PROPOSAL

Classification of Major Soil Types In and Around the Taylor Ranch

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INTRODUCTION

Evaluations and interpretations of the soil resources of a given area serve as a valuable aid in making recommendations and decisions for the potential use and management of that area. Knowledge of the soil acts as a binding factor with which correlations between the natural sciences, and their many separate disciplines, may be made.

Past research projects performed at the Taylor Ranch in the Idaho primitive area have made only topical, if any, reference to very limited soils data. With the excellent resource of undergraduate and graduate students in the field of soil science, this lack of knowledge is unnecessary. The Taylor Ranch provides a unique opportunity to study different soil development patterns relating to the many combinations of slope, aspect, vegetation habitat types, geology, topography, and water resources found there. Surely, with all of the research that has been and will be performed on the wildlife, vegetative types, geology, and climate of the Taylor Ranch vicinity, an opportunity to correlate many of the interdisciplinary relationships between these separate studies, by means of soil interpretations and classifications, should not be passed by.

It is for this reason I am submitting this proposal; to begin an on-going soil data gathering program for soil classification and interpretation. By collecting and evaluating soil information relating to past, present and future research performed in the Taylor Ranch area, I will be able to draw some conclusions as to why certain soil development patterns have emerged.

OBJECTIVES

Dr. Ken Sowles, supervisor of the Taylor Ranch, has informed me, that to his knowledge, no soils research has ever been done on or around the Taylor Ranch. With this in mind, I have decided my initial objective is to describe and classify the major soils occuring in the Taylor Ranch and its vicinity. Hopefully, this will open the door to further study of soil relationships to other natural science disciplines and an eventual detailed mapping and classification of soil resources, types, and boundaries in the Idaho Primitive Area.

My personal goal in this project is to gain experience describing soils and drawing initial conclusions as to the morphology and classification of the many soil types in and around the Taylor Ranch as they relate to slope, aspect, topographic landforms, geology, vegetative habitat types (both native and induced), climate, and water resources.

METHODS

Data Collection

I will be digging soil pits where soil changes or boundaries seem evident to: 1. expose horizonation sequences, 2. remove samples from each horizon for later mineral, textural, and chemical analysis, and 3. photograph these horizons. The pits will be dug out and filled in one at a time and marked with flags to prevent any accidents. In addition to the observation pits, I will take auger samplings in a rough grid pattern between the pits to detect any deviations from the major soil sequences I find in the pits.

Classification and Interpretation

For each observation pit, I will be filling out a soil profile description (see figure 1), using the standard nomenclature and classification system used by the National Cooperative Soil Survey

Program. As my reference in developing interpretations and descriptions of the samples and data collected, I will be using the Guide for Preparing Soil Pedon Descriptions by Dr. Maynard Fosberg, Professor of Soil Science, University of Idaho. This publication, just released in the last few weeks, is the most up to date collection of descriptions and nomenclature for soil classification.

Consultation and Direction

I will be collecting soil data and making interpretations and descriptions with the supervision and consultation of Dr. Fosberg, who has agreed to be my advisor in this project. Dr. Fosberg will fly in to the Taylor Ranch twice; first, to help me establish my project guidelines and second, sometime in midsummer to observe the progress of my studies.

TIME SCHEDULE

Because I will be working as a carpenter and providing labor during the hay harvest on the Taylor Ranch this summer, my schedule is somewhat tentative. My employment will last no more than six weeks and will be dispersed over the thirteen weeks between the end of spring semester, 1980 and the start of fall semester, 1980. This leaves me seven weeks to carry out my research and to fly out periodically to be with my family. I am very confident this will be ample time to accomplish my objectives and goals, but should there be any indication that I need more time to finish my project, I will make arrangements with Dr. Sowles to reduce my employment time. Table one on the following page is a tentative timetable for this summer.

Table 1, Time Schedule

May 23 to June 9	Carpentry work
June 10 to June 27	Soils research
June 28 to July 7	Home
July 8 to July 18	Work on ranch
July 19 to July 25	Soils research
July 26 to Aug. 4	Home
Aug. 5 to Aug. 11	Work on ranch
Aug, 12 to Aug. 25	Soils research

EQUIPMENT AND MATERIALS

Below is a table of equipment and materials I will need for the project. Items marked with an asterisk (*) are those that I own and will not be necessary to purchase.

Table 2, Equipment List

Qnty.	Item
1	Muncell soil color book
1	Tiling spade
1	Shovel
1	Clinometer
1	Compass *
1	Auger
1	Hand lens *
3	Topographic maps of Taylor Ranch area
24	Horizon sample boxes
1	Measuring tape *

Note: This list is subject to some minor additions.

SUMMARY

The Taylor Ranch and vicinity in the Idaho Primitive Area provides an excellent site for the study of many soil development patterns due to the high degree of variability in topography, relief, slope, microclimates, vegetative habitat types, and water tables and flows found in the area. Soils information I gather to classify the major soil types occurring in this area will aid in subsequent research and will allow for cross-discipline relationships between many of the natural sciences.

Too often, premature recommendations and management decisions are made concerning land-use without knowledge of an areas soil resources. An example of this can be found in the Report on Potential Natural Vegetation of the Taylor Ranch and Vicinity by Dr. Dale Thornburgh (1976). Though I do not pretend to be an authority on vegetative habitat types, the recommendations in his report were made with no reference to land-use as related to the soil resources at the Taylor Ranch. Sound land-use and management decisions cannot be made without knowledge of the impact those decisions are going to make on the soil or the soil is going to make on those decisions.

Thus, I submit this proposal; to study and gather information on the major soil types occurring on and around the Taylor Ranch and disseminate this information to aid in further research and in making sound recommendations and management decisions for the Taylor Ranch area.