State Planning Notes

1937

Mr. R.L. Parshall,
Senior Irrigation Engineer,
Colorado Agr. Experiment Station,
Fort Collins, Colorado.
Have dealt sufficiently grand water depression over past years.

Ordinary scale
Research + Surveys -
Return flow studies
Evap. from snow
Recession of ground
More precipitation records - especially division of year
Relation of smallers to rainfall - Floods are usually deceptive in that the total flow is actually much less in volume than usually estimated
Retention of flood flow interferes with existing water rights - be careful
Survey of canal and ditch systems to determine efficiency of distribution
We don't know the irrigated area of Colo. How are we to look at continuous and water spreading, in relation to diminishing stream flow where water rights are concerned.

What expense is justified in relation to improvement and increase in crop yield with water worth $2 per acre-foot.

Water conservation program to be consistent and not at cross purposes.
The Committee on Water Storage and Water Conservation presents the following as a progress report, to be expanded in later reports after there has been further opportunity to study the many aspects of the subject and prepare more specific recommendations.

The surface water supplies of the state amount to about 17-1/2 million acre feet annually, of which about 4-2/3 million acre feet are consumed, leaving about 12-1/2 million acre feet which flow out of the state. Of the total production more than 12 million acre feet, or 70 percent, is found in the streams of the Colorado River Basin, the remainder being divided between the South Platte, Rio Grande, Arkansas, North Platte and Republican Basins in the order named. The principal factors which limit the ultimate development of these waters are: (1) the rights of other states to the water which originates in Colorado and (2) the topography of the state. The bulk of the unused water is found on the western slope whereas the larger areas of arable land are on the eastern slope.

The area of irrigated land in Colorado, which in 1930 amounted to about 3,400,000 acres, had increased but little in the 20 years previous. A principal factor in this slowing down of development was that whereas in early years development had been generally inexpensive, much of it by means of gravity ditches to divert direct flow, and within the means of individuals and small corporate groups, the development of supplemental supplies by means of storage or trans-basin diversion was seen to far more costly, and difficult or impossible to finance except by means of governmental agencies.

Leaving aside the question of developing any considerable areas of new land, the immediate problems are concerned with the necessity for furnishing supplemental water for land now irrigated. Except in unusually wet years shortages in the water supply are common in nearly all parts of the state. Accurate estimates of crop losses due to this situation are not available for most districts, but such losses are without question very large. In the irrigated districts of the Platte Valley which would use water from the Colorado-Big Thompson transmountain diversion, estimates show that actual losses in crop production value, due primarily to shortage in irrigation supply, amounted to approximately 40 million dollars over the ten-year period 1925-1934.
The problems and requirements for supplemental water vary for the several river basins of the state. In the Colorado River basin generally, the outstanding need is for additional storage facilities in order to better regulate the supply so as to meet seasonal demands for crop production. Additional storage has long been needed in the Rio Grande basin. In the Platte and Arkansas valleys storage facilities generally have outrun the supply, hence the question is resolved into one of obtaining new water by transmountain diversion. The Arkansas, however, has a considerable amount of flood water which is recoverable, particularly from the Purgatoire River.

A particular problem is presented in the case of land-owners on projects where reservoir dams have been destroyed by flood, due to poor construction. The failure of the Apishapa and Castlewood dams are cases in point.

Attention is called to the great amount of investigational work for specific projects now under way. In addition to the plans for the Colorado-Big Thompson Transmountain Diversion and the Caddo Dam which are substantially complete, and the Pine River reservoir which is ready for starting work, the following are in process of investigation:

2. Blue River Transmountain Diversion.
3. Reservoir and water supply projects for Public Irrigation Districts under the 1935 Conservancy Law.
4. Survey by the National Resources Committee and cooperating states of the Rio Grande basin.
5. Survey by the U. S. Army Engineers of flood control reservoir sites in the Republican and Smoky Hills drainage basins.

Except where otherwise noted the above are in charge of the Bureau of Reclamation. A number of reservoir sites have also been surveyed by the State Engineer.

In order to round out this program, it is considered most important that a survey be undertaken to determine the feasibility of transmountain diversion from the Gunnison to the Arkansas. No irrigated district is in greater need of a more dependable water supply. The Caddo Reservoir, if constructed, by supplying about 150,000 acre-feet of water for irrigation would take care of only part of the need.
An activity of growing importance in water conservation is the construction of small dams primarily for stock water. Possibly 900 such dams have been built by the Soil Conservation Service under a 5-year contract for maintenance by the landowner. Others have been built by the Resettlement Administration on land utilization projects. Assistance for work of this type is available also by means of rehabilitation loans of benefit payments under the Soil Conservation Allotment Act. Doubtless much more may be done within the next few years along the same line. It is the opinion of the committee that irrespective of the benefits expected a legal problem may become embarrassing if junior water appropriators lower down on the watercourses who are entirely dependent upon flood water find their supplies cut off by reason of these upstream structures.

In recent drought years there has been a greatly increased interest in the possibilities of utilizing ground water by pumping. A large number of pumping units in the main stream valleys have resulted in the lowering of the water table and reduction of the return flow from irrigation. In the dry land sections there are undoubtedly areas where ground water can profitably be utilized for irrigating home gardens, and supplying water for forage crops at critical periods during the growing season. Such development should however be carried on only with full knowledge of the underlying geological conditions and scientific estimates of the total amount of recoverable water in a given area. Some state agency should be authorized to cooperate with the Ground Water Branch of the U.S.G.S. Water Resources Division and provided with funds to carry on needed investigations. The field work which has been carried on by the State Planning Commission in the Republican River basin recently is a beginning in this direction. The basic water law of the state is weak in relation to the subject of ground water and should have clearer definition. In the matter of providing wells for stock water, present benefit payments appear to be too small to encourage drilling, these being at the rate of $1.00 per foot compared to an estimated cost of $2.50 per foot for wells of 100 feet or more in depth.

Suggested Legislation

1. Attention is called to a bill authorizing the formation of a conservancy district in the Platte valley under which not only irrigated land but other interests indirectly benefited by the Colorado-Big Thompson transmountain diversion would bear part of the cost. The text of this bill has not been completed and is not yet available. It has been or will be introduced by title and is considered to be important in order to set up a financial plan whereby the project can meet the requirements of the Reclamation Law.
2. The present state law relating to the construction of small dams seems rather inconsistent and inflexible in the provision that a dam not over ten feet in height or designed to impound not over 1000 acre-feet of water may be built without submitting a detailed survey and construction plan to the state engineer. In moderately rough topography a ten foot dam will impound frequently a very few acre feet. The item of expense for the engineer's survey and inspection fees during construction would be prohibitive for small farm ponds which it may be desirable to construct for water conservation. It is believed that the law could be amended so as to cut the cost and still have the dam recorded with the state engineer and subjected to his scrutiny as to safe construction. Before making a more specific recommendation the matter should of course be discussed with the state engineer.

3. A matter of water conservation related largely to flood control has been suggested which the committee has not yet been able to consider and which is passed on to the legislative committee. This refers to the right of towns and cities to acquire land needed for watershed protection by condemnation proceedings.

Research and Surveys

Recognizing the need for more information along many lines, the committee wishes to emphasize the following:

1. The urgent need for additional rainfall and stream gaging stations. Many projects proposed at this time are questioned because records of stream flow, etc. are not available. There may be some additional snow survey stations required, the need for which will be demonstrated after experience with those recently established.

2. Continuing research is needed to determine the effect of water storage upstream in small units upon normal and flood flows in the larger stream channels, and their effect upon silting. With this there should be further study of storm patterns and rainfall intensities in various areas.

3. Research which is under way in watershed management should be continued in order to establish the relationships between various types of cover and maximum yield of water at both high and intermediate altitudes.

4. Thoroughgoing economic surveys should be made in connection with engineering plans for the large projects of irrigation development. The recent survey in the middle and lower Platte Valley demonstrates the value of such a survey in connection with the proposed Colorado-Big Thompson Diversion. A similar study is particularly needed for the Arkansas valley at this time.
5. In addition to the above, reference is made to survey projects discussed earlier herein, such as ground water investigations and transmountain diversion to the Arkansas.

Respectfully submitted,

Irvin J. McCrary, Temporary Chairman

NOTE:--

The above report was prepared without having an opportunity to confer with Dr. Lory, chairman of this Sub-Committee because of his recent illness. Dr. Lory, however, was able to attend the meeting of the Clearing Committee on January 18, and supplemented the report verbally by calling attention to a bill introduced in the legislature relating to the control of ground water pumping, and also to the important bill sponsored by the Governor establishing a State Water Conservation Board. The Sub-Committee report or the combined report of all Committees to be issued by the Clearing Committee should include references to Dr. Lory's statement.
Minutes of the Agricultural Clearing Committee Meeting
Held at Denver, Colorado, January 5, 1937

The several sub-committees met during the morning for the purpose of completing their reports which were submitted to the Clearing Committee during the afternoon session.

Following are the reports submitted by the sub-committees:

Land Use Committee

Governmental policies and unguided initiative of individuals, together with increasing pressure of economic demands have been combined to bring about a misuse of land resources in important areas in Colorado. The failure to recognize the limitations imposed by the available natural resources threatens certain areas of Colorado with stranded populations dependent upon deteriorated resources, necessarily supplemented by many types of governmental subsidies.

Colorado has more than 66 million acres in land resources. A portion of these acres yield a stable return of agricultural products, due to their highly developed state of irrigation. Other areas not so fortunate situate and less naturally endowed produce little, if anything, of direct agricultural value. Yet, the highly developed irrigated lands and the least productive of our unvegetated clay hills have a common meeting point, namely, irrigation water and watershed protection. Equally obvious and specific relationships and dependencies can be traced among all of our land areas. These relationships are reciprocal in virtually every case that may be cited.

This committee submits as a basic principle for the guidance of all activities concerning land resources, their use, conservation and development: That these reciprocal relationships must be recognized and studied so that an agricultural program developed in one area may be properly integrated into the agricultural program of the state as a whole. The state program in turn must be coordinated with a regional program so that community, state and national efforts may be directed toward a satisfactory stable and permanent agriculture.

The committee recommends that the following principles be adopted by members of the Colorado Clearing Committee for the development of a long time land use program as a means to insure the stability of agriculture in the state.

1. The use of the land should conserve and improve rather than mine the fertility of the soil.
2. Speculative misuse of land is not conductive to the best interests of society—present and future.

3. If all of the land in Colorado could be put to its best use there would be very few acres which would not yield a fair unit return to the operator. Use largely determines the submarginality of land.

4. The size of the operating unit and the productive capacity of the land determines the resources from which the operator must obtain his economic returns. In order for the operator to apply proper land use principles, a tenure program providing for rental or purchase must be established that will make available to him adequate resources.

5. Proper land use will assure consistent returns over a long period of time. The misuse of land fails to sustain farm incomes.

6. Credit facilities must permit the individual operator to adjust farm operations to the best use of his land.

For the consideration of the state clearing committee we recommend:

1. That federal and state policies governing loans, grants and subsidies give direction to better land use and agricultural permanency.

   a. By making it impossible for borrowers to secure rural rehabilitation and similar type loans to continue the exploitive use of land.

   b. By making it impossible for farm operators to secure grants in aid under the soil conservation domestic allotment act when these farm operators employ the moneys so received for the speculative misuse of land.

   c. By causing WPA and similar activities to be directed definitely toward constructive conservation practices designed to achieve sound land use.

2. That the lands of Colorado be classified according to their best productive use and that a program to secure taxation on this basis be initiated.

3. That federal, state and local agencies cooperate in an integrated program which will develop a type of ownership commensurable with best land use.

   a. By returning chronically tax delinquent lands to a responsible public ownership through state legislation or federal purchase.

   b. By returning to responsible public agencies those lands
whose latent resources are beyond the scope of private individuals to develop, e.g., potential forest lands and recreational areas.

c. By adjusting the present high percentage of nonresident and corporation ownership to a stabilized basis through the facilities offered in federal purchase, state cooperative grazing district laws and state soil conservancy district laws.

4. That tenants relationship to land use be improved.

a. By a program which will initiate better tenant-landlord relationships and give each ample protection for the development and conservation of the land resources.

b. By assisting responsible and competent tenants to become landowners. The term "responsible and competent tenants" is used to emphasize the fact that this program should be selective and should not finance misfits already engaged in farming or encourage an influx of irresponsible and incompetent individuals from other industries.

5. That Baca County be used as an investigational area in which the program of the several agencies of the clearing committee be crystallized into action, seeking answers to the following questions:

1. a. What measures may the owner-operator employ that are economically sound and that will prevent soil erosion?

b. What measures may the renter-operator employ in answer to the foregoing question?

c. What may the tenant and owner-operator do to protect their farming operations from uncontrolled wind and water erosion of lands contiguous to their holdings?

d. What should be the governmental program concerning uncontrolled soil erosion on such land?

2. a. What water conservation projects such as dams for irrigation, stock tanks, wells, etc., can be accomplished by individual initiative?

b. What, if any, changes must be made in present credit policies and facilities, to make these projects possible?

c. What water conservation practices should become a matter of public action in order to conserve water and soil and to realize a more stable return from the land?
Population 10,570
per sq mile \[ \frac{10,570}{2,514} = 4.2 \]

Rainfall
- Two Buttes 16.2
- Springfield 17.3
- Vida 13.8

How much is this land worth?

Are dust storms due to winds or electrical static condition?
<table>
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<tr>
<th>1930 Census</th>
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<tr>
<td>Farms</td>
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<tr>
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<td>1,633,280</td>
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<td>Area in Farms</td>
<td>1,126,576</td>
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<tr>
<td>Irrigated</td>
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<tr>
<td>Wells pumped</td>
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<tr>
<td>Crop lift</td>
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<tr>
<td>Irrigated Farms</td>
<td>84</td>
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9 + 2\frac{1}{2} \quad \begin{array}{c}
\text{Bucce Co.} \\
56.5 \\
44.5 \\
2825 \\
2260 \\
2260 \\
2514.25 \\
640 \\
100,560 \\
150,840 \\
1,608,960
\end{array}
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3. a. What may the farmer operator do to restore badly eroded lands to productive use?

b. What should be the public program with regard to badly eroded lands?

c. What policies should be effected to insure future stability of range lands now overgrazed?

4. a. What can the farm operators do to bring abandoned land in the region under organized management and stable productive use?

b. What assistance in loans, grants or subsidies from the government will be needed by the operators in order to recall the above mentioned land to efficient use?

c. What direct action program on the part of the government is needed in order to assure that these abandoned lands will contribute in an organized way to the support of society?

5. a. What may be done to effect a better farm program on renter-operator land?

b. What governmental policies, Federal, State or Local are needed to effectively control the speculative misuse of land?

6. a. What types and size of farming should be discouraged?

b. What types of farming and sizes of operations should be encouraged by rural rehabilitation loans, seed loans, federal land bank loans, AAA grants, etc.?

c. What finance facilities are needed to effectively establish the more desirable types and sizes?

7. a. What relative value have the following alternatives to the operator in his efforts to secure a profitable unit?

   (1) Land purchase by the operator
   (2) Land purchase by governmental agency and lease by operator
   (3) Lease of privately owned land by operator
   (4) Cooperative grazing association lease and allotment to individuals.

8. a. What effect do the present grants in aid for soil conserving practices have upon the permanency of the county's agriculture?

b. What changes in policies and practices are necessary in order that these grants in aid may effect their expected assistance?
What additional facilities in grants in aid will be needed to effect the aims of the program?

9.a. What real estate value, interest and tax rates will the recommended types of farms be capable of supporting?

10.a. What type and quality of community services will the recommended farm economy support?

(1) Schools
(2) Roads
(3) Police protection
(4) Churches
(5) Others

11.a. What standard of living may the operator be expected to maintain?

(1) Telephone
(2) Electricity
(3) Medical care
(4) Water in dwelling
(5) Others

12.a. What should the policies be in regard to the relocation of families from unsuited farming areas to more suitable locations?

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The suggestion was made that the reports from sub-committees be coordinated to prevent overlapping, and it was agreed that the Clearing Committee should act in that capacity.

Motion was made for the adoption of the recommendations -- Seconded and adopted.

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Reforestation and Forestry Committee

The recommendations of this committee were submitted at the November meeting. A supplementary report was made which is not available at the present but will be included in a subsequent Clearing Committee report.

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Motion was made for the adoption of the recommendations -- Seconded and adopted.

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Erosion Control Committee

The following is not the final report of the committee. It is a supplement to the November report.

Realizing that erosion control is directly dependent upon the cultural practices as outlined in good forest and range management and good farming practice on agricultural land, the recommendations of this committee must necessarily be closely correlated and integrated with the recommendations of the Range Management, Reforestation and Forestry, Water Storage and Conservation, and Land Use Committees.

From the reports of these committees the following points are deemed important factors in an efficient Erosion Control program.

Reforestation

1. Regulations of forestry on private lands to obtain erosion control.
2. Determine through research the areas that should be devoted permanently to forests.
3. Development of planting program for farm improvement and erosion control that will reach every ranch in Colorado.
4. Educational program in schools and 4 H Clubs to stimulate interest in forestry in the younger generation.

Range Management

1. Contouring
2. Water spreading by means of diversion and spreader ditches.
3. Development and better distribution of stock water.
4. Fencing to control general and/or seasonal movement of livestock as well as to permit of rotated and deferred grazing.
5. Reseeding of range lands as well as abandoned agricultural land.
6. Rotated and deferred as well as seasonal grazing.

Water Erosion

Grazing and Forest Lands

I. Steep slope areas (15% or greater)
   A. Forested lands
      1. Strict grazing control
      2. Better distribution of water and salt
      3. Reforestation to include planting of trees or shrubs depending upon nature of soil and amount of rainfall
      4. Gully head control
B. Native grass lands

Vegetative control

1. Limiting of grazing or prevention of grazing depending upon extent of area, nature of soil, and amount and intensity of rainfall.
2. Better distribution of grazing to be accomplished by construction of waterholes and wells.

Mechanical control

1. Mechanical control not generally recommended, however, where such control will facilitate vegetative cover the construction of pasture terraces to be considered where nature of soil and production capacity of land will warrant.

II. Erosion practices on moderately steep slopes (6% to 15%)

A. Forested lands:

1. Grazing control to be made effective by better distribution of grazing through the development of waterholes, springs, and the selection of salting grounds.
2. Planting of trees or shrubs, depending upon soil and moisture relationships.
3. Fencing
4. Reseeding of seriously over-grazed and eroded areas.
5. Reduction of number of livestock.

B. Grazing lands not forest

1. Reduction of grazing to be based upon established livestock carrying capacities.
2. Better distribution of grazing by
   a. Construction of waterholes and wells.
   b. Fencing to permit rotation and deferred grazing.
3. Mechanical control of runoff to promote increased growth of vegetation.
   a. Pasture terracing where soil and rainfall warrant and where topography will permit.
   b. Contour furrowing.
   c. Control of gully heads to prevent further loss of best grazing lands by gullying and
the resulting lowering of water tables for subsoil.

4. Revegetation

a. Reseeding where adaptable.
b. Planting of sod where economically feasible.
c. Planting of shrubs and trees to prevent gullying, to increase wild life, to assist in spreading water, and to promote better distribution of grazing and provide wind protection.

III. Gentle Slopes (under 6%)

A. Forested lands

1. Same as recommended under II.

B. Native grass lands

1. Grazing control to include reduction of grazing comparable to established carrying capacities and better distribution of grazing by

   a. Construction of waterholes and wells
   b. Fencing to permit rotation and deferred grazing.

2. Mechanical control of runoff to permit increased growth of vegetation.

   a. Pasture terraces
   b. Contour furrows
   c. Water spreaders
   d. Diversion ditches or sub-soil.
   e. Salting.

   All practices to be dependent upon soil, vegetation, and rainfall.

3. Revegetation

   a. Reseeding where adaptable, particularly on abandoned cultivated land.
   b. Planting of sod on denuded areas where such practice is economically feasible.
   c. Planting of shrubs and trees to prevent gullying, to assist in spreading water, to increase wild life and to promote better distribution of grazing and providing protection from wind.

Cultivated Lands

I. Slopes greater than 10%
General recommendation that such lands be removed from cultivation in areas susceptible to torrential rainfall.

II. Moderate slopes (3% to 10%)

Vegetative control

A. Vegetative control

1. Maintenance of high per cent coarse organic matter in top soil.
2. Maintenance of perennial vegetative cover on slopes above 7%.
3. Crop rotation plan for each farm to be based upon soil and rainfall.
4. Use of permanent perennial strip crops on steep slopes where moisture conditions will permit.

B. Mechanical control

1. Terracing where soils, slopes, and rainfall are favorable to such control.
2. Contour cultivation for annual row crops.
3. Use of damming lister where soils, slopes, rainfall, and crop practices make feasible to use.

III. Gentle slopes (1% to 3%)

A. Contour cultivation

1. Use of the damming lister or terracing depending upon the nature of soil and intensity of rainfall.

B. Maintenance of a high per cent of organic matter in the top soil.

Wind Erosion Control

A. Pasture Lands

1. Reduction in grazing to permit increase in amount of plant residue remaining over the surface of the land.
2. Use of mechanical structures such as contour furrows, spreaders, and subsoiling on soils of low water penetrative capacity. Such structures will serve the double purpose of increasing growth and decreasing surface wind velocity.

B. Cultivated Land.

1. Dry land cultivation to be practiced only on those soils which do not drift easily.
2. Maintenance of vegetative cover at all times on extremely
erosive irrigated lands.
3. Cultivation not to be practiced on dry lands where soil moisture is inadequate to permit the production of a profitable crop at least three years out of five.
4. Maintenance of a high per cent of coarse organic matter in top soils.

C. Mechanical Control

1. Fallow lands to remain in a cloddy surface condition during the period of fallowing.
2. The practice of contour cultivation and/or of the damming lister on slopes greater than 2%.

Research

A. Soil Erosion mechanical control practices to be based upon factual information obtained through a research program, this program to include

1. Thorough studies of the hydrological data and its attendant effects upon various types of vegetative covering.
2. To determine the benefits of erosion control practices now in effect.
3. Determination of the adaptability of various grasses to soil and climatic conditions.

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Mr. McClymonds stated that each agency concerned with erosion control would be requested to make a statement outlining its policies and practices governing such work.

Colonel Peck suggested that the Erosion Control Committee's report on Recommended Control Practices (included in the foregoing recommendations) might be helpful in guiding the various agencies in making erosion control activity statements.

Motion was made for the adoption of the recommendations -- Seconded and adopted.

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Range Management Committee

The following is a summary of previous committee reports.

The objective of all range practices is sustained maximum forage capacity with use. This is based upon the results of experience
which demonstrates that no feed is as cheap as natural palatable forage provided that its capacity to produce is not so low that it will not carry fixed overhead charges such as taxes, interest, maintenance, etc. When this point is reached and natural pastures and ranges have to be supplemented with an excessive amount of both forage and concentrated feeds the margin of possible net returns becomes so low that livestock operators are, in many instances, unable to continue in business.

The function of this committee was interpreted to include the following:

1. Presentation of data and information as to the present use of the range versus the indicated use as determined by actual vegetative surveys.

2. Brief outline of improved practices and changes of land use toward better range management. There are two major programs to be considered in relation to Colorado ranges and pastures.

A. Improved practices which can be put into effect under present use.

These include:

(a) Contouring
(b) Water spreading by means of diversion and spreader ditches
(c) Development and better distribution of stock water
(d) Rodent Control
(e) Fencing to control general and/or seasonal movement of livestock as well as to permit of rotated and deferred grazing.
(f) Reseeding of range lands as well as abandoned agricultural land.
(g) Rotated and deferred as well as seasonal grazing
(h) Improved salting practices and distribution of salt grounds.
(i) Control of noxious and poisonous weeds
(j) Control of insects

Means of making effective:

1. Benefit Payments
   AAA Range Program
   State Appropriations

2. Voluntary Effort
   Education (All agencies)
   Demonstration (All agencies)
Rural Rehabilitation (R.A.)

3. Federal Projects

Soil Conservation Service
Resettlement Administration (Land Acquisition)
Forest Service
Division of Grazing (Taylor Act)

B. Management and Control

1. Private Lands

Cooperative Grazing Associations

a. Enabling Act for corporate ownership; lease; and management.
b. Require county ownership of delinquent lands, and require lease or sale and management
c. State administrative body

Federal Authority

a. Agreements with Federal Financial Aid.
b. Agreements without Federal Financial Aid.

2. County Lands

See under B-1, Cooperative Grazing Associations. Same legislation needed for the county to handle delinquent lands not in a cooperative grazing association.

3. State Lands

Revised legislation or possibly amendment to State constitution, permitting control of stocking and management

4. Federal lands

Federal Administration

a. Forest Service
b. Division of Grazing
c. Resettlement Administration
d. Indian Service

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Motion was made for the adoption of the recommendations -- Seconded and adopted.

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Wild Life -- Fish and Game Committee

This committee has centered its efforts on formulating a text of laws governing capture, possession, and sale of wild fur bearing animals in the state.

The suggested text of laws follows:

Section 1. Fur-bearing Animals. - For the purpose of the provisions of this Act the following shall be considered fur-bearing animals: badger, beaver, fox, marten, or sable, mink, muskrat, otter, raccoon, skunk, and wolverine.

Section 2. Protected Species; Domestically-raised Animals. - Except as hereinafter provided, it shall be unlawful to hunt, chase, trap, capture, kill or have in possession, or attempt to take the following fur-bearing animals or raw pelts thereof: badger, beaver, fox, marten or sable, mink, otter, and wolverine provided nothing in this Act shall prevent any person harboring, selling, shipping or otherwise disposing of such fur-bearing animals or their pelts as have been raised in captivity under such regulations as may be prescribed by law.

Section 3. Terms Defined. - Within the meaning of this Act the terms "trap" or "Trapping" refer to the use of any trap, net, snare, deadfall or other device used for the purpose of capturing or attempting to capture, trap, net or ensnare any fur-bearing animal and includes every attempt or assistance of any person to take or attempt to take by such methods.

Section 4. Resident Trappers' License. - It shall be unlawful for anyone to trap, or attempt to trap or, in any manner, kill or take any badger, fox, marten, mink, muskrat, otter, raccoon, skunk or wolverine without first having procured from the State Game and Fish Commissioner or persons designated by him a license so to do. A resident trappers license may be issued annually to any person over 14 years of age, who is a resident of the State of Colorado, on the payment of the sum of two ($2.00) dollars, provided that a license may be issued without charge to owners or tenants of farm lands and their children over 14 years of age to trap fur-bearing animals during the season when it is lawful so to do, upon lands actually owned or occupied by such owners or tenants, and provided further that the holder of such a gratuitous license shall be bound by all other pertinent provisions of this Act including that of reporting annually to the State Game and Fish Commissioner the number and kind of all fur-bearing animals taken, and pelts sold or shipped by him, together with the names and addresses of the persons or companies to whom such sales or shipments were made.
Regardless of the date of issuance of individual trapper's licenses (resident or non-resident), the trapping privilege conveyed thereunder shall terminate on one last day of the open season.

Any person violating the provisions of this Section shall be deemed guilty of a misdemeanor and upon conviction thereof, shall be fined not less than twenty-five ($25.00) dollars nor more than two-hundred ($200.00) dollars.

Section 5. Non-resident Trapper's License. - It shall be unlawful for any person who is a non-resident of the State of Colorado to trap for, or attempt to trap, take or kill in any such manner any of the fur-bearing animals of the State of Colorado as defined by this Act without having first made application to the State Game and Fish Commissioner, and, upon the payment of fifty ($50.00) dollars, having received a non-resident trapper's license, which shall entitle him so to do. Any person violating the provisions of this Section shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined not less than one-hundred ($100.00) dollars nor more than four-hundred ($400.00) dollars or by imprisonment for a period not less than ten (10) nor more than sixty (60) days, or by both such fine and imprisonment.

Section 6. Trapping Season. - It shall be unlawful for any person to hunt, kill, capture, or otherwise take or attempt to take or destroy any fur-bearing animal in the State of Colorado or to possess the raw pelt thereof, except from November 15 to February 28 following, in all areas below 7500 feet altitude and from November 1 to March 31 in all areas above 7500 feet altitude, all dates inclusive, provided, however, persons taking pelts during the trapping season herein defined shall have fifteen days following the close of the season for selling or disposing of such pelts.

Nothing in this Section shall be construed as preventing the killing of fur-bearing animals actually found destroying livestock or poultry; or the trapping or removal of beaver under conditions set forth in Section 7 of this Act; or the killing of muskrats and the destruction of their houses in accordance with provisions of Section 8 of this Act.

Any violation of this Section shall be punished by a fine of not less than twenty-five ($25.00) dollars, nor more than two-hundred ($200.00) dollars.

Section 7. Removal of Beaver Doing Damage. - It shall be unlawful to trap or attempt to take in any manner, kill or take any beaver in the State; provided the owner or lessee of land or land improvements, may file with the State Game and Fish Commissioner an
application for a permit to trap said beaver. A statement of such damage and the legal description of the land in which such damage is claimed shall accompany the application for a permit to trap beaver. On the receipt of such an application and statement the State Game and Fish Commissioner shall have an investigation made of the complaint and, if in his opinion conditions warrant the trapping or removal of some or all of the beaver from the area involved, he may issue a permit to the owner, lessee or agent of such land or land improvements to trap not to exceed ten (10) beaver under any single permit so issued under such conditions, rules, and regulations as the Game and Fish Commissioner may prescribe. For such a permit a charge of one ($1.00) dollar shall be made. The party to whom said permit is issued agrees to forward the pelts so taken under this permit to the Game and Fish Commissioner, who shall value the same and submit to the permittee the estimated amount of such value, who may either accept one-half of said amounts as his share or he may remit one-half of said amount for the State's part, whereupon the Game and Fish Commissioner, on receiving such notice, will remit one-half of the value or return the hides, as the permittee elects. No trapping of beaver shall be allowed on public lands except for the purpose for transplanting alive and only upon a written order from the State Game and Fish Commissioner, stating number of beaver to be taken and the place to which the beaver are to be transplanted.

The pelts of any beaver taken under the provisions of this Act shall be disposed of as provided in Section 2 of an Act, "Concerning Game and Fish, Amending Chapter 102, Session Laws of Colorado, 1925, and Repealing Section 1463 Compiled Laws of Colorado, 1921, and All Acts or Parts of Acts in Conflict therewith, "approved May 17, 1933.

Any person violating any provisions of this Section shall be guilty of a misdemeanor and shall be punished by a fine of not less than fifty ($50.00) dollars nor more than five-hundred ($500.00) dollars or by imprisonment in the County jail for a period not exceeding 60 days by both such fine and imprisonment.

Section 8. Permit to Destroy Muskrats or Remove Their Houses that Are Damaging Public or Private Works. - The State Game and Fish Commissioner may issue permits to the owners or any dam, canal, ditch, or other artificial waterway, railroad embankment or other property being damaged by muskrats, to kill these animals, if need be, during the close season, or (and) to destroy their dens or houses, but in issuing such permits the State Game and Fish Commissioner shall make and enforce such rules as he may deem necessary to prevent unwarranted or illegal destruction of muskrats by any holders of such a permit.

Section 9. Trapping on Land of Another. - It shall be un-
lawful for any person to trap for any fur-bearing animal on the inhabited land of another without first procuring from the owner a written permit so to do, the same to be kept on the person of such trapper when tending his traps. Any violation of this Section shall be punished by a fine of not less than twenty-five ($25.00) dollars not more than two-hundred ($200.00) dollars.

Section 10. Mutilation of Houses of Fur-bearers; Use of Spears Prohibited; Attending of Traps. - It shall be unlawful for any person to disturb, mutilate or destroy any house, den, dam, or other structure whatsoever of any fur-bearing animal mentioned in Section 1 of this Act except in accordance with a permit from the State Game and Fish Commissioner, previously obtained in accordance with provisions set forth in Sections 7 or (and) 8 of this Act.

It shall be unlawful for any person to use spears, or poison for the purpose of hunting or taking of fur-bearing animals, or to use explosives, chemicals, smoke or fumes of any kind to drive such animals, out of their holes, dens or houses.

Any person, setting steel traps for the purpose of catching any fur-bearing animals shall visit each trap so set at least once every twenty-four hours (24) to remove any captured animal.

Any violation of this Section shall be punished by a fine of not less than twenty-five ($25.00) dollars nor more than two-hundred ($200.00) dollars.

Section 11. Trappers' Report to Commissioner. - It shall be the duty of each and every holder of a trapper's license, including those possessing licenses obtained without charge as provided for in Section 4 of this Act, to make a report to the State Game and Fish Commissioner within thirty days after the expiration of his or her license upon a blank supplied by that official, of all hides of fur-bearing animals taken, shipped or sold, together with the names and addresses of the persons, firms or corporations to whom the same were shipped, sold, or otherwise disposed of. The failure on the part of the holder of any trapper's license to make such report as herein described shall be deemed a misdemeanor and upon conviction shall be punished by a fine of not less than ten ($10.00) dollars, nor more than twenty-five ($25.00) dollars, or, if so recommended by the State Game and Fish Commissioner, a subsequent license to trap fur-bearing animals may be denied to a violator of this Section of this Act.

Section 12. Dealers in Raw Furs - Licenses (Resident and Non-resident) - Any person, firm, company or corporation who shall buy or collect raw fur of any kind for the purpose of shipment or for
selling or transporting to any buying or collecting agency, or any manufacturing plant within or without the State of Colorado, shall first secure a license from the State Game and Fish Commissioner, to be valid only during the calendar year in which issued and shall not be transferable. This license shall carry with it the right to buy, barter, possess, transport and sell throughout the year the pelts of fur-bearing animals legally trapped in or legally shipped into the State of Colorado and the holder thereof shall also abide by such regulations as may be formulated by the State Game and Fish Commissioner to prevent traffic in illegally captured pelts. The fee for such license to be paid to the State Game and Fish Commissioner shall be fifty ($50.00) dollars to residents of the State of Colorado and one-hundred ($100.00) dollars to non-residents of the State.

Section 13. Fur Dealers' Register - Report. - All persons engaged in the business of buying green, raw or uncured hides and skins of fur-bearing or predatory animals, shall keep a register showing the name and address of each person from whom such hides or skins are purchased, and the number and kind of such pelts. Such register also shall show what furs were obtained from animals trapped in the wild and what originated from fur farms where fur-bearers are raised and kept in captivity. Such register likewise shall be open for inspection by the State Game and Fish Commissioner or his deputies or any sworn police officer authorized to enforce the Game, Fish and Fur laws of the State of Colorado.

Anyone violating the provisions of the Section shall be deemed guilty of a misdemeanor and shall be fined not less than twenty-five ($25.00) dollars nor more than fifty ($50.00) dollars.

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Motion was made to refer this report to the legislative committee. - Seconded, and carried.

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Rodent and Insect Pest Control Committee

No report prepared. A meeting of the committee is planned at an early date.

Poisonous and Noxious Weed Control Committee

Poisonous and Injurious Weeds

The poisonous and injurious weeds in order of their importance on:

National forests - larkspur, sneeze weed, and loco
Public domain - loco, larkspur, death camas, whorled milkweed, burdock, and cocklebur.

State Lands - loco, larkspur, cactus, burdock, and cocklebur.

Private lands - loco, larkspur, whorled milkweed, death camas, pinge weed, burdock and cocklebur.

Control or lessening of losses can be accomplished by the following methods:

1. Chemical eradication - This method, on account of its excessive cost, is limited to small, dense areas or new infestations.

2. Grubbing or other cultural means - Most poisonous or injurious weeds are most effectively and economically controlled by this method except where soil is rocky or too dry for a thorough job. Cactus may be killed effectively.

3. Fencing - Problem areas may be fenced off for exclusion or seasonal use.

4. Pasture and range management - Much overgrazing or improper seasonal use is resulting in weakened forage plants furnishing less competition to poison and undesirable plants. Proper management, on the other hand, gives desirable forage a chance to compete more favorably with weeds. We recommend proper stocking, seasonal grazing to avoid poisonous plants and use by a class of stock unaffected by poison.

We feel it is practical to organize users to fight poisonous and injurious plants on ranges, highways, stock drives and problem areas. Soil conservation districts when formed and livestock association organizations can assist.

The various agencies listed below have done and can continue to do the following:

Forest Service - Prevent overgrazing, enforce seasonal use of range and grazing of stock most suitable, grubbing and fencing with federal funds and with organized permittees. The Forest Service can assist organized range users to fight injurious or poisonous weeds on national forest land by furnishing equipment and matching funds of local permittees.

Division of Grazing - Limited stock, grubbing burdock, milkweed and other weeds with federal and grazing fee funds. The Division of Grazing should use as much as feasible of the 25 per cent of grazing receipts that are to be used for range improvement in controlling
poisonous and noxious weeds.

**State Land Board** - The State Land Board has unsuccessfully permitted rents to go for weed control. We recommend withdrawal from leasing in critical cases where possible to protect from use or at least from summer use, state lands. The State Land Board should establish a sound long time grazing policy even if new laws are required. We recommend that legislation be enacted requiring highway agencies to free highways of poisonous, injurious or noxious weeds where control measures are being conducted on adjoining or adjacent lands. We also urge the passing of the grazing district enabling act.

**Noxious Weeds**

The list of the most important farm weed pests in order of their importance are:

- Filed bindweed
- Whiteweed
- Poverty weeds
- Russian knapweed
- Canada thistle

The agencies of weed spread in order of their importance are as follows:

1. Weedy crop seed
2. Weedy hay, straw, feed and manure
3. Seed in irrigation or drainage water
4. Machinery and cultivation
5. Roadside infestations

We feel that the present state law providing for the establishment of weed pest districts upon petition of a majority of resident land owners is adequate to take care of compulsory weed eradication. We do, however, recommend that the seed laboratory be adequately financed to provide free seed testing for farmers thereby assisting in enforcing the seed law and that all spreading perennial weeds be named as noxious weeds. Also, the recommendation for highway agencies to control noxious weeds along highways where adjoining property owners are adopting means of control, applies to these noxious or farm weeds.

We feel that weeds can be controlled. Educational and organization programs should be instituted, emphasizing first, the stimulation of more concern about weeds; second, the importance of clean weed-free seed; third, the importance of destroying seed production wherever found; fourth, the importance of eliminating small areas while they are small; and fifth, general education giving the best methods of control and assistance in organizing cooperative action.
Motion was made for adoption of the report. -- Seconded and carried.

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Water Storage and Conservation Committee

The committee has not met.
I. J. McCrary was appointed temporary chairman because of Dr. Larry's sickness.

The committee will meet soon to prepare its recommendations.

Legislative Committee

The legislative sub-committee of the Agricultural Clearing Committee respectfully reports the progress made to date in drafting and preparing the proposed measures for submission to the State Legislature.

The Soil Conservation District Enabling Act is practically complete and has been submitted to the State Attorney-General's office for consideration of its conformity to constitutional requirements. In the immediate future it will be mimeographed and copies sent to all members of the committee.

The Grazing Association Enabling Act has been drafted and is now being redrafted to include some provisions which will make the Act more elastic and more in accord with constitutional requirements. This Act will likewise be mimeographed and copies forwarded to all members of the committee just as soon as the final draft is completed.

The act making it mandatory upon County Commissioners to take title to tax delinquent lands is drafted and copies will be forwarded to all members, when it is mimeographed.

Consideration of pertinent measures submitted by the various sub-committees will be taken by the legislative committee at an early date.

If the measures as finally drafted are acceptable and are sufficiently comprehensive, the legislative committee wishes to emphasize the importance of having these acts thoroughly explained and discussed with the rural communities in order that all interested and affected parties may have a thorough understanding of their operation.

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Director Anderson suggested that the sub-committee recommendations be presented at the conference of the Federated Farm Organizations in Denver, on January 19.

The chairman proposed a special meeting of the committee to be held on January 18 for the purpose of getting final reports from all sub-committees and coordinating those reports. It is essential that the proposed legislation be considered and discussed by the committee before January 21, the last day for presenting proposed legislation for action by this session of the state legislature.

The committee voted in favor of the January 18 meeting.

Colonel Peck suggested that the proposed legislation be cleared through the National Emergency Council.

Meeting adjourned to reconvene January 18 at the State Office Building at 10:00 A.M.

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FOURTH PACIFIC NORTHWEST REGIONAL PLANNING CONFERENCE

ANNOUNCEMENT AND INVITATION

The Pacific Northwest Regional Planning Commission, composed of representatives of the state planning boards of Idaho, Montana, Oregon and Washington, announces the Fourth PACIFIC NORTHWEST REGIONAL PLANNING CONFERENCE to be held in BOISE, IDAHO, APRIL 8th, 9th and 10th, 1937.

You are cordially invited to attend and to participate.

Boise was selected for this meeting in acceptance of invitation of the IDAHO STATE PLANNING BOARD, and in accordance with the tacit policy of the Regional Planning Commission for rotation of regional conferences among the various centers of the region.

The general objectives correspond to those of the previous conferences, held in Portland, Seattle and Spokane. Briefly the general purpose is to bring together the citizens and the official agencies of the region for consideration and appraisal of, and planning for, the use of the region's resources.

The first conference, held three years ago, resulted in the establishment of a large number of public, official, and technical contacts and interests which have proven invaluable in subsequent regional, state and local planning work in this region. The succeeding conferences have sought to maintain and advance such contacts, and to widen the interest and participation in, the planning movement.

In furtherance of these objectives, it is desired, in this forthcoming conference, to place even greater emphasis upon the relationships of planning to the public and upon lay aspects of planning, and, consequently and necessarily, somewhat less upon the more technical phases of planning in various fields. At this Fourth Conference, which follows one marked by considerable advances in technical understanding, it is proposed to devote a minimum of time to meetings of groups and committees interested in single and more or less specialized subjects, and a maximum of time to general discussion.

The conference is being organized to provide for the presentation of the broader phases and interrelationships of
planning in its various functional and geographic subdivisions, and to place the greatest emphasis upon national, regional, state and local planning considered as an integrated whole. Thus it is hoped to make all of the sessions of greater general interest to the lay public as well as to governmental officials and others engaged in various special kinds of planning work, and to bring about a widened understanding and activity.

This more general conference should serve, also, the purpose of broad review, appraisal, and consolidation of work accomplished by technical divisions and state planning boards during the past two or three years.

The sessions of the conference are planned as open forums in order to permit the widest practicable discussion of each subject. At each session a panel of specialists will be present to assist in clarifying the problem and in answering questions raised by the forum. Fixed papers will be limited to those necessary to open and facilitate general discussions by the forum. It is intended that each paper shall be of such character as to invite the interest of the public, of those engaged in more general planning work, and of those engaged in other specialized fields of planning, and that each shall stress the overall view and the broad social-economic and governmental phases of the subject; the interdependence of districts, states, and regions in resource planning, conservation and development, the significance, purposes and needs of planning in the field under consideration; the principal elements of its planning problem, and accomplished and desirable progress toward the solution; and the interdependence of this work with that relating to other fields and resources.

Subjects of timely interest in relation to planning, conservation and development in the Pacific Northwest and in the Nation will be presented by widely known speakers at luncheon and dinner sessions.

A preliminary program for the meeting is attached. A more complete program will be available some weeks before the meeting.

PACIFIC NORTHWEST REGIONAL PLANNING COMMISSION

Will Simons, Chairman, Idaho State Planning Board
J. S. James, Secretary, Montana State Planning Board
C. R. Bean, Chairman, Oregon State Planning Board
B. H. Kizer, Chairman, Washington State Planning Council

R. F. Bessey, Consultant, National Resources Committee
PRELIMINARY PROGRAM

FOURTH PACIFIC NORTHWEST REGIONAL PLANNING CONFERENCE

BOISE, IDAHO

April 8, 9, 10, 1937.

Thursday, April 8:

Registration

Morning Session

REGIONAL PLANNING

Relationships and interdependence of districts and states, problems, progress, programs

Luncheons

Subject: STATE PLANNING

Afternoon Session

a) STATE PLANNING - relationships, problems, progress, programs
   Panel discussion

b) LOCAL PLANNING - problems, progress, programs
   Panel discussion

Friday, April 9:

Morning Session

LAND RESOURCES

Land planning, agriculture, forests, grazing, recreation;
Population trends and land programs
Panel discussion

Luncheon

Subject: PLANNING PRINCIPLES AND THE TRANSPORTATION SYSTEM
Afternoon Session

WATER RESOURCES

Basic data, flood control, irrigation, navigation, domestic and industrial supplies, hydroelectric power, recreation--
A broad program of water utilization and development - problems, needs, objectives, plans

Panel discussion

Dinner

Subject: RELATIONSHIPS, NEEDS AND PROGRAMS OF STATE, REGION AND NATION IN CONSERVATION AND UTILIZATION OF RESOURCES

Saturday, April 10:

Morning Session

a) UTILIZATION OF MINERAL RESOURCES
   Present information, current and future investigation and research programs
   Panel discussion

Luncheon

Subject: HUMAN RESOURCES

Afternoon Session

REPORT OF PROGRAM AND POLICIES COMMITTEE

General discussion

Adjournment

PLACE OF MEETING: Boise Hotel
Mr. R. L. Parshall
Colorado State Experiment Station
Colorado State College
Fort Collins, Colorado

Dear Mr. Parshall:

Enclosed are the minutes of the special meeting of the Agricultural Clearing Committee, held on January 18.

Sincerely yours,

Victor H. Burton
Coordinator for Colorado and Oklahoma

Enclosure
Mr. Ed D. Foster, acting chairmen, opened the meeting and requested reports from the following sub-committees:

Rodent and Insect Pest Control
Water Storage and Conservation
Legislative

These sub-committees reported as follows:

Rodent and Insect Pest Control Committee

The sub-committee on Rodent and Insect Pest Control met at the office of The U. S. Biological Survey, 345 Custom House, Denver, Colorado at 1:00 P.M., January 15, 1937. Chairman, W. E. Riter, presided. The following committee members were present: W. E. Riter, W. S. Long, A. A. McCutchen, Sam C. McCampbell, and R. G. Richmond.

Mr. Riter reported that he felt predatory animals should also be considered in the realm of agricultural pests. He reported that coyotes are now more abundant in the state than for several years past and that livestock and game losses through predatory depredations have become correspondingly greater during the past year. The U. S. Biological Survey cooperates with the State of Colorado, livestock associations, and individuals in predatory animal control work, using systematic control methods through the system of salaried hunters. Though those men have increased the scope of their territory and minimized livestock and game losses locally, yet there have been insufficient funds available with which to carry on the work on a much needed expanded scale.

In order to cope with this situation, The Colorado Wool-Growers Association has sponsored House Bill No. 100, which was introduced to the 31st General Assembly of Colorado Legislators. This bill requests a six mill levy on the dollar of assessed valuation of sheep and goats, excepting those in feed lots, plus a $30,000 state appropriation, to be expended in predatory animal control work in cooperation with the U. S. Biological Survey.

In the matter of rodent control Mr. Riter reported that the Bureau of Biological Survey cooperates with the State of Colorado, counties, municipalities, livestock associations, the Colorado Agricultural Extension Service, other federal agencies, farmers, and individuals. He reported that the most effective rodent control is carried on through the organization of rodent control districts; that control is being maintained at the present in 10 districts within the state in 9 counties. The rodent problem is acute in many areas of the state and there have been received numerous requests for the
establishment of further rodent control districts. The limiting factor in establishing further districts and conducting control operations therein, is lack of funds. During the biennial period, July 1, 1935 to June 30, 1937 the state appropriated the sum of $5,000 for rodent control work within the state in cooperation with the Bureau of Biological Survey, and The State Board of Livestock Inspection Commissioners.

In order to affect the expansion of the work for the biennial period July 1, 1937 to June 30, 1939 House Bill No. 101 was introduced to the Colorado 31st General Assembly by Representatives Carl Wilson and Herman Atencio. This bill requests a biennial appropriation of $25,000 for rodent control to be expended in cooperation with the U. S. Biological Survey, through the State Board of Livestock Inspection Commissioners.

Mr. Sam C. McCampbell and Mr. Roy G. Richmond discussed the matter of insect control with special reference to grasshoppers.

The matter of drawing up a joint resolution for presentation to the 31st General Assembly, relative to proposed federal legislation on grasshopper control work, was discussed by the committee and the proposal adopted. The draft of this resolution, together with information relative to it is attached to this report for the immediate consideration of The Agricultural Clearing Committee and its Sub-Committee on Legislation.

There being no further business, the committee adopted the reports as submitted and adjourned until further call.

Whereas, it has become generally accepted that in many cases plant quarantines have proved a very efficient and integral part of insect and plant disease control; and

Whereas, new species of insects and plant diseases are constantly threatening to enter Colorado from elsewhere or to extend their distribution to uninfested sections of Colorado; and

Whereas, the State Bureau of Plant and Insect Control has been using or plans to use this means of insect and plant disease control to effectively combat distribution in Colorado of Alfalfa Weevil, Black Stem Rust of Wheat, European Corn Borer, Colorado Potato Beetle, Peach Mosaic, Satin Moth and Tomato Pin Worm, or other serious agricultural and horticultural pests; now

Therefore, Be it resolved by the Agricultural Clearing Committee of the State of Colorado, that this committee heartily endorse and approve the work of the State Bureau of Plant and Insect Control in this respect and urge and demand the continued protection of plant quarantines and the expansion thereof as needed for the protection of the people of the State in their agricultural and horticultural pursuits.

Be it further resolved, that the General Assembly, now in
session, be made cognizant of the import of this effort and urge the assembly's support of the Bureau's Insect and Disease survey and quarantine program.

Whereas, it has been predicted, by State and Federal Entomologists, on basis of statewide surveys that a record outbreak of grasshoppers is probable in 1937; and

Whereas, it appears that the state and local government units will be unable to cope with the situation due to the magnitude and interstate implication of these pests; and

Whereas, the Federal Congress has been approached by other states for federal aid to cope with this emergency; now

Therefore, Be it resolved, that the Agricultural Clearing Committee of the State of Colorado request the Thirty-first General Assembly, now in session, to memorialize the President, the Congress, and each Congressional member from Colorado.

Be it further resolved, that this committee itself, do all in its power to secure through Congress such aid as may be possible in this emergency.

SENATE JOINT MEMORIAL RESOLUTION NO.

WHEREAS, it has been brought to the attention of this Assembly through surveys made by State and Federal Entomologists, that a serious grasshopper and Mormon cricket outbreak is predicted in Colorado in 1937; and

WHEREAS, that if control methods are not used on a statewide basis serious crop losses will occur in many agricultural districts; and

WHEREAS, Colorado farmers are not able to finance the purchase of the large amounts of materials required to control the 1937 grasshopper outbreak and prevent crop losses;

NOW, THEREFORE, BE IT RESOLVED, By the Senate of the Thirty-first General Assembly, the House of Representatives concurring herein, that a copy of this resolution be forwarded to the President of the United States, and to each member thereof from this state and to the Honorable Henry A. Wallace, Secretary of Agriculture, that they may be memorialized and urged to support an appropriation bill introduced into the Senate by Guy M. Gillette and into the House of Congressman Clarence Cannon of Missouri, which petitions the 1937 Congress to establish and subsequent Congresses to maintain a fund of $5,000,000.00 for the control of grasshoppers and Mormon crickets, and other insect pests similarly subject to interstate migratory movements, or intermittent regional outbreaks affecting several States.

HOUSE JOINT MEMORIAL RESOLUTION NO.

WHEREAS, it has been brought to the attention of this Assembly through surveys made through State and Federal Entomologists, that a
serious grasshopper and Mormon cricket outbreak is predicted in Colorado in 1937; and

WHEREAS, that if control methods are not used on a statewide basis serious crop losses will occur in many agricultural districts; and

WHEREAS, Colorado farmers are not able to finance the purchase of the large amounts of materials required to control the 1937 grasshopper outbreak and prevent crop losses;

NOW, THEREFORE, BE IT RESOLVED, By the House of Representatives of the Thirty-first General Assembly, the Senate concurring herein, that a copy of this resolution be forwarded to the President of the United States, and to each member thereof from this state and to the Honorable Henry A. Wallace, Secretary of Agriculture, that they may be memorialized and urged to support an appropriation bill introduced into the Senate by Guy M. Gillette and into the House by Congressman Cláréncé Cannon of Missouri, which petitions the 1937 Congress to establish and subsequent Congresses to maintain a fund of $5,000,000.00 for the control of grasshoppers and Mormon crickets, and other insect pests similarly subject to interstate migratory movements, or intermittent regional outbreaks affecting several States.

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The resolution and memorial contained in the report were referred to the legislative sub-committee.

Mr. W. E. Riter moved the adoption of the report; Seconded and adopted.

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Water Storage and Conservation Committee

Mr. I. J. McCrary, acting chairman of the sub-committee reported.

The Committee on Water Storage and Water Conservation presents the following as a progress report, to be expanded in later reports after there has been further opportunity to study the many aspects of the subject and prepare more specific recommendations.

The surface water supplies of the state amount to about 17-1/2 million acre feet annually, of which about 4-2/3 million acre feet are consumed, leaving about 12-1/2 million acre feet which flow out of the state. Of the total production more than 12 million acre feet, or 70 per cent, is found in the streams of the Colorado River Basin, the remainder being divided between the South Platte, Rio Grande, Arkansas, North Platte and Republican Basins in the order named. The principal factors which limit the ultimate development of these waters are: (1) the rights of other states to the water which originates in Colorado and (2) the topography of the state. The bulk of the unused water is found on the western slope whereas the larger areas of arable land are on the eastern slope.
The area of irrigated land in Colorado, which in 1930 amounted to about 3,400,000 acres had increased but little in the 20 years previous. A principal factor in this slowing down of development was that in early years development had been generally inexpensive, much of it by means of gravity ditches to divert direct flow, and within the means of individuals and small corporate groups. The development of supplemental supplies by means of storage or trans-basin diversion was far more costly, and difficult or impossible to finance except by means of governmental agencies.

Leaving aside the question of developing any considerable areas of new land, the immediate problems are concerned with the necessity for furnishing supplemental water for land now irrigated. Except in unusually wet years shortages in the water supply are common in nearly all parts of the state. Accurate estimates of crop losses due to this situation are not available for most districts, but such losses are without question very large. In the irrigated districts of the Platte Valley which would use water from the Colorado-Big Thompson transmountain diversion, estimates show that actual losses in crop production values, due primarily to shortage in irrigation supply, amounted to approximately 40 million dollars over the ten-year period 1925-1934.

The problems and requirements for supplemental water vary for the several river basins of the state. In the Colorado River basin generally, the outstanding need is for additional storage facilities in order to better regulate the supply so as to meet seasonal demands for crop production. Additional storage has long been needed in the Rio Grande basin. In the Platte and Arkansas valleys storage facilities generally have outrun the supply, hence the question is resolved into one of obtaining new water, obtainable by transmountain diversion. The Arkansas, however, has a considerable amount of flood water which is recoverable, particularly from the Furgatoire River.

A particular problem is presented in the case of landowners on projects where reservoir dams have been destroyed by flood, due to poor construction. The failure of the Apishapa and Castlewood dams are cases in point.

Attention is called to the great amount of investigational work for specific projects now under way. In addition to the plans for the Colorado-Big Thompson Transmountain Diversion and the Caddo Dam which are substantially complete, and the Pine River reservoir which is ready for starting work, the following are in process of investigation:

2. Blue River Transmountain Diversion.
3. Reservoir and water supply projects for Public Irrigation Districts under the 1935 Conservancy Law.
4. Survey by the National Resources Committee and cooperating states of the Rio Grande basin.
5. Survey by the U. S. Army Engineers of flood control reservoir sites in the Republican and Smoky Hills drainage basin.
Except where otherwise noted, the preceding projects are in charge of the Bureau of Reclamation. A number of reservoir sites have also been surveyed by the State Engineer.

In order to round out this program, it is considered most important that a survey be undertaken to determine the feasibility of transmountain diversion from the Gunnison to the Arkansas. No irrigated district is in greater need of a more dependable water supply. The Caddo Reservoir, if constructed, by supplying about 130,000 acre feet of water for irrigation would take care of only part of the need.

An activity of growing importance in water conservation is the construction of small dams primarily for stock water. Possibly 900 such dams have been built by the Soil Conservation Service under a 5-year contract for maintenance by the landowner. Others have been built by the Resettlement Administration on land utilization projects. Assistance for work of this type is available also by means of rehabilitation loans or benefit payments under the Soil Conservation Act. Doubtless much more may be done within the next few years along the same line. It is the opinion of the committee that irrespective of the benefits expected, legal problem may become embarrassing if junior water appropriators lower down on the watercourses who are entirely dependent upon flood water find their supplies cut off by reason of these upstream structures.

In recent drought years there has been a greatly increased interest in the possibilities of utilizing ground water by pumping. A large number of pumping units in the main stream valleys have resulted in the lowering of the water table and reduction of the return flow from irrigation. In the dry land sections there are undoubtedly areas where ground water can profitably be utilized for irrigating home gardens and supplying water for forage crops at critical periods during the growing season. Such development should however be carried on only with full knowledge of the underlying geological conditions and scientific estimates of the total amount of recoverable water in a given area. Some state agency should be authorized to cooperate with the Ground Water Branch of the U.S.G.S. Water Resources Division and provided with funds to carry on needed investigations. The field work which has been carried on by the State Planning Commission in the Republican River basin recently is a beginning in this direction. The basic water law of the state is weak in relation to the subject of ground water and should have clearer definition. In the matter of providing wells for stock water, present benefit payments appear to be too small to encourage drilling, these being at the rate of $1.00 per foot compared to an estimated cost of $2.50 per foot for wells of 100 feet or more in depth.

Suggested Legislation

1. Attention is called to a bill authorizing the formation of a conservancy district in the Platte Valley under which not only
irrigated land but other interests indirectly benefitted by the Colorado-Big Thompson transmountain diversion bear part of the cost. The text of this bill has not been completed and is not yet available. It has been or will be introduced by title and is considered to be important in order to set up a financial plan whereby the project can meet the requirements of the Reclamation Law.

2. The present state law relating to the construction of small dams seems rather inconsistent and inflexible in the provision that a dam not over ten feet in height or designed to impound not over 1000 acre feet of water may be built without submitting a detailed survey and construction plan with the state engineer. In moderately rough topography a ten foot dam will impound frequently a very few acre feet. The item of expense for an engineer’s survey and inspection fees during construction would be prohibitive for small farm ponds which it may be desirable to construct for water conservation. It is believed that the law could be amended so as to cut the cost and still have the dam recorded with the state engineer and subjected to his scrutiny as to safe construction. Before making a more specific recommendation the matter should of course be discussed with the state engineer.

3. A matter of water conservation related largely to flood control has been suggested which the committee has not yet been able to consider and which is passed on to the legislative committee. This refers to the right of towns and cities to acquire land needed for watershed protection by condemnation proceedings.

Research and Surveys

Recognizing the need for more information along many lines, the committee wishes to emphasize the following:

1. The urgent need for additional rainfall and stream gaging stations. Many projects proposed at this time are questioned because records of stream flow, etc. are not available. There may be some additional snow survey stations required, the need for which will be demonstrated after experience with those recently established.

2. Continuing research is needed to determine the effect of water storage upstream in small units upon normal and flood flows in the larger stream channels, and their effect upon silting. With this there should be further study of storm patterns and rainfall intensities in various areas.

3. Research which is under way in watershed management should be continued in order to establish the relationships between various types of cover and maximum yield of water at both high and intermediate altitudes.

4. Thoroughgoing economic surveys should be made in connection with engineering plans for the large projects of irrigation development. The recent survey in the middle and lower Platte Valley demonstrates the value of such a survey in connection with the proposed Colorado-Big Thompson Diversion. A similar study is particularly
needed for the Arkansas Valley at this time.

5. In addition to the above, reference is made to survey projects discussed earlier herein, such as ground water investigations and transmountain diversion to the Arkansas.

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Dr. Chas. A. Lory supplemented the report by stating that legislation will be introduced to the assembly regarding ground water. The measures are not drawn, and the details of the proposed legislation are unknown.

Dr. Lory moved the adoption of the report; Seconded and adopted.

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Legislative Committee

Mr. Ed D. Foster briefly reviewed the several proposed bills giving the status of each. Members of the sub-committee were then called upon to read and discuss the details of the various measures.

To include all of the discussion concerning those bills would make this report too lengthy, so much of the discussion was deleted.

Delinquent Tax Bill

The full text of the bill is not available because it was returned to the committee for reconstruction. However, the bill provides for compulsory taking of tax titles by county commissioners to land three or more years delinquent in payment of taxes. It also provides for the sale, leasing, and trading of such lands by the commissioners and the authority to retain county ownership and administration.

James E. Morrison asked if the bill contained any provision governing land appraisal prior to sale by county commissioners. Ed D. Foster stated that such a provision was purposely omitted in order to make the bill as simple as possible, but that the committee would gladly reconsider this point.

The committee agreed that disposal or retention of lands should be optional to commissioners. Thus enabling them to best fit their land resources to their local needs.

The Colorado Soil Conservation Act

Section 1. PURPOSE -- The General Assembly hereby finds and declares that the State of Colorado, through wind and water erosion, has lost for agricultural and livestock uses approximately six million
acres, or one-tenth of the total area of the state; that these losses range from severe damage to complete destruction of the top soils of these areas; that these losses have been caused largely by improper farm and range practices, and that the areas of land thus destroyed will increase until and unless a uniform method of farm and range conservation is established by law over the entire state. It is to accomplish this purpose and to insure the health, prosperity and welfare of the State of Colorado and its people that this act is passed, and it shall be construed liberally in order that the purposes herein expressed may be accomplished.

Section 2. SHORT TITLE --- This act may be known and cited as "The Colorado Soil Conservation Act."

Section 3. STATE BOARD--- There is hereby created and established a State Soil Conservation Board, hereinafter called the state board, which shall consist of the following members: One member of the state planning commission, to be selected by the commission; the director of extension of the State College of Agriculture and Mechanic Arts, and the state coordinator of the United States soil conservation service or the officer who shall be performing the duties of that office in this state. The members shall serve without pay, and the board shall have the following powers and duties.

(a) To promote and assist in the organization of soil erosion districts in any section of the state where erosion damage exists or is threatened.

(b) To accept petitions for the organization of erosion districts; to examine such petitions, determine their sufficiency and find weather, in its judgment, the organization of such districts is required for the preservation of the health, prosperity, and welfare of the State of Colorado and its people. If in the opinion of the State board it is for the best interests of the state that such district be organized it shall proceed to call an election of the land owners within such proposed district as provided in Section 5 hereof.

(c) To establish and promulgate uniform by-laws for the conduct of the business of such districts, and uniform rules and regulations for the care, operation and treatment of land for the prevention of erosion; provided that before such by-laws, rules and regulations become effective as to any district they shall first be approved by the land owners within such district as hereinafter provided.

(d) To act in an advisory capacity with the board of supervisors of each district, and to coordinate the programs of all erosion districts.

(e) To act as a state board of appeals as hereinafter provided whenever a sufficient number of districts are not organized and operating to establish a state board of appeals as provided in Section 13 hereof.

Section 4. ORGANIZATION OF DISTRICTS--- Any five owners of land lying within the boundaries of a proposed erosion district may
petition the state board for the establishment of such district. For the purposes of such petition an owner of land shall be construed to be the person, corporation or public agency in whom or which the title of record shall be vested at the time of the filing of such petition. In the event land within such proposed district is owned by a corporation, then the agent of such corporation thereunto duly authorized may sign such petition for the corporation, and in the event land within such proposed district is owned by a federal, state, county or other public agency, then the duly authorized officer of such agency may sign such petition for the owner. The petition shall be accompanied by maps or plats, in duplicate, showing the area to be included within such proposed district by legal subdivisions, or if that be not practicable, then by metes and bounds, showing with reasonable accuracy the outer boundaries of the proposed district. The area included within such proposed boundaries of any proposed erosion district shall be expressly excluded from such district. In addition, the petition shall show the following:

(a) The proposed name of such district, which shall be known as "the Soil Erosion District."

(b) The general condition of the lands within the proposed district, with a statement of existing conditions thereon and of the need for the establishment of such district.

(c) A list of all of the owners of lands within the boundaries of the proposed district, together with their known post office addresses as shown by the records of the county treasurer.

(d) A request that the state board duly define the boundaries of such proposed district and determine that its organization is required for the preservation of the health, prosperity and welfare of the State of Colorado and its people; and that the state board proceed to call an election of the land owners within such proposed district as provided in Section 5 hereof.

Section 5. ELECTIONS.--Within ten (10) days after it shall have received a petition as described in the foregoing section, the state board shall proceed to examine such petition and the accompanying map or plat of the proposed district. If in the opinion of the state board such petition and/or map or plat is insufficient, the papers shall be returned to the petitioners for amendment. If in the opinion of the state board the organization of the proposed district is not required for the preservation of the health, prosperity and welfare of the State of Colorado and its people, it shall so advise the petitioners and the district shall not be organized, but the petition in identical or similar form may be renewed by the petitioners at any time after sixty (60) days after such petition shall have been denied by the state board.

If in the opinion of the state board the petition and the accom-
panying map or plot are sufficient and it appears to the state board that the organization of the proposed district is feasible and practicable and is required for the preservation of the health, prosperity and welfare of the State of Colorado and its people, then the state board shall proceed as follows:

(c) It shall select a time and place for the holding of an election, the time to be not less than forty (40) or more than sixty (60) days from the date of the receipt of such petition by the state board, and the place to be some community or municipality or near the center of such proposed district as may reasonably be possible.

(b) It shall prepare for submission to the qualified voters at such election tentative by-laws for the conduct of the business of the proposed district and rules and regulations for the care, operation and treatment of lands within the proposed district for the prevention of erosion, such by-laws and rules and regulations to be as nearly uniform in all parts of the state as physical, climatic and other conditions will permit.

(c) It shall prepare and cause to be mailed to each owner of lands within the proposed district, whether resident or non-resident, at his or its last known address as shown in the petition provided for in Section 4 hereof, a notice of the time and place of such election, together with a statement of all of the matters which, under its call, may be considered at such election; and it shall cause to be published once in each newspaper of general circulation published within the limits of such proposed district a notice identical with that mailed to each owner of lands. Such notices shall be mailed and such publication made not less than thirty (30) days before the date of such election. If there is no newspaper of general circulation published within the limits of such proposed district, then one publication in a newspaper generally circulated within the proposed district shall be sufficient; and if there be no newspaper generally circulated within the proposed district, the notice by mail as hereinbefore described shall be sufficient.

Such notice shall state that for voting purposes at such election the qualifications of voters shall be the same as the qualifications for signers of petitions as described in Paragraph one (1) of Section Four (4) hereof. It shall also state that at such election the following matters will be considered: The question whether the district shall or shall not be organized as described in the petition; the election of three supervisors of such district in the event the voters decide that the district shall be organized; the election of three members of a district board of appeals as provided in Section 13 hereof; the consideration and adoption of by-laws for the conduct of the business of the district, and of rules and regulations for the care, operation and treatment of the land within said district for the prevention of erosion, and for the consideration of any...
other business necessary to the operation of said district and not in conflict with the provisions of this act. At such election anyone in interest may be heard, but only those qualified as herein provided shall vote, and the vote of a majority of the qualified voters present at such election shall control. If deemed necessary, any such election may recess for a period of not more than ten (10) days from the date of such legally called election by a majority vote of the qualified voters present and may reconvene at the time stated in the motion for such recess without further notice or advertising, but such recess may be voted only in the event that a majority of the qualified voters present have theretofore voted in favor of the establishment of the proposed erosion district.

The state board shall conduct the proceedings of the election hereinabove referred to and shall have prepared and distribute to the qualified voters ballots upon which shall be written or printed a description of the boundaries of the proposed district as shown in the petition filed with the state board, and underneath such description the words, "For the Organization of the__________ Soil Erosion District______" and "Against the Organization of the__________ Soil Erosion District______." The voting shall be by secret ballot and the question shall be determined by the majority vote of the qualified voters present at such election. The state board shall be the judge of all matters concerned with such election, subject to appeal from its findings in any matter, which appeal shall prevail only in case a majority of the qualified voters present vote to sustain such appeal; provided, that the state board need not preside at such election or act as judge thereof in a body, but may designate one or more of its number to act in such instance if desired. After the first election herein provided for, all subsequent elections of officers and other matters pertaining to the district shall be conducted as provided in its by-laws.

If the canvass of the votes cast for and against the organization of the district shows that one-half or more of the qualified voters present have voted against organization, then the meeting shall be adjourned and the result of the election shall be recorded in the minutes of the state board. If a majority have voted for organization, the qualified voters shall then proceed to the election of three district supervisors and three members of the district board of appeals, such elections to be subject to the same rules heretofore prescribed for the vote on organization of the district; and after such elections shall proceed, under the same rules, to adopt by-laws for the conduct of the business of the district and rules and regulations for the care, operation and treatment of the lands within its boundaries. No one shall be eligible to become a candidate for the board of supervisors or the district board of appeals at any election of such district except he be an owner of land within the district; provided, however, that in the event of corporate or public ownership of lands within the district, then the duly authorized officer of such corporation or public agency shall be eligible.
Section 6. CERTIFICATION --- Within ten (10) days after the holding of such an election, if the qualified voters there present shall have voted for organization of such proposed district, the state board shall certify to the Secretary of State a statement of such election and the results thereof, together with a map or plat showing the area included within such district, and the Secretary of State shall thereupon execute and deliver to the state board his certificate, under the seal of his office, declaring the area within the boundaries of such district to be a lawful soil erosion district, under its name as shown in the records, and thereafter such district shall be a subdivision of this State and a public body corporate and politic, and shall have all the powers and duties imposed upon such districts under the provisions of this act.

In any suit, action or proceeding involving the validity of, or relating to any contract, proceeding or action of the district, the district shall be deemed to have been established in accordance with the provisions of this act proof of the issuance of a certificate as above provided by the Secretary of State. A copy of such certificate duly certified by the Secretary of State shall be admissible in evidence in any such suit, action or proceeding, and shall be proof of the filing and contents thereof and of the proper organization of such district under the provisions of this act.

Section 7. BOARD OF SUPERVISORS --- The governing body of the district shall consist of a board of five supervisors, hereinafter called the supervisors, of whom three shall be elected as provided in Section 5 hereof and shall hold their offices for a term of three (3) years and until their successors are elected and qualified, and two shall be appointed by the state board. The two to be so appointed shall be appointed for terms of one and two years, respectively, and shall be persons who by training and experience are qualified to perform the specialized skilled services required by their duties. Such appointed members need not be land owners within the district, but they shall not be appointed until and unless their appointment is approved by a majority of the three elected supervisors of the district. Members of the board of supervisors shall receive no compensation for their services but shall be entitled to travel and other expenses necessarily incurred in the discharge of their duties, such reimbursement to be payable only from the income of the district. No supervisor shall be personally liable for the consequences of his official acts; nor shall he, by virtue of his office, receive any benefits from the conduct of the affairs of the district other than the benefits any land owner may be entitled to receive from the operation of the district. The business of the district shall be transacted by the board of supervisors as provided in its by-laws. In the event of the death, resignation, removal or incapacity of any elected supervisor, or in the event any elected supervisor or the corporation or public agency which he represents shall cease to
be an owner of land within the district, the board of supervisors
may thereupon declare a vacancy and proceed to name some qualified
person to fill such vacancy until the next regular election of the
district. In the event of a vacancy in the office of a supervisor
appointed by the state board, such vacancy shall be filled by the
state board for such time as the board shall determine, with the
approval of a majority of the elected supervisors.

Section 8. POWERS AND DUTIES OF DISTRICTS --- A soil erosion
district organized under the provisions of this act shall in the
exercise of its public powers have the following powers and duties
in addition to others granted in this act:

(a) To conduct surveys, investigations and research relating
to the character of soil erosion and the preventive and control
measures needed; provided, however, that in order to avoid dupli-
cation of research activities, such work shall, where possible, be
conducted in co-operation with the government of this state or any
of its agencies, or with the United States or any of its agencies.

(b) To conduct demonstrational projects within the district
on lands owned or controlled by the United States of the State of
Colorado or any of their agencies, with the consent of the agency
administering and having jurisdiction thereof, and on any privately
owned lands within the district upon obtaining the consent of the
owner of such lands.

(c) To erect structures and maintain any and all facilities
to arrest or prevent the erosion of soils or lands within such dis-
trict by reason of wind and/or water, or from any other cause.

(d) To co-operate, or enter into agreements with, and within
the limit of its available funds, to furnish financial or other aid
to any agency, governmental or otherwise, or any owner or occupant
of lands within the district in the carrying on of erosion control
and water conservation practices within the district, subject to
such conditions as the supervisors may deem necessary to advance the
purpose of this act.

(e) To obtain options upon and to acquire, or acquire control
of, by purchase, exchange, lease, gift, grant, bequest, devise,
or otherwise, any property, real or personal, or rights or interests
therein; to maintain, administer and improve any properties acquired,
to receive income from such properties and to expend such income in
carrying out the purposes and provisions of this act; and to sell,
lease, or otherwise dispose of any of its property or interests there-
in in furtherance of the purposes and provisions of this act.

(f) To make available, on such terms as it shall prescribe,
to land owners and occupants within the district, agricultural and
engineering machinery and equipment, fertilizer, seeds and seedlings,
and such other material or equipment as will assist such land owners
or occupants to carry on operations upon their lands for the conserva-
tion of soil and/or water resources and for the prevention and con-
trol of soil erosion;
(g) To enter upon any lands in the district for the purpose of treating same to prevent the spread of soil erosion and damage to other lands in such districts, subject to the provisions of Section 12, hereof.

(h) To accept grants, services and materials, and borrow money from the United States or from any corporation or agency created or designed by the United States to loan and/or grant money, or from the State of Colorado or any of its subdivisions, but in no event shall such district pledge the faith or credit of the State of Colorado or any county or other political subdivision, except such district. In connection with such grants and/or loans it may enter into such agreements and/or contracts as may be required for such purposes.

(i) To take over, by purchase, lease, or otherwise, and to administer any soil-conservation, erosion-control, or erosion-prevention project located within its boundaries undertaken by the United States or any of its agencies, or by this state or any of its agencies; to manage, as agent of the United States or any of its agencies, or of this state of any of its agencies, any soil-conservation, erosion-control, or erosion-prevention project within its boundaries; to act as agent for the United States, or any of its agencies, or for this state of any of its agencies, in connection with the acquisition construction, operation, or administration of any soil-conservation, erosion-control, or erosion-prevention project within its boundaries;

(j) To sue and be sued in the name of the district; to have a seal, which seal shall be judicially noticed; to have perpetual succession unless terminated as hereinafter provided; to make and execute contracts and other instruments necessary or convenient to the exercise of its powers; to make, and from time to time amend and repeal, rules and regulations not inconsistent with this act, to carry into effect its purposes and powers;

(k) To establish a system for the care, treatment and operation of the lands within the district not inconsistent with the rules and regulations approved and adopted by the district at its organization meeting as provided in Section 5 hereof. Such system shall be as nearly uniform over the entire district as is possible, but greater or lesser requirements may be ordered by the board of supervisors when in their judgment the character and condition of specific tracts of land require such departure from the uniform system.

(l) To estimate the probable cost of operating the district and putting into effect the rules and regulations adopted thenceforth and the system for the care, treatment and operation of the lands within the district; and on the basis of such estimate to prepare a budget and to distribute the amount thereof over the lands
of the district in proportion to the benefits which the respective tracts will in the judgment of the supervisors receive from the operation of the district, but in no event shall the assessment against any lands be in excess of the reasonable value of the benefits to such lands.

Section 9. DISTRICT MEETING; NOTICE——When the supervisors shall have established a system for the care, treatment and operation of lands within the district as provided in Section 8, subsection k, and shall have prepared and distributed a budget and assessment schedule as provided in Section 8, subsection 1, they shall fix a time and place for holding a meeting of the owners of lands within the district and others in interest for the purpose of hearing protests against the proposed system, the proposed budget and/or the proposed distribution of assessments. Notice of such meeting shall be given by mailing to each owner of lands within the district not less than ten (10) or more than thirty (30) days before the date of such meeting a notice showing the time and place of such meeting; a brief description of the proposed system for the care, treatment and operation of lands within the district; a statement of any departures from such proposed system with respect to the individual lands of the owner addressed; a statement of the total amount of budget prepared by the supervisors and of the proposed assessment against the land of the owner addressed. Also the supervisors shall cause to be published once a notice stating the time, place and purpose of such meeting and that owners of land within the district or others in interest may be present at such meeting and protest against any provision in the system established by the supervisors for the care, treatment and operation of lands within the district or against the budget and proposed assessment, in whole or in part; such notice to be published not less than ten (10) days before the date of such meeting in a newspaper of general circulation published within the district, or if there be no such newspaper published within the district, then in some newspaper generally circulated within such district. If there be no newspaper generally circulated within such district, then the notice by mail hereinbefore provided shall be sufficient.

At such meeting the supervisors shall hear any and all protests by owners, tenants or others in interest in the lands affected, and shall determine whether in their judgment any part of the established system for the care, treatment and operation of any lands within the district is unjust or unnecessary to the accomplishment of the purpose for which the district is organized, and whether the budget in whole or in its distribution to individual lands, is in any particular unjust or unreasonable, and whether any assessment against any lands is beyond the benefits which such lands will receive. If the supervisors shall determine any such protest in favor of the protestant, it may alter and amend its established system for the care, treatment and operation of the lands within the district or
its budget or the assessment thereof against any or all lands within
the district, and shall make a record of such alterations or amend-
ments in its minutes. If the supervisors shall determine any protest
against the protestant, then the order as originally prepared shall
stand, and the fact shall be recorded in the minutes; provided, how-
ever, that any or all protestants shall have the right of appeal as
hereinafter provided.

Section 10. APPEALS --- If the owner of any lands within the
district desires, he may appeal from any decision of the supervis-
ors described in Section 9 hereof to the district board of appeals,
as constituted in Section 13 hereof. To establish such right of
appeal he must have recorded in the minutes of the supervisors,
before adjournment of the meeting, provided for in Section 9 here-
of, the fact that he desires to appeal. Before the adjournment of
the meeting the district board of appeals shall make public announce-
ment of the time and place when and where it will sit to hear appeals
from decisions of the board of supervisors at such meeting, such meet-
ing of the district board of appeals to be not less than ten (10) days
or more than twenty (20) days from the date of the meeting at which
the order or orders appealed from were made, and no further notice
need be given.

At the time and place announced for such meeting the district
board of appeals shall sit and hear any and all in interest who de-
sire to be heard in favor of or against the order as finally enter-
ed by the supervisors, and shall make their decision thereon, which
shall be entered in the minutes of the district board of appeals
and shall control unless an appeal to the state board is taken as
hereinafter provided.

Thereafter, within ten (10) days, either the supervisors or
any protestant may appeal to the state board of appeals, as estab-
lished in Section 13 hereof, by giving written notice to the state
board of appeals. On receipt of such written notice the state board
of appeals shall fix a date not less than ten (10) or more than
twenty (20) days from the receipt of such notice for hearing such
appeal and shall give not less than ten (10) days notice in writing
to the supervisors and the protestant, stating the time and place
for such hearing on appeal. At the time and place specified in such
notice the state board of appeals shall hear both parties thereto
and any others it may desire to hear, and shall announce its deci-
sion, which shall be noted in its minutes and shall be final and
controlling as to the district and any protestant. No action shall
lie in any court of law to set aside or alter the final decision of
the state board of appeals unless the petitioner or plaintiff
therein shall allege and show to the court that the supervisors,
in the rule or decision complained of were guilty of gross care-
lessness or abuse of discretion, nor shall any action be maintain-
ed in such behalf unless the petitioner or plaintiff therein shall
allege and show to the court that he has exhausted all rights of
appeal provided in this section.
Section 11. CERTIFY ASSESSMENTS—If no protests are made in the course of the hearing provided in Section 9 hereof, or if appeals are taken as provided in Section 10 hereof, then when such appeals shall have finally been determined, the supervisors shall certify to the board of county commissioners of the county in which any tract or parcel of land within the district may lie the amount of assessment to be levied against such land as shown by the distribution of the budget of the district, and such assessment shall be added to all other taxes levied or assessed against such land and shall be collected as are other property taxes; provided, however, that assessments against any lands owned by the United States or the State of Colorado or any agency of either shall not be certified to the county commissioners as herein provided, but such assessments shall be collected in accordance with agreements to be entered into by the supervisors and the public owner or agency controlling such lands.

Section 12. FAILURE TO OBSERVE ORDERS—If any owner of lands now owned by the United States or the State of Colorado or governmental agency of either, or any tenant upon any lands within the district shall fail or refuse to comply with the system established by the supervisors for the care, treatment and operation of lands within the district or with any special rule or order established by the supervisors because of the character or condition of the land, as provided in Section 8, sub-section thereof, the supervisors, after five (5) days notice in writing to the occupant of the land (or if the land be not occupied, then after ten (10) days notice in writing to the owner thereof) may enter upon such land and so do such work as may be necessary in their opinion to prevent the erosion of its soil or damage to other lands within the district. After having once given such notice, the supervisors shall not be required to give further notice during the ensuing twelve (12) months, but may enter such land from time to time as in their judgment is required and do such work as they may deem necessary for the prevention of erosion or damage to other lands within the district.

The supervisors shall fix the reasonable cost of all such work done as above provided and shall certify the amount charged against each tract or parcel of land to the county commissioners of the county in which such land may lie, and the amount shall be assessed as taxes, shall be added to all other taxes levied or assessed against such land and shall be collected as other property taxes. The supervisors shall not have the right to enter upon lands belonging to the United States or the State of Colorado or any governmental agency without written consent of the public owner or agency controlling such land, and charges for work done upon such land shall be collected in accordance with agreements entered into by the supervisors and the public agency controlling such land.

When any assessment levied against land under the provisions
of Sections 11 and 12 of this act shall be collected, the county treasurer shall credit it to the funds of the district within which the land may lie, to be expended by the district in accordance with the provisions of its by-laws.

Section 13. BOARD OF APPEAL---The district board of appeals shall consist of three members elected by the owners of land within the district as provided in Section 5 hereof, all of whom shall be qualified voters in the district, and shall serve until their successors are elected and qualified. At their first meeting they shall draw lots to determine which member shall serve for a term of one year, which for a term of two years and which for a term of three years. They shall advise the state board immediately of the result of such drawing, and thereafter on the expiration of the term of any member his successor shall be selected in the same manner as his predecessor and shall hold office for three years. Vacancies upon such board shall be filled as provided in the by-laws.

The state board shall serve as a state board of appeals whenever there are less than three soil erosion districts organized and operating under the provisions of this act. When three districts shall have been so organized, the supervisors of each district shall name one owner of land within their district to serve as a member of the state board of appeals for a term of three years, and when three such members have been chosen the state board shall cease to function in that respect; provided, that if more than three districts are organized within the state, each district shall select one member of the state board of appeals in the manner hereinafter specified, and in case of a tie vote on any appeal the findings of the district board of appeals in such matter shall be deemed approved and confirmed by the state board of appeals.

Members of either the district or state board of appeals shall be entitled only to their actual expenses, payable only from the funds of the district.

Section 14. VIOLATION MISDEMEANOR-PENALTIES---Any owner of lands within the district except the United States, the State of Colorado or any other governmental agency, and any tenant or other person or corporation charged with the operation of such lands who shall fail or refuse to perform all of the conditions required by the rules and regulations adopted by such district and of the system for the care, treatment and operation of the lands within the district established by the supervisors or who shall in any way violate any of the provisions of this act shall be deemed guilty of a misdemeanor and upon conviction shall be punished by a fine of not more than five hundred dollars ($500) or imprisonment in the county jail for a term of not more than six (6) months, or both such fine and imprisonment.

Section 15. ADDITIONS TO DISTRICT---If the owners of lands
not included within the district shall desire to be so included they shall first secure the written consent and approval of the supervisors of such district and shall then petition the state board for such inclusion substantially in the form and with the supporting data required by Section 4 hereof, and thereafter the state board shall proceed as to the owners of lands within the proposed addition to the district substantially as provided in Section 5, subsections a and c hereof, except that the sole question to be voted upon at the meeting of the land owners shall be the question whether the lands within the boundaries of the proposed addition to the district shall be so included. If a majority of the land owners present vote against such inclusion, the state board shall record the fact in its minutes and the meeting shall adjourn. If a majority of the land owners present vote in favor of such inclusion, then the state board shall note that fact in its minutes and shall certify to the Secretary of State the fact that such additional lands have been included within such district, and the Secretary of State shall issue his certificate of such change in the boundaries of the district. Thereafter, the lands thereby included within the district shall be subject to control as are other lands of the district, and the owners, tenants and others charged with the operation of such lands shall be subject to the same rules and the same penalties that apply to owners, tenants and others charged with the operation of lands within the district as originally organized.

Section 16. COUNTY AGENTS --- Any resident county extension agency whose jurisdiction shall lie wholly or in part in any established erosion district shall be ex-officio a member of the board of supervisors of such district in an advisory capacity, but without the right to vote. Any county agent may serve in such capacity in more than one erosion district.

Section 17. COUNTIES TO COOPERATE --- The county commissioners of any county in which a soil erosion district may lie in whole or in part shall cooperate with the supervisors of such district in carrying out the purposes of this act, and to that end may use the equipment of the county and men employed by the county to do such physical work as may be required by the supervisors, and may make a reasonable charge therefor.

Section 18. DISSOLUTION --- No proceedings for the dissolution of an erosion district shall be initiated within five (5) years from and after the date of the organization of such district. At any time after the expiration of such five-year period the board of supervisors or any five (5) owners of land within the district may petition the state board for an election to determine whether or not such district shall be dissolved. Within ten (10) days after receipt of such petition the state board shall proceed to call an election as provided in Section 5, subsections A and C hereof, except that the only question to be determined at such election shall
be whether or not the district shall be dissolved. If three-fourths or more of the owners of land within the district present at such meetings vote for dissolution of the district the state board shall note such fact in its minutes and shall certify the result of such election to the Secretary of State, who shall issue his certificate certifying that such district has been dissolved, and the district thereupon shall cease to exist. If less than three-fourths of the owners of land within the district present at such meeting shall vote for dissolution of the district, then the meeting shall adjourn and the district shall continue to exist as though no petition had been filed and no election had been held. Thereafter no petitions for dissolution shall be considered by the state board at intervals of less than three (3) years.

Within thirty (30) days after the Secretary of State shall have issued his certificate of dissolution the supervisors shall proceed, as trustees, to sell the assets of the district at public or private sale, whichever may be approved by the state board, and after paying any outstanding accounts of the district and the costs of such dissolution and sale the remainder of the proceeds shall be paid over to the state planning commission and shall be deposited with the State Treasurer to the credit of such commission in a fund to be known as the Soil Erosion fund. Such fund shall be expended by the state planning commission, as needed, for the organization of soil erosion districts and for carrying out the purposes of this act, and not otherwise. If at any time after such fund is established there shall be no soil erosion districts in existence in the state, the state planning commission shall so notify the Auditor of State any balance remaining in such fund shall then be transferred to the general fund of the state. All contracts entered into by the district prior to dissolution shall remain in full force and effect until terminated by the terms thereof or by mutual agreement, but in all such contracts, upon dissolution of such district, the state board shall be substituted for the supervisors as the district's party to such contracts. The state board shall have the same right as the supervisors would have had to perform and require performance of such contract, sue and be sued thereon, and to modify and/or terminate such contracts by mutual agreement or as provided in such contracts, but no member of the state board shall be subject to any person liability therefor. Such dissolution shall not affect any lien or right of action theretofore held by the district, and the state board shall succeed to all the rights and obligations of the supervisors in such respect.

Any funds coming into the hands of a county treasurer in payment of taxes or assessments levied against the lands within the district after dissolution of the district or remaining in the treasurer's hands at the time of such dissolution shall be treated as are other assets of the district, as provided in this section.

Section 19. CONSTITUTIONALITY --- If any one or more sections,
clauses, sentences, or parts of this act shall for any reason be questioned in any court, and shall be adjudged unconstitutional or invalid, such judgment shall not affect, impair or invalidate the remaining provisions thereof but shall be confined in its operations to the specific provisions so held unconstitutional or invalid, and the inapplicability or invalidity of any section, clause or provision of this act in any one or more instances shall not be taken or affect or prejudice in any way its applicability or validity in any other instance.

Section 20. REPEAL — All acts or parts of acts in conflict herewith are hereby repealed.

Section 21. The General Assembly hereby finds, determines and declares this act necessary for the immediate preservation of the public peace, health and safety.

Section 22. In the opinion of the General Assembly an emergency exists; therefore, this Act shall take effect and be in force from and after its passage.

*********

Some discussion followed the presentation of the bill concerning the ability of conservation districts to control wind erosion. The experience in Kansas would show that counties found the job too expensive.

Kenneth Chalmers expressed a belief that districts under judicious administration over a period of time might accumulate a surplus to serve as a revolving fund to meet this expense.

*********

Meeting adjourned to reconvene at 1:30 P.M.

*********

At the opening of the afternoon session J C. Foster moved that the chairman appoint a committee to edit the reports and recommendations of all the sub-committees and assemble them into a printable form so that they can be available to committee members and others who may make beneficial use of the information.

Motion seconded and carried.
The chairman appointed Lyle Lindesmith, Joe McClelland, and Victor H. Burton to this committee.

********

Legislative Committee Report Continued

The Proposed Colorado Grazing Act

Ed. D. Foster reviewed the status of the bill and explained that the legislative committee has tentatively decided that it would be inadvisable to introduce the bill because all agencies involved are not unanimously agreed that such legislation is necessary or desirable at this time.

In view of existing circumstances, the Clearing Committee agreed to drop the proposed grazing district bill.

James C. Foster stated that in the 14 Southeastern counties there are more than four million acres of land not under organized management. He agreed that it would be inadvisable to push the grazing district bill, but he expressed a desire that the Clearing Committee think in terms of alternatives which might prove effective in meeting the problem in eastern Colorado.

Land Acquisition by Federal Government

Text of this bill is not available. However, it provides for the acquisition of lands in the state of Colorado by the United States. This measure was recommended by both the Reforestation and Forestry and Land Use sub-committees. It would provide for the purchase of those lands whose latent resources are beyond the scope of private individuals to develop e.g., potential forest lands and recreational areas. It would also provide a means of adjusting the present high percentage of non-resident and corporate land ownership to a more stabilized basis.

Mr. Thomas A. Duke, National Emergency Council Director, reviewed his position in clearing legislative matters through Washington. He asked for close cooperation and a copy of each of the proposed bills. He cited legislative difficulties which had occurred in the past.

Director Anderson explained the sub-committee set-up within the Clearing Committee. He stated that there is no intention to duplicate any work for which any state or federal agency is responsible and that the legislative sub-committee will cooperate closely with Mr. Duke on legislative matters.

********
Additional legislation recommended by the Reforestation and Forestry, and Poisonous and Noxious Weed Control Committees is best explained by the following statements:

Reforestation and Forestry
The committee reported a need for legislation to reestablish the agency of State Forester and the expansion of the state farm forest work. The committee also recommended the creation of a State Board of Forestry or the establishment of a Bureau of Forestry in the division of Conservation. Titles for these latter two measures have been introduced. The committee also submitted a measure for the acquisition of land in Colorado by the United States government which is not greatly different from the measure already suggested by the Land Use committee.

Poisonous and Noxious Weeds
This committee reported measures desired for the purpose of requiring threshers to keep their equipment free from noxious weeds and seeds and also to require the highway department to control such weeds on its right-of-way. Neither of these bills has been written in full but have been introduced by title.

The chairmen requested sub-committee members to aid the legislative sub-committee in preparing bills which have been introduced by title only.

Director Anderson invited all to attend the meeting of the Federation of Farm Organizations on January 22 at the Albany Hotel and asked that sub-committee chairmen take part in that program by reviewing the reports of their respective committees.

*****

The chairman suggested that no meeting be held in February, in view of the special meeting called on January 18. No motion was made, and the decision was left to the chairman.

Meeting adjourned.

*****
Colorado Agricultural Clearing Committee

REPORTS AND RECOMMENDATIONS AFFECTING COLORADO'S AGRICULTURE

Prepared by
Members of Special Committees
Authorized by the
Agricultural Clearing Committee

February, 1937
February 17, 1937

TO MEMBERS OF STATE CLEARING COMMITTEE AND SPECIAL COMMITTEES:

The report of the State Clearing Committee entitled "Reports and Recommendations Affecting Colorado's Agriculture" has just been issued and a copy is enclosed.

The report is quite complete and represents the combined efforts of a number of agencies dealing with agricultural problems. As stated in the preface, it is not to be considered final but is a progress report. Continued effort on the part of committee members will be necessary and later reports will be issued from time to time.

Yours very truly,

EXTENSION SERVICE, C.A.C.

F.A. Anderson

Director
COLORADO AGRICULTURAL CLEARING COMMITTEE

Reports and Recommendations Affecting Colorado's Agriculture

Prepared by members of special committees authorized by the Agricultural Clearing Committee

February, 1937
The Colorado State Agricultural Clearing Committee was organized in April, 1936, to promote closer cooperation among state and federal agencies dealing with agricultural problems. Representatives of such agencies compose the Agricultural Clearing Committee membership. The committee convenes monthly for the express purpose of discussing various programs and problems affecting agriculture and coordinating all agricultural programs for the best interests of the state.

Diversification of Colorado's agricultural problems led to the formation of special committees authorized by the State Clearing Committee, having definite assignments in connection with specific problems. Membership in these special committees consists of representatives of various state and federal agencies dealing with agricultural programs and problems in Colorado. Chairmen of these special committees are recognized leaders in their own fields. Efforts which they and their committee members have made to develop programs for the benefit of Colorado agriculture are represented by the series of recommendations contained in this report.

Committee members realize that with the submission of these reports their work is not complete. On the contrary it is their unanimous opinion that if the committees are to function, all members must follow through with a well organized, well coordinated program of action. The reports contained herein are definitely progress reports and are not to be considered final in any respect. Work by the Agricultural Clearing Committee and the special committees will continue and other progress reports will be prepared from time to time.

Each of the special committee reports has been presented to the Agricultural Clearing Committee and unanimously adopted by the group. Continued cooperation of all agencies involved will expedite a uniform and effective agricultural program for the state.

F. A. Anderson, Chairman
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**NOTE**—Because of the close relationship of many of the suggestions covered in the special committee reports, no attempt has been made by the editing committee to eliminate entirely duplication of such matter. Soil erosion, for instance, is closely tied up with a number of other subjects and reference is made to it in several reports, besides that of the erosion control committee. However, in editing this publication the committee has tried to eliminate any duplication of detailed accounts of a particular subject which is covered in more than one report.

**Editing Committee**

Victor H. Burton  
Lyle Lindesmith  
J. H. McClelland
Legislative matters considered in connection with the problems discussed by the various special committees were referred to the legislative committee for further study. The following reports show the action taken and the present status.

Reforestation and Forestry - The committee reported a need for legislation to re-establish the agency of State Forester and for the expansion of the state farm forest work. The committee also recommended the creation of a State Board of Forestry or the establishment of a Bureau of Forestry in the division of conservation. Titles for these latter two measures have been introduced. The committee also submitted a measure for the acquisition of land in Colorado by the United States government, which is not greatly different from the measure already suggested by the land use committee.

Land Use and Erosion Control - The land use and erosion control committees presented a bill for the establishment of soil erosion districts. The bill has been introduced in full to the state legislature. Upon the suggestion of the land use committee a bill for the disposition of lands three years delinquent in the payment of taxes is before the assembly. The committee further reported a bill for the acquisition of lands in Colorado by the United States, which has been introduced in full.

Range Management - This committee suggested the desirability of presenting legislation for the establishment of grazing districts in Colorado, but after a discussion it was agreed that it would be better not to present such legislation at this time for the reasons that it seemed the same purpose could be accomplished in other ways and that a grazing district bill probably would encounter opposition.

Wild Life - The committee on wild life reported a bill introduced for the control of the trapping of fur-bearing animals. This bill has been prepared and submitted, together with another similar bill but with different provisions introduced by the Game and Fish Department.

Rodent and Insect Pest Control - This committee proposed a joint memorial to Congress in behalf of an appropriation for the purpose of supplying farmers with grasshopper poison, to be presented to the assembly.

Poisonous and Noxious Weed Control - This committee reported measures desired for the purpose of requiring threshers to keep their equipment free from noxious weeds and seeds and also to require the highway department to control such weeds on its rights-of-way. Neither of these bills has been written in full, but have been introduced by title.

Water Storage and Water Conservation - The committee reported on the studies that have been made and recommended one item of legislation for the amendment of the existing law relative to the approval of small dams by the State Engineer. This bill has not been prepared, but a title has been introduced.

Ed. D. Foster, Chairman
F. A. Coffey
Kenneth W. Chalmers
G. S. Klemmedson
Dr. Chas. A. Lory
A. One of Colorado's most valuable assets is the mountains with their covering of natural forests. These forests comprise almost one-third the area of the state, or to be exact 20-1/2 million acres. To be more specific one could mention water, recreation, grazing, and timber as being some of the most important values associated with them.

1. Water for irrigation, industrial and domestic development is the life blood of this western country. Its conservation and economic use tends to expand these activities, while neglect and mismanagement of it encourages erosion. This destructive agent is truly the greatest enemy of the state.

2. Recreation - Recreation, a term which a few years ago meant loafing, has come to be an important part of our national life. With shorter hours for labor, which appears to be rapidly coming, and with the improvement of autos and roads, our cool summer playgrounds should become more popular each year. We have only begun to cash in on this crop, and considerable more interest and thought should be given to its care.

3. Grazing - Grazing land has long been recognized as one of the important resources of the state, but the point which has been neglected is the need for care in handling it. As a direct result, over-grazing with its attendant destruction has already taken a tremendous toll.

4. Timber - Timber for timber's sake is usually given first thought when one thinks of forests. Here in Colorado, however, we place it well down on the list in line of values. It is not our intention to belittle its importance, however, as it could easily return a revenue of a million dollars annually and still not injure our forested areas. Even if this were being done it still could not compare favorably with those uses above mentioned. It is true that 85 percent of the forested area is within the national forests, and is already under some form of management, but the remaining 15 percent which is definitely a state obligation represents a sizeable fortune, and is the area which now deserves more attention. In April, 1935, House Bill No. 30 became effective. The wording of it is as follows: "The State Board of Land Commissioners, subject to provisions of Articles 9, Sections 9 and 10 of the Constitution of Colorado, shall exercise all the rights and powers and perform all the duties vested and imposed by law in and upon the State Forester and the State Board of Forestry." This act as worded delegates all state forestry work to the State Board of Land Commissioners, but makes no provision for appropriations to carry on such an activity. Without intending to discredit anyone, it is quite obvious that no organization can carry on such a large part of our state's duties without sufficient funds. Colorado should arrange to take advantage of several existing opportunities of which many of the western states are already availing themselves. Some of them might be listed as follows:

   a. Section 5 of the Clarke-McNary law offers federal assistance for fire protection on state and private lands. (Not being used.)

   b. Section 4 of the Clarke-McNary law offering federal aid for farm protection planting. (Only partially used.)

   c. National park cooperation to develop recreational areas and playgrounds in the prairie regions. (Not being used.)

   d. Acquisition of forested lands in the state to add to the federal forests. (Not used and not possible until an enabling act is passed.)

   e. Acquisition with federal funds of forested lands for state forests under the Fulmer act. (Not used.)
f. Additional research work on all phases of forestry. (Fortunately two new agencies are now entering this field. The agencies are the United States Horticultural Field Station doing experimental work in protection plantings and the United States Forest and Range Experiment Station taking the other phases of the field.)

B. Forestry has an important function in land use planning.

1. The Black Forest, an area of 100,000 acres is an example where the highest use of much of the area for public good is tree growing. All the available facilities above mentioned are immediately needed.

2. Erosion control through mechanical means is generally considered temporary. Proper land use planning is the most desirable solution. In many cases it means forests on the injured area and others adjacent and above.

C. Lack of farm and community plantings is a large factor in planning Colorado forest programs.

1. Less than 5 percent of Colorado farms and farm homes have satisfactory protection and improvement plantings.

2. Few communities have even fair recreational areas.

3. The improvement of living conditions in the home and in the community make for social stability.

4. A lack of education in the home and school as to the value of tree planting and general home improvement is evident.

The committee agrees on the following recommendations:

1. The establishment of a state agency with sufficient funds to carry out A 1, a, c, and e.

2. Authority to enable the federal government to acquire land for forests.

3. Regulation of forestry on private lands to obtain:
   a. Fire control
   b. Orderly marketing
   c. Erosion control

4. Determine through research the areas that should be devoted permanently to forests.

5. Educational programs in schools and 4-H clubs to stimulate interest in forestry among the younger generation.

6. Development of a planting program for farm improvement and erosion control that will reach every farm and ranch in Colorado.

R. E. Ford, Chairman
R. E. Kiely
E. D. Cochran
H. D. Petheram
C. B. Noxson
REPORT OF LAND USE COMMITTEE

Governmental policies and unguided initiative of individuals, together with increasing pressure of economic demands have been combined to bring about a misuse of land resources in many areas of Colorado. The failure to recognize the limitations imposed by the available natural resources threatens certain areas of Colorado with stranded populations dependent upon deteriorated resources, necessarily supplemented by many types of governmental subsidies.

Colorado has more than 66 million acres in land resources. A portion of these acres yield a stable return of agricultural products, due to their highly developed state of irrigation. Other areas not so fortunately situated and less naturally endowed produce little, if anything, of direct agricultural value. Yet, the highly developed irrigated lands and the least productive of our unvegetated clay hills have a common meeting point, namely, irrigation water and watershed protection. Equally obvious and specific relationships and dependencies can be traced among all of our land areas. These relationships are reciprocal in virtually every case that may be cited.

This committee submits as a basic principle for the guidance of all activities concerning land resources, their use, conservation and development: That these reciprocal relationships must be recognized and studied so that an agricultural program developed in one area may be properly integrated into the agricultural program of the state as a whole. The state program in turn must be coordinated with a regional program so that community, state and national efforts may be directed toward a satisfactory stable and permanent agriculture.

The committee recommends that the following principles be adopted by members of the Colorado clearing committee for the development of a long time land use program as a means to insure the stability of agriculture in the state.

1. The use of the land should conserve and improve rather than mine the fertility of the soil.

2. Speculative misuse of land is not conducive to the best interests of society—present and future.

3. If all of the land in Colorado could be put to its best use there would be very few acres which would not yield a fair unit return to the operator. Use largely determines the submarginality of land.

4. The size of the operating unit and the productive capacity of the land determines the resources from which the operator must obtain his economic returns. In order for the operator to apply proper land use principles, a tenure program providing for rental or purchase must be established that will make available to him adequate resources.

5. Proper land use will assure consistent returns over a long period of time. The misuse of land fails to sustain farm incomes.

6. Credit facilities must permit the individual operator to adjust farm operations to the best use of his land.

For the consideration of the state clearing committee we recommend:
1. That federal and state policies governing loans, grants and subsidies give direction to better land use and agricultural permanency
   a. By making it impossible for borrowers to secure rural rehabilitation
      and similar type loans to continue the exploitive use of land.
   b. By making it impossible for farm operators to secure grants in aid
      under the soil conservation domestic allotment act when these farm operators employ
      the moneys so received for the speculative misuse of land.
   c. By causing WPA and similar activities to be directed definitely toward
      constructive conservation practices designed to achieve sound land use.

2. That the lands of Colorado be classified according to their best productive
   use and that a program to secure taxation on this basis be initiated.

3. That federal, state and local agencies cooperate in an integrated program
   which will develop a type of ownership commensurable with best land use
   a. By returning chronically tax delinquent lands to a responsible public
      ownership thru state legislation or federal purchase.
   b. By returning to responsible public agencies those lands whose latent
      resources are beyond the scope of private individuals to develop, e.g., potential
      forest lands and recreational areas.
   c. By adjusting the present high percentage of nonresident and corporation
      ownership to a stabilized basis thru the facilities offered in federal purchase,
      state cooperation grazing district laws and state soil conservancy district laws.

4. That tenant relationship to land use be improved
   a. By a program which will initiate better tenant-landlord practices and
      give each ample protection for the development and conservation of the land resources.
   b. By assisting responsible and competent tenants to become landowners.
      The term "responsible and competent tenants" is used to emphasize the fact that
      this program should be selective and should not finance misfits already engaged in
      farming or encourage an influx of irresponsible and incompetent individuals from
      other industries.

5. That Baca county be used as an investigational area in which the program of
   the several agencies of the clearing committee be crystallized into action, seeking
   answers to the following questions:
   What measures may the owner-operator employ that are economically sound
   and that will prevent soil erosion?
   What measures may the renter-operator employ in answer to the foregoing
   question?
   What may the tenant and owner-operator do to protect their farming operations
   from uncontrolled wind and water erosion of lands contiguous to their holdings?
   What should be the governmental program concerning uncontrolled soil erosion
   on such land?
   What water conservation projects such as dams for irrigation, stock tanks,
   wells, etc., can be accomplished by individual initiative?
   What, if any, changes must be made in present credit policies and facilities,
   to make these projects possible?
   What water conservation practices should become a matter of public action
   in order to conserve water and soil and to realize a more stable return from the
   land?
   What may the farmer operator do to restore badly eroded lands to productive
   use?
   What should be the public program with regard to badly eroded lands?
What policies should be effected to insure future stability of range lands now overgrazed?
What can the farm operators do to bring abandoned land in the region under organized management and stable productive use?
What assistance in loans, grants or subsidies from the government will be needed by the operators in order to recall the above mentioned land to efficient use?
What direct action program on the part of the government is needed in order to assure that these abandoned lands will contribute in an organized way to the support of society?
What may be done to effect a better farm program on renter-operator land?
What governmental policies, federal, state or local are needed to effectively control the speculative misuse of land?
What types and sizes of farms should be discouraged?
What types of farming and sizes of operations should be encouraged by rural rehabilitation loans, seed loans, federal land bank loans, AAA grants, etc.?
What finance facilities are needed to effectively establish the more desirable types and sizes?
What relative value have the following alternatives to the operator in his efforts to secure a profitable unit?
(1) Land purchase by the operator
(2) Land purchase by governmental agency and lease by operator
(3) Lease of privately owned land by operator
(4) Cooperative grazing association lease and allotment to individuals
What effect do the present grants in aid for soil conserving practices have upon the permanency of the county’s agriculture?
What changes in policies and practices are necessary in order that these grants in aid may effect their expected assistance?
What additional facilities in grants in aid will be needed to effect the aims of the program?
What real estate value, interest and tax rates will the recommended types of farms be capable of supporting?
What type and quality of community services will the recommended farm economy support? (1) Schools, (2) roads, (3) police protection, (4) churches, (5) others.
What standard of living may the operator be expected to maintain?
(1) Telephone, (2) electricity, (3) medical care, (4) water in dwelling, (5) others.
What should the policies be in regard to the relocation of families from unsuited farming areas to more suitable locations?

J. C. Foster, Chairman
Fred R. Johnson
A. E. Jones
T. G. Stewart
D. W. Robertson
E. D. Foster
Lyle Lindesmith
Dr. R. E. McArdle
REPORT OF EROSION CONTROL COMMITTEE

The Erosion Problem in Colorado

A. History of erosion prior to the Advent of Man:

1. Evidenced by outspreading of deep layers of sands and conglomerates from Rocky Mountains.

2. Loose mantled hills many of which give evidence of buried top soils.
   a. Probably occasioned by extended drought combined with severe over-grazing by wild herds.

3. Exposed geologic formations throughout the state.

B. Present erosion problems:

Wind

1. Resulting from drought—cultivation—overgrazing—inadequate use of prevailing moisture to insure vegetation.

Water

1. Denuded slopes—torrential rainfall

2. Runoff situation in the states—estimated
   a. 10,569,000 acres in state are contributing to excessive runoff and/or serious flood hazard.
   b. 26,982,000 acres contributing to moderate runoff.
   c. 26,706,000 acres contributing to little or no runoff.

(Figures arrived at by extensions of:
   (1) Imperviousness of soils—combined with degree of erosion and percent of land abandonment.
   (2) Slopes over 2 percent.
   (3) Frost and snow
   (4) Areas of exposed geologic materials)

C. Estimation of degree and extent of erosion in Colorado based upon counties:

1. Total area abandoned primarily due to erosion and resulting loss of fertility—678,000 acres.

2. Total area suffering severe erosion loss—
   30 – 100 percent of top soil removed—12,346,000 acres.

3. Total area suffering a moderate degree of top soil removal—
   10 – 50 percent of top soil gone—30,222,000 acres

4. Total area over which there is little or no erosion or geologic erosion,—
   21,960,000 acres.

Source of this information:

a. Individual farm surveys on 12 project areas in Eastern Colorado.

b. Opinions from County Extension Agents, Agronomy Department, Colorado Agricultural College.
The committee recommends the passage of a state law to regulate land use through the formation of associations for the control of grazing and erosion.

The committee recommends that surveys conducted by agencies of the State Clearing Committee be coordinated and information assembled in a uniform manner which will make it available to all agencies concerned.

We recommend an educational program to correct land use, and to adopt soil and water conservation practices.

We recommend that demonstration farms to show approved practices for erosion control and water conservation be set up in each county. These may show but one practice per farm or several.

We recommend that training schools for running contour lines be held, to assist in more rapid adoption of practices recommended for wind and water erosion control and moisture conservation.

We recommend that abandoned crop land be brought under public ownership as rapidly as possible, and that measures for the control of wind and water erosion be adopted on such land.

We recommend that the policies of the federal loaning agencies be consistent with sound land use, erosion control, and good farming practice.

Realizing that erosion control is directly dependent upon the cultural practices as outlined in good forest and range management and good farming practice on agricultural land, the recommendations of this committee must necessarily be closely correlated and integrated with the recommendations of the range management, reforestation and forestry, water storage and conservation, and land use committees.

In an earlier report of this committee the recommendation was made that each state or federal agency represented on this committee prepare a statement of policy and practice governing their activities in dealing with erosion control. Inasmuch as these statements have not been received, this committee has attempted to outline policies and practices to be used as a basis for the coordination of the programs of all agencies dealing with any erosion control problem.

**Water Erosion Control**

I. **Grazing and Forest Lands**

A. Steep slope areas (15 percent or greater)

1. Forested lands
   a. Strict grazing control
   b. Better distribution of water and salt
   c. Reforestation to include planting of trees or shrubs depending upon nature of soil and amount of rainfall.
   d. Gully head control.

2. Native grass lands
   (A) Vegetative control
   a. Limiting of grazing or prevention of grazing depending upon ext
of area, nature of soil, and amount and intensity of rainfall.
  b. Better distribution of grazing to be accomplished by construction of waterholes and wells.

(B) Mechanical control
  a. Mechanical control not generally recommended; however, where such control will facilitate vegetive cover the construction of pasture terraces to be considered where nature of soil and production capacity of land will warrant.

B. Erosion practices on moderately steep slopes (6 percent to 15 percent)

1. Forested lands
   a. Grazing control to be made effective by better distribution of grazing through the development of waterholes, springs, and the selection of salting grounds.
   b. Planting of trees or shrubs, depending upon soil and moisture relationships.
   c. Fencing
   d. Reseeding of seriously over-grazed and eroded areas
   e. Reduction of number of livestock

2. Grazing lands not forest
   a. Reduction of grazing to be based upon established livestock carrying capacities
   b. Better distribution of grazing by:
      (1) Construction of waterholes and wells
      (2) Fencing to permit rotation and deferred grazing
   c. Mechanical control of runoff to promote increased growth of vegetation
      (1) Pasture terracing where soil and rainfall warrant and where topography will permit
      (2) Contour furrowing
      (3) Control of gully heads to prevent further loss of best grazing lands by gullying and the resulting lowering of water tables for subsoil.
   d. Revegetation
      (1) Reseeding where adaptable
      (2) Planting of sod where economically feasible
      (3) Planting of shrubs and trees to prevent gullying, to increase wild life, to assist in spreading water, and to promote better distribution of grazing and provide wind protection.

C. Gentle slopes (under 6 percent)

1. Forested lands
   a. Same as recommended under B.

2. Native grass lands
   a. Grazing control to include reduction of grazing comparable to established carrying capacities and better distribution of grazing by
      (1) Construction of waterholes and wells
      (2) Fencing to permit rotation and deferred grazing
   b. Mechanical control of runoff to permit increased growth of vegetation
      (1) Pasture terraces
      (2) Contour furrows
      (3) Water spreaders
      (4) Diversion ditches or subsoil
      (5) Salting
      (All practices to be dependent upon soil, vegetation, and rainfall.)
c. Revegetation  
   (1) Reseeding where adaptable, particularly on abandoned cultivated land.  
   (2) Planting of sod on denuded areas where such practice is economically feasible.  
   (3) Planting of shrubs and trees to prevent gullying, to assist in spreading water, to increase wildlife and to promote better distribution of grazing and providing protection from wind.

II. Cultivated Lands

A. Slopes greater than 10 percent

   1. General recommendation that such lands be removed from cultivation in areas susceptible to torrential rainfall.

B. Moderate slopes (3 percent to 10 percent)

   1. Vegetative control
      a. Maintenance of high percent coarse organic matter in top soil.
      b. Maintenance of perennial vegetative cover on slopes above 7 percent.
      c. Crop rotation plan for each farm to be based upon soil and rainfall.
      d. Use of permanent perennial strip crops on steep slopes where moisture conditions will permit.

   2. Mechanical control
      a. Terracing where soils, slopes, and rainfall are favorable to such control.
      b. Contour cultivation for annual row crops.
      c. Use of damming lister where soils, slopes, rainfall, and crop practices make feasible to use.

C. Gentle slopes (1 percent to 3 percent)

   1. Contour cultivation
      a. Use of the damming lister or terracing depending upon the nature of soil and intensity of rainfall.

   2. Maintenance of a high percent of organic matter in the top soil.

Wind Erosion Control

A. Pasture Lands

   1. Reduction in grazing to permit increase in amount of plant residue remaining over the surface of the land.

   2. Use of mechanical structures such as contour furrows, spreaders, and subsoiling on soils of low water penetrative capacity. Such structures will serve the double purpose of increasing growth and decreasing surface wind velocity.

B. Cultivated Land

   1. Dry land cultivation to be practiced only on those soils which do not drift easily.

   2. Maintenance of vegetative cover at all times on extremely erosive irrigated lands.
3. Cultivation not to be practiced on dry lands where soil moisture is inadequate to permit the production of a profitable crop at least three years out of five.


C. Mechanical Control

1. Fallow lands to remain in a cloddy surface condition during the period of fallowing.

2. The practice of contour cultivation and/or of the damming lister on slopes greater than 2 percent.

Research

A. Mechanical soil erosion control practices should be based upon factual information obtained through a research program, this program to include:

1. Thorough studies of the hydrological data and its attendant effects upon various types of vegetative covering.

2. To determine the benefits of erosion control practices now in effect.

3. Determination of the adaptability of various grasses to soil and climatic conditions.

A. E. McGlymonds, Chairman
J. E. Morrison
Chas. F. Moore
Fred R. Johnson
A. H. King
Dr. E. P. Sandsten
Victor H. Burton
John Spencer
The objective of all range practices is sustained maximum forage capacity with use. This is based upon the results of experience which demonstrates that no feed is as cheap as natural palatable forage provided that its capacity to produce is not so low that it will not carry fixed overhead charges such as taxes, interest, maintenance, etc. When this point is reached and natural pastures and ranges have to be supplemented with an excessive amount of both forage and concentrated feeds the margin of possible net returns becomes so low that livestock operators are, in many instances, unable to continue in business.

The function of this committee was interpreted to include the following:

1. Presentation of data and information as to the present use of the range versus the indicated use as determined by actual vegetation surveys.

2. Brief outline of improved practices and changes of land use toward better range management. There are two major programs to be considered in relation to Colorado ranges and pastures.
   - Improved practices which can be put into effect under present use.
     These include:
     (1) Contouring
     (2) Water spreading by means of diversion and spreader ditches.
     (3) Development and better distribution of stock water
     (4) Rodent control
     (5) Fencing to control general and/or seasonal movement of livestock as well as to permit of rotated and deferred grazing
     (6) Reseeding of range lands as well as abandoned agricultural land
     (7) Rotated and deferred as well as seasonal grazing
     (8) Improved salting practices and distribution of salt grounds
     (9) Control of noxious and poisonous weeds
     (10) Control of insects

Means of making effective:

(a) Benefit Payments
    AAA Range Program
    State Appropriations

(b) Voluntary Effort
    Education (All agencies)
    Demonstration (All agencies)
    Rural Rehabilitation (R.A.)

(c) Federal Projects
    Soil Conservation Service
    Resettlement Administration (Land Acquisition)
    Forest Service
    Division of Grazing (Taylor Act)

b. Management and Control
   (1) Private Lands
      (A) Cooperative Grazing Associations
      (a) Enabling Act for corporate ownership; lease; and management.
      (b) Require county ownership of delinquent lands, and require lease or sale and management
      (c) State administrative body
(B) Federal Authority
   (a) Agreements with federal financial aid
   (b) Agreements without federal financial aid
(2) County Lands
   See under b. (1) Cooperative Grazing Associations. Same legislation needed for the county to handle delinquent lands not in a cooperative grazing association.
(3) State Lands
   Revised legislation or possibly amendment to state constitution, permitting control of stocking and management
(4) Federal Lands
   Federal Administration
   (a) Forest Service
   (b) Division of Grazing
   (c) Resettlement Administration
   (d) Indian Service

L. H. Douglas, Chairman
Chas. F. Moore
W. R. Murphy
Kenneth Chalmers
Dr. R. E. McArdle
E. W. Nelson
R. G. Parvin
W. B. Mabee
REPORT OF WILD LIFE--FISH AND GAME COMMITTEE

The committee on wild life--fish and game, after discussing the general subject at length, decided that rather than try to make a comprehensive report on all activities and subjects included under the title of the committee, the best policy would be to report specifically on one particular problem at this time. Other reports will be made from time to time as other problems are attacked.

Because there is now no state protection in Colorado for fur-bearing animals and because such protection is deemed necessary for the continued existence of the many beneficial fur-bearers in the state, it was decided that this committee would concentrate its efforts upon this particular problem. Protection to fur-bearers in the state will, of course, necessitate a law for that purpose to be passed by the Colorado General Assembly. To this end, therefore, an act was prepared by this committee to be submitted to the general assembly this session.

This act makes provisions for the protection and capture of fur-bearing animals in Colorado, the licensing of trappers and dealers in raw furs, and the reporting of the capture of fur-bearers and on the traffic in the pelts of these animals and those of predators. It would provide certain penalties, and repeal all acts and parts of acts in conflict therewith.

The law would apply to badger, beaver, fox, marten or sable, mink, muskrat, otter, raccoon, skunk, and wolverene. Provision is made for farmers trapping on their own land as well as for trappers working on the land of others. Non-resident trappers would be required to pay a considerably higher license fee than residents. Special consideration is given to beaver, the present law being revised somewhat to strengthen the protection provided for them.

The committee feels that the problem of the protection of Colorado's fur-bearing animals is a very important one and recommends unified action and support in this work.

E. R. Kalmbach, Chairman
A. A. McCutchen
R. G. Parvin
W. S. Long
S. Arthur Johnson
J. D. Pender
I. G. Kinghorn
The committee on rodent and insect pest control reports that predatory animals should also be considered in the realm of agricultural pests. Coyotes are now more abundant in the state than for several years past and livestock and game losses through predatory depredations have become correspondingly greater during the past year. The United States Biological Survey cooperates with the state of Colorado, livestock associations and individuals in predatory animal control work, using systematic control methods through the use of salaried hunters.

Though these men have increased the scope of their territory and minimized livestock and game losses locally, yet there have been insufficient funds available with which to carry on the work on a much needed expanded scale.

In order to cope with this situation the Colorado Wool Growers Association has sponsored House Bill No. 100, which was introduced to the Thirty-first General Assembly of Colorado legislators. This bill requests a six mill levy on the dollar of assessed valuation of sheep and goats, excepting those in feed lots, plus a $30,000 state appropriation, to be expended in predatory animal control work in cooperation with the United States Biological Survey.

The Bureau of Biological Survey cooperates with the state of Colorado, counties, municipalities, livestock associations, the Colorado Agricultural Extension Service, other federal agencies, farmers and individuals. The most effective rodent control is carried on through the organization of rodent control districts. Control is being maintained at present in 10 districts within the state in 9 counties. The rodent problem is acute in many areas of the state and there have been received numerous requests for the establishment of further rodent control districts. The limiting factor in establishing further districts and conducting control operations therein, is lack of funds. During the biennial period July 1, 1935, to June 30, 1937, the state appropriated the sum of $5,000 for rodent control work within the state in cooperation with the Bureau of Biological Survey, and the State Board of Livestock Inspection Commissioners.

In order to effect the expansion of the work for the biennial period July 1, 1937, to June 30, 1938, House Bill Uo. 101 was introduced to the Colorado Thirty-first General Assembly. This bill requests a biennial appropriation of $25,000 for rodent control to be expended in cooperation with the United States Biological Survey, through the State Board of Livestock Inspection Commissioners.

The matter of drawing up a joint resolution for presentation to the Thirty-first General Assembly, relative to proposed federal legislation on grasshopper control work, was discussed by the committee and the proposal adopted as follows:

Whereas, it has become generally accepted that in many cases plant quarantines have proved a very efficient and integral part of insect and plant disease control; and

Whereas, new species of insects and plant diseases are constantly threatening to enter Colorado from elsewhere or to extend their distribution to uninfested sections of Colorado; and

Whereas, the State Bureau of Plant and Insect Control has been using or plans to use this means of insect and plant disease control to effectively combat distribution in Colorado of alfalfa weevil, black stem rust of wheat, European corn borer, Colorado potato beetle, peach mosaic, satin moth and tomato pin worm, or other serious agricultural and horticultural pests; now

Therefore, Be it resolved by the Agricultural Clearing Committee of the state of Colorado, that this committee heartily endorse and approve the work of
the State Bureau of Plant and Insect Control in this respect and urge and demand the continued protection of plant quarantines and the expansion thereof as needed for the protection of the people of the state in their agricultural and horticultural pursuits.

Be it further resolved, that the General Assembly, now in session, be made cognizant of the import of this effort and urge the assembly's support of the bureau's insect and disease survey and quarantine program.

Whereas, it has been predicted, by state and federal entomologists, on basis of state-wide surveys that a record outbreak of grasshoppers is probable in 1937; and

Whereas, it appears that the state and local government units will be unable to cope with the situation due to the magnitude and interstate implication of these pests; and

Whereas, the Federal Congress has been approached by other states for federal aid to cope with this emergency; now

Therefore, Be it resolved, that the Agricultural Clearing Committee of the state of Colorado request the Thirty-first General Assembly, now in session, to memorialize the President, the Congress, and each Congressional member from Colorado according to the proposed memorial.

Be it further resolved, that this committee of itself, do all in its power to secure through Congress such aid as may be possible in this emergency.

W. E. Riter, Chairman
W. S. Long
A. A. McCutchen
W. R. Murphy
Sam C. McCampbell
R. G. Richmond
T. P. Detamore
REPORT OF POISONOUS AND NOXIOUS WEED CONTROL COMMITTEE

The poisonous and injurious weeds in order of their importance on:

- **National forests** — larkspur, sneeze weed, and loco
- **Public domain** — loco, larkspur, death camas, whorled milkweed, pingue weed, burdock and cocklebur
- **State lands** — loco, larkspur, cactus, burdock and cocklebur
- **Private lands** — loco, larkspur, whorled milkweed, death camas, pingue weed, burdock and cocklebur

Control or lessening of losses can be accomplished by the following methods:

1. **Chemical eradication** — This method, on account of its excessive cost, is limited to small, dense areas or new infestations.

2. **Grubbing or other cultural means** — Most poisonous or injurious weeds are most effectively and economically controlled by this method except where soil is rocky or too dry for a thorough job. Cactus may be raised effectively.

3. **Fencing** — Problem areas may be fenced off for exclusion or seasonal use.

4. **Pasture and range management** — Much overgrazing or improper seasonal use is resulting in weakened forage plants furnishing less competition to poison and undesirable plants. Proper management, on the other hand, gives desirable forage a chance to compete more favorably with weeds. We recommend proper stocking, seasonal grazing to avoid poisonous plants and use by a class of stock unaffected by poison.

We feel it is practical to organize range users to fight poisonous and injurious plants on ranges, highways, stock drives and problem areas. Soil conservation districts when formed and livestock association organizations can assist.

The various agencies listed below have done and can continue to do the following:

- **Forest Service** — Prevent overgrazing, enforce seasonal use of range and grazing of stock most suitable, grubbing and fencing with federal funds and with organized permittees. The Forest Service can assist organized range users to fight injurious or poisonous weeds on national forest land by furnishing equipment and matching funds of local permittees.

- **Division of Grazing** — Limited stock, grubbing burdock, milkweed and other weeds with federal and grazing fee funds. The Division of Grazing should use as much as feasible of the 25 percent of grazing receipts that are to be used for range improvement in controlling poisonous and noxious weeds.

- **State Land Board** — The State Land Board has unsuccessfully permitted rents to go for weed control. We recommend withdrawal of state lands from leasing in critical cases where it is possible to protect from use or at least from summer use. The State Land Board should establish a sound, long-time grazing policy, even if new laws are required.
Noxious Weeds

The list of the most important farmland weed pests in order of their importance are:

Field bindweed
Whiteweed
Poverty weeds
Russian knapweed
Canada thistle

The agencies of weed spread in order of their importance are as follows:
1. Woody crop seed
2. Weedy hay, straw, feed and manure
3. Seed in irrigation or drainage water
4. Machinery and cultivation
5. Roadside infestations

We feel that weeds can be controlled. Educational and organization programs should be instituted, emphasizing first, good farming methods and the stimulation of more concern about weeds; second, the importance of clean, weed-free seed; third, the importance of destroying seed production wherever found; fourth, the importance of eliminating small areas while they are small; and fifth, general education giving the best methods of control and assistance in organizing cooperative action.

We feel that the present state law providing for the establishment of weed pest districts upon petition of a majority of resident land owners is adequate to take care of compulsory weed eradication. We do, however, recommend that the seed laboratory be adequately financed to provide free seed testing for farmers, thereby assisting in enforcing the seed law and that all spreading perennial weeds be named as noxious weeds.

We recommend that legislation be enacted requiring highway agencies to control injurious, poisonous or noxious weeds on highways where control measures are being conducted on adjoining or adjacent lands. We also urge the passing of a grazing district enabling act.

We also recommend that screenings be finely ground or destroyed, in accordance with the present laws relating to such.

R. H. Tucker, Chairman
L. H. Douglas
Chas. F. Moore
W. R. Murphy
B. J. Thornton
Wm. Allred
The committee on Water Storage and Water Conservation presents the following as a progress report, to be expanded in later reports after there has been further opportunity to study the many aspects of the subject and prepare more specific recommendations.

The surface water supplies of the state amount to about 17 1/2 million acre feet annually, of which about 4 2/3 million acre feet are consumed, leaving about 12 1/3 million acre feet which flow out of the state. Of the total production more than 12 million acre feet, or 70 percent, is found in the streams of the Colorado River Basin, the remainder being divided between the South Platte, Rio Grande, Arkansas, North Platte and Republican Basins in the order named. The principal factors which limit the ultimate development of these waters are: (1) the rights of other states to the water which originates in Colorado and (2) the topography of the state. The bulk of the unused water is found on the western slope whereas the larger areas of arable land are on the eastern slope.

The area of irrigated land in Colorado, which in 1930 amounted to about 3,400,000 acres, had increased but little in the 20 years previous. A principal factor in this slowing down of development was that in early years development had been generally inexpensive, much of it by means of gravity ditches to divert direct flow, and within the means of individuals and small corporate groups. The development of supplemental supplies by means of storage or trans-basin diversion was far more costly, and difficult or impossible to finance except by means of governmental agencies.

Leaving aside the question of developing any considerable areas of new land, the immediate problems are concerned with the necessity for furnishing supplemental water for land now irrigated. Except in unusually wet years, shortages in the water supply are common in nearly all parts of the state. Accurate estimates of crop losses due to this situation are not available for most districts, but such losses are without question very large. In the irrigated districts of the Platte Valley which would use water from the Colorado-Big Thompson transmountain diversion, estimates show that actual losses in crop production values, due primarily to shortage in irrigation supply, amounted to approximately 40 million dollars over the ten-year period 1925-1934.

The problems and requirements for supplemental water vary for the several river basins of the state. In the Colorado River basin generally, the outstanding need is for additional storage facilities in order to better regulate the supply so as to meet seasonal demands for crop production. Additional storage has long been needed in the Rio Grande basin. In the Platte and Arkansas valleys storage facilities generally have outrun the supply, hence the question is resolved into one of obtaining new water, obtainable by transmountain diversion. The Arkansas, however, has a considerable amount of flood water which is recoverable, particularly from the Purgatoire River.

A particular problem is presented in the case of land owners on projects where reservoir dams have been destroyed by flood, due to poor construction. The failure of the Apishapa and Castlewood dams are cases in point.
Attention is called to the great amount of investigational work for specific projects now under way. In addition to the plans for the Colorado-Big Thompson Transmountain Diversion and the Caddoa Dam which are substantially complete, and the Pine River reservoir which is ready for starting work, the following are in process of investigation:

2. Blue River Transmountain Diversion.
3. Reservoir and water supply projects for Public Irrigation Districts under the 1935 Conservancy Law.
4. Survey by the National Resources Committee and cooperating states of the Rio Grande Basin.
5. Survey by the U.S. Army Engineers of flood control reservoir sites in the Republican and Smoky Hills drainage basin.

Except where otherwise noted the above are in charge of the Bureau of Reclamation. A number of reservoir sites have also been surveyed by the State Engineer.

In order to round out this program, it is considered most important that a survey be undertaken to determine the feasibility of transmountain diversion from the Gunnison to the Arkansas. No irrigated district is in greater need of a more dependable water supply. The Caddoa Reservoir, if constructed, by supplying about 130,000 acre feet of water for irrigation would take care of only part of the need.

An activity of growing importance in water conservation is the construction of small dams primarily for stock water. Possibly 900 such dams have been built by the Soil Conservation Service under a five-year contract for maintenance by the land owner. Others have been built by the Resettlement Administration on land utilization projects. Assistance for work of this type is available also by means of rehabilitation loans or benefit payments under the Soil Conservation Allotment Act. Doubtless much more may be done within the next few years along the same line. It is the opinion of the committee that irrespective of the benefits expected, a legal problem may become embarrassing if junior water appropriators lower down on the watercourses who are entirely dependent upon flood water find their supplies cut off by reason of these upstream structures.

In recent drought years there has been a greatly increased interest in the possibilities of utilizing ground water by pumping. A large number of pumping units in the main stream valleys have resulted in the lowering of the water table and reduction of the return flow from irrigation. In the dry land sections there are undoubtedly areas where ground water can profitably be utilized for irrigating home gardens and supplying water for forage crops at critical periods during the growing season. Such development should however be carried on only with full knowledge of the underlying geological conditions and scientific estimates of the total amount of recoverable water in a given area. Some state agency should be authorized to cooperate with the Ground Water Branch of the U.S. G. S. Water Resources Division and provided with funds to carry on needed investigations. The field work which has been carried on by the State Planning Commission in the Republican River basin recently is a beginning in this direction. The basic water law of the state is weak in relation to the subject
of ground water and should have clearer definition. In the matter of providing
wells for stock water, present benefit payments appear to be too small to encourage
drilling, these being at the rate of $1.00 per foot compared to an estimated
cost of $2.50 per foot for wells of 100 feet or more in depth.

Suggested Legislation

1. Attention is called to a bill authorizing the formation of a conservancy
district in the Platte Valley under which not only irrigated land but other
interested indirectly benefitted by the Colorado-Big Thompson transmountain
diversion bear part of the cost. The text of this bill has not been completed
and is not yet available. It has been or will be introduced by title and is
considered to be important in order to set up a financial plan whereby the
project can meet the requirements of the Reclamation Law.

2. The present state law relating to the construction of small dams seems
rather inconsistent and inflexible in the provision that a dam not over ten feet
in height or designed to impound not over 1000 acre feet of water may be built
without submitting a detailed survey and construction plan with the state engi-
neer. In moderately rough topography a ten foot dam will impound frequently a
very few acre feet. The item of expense for an engineer's survey and inspection
fees during construction would be prohibitive for small farm ponds which it
may be desirable to construct for water conservation. It is believed that the
law could be amended so as to cut the cost and still have the dam recorded with
the state engineer and subjected to his scrutiny as to safe construction. Be-
fore making a more specific recommendation the matter should of course be dis-
cussed with the state engineer.

3. A matter of water conservation related largely to flood control has
been suggested which the committee has not yet been able to consider and which
is passed on to the legislative committee. This refers to the right of towns
and cities to acquire land needed for watershed protection by condemnation
proceedings.

Research and Surveys

Recognizing the need for more information along many lines, the committee wishes
to emphasize the following:

1. The urgent need for additional rainfall and stream gaging stations.
Many projects proposed at this time are questioned because records of stream
flow, etc. are not available. There may be some additional snow survey stations
required, the need for which will be demonstrated after experience with those
recently established.

2. Continuing research is needed to determine the effect of water storage
upstream in small units upon normal and flood flows in the larger stream channels,
and their effect upon silting. With this there should be further study of storm
patterns and rainfall intensities in various areas.

3. Research which is under way in watershed management should be continued
in order to establish the relationships between various types of cover and
maximum yield of water at both high and intermediate altitudes.
4. Thoroughgoing economic surveys should be made in connection with engineering plans for the large projects of irrigation development. The recent survey in the middle and lower Platte Valley demonstrates the value of such a survey in connection with the proposed Colorado-Big Thompson Diversion. A similar study is particularly needed for the Arkansas valley at this time.

5. In addition to the above, reference is made to survey projects discussed earlier herein, such as ground water investigations and transmountain diversion to the Arkansas.

Dr. Chas. A. Lory, Chairman
John Stoker
Fred R. Johnson
C. B. Noxson
R. L. Parshall
C. A. Connoughton
J. R. Barkley
J. J. McCrary
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MEMBERSHIP ROSTER

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