Attachment 2 – Supporting Tables for City of Toronto Ravine Ecosystem Services

Table 1: Ecosystem service provided by the Toronto ravine system

Ecosystem Services	
Monetized value	**Non-monetized value**
Recreation Physical health Mental health Gas regulation (e.g. air quality) Carbon sequestration Food provision Aesthetic appreciation Habitat and refugia	Disturbance regulation (e.g. flood mitigation) Temperature regulation Noise regulation Active transport corridors Education and research benefits

Table 2. Key ecosystem services and associated measurable benefits

Ecosystem Service	**Measurable Benefit to Human Wellbeing**
Recreation	Value of recreational activity
Physical health	Value of health benefits associated with living in proximity to nature and avoided health care costs of dealing with ill health due to inactivity
Mental health	Avoided health care costs and forgone GDP due to depression
Gas regulation (air quality)	Value of human health care costs avoided from reduced air pollution
Carbon sequestration	Avoided social costs of climate change[1]
Food provision	Value of food from community gardens, fruit trees, and urban agriculture
Aesthetic appreciation	Value people place on the aesthetic enjoyment of the area
Habitat and refugia	Value people place on knowing natural areas exist

[1] The social costs of climate change refer to damages anticipated to occur over the coming decades, such as increased damages from more frequent and more severe extreme weather events.

Table 3. Ecosystem service physical flows and monetary benefits for the City of Toronto ravine system

Ecosystem service physical flows and monetary benefits for the City of Toronto ravine system							
Ecosystem Service	**Indicator**	**Unit**	**Physical flow 2017**		**Indicator**	**Unit**	**Monetary flow benefit 2017 ($ Millions)**
Recreation	Users of ravines for cycling and biking	# of users	398,240		Value of welfare benefit received by biking in ravines	$ per year	**$111**
	Users of ravines for walking and hiking	# of users	924,486		Value of welfare benefit received by walking and biking in ravines	$ per year	**$473**
Physical health	Population meeting physisical health guidelines by accessing greenspace	# of people	753,812		Value of physical activity supported (avoided health care costs of dealing with ill health due to inactivity)	$ per year	**$217**
Mental health	Reduced number of people experiencing depression	# of people	5,297		Value of improved mental health, avoided foregone GDP due to depression	$ per year	**$5**
Gas regulation (air quality)	Air pollution removed (CO, NO_x, O_3, PM_{10}, SO_2)	metric tonnes	CO=3.2; NOx=94.3; O3=374.4; PM10=113.0; SO2=19.8		Value of cleaner air (avoided health care costs of visits to hospital for respiratory and other related health issues)	$ per year	**$7**
Carbon sequestration	CO2e sequestered	metric tonnes	14,542		Value of carbon sequestered (avoided social damages that are anticipated to result from climate change)	$ per year	**$2**
Food provision, urban agriculture	Fruit and vegetable production occuring in ravine area	metric tonnes	34.7		Value of food from urban agriculture sites in ravines (replacement cost of equivalent produce)	$ per year	**$0.04**
Aesthetic appreciation	Area of natural cover	hectares	6,000		Value people place on the aesthetic enjoyment of the area	$ per year	**$2.67**
Habitat and refugia	Area of natural cover	hectares	6,000		Value people place on knowing natural areas exist	$ per year	**$2.47**
							$822