

Landfill Leachate

No inference on rate of leachate discharge can be made. This may be dependent on the road and bridge design.

No Net Loss Initiatives

The no net loss principle is a fundamental habitat conservation goal. The intention of no net loss is to attempt to balance unavoidable habitat losses with habitat replacement.

A summary of no net loss initiatives and mitigative measures proposed are as follows.

Soils

No net loss measures include salvaging and conserving all topsoil for use in landscaping and reclamation.

Wildlife

No net loss measures include:

- modifying the alignment to avoid habitat loss;
- increase buffering measures between habitat and development and development to enhance the recreation potential of the area which should include land acquisition and habitat enhancement;
- consolidation of the overhead transmission lines which are significant factors in bird mortality into the bridge structure to reduce the sources/obstructions; and
- reclamation and landscaping of medians and ditches to restore grassland habitat for some bird species.

Aquatic Resources/Fisheries

It is a common practice with bridge construction to stabilize stream banks with rip-rap material. This material as well as the bridge structure (if in stream) provides coarse surfaces for benthic invertebrates to recolonize and become more diverse.

The proposed construction activities may stimulate additional measures to identify/control leachate into adjacent waterbodies.

Vegetation

Construction activities will allow the opportunity to re-establish native species. Where wildlife habitat and vegetation communities are lost, it is recommended they be replaced with habitat of equal value in the area.

Savannah Sparrow, and Red-winged Blackbird. The sedge-grass-weedy shorelines provide nesting cover for waterfowl and habitat for other birds.

Muskrat were noted near the mouth of the Sturgeon River during each of the site surveys. There was no evidence of beaver occupation of this section of the Sturgeon River during the 1996 surveys, and would not be expected to occur as permanent residents because of the lack of deciduous trees or willows along the shoreline that are needed for food and lodge construction.

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The high elevation power lines at the mouth of the Sturgeon River and parallel to the shoreline of Big Lake and Riel Lagoon are a hazard for waterfowl, particularly during migration. Although these structures are used by some passerine birds as resting sites, the lines are likely to result in collisions and mortality for ducks and other waterbirds as they fly along the river to and from Big Lake. This wildlife hazard issue has been raised previously by Calverley and Kosinski (1986) and is still a concern in 1996 (B. Calverley pers. comm.). Calverley and Kosinski (1986) reported unacceptably high instances of waterfowl mortality due to the power lines from field inspections and have recommended mitigation to minimize this hazard.

4.2.3 Riel Lagoon

Riel Lagoon is an abandoned sewage treatment facility that currently functions as a stormwater retention pond. The lagoon consists of a rectangular levee retaining relatively deep water. The levee is steep sided and supports a low grass-forb cover. The lagoon contains a few pockets of submergent vegetation and very little emergent or shoreline marsh vegetation.

The lagoon has a low capability for breeding waterfowl or other aquatic birds. Breeding bird surveys found few grebes and ducks on the lagoon. The high intensity of recreational use of this facility (i.e., walking trail along the levee and water based sports) during spring and early summer would further reduce its capacity to support breeding waterfowl. Nonetheless, this impoundment attracted fair numbers of gulls, terns and swallows for foraging during spring and early summer and diving and dabbling ducks for resting and foraging in other seasons. We recorded 29 species of birds associated with lagoon habitat (Table 2). During the spring surveys, we noted that Black and Forster's terns, Bank, Barn and Tree swallows and Purple Martin appeared to prefer to hawk (forage) for insects over the lagoon rather than Big Lake. LeConte's Sparrows were recorded inhabiting the grassy levees.

During the inclement weather in fall 1996, the lagoon attracted a variety of birds that were resting and feeding on the sheltered waters. About 300 water birds were counted on the lagoon during surveys on September 11, 1996. These species included: Lesser Scaup, Mallard, American Coot, Bufflehead, Blue-winged Teal, Goldeneye, American Widgeon, Forster's Tern, Franklin's and Ring-billed Gulls. Two Greater Yellowlegs were the only shorebirds present, as most shorebirds had already passed in their return migration.