

Economic Incentives for The Creation, Expansion, and Effective Management of Canada's Protected Areas Network – August 2020

An early 2020 World Economic Forum (WEF) report found that 44 trillion USD – half of the world's gross domestic product (GDP) – is moderately or highly dependent on nature and the services it provides.ⁱ In a more recent *Nature Economy Report*, WEF found that the global food, land, and ocean use system was responsible for providing up to 40% of the world's jobs.ⁱⁱ However, in western societies, the linkages between a healthy economy and a healthy planet have often been ignored, with ensuing exploitation of natural resources and environmental degradation. In fact, the current COVID-19 the pandemic has already been linked to our treatment of the natural worldⁱⁱⁱ, causing many to call for policies that better prioritize protected areas, nature, and biodiversity.^{iv} Conservation relies on political advocacy influenced by economic arguments. This piece will outline the top economic advantages of protected areas and explain why protecting nature is not, in fact, “a hard sell.”

Although the primary purpose of protected areas is to safeguard the environment, they also offer a multitude of benefits that go beyond conservation. In fact, protected areas have been shown to deliver impressive and tangible economic benefits.^{v,vi} With a wide variety of environmental and economic benefits to offer, it should be clear that our post-pandemic society must be rebuilt with an economy that is more environmentally conscious and nature-positive for the benefit of both our planet and future generations.

CONSERVATION

In their 2020 *Global Risk Report*, WEF identified biodiversity loss as one of the top five global risks threatening our planet and life as we know it.^{vii} Habitat loss due to human activities remains the dominant driver of biodiversity loss.^{viii} Inadequate conservation efforts and ecosystem damage not only carries costs for the global environment, but also for businesses and society. The number of sectors benefiting from natural capital represents a large share of the global economy.^{ix} This includes not just the agricultural, forestry, and fisheries sectors, but also water, food and drink, pharmaceuticals, health, recreation, and tourism.^x Evidence shows that at least 30% and up to 70% of land and ocean ecosystems need to be protected to sustain a healthy planet and secure essential ecosystem services for people, which means Canada and the global community must scale up efforts to protect and restore nature.^{xi,xii,xiii}

Healthy ecosystems, such as those within protected areas, provide a multitude of benefits that far outweigh costs. However, benefits from protected areas are often broadly disbursed, long-term, and do not hold a traditional, easily calculated market value.^{xiv} In comparison, business-related pressures on biodiversity largely involve immediate and short-term economic gains.^{xv} Ultimately, ecosystems and their biodiversity underpin the global economy and human well-

being. However, economic signals from policy and market prices fail to reflect their true value.^{xvi} A 2020 report that compiled the work of over 100 experts found that protecting 30% of the world's land and oceans provided greater benefits in comparison to the *status quo* both in terms of financial outcomes and non-monetary measures.^{xvii} These benefits are reported to outweigh the costs by a factor of at least 5:1.^{xviii} The same report found that 30% protection leads to an increased economic output averaging 250 billion USD annually, compared to the *status quo*, while also generating additional non-monetized economic benefits from ecosystem services averaging 350 billion USD annually by 2050.^{xix}

Thus, the nature conservation sector is a large net contributor to the global economy.^{xx} Policies that seek to integrate environmental, economic and social concerns need to recognize the limited substitution potential of ecosystem services and the sheer scale of the human impacts caused by loss or degradation of natural capital.^{xxi}

HEALTH

The significant links that exist between nature, the economy, the well-being of our planet, and human health are becoming increasingly prominent. National parks, once viewed predominantly from a tourism standpoint, are now becoming model settings to promote and support physical activity, healthy eating, and improved mental health.^{xxii} Contact with nature has been found to lower blood pressure, strengthen the immune system, help mitigate disease, and reduce stress levels.^{xxiii} For example, stress hormone levels have been shown to improve after outdoor walks (e.g., in forests, parks, and other green spaces).^{xxiv} A 2020 article found that 60% of respondents in a survey reported medium-term recovery from stress by visiting a protected area or park.^{xxv}

A recent WHO-led study estimates that depression and anxiety disorders cost the global economy 1 trillion USD each year in lost workplace productivity.^{xxvi} Studies also point to nature as a resource to increase the happiness levels of employees. Employees with views of natural settings or access to nature for a lunchtime walk feel less stressed in the workplace.^{xxvii} Reduced stress levels in employees create a productive workforce. It is estimated that on average, people who take part in nature tourism have better mental health than those who do not.^{xxviii} This differential in mental wellbeing and its associated costs in those who visit national parks provides an additional economic value estimated at 6 trillion USD annually worldwide.^{xxix}

The pandemic has highlighted just how essential parks and protected natural spaces are for people's well-being. Recent studies have shown that there will likely be serious and lasting mental health implications from the COVID-19 pandemic.^{xxx,xxxi,xxxii} The number of individuals experiencing anxiety, depression, and loneliness is expected to significantly increase.^{xxxiii} In a recent interview, Margaret Eaton, CEO of the Canadian Mental Health Association (CMHA), explained that the "mental health impacts are going to be severe" post COVID-19, pointing to CMHA mental health hotlines in Nova Scotia, which experienced a 2,700% increase in calls within a single 24-hour period.^{xxxiv} Nature exposure improves human mental health and wellbeing.^{xxxv,xxxvi,xxxvii,xxxviii} Poor health imposes major costs on human economies.^{xxxix,xl}

Therefore, parks have an additional economic value through the improved health of their visitors.^{xli}

In addition to mental health, lasting physical health effects will be an issue in the post-COVID-19 world. Pre-pandemic, one in three Canadians were reported as “obese” and only 7% of Canadian children and youth were meeting daily physical activity requirements.^{xlii,xliii} Although the data are not yet available, these physical fitness indicators are likely to deteriorate even further due to the limited opportunities for exercise that existed during lockdowns and periods of physical and social isolation. The Government of Canada reports the annual economic burden of obesity in Canada increasing from 3.9 to 4.6 billion CAD between 2000 and 2008.^{xliv} The annual direct healthcare cost of obesity (including physician, hospitalization, and medication costs) is now estimated to be between 5 billion and 7 billion CAD.^{xlv} Prior to COVID-19, this annual direct healthcare cost was projected to rise to 9 billion CAD by 2021.^{xlvi}

Mental and physical healthcare costs and pressures will likely create an additional burden to Canadians and on the Canadian economy in the coming years. Parks and protected areas can help mitigate these costs and pressures by improving the health of visitors.^{xlvii}

TOURISM

According to a 2017-18 Departmental Report, Parks Canada visitor spending contributed 2.8 billion CAD to Canada’s Gross Domestic Product, supported 36,453 full-time jobs across the country, and generated \$486 million CAD in tax revenues across multiple levels of government.^{xlviii} Globally, nature tourism is estimated to contribute between 344 billion and 600 billion USD per year.^{xlix,l} Nature tourism is clearly a huge economic contributor to both the Canadian and global economy.

A 2020 report found that despite recent travel restrictions associated with COVID-19, and even if post-2030 nature tourism revenues were reduced to half their projected value, expanding protected areas would still lead to a net positive output.^{li} Visitors to parks and protected areas spend money in local gateway regions, and these expenditures generate and support economic activity within these local economies. There are several areas in the parks system where direct economic activity is generated. The business activity resulting from visitor or employee purchases from local businesses represent the direct effects of visitor spending within an economy.^{lii} Employment is another strong driver as additional economic activity is generated when workers spend their earned wages on local services and entertainment.^{liii,liv} Additional revenue is also generated from taxes.^{lv} Thus, the economic impact of parks and protected areas span beyond that of just the gateway region, but rather creates a ripple effect throughout larger economies.

In 2017, the World Bank Group stated that sustainable tourism is a proven tool for development, which benefits communities as it is highly labour intensive, facilitates new infrastructure development, and can help fund conservation.^{lvi} The presence of tourism infrastructure fosters economic development opportunities that help diversify existing

economies and reinforce nature-based activities.^{lvii,lviii} This is especially important for many rural communities. Land near rural Canadian communities can be inaccessible, inhospitable, and costly to develop. This economic geography naturally limits the amount of commercialization and subsequent economic impacts from visitors but can also serve to attract locals and visitors who enjoy backcountry exploring.^{lix} These visitors purchase food, lodging, and services in gateway communities neighbouring wild areas. These visitor expenditures result in economic gains, such as increases in sales revenue, income, jobs, and taxes, that rural gateway communities would have not likely received otherwise.^{lx}

BUSINESS

Businesses are also extremely dependent on nature. As previously mentioned, approximately half of the global GDP is moderately or highly dependent on nature and the services it provides, such as pollination, water quality, and disease control.^{lxi} Construction (4 trillion USD), agriculture (2.5 trillion USD) and food and beverages (1.4 trillion USD) are the three largest industries that are most dependent on nature.^{lxii} However, continued destruction of our environment poses a huge threat to many of Canada's top industries. A recent Canadian study found that a 50% reduction in wild pollination would result in a 53 million CAD annual reduction in the value of Canadian fruit production and a net loss of 84 million CAD in consumer surplus.^{lxiii} Additionally, a 50% reduction in water supply would result in a 375 million CAD annual reduction in the value of Canadian wood harvest with a corresponding net loss of 500 million CAD in consumer surplus.^{lxiv}

WEF recently reported that approximately 44 trillion USD of the world's GDP is potentially threatened by nature loss.^{lxv} However, transitioning the food, land, and ocean use system, the infrastructure and built environment system, and the extractives and energy system to a more nature-positive model could result in up to 10 trillion USD in annual business value and could create 395 million jobs by 2030.^{lxvi} There is potential for a win-win-win for nature, climate, people, and the economy if business and economic actors can work together to protect and restore nature and start regularly identifying, assessing, and mitigating nature-related risks to avoid severe consequences to both our economies and our planet.

EARLY CHILDHOOD DEVELOPMENT & EDUCATION

Unstructured outdoor play is essential for childhood education and development.^{lxvii} However, today's children spend only half of the time outside in comparison to their parents.^{lxviii} Furthermore, according to research from Statistics Canada's *Canadian Health Measures Survey*, only a third of Canadian school-aged children are meeting physical activity guidelines.^{lxix} Due to obesity and other health issues, today's children may have a shorter and lower quality of life than their parents.^{lxx} This will undoubtedly have consequences on our health care system in the future. Nature is critical for the development of gross motor skills in children, including agility, coordination, balance, and for nurturing aptitude.^{lxxi,lxxii} One study found that kindergarten children who played in a nearby forest had significantly better motor skill development than their peers who were restricted to a fenced-in play area.^{lxxiii} Canada needs to lead by example

and invest in the physical and emotional development of our future citizens. Canada's parks are natural classrooms – nurturing creativity, healthy lifestyles, and important skill development.

ECOSYSTEM SERVICES

The term “ecosystem services,” as defined by the UN Millennium Ecosystem Assessment, refers to the benefits that humans receive from the natural processes and functions of our planet.^{lxxxiv} These benefits can be categorized into four categories: provisioning, regulating, supporting, and cultural.^{lxxxv} Provisioning services, or “goods,” include water, food, fuels, fibres, medicines, and genetic resources that are supplied by nature.^{lxxxvi} Most of these goods have been assigned a market value in human economies and are traded as economic products.^{lxxxvii} Ecosystem services of the other three types, however, are not typically considered to have a market value, and their benefits to people are often taken for granted. A 2013 study estimated the total global value of nature's ecosystem services to be up to 125 trillion USD per year.^{lxxxviii} These services include air quality control, water filtration, climate regulation, carbon storage, wildlife habitat, and erosion control.^{lxxxix} This estimate will likely increase, especially since protecting natural areas has been directly linked to the reduction in the risk of new zoonotic disease outbreaks, such as COVID-19.^{lxxx, lxxxii} This is an economic service that has not yet been quantified despite the high economic costs of the recent global pandemic.^{lxxxii, lxxxiii} Ecosystem service benefits are not typically measured according to traditional market metrics.^{lxxxiv} Earth's natural capital – the planet's stock of natural resources, like plants, soils, and minerals – should be valued alongside traditionally-produced capital, as together they form a truer measure of a country's wealth.^{lxxxv}

An analysis of different types of lands based on the ecosystem services they provided found wetlands to be the most “valuable,” at an estimated 59,394 USD/ha/year due to the variety and importance of the ecosystem services they provide, as well as their relative scarcity.^{lxxxvi}

- The other ecosystems are valued as follows (in USD):
 - Urban forests (\$9,352/ha/year);
 - Rural forests (\$4,183/ha/year);
 - Prairies and grasslands (\$3,338/ha/year);
 - Croplands (\$1,363/ha/year); and
 - Freshwater systems (\$137/ha/year).^{lxxxvii}

The monetary value of a tree in an urban landscape in Toronto is estimated at 700 CAD, with a cumulative value of 7 billion CAD for the entire urban forest.^{lxxxviii} This value is based on the impact of trees on the control of stormwater runoff, air quality, carbon sequestration, and energy savings.^{lxxxix} The value of urban forests in Vancouver is estimated at 35 billion CAD, Montreal at 4.5 billion CAD, and Halifax 11.5 billion CAD.^{xc} Nature is therefore, in urban areas, a significant source of economic services.

Ecosystems are also essential for food security. Forests, and the benefits they provide in the form of food, income, and watershed protection, have a critical role in enabling people around the world to secure a stable and adequate food supply.^{lxxx} However, forest degradation can lead to diminished income and food availability for forest dependent communities, higher rates of

soil erosion, loss of species and genetic diversity, and an increase in carbon emissions which contribute to climate change.^{xcii}

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