GENPASS

Results Summary Sheet
GenPass, LLC

Samples Sent From: Waterville Lake District
Samples Received on: 8/1/2017
Received By: Syndell Parks

Send Results to:
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Book: Milfoil Book 11
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Sample Summary:

Lake Name	Location	Lat/Lon	WBIC	Putative ID	Sample ID Code	Well Position
Waterville	SE near island	43.020618/ -88.429734		HWM	WI449-001	3G
Waterville	Near sensitive area north end	43.024351/ -88.433271		HWM	WI449-002	3H
Waterville	SE near shore	43.022242/ -88.428402		HWM	WI449-003	4A
Waterville	Near Inlet	43.019755/ -88.42823		HWM	WI449-004	1C
Waterville	SW Bay	43.022507/ -88.435428		HWM	WI449-005	1D

Plate Diagram:

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
A	x	x	Extraction (-) Control	WI449-003	Restriction (-) Control							
B	x	x	x	Extraction (-) Control								
C	WI449-004	x	x	PCR (-) Control								
D	WI449-05	x	x	x								
E	x	x	x	EWM (+) Control								
F	x	x	x	M.q. (+) Control								
G	x	x	WI449-001	HWM (+) Control								
H	Extraction (-) Control	x	WI449-002	NWM (+) Control								

*(-) Control: Well run with water to ensure no contamination of samples during processing, (+) Control: Samples with know/verified ID to ensure process is working as desired.

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Results Summary:

Lake Name	Sample ID Code	Analysis Type	Identification Result	Comments
Waterville	WI449-001	ITS RA	Hybrid Watermilfoil (*Myriophyllum spicatum* x *M. sibiricum*)	NA
Waterville	WI449-002	ITS RA	Hybrid Watermilfoil (*Myriophyllum spicatum* x *M. sibiricum*)	NA
Waterville	WI449-003	ITS RA	Hybrid Watermilfoil (*Myriophyllum spicatum* x *M. sibiricum*)	NA
Waterville	WI449-004	ITS RA	Hybrid Watermilfoil (*Myriophyllum spicatum* x *M. sibiricum*)	NA
Waterville	WI449-005	ITS RA	Hybrid Watermilfoil (*Myriophyllum spicatum* x *M. sibiricum*)	NA

*ITS RA: ITS gene Rapid Assay; **SS-ITS: Straight Sequencing of the ITS gene; **SS-trnLF- Straight sequencing of the trnLF gene

Additional Notes: NA

*DNA extractions were performed using the Qiagen DNeasy Plant mini kit and associated protocol (CAT# 69106). Samples processed were identified using an Internal Transcribed Spacer (ITS) rapid assay.

For more information on the downstream analysis, see:

Thum R.A., Lennon, J.T., Connor, J., Smagula, A.P. 2006. A DNA fingerprinting approach for distinguishing native and non-native milfoils. Lake and Reservoir Management. 22(1):1-6.

Sturtevant, A.P., Hatley, N., Pullman, G.D., Sheick, R., Shorez, D., Bordine, A., Mausolf, R., Lewis, A., Sutter, R., Mortimer, A. 2009. Molecular characterization of Eurasian watermilfoil, northern watermilfoil, and the invasive interspecific hybrid in Michigan lakes. Journal of Aquatic Plant Management. 47:128-135.

Grafe, S.F., Boutin, C., Pick, F.R., Bull, R.D. 2015. A PCR-RFLP method to detect hybridization between the invasive Eurasian watermilfoil (Mryiophllum spicatum) and the native northern watermilfoil (Myriophyllum sibiricum), and its application in Ontario lakes. Botany. 93:117-121.

** DNA extractions were performed using the Qiagen DNeasy Plant mini kit and associated protocol (CAT# 69106). Samples processed were identified by analysis of either the Internal Transcribed Spacer (ITS) gene or the trnLF gene.

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For more information on the downstream analysis, see:

Moody, M. L., Les, D. H. (2002). Evidence of hybridity in invasive watermilfoil (Myriophyllum) populations. Proceedings of the National Academy of Sciences of the United States of America, 99(23), 14867–71. http://doi.org/10.1073/pnas.172391499

Moody, M. L., & Les, D. H. (2007). Geographic distribution and genotypic composition of invasive hybrid watermilfoil (Myriophyllum spicatum x M. sibiricum) populations in North America. Biological Invasions, 9(5), 559–570. http://doi.org/10.1007/s10530-006-9058-9

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