LAND CLASSIFICATION
By H. L. Thomas

The soils of Land Management Unit 4 have been grouped according to range adaptation into five land classes. Land class "A" consists of soils having excellent qualities for the production of native vegetation. They are deep, permeable, slightly eroded, and have a low alkali content. Land class "B" consists of soils having similar characteristics as class "A"; but they are less permeable, moderately eroded, and may have only a moderate water-holding capacity. Class "B" land is rated as "good" from the standpoint of range adaptation, but for reasons just mentioned is less productive than class "A". Neither of these land classes would interfere with a range improvement program. On the other hand, native vegetation growing on these soils would probably respond quickly to a land management program. (See land class map for specific location of soils classed as "A" and "B" range land.)

Land class "C" consists of soils having a fair or relatively low productive capacity of native vegetation. Low productive capacity might be the result of a natural cause, such as, (1) a low absorbtive or water-holding capacity, (2) a rough broken or stony condition, the result of normal geologic erosion, (3) a high alkali content affecting the type of native vegetation; or, (4) the productive capacity might

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be low as a result of severe accelerated erosion caused by mis-use of the land. Land class "D" land, except that it may be more severely eroded, more rough broken and stony, or it may have a higher alkali content, limiting not only the type, but the amount of native vegetation, is somewhat similar to Land class "C" soils. The soils placed in these land classes are rated as "fair" and "poor", respectively, from the standpoint of range adaptation.

Class "C" and "D" lands occupy all the northern half of this unit and a significant portion of the central and western sections. For the most part this is rough stony and broken land with a shallow or intermittent soil cover, characteristic of deep, rugged canyons and steep mountain and mesa escarpments. A land improvement program in this section will be materially retarded, if not seriously handicapped, by natural soil factors. However, a significant amount of this area is classed as "C" or "D" land because of accelerated erosion caused by mis-use of the land. It is this condition that a land management program would aim to correct. From that point of view an improvement program is most urgent. Class "C" land probably represents a critical stage of soil erosion; one in which erosion is actively reducing the land to a state of waste beyond the realm of practicable reclamation. In most cases very little improvement is possible on class "D" land because so much of it consists of steep, rough stony and broken land without a soil cover.

Class "E" consists of bare geologic sandstone and shale or waste land, having no practical land use...

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Rough broken and rough stony land, located on the upper portion of Black Mesa, comprises approximately one-third of the unit. On this steep, rugged topography erosion keeps pace with, or exceeds soil development, resulting in a normally shallow or intermittent soil cover. This condition is indicated on the map by a combination soil symbol 1CB (32.7). The shallow soil cover has a relatively low productive capacity, and the vegetative cover consists for the most part of scattered shrub and forest types. Extensive areas of bare geologic shale and sandstone further reduce the grazing value of these types. Because of the low potential range production these types have been rated as C or D.

The rate of water run-off and consequent erosion is high or excessive. Revegetation by natural means will suffer the handicap of an intermittent soil cover, and the fact that grasses are probably not adapted to these soil types. In spite of the soil and topographical conditions, this portion of the unit representing the upper portion of the watershed for a large area is of immediate importance from the standpoint of conservation. Native vegetation should be given every advantage possible to afford protection for the remaining soil cover, and to that extent check the rate of water run-off.

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