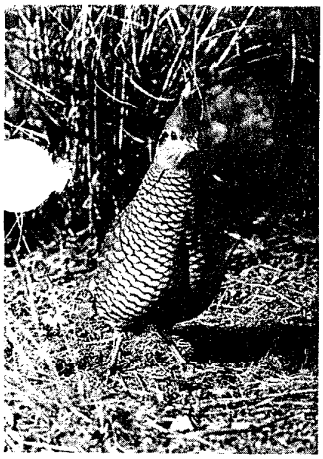

Photo by New Mexico Department of Game and Fish

Photo by New Mexico Department of Game and Fish

U. S. DEPARTMENT OF AGRICULTURE NEW MEXICO SOIL CONSERVATION SERVICE

BIOLOGY NOTE NO. 24

January 1979

SUBJECT: Volume of Flow in Small Streams

A satisfactory determination of stream flow can be made using EMBODY'S FORMULA [1/]:

$$r = \frac{wdal}{t}$$

where:

r = rate of flow in cubic feet per second.

w = average width of the stream section tested, expressed in feet and tenths.

d = average of water depths measured at uniform intervals across the channel; obtained by dividing the sum of the depths by the number of intervals, plus one. Expressed in feet and tenths.

a = a constant; use 0.8 for rough bottom of rocks and coarse gravel, and 0.9 for smooth bottom of mud, sand, hardpan or bedrock.

l = the length, in feet, of the straight, uniform stream section tested. Lengths between ten and fifty feet are suitable.

t = the average time, in seconds, for a weighted float to travel through section l. At least three measurements should be taken in midstream flow. An almost submerged can or bottle makes a suitable float.

1/ from Welch, "Limnological Methods", 1948

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Samples

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