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The Effects Of Limestone On The Productivity Of Aquatic Invertebrates

Limestone has been used extensively around the world to improve aquatic environments. This project studied the effects of limestone on the productivity of aquatic invertebrates found in the Rio Grande watershed. Invertebrates of this watershed have never been exposed to limestone. This study compared growth rates of aquatic invertebrates in granite and limestone environments. Aquatic invertebrates were collected from Road Canyon Reservoir, located 20 miles west of Creede, Colorado near the headwaters of the Rio Grande watershed. The aquatic invertebrates were divided into 9 populations; 3 controls, 3 granite, and 3 limestone. The controls were frozen for later comparison. The remaining invertebrates were then separated from the gravel substrate of each tank using soil sieves. Invertebrates were then oven dried and weighed to determine growth. The Aquatic invertebrates in the three granite tanks averaged 18.7% growth. Aquatic invertebrates in the three limestone tanks averaged 52.0% growth. Limestone raised invertebrates had 2.78 times more growth than the granite raised invertebrates. Aquatic invertebrates from the Rio Grande watershed not only survived, but actually flourished in a limestone environment. In Colorado, limestone boulders and gravel could be used for stream improvement projects. Limestone could play a significant role by buffering watersheds damaged by active and abandoned mines. Limestone sand could also replace granite sand on heavily sanded highways where runoff of granite sand into watersheds is currently a serious problem.