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CONSERVATION RANCH PLAN

TED THOMPSON

COOPERATING

with the

EUREKA

SOIL CONSERVATION DISTRICT

NEVADA

Assisted by
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

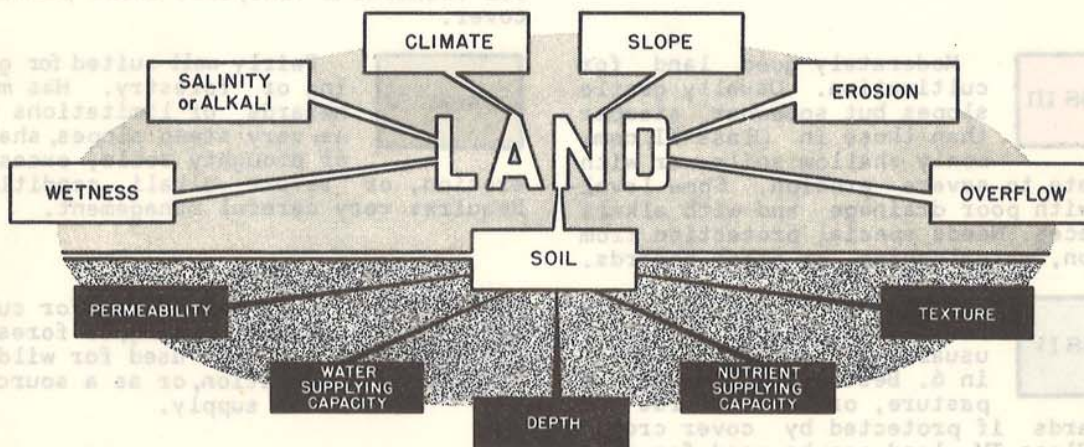
PLAN NUMBER
PLANNED BY
DATE

W-SCD-20-13
Heckathorn
JULY, 1954

CLASSIFYING LAND ACCORDING to it's CAPABILITY FOR USE

Step 1. COLLECTING LAND FACTS

The first step in making a conservation farm plan is a careful survey of the land itself. This is usually done by a trained soil surveyor who goes over the ground and identifies and maps the land conditions. He collects all the significant facts about the land that are likely to have a bearing on its proper use and treatment.



Step 2. CLASSIFYING LAND FACTS

The next step is to gather the soils with similar characteristics, limitations and management problems into groups and to identify these groups. This is done by use of the land capability classification.

CAPABILITY SYMBOL



- ① Land capability class: The Roman numeral expresses the possibilities for use and the degree of hazard or limitation for each use (see back of page).
- ② Land capability subclass: The small letter following the Roman numeral, indicates the dominating limitation or hazard (see back of page).
- ③ Land capability unit: The Arabic number identifies the land unit for which the 'Guide Sheet' describes the condition and need for special conservation treatment.

LAND CAPABILITY CLASSES

LAND SUITED FOR CULTIVATION

CLASS I

Best land for cultivated use. Deep soil, nearly level, little or no erosion, adapted to a wide variety of crops. No special difficulties in farming.

CLASS II

Good land for cultivation. Gentle slopes, usually moderately deep soil, or other minor problems. Frequently requires some moderate degree of protection from erosion or improvement of the drainage.

CLASS III

Moderately good land for cultivation. Usually gentle slopes but somewhat steeper than those in Class II; commonly shallow soils or with moderate to severe erosion. Some level land with poor drainage and with alkali in places. Needs special protection from erosion, waterlogging, or other hazards.

CLASS IV

Fairly good land. Suitable for occasional cultivation, usually not more than 1 year in 6. Best suited for hay or pasture, or for orchards and vineyards if protected by cover crops. Some Class IV land can be used for seasonal or other special crops under very careful management.

LAND NOT SUITED FOR CULTIVATION

CLASS V

Very well suited for grazing or forestry depending on climatic conditions. Has little or no physical limitation for such use and requires only good range or woodland management.

CLASS VI

Well suited for grazing or forestry. Characterized by steep slopes, susceptibility to erosion, shallow soils, alkali or other unfavorable conditions and requires more careful management than Class V land. Safely used for orchards or vineyards under permanent cover.

CLASS VII

Fairly well suited for grazing or forestry. Has major hazards or limitations such as: very steep slopes, shallow or droughty soils, excessive erosion, or severe alkali conditions. Requires very careful management.

CLASS VIII

Land not suited for cultivation, grazing, or forestry, but may be used for wildlife, recreation, or as a source of water supply.

LAND CAPABILITY SUBCLASSES

- e: Shows water erosion hazard as the most serious problem. Slope is the main type; or stream overflow damage.
- w: Shows wetness of soil as the most serious continuing problem. May be caused by high water table, seepage, ponding.
- s: Shows that some characteristic of the soil itself is the most serious problem. Such features are: shallow effective depth, heavy or coarse texture, stoniness, plant nutrient deficiencies.
- c: Shows that the most serious problem is the climate. Such conditions are: frost pockets, short growing seasons, excessive rainfall.

Often two or more limitations apply equally to an area. Where this is so, the first factor on the list is shown as the governing one.

Owner - Ted Thompson
Operator - Ted Thompson

Farm Plan No. - NV-SCD-20-13
Acreage - 1280

GENERAL

This ranch is known as the Home Ranch, and is the headquarters for the operator. It is located about thirty miles north of Eureka and is operated in conjunction with the other ranches for a livestock enterprise.

A discussion of the soils found on this place is first presented followed by the conservation needs and the plan itself.

1. Installing Pipelines and Pump
2. Land Preparation
3. Drainage
4. Irrigation System
5. Improved Water Application

SOILS

Four different types of soils were mapped on this ranch with a description of the best soils starting first.

The best land is classified as IIS₃ (colored yellow). This soil is characterized by being very deep - (over 60") - medium textured, having a moderate permeability rate, and having approximately a two percent slope. There is evidence of moderate erosion and a slight salinity and alkalinity condition.

There is also some soil classified as IIe₄ (colored yellow). It differs only from the IIS₃ soil in that the slope of this land is approximately three percent.

The next best soil is classified as IVw₁, (colored blue). It is characterized by being deep (36-60"), heavy textured, nearly level, and having a slow permeability rate. There is a moderate wetness condition caused by a fluctuating water table in the 5-20" zone. There is also a slight salinity and alkalinity condition present.

The soil not suited for cultivation is classified as VI₁ (colored orange). It is characterized by being moderately deep, (20-36"), heavy textured, with a slow permeability rate, and on nearly level slopes. There is a slight saline, alkali and wet condition present.

Improved Water Application CONSERVATION NEEDS - (41 Acres). Because of the steepness of this land, water should be applied by the corrugation method. The conservation needs as were worked out with you are considered to be the following:

Corrugations should be approximately 2 1/2 inches wide and length of runs about 330 feet. Length of time to irrigate each set should take approximately 12 hours.

1. Installing Pipeline and Pump
2. Land Preparation
3. Drainage
4. Irrigation System
5. Improved Water Application
6. Fertilization
7. Seeding Adapted Crops
8. Crop Rotation
9. Pasture and Rangeland Management and Production

Fertilization (Fields 5, 6, 7 and 9 - 379 Acres). For all cropland fields all organic manure should be applied at the rate of ten tons per acre. Commercial fertilizers will also aid in keeping crop production at a high level.

Installing Pipeline and Pump - To be able to irrigate fields 5, 6 and 7 from the main spring below the house, a pump and pipeline will have to be installed. The water will have to be raised approximately 15 feet and it will take about 780 feet of pipe to lift the water this high. Approximate location of the pipeline is shown on the map.

Land Preparation - (Fields 5 and 6 - 41 Acres). To aid in using your irrigation water and to assist you in establishing crops, these fields should be smoothed to as nearly a uniform grade as practical.

Drainage - (Fields 2 and 9 - 284 Acres). To relieve the wet condition of these fields so that better forage crops can be established, adequate drains should be installed. Design and location of these drains will be supplied to you upon request when you are ready to install them.

Seeding Adapted Crops - (Fields 1, 2, 3, 4, 5, 6, 7, 8 and 9 - 1200 Acres). The following crops are best suited for the indicated fields.

Irrigation System - (Fields 2, 5, 6, 7, 8 and 9 - 773 Acres). The approximate irrigation system and ditches are shown on the map. To efficiently use and distribute your water in the most beneficial manner, this system should be applied. Grade of cross ditches should be about one tenth of one percent.

Improved Water Application - (Fields 5 and 6 - 41 Acres). Because of the steepness of this land, water should be applied by the corrugation method. Corrugations should be approximately 24 inches wide and length of runs about 330 feet. Length of time to irrigate each set should take approximately 12 hours.

Fertilization - (Fields 2, 5, 6, 7 and 9 - 379 Acres). For all cropland fields all available barnyard manure should be applied at the rate of ten tons per acre. The following commercial fertilizers will also aid in keeping crop production at a high level.

Fields 5 and 6

Hayland - First Application

40# Nitrogen Per Acre
80# Phosphate Per Acre

Alternate Years

65# Phosphate Per Acre

Pasture - First Application

60# Nitrogen Per Acre
80# Phosphate Per Acre

Alternate Years

20# Nitrogen Per Acre
40# Phosphate Per Acre

Fields 2, 7 and 9

Apply available manure when renovating pastures.

The above pounds per acre are the actual pounds of fertilizer per acre needed.

The concentration of the fertilizer purchased will determine the total number of pounds to apply per acre.

Seeding Adapted Crops - (Fields 1, 2, 3, 4, 5, 6, 7, 8 and 9 - 1280 Acres).

The following crops are best suited for the indicated fields.

Fields 5 and 6 only

Hay: Ranger Alfalfa	6# per acre
*Manchar Smooth Brome	8# per acre
	<u>14# per acre</u>

*Substitute intermediate wheatgrass for smooth brome where only one irrigation is available.

Fields 5, 6 and 7

Pasture: Manchar Smooth Brome	8# per acre
Orchard Grass	4# per acre
*White Dutch Clover	1# per acre
Alsike Clover	1# per acre
	<u>14# per acre</u>

*May substitute strawberry clover.

Another mixture that may be used is:

Alta Fescue	8# per acre
Alfalfa (Ranger)	4# per acre
	<u>12# per acre</u>

Grain: Oats - Bannock or Swedish Select	60# per acre
Barley - Trebi, Gem, Velvon	60# per acre
Wheat - Federation, Lemhi	60# per acre

Trial seedings may be tried of the following mixture on fields

Tall Wheatgrass	8# per acre
Alsike Clover	1# per acre
	<u>9# per acre</u>

Fields 2 and 9

Hay or Pasture Seeding

Alta Fescue	6# per acre	Or	Reeds Canary	6# per acre
Smooth Brome	6# per acre		Alsike Clover	1# per acre
Alsike Clover	1# per acre		Strawberry Clover	1# per acre
Strawberry Clover	1# per acre			<u>8# per acre</u>
	<u>14# per acre</u>			

Fields 1 and 4

Crested Wheatgrass	6# per acre
Ladak Alfalfa	1# per acre
	<u>7# per acre</u>

For the cropland fields, seedbed should be moist and firm before seeding. On all fields seeding of the above pounds per acre should be done with a drill; if broadcast seeded, the pounds per acre will have to be increased.

To establish any tame grasses or legumes on fields 2, 3, 4, 5, 7, 8 and 9, the wiregrass saltgrass sod will have to be completely broken up and eradicated. Two years of grain should precede any attempt to seed these fields. A green manure crop of sweet clover will also aid in conditioning the soil for seeding.

Crop Rotation - (Fields 5 and 6 - 41 acres). To maintain consistently high yields a 6 - 8 year rotation should be followed with two years of this in grain.

Because of the difficulty in establishing stands on fields 2 and 9, they should be rotated only when undesirable weeds and grasses begin to take over.

Pasture and Rangeland Management and Production - (Fields 1, 3, 4, 8 and 9 - 1069 Acres). To help increase the productivity of rangeland pastures, they should be fenced to divide them into two or more about equal-sized pastures, and a rotation-defined system of grazing practiced.

Mowing to remove old growth and dragging to scatter droppings should also be done occasionally.