

Narrow-leaved Gentian Survey - Eagle Mine and Regional Area

2011 Update

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1. INTRODUCTION

Several Narrow-leaved Gentian (NLG) (*Gentiana linearis*) plants were found along the Salmon Trout River in the vicinity of the Eagle Project during the T & E baseline investigation in 2004 (WCR, 2005). The purpose of the original study in 2005 (Meier, 2005) was to determine the approximate distribution and populations of NLG in the general project area and adjacent areas of northern Marquette County and northeastern Baraga County. NLG is listed as a “facultative wetland” species in the State of Michigan, meaning that it can be found in very wet conditions along streams and also in dryer conditions on the upper fringe of wetlands. The Michigan Natural Features Inventory (MNFI) considers the NLG a species of “threatened” status in Michigan.

The investigation and this report are intended to document where NLG were observed during the peak 2011 NLG flowering period (late August) and is to be a general assessment of the numbers of plants found in each location. This was not an exhaustive investigation and the lack of a sighting in any particular area is not intended to infer that NLG do not exist in that area.

2. STUDY AREA

The study area included the fringe areas along the Yellow Dog River southeast of the Eagle Project site, the Main Branch Salmon Trout River, and several streams and wetlands to the west of the Eagle Project area to the Peshekee River (Figures 1, 2 and 3). Areas adjacent to the Triple A Road, West Branch Huron River Road, and the Peshekee Grade were investigated. Because of access issues, the area around Harvey Lake (Section 31, T47N-R25W) was not investigated in 2011. Harvey Lake was investigated in 2010 (Meier 2010) and is located on the Sands Plain south of the City of Marquette, approximately 30 miles south of the Eagle Project site.

3. RESULTS OF THE INVESTIGATION

Summer 2011 rainfall was less than normal. The flows in most area streams were less than normal. The 2011 survey was conducted on August 24.

Yellow Dog River

Flowering NLG were found in abundance (thousands) in all areas investigated along the Yellow Dog River. This included areas from 0.7 miles downstream to 0.6 miles upstream of the Trail 5 bridge on the north and south sides of the river (Figure 2). The area in Section 24, T50N-R29W where NLG were sited in previous years was not investigated this year. The number of NLG in all other areas were similar to the results of the 2010 survey.

Salmon Trout River

Results were similar to those of the 2010 survey. Flowering NLG were found in abundance (hundreds) along the Salmon Trout River in approximately the same areas where they were recorded by Wetland and Coastal Resources in 2004 (WCR, 2005), except that no NLG were

found in the upstream north-south reach of the river (SW ¼ of the NE ¼ of Section 11, T50N-R29W), apparently because of flooding by beaver dams (Figure 4). There was standing water at the locations where NLG had been observed in 2004.

Area to the West of the Eagle Project

The investigation continued west of the Eagle Project area along the Triple A Road to the West Branch Huron River Road and then to the Peshekee Grade. These roads traverse northwestern Marquette County and northeastern Baraga County and then return to Marquette County at the Peshekee Grade (Figure 3). Flowering NLG were observed at several stream crossings and at other wetland areas along the road rights-of-way. There were normally at least ten to one hundred flowering plants at each location. They were observed in small borrow pits near the roads in wet areas and also at the drier fringe areas. The number of flowering NLG plants was approximately the same as observed in 2010 and previous “good” years. Approximately sixty-five NLG were observed south of Lake Arfelin in Sections 21 and 22, T49N-R30W (Figure 3).

4. CONCLUSION

Results were generally similar to those of the 2010 survey. Flowering NLG proliferate in northern Marquette County and northeastern Baraga County. NLG were consistently found along and near streams in both wet organic soil and in dryer sand and gravel near wetlands again in the 2011 survey. NLG occur in the Eagle Project area as well as in other areas in the region away from the Eagle Project area.

5. REFERENCES

Meier, John G., 2005. Narrow-leaved Gentian. Eagle Project Mining Permit Application, Volume IIF, Environmental Impact Assessment, Appendix F-2.

Meier, John G., and North Jackson Company. 2006. Narrow-leaved Gentian Study – 2006 Update, Marquette and Baraga Counties, Michigan.

Meier, John G., 2010. Narrow-leaved Gentian Survey - Eagle Mine and Regional Area 2010 Update.

Wetland and Coastal Resources (WCR). 2005. Threatened and Endangered Species Assessment. Eagle Project Mining Permit Application, Volume IIF, Environmental Impact Assessment, Appendix F-1.