

DOLLAR VALUES OF TWO PRAIRIE POTHOLEES

A Thesis
Submitted to the Graduate Faculty
of the
North Dakota State University
of Agriculture and Applied Science

By

BRETT HOVDE

In Partial Fulfillment of the Requirements
for the Degree of
MASTER OF SCIENCE

Major Department:
Agricultural Economics

December 1993

Fargo, North Dakota

ABSTRACT

Hovde, Brett, M.S., Department of Agricultural Economics, College of Agriculture, North Dakota State University, December 1993. Dollar Values of Two Prairie Potholes. Major Professor: Dr. Jay A. Leitch.

Dollar values were estimated for one seasonal wetland and one semipermanent wetland located in North Dakota. Attributes of wetlands lead to functions, functions to outputs, and outputs to economic values, based on site-specific considerations. Assessing the values of these wetlands' outputs required careful consideration of the ecological values and the societal values. Each wetland's total value was estimated by aggregating the values of its compatible outputs. Values found for specific outputs and total values varied between the two study wetlands. The Nome wetland's estimated annual value to society is \$16 per acre or \$282 per acre when capitalized for 30 years at four percent. The Buchanan wetland's estimated annual value to society is \$12 per acre or \$261 per acre when capitalized for 60 years at four percent. The owner of the Nome wetland could expect to receive \$12 (\$4 per acre) annually from the Nome wetland. The annual owner value of the Buchanan wetland is \$77 (\$5 per acre). The dearth of applicable physical-biological science information necessitated many assumptions, which represent areas of needed research.