Area Fisheries Office, 1201 East Highway 2, Grand Rapids, MN 55744
(218) 999-7821

May 5, 2006
Don Dewey
Itasca County Planning Commission
123 NE $4^{\text {th }}$ Street
Grand Rapids, MN 55744
Re: Deer Lake - Living Word Bible Camp
Dear Commissioners:
Staff from the Division of Fish and Wildlife have reviewed the proposed Conditional Use Permit Application for the Living Word Bible Camp and would like to make the following comments. The area in question provides unique and valuable fish and wildlife habitat. The area is used by a variety of species, such as; loons, bald eagle, waterfow, heron, otters and other furbearers, walleye, smallmouth bass, muskie, and other fish species. Our comments focus on the potential impacts to these resources from the proposed development and consider impacts if the area were developed as residential units. Any type of development will have a negative impact on these resources, however, the proposed development is likely to have a much greater negative impact than single family homes and we recommend this Conditional Use Permit should be denied.

The lake is generally shailow in this area with several islands designated as Wildlife Management Areas located within the bay. The shoal water soils vary from rubble and sand to marl. Rubble provides spawning habitat for a variety of fish. The marl substrate is an important substrate for different vegetation, notably chara, which is important spawning habitat for muskellunge.

The principal fisheries habitat value of this area is as a muskie spawning area. Deer Lake presently has an excellent muskie population sustained exclusively by natural reproduction. In our most recent spring assessment netting done in 2003, 30\% of the muskies sampled on the lake came from the nets set in this area. Muskies spawn in the early spring and require specific habitat for successful spawning.

In addition to the muskie spawning habitat this area also provides spawning habitat for a number of other species, including smallmouth bass and walleye. A number of non-game fish species also rely on the type of habitat found here for several life history stages. The applicant has stated that their activities would be during a time period after the spring spawning season. Disturbance of the habitat at any time of the year could potentially affect the suitability for spawning the following spring.

The marl substrate is particularly sensitive to disturbance. Mart, by definition, is precipitated calcium carbonate, and is very fine and easily displaced. Chara is a green algae and does not have a defined root system. Disturbance or destruction of this habitat could be detrimental to the overall health and sustainability of muskies in Deer Lake. Furthermore, recent research has shown that many species of fish are negatively affected by the loss of both riparian and aquatic vegetation.

Clustering the buildings and leaving a large portion of the tract undeveloped as proposed certainly has a definite advantage over standard lot and block residential development. With a standard development there would be considerable more forest disturbance and impervious surface. The amount of impervious surface and associated runoff could be managed through a stormwater plan that would avoid and minimize impacts to water quality. Standard residential development there would be more forest fragmentation, to the detriment of many wildife species. This is somewhat dependent on the degree of modifications necessary to develop the hiking trails and the influence of human disturbances caused by use of the trails.

Thank you for the opportunity to provide these comments relative to the fisheries and wildlife habitat value of this area. The proposed project would have an intensity of use that could not be supported on this site and should be denied. Please feel free to contact me if you have any questions.

Sincerely,

Christopher M. Kavanaugh
Area Fisheries Supervisor
c. Ronald Hunt

Holly Newton

