

BENEFITS OF FORECASTING DATA OF LOW SNOW TO WATER USERS OF THE CARSON RIVER

By

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Before stating the benefits of low snow forecasting, I might explain some of the conditions in Nevada, particularly Carson Valley.

We depend entirely upon irrigation from snow runoff and springs. Our rainfall in the summer is less than an inch consisting mostly of light thunder showers. We also have a short growing season, late spring frosts and early fall freezing weather. Late frosts in June and frosts again in September are not uncommon. We do have fertile soil and ideal growing weather during the summer. The elevation of the Valley is 4700 feet, an advantageous area for cattle raising and growing alfalfa for winter feeding. Therefore, you can see the importance of making the most out of our growing season.

Our entire planting season plans are regulated by the flow of water predicted for the growing season. We plant grain when the forecast shows water sufficient to mature the crop. Oats is seeded for a hay crop when we are not certain whether we can mature the crop or not. We seed early in March, taking a chance on the frost if the forecast shows a real low supply of water after June 1st, otherwise our regular planting time is in April or early May.

We rotate our grain mostly with alfalfa, keeping our hay stands as many years as possible. We never seed alfalfa unless we are certain of ample water for the entire growing season. The same procedure is true in seeding pasture lands.

Water rights are governed by priority, the earliest being about 1857 and the latest around 1915. Rights from 1900 upward are known as flood water rights, which means, when the river flow reaches a low of 200 second feet, these late rights are without water.

Here is where the accuracy of forecasting about when the river reaches this 200 foot stage is of utmost importance to the late right water users.

These engineers of the Soil Conservation Service and others are doing a remarkable job of accuracy. I believe their average error in predictions since 1954 are about 4 to 8 days. It is necessary for them to measure water content of the snow pack, the density of solidity of the pack, the moisture of the soil beneath as well as the depth of the snow and then come up with an accurate forecast and early enough in the season for us to plan our planting accordingly and how to best utilize the limited water supply anticipated.

Some flood water during normal years that are not used in the Valley are stored in a reservoir project on the lower Carson River. There is also an urgent need for upstream storage, as some winters bring a spring runoff of flood proportion, which could relieve or offset the drought years. Such a government project is now being started with a dam on the Truckee River, which runs into the same basin as the Carson River. Plans are now completed for storage on the upper Carson River also. Work is scheduled to begin on this project within 5 years, which will control flood waters, provide storage and develop power.

A privately owned group of reservoirs in the high Sierras has been in operation by farmers and ranchers for many years and are opened for the benefit of shareholders when the need demands, and a certain amount of acre feet per share is distributed at the option of the shareholder, the amount distributed being in accordance with the capacity of the reservoirs.

Most farmers and ranchers have practiced some conservation practices during the last few years. But it is becoming more important as water is distributed more carefully that practices such as land leveling, proper ditches, headgates and reuse of the waste water can save many acre feet of water, and when this project is completed and the user will be paying high for his water, he will use every conservation practice possible.

I hope I have given you an idea of the importance of low snow forecasting from the rancher's viewpoint and Mr. Barton, I am sure will add much in the way of statistics regarding these forecasts, and in conclusion, I would like to commend our Soil Conservation Service and others in their work of conservation, development and management of soil, water and plan resources in Nevada.

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