Ducks Unlimited Canada
Conserving Canada's Wetlands

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Watersheds & Protected Areas
Manitoba Conservation and Water Stewardship

Ducks Unlimited Canada (DUC) would like to thank the Cooks Creek Conservation District for the opportunity to contribute to the development of the Cooks-Devils Creek Integrated Watershed Management Plan.

Over the last number of years, Manitoba has had to contend with a variety of surface water issues – too much water in parts of the province, too little in others and water quality issues such as boil water advisories and toxic blue-green algae on our lakes. Based on 75 years of conservation experience and more than 20 years of scientific research, DUC believes that protecting wetlands is the most effective and cost-efficient way to manage surface water while at the same time ensuring a healthy and prosperous future for our communities and the environment. DUC is particularly concerned about the rate of wetland loss as a result of drainage.

Wetlands naturally function to collect and store rain or snowmelt from surrounding uplands. On average, draining one acre of wetland also drains four additional acres of adjacent uplands in the process. Our research has shown that in southwest Manitoba alone, we lose, on average, 15 acres of wetlands every day which means that we are increasing the drainage area contributing to downstream flows by 75 acres every day - that's over 110 square kilometres annually. During wet periods, this additional water can severely impact downstream residents and damage public infrastructure, potentially resulting in significant flood compensation and infrastructure repair/maintenance costs. Protecting wetlands will ensure there is the ability to store of flood waters, thereby reducing downstream impacts by helping to control the flow. During dry periods, the water stored in wetlands provides the land with the resiliency to be able to withstand the ecological stresses of drought, and Manitoba is forecasted to have many more extreme (both wet and dry) weather events over the next few decades due to the effects of climate change. Protecting wetlands is both economically and ecologically the best strategy to mitigate against damage and adapt to changing environmental conditions.

Surface Water Quality: One of the most beneficial functions of wetlands is their ability to filter nutrients and sediment from the water as it passes slowly through the system. Draining a wetland forces the water to move too quickly for natural filtering functions to occur resulting in the rapid delivery of the entire nutrient and sediment load downstream into waterways and drinking water sources. Our research has produced alarming findings. Wetland drainage is likely the largest single contributing factor to non-point source agricultural phosphorus loading into Lake Winnipeg. The second is that that 93% of the total

annual phosphorus discharged from the agricultural landscape is in soluble form in surface water flow while the ground is still frozen. Fully functioning wetlands collect most of this surface flow and filter out the phosphorus (and nitrogen) before slowly releasing the filtered water. Because these nutrients are in dissolved form, even drawing down the level of a wetland allows these nutrients to flow directly downstream and contribute to our water quality issues such as algae blooms on many of the province's lakes.

Flood Damage Reduction: Flooding and the resulting flood damage are not solely due to extreme soil moisture and weather. Flood damage is also a function of the scale and magnitude of human development, in particular, wetland drainage increases the amount and speed of water movement downstream. Our research has shown that wetland drainage increases peak discharge by 37% and total flow by 62%. Wetland drainage increases flood damage in two ways. First, when wetlands are drained, the surrounding watershed's ability to store water is reduced or completely eliminated. Because wetlands hold and then slowly release water, they reduce and delay peak water flows which helps lessen the impacts of extreme weather events. The second way that wetland drainage increases flood damage is that when a ditch is dug to drain a wetland it doesn't just drain the wetland, it also drains the land that surrounds the wetland. On average, for every acre of wetland drained four additional acres of surround lands is also drained. This exponential increase in the amount of water moving downstream and the speed at which this water travels, only makes flooding and flood damage that much worse.

Societal Impacts: DUC understands that pressures to compete internationally, large capital costs, tight margins, high levels of debt and uncertain crop prices make it difficult for producers to be in a position to focus on long-term sustainability. Many of the ecological goods and services that benefit society-at-large are produced on private lands at the landowner's cost. This market distortion is compounded by disincentives (such as property taxes) to conserve natural areas. We do know that when wetlands are drained or degraded, the financial costs incurred by society to replace the ecological goods and services previously provided by these wetlands are significant and include: increased water treatment costs; shortages in water supplies during droughts; increased flooding during wet years; decreased property value due to degraded environmental and aesthetic qualities; decreased biodiversity; and decreased revenues from tourism activities associated with healthy ecosystems. These annual replacement costs are often difficult to quantify but occur nonetheless.

In answer to your three specific technical questions:

1) What would you recommend as a good indicator for monitoring watershed health in the Cooks-Devils watershed?

   We would suggest the loss/retention of natural habitat as an indicator of deteriorating watershed health and the restoration of grass and water as an indicator of good/improving watershed health. It is necessary to consider both indicators concurrently however to accurate gauge the state of a watershed. Any loss of natural habitat will generally translate into a degradation of watershed health.

2) Are there any priority wetlands in this watershed that are considered to be at risk and should be preserved?

   All of the remaining natural wetlands in the Cooks-Devils Creek area are at risk and should be preserved for all the reasons already described in this submission. Targeting only a few will continue to lead to poorer watershed health as per question number one above.

3) Where should activities such as wetland protection, wetland restoration or water retention be targeted in the watershed?

First priority should be to protect all remaining wetlands then strategically restore lost/degraded wetlands within the Cooks-Devils Creek watershed. Any efforts/investments spent restoring wetlands will however be nullified or offset (often many times over) if we allow wetlands continue to be lost.

Thank you again for the opportunity to review and respond to the Cooks-Devils Creek Integrated Watershed Management Plan draft document.

Ducks Unlimited Canada
Oak Hammock Marsh Conservation Centre