

DRAFT

October 20, 2011 – Draft Staff Recommendation

WATERS USED FOR THE PRODUCTION OF WILD RICE – PARTRIDGE AND EMBARRASS RIVERS

ISSUE:

Minnesota Rule 7050.0224 identifies a Class 4A water quality standard of 10 mg/L for sulfate, “...applicable to water used for production of wild rice during periods when the rice may be susceptible to damage by high sulfate levels”. In order to effectively apply the standard, it needs to be determined whether a particular water is a ‘water used for production of wild rice’. Because Minnesota Rule 7050 does not specifically identify all waters used for the production of wild rice, this determination needs to be made on a case-by-case basis for most waters.

OBJECTIVE:

This document focuses on the development of a draft MPCA staff recommendation that would identify the portions of the Partridge and Embarrass River systems potentially affected by current or proposed PolyMet and/or Mesabi Nugget activities that would be ‘waters used for the production of wild rice’ to which the Class 4A sulfate water quality standard would apply. This draft staff recommendation will specifically consider portions of the Partridge and Embarrass Rivers downstream of the PolyMet and Mesabi Nugget projects as well as potentially affected tributaries to the rivers (to include Wyman Creek, Second Creek, Spring Mine Creek, Trimble Creek, and an unnamed creek tributary to the Embarrass River) for which sufficient information is available to make a recommendation.

SUPPORTING INFORMATION:

- PolyMet ‘2009 Wild Rice and Sulfate Monitoring’ Report
 - Evaluated the ‘upper’ and ‘lower’ Partridge River, Embarrass River and Spring Mine Creek (among other waters).
 - ‘Patches’ of wild rice comprised of a few stems totaling less than 1% of the surveyed acreage were identified in several locations in the ‘upper’ Partridge River between Colvin Creek and Colby Lake. (Other portions of the ‘upper’ Partridge were not specifically surveyed because of unfavourable wild rice habitat (e.g., rocky rapids) or inaccessibility.)
 - Larger stands with a relative density factor of three to five (out of five) were identified in the ‘lower’ Partridge River both upstream and downstream of the County Road 110 bridge.
 - No wild rice was identified in Colby Lake.
 - A ‘few stems’ of wild rice were observed in isolated locations in the Embarrass River above Embarrass Lake.
 - Several small areas of wild rice with a relative density factor of one (out of five) were identified along the north, south and southwest shoreline of Embarrass Lake (a ‘flowage lake’ of the Embarrass River).
 - More extensive and denser stands of wild rice were identified in Cedar Island Lake, another ‘flowage lake’ of the Embarrass River located downstream of Embarrass Lake.
 - No wild rice was identified in surveyed portions of Spring Mine Creek.

- Mesabi Nugget '2009 Wild Rice Survey and Sulfate Monitoring'
 - Evaluated the 'lower' Partridge River (among other waters).
 - Identified several stands of moderate to relatively high density wild rice in the 'lower' Partridge River (below Colby Lake), both upstream and downstream of Second Creek.

- PolyMet '2010 Wild Rice and Water Quality Monitoring Report'
 - Evaluated the 'upper' and 'lower' Partridge River, Embarrass River, Spring Mine Creek, Trimble Creek, the 'unnamed' creek, Wyman Creek and Second Creek (among other waters).
 - Wild rice was identified in only one small stretch of the 'upper' Partridge River (approximately 3 miles above Colby Lake). Wild rice was not identified in other stretches of the 'upper' Partridge where it was observed in 2009. (The report offers that small stands such as these may be present in some years but not others and/or that the 2009 reports may have been misidentified as wild rice.)
 - Larger stands with a relative density factor of three to five (out of five) were identified in the 'lower' Partridge River both upstream and downstream of the County Road 110 bridge – this is consistent with what was reported in 2009.
 - No wild rice was identified in Colby Lake – this is consistent with what was reported in 2009.
 - No wild rice was identified in Wyman Creek from the headwaters to the SD012 discharge point.
 - No wild rice was identified in surveyed portions of Second Creek, although field staff offered that conditions appeared to be favourable to potentially support wild rice in portions of the downstream one half to one third of the stream.
 - Small patches of wild rice with less than 1% coverage were identified in a small number of locations of the Embarrass River above Wynne Lake. Notably, no wild rice was identified in the stretch of the Embarrass River adjacent to the former paddy wild rice farm. The 2010 observations were reported to be consistent with what was observed in 2009.
 - Several small areas of wild rice with a relative density factor of mostly one (out of five) were identified along mostly the north and southwest shoreline of Embarrass Lake (a 'flowage lake' of the Embarrass River). This is consistent with what was reported in 2009.
 - More extensive and denser stands of wild rice were identified in Cedar Island Lake, another 'flowage lake' of the Embarrass River located downstream of Embarrass Lake. This is consistent with what was reported in 2009.
 - No wild rice was observed in surveyed portions of Spring Mine Creek, Trimble Creek or the unnamed creek tributary to Embarrass River. Some portions of these streams were not surveyed because of access/safety concerns but were reported to generally have relatively unfavourable conditions for wild rice.

- Cliffs Erie 'SD012 Field Studies Results and Long Term Mitigation Plan (2011)
 - Results from a 2010 evaluation of Wyman Creek are presented.
 - No wild rice was observed in Wyman Creek from the SD012 (Pit 3) discharge point to the confluence with the Partridge River.

- PolyMet (Barr) Technical Memorandum ‘Additional Information Regarding ‘Unnamed Creek’ Northwest of Former LTV Tailings Basin’ (June 2011)
 - Evaluated for wild rice portions of the ‘unnamed’ creek that were not surveyed in the 2010 wild rice survey (due to accessibility and safety concerns) using true-color and infrared aerial photographs and the results of previous wetland, hydrology, botanical and aquatic surveys.
 - Included the results of annual vegetative surveys conducted at the LTV wetland mitigation site (former paddy wild rice farm) in 2001-2003. The complete species list did not identify any wild rice. (The former paddy wild rice farm is located adjacent to portions of the unnamed creek and the Embarrass River).
 - Barr concluded that based on the available data and professional judgment, there is no evidence of, or reason to believe there is, wild rice in the unnamed creek.
 - Surveyed for wild rice along the segment of the Embarrass River immediately adjacent to the former wild rice farm. No wild rice was identified in this segment.

- Barr Submittal (via Email) ‘Wild Rice in the Embarrass River – Additional Detail’ (Sept. 2011)
 - Submitted as a response to a specific MPCA staff request for, (a) additional detail on wild rice occurrences reported in previous PolyMet wild rice surveys conducted in the Embarrass River above Embarrass Lake, and (b) a direct comparison of the results of the 2009, 2010 and 2011 wild rice surveys conducted by PolyMet for the same river segment.
 - Information provided included, (a) a composite map superimposing reported wild rice occurrences from the 2009, 2010 and 2011 surveys, (b) a spreadsheet providing a comparison between the three surveys at eight reference points, including an estimate of the number of wild rice plants observed at each location, and (c) photographs taken during the three surveys at each of the reference points.
 - Some degree of wild rice was observed in all three survey years at three of the eight reference points, with the number of individual plants ranging from approximately five to approximately 75 at one location. Wild rice was not consistently observed at five of the eight reference points.

- MDNR 2008 Report to the Minnesota Legislature ‘Natural Wild Rice in Minnesota’
 - The report included an inventory, listed by county, of waters known to support wild rice with an estimate of wild rice coverage in acres for most waters listed.
 - The report specifically stated that it is a ‘work in progress’ and that ‘further edits and review are needed, especially for... the numerous river/stream segments that may have been missed in this inventory’.
 - The Embarrass River was listed in the inventory, but no specific location or estimate of coverage was provided.
 - The Partridge River, and none of the tributary streams to either the Partridge or Embarrass Rivers, is listed in the inventory.

- May 2010 Draft List of ‘350 Significant Wild Rice Waters in Minnesota’
 - Compiled by the Wild Rice Management Workgroup, a coalition of federal, state, and tribal resource managers and other wild rice stakeholders.
 - The preface to the list clearly states that the list is of the 350 most important wild rice waters in Minnesota based on harvest, ecological and/or cultural and historical values

and is not a complete list of wild rice waters, as well as stating that all waters supporting wild rice are important.

- The Partridge River in T58N, R14-15W is listed – this is in the ‘lower’ Partridge River downstream of Colby Lake.
 - The Embarrass River, and none of the tributary streams to either the Partridge or Embarrass Rivers, is listed.
- ‘Oral Information’ from Tribal Technical Staff
 - Several instances of oral communication by tribal technical staff in the context of comments on other staff recommendations or in the context of review of PolyMet EIS documents have suggested that, in general, portions of the Embarrass River have supported historic (pre-mining) harvesting of wild rice.
 - Specific reaches were not identified and written documentation of the oral information has not been submitted to MPCA staff.
 - River segments adjacent to the former paddy wild rice farm were ‘re-evaluated’ (see above) as a result of verbal comments received during the review of PolyMet EIS documents – no wild rice was identified.

SUMMARY

Per MPCA staff request, PolyMet and Mesabi Nugget have completed detailed field wild rice surveys of waters in the Partridge and Embarrass River watersheds potentially impacted by their projects. The field surveys have covered the majority of the river reaches downstream of the proposed projects as well as potentially affected tributary streams (with the exception of portions of these waters that were not safely accessible). The field surveys identified specific locations in these waters containing identifiable wild rice plants as well as presenting a relative estimate of stand density or quality. This information was reviewed by an internal team of MPCA staff which included water quality standard and water quality permitting technical and managerial staff and MDNR wild rice resource management representation. The review by this team considered the wild rice resources from the perspective of use of the grain as a food source by both wildlife and humans. The consensus reached by this group is reflected in the following draft MPCA staff recommendation.

DRAFT MPCA STAFF RECOMMENDATION

- Partridge River Watershed – Based on the information currently available MPCA staff have conservatively determined that the most-upstream portion of the Partridge River system considered to be a water used for production of wild rice is the ‘upper’ Partridge River from just downstream of its confluence with Colvin Creek to where it enters Colby Lake. Additionally, MPCA staff have determined that the ‘lower’ Partridge River between Colby Lake and the confluence with the St. Louis River is also considered a water used for production of wild rice. Colby Lake and the tributary streams Wyman Creek and Second Creek are determined not to be waters used for production of wild rice. This evaluation considered the portion of Partridge River system from a location downstream of Dunka Road to the river’s confluence with the St. Louis River.
- Embarrass River Watershed – Based on the information currently available MPCA staff have conservatively determined that the most-upstream portion of the Embarrass River system considered to be a water used for production of wild rice is Embarrass Lake, a flowage lake of the Embarrass River. Staff determined that the limited number of individual wild rice plants at

points in the Embarrass River upstream of Embarrass Lake is not sufficient to be used as a food source for wildlife or humans, and does not support a determination that those areas are a water used for the production of wild rice. Spring Mine Creek, Trimble Creek and the unnamed creek located near the former LTV tailings basin are determined not to be waters used for production of wild rice. This evaluation considered the portion of the Embarrass River system from the confluence with Spring Mine Creek, the most-upstream location potentially affected by mining discharges, downstream to just below the outlet of Esquagama Lake, approximately six miles above the river's confluence with the St. Louis River.

This draft MPCA staff recommendation is based on information currently available. MPCA staff will consider additional information that may become available in the future, whether from project proposers or from other interested/affected parties, and reserves the right to modify the draft staff recommendation accordingly.

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