



REQUEST TO DREDGE IN THE SYDENHAM RIVER, ONTARIO WITH POTENTIAL IMPACT FOR ENDANGERED MUSSEL SPECIES

Context

Fish Habitat- Ontario Great Lakes Area, has received a request for authorization of a project which involves a dredging activity in the Sydenham River near Wallaceberg. The proponent has requested the authorization to dredge to allow barge access to docking facilities. The area has been subject to siltation that impedes movement of the barges.

Science and Habitat Management have developed a mapping tool for Southern Ontario which identifies waterbodies where there is potential for endangered mussels to occur based on records of known occurrence and habitat characteristics. The Sydenham River near Wallaceberg has been identified as such a waterbody. There is a potential for the following species to occur in this location: Round Hickorynut (*Obovaria subrotunda*), Kidneyshell (*Ptychobranthus fasciolaris*), Northern Riffleshell (*Epioblasma torulosa rangiana*), Snuffbox (*Epioblasma triquetra*), Round Pigtoe (*Pleurobema sintoxia*), Rayed Bean (*Villosa fabalis*), Mudpuppy Mussel (*Simpsonaias ambigua*) and the Wavyrayed Lampmussel (*Lampsilis fasciola*). The Round Hickorynut is of particular concern, as there are only two known Canadian populations, one of which is found in the lower Sydenham River. All species are listed as Endangered under the Species at Risk Act (SARA).

Allowable harm workshops were carried out for freshwater species at risk in the Central and Arctic Region in 2005 and 2006 (DFO 2006). Allowable Harm Assessments are in preparation for the mussel species at risk in Ontario. An additional outcome of the meetings, tools for fish habitat biologists and others to make decisions concerning allowable harm for freshwater species at risk, are being developed. These tools, including ones applicable to mussel species in Ontario, are not yet finalized. Until the tools or frameworks to assess and mitigate risk and harm to freshwater aquatic species are available, Science advice is requested on projects which have the potential to impact species at risk.

SARA makes it an offence in sections 32 and 33 to kill, harm, harass, capture or take an individual of a listed species that is extirpated, endangered or threatened. Recovery strategies have been developed for each of the endangered mussel species.

Fish Habitat is asking Science for advice on how best to proceed with the review of a project which has the potential to impact SARA listed species. The assessment should include recommendations for measures to avoid or reduce adverse effects if this project proceeds. The project plan requires Science review to ensure that it respects recovery strategies and does not adversely impact any endangered species. SARA prohibitions still apply and SARA permits may be required if the project proceeds.

Analysis and responses

Use of the mapping tool has indicated that there is a potential for endangered species to occur at the location where the proposed dredging is to occur. Without further surveys or details of the habitat (substrate) present at the site, it is assumed that endangered mussels will occur there.

1.0. Since the proposed dredging is a result of heavy siltation, the substrate in the area may be unsuitable for survival of mussels. A survey of the substrate in the area where dredging would occur, using sediment cores, would provide data needed to determine if the area had suitable conditions for mussels survival. If the proponent undertook and reported on the results of a survey of the substrate in the area, the results would determine if the potential for endangered mussels to occur in the area still exists. Any report would require Science review to insure conclusions were scientifically sound.

- a. If the core sampling indicated unsuitable habitat for mussel survival, the project could proceed without further delay.
- b. If the cores confirmed the presence of suitable mussel habitat, an undertaking would be required (2.0) to relocate all mussels from the site. If core sampling delineated the area into locations with suitable or unsuitable conditions for mussel survival, the relocation would only be required in the areas where conditions were suitable.

2.0. In order for the project to proceed, a relocation could be undertaken by the proponent to remove all mussels from the project site and relocate them to an area not impacted by the project. A relocation would have to follow the standard practices outlined in the draft "*Protocol for the detection and relocation of freshwater mussel species at risk in the Ontario Great Lakes Area (OGLA)*". A SARA permit would be required to conduct the relocation.

Conclusions

Assessment of requests for habitat disturbance have to be reviewed on a case-by-case basis. Conditions present at sites where disturbance is proposed vary and the potential to harm SARA species differs depending on the species in question and the activity being proposed. Based on the mapping tool developed by Science and Habitat Management¹, the area where proposed dredging is to occur has the potential to negatively impact endangered mussel species. For this proposal, to dredge in the Sydenham River near Wallaceberg, a course of action has been outlined which will allow assessment of whether or not conditions are suitable for mussels to inhabit the area and if so, an appropriate course of action to ensure that the mussels are not negatively impacted. This advice is consistent with the intent of the Allowable Harm Assessment (in prep.) for the species concerned.

Contributors

Science

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¹ "Fisheries Management" was corrected to read "Habitat Management" (March 2007)

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Sources of information

DFO, 2006. Allowable Harm Analysis Workshops for Freshwater Species at Risk in Central and Arctic Region; October 18-19, 2005, February 8-9, 2006 and February 13-14, 2006. DFO Can. Sci. Advis. Sec. Proceed. Ser. 2006/026.

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