

Iron Ore Company of Canada



Building biodiversity from tailings

The Tailings Management Project (TMP) of the Iron Ore Company of Canada (IOC) demonstrates how operational risk can be converted into opportunity. IOC identified the management of mine tailing as an opportunity to control risk to biodiversity, improve community relations and interactions with external stakeholders, uphold company standards for environmental stewardship and responsibility, ensure compliance, particularly in the event of regulatory review, and anticipate legacy issues in the event of closure.

IOC owns and operates an iron ore mine at Labrador City, Newfoundland, in an area of valuable native ecosystems, comprising an extensive system of lakes, wetlands and boreal forest. Environmental conditions provide an ideal habitat for a large number of songbirds, mammals, fish and waterfowl. A preliminary survey of the municipal area identified approximately seven areas that may be suitable for protected status, representing 13 sq km.



The issue

For 40 years, IOC discharged up to 23 million tonnes of fine grained waste rock (mine tailing) into Wabush Lake. Although in compliance with regulatory requirements, the tailing had a significant effect on the physical and biological balance of the lake. Most notably, at times the disposal would result in a red hue over the 20km length of the lake, which diminished its recreational and ecological value, created the potential for the pollution of interconnected lakes, resulted in serious community concerns, and created a significant legacy risk for IOC. In response to this and regulatory changes, IOC created a number of partnerships with outside groups to investigate options for improved management of the tailing.

Following the evaluation of options, a strategy was devised with the local community and regulators to discharge tailing into an impoundment area in Wabush Lake. This presented the opportunity to reduce pollution and rehabilitate the lake. Restoration was conducted through the federal government's fish habitat compensation plan and the "Tailings to Biodiversity" initiative (TBI).

The TBI involves development of land forms and an artificial wetland with the planting of a diverse variety of native vegetation. Low-lying areas will form a mosaic of wetland basins, riparian zones and uplands, which will provide a variety of habitats for native wildlife. IOC anticipates the artificial wetland will not only contribute to biodiversity conservation but also minimise operational costs and maximise the options for post mine land use. Early estimates of the costs of wetlands indicate that the project will be either cost neutral or cheaper than traditional revegetation.

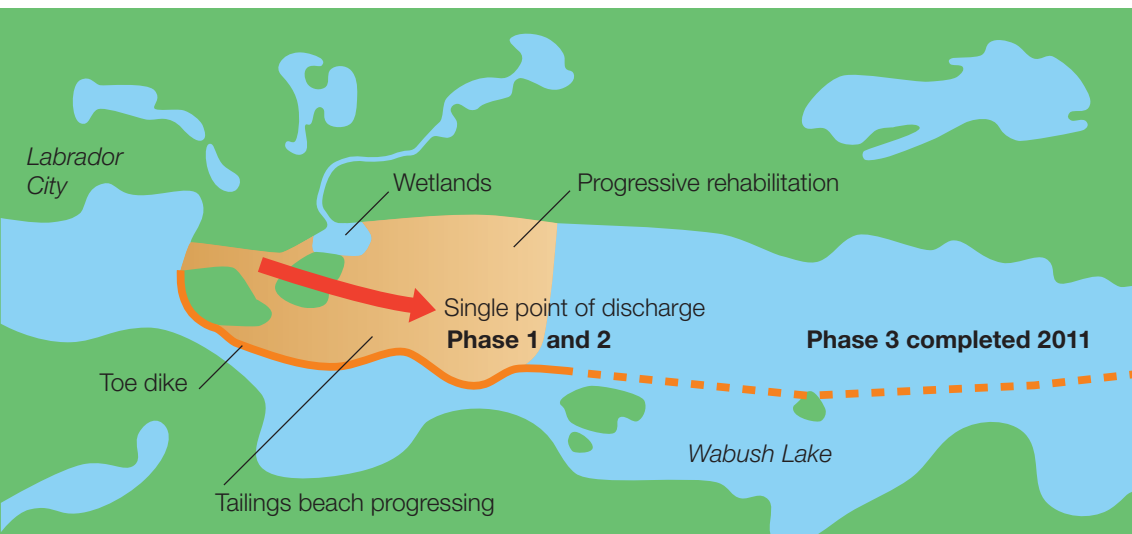
Partnerships

The focus on biodiversity management enabled IOC to engage external stakeholders and generate strong partnerships with the community, government departments, environmental groups, universities and schools.

In the initial phase of the project, IOC encouraged stakeholder involvement through the formation of an advisory group that was established to ensure the transparency of the process to develop a strategy for environmental management. The group comprised the



Low lying areas will form a mosaic of wetland basins, riparian zones and uplands.



mayor of Labrador City and representatives from Memorial University of Newfoundland, The Fisheries Resource Conservation Council and Resource Futures International. With the supervision of the advisory group, stakeholders were engaged to develop management options for the tailing.

IOC formed a partnership with the Biodiversity Stewardship in Resource Industry Initiative (BSRI) to co-ordinate a team to investigate potential management options for the tailing. This team included consultant agrologists and engineers. Following site assessments by BSRI and the research team, it was confirmed that the potential existed to develop a mixed habitat of wetlands and upland areas on the mine tailing.

Commitment to a five year project was established and additional partners including the local community, the Canadian Wildlife Service, Memorial University, and the Eastern Habitat Joint Venture (EHJV) were brought into the project.

The EHJV has also fostered educational programmes. Discussions are taking place between IOC and the local community regarding the possibility of incorporating an education programme known as “wild about wetlands” into the provincial school curriculum.

IOC has linked the project with a highly successful international programme known as the North American Waterfowl Management Plan (NAWMP). Through this plan, the EHJV has utilised the investment of IOC in the TBI to unlock equivalent funding from the US Government for the municipality. It is through this collaboration and fund-matching arrangement that IOC has been able to foster co-operation between the EHJV and the Labrador City municipality.

The TBI annual budget currently amounts to over US\$100,000. It is anticipated that a further US\$77,000 will be released this year. The project has empowered the EHJV and the NAWMP with the potential to leverage new corporate partnerships and programmes for wetland conservation. The project has broken new ground in Canadian environmental stewardship by incorporating wetlands, biodiversity and conservation on an operational mine site.



The project has broken new ground in Canadian environmental stewardship.



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