

The cost of lake restoration

Our environment provides, for free, the basic elements required for life – drinkable water, eatable food and breathable air. If we disrupt these basic elements, we face an enormous cost. In 1997, Ecological economist Dr. Robert Costanza attempted to answer the question: What is our environment worth in dollars? The answer was published in the journal *Nature*. Costanza estimated that the biosphere provides \$33 trillion worth of services on an annual basis, an amount greater than the annual gross national products (GNP) of all the world's economies combined.

The idea of putting a dollar figure on an old growth forest, an alpine meadow or an intact wetland is daunting. But when the ecosystem's integrity becomes compromised and biological functions begin to fail, the cost of restoration becomes significant.

In 1990, New York City's water supply had fallen below acceptable standards due to poorly managed agricultural and sewage runoff. The city, which receives its water supply from the surrounding watershed of the Catskill mountain range, could have spent up to \$8 billion to build a filtration plant that would replicate the water purification service it was getting for free, but chose instead to spend 10% of that amount restoring the natural assets of its watersheds.

Lake Constance is one of the most important habitats for the flora and fauna of European fresh-water lakes and provides drinking water for 4.5 million people. The lake borders Germany, Austria and Switzerland. These countries have invested approximately \$2 billion Euro, or approximately \$3.2 billion Canadian Dollars today, in wastewater treatment facility upgrades. The severe degradation of the lake ecosystem was caused predominately by phosphates entering the system through improper sewage treatment and the use of detergents. The ecosystem became so degraded that people could no longer swim in it, sail on it or drink it. According to Udo Gattenlohner, Executive Director of the Global Nature Fund, "Lake Constance is a prime example, proving that precaution and protection is much cheaper than restoration and rehabilitation of degraded ecosystems. The lake took so long to recover that most people did not believe it ever would. We lost the tourism industry in the process."

According to a 2004 study completed by Ducks Unlimited and the Nature Conservancy of Canada, wetland natural capital values vary depending on the state of the wetland. Given their findings, the 201 km² Columbia River Wetlands are valued between approximately \$100 Million and \$500 Million per year.

As a functioning system, the Columbia River Wetlands, Columbia Lake and Lake Windermere provide ecosystem services such as flood, erosion and storm

control, wildlife habitat and protection of our water resources by filtering contaminants. They also act as a carbon sink by absorbing carbon dioxide from the surrounding environment and releasing oxygen back into the system.

We can achieve results similar to expensive rehabilitation and restoration measures by changing our day-to-day behavior at home and at work and working to protect our lake and river ecosystems.

For more information, contact the Lake Windermere Project at 250-341-6898. You can also visit the Project office located in the old District of Invermere office beside the Invermere Community Centre. The Lake Windermere Project is a long-term comprehensive stewardship program dedicated to safeguarding the health of our lake. The Lake Windermere Project is made possible by generous support from Wildsight, Living Lakes, Environment Canada, Columbia Basin Trust and the Real Estate Foundation of B.C.