Mined Land Interpretations

Use of drastically disturbed areas, such as abandoned mined areas, is limited by soil properties that effect revegetation and use of the revegetated areas. Information in this subsection can be used to plan the use and management, including reconstruction if necessary, of areas that have been drastically disturbed as well as to plan the use of areas that are to be mined prior to the actual mining.

Soil reconstruction of areas drastically disturbed, as in mining, may be necessary for proper revegetation and use. Soil reconstruction is the process of replacing layers of soil material or unconsolidated geologic material or both in a vertical sequence of such quality and thickness that they provide a favorable medium for plant growth. If reconstruction is not used, existing materials are evaluated to plan the use and management of these areas.

Florida Statute 482 and Florida Administrative Code Chapters 17-16 and 17-17 are the Laws and Rules for the reconstruction of mined areas in Florida and must be followed. They emphasize that the land surface be restored to about its natural configuration or better and the soil be reconstructed to maintain or improve its suitability for the intended use. Thus, a knowledge of the soil and underlying material is needed to plan proper reconstruction operations of mined land.

MINED LAND INTERPRETATIONS - CONTENTS

Rating Soil Material of Mined Land

Soil material can be rated for revegetation either before or after mining operations.

Rating After Mining Operations

In this case soil material as it exists after abandonment to mining operations is rated for revegetation. The rating of soil material after abandonment is accomplished by rating the actual soil material as it exists.

A rating of "good" means vegetation is relatively easy to establish and maintain, the surface is stable and resists erosion, and the reconstructed soil has good potential productivity. Potential uses are not limited by soil properties.

Material rated "fair" can be vegetated and stabilized by modifying one or more properties. Topdressing with better material or application of soil amendments may be necessary for satisfactory performance. Potential uses are moderately limited by soil properties.

Material rated "poor" has such severe problems that revegetation and stabilization are very difficult and possibly costly. Topdressing with better material is usually necessary to establish and maintain vegetation. Potential user are severely limited by soil properties.

Soil survey map units that consist of drastically disturbed soil material are rated for revegetation on page 6 of this subsection of this FOTG.

Rating Before Mining Operations

It may be necessary to rate the topsoil, subsoil, and substratum separately to determine the suitability of each segment for reconstruction. If they all rate "good", there may be little justification for keeping them separate for soil reconstruction. If the topsoil is rated better than the subsoil or substratum, then it should generally be kept separate, depending upon its thickness and the anticipated use of the land.

When soil materials are properly used in reconstruction, a rating of "good" means vegetation is relatively easy to establish and maintain, the surface is stable and resists erosion, and the reconstructed soil has good potential productivity. Potential uses are not limited by soil properties.

Material rated "fair" can be vegetated and stabilized by modifying one or more properties. Topdressing with better material or application of soil amendments may be necessary for satisfactory performance. Potential uses are moderately limited by soil properties.

Material rated "poor" has such severe problems that revegetation and stabilization are very difficult and possibly costly. Topdressing with better material is usually necessary to establish and maintain vegetation. Potential user are severely limited by soil properties.

Soil Materials are not rating before mining operations in this FOTG. If it is necessary, the topsoil, subsoil, and substratum are rated separately to determine the suitability of each segment for reconstruction.

Guide to revegetation and Use of Mined Land

Soil material can be rated for revegetation either before or after mining operations by using the following guide:

Limits	**Rating**	**Remarks**
Soil Property 1. Salinity (mmhos/cm)		
<8	Good	Salinity does not limit plant selection and use.
8-16	Fair	Excess salt, salt tolerant plants required for establishing vegetation. Erosion and stability of soil surface are problems.
>16	Poor	Excess salt, revegetation very difficult. Erosion and stability of soil surface are severe problems.
2. Soil Reaction		
5.6-7.8	Good	Soil Reaction does not limit plant selection and use.
4.5-5.5	Fair	Too Acid, acid tolerant plants required. Difficult to vegetate. Acid ground water and/or surface water may result.

Limits	Rating	Remarks
2. Soil Reaction (cont.)		
7.8-8.4	Fair	Too Alkaline, alkaline tolerant plants required. Difficult to vegetate. Alkaline ground water and/or surface water may result.
<4.5	Poor	Too Acid, revegetation very difficult. Acid ground water and/or surface water very probable.
>8.4	Poor	Too Alkaline, revegetation very difficult. Alkaline ground water and/or surface water very probable.
3. Available Water Capacity (in/in)		
>.10	Good	Available Water Capacity does not limit plant selection and use.
.05-.10	Fair	Droughty, drought tolerant plants required. Irrigation may be required for establishment and use.
<.05	Poor	Droughty, revegetation very difficult. Irrigation required for establishment and use.
4. Erosion Factor (K)		
<.28	Good	Erosion Hazard does not limit plant selection and use.
.28-.35	Fair	Erodes Easily, conservation practices that control erosion needed.
>.35	Poor	Erodes Easily, revegetation very difficult. Erosion hazard often precludes use.
5. Coarse Fragments 3-10 inches in Size (percent by weight)		
<15	Good	Coarse Fragments does not limit plant selection or use.

Limits	Rating	Remarks
5. Coarse Fragments (cont.)		
15-35	Fair	Stony, use of revegetated area difficult.
>35	Poor	Stony, revegetation and use very difficult.
6. Coarse Fragments more than 10 inches in Size (percent by weight)		
<3	Good	Coarse Fragments does not limit plant selection or use.
3-10	Fair	Stony, use of revegetated area difficult.
>10	Poor	Stony, revegetation and use very difficult.
7. USDA Soil Texture		
SL, SIL, SI	Good	Soil Texture does not limit plant selection or use. L,
SCL, CL, SICL	Fair	Too Clayey, use and plant selection limited. Soil structure and consistency difficult to maintain.
LS,	Fair	Too Sandy, use and plant selection limited. Soil structure and consistency difficult to maintain.
C, SC, SIC	Poor	Too Clayey, use selection very limited. Soil structure and consistency very difficult to maintain.
S	Poor	Too Sandy, use selection very limited. Soil structure and consistency very difficult to maintain.
8. Depth to Seasonal High Water Table (feet)		
>2.5	Good	Wetness does not limit plant selection or use.
0.5-2.5	Fair	Wetness, use and plant selection limited to plants that are tolerant to wetness.

Limits	Rating	Remarks
8. Depth to Seasonal High Water Table (cont.)		
<0.5	Poor	Wetness, use and plant selection limited to wetland use and wetland plants.
Plus	Poor	Ponding and Wetness, use and plant selection limited to wetland use and wetland plants.

There is an assumption that the slope of the reconstructed area will be suitable to the planned use; therefore, slope is not a criteria in this guide.

See part 603 of the *National Soils Handbook* for additional information concerning use of mined and other types of drastically disturbed areas.

Drastically Disturbed Map Units

Drastically disturbed soil survey map units in the area served by this field office, their ratings for revegetation, and the limiting restriction(s) are as follows:

Map Symbol	Map Unit Name	Rating	Restriction(s)
72	Pits (Udorthents and Quartziments, excavated)	*	Too variable to rate