in the 1920s. A companion monolith, was seen by millions, first at the Smithsonian in Washington D.C., and is now traveling to museums in other states. Another monolith traveled to the International Soil Museum in the Netherlands. This monolith resides at MSU with 30 others representing the variety of Montana's soil treasures.

Scobey soil has a scientific name, like many state symbols. The Grizzly Bear is *Ursus arctos horribilis*. Scobey is a fine, smectitic, frigid, Aridic Argiustolls. See **Section 1**, near the end of SB176. (This book describes how Scobey, and soils worldwide, are classified.)

Reading this long name backward, right to left, the "-oll" indicates the taxonomic order called Mollisols, one of 12 soil orders encompassing all soils of the world. Scobey is a Mollisol, with deep, dark-colored, fertile topsoil, enriched by prairie grass roots for thousands of year, home to more microbes and creatures in a square yard than there are people on earth.

The "-ust" means Scobey dries out during the growing season. "Argi-" tells us that water has moved clay downward, accumulating in the subsoil. "Aridic" means, dryer than typical Argiustolls. Scobey's average temperature is "frigid", less than 47 F. Scobey's dominant clay type is smectite (like bentonite), great for holding water in a drought. "Fine" means 35 to 60% clay in the subsoil.

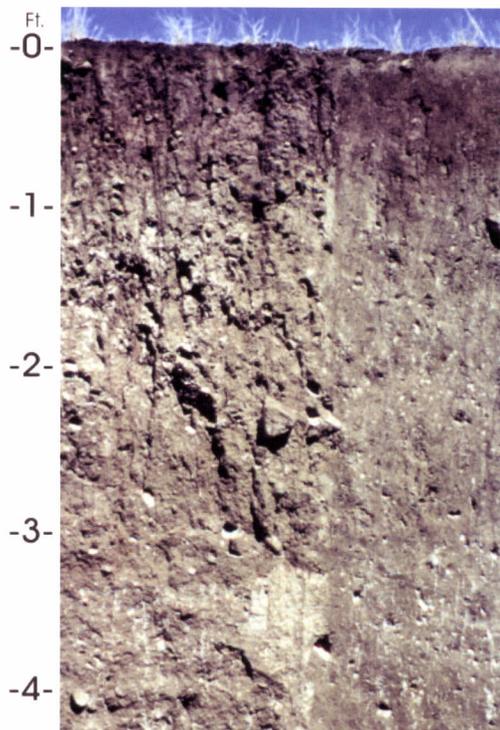
What a marvelous, fascinating soil!

As **Official State Soil**, Scobey would call attention to Montana's treasured soil resources, to be noted on publications, maps and web sites. Here are example soil symbol photographs and web site presentations. (copies distributed). These are starting points, for educating students -- for all of us.

I hope you will see Scobey as Official State Soil, displayed in the Capital, as a beautiful photograph. Why not have a Scobey monolith in this building; with a forest soil from Yaak and a range soil from Alzada?

Please support SB176.

SCOBEY -- MONTANA STATE SOIL



Scobey Soil Profile

Surface layer: very dark grayish brown clay loam
Subsurface layer: dark brown clay
Subsoil: dark grayish brown clay loam

The Scobey series consists of very deep, well drained soils on till plains, hills, and moraines in the north-central part of Montana. These soils occur on more than 700,000 acres. They are among the most productive soils in Montana's Golden Triangle, an area known for its ideal climatic conditions for growing wheat of exceptionally high quality. The three points of the Golden Triangle are Havre, Conrad, and Great Falls. The main crops grown on Scobey soils are spring and winter varieties of nonirrigated wheat.

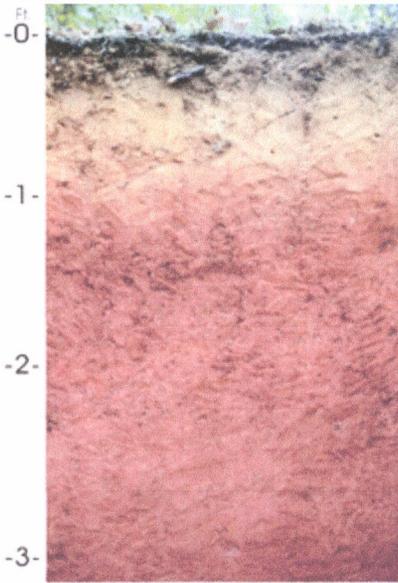
These soils formed in glacial till and under prairie vegetation. The average annual precipitation is about 12 inches. The average annual air temperature is about 43 degrees F. The frost-free period is about 115 days.

These soils are named for the town of Scobey, in northeast Montana. The series was established in 1928.



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State	State soil	Image	Year adopted as official state symbol (if any)
Alabama	Bama		1997 ^[2]
Alaska	Tanana		
Arizona	Casa Grande		
Arkansas	Stuttgart		1997
California	San Joaquin		1997
Colorado	Seitz		
Connecticut	Windsor		<i>proposed</i> ^[3]
Delaware	Greenwich		2000
Florida	Myakka		1989