

## Report concludes that creek restoration will increase natural capital

**C**an you calculate the true value of a Painted Turtle sunning itself on a log in a bog near Gordon Drive where Mission Creek empties into Okanagan Lake? Or measure the worth of a child's delight as he watches Kokanee fighting single-mindedly upstream to spawn in September?

To some extent, yes, according to a report released in 2013 to help decision-makers in the Okanagan conserve and enhance the natural features and associated opportunities that make Mission Creek an invaluable asset.

Entitled *The Natural Capital of Mission Creek in Kelowna: The Value of Ecosystem Services*, the report was prepared by Amy Taylor, Sara Wilson, and Greg Sauer for the Mission Creek Restoration Initiative (MCRI). It outlines the many economic benefits provided by the creek today, and estimates how these could increase as a result of creek restoration.

### NATURAL CAPITAL & ECOSYSTEM SERVICES

Natural capital is the stock of natural resources—air, water, land, and all living things—that yields a flow of valuable ecosystem goods or services into the future. The value of natural capital is often excluded from current measures of progress, and is typically not considered when communities make land-use or policy decisions.

As noted in the report, “The value a forest provides in controlling stream-bank erosion and sediment load in a river is not reflected in the market price of forest land or forest products. Likewise, the value a wetland provides in purifying water and recharging an aquifer is not reflected in the price of water. Unfortunately, in most cases the nonmarket value of natural capital is not recognized until services become so degraded or scarce that society is forced to pay to replace what was previously provided by nature at no cost.”

The report concludes that in 2012, the lower 12 kilometres of Mission Creek between the East Kelowna bridge and Okanagan Lake provided ecosystem services of almost \$19 million. These included the annual economic benefits of natural services such as water filtration (\$30,000), climate regulation (\$660,000), and flood protection provided by forests, wetlands, and streams (\$657,000). It also outlines the economic impacts of ecosystem services on human activities such as outdoor recreation (\$12 million) and farming (\$4.2 million).

Interestingly, the report goes on to estimate that the restoration of Mission Creek, as planned by the MCRI, could result in a 10 percent jump in ecosystem services, for a total of almost \$21 million per year.



*Mission Creek provides significant historical, social, cultural, recreational, ecological, and economic value to the Okanagan Valley. While there are fewer benefits now than there were even 50 years ago, experts predict that creek restoration will increase natural capital and associated ecosystem services.*



*‘Ecosystem services’ are the benefits derived from nature. ‘Provisioning services’ include the production of food and water. ‘Regulating services’ control things such as climate and disease. ‘Habitat services’ influence nutrient cycles and crop pollination. And ‘cultural services’ provide spiritual and recreational benefits. To help inform decision-makers, many ecosystem services are now being assigned economic values.*

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## PHASE 1 RESTORATION BENEFITS

Much of the lower section of Mission Creek was diked for flood control in the 1950s. This has impaired natural stream flows and processes, and negatively affected fish and wildlife spawning, rearing, and overwintering habitats. Phase 1 of the restoration work involves setting back the dike between Casorso Road and Gordon Drive on the south side of the creek, which will again increase the natural area and the ecosystem services generated.

Economist Dr. John Janmaat from UBC Okanagan estimates that, “The yearly economic benefit of this project alone could be about \$600,000, not including recreation or habitat values, nor any potential increases in expenditures on recreational fishing if Kokanee stocks are increased.”

He adds that, “If the money for the project could be borrowed at a five percent interest rate, then these ‘revenues’ could finance a loan of more than \$12 million,” and that “the benefits from this project are enough to justify a one-time expense of up to \$12 million.”

## RESTORING THE SPORT FISHERY

Mission Creek is the most important spawning tributary for Kokanee Salmon and Rainbow Trout from Okanagan Lake. Historically, the creek produced 80 percent of stream-spawning salmon and half of the trout, and supported a robust sport fishery. Sadly, the fishery was closed in 1995 in response to an 80 percent drop in salmon stocks and 50 percent drop in trout stocks caused by things such as channelization and diking undertaken in the 1950s to reduce flooding.

Restoration will not only revive Mission Creek’s fish habitat and stocks, but hopefully its fishery as well. As reported in another recent study, “Freshwater angling is not just an enjoyable pastime or outdoor thrill, but also a powerful economic engine in many regions of BC,” including the Okanagan. In 2005, for example, 35,400 anglers caught more than 700,000 fish, contributing about \$44 million to the valley’s economy. Given that trout and salmon are the two most important species to BC’s fishing industry in terms of angler interest and spending, and that both are native to Mission Creek, the restoration project could significantly boost these economic impacts.

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- Okanagan Basin Water Board
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*Ecosystem services are typically undervalued in market economies, despite being worth more than \$33 trillion globally every year. Proactive communities are learning to consider the many tangible and intangible benefits of leaving natural resources untouched or of managing them sustainably. When that's not possible, stakeholders are collaborating to minimize and/or mitigate the 'external' costs of land-use decisions (e.g., habitat loss) to future generations.*

*Andrew Barton photo*



*A recent UN assessment reported that 60 percent of the earth's ecosystem services are being degraded or used unsustainably.*

