



BASINS
REPUBLICAN . . . BLUE
MINOR MISSOURI
BELOW MOUTH OF THE PLATTE

NEBRASKA
STATE PLANNING BOARD

SEPTEMBER
1 9 3 6

SURFACE WATER

The precipitation over the basin is reflected in varying degrees in the streamflows of the Republican River system, therefore the water supply in the basin fluctuates with the precipitation over the territory. Most of the water from the sand hill area, or the northwest portion of the basin, reaches the streams through an underground route which tends to stabilize the tributary stream flows. Only a small portion of the precipitation occurring on the tributaries of the plains region, or the southeast portion of the basin, migrates to the substratum, resulting in erratic runoff and less dependable streamflows. During periods of extreme drouth, many of the tributaries and the Republican river proper become dry, causing a recession of the water table.

The recorded extreme variation of river discharge at Hardy, ranged from 0 second-feet August 0-19, 1934 inclusive, to 225,000 second-feet on June 2, 1935. The average runoff for the 24-year-period 1897-1914, 1930-1935 inclusive, is 658 second-feet. Approximately 56 per cent of the runoff occurs during the period from May to September inclusive.

streams draining the northwest portion of the basin, especially on the North Fork of the Republican River and Frenchman Creek, the flow is relatively uniform, resulting in a satisfactory supply of water for growing crops. However, most of the dependable streams are over appropriated to the extent that many junior rights are deprived of water during periods of drouth.

G. Pollution.

1. The development, improvement and expansion of municipal sewage collection and disposal plants be encouraged.
2. The discharging of untreated sewage into streams be restricted.
3. Supplemental water supply for use in maintaining an adequate low level flow during the season of minimum precipitation be provided by means of supplemental storage reservoirs to be built in connection with and to be filled from flood control reservoirs where ever possible.

II. Groundwater

A. Conservation:

1. The development of conservational practices which will assist in replenishing the ground water supply be encouraged and aided by means of the circulation of informational articles and by means of demonstrational projects

B. Drainage:

1. Drainage developments be restricted to the minimum required to handle the secondary problems connected with irrigation improvements and control of flood waters.
2. Laws be enacted which will curtail the drainage of natural lakes and ponds.

III. Land Use.

A. Cropping Practices:

1. Adoption of cropping practices designed to reduce the rate and amount of precipitation runoff be encouraged by

means of demonstrational projects and the extension of technical aid to the land owners.

B. Erosion Control:

1. Measures designed to reduce the amount of erosional losses be encouraged by the use of demonstrational projects and the extension of technical aid to the landowners.

IV. Planning.

- A. Provisions be made for the continuation of a comprehensive study of all phases of surface water control and utilization problems.
- B. Provision be made for a comprehensive and detailed study of groundwater conservation and utilization problems.