Phase 5 - 2010 Wild Rice Enumeration Study

Clam Lake Protection and Rehabilitation District Lake Management Planning Project

Siren, WI

DNR No. SPL-235-10
SEH No. CLAML 106825

February 10, 2011

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RE: Clam Lake Protection and Rehabilitation District Lake Management Planning Project
Phase 5 - 2010 Wild Rice Enumeration Study
Siren, WI
DNR Project No. SPL-235-10
SEH No. CLAML 106825

Mr. Tom Stoffel
Clam Lakes Protection and Rehabilitation District
398 Queenan Avenue South
Lakeland, MN 55043

Dear Tom:

Please consider this report a final document for the Wild Rice Enumeration Project that was funded by a 2010 small-scale lake management planning grant awarded last year. With this document you should be able to close out this project and seek final reimbursement from the WDNR.

Sincerely,

Lake Scientist

DLB
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Phase 5 - 2010 Wild Rice Enumeration Study

Clam Lake Protection and Rehabilitation District Lake Management Planning Project
Siren, WI

Prepared for:
Clam Lakes Protection and Rehabilitation District
Siren, WI

Prepared by:
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February 2, 2010
Date

Lake Scientist

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Prepared for Clam Lakes Protection and Rehabilitation District

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1.0 Introduction

Up until a few years ago Wild rice in the Clam Lakes system was considered to be one of the highest producing and best wild rice stands in northern Wisconsin. More than three hundred acres of wild rice was present just a few years ago. Since 2007, the rice beds saw significant decline leading to essentially no wild rice in 2009.

Sediment sampling was completed in 2009 to determine an estimate of the number of curly-leaf pondweed turions that were present in the sediment. Total turion density which was much less than predicted allowed additional sediment sampling to occur to look for the presence of wild rice seed. Sediment sampling and several 30-cm sediment cores were taken from the south end of Upper Clam Lake, the results of which were compared to similar sediment and core sampling done in Long Lake on the same day. Long Lake is just south and west of Upper Clam Lake and connected to it by a free-flowing stream. Wild rice production in Long Lake was exceptional in 2009. The results of this sediment sampling and subsequent enumeration of wild rice seed were startling and disturbing. Absolutely no wild rice seed was found in any sediment sample or sediment core taken from Upper Clam Lake. Abundant seed was found in the Long Lake samples.

Wild rice growth and production is often cyclical in nature, but seldom does the population crash so rapidly and so completely in only a couple of years unless some conditions in the body of water have changed drastically. Furthermore, even when rice does crash, there is usually enough seed remaining in the sediment to provide new growth in the following year, and often for years to come. There is not a lot of information available to determine how much wild rice seed is or should be present in the sediment beneath long standing rice beds. However, anecdotal evidence from DNR fish managers and Great Lakes Indian Fish and Wildlife Commission wild rice biologists believe that viable seed should remain and may actually last up to 20 or more years. The fact that this impromptu survey failed to identify any seed seemed unusual.

Adding to the disturbing nature of this finding was the fact that conditions on the Clam Lakes have rapidly deteriorated in the last three years or so. General aquatic vegetation growth is down considerably from previous years, the carp population appears to be exploding, and the water quality is worsening. The exploding carp population is supported by 2009 Carp survey work completed by the WDNR and Tribal Resources. A huge 4-yr age class of carp (43% of all carp captured and aged in the spring of 2009) was identified in the system. Point-intercept aquatic plant surveying completed as a part of the existing Lake Management Planning grant

showed a system dominated by only a couple of coarse, less palatable (to carp)plant species. According to the 2009 Plant Survey Report, total lake plant biomass was extremely low, and almost no intact, submergent plants were found.

A meeting to discuss 2009 findings on the Clam Lakes and what to do in 2010 was held on January 19, 2010 at the Tribal Resources Office in Hertel, WI. The local WDNR Fish Manager, Tribal Natural Resources Biologists, GLIFWC Biologists, Clam Lakes Protection and Rehabilitation District representatives, SEH, and others were in attendance. Additional carp study was completed in 2010 by both the WDNR and Tribal Resources. Tribal Resources also completed a more comprehensive wild rice survey of the system in 2010. A system of carp exclusion cages were set up by tribal and DNR resources in Upper Clam Lake in an attempt to determine what impact the carp may be having in the system. Several of the cages were seeded with rice.

It was also determined that an expanded wild rice seed enumeration study should be completed in 2010 to cover more location in the two Clam Lakes, and to document wild rice seed present in other bodies of water with substantial rice beds for comparison purposes. SEH prepared a small-scale lake management grant application on behalf of the Clam Lakes Lake District in the spring of 2010. This report is the final summary of that project which was awarded and completed.

2.0 Completion of Tasks & Project Deliverables

SEH and our sub-contractor Freshwater Scientific Services (FSS) LLC completed the 2010 wild rice seed enumeration. A final Enumeration Report prepared by FSS is included with this document, and has been distributed to the WDNR, St. Croix Tribal Natural Resources Department, Burnett County, and others. All results, raw data, maps of sample sites, and reports are included on a data CD that accompanies this document.

3.0 Reimbursement of Small-scale Grant Project #SPL-235-10

This report should be considered a final summary for this small-scale lake management project and should be adequate in order to allow the completion of the reimbursement process once the Clam Lakes Protection and Rehabilitation District begins it.

Appendix A

Wild Rice Seed Enumeration Report: 2009-2010