

RANGE

WR 13214

SOIL CONSERVATION SERVICE

Region of Eight - Navajo District

Inventory of Surveys and Studies Needed by the  
Office of Land Use Coordination

RANGE SURVEYS

General Statement

I. PURPOSE:

Range surveys are conducted for the purpose of securing pertinent basic information to assist in the development of a comprehensive and workable land use plan.

II. INFORMATION SHOWN:

It will be necessary in this report to divide the Range Surveys into three categories, namely; preliminary, extensive and intensive.

(a) Preliminary Range Survey:

The Preliminary Range Survey is of very general nature. The area is divided roughly into major vegetative types; the vegetative composition is given in per cent, listing only dominant species; surface acres and forage acres are calculated for each major type of vegetation; general information is obtained on vegetative vigor, utilization, poisonous plants, class of stock best suited to range, and general erosion conditions. The more important stock waters are located on the base map. On an average not less than fifty sections per man day will be covered in a preliminary Range Survey; the base map (the best one obtainable) is usually on a small scale.

(b) Extensive Range Survey:

The Extensive Range Survey is more detailed than the Preliminary. The examiner travels within one mile of all points and covers an average of about ten sections per day using aerial mosaics. The actual information obtained is as follows:

(1) Write-up sheet by vegetative types;

a. Vegetative composition in per cent, palatability and density of each type, which

gives the forage acre factor.

- b. Timber species, composition, age, condition, and reproduction noted.
- c. Range condition and degree of erosion.
- D. Relative forage volume growth.
- e. Topography.
- f. Water, distance and adequacy.
- g. Poisonous plants.
- h. Rodents and predators.
- i. Proper grazing season.
- j. Proper class of stock.

(2) On Base Map.

- a. Vegetative type boundaries.
- b. Range improvements, such as fences, corrals, trails, stock waters, both developed and undeveloped and their permanency.
- c. Roads, telephones, power lines, etc.
- d. Houses, hogans, and cultivated fields.
- e. When compilations are finished, surface acres and forage are written in each type on the base map.
- e. Intensive Range Surveys.

The information secured in the intensive Range Survey is the same as the extensive except that more detail is required. Vegetative types as small as five acres in extent are shown, and the vegetative composition noted carefully. The average area covered per man day on this type of survey is from two to four sections. It is required that the examiners pass within 1/4 mile of all points. All range improvements are visited.

III. STANDARDS USED.

All Range Surveys on the Navajo District to date have

followed the Forest Service Standards in effect at that time. Ten major vegetative types were recognized. In the future, all Range Surveys will follow the standards set up in "Instructions for Grazing Surveys as Formulated by the Inter-Agency Range Survey Committee and Adopted by the Western Range Survey Conference, April 24, 1937."

IV. APPROXIMATE COST:

The approximate cost of Range Surveys on the Navajo District is as follows:

Type of Survey	Cost per Acre	Cost per Sq. Mi.	% Field	% Office
Preliminary	\$0.0039	\$ 0.25	50	50
Extensive	0.0156	1.00	60	40
Intensive	0.0469	3.00	65	35

V. PUBLISHING MAPS:

No maps have been published.

VI. COOPERATIVE RELATIONS:

It has been the policy on the Navajo District to cooperate whenever possible with other agencies. To date, no grazing surveys have been carried on in cooperation with other agencies. However, the Navajo District has obtained information from other agencies, and in turn has made available to them such information it may have which they desire.

SERIAL NUMBERS EMPLOYED IN DESCRIBING SPECIFIC AREAS

In this report serial numbers have been assigned to each area surveyed. The areas are so numbered on the maps. The four states have been assigned a letter, thus:

New Mexico ----- N  
 Arizona ----- A

Utah ----- U

Colorado ---- C

The next letter indicates the type of survey, as:

Preliminary -- P

Extensive ---- E

Intensive ---- I

The particular area is then assigned a number, starting with one (1).

Example:

N-E-1- an Extensive Range Survey in New Mexico, which has been assigned the number 1.

Whenever possible identical surveys will be given the same serial numbers, to eliminate unnecessary repetition.

RANGE SURVEYS

- ARIZONA -

A-P-1. ( PRELIMINARY RANGE SURVEY OF CANYON DIABLO AREA)

- I. Compilation Scale:  $1/2" = 1$  mile.
- II. No maps have been published.
- III. Source of Base Map: General Land Office Survey Plate
- IV. Accuracy of Base Map: Unknown
- V. Accuracy in relation to nearest plotted point  $1/4$  inch
- VI. Information shown:

The Preliminary Range Survey is of a very general nature. The area is divided roughly into major vegetative types; the vegetative composition is given in percent, listing only dominant species; surface acres and forage acres are calculated for each major type of vegetation; general information is obtained on vegetative vigor, utilization, poisonous plants, class of stock best suited to range, and general erosion conditions. The more important stock waters are located on the base map. On an average not less than fifty sections per man day will be covered in Preliminary Range Survey; the base map (the best one obtainable) is usually on a small scale.

- VII. All field work, collection of information, and compilation completed March, 1937.
- VIII. Date of future publication unknown.
- IX. None
- I. No publications available
- XI. Land status on a portion of the area was supplied by the U.S. Forest Service at Flagstaff, Arizona.

## A-E-1. (EXTENSIVE RANGE SURVEY NAVAJO RESERVATION)

- I. Compilation Scale. 1" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Mosaics
- IV. Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point .1 inch.
- VI. Information shown:
  - A. Write-up sheet by vegetative types
    1. Vegetative composition in per cent, palatability and density of each type, which gives the forage acre factor.
    2. Timber species, composition, condition, and reproduction noted.
    3. Range condition and degree of erosion.
    4. Relative forage volume growth.
    5. Topography
    6. Water, distance, and adequacy.
    7. Poisonous plants.
    8. Rodents and predators.
    9. Proper grazing season.
    10. Proper class of stock.
  - B. On Base Map.
    1. Vegetative type boundaries.
    2. Range improvements, such as fences, corrals, trails, stock waters, both developed and undeveloped and their permanency.
    3. Roads, telephones, power lines, etc.
    4. Houses, hogans, and cultivated, fields.
    5. When computations are finished, surface acres and forage acres are written in each type on the base map.

VII. All field work, collection of information, and compilation completed February, 1936.

VIII. Date of future publication unknown.

IX. None

X. No publications available.

XI. No cooperating agencies in actual field and office work.

A-3-2. ( EXTENSIVE RANGE SURVEY SPRINGERVILLE AREA)

I. Compilation Scale: 2" = 1 mile.

II. No maps have been published.

III. Source of Base Map: Plans table survey.

IV. Accuracy of Base Map:

A. 1. Average .05"

2. maximum .10"

B. 1. (a) .05"

(b) .10"

2. (a) .05"

(b) .10"

3. (a) .05"

(b) .10"

C. 1. Plans Table Survey

By chained traverse.

V. Accuracy in relation to nearest plotted point .05 inch.

VI. Information shown: (see A-E-1 )

VII. All field work, collection of information, and compilation completed January, 1936.

VIII. Date of future publication unknown.

IX. None

X. No publications available.

XI. No cooperating agencies in actual field and office work

A-E-3. (EXTENSIVE RANGE SURVEY CONCHO AREA)

I. Compilation Scales: 4" = 1 mile.

II. No maps have been published.

III. Source of Base Map: Plane table survey.

IV. Accuracy of Base map:

A. 1. Average .025"

2. Maximum .05"

B. 1. (a) .025"

(b) .05"

2. (a) .025"

(b) .05"

3. (a) .025"

(b) .05"

C. Plane Table Survey

By chained traverse.

V. Accuracy in relation to nearest plotted point .05 inch.

VI. All information shown; (See A-E-2)

VII. All field work, collection of information, and compilation

VIII. Date of future publication unknown.

IX. None.

WR 13222

- X. No publications available.
- XI. No cooperating agencies.

A-E-4 (EXTENSIVE RANGE SURVEY MILLET VALLEY AREA)

- I. Compilation Scale: 1" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Plane table survey.
- IV. Accuracy of Base Map:

- A. 1. Average  $\pm .05''$
- 2. Maximum  $\pm .10''$

- B. 1. (a)  $\pm .05''$
- (b)  $\pm .10''$

- 2. (a)  $\pm .05''$
- (b)  $\pm .10''$

- 3. (a)  $\pm .05''$
- (b)  $\pm .10''$

- C. 1. Plane Table Survey

By chained traverse.

- V. Accuracy in relation to nearest plotted point  $\pm .05$  inch.
- VI. Information shown: (See A-E-1).
- VII. All field work, collection of information, and compilation completed April, 1936.
- VIII. Date of future publication unknown.
- IX. None
- X. No publications available.
- XI. No cooperating agencies in actual field and office work.

**A-1-1. (INTENSIVE RANGE SURVEYS OF DEMONSTRATION AREAS)**

- I. Compilation Scale: 2" = 1 mile.
- II. No maps have been published.
- III. Source of base maps: Aerial mosaics.
- IV. Information to be supplied by Regional Offices.
- V. Accuracy in relation to nearest plotted point .025 inch.
- VI. Information shown:

The information secured in the Intensive Range Survey is the same as the extensive (See A-E-1) except that more detail is required. Vegetative types as small as five acres in extent are shown, and the vegetative composition noted carefully. The average area covered per man day on this type of survey is from two to four sections. It is required that the examiners pass within 1/4 mile of all points. All range improvements are visited.

- VII. All field work, collection of information, and compilation completed June, 1957.
- VIII. Date of future publication unknown.
- IX. None
- X. No publications are available.
- XI. No cooperating agencies in actual field and office work.

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WR 13224

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RANGE SURVEYS

- NEW MEXICO -

N-P-1. (PRELIMINARY RANGE SURVEY OF PROPOSED EASTERN  
NAVAJO EXTENSION)

- I. Compilation Scale: 1" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Mosaics.
- IV. Accuracy of Base Map: Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point 2".
- VI. Information shown:

The Preliminary Range Survey is of a very general nature. The area is divided roughly into major vegetative types; the vegetative composition is given in per cent, listing only dominant species; surface acres and forage acres are calculated for each major type of vegetation; general information is obtained on vegetative vigor, utilization, poisonous plants, class of stock best suited to range, and general erosion conditions. The more important stock waters are located on the base map. On an average not less than fifty sections per man day will be covered in a Preliminary Range Survey; the base map (the best one obtainable) is usually on a small scale.

- VII All field work, collection of information, and compilation completed July, 1936.
- VIII. Date of future publications unknown.
  - IX. None.
  - X. No publications available.
  - XI. No cooperating agencies.

N-P-2 ( PRELIMINARY RANGE SURVEY OF PUERTOCITO AREA)

- I. Compilation Scale: 1" = 1 mile
- II. No maps have been published.

- III. Source of Base Map: Aerial Mosaics
- IV. Accuracy of Base Map; Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point 2".
- VI. Information shown: (See H-P-1).
- VII. All field work, collection of information, and compilation completed July, 1936.
- VIII. Date of future publications unknown.
- IX. None.
- X. No publications available.
- XI. No cooperating agencies.

H-P-3. ( PRELIMINARY RANGE SURVEY OF RAMAH AREA.)

- I. Compilation Scale: 1" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Mosaics.
- IV. Accuracy of Base Map; Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point 1".
- VI. Information shown: (See H-O-1)
- VII. All field work and collection of information complete. this area will not be compiled unless needed.
- VIII. Date of future publications unknown.
- IX. None.
- X. No publications available.
- XI. No cooperating agencies.

H-E-L. (EXTENSIVE RANGE SURVEY NAVAJO RESERVATION)

- I. Compilation scale: 1" = 1 mile.

II. No maps have been published.

III. Source of Base Map: Aerial Mosaics.

IV. Accuracy of Base Map: Information to be supplied by Regional Office.

V. Accuracy in relation to nearest plotted point. 1".

VI. Information shown:

A. Write-up sheet by vegetative types:

1. Vegetative composition in per cent, palatability and density of each type, which gives the forage score factor.
2. Timber species, composition, age, condition, and reproduction noted.
3. Range condition and degree of erosion.
4. Relative forage volume growth.
5. Topography
6. Water, distance and adequacy.
7. Poisonous plants.
8. Rodents and predators.
9. Proper grazing season.
10. Proper class of stock.

B. On Base Map:

1. Vegetative type boundaries.
2. Range improvements, such as fences, corrals, trails, stock waters, both developed and undeveloped and their permanency.
3. Roads, telephones, power lines, etc.
4. Houses, hogans and cultivated fields.
5. When compilations are finished, surface acres and forage acres are written in each type on the base map.

- VII. All field work, collection of information, and compilation completed February, 1936.
- VIII. Date of future publication unknown.
- IX.. None.
- X. No publications available.
- XI. No cooperating agencies in actual field and office work.
- N-E-2. ( EXTENSIVE RANGE SURVEY OUTSIDE NAVAJO INDIAN RESERVATION).**
- I. Compilation scale: 1" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Mosaics.
- IV. Accuracy of Base Map: Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point .1".
- VI. Information shown: (See N-E-1)
- VII. All field work, collection of information, and compilation completed February, 1936.
- VIII. Date of future publication unknown.
- IX. None.
- X. No publications available.
- XI. No cooperating agencies in actual field and office work.
- N-E-4. ( EXTENSIVE RANGE SURVEY OF ZUNI INDIAN RESERVATION)**
- I. Compilation scale: 1" = 1 mile.
- II. No maps have been published.
- III. Source of Base map: Aerial Mosaics.
- IV. Accuracy of Base Map: Information to be supplied by Regional Office.

- V. Accuracy in relation to nearest plotted point .1" .
- VI. Information shown: (See N-E-1 ).
- VII. All field work, collection of information, and compilation completed January, 1937.
- VIII. Date of future publication unknown.
- IX. None.
- X. No publications available.
- XI. No cooperating agencies in actual field and office work.

N-E-4 (EXTENSIVE RANGE SURVEY EAST OF NAVAJO RESERVATION)

- I. Compilation scale: 1" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Mosaics.
- IV. Accuracy of Base Map; Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point .1".
- VI. Information shown: (See N-E-1).
- VII. All field work completed October, 1935. Compilation to be completed by July 1, 1938.
- VIII. Date of future publication unknown.
- IX. None.
- X. No publications available.
- XI. No cooperating agencies.

N-E-5. (EXTENSIVE RANGE SURVEY OF ONE TOWNSHIP OF I. X. WESTBROOK RANCH)

- I. Compilation scale: 2" = 1 mile.
- II. No maps have been published.

- III. Source of Base Map; Aerial Mosaics.
  - IV. Accuracy of Base Map; Information to be supplied by Regional Office.
  - V. Accuracy in relation to nearest plotted point .05".
  - VI. Information shown: (This survey conformed to Western Range Survey Standards, otherwise see F.E.1 )
  - VII. All field work, collection of information, and compilation completed by May 1, 1937.
  - VIII. Date of future publications unknown.
  - IX. None.
  - X. No publications available.
  - XI. No cooperating agencies.
- N-E-6. ( EXTENSIVE RANGE SURVEY CANONCITO)
- I. Compilation scale: 1" = 1 mile.
  - II. No maps have been published.
  - III. Source of Base Map: Aerial Mosaics ( 1936 )
  - IV. Accuracy of Base Map: Information to be supplied by Regional Office.
  - V. Accuracy in relation to nearest plotted point .10".
  - VI. Information shown: (See N-E-1).
  - VII. All field work, collection of information, and compilation completed May 1, 1937.
  - VIII. Date of future publications unknown.
  - IX. None.
  - X. No publications available.
  - XI. No cooperating agencies.

N-E-7. ( PROPOSED EXTENSIVE RANGE SURVEY CHACO  
NATIONAL MONUMENT: APPROXIMATE AREA  
20,000 ACRES)

- I. Compilation Scale: 2" = 1 mile.
- II. No maps to be published.
- III. Source of Base Map: Aerial Mosaics ( 1936)
- IV. Accuracy of Base Map: Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point .05".
- VI. Information shown: (Survey will conform to Western Range Survey standards, otherwise see N-E-1.)
- VII. All field work, collection of information, and compilation to be completed by July 1, 1938.
- VIII. Date of future publication unknown.
- IX. None.
- X. No publications will be available.
- XI. No cooperating agencies.

N-E-8 ( PROPOSED EXTENSIVE RANGE SURVEY WEST PORTION  
OF PITT RANCH: APPROXIMATE AREA 20,000 ACRES)

- I. Compilation scale: 1" = 1 mile.
- II. No maps to be published.
- III. Source of Base Map: Aerial Mosaics ( 1936 )
- IV. Accuracy of Base Map: Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point .05".
- VI. Information shown: (Survey will conform to Western Range Survey Standards, otherwise see N-E-1.)
- VII. ALL FIELD WORK, COLLECTION OF INFORMATION, AND COMPILATION TO BE COMPLETED BY JULY 1, 1938.
- VIII. Date of future publication unknown.

- II. None.
- I. No publications will be available.
- XI. No Cooperating agencies.

N-E-9 ( EXTENSIVE RANGE SURVEY LA PLATA-FARMINGTON AREA)

- I. Compilation Scale: 2" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Mosaics.
- IV. Accuracy of Base Map: Information to be furnished by Regional Office.
- V. Accuracy in relation to nearest plotted point .02".
- VI. Information shown: (See N-E-1).
- VII. All field work, collection of information, and compilation to be completed January 1, 1938.
- VIII. Date of future publication unknown.
- IX. None.
- X. No cooperating agencies.

N-E-10. ( EXTENSIVE RANGE SURVEY RESERVOIR AND RESERVOIR EXTENSION AREAS)

- I. Compilation scale: 2" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Mosaics.
- IV. Accuracy of Base Map: Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point .02".
- VI. Information shown: (See N-E-1)

VII. All field work, collection of information, and compilation completed May 30, 1937.

VIII. Date of future publication unknown.

IX. None.

X. No publications available.

XI. No cooperating agencies.

E-3-11. ( EXTENSIVE RANGE SURVEY JOHNSON WASH AREA )

I. Compilation scale: 2" = 1 mile.

II. No maps have been published.

III. Source of Base Map: Aerial Mosaics.

IV. Accuracy of Base Map: Information to be supplied by Regional Office.

V. Accuracy in relation to nearest plotted point .02".

VI. Information shown: (See E-3-1 ) .

VII. All field work, collection of information, and compilation completed March 30, 1937.

VIII. Date of future publication unknown.

IX. None.

X. No publications available.

XI. No cooperating agencies.

E-3-12 ( EXTENSIVE RANGE SURVEY GLADE ARROYO )

I. Compilation scale: 2" = 1 mile

II. No maps have been published.

III. Source of Base Maps: Aerial Mosaics.

IV. Accuracy of Base Map: Information to be supplied by Regional Office.

V. Accuracy in relation to nearest plotted point .02".

- VI. Information shown (See EDE-1 )
- VII. All field work, collection of information, and compilation completed May 30, 1936
- VIII. Date of future publication unknown.
- IX. None.
- X. No publications available.
- XI. No cooperating agencies.

**E-E- 13. ( EXTENSIVE RANGE SURVEY AZTEC WATERSHED)**

- I. Compilation scale: 2" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Mosaics.
- IV. Accuracy of Base Map: Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point .02"
- VI. Information shown: (See E-5-1.)
- VII. All field work, collection of information, and compilation completed March 1, 1937.
- VIII. Date of future publication unknown.
- IX. None.
- X. No publications available.
- XI. No Cooperating agencies.

**E-e-14. ( EXTENSIVE RANGE SURVEY KNICKERBOCKER AREA.)**

- I. Compilation Scale: 2" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Mosaics.
- IV. Accuracy of Base Map: Information supplied by Regional Office.

- V. Accuracy in relation to nearest plotted point .02".
- VI. Information shown: (See E-1-1)
- VII. All field work, collection of information, and compilation completed May 30, 1936
- VIII. Date of future publication unknown.
- II. None.
- I. No publications available.
- II. No cooperating agencies.

**E-2-15. ( EXTENSIVE RANGE SURVEY THURSTON RANCH)**

- I. Compilation scale: 2" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Mosaics.
- IV. Accuracy of Base Map: Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point .02".
- VI. Information shown: (See E-2-1 )
- VII. All field work, collection of information, and compilation to be completed by November 15, 1937.
- VIII. Date of future publication unknown.
- II. None.
- I. No publications available.
- X
- II. No cooperating agencies.

**E-1-1. ( INTENSIVE RANGE SURVEY OF MEXICAN SPRINGS AND MARIANA LAKE DEMONSTRATION AREAS, AND PORT WINGATE EXPERIMENTAL AREA.)**

- I. Compilation scale: 2" = 1 mile.

II. No maps have been published.

III. Source of Base Map: Aerial Mosaics.

IV. Accuracy of Base Map: Information to be supplied by Regional Office.

V. Accuracy in relation to nearest plotted point .05"

VI. Information secured in the Intensive Range Survey is the same as the extensive (see N-E-1) except that more detail is required. Vegetative types as small as five acres in extent are shown, and the vegetative composition noted carefully. The average area covered per man day on this type of survey is from two to four sections. It is required that the examiners pass within 1/4 mile of all points. All range improvements are visited.

VII. All field work collection of information and compilation completed by June, 1936,

VIII. Date of future publication unknown.

IX. None.

X. No Publications available.

XI. No cooperating agencies.

N-I-2. ( INTENSIVE RANGE SURVEY ANDERSON FARM)

I. Compilation scale: 8" = 1 mile.

II. No maps have been published.

III. Source of base map: Aerial Mosaics.

IV. Accuracy of Base Map: information to be supplied by Regional office.

V. Accuracy in relation to nearest plotted point .01".

VI. Information shown: (see N-I-1)

VII. All field work collection of information and compilation completed June 1, 1937

VIII. Date of future publication unknown.

IX. None.

I. No publications available.

XI. No cooperating agencies.

N-1-3. ( INTENSIVE RANGE SURVEY CLARK FARM)

I. Compilation scale: 8" = 1 mile.

II. No maps have been published.

III. Source of Base Map: Aerial Mosaics.

IV. Accuracy of Base Map: Information to be supplied by Regional Office.

V. Accuracy in relation to nearest plotted point .01".

VI. Information shown: (See N-1-1. )

VII. All field work, collection of information and compilation complete June 1, 1937.

VIII. Date of future publication unknown.

IX. None.

I. No publications available.

XI. No cooperating agencies.

RANGE SURVEYS

- COLORADO -

C-P-1. ( PRELIMINARY RANGE SURVEY OF IGNACIO AREA )

- I. Compilation Scale: 1" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: U.S.G.S. Quadrangle.
- IV. Accuracy of Base Map.
  - A.
  - B.
  - C. Topographic features and contour lines G.L.O. corners, Odometer traverse.
  - D.
- V. Accuracy in relation to nearest plotted point .10 inch.
- VI. Information shown:

The Preliminary Range Survey is of a very general nature. The area is divided roughly into major vegetative types, the vegetative composition is given in per cent, listing only dominant species; surface acres and forage acres are calculated for each major type of vegetation; general information is obtained on vegetative vigor, utilization, poisonous plants, class of stock best suited to range, and general erosion conditions. The more important stock waters are located on the base map; On an average not less than fifty sections per man day will be covered in a Preliminary Range Survey; the base map ( the best one obtainable ) is usually on a small scale.

- VII. All field work, collection of information, and compilation completed July 1, 1937.
- VIII. No publications.
  - I. None.
  - X. No publications available.
  - II. No cooperating agencies.

C-E-1. ( PROPOSED EXTENSIVE RANGE SURVEY OF BAYFIELD AREA  
NATIONAL FOREST: APPROXIMATE AREA 64,000 ACRES)

(AREA HAS BEEN APPROVED)

I. Compilation Scale: 2" = 1 mile.

II. Unknown.

III. Source of Base Map: Aerial Surveys (1937)

IV. Accuracy of Base Map:

A.

B.

C. Aerial Photograph.

D.

V. Accuracy in relation to nearest plotted point .05 inch.

VI. Information shown:

A. Write-up sheet by vegetative types.

1. Vegetative composition in per cent, palatability and density of each type, which gives the forage area factor.
2. Timber species, composition, age, condition, and reproduction noted.
3. Range condition and degree of erosion.
4. Relative forage volume growth.
5. Topography.
6. Water, distance, and adequacy.
7. Poisonous plants.
8. Rodents and predators.
9. Proper grazing season.
10. Proper class of stock.

B. On Base Map:

1. Vegetative type boundaries.

2. Range improvements, such as fences, corrals, trails, stock waters, both developed and undeveloped and their permanency.
3. Roads, telephones, power lines, etc.
4. Houses, hogans, and cultivated fields.
5. When compilations are finished, surface acres and forage acres are written in each type on the base map.

VII. All field work, collection of information, and compilation to be completed by January 1, 1938.

VIII. Date of future publications unknown.

IX. None.

X. No publications available.

XI. A Grazing Survey has been made of the area by the U.S. Forest Service, and this survey will be more of a "check." Approximate estimate in reduction of cost is 50%.

C-E-2. ( PROPOSED EXTENSIVE RANGE SURVEY OF DRY CREEK AREA:  
APPROXIMATE AREA 19,000 ACRES )  
( Area has been approved )

I. Compilation Scale: 2" = 1 mile.

II. Unknown.

III. Source of Base Map: Aerial Surveys (1937)

IV. Accuracy of Base Map: Information to be supplied by Regional Office.

V. Accuracy in relation to nearest plotted point, .05 inch.

VI. Information shown: (See C-E-1).

VII. All field work, collection of information, and compilation to be completed by June 30, 1938.

VIII. Date of future publications unknown.

IX. None.

- X. No publications available.
- XI. No cooperating agencies.

C-E-3. (EXTENSIVE RANGE SURVEY RIDGE BASIN AREA)

- I. COMPILATION Scale:  $4\frac{1}{2}'' = 1$  mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Surveys.
- IV. Accuracy of Base Map: Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point .02 inch.
- VI. Information shown: (See C-E-1).
- VII. All field work, collection of information, and compilation to be completed by January 1, 1938
- VIII. Date of future publications unknown.
- IX. None.
- X. No publications available.
- XI. No cooperating agencies.

C-E-4. (EXTENSIVE RANGE SURVEY BONDAD AREA)

- I. Compilation Scale:  $2'' = 1$  mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Surveys (1937)
- IV. Accuracy of Base Map: Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point .05 inch.
- VI. Information shown: (See C-E-1).
- VII. All field work, collection of information, and compilation to be completed by June 30, 1938
- VIII. Date of future publications unknown.

D. None.

I. No publications available.

II. No cooperating agencies.

C-2-5. ( PROPOSED EXTENSIVE RANGE SURVEY SOUTH CORTEZ AREA:  
APPROXIMATE AREA 55,000 ACRES)  
(Area has been approved)

I. Compilation Scale: 2" = 1 mile.

II. Unknown.

III. Source of Base Map: Aerial Surveys (1937)

IV. Accuracy of Base Map: Information to be supplied by Regional Office.

V. Accuracy in relation to nearest plotted point .02 inch.

VI. Information shown: ( See C-2-1).

VII. Approximate date of completion of all field work, collection of information, and compilation to be June 30, 1938.

VIII. Date of future publications unknown.

IX. Unknown.

X. Unknown.

II. No cooperating agencies.

C-2-6. ( PROPOSED EXTENSIVE RANGE SURVEY:  
APPROXIMATE AREA 13,000 ACRES)  
(Area has been approved)

I. Compilation Scale: 2" = 1 mile.

II. No maps have been published.

III. Source of Base Map: Aerial Surveys (1937)

IV. Accuracy of Base Map: Information to be supplied by Regional Office.

V. Accuracy in relation to nearest plotted point .02 inch.

- VI. Information shown: (See C-E-1)-
- VII. Approximate date of completion of all field work, collection of information, and compilation to be June 30, 1938.
- VIII. Date of future publications unknown.
- IX. None.
- X. No publications available.
- XI. No cooperating agencies.

C-I-1. ( INTENSIVE RANGE SURVEY OF WILSON GULCH AREA )

- I. Compilation Scale: 1" = 660 Feet.
- II. No maps have been published.
- III. Source of Base Map: Plane Table survey, using G.L.C. corners and surveyed land lines for control.
- IV. Accuracy of Base Map:
  - A. 1. Average .05"
  - 2. Maximum .10"
  - B. 1. (a) .05"
  - (b) .10"
  - 2. (a) .05"
  - (b) .10"
  - 3. (a) .05"
  - (b) .10"
  - C. 1. (a) Plane table by graphic intersection.
  - D. 1. 6 points
  - 2. 1/2 square mile.
- V. Accuracy in relation to nearest plotted point .10 inch.

VI. Information shown:

The information secured in the Intensive Range Survey is the same as the extensive (See C-1-1) except that more detail is required. Vegetative types as small as five acres in extent are shown, and the vegetative composition noted carefully. The average area covered per man day on this type of survey is from two to four sections. It is required that the examiners pass within  $\frac{1}{4}$  mile of all points. All range improvements are visited.

VII. All field work, collection of information, and compilation completed December 1, 1936.

VIII. Not to be published.

IX. None.

X. No publications are or will be available.

XI. No cooperating agencies.

C-1-2. (INTENSIVE RANGE SURVEY OF FT. LEWIS COLLEGE AREA)

I. Compilation Scale: 1" = 660 Feet.

II. No maps have been published.

III. Source of Base Map Aerial Surveys and G.L.O. Corners.

IV. Accuracy of Base Map:

A. 1. Average .05"

2. Maximum .10"

B. 1 (a) .05"

(b) .10"

2 (a) .05"

(b) .10"

3 (a) .05"

(b) .10"

C. 1. (a) Aerial photographs flown by Regional Office.

(b) Scale:  $\frac{1}{4}$ " = 1 mile.

- V. Accuracy in relation to nearest plotted point .2"
- VI. Information shown: (See C-1-1).
- VII. All field work, collection of information, and compilation completed June 1, 1937.
- VIII. Date of future publications unknown.

II. Form.

- 1. No publications available.

- XI. State College cooperated with quarters for personnel and loan of horse for surveys.

C-1-3. (INTENSIVE RANGE SURVEY OF FORACIE AREA)

- I. Compilation Scale: 1" = 660 Feet.

- II. No maps have been published.

- III. Source of Base Map: plane table survey, using G.L.C. corners and surveyed land lines for control.

IV. Accuracy of Base Map:

- A. 1. Average .05"

- 2. Maximum .10"

- B. 1. (a) .05"

- (b) .10"

- 2. (a) .05"

- (b) .10"

- 3. (a) .05"

- (b) .10"

- C. 1. (a) Planetable by graphic intersection.

- D. 1. 6 points.

- 2. 1/2 square mile.

- V. Accuracy in relation to nearest plotted point. 1"

- VI. Information shown. (See C-1-1)
- VII. All field work, collection of information, and compilation completed July 26, 1957.
- VIII. Date of future publications unknown.
  - IX. None.
    - I. No publications available.
    - II. No cooperating agencies.

RANGE SURVEYS

-UTAH-

U-2-1. EXTENSIVE RANGE SURVEY NAVAJO RESERVATION )

- I. Compilation Scale: 1" = 1 mile.
- II. No maps have been published.
- III. Source of Base Map: Aerial Photos.
- IV. Information to be supplied by Regional Office.
- V. Accuracy in relation to nearest plotted point .1 inch.
- VI. Information shown:
  - A. Write-up sheet by vegetative types.
    1. Vegetative composition in per cent, palatability and density of each type, which gives the forage acre factor.
    2. Timber species, composition, age, condition, and reproduction noted.
    3. Range condition and degree of erosion.
    4. Relative forage volume growth.
    5. Topography.
    6. Water, distance, and adequacy.
    7. Poisonous plants.
    8. Rodents and predators.
    9. Proper grazing season.
    10. Proper class of stock.
  - B. On Map.
    1. Vegetative type boundaries.
    2. Range improvements, such as fences, corrals, trails, stock waters, both developed and undeveloped and their permanency.

3. Roads, telephones, power lines, etc,

4. Houses, hogans, and cultivated fields.

5. When compilations are finished, surface acres and forage acres are written in each type on the base maps.

VII. All field work, collection of information, and compilation completed February, 1936

VIII. Date of future publication unknown.

IX. None.

X. No publications available.

XI. No cooperating agencies in actual field and office work.