Composition and structure of macrophyte vegetation of the Firehole River, Yellowstone National Park as related to physical and chemical factors
by Sheila May Rasmussen

A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE in Botany
Montana State University

Abstract:
A study was made during the summer of 1967 to measure come physical and chemical properties influencing floral distribution in the Fire hole River, Yellowstone National Park, Wyoming. This streams flows through the Upper, Midway and Lower Geyser Basinc.

Twelve transects were run across each of 10 stations along the Pire-hole River and 2 along major tributaries, Iron Creek and Nez Perce Creek. Chemical and physical factors were measured at points where vegetation was found.

Current speed and bottom type appeared responsible for the occurrence vegetation, but not for the diversity of flora in the river. Although the species were shown to occur along a continuum, two floral communities were easily distinguished on a physiognomic basis. One of these groups occurred above the. geyser basins and the other within and below them. Physical conditions did not vary in such a manner as to be responsible for this division of species. An interaction between total alkalinity and temperature showed a distinct correlation with measurements of the two communities.

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