

Appendix A-9
Alternative Evaluation and Scoring

Exhibit 1. Springbank Dam Evaluation Framework and Scoring

Stage 2 Evaluation

Category & Criterion	Description	Measure/Indicator	Rating Scale for Measuring Impacts		Alternative 1		Alternative 2		Alternative 3	
					Do Nothing		Partial Dam Removal		Full Dam Removal	
Natural Environment					Comparative Evaluation	Score	Comparative Evaluation	Score	Comparative Evaluation	Score
Water Quality	The potential of the alternative to maintain or improve water quality.	Potential change in water quality compared to the existing conditions for total suspended solids and total phosphorus.	5	Improvement to water quality from existing conditions (positive effect)	No change anticipated in water quality	3	Potentially less bottom scour with plates removed therefore less sediment load anticipated	4	Potentially less bottom and bank scour with all structures removed so less sediment load anticipated	5
			3	No change in water quality from existing conditions (neutral effect)						
			1	Decrease/degradation in water quality from existing conditions (negative effect)						
Geomorphology	The potential of the alternative to result in a stable river system (i.e. stable streambanks and stream bottom conditions) to optimize sediment transport to support a healthy aquatic environment.	Potential change in the extent and risk of streambank erosion and stream bottom scour compared to the existing conditions.	5	Improvement in the stability of the river system from existing conditions (positive effect)	Anticipate less bank stability without additional work to stabilize	2	Gates removed and banks remediated, improving stability and natural function	4	All structures removed and banks remediated, improving stability and function, no scour or deposition from piers	5
			3	No change in the stability of the river system from existing conditions (neutral effect)						
			1	Decrease in the stability of the river system from existing conditions (negative effect)						
Species at Risk	The potential of the alternative to protect and enhance the habitat of sensitive species and species at risk (both aquatic and terrestrial).	Potential change in the extent and quality of significant habitats for sensitive species and species at risk compared to the existing conditions.	5	Improvement in the extent and quality of significant habitats for sensitive species and species at risk from existing conditions (positive effect)	No change anticipated in availability or quality of SAR habitat	3	Fish passage may be enhanced somewhat at dam location with gates removed	4	Fish passage may be enhanced with no barriers at dam location with dam structure removed	5
			3	No change in the extent and quality of significant habitats for sensitive species and species at risk from existing conditions (neutral effect)						
			1	Decrease in the extent and quality of significant habitats for sensitive species and species at risk from existing conditions (negative effect)						
Terrestrial Habitat	The potential for the alternative to maintain or enhance terrestrial and riparian habitat for both plants and animals.	Potential change in the terrestrial habitat function and production capacity compared to existing conditions	5	Improvement in the terrestrial habitat function and production capacity from existing conditions (positive effect)	No change anticipated without naturalized bank remedial efforts	3	No change anticipated without naturalized bank remedial efforts	3	Naturally restored riverbanks provide additional terrestrial habitat	5
			3	No change in the terrestrial habitat function and production capacity from existing conditions (neutral effect)						
			1	Decrease in the terrestrial habitat function and production capacity from existing conditions (negative effect)						
Aquatic Habitat	The potential for the alternative to maintain or enhance habitat for aquatic dependent species.	Potential change in the aquatic habitat function and production capacity compared to existing conditions.	5	Improvement in the aquatic habitat function and production capacity from existing conditions (positive effect)	No change anticipated without naturalized bank remedial efforts.	3	Fish passage easier without gates, more natural river bottom available as habitat	4	Fish passage easiest without gates or piers, more river bottom and natural riverbanks available as habitat	5
			3	No change in the aquatic habitat function and production capacity from existing conditions (neutral effect)						
			1	Decrease in the aquatic habitat function and production capacity from existing conditions (negative effect)						
Groundwater and Surface Water interactions	The potential of the alternative to protect or improve groundwater and surface water interactions in order to maintain or improve water quality and quantity.	Potential changes in the groundwater and surface water interactions compared to existing conditions.	5	Improvement in groundwater and surface water interactions from existing conditions resulting in improvements to water quality and quantity (positive effect)	No change anticipated without naturalized banks that promote seeps	3	No change anticipated without naturalized banks that promote seeps	3	More potential for groundwater seeps due to reduction in hardened riverbank surfaces	4
			3	No change in groundwater and surface water interactions from existing conditions resulting in no changes to water quality and quantity (neutral effect)						
			1	Decrease in groundwater and surface water interactions from existing conditions resulting in degradation to water quality or decrease in water quantity (negative effect)						
					Subtotal	17	Subtotal	22	Subtotal	29
					Normalized to out of 5	2.8	Normalized to out of 5	3.7	Normalized to out of 5	4.8

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Stage 2 Evaluation

Category & Criterion	Description	Measure/Indicator	Rating Scale for Measuring Impacts		Alternative 1	Alternative 2	Alternative 3			
					Do Nothing	Partial Dam Removal	Full Dam Removal			
Social/Cultural										
Cultural Heritage	The potential of the alternative to protect cultural/heritage resources.	Potential of the construction and related changes to the river regime to impact cultural heritage resources.	5	Potential to improve cultural/heritage resources related changes to the river regime	No change anticipated since the dam is not a cultural heritage feature	3	No change anticipated since the dam is not a cultural heritage feature	3	Removing the dam structure would improve the designated cultural heritage features associated with the river	5
			3	No potential to degrade cultural/heritage resources related changes to the river regime						
			1	Potential to degrade cultural/heritage resources related changes to the river regime						
Public Health & Safety	The potential of the alternative to minimize risk or liability to community health and safety.	Potential change in risk or liability to community health and safety from existing conditions.	5	Potential to improve potential risk or liability to community health and safety (positive effect)	Potential for deterioration, dam and shoreline will be minimally maintained to requirements	3	Risk and liability decreased as dam and riverbank protection will be improved and maintained; Improves safety of canoeists	4	Dam and riverbank hardened surfaces to be removed and bank naturalized, so no longer any structure related health and safety concerns	5
			3	No change in potential risk or liability to community health and safety (neutral effect)						
			1	Potential to degrade potential risk or liability to community health and safety (negative effect)						
Boating Recreation	The potential of the alternative to provide or enhance boating recreational activities.	Potential change in boating (canoeing, kayaking, etc.) recreational activities and areas from existing conditions.	5	Improvement in boating recreational activities and areas from existing conditions (positive effect)	No change without any riverbank improvements for access	3	Gates and components removed provides improved conditions for boating through dam piers. Opportunity for improved informal boating access through bank stabilization	4	Removal of dam structure and naturalization of riverbank provides improved boating in the river, more difficulty accessing the river from the riverbank	4
			3	No change in boating recreational activities and areas from existing conditions (neutral effect)						
			1	Decrease in boating recreational activities and areas from existing conditions (negative effect)						
Fishing Recreation	The potential of the alternative to provide or enhance fishing recreational activities.	Potential change in recreational fishing from existing conditions.	5	Improvement in fishing recreational from existing conditions (positive effect)	No change without any riverbank improvements for improved habitat	3	Improving dam and stabilizing banks results in better access for fishing	4	Dam was a barrier to fish passage, removing the dam allows for improved fishing along the wider river. It is possible to design removal to include habitat enhancements that mimic similar habitats provided by existing dam	5
			3	No change in fishing recreational from existing conditions (neutral effect)						
			1	Decrease in fishing recreational from existing conditions (negative effect)						
Land-Based Recreation	The potential of the alternative to provide or enhance land-based recreational activities such as walking, biking and bird watching along the shoreline.	Potential change in land-based recreational activities and areas from existing conditions.	5	Improvement in land-based recreational activities and areas from existing conditions (positive effect)	No change without any riverbank improvements for access	3	Access to dam could be granted to provide for various activities related to repurposing	5	Dam abutment area no longer available, decreasing land-based recreational activities	2
			3	No change in land-based recreational activities or areas from existing conditions (neutral effect)						
			1	Decrease in land-based recreational activities or areas from existing conditions (negative effect)						
Shoreline Accessibility	The potential of the alternative to enhance public accessibility to the river.	Potential change in sites and areas for shoreline access from existing conditions.	5	Improvement in sites and areas for shoreline access from existing conditions (positive effect)	No change without any riverbank improvements for access	3	Naturalized shoreline and improved riverbank access at the dam site	5	Current access on erosion control structure on south shore removed, dam removed and entire shoreline naturalized, limiting access to river	1
			3	No change in sites and areas for shoreline access from existing conditions (neutral effect)						
			1	Decrease in sites and areas for shoreline access from existing conditions (negative effect)						
Aesthetics	The potential of the alternative to maintain or enhance the visual character of the river corridor.	Potential change in the visual character of the river corridor from existing conditions.	5	Improvement in the visual character of the river corridor from existing conditions (positive effect)	No change anticipated without naturalized bank remedial efforts	3	Some improvement based on naturalization of shoreline protection, removal of gates and hydraulic components and better dam maintenance	4	Improved view scapes of natural heritage river with dam structure removed and riverbanks naturalized	5
			3	No change in visual character of the river corridor from existing conditions (neutral effect)						
			1	Decrease in the visual character of the river corridor from existing conditions (negative effect)						
					Subtotal	21	Subtotal	29	Subtotal	27
					Normalized to out of 5	3.0	Normalized to out of 5	4.1	Normalized to out of 5	3.9

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Stage 2 Evaluation

Category & Criterion	Description	Measure/Indicator	Rating Scale for Measuring Impacts	Alternative 1	Alternative 2	Alternative 3				
				Do Nothing	Partial Dam Removal	Full Dam Removal				
Technical and Economic										
Flood Hazard	The ability of the alternative to mitigate flood hazards.	Potential change in risk of flood and erosion damage to public infrastructure and private property.	5 3 1	Positive change in potential risk of flooding No change in potential risk of flooding Negative impact in potential risk of flooding	No change as gates represent ongoing opportunities for debris accumulation and potential flooding	3 3 3	Some improvement from current risk, as gates would be removed	3	Reduction in flood risk as removal of dam prevents potential debris obstructing flow path	4
Constructability	The ease of the alternative to be constructed and implemented on a technical basis.	Ease of constructing the alternative, considering land requirements for works and staging areas, construction equipment, timeframe for construction	5 3 1	Easy to implement; no or very little construction requirements; little or no short-term environmental impacts Moderately easy to implement; some challenges with construction such as land and equipment requirements, and timeframe for construction; some short-term environmental impacts, easily mitigated Very difficult to implement; major construction challenges such as land and equipment availability/requirements, long timeframe for construction, environmental impacts difficult to mitigate during construction	Easy to implement as only minimal maintenance activities maintained	5	Some construction challenges regarding gate removal; mitigation possible, little change from maintenance activities	4	Extensive construction requirements for in-water works and mitigation strategies, less long term footprint from maintenance activities	1
Approvals & Permitting	The ease of the alternative to obtain required permits and approvals from regulating agencies (e.g. UTRCA, MNRF, MECP, DFO).	Ease of obtaining approvals and permits, including timeframe for receipt	5 3 1	No or very few approval requirements Moderately easy to obtain permits and approvals; some challenges relating to timelines and number of approvals necessary but conditions are minor Very difficult to receive permits and approvals; timeframe is long and conditions are major	Anticipated that permits would be obtained with relative ease	5	Anticipate some difficulty in obtaining permits for in-water works to remove gates and restore riverbank protection	3	Anticipate that it will be difficult to obtain permits for in-water works to remove gates and piers, however full removal has environmental benefits, potentially supporting justification for approvals	3
Operations & Maintenance	The ease of the alternative to be operated and maintained.	Degree of change in operations and maintenance requirements from existing conditions	5 3 1	Reduction in operation and maintenance requirements from existing conditions (positive effect) No change in operations and maintenance requirements from existing conditions (neutral effect) Increase in operation and maintenance requirements from existing conditions (negative effect)	The maintenance requirements will increase as the structure ages but are still minimal	2	Removal of gates and supporting hydraulics components reduces O&M requirements, maintenance will continue as the structure ages	4	Dam removed, no O&M requirements	5
Potential for reuse/repurpose opportunities	The ability of the structure to provide future benefit to	Opportunity for future use over and above existing conditions	5 3 1	Opportunity for addition reuse and repurposing No change from existing opportunities No opportunity for reuse or repurposing	No change	1	Potential for reuse	5	No opportunity as structure is removed	1
Capital Cost	Relative capital costs.	Capital costs of an alternative relative to other alternatives	5 3 1	Lowest capital costs Moderate capital costs High capital costs	Low costs	5	Moderate Costs	3	High costs	1
Ability to Finance	Alignment of alternative with financial planning and priority projects.	Ease of including alternative in financial planning for priority projects.	5 3 1	Consistent with the existing Financial Plan Easily able to finance within the City's existing Financial Plan Is not consistent with the existing Financial Plan	Consistent with Financial Plan	5	Limited ability to finance within existing financial plan	3	Not consistent with existing financial plan	1
				Subtotal	26	Subtotal	25	Subtotal	16	
				Normalized to out of 5	4.3	Normalized to out of 5	4.2	Normalized to out of 5	2.7	
				Natural Environment	2.8		3.7		4.8	
				Social/Cultural	3.0		4.1		3.9	
				Technical and Economic	4.3		4.2		2.7	
				Total	3.4		4.0		3.8	

Exhibit 2. The Forks Evaluation Framework and Scoring

Stage 2 Evaluation

Category & Criterion	Description	Measure/Indicator	Rating Scale for Measuring Impacts		Do Nothing		Ribbon Alternative 1 Walkway Support with Piers in the Thames		Ribbon Alternative 2 Suspended Walkway		Ribbon Alternative 3 Bridge Lookout		Ribbon Alternative 4 Land based Walkway		Terrace Alternative 1 Hardscape		Terrace Alternative 2 Softscape	
					Comparative Evaluation	Score	Comparative Evaluation	Score	Comparative Evaluation	Score	Comparative Evaluation	Score	Comparative Evaluation	Score	Comparative Evaluation	Score	Comparative Evaluation	Score
Natural Environment																		
Water Quality	The potential of the alternative to maintain or improve water quality.	Potential change in water quality compared to the existing conditions for total suspended solids and total phosphorus.	5	Improvement to water quality from existing conditions (positive effect)	Leaving existing conditions will result in deterioration of shoreline and water quality as a result	2	No change anticipated	3	No change anticipated	3	No change anticipated	3	No change anticipated	3	Potential increase in runoff and TSS, no vegetation to buffer runoff	1	Increase in vegetation and reduction in bank slope to buffer runoff	3
			3	No change in water quality from existing conditions (neutral effect)														
			1	Decrease/degradation in water quality from existing conditions (negative effect)														
Geomorphology	The potential of the alternative to result in a stable river system (i.e. stable streambanks and stream bottom conditions) to optimize sediment transport to support a healthy aquatic environment.	Potential change in the extent and risk of streambank erosion and stream bottom scour compared to the existing conditions.	5	Improvement in the stability of the river system from existing conditions (positive effect)	Gabion banks will degrade over time causing bank failure, confinement still high without re-graded slopes	3	Piers will change river hydraulics at the confluence, may cause additional scour	2	No change anticipated	3	No change anticipated	3	No change anticipated	3	Urban design will provide a more stable slope at the confluence, and enlarge the cross-section	4	Vegetative design provide more gradual stable slope at the confluence, additional roughness, and a larger cross-section than existing conditions	5
			3	No change in the stability of the river system from existing conditions (neutral effect)														
			1	Decrease in the stability of the river system from existing conditions (negative effect)														
Species at Risk	The potential of the alternative to protect and enhance the habitat of sensitive species and species at risk (both aquatic and terrestrial).	Potential change in the extent and quality of significant habitats for sensitive species and species at risk compared to the existing conditions.	5	Improvement in the extent and quality of significant habitats for sensitive species and species at risk from existing conditions (positive effect)	Leaving existing conditions will result in deterioration of shoreline and sensitive species habitat quality as a result	2	Disturbance in the river will negatively affect aquatic species at risk and bring more people to the river	1	Design will bring more people to the river, but has limited encroachment on the aquatic species at risk	3	Bridge extension could affect species at risk (swallows) under bridge	3	Design will bring more people to the river, but has limited encroachment on the aquatic species at risk	3	Brings more people towards the river (species at risk habitat), hard surfaces reduce riparian transition area and tree coverage	1	Brings more people towards the river (species at risk habitat)	2
			3	No change in the extent and quality of significant habitats for sensitive species and species at risk from existing conditions (neutral effect)														
			1	Decrease in the extent and quality of significant habitats for sensitive species and species at risk from existing conditions (negative effect)														
Terrestrial Habitat	The potential for the alternative to maintain or enhance terrestrial and riparian habitat for both plants and animals.	Potential change in the terrestrial habitat function and production capacity compared to existing conditions	5	Improvement in the terrestrial habitat function and production capacity from existing conditions (positive effect)	Leaving existing conditions will result in deterioration of shoreline and sensitive species habitat quality as a result	3	Some infringements on existing trees and riparian habitat	2	Some infringements on existing trees and riparian habitat	2	Bridge extension could affect species at risk (swallows) under bridge	3	Some infringements on existing trees and riparian habitat	2	Removal of trees and potentially milkweed for monarch habitat. Limits the riparian connection to the river, brings in more people	1	Assumes the design keeps many of the existing trees, improves the riparian connection, may even provide more vegetation, but brings more people in. Monarch Habitat at Forks	3
			3	No change in the terrestrial habitat function and production capacity from existing conditions (neutral effect)														
			1	Decrease in the terrestrial habitat function and production capacity from existing conditions (negative effect)														
Aquatic Habitat	The potential for the alternative to maintain or enhance habitat for aquatic dependent species.	Potential change in the aquatic habitat function and production capacity compared to existing conditions.	5	Improvement in the aquatic habitat function and production capacity from existing conditions (positive effect)	Leaving existing conditions will result in deterioration of shoreline and general habitat quality as a result	3	Disturbance in the river will negatively affect aquatic habitat	1	No change anticipated	3	No change anticipated	3	No change anticipated	3	No change anticipated	3	No change anticipated	3
			3	No change in the aquatic habitat function and production capacity from existing conditions (neutral effect)														
			1	Decrease in the aquatic habitat function and production capacity from existing conditions (negative effect)														
Groundwater and Surface Water Interactions	The potential of the alternative to protect or improve groundwater and surface water interactions in order to maintain or improve water quality and quantity.	Potential changes in the groundwater and surface water interactions compared to existing conditions.	5	Improvement in groundwater and surface water interactions from existing conditions resulting in improvements to water quality and quantity (positive effect)	No change anticipated	3	Piers in the riverbed can impact groundwater/surface water interactions	1	Foundations can affect groundwater/surface water interactions	2	No change anticipated	3	Foundations can affect groundwater/surface water interactions	2	Decrease in infiltration and potentially interfere with natural groundwater seeps	2	No change anticipated	3
			3	No change in groundwater and surface water interactions from existing conditions resulting in no changes to water quality and quantity (neutral effect)														
			1	Decrease in groundwater and surface water interactions from existing conditions resulting in degradation to water quality or decrease in water quantity (negative effect)														
					Subtotal	16	Subtotal	10	Subtotal	16	Subtotal	18	Subtotal	16	Subtotal	12	Subtotal	19
					Normalized to out of 5	2.7	Normalized to out of 5	1.7	Normalized to out of 5	2.7	Normalized to out of 5	3.0	Normalized to out of 5	2.7	Normalized to out of 5	2.0	Normalized to out of 5	3.2

Exhibit 2. The Forks Evaluation Framework and Scoring

Stage 2 Evaluation

Category & Criterion	Description	Measure/Indicator	Rating Scale for Measuring Impacts		Do Nothing	Ribbon Alternative 1 Walkway Support with Piers in the Thames	Ribbon Alternative 2 Suspended Walkway	Ribbon Alternative 3 Bridge Lookout	Ribbon Alternative 4 Land based Walkway	Terrace Alternative 1 Hardscape	Terrace Alternative 2 Softscape							
Social/Cultural																		
Cultural Heritage	The potential of the alternative to protect cultural/heritage resources.	Potential of the construction and related changes to the river regime to impact cultural heritage resources.	5	Potential to improve cultural/heritage resources related changes to the river regime	Leaving existing conditions will result in deterioration cultural/heritage resources	2	No change anticipated	5	No change anticipated	5	Kensington bridge is a cultural heritage bridge, so modifications would degrade heritage resources	1	No change anticipated	3	No change anticipated	3	No change anticipated	3
			3	No potential to degrade cultural/heritage resources related changes to the river regime														
			1	Potential to degrade cultural/heritage resources related changes to the river regime														
Public Health & Safety	The potential of the alternative to minimize risk or liability to community health and safety.	Potential change in risk or liability to community health and safety from existing conditions.	5	Potential to improve potential risk or liability to community health and safety (positive effect)	Leaving existing conditions will contribute to further deterioration in river conditions and lead to increased risk	2	Boats need to avoid piers, higher elevation poses additional safety hazard	2	No change anticipated	3	Improves pedestrian safety on Kensington bridge; bridge may be replaced under a separate city initiative, so maintained neutral score	3	No change anticipated	3	No change anticipated	3	No change anticipated	3
			3	No change in potential risk or liability to community health and safety (neutral effect)														
			1	Potential to degrade potential risk or liability to community health and safety (negative effect)														
Boating Recreation	The potential of the alternative to provide or enhance boating recreational activities.	Potential change in boating (canoeing, kayaking, etc.) recreational activities and areas from existing conditions.	5	Improvement in boating recreational activities and areas from existing conditions (positive effect)	No change anticipated	3	Piers limit boating in the area	1	No change anticipated	3	No change anticipated	3	No change anticipated	3	No change in opportunity to provide boating access	3	No change in opportunity to provide boating access	3
			3	No change in boating recreational activities and areas from existing conditions (neutral effect)														
			1	Decrease in boating recreational activities and areas from existing conditions (negative effect)														
Fishing Recreation	The potential of the alternative to provide or enhance fishing recreational activities.	Potential change in fishing recreational activities and areas from existing conditions.	5	Improvement in fishing recreational activities and areas from existing conditions (positive effect)	Leaving existing conditions will contribute to further deterioration in river conditions and fishing opportunities	2	No change anticipated	3	No change anticipated	3	No change anticipated	3	No change anticipated	3	More fishing areas off of terraces	5	More fishing areas off of terraces, access moderated with potential shoreline treatment	4
			3	No change in fishing recreational activities and areas from existing conditions (neutral effect)														
			1	Decrease in fishing recreational activities and areas from existing conditions (negative effect)														
Land-Based Recreation	The potential of the alternative to provide or enhance land-based recreational activities such as walking, biking and bird watching along the shoreline.	Potential change in land-based recreational activities and areas from existing conditions.	5	Improvement in land-based recreational activities and areas from existing conditions (positive effect)	No change anticipated	3	Large improvement in walking, running, viewing etc. activity opportunity	5	Large improvement in walking, running, viewing etc. activity opportunity	5	Similar capacity as current pedestrian access. Provides cycling access across the bridge	4	Some improvement in walking, running, viewing etc. activity opportunity	4	Large improvement in walking, running, viewing etc. activity opportunity	5	Large improvement in walking, running, viewing etc. activity opportunity	5
			3	No change in land-based recreational activities or areas from existing conditions (neutral effect)														
			1	Decrease in land-based recreational activities or areas from existing conditions (negative effect)														
Shoreline Accessibility	The potential of the alternative to enhance public accessibility to the river.	Potential change in sites and areas for shoreline access from existing conditions.	5	Improvement in sites and areas for shoreline access from existing conditions (positive effect)	No change anticipated	3	No change anticipated	3	No change anticipated	3	No change anticipated	3	No change anticipated	3	Provides more shoreline access	5	More fishing areas off of terraces, access moderated with potential shoreline treatment	4
			3	No change in sites and areas for shoreline access from existing conditions (neutral effect)														
			1	Decrease in sites and areas for shoreline access from existing conditions (negative effect)														
Aesthetics	The potential of the alternative to maintain or enhance the visual character of the river corridor.	Potential change in the visual character of the river corridor from existing conditions.	5	Improvement in the visual character of the river corridor from existing conditions (positive effect)	Leaving existing conditions will result in deterioration of shoreline and general aesthetic quality as a result	2	Large feature that could become the centerpiece of the Forks at the river	5	Large feature that could become the centerpiece of the Forks at the river	5	No significant change to current bridge visuals	4	No significant change from existing view	3	Improves visuals of the river	4	Improves visuals of the river, consistent with cultural heritage aesthetics of the river	5
			3	No change in visual character of the river corridor from existing conditions (neutral effect)														
			1	Decrease in the visual character of the river corridor from existing conditions (negative effect)														
Urban Revitalization	The potential of the alternative to encourage investing in London's downtown as the heart of the City to support urban regeneration and revitalization.	Potential to encourage investing in London's downtown.	5	High potential for encouraging investing in London's downtown in support of urban regeneration and revitalization	Current conditions do not encourage investment	1	Exciting feature that could attract both residents and tourists, encouraging commercial interest in the area	5	Exciting feature that could attract both residents and tourists, encouraging commercial interest in the area	5	Slight improvement in bridge, some potential for encouraging investment	2	Feature that could attract both residents and tourists, encouraging commercial interest in the area	3	Feature that could attract both residents and tourists, encouraging commercial interest in the area	5	Feature that could attract both residents and tourists, encouraging commercial interest in the area	5
			3	Moderate potential for encouraging investing in London's downtown in support of urban regeneration and revitalization														
			1	Low or negative potential for encouraging investing in London's downtown in support of urban regeneration and revitalization														
					Subtotal	18	Subtotal	29	Subtotal	32	Subtotal	23	Subtotal	25	Subtotal	33	Subtotal	32
					Normalized to out of 5	2.3	Normalized to out of 5	3.6	Normalized to out of 5	4.0	Normalized to out of 5	2.9	Normalized to out of 5	3.1	Normalized to out of 5	4.1	Normalized to out of 5	4.0

Exhibit 2. The Forks Evaluation Framework and Scoring

Stage 2 Evaluation

Category & Criterion	Description	Measure/Indicator	Rating Scale for Measuring Impacts		Do Nothing	Ribbon Alternative 1 Walkway Support with Piers in the Thames	Ribbon Alternative 2 Suspended Walkway	Ribbon Alternative 3 Bridge Lookout	Ribbon Alternative 4 Land based Walkway	Terrace Alternative 1 Hardscape	Terrace Alternative 2 Softscape								
Technical and Economic																			
Flood Hazard	The ability of the alternative to mitigate flood hazards.	Potential change in risk of flood and erosion damage to public infrastructure and private property.	5	Positive change in potential risk of flooding	No change anticipated	3	Piers in water negatively impact flood risk	1	No change, feature not in river	3	No change, feature not in river	3	Re-grading of the confluence floodplain could potentially reduce water levels, although it would decrease the roughness	4	Re-grading of the confluence floodplain could potentially reduce water levels, although it would potentially change (increase or decrease) the roughness	4			
			3	No change in potential risk of flooding															
			1	Negative impact in potential risk of flooding															
Carbon Footprint	The ability of the alternative to minimize carbon footprint.	Potential change in carbon footprint from existing conditions, including the change in energy requirements during construction and operations.	5	Zero or positive change in carbon footprint or energy requirements compared to existing system	Continued deterioration would result in moderate maintenance requirements and resulting increase in carbon footprint	5	Large construction project with negative carbon footprint impacts	1	Large construction project with negative carbon footprint impacts	2	Could be completed in conjunction with bridge work for more efficient construction	2	Smaller feature so less construction impacts	3	Construction project with negative carbon footprint impacts	3	Construction project with negative carbon footprint impacts, though less than Alternative 1 as less hardened surfaces required		
			3	Moderate, negative change carbon footprint or energy requirements compared to existing system															
			1	High, negative change in carbon footprint or energy requirements compared to existing system															
Constructability	The ease of the alternative to be constructed and implemented on a technical basis.	Ease of constructing the alternative, considering land requirements for works and staging areas, construction equipment, timeframe for construction	5	Easy to implement; no or very little construction requirements; little or no short-term environmental impacts	No construction requirements	5	Large undertaking with complicated construction and environmental considerations	1	Large undertaking with complicated construction and environmental considerations	2	Large undertaking with somewhat more complicated construction and environmental considerations	3	Moderate undertaking with some construction and environmental considerations	4	Large undertaking with complicated construction and environmental considerations	2	Moderate undertaking with some construction and environmental considerations		
			3	Moderately easy to implement; some challenges with construction such as land and equipment requirements, and timeframe for construction; some short-term environmental impacts, easily mitigated															
			1	Very difficult to implement; major construction challenges such as land and equipment availability/requirements, long timeframe for construction, environmental impacts difficult to mitigate during construction															
Approvals & Permitting	The ease of the alternative to obtain required permits and approvals from regulating agencies (e.g. UTRCA, MNR, MECP, DFO).	Ease of obtaining approvals and permits, including timeframe for receipt	5	No or very few approval requirements	No approvals required	5	Anticipated that approvals and permits would be difficult to obtain	1	Anticipated that approvals and permits would be difficult to obtain	3	Anticipated that approvals and permits would be difficult to obtain. Bridge is a heritage bridge	1	Anticipated that approvals and permits would be difficult to obtain	3	Some permitting and approvals required	3	Some permitting and approvals required		
			3	Moderately easy to obtain permits and approvals; some challenges relating to timelines and number of approvals necessary but conditions are minor															
			1	Very difficult to receive permits and approvals; timeframe is long and conditions are major															
Operations & Maintenance	The ease of the alternative to be operated and maintained.	Degree of change in operations and maintenance requirements from existing conditions	5	Reduction in operation and maintenance requirements from existing conditions (positive effect)	Leaving existing conditions will result in deterioration of shoreline and general increase in operations and maintenance	3	Increase in O&M efforts such as safety inspections, grounds keeping, other efforts associated with more people in the area	2	Increase in O&M efforts such as safety inspections, grounds keeping, other efforts associated with more people in the area	2	Increase in O&M efforts such as safety inspections, grounds keeping, other efforts associated with more people in the area	1	Slight increase in O&M efforts such as safety inspections, grounds keeping, other efforts associated with more people in the area	2	Slight increase in O&M efforts such as safety inspections, grounds keeping, other efforts associated with more people in the area	2	Neutral effect on O&M as area to operate in similar capacity as current conditions		
			3	No change in operations and maintenance requirements from existing conditions (neutral effect)															
			1	Increase in operation and maintenance requirements from existing conditions (negative effect)															
Compatibility with existing and planned infrastructure projects	The compatibility of the alternative with existing and planned public infrastructure projects.	Ability of an alternative to be integrated with or complement existing and planned infrastructure projects	5	Very compatible with existing and planned infrastructure	Compatible with infrastructure	1	Very compatible with planned Dundas place connection	5	Very compatible with planned Dundas place connection	5	Not compatible with existing Kensington bridge, as Heritage Feature	3	Very compatible with planned Dundas place connection	3	Trunk sewer below, hard surfaces make for difficult access	1	Provides more easy access to trunk sewer in area below than Alternative 1		
			3	Moderately compatible with existing and planned infrastructure															
			1	Very low compatibility with existing and planned infrastructure															
Capital Cost	Relative capital costs.	Capital costs of an alternative relative to other alternatives	5	Lowest capital costs	Minimal Cost	5	High Cost	1	High Cost	1	High to moderate Cost	2	Moderate Cost	3	High Cost due to high hardened surfaces coverage	2	Moderate Cost		
			3	Moderate capital costs															
			1	High capital costs															
Ability to Attract Alternate Funding	Potential for the alternative to attract funding from other sources, including philanthropy.	Ability to attract additional funding through philanthropy.	5	Includes features very likely to attract alternate funding through philanthropy, grants, or programs.	Unlikely to attract alternate funding	1	Exciting feature that could attract alternative funding sources	5	Exciting feature that could attract alternative funding sources	5	Unlikely to attract funding	2	Moderate feature that could attract alternative funding sources	2	Moderate feature that could attract alternative funding sources	3	Moderate feature that could attract alternative funding sources		
			3	Moderately likely to attract alternate funding through philanthropy, grants, or programs.															
			1	Unlikely to attract alternate funding.															
Ability to Finance	Alignment of alternative with financial planning and priority projects.	Ease of including alternative in financial planning for priority projects.	5	Consistent with the existing Financial Plan	Consistent with Financial Plan	5	Not consistent with existing Financial Plan	1	Not consistent with existing Financial Plan	1	Some ability to finance within existing Financial Plan	3	Some ability to finance within existing Financial Plan	2	Not consistent with existing Financial Plan	1	Some ability to finance within existing Financial Plan		
			3	Moderate ability to finance within the City's existing Financial Plan															
			1	Is not consistent with the existing Financial Plan															
					Subtotal	33	Subtotal	18	Subtotal	24	Subtotal	20	Subtotal	25	Subtotal	21	Subtotal	28	
					Normalized to out of 5	3.7	Normalized to out of 5	2.0	Normalized to out of 5	2.7	Normalized to out of 5	2.2	Normalized to out of 5	2.8	Normalized to out of 5	2.3	Normalized to out of 5	3.1	
					Natural Environment		2.7		1.7		2.7		3.0		2.7		2.0		3.2
					Social/Cultural		2.3		3.6		4.0		2.9		3.1		4.1		4.0
					Technical and Economic		3.7		2.0		2.7		2.2		2.8		2.3		3.1
					Total		2.9		2.4		3.1		2.7		2.9		2.8		3.4

Exhibit 3. The River Management Plan Evaluation Framework and Scoring

Stage 2 Evaluation

Category & Criterion	Description	Measure/Indicator	Rating Scale for Measuring Impacts		Alternative 1		Alternative 2		Alternative 3		Alternative 4	
					Existing Conditions		Naturalized River Corridor		Strategic River Corridor Active Use and Access		Enhanced River Corridor Active Use and Access	
Natural Environment					Comparative Evaluation	Score	Comparative Evaluation	Score	Comparative Evaluation	Score	Comparative Evaluation	Score
Water Quality	The potential of the alternative to maintain or improve water quality.	Potential change in water quality compared to the existing conditions for total suspended solids and total phosphorus.	5	Improvement to water quality from existing conditions (positive effect)	No change anticipated in water quality	3	Improvements in vegetation density along riverbank provides a vegetated buffer for improvement of runoff water quality	4	Improvement of water quality from improvements in vegetation density along riverbank and potential degradation of water quality from human activities due to selective access will balance improvements, no change anticipated	3	More human activity could result in more disturbance, increased litter, etc, and degradation of water quality	2
			3	No change in water quality from existing conditions (neutral effect)								
			1	Decrease/degradation in water quality from existing conditions (negative effect)								
Geomorphology	The potential of the alternative to result in a dynamically stable river system (i.e. stable streambanks and stream bottom conditions) to optimize sediment transport to support a healthy aquatic environment.	Potential change in the extent and risk of streambank erosion and stream bottom scour compared to the existing conditions.	5	Improvement in the stability of the river system from existing conditions (positive effect)	Continued bank erosion at select sites will cause failure of elevated, steep slopes, and their treatments (e.g. gabion, concrete, rubble)	1	Stabilization of critical sites will improve overall dynamic stability of the river environment	5	Stabilization of critical sites will improve overall dynamic stability of the river environment	5	River and pathway improvements (assuming pathway designs include stabilization) will further stabilize risk areas; increased access through human activity close to river such as making informal trails is anticipated to have a negative impact on river stability	4
			3	No change in the stability of the river system from existing conditions (neutral effect)								
			1	Decrease in the stability of the river system from existing conditions (negative effect)								
Species at Risk	The potential of the alternative to protect and enhance the habitat of sensitive species and species at risk (both aquatic and terrestrial).	Potential change in the extent and quality of significant habitats for sensitive species and species at risk compared to the existing conditions.	5	Improvement in the extent and quality of significant habitats for sensitive species and species at risk from existing conditions (positive effect)	No change without any positive improvements in habitat areas and more control over access	3	Anticipate an improvement through providing more cover and protections to species at risk and limiting human activity in area	5	Anticipate an improvement through providing more cover and protections to species at risk and better controlling access to river and human activity in area	4	More people interacting with species at risk habitat is anticipated to have a negative impact on species at risk	1
			3	No change in the extent and quality of significant habitats for sensitive species and species at risk from existing conditions (neutral effect)								
			1	Decrease in the extent and quality of significant habitats for sensitive species and species at risk from existing conditions (negative effect)								
Terrestrial Habitat	The potential for the alternative to maintain or enhance terrestrial and riparian habitat for both native plants and animals.	Potential change in the terrestrial habitat function and production capacity compared to existing conditions	5	Improvement in the terrestrial habitat function and production capacity from existing conditions (positive effect)	River terrestrial habitat will degrade, non-natives will continue to thrive, very little value to expansion of non-native habitat	2	Alternative allows for some mitigation of non-native species and improvements to habitat areas	5	Anticipate improvements through mitigation of non-native species in applicable areas but may be slightly offset by increased access	4	Anticipate improvements through mitigation of non-native species in applicable areas but will be offset by increased access	2
			3	No change in the terrestrial habitat function and production capacity from existing conditions (neutral effect)								
			1	Decrease in the terrestrial habitat function and production capacity from existing conditions (negative effect)								
Aquatic Habitat	The potential for the alternative to maintain or enhance habitat for aquatic dependent species.	Potential change in the aquatic habitat function and production capacity compared to existing conditions.	5	Improvement in the aquatic habitat function and production capacity from existing conditions (positive effect)	River is adjusting to free flowing river condition, trend is currently improving.	4	With improvements to riparian areas and bank stability, river will continue to improve.	5	With improvements to riparian areas and bank stability, river will continue to improve, more access may result in more negative impacts (habitat degradation, trespassing, poaching); this is offset by education and providing access in appropriate areas	4	Anticipated that more access decreases habitat function due to environmental impacts of human use	2
			3	No change in the aquatic habitat function and production capacity from existing conditions (neutral effect)								
			1	Decrease in the aquatic habitat function and production capacity from existing conditions (negative effect)								
Groundwater and Surface Water Interactions	The potential of the alternative to protect or improve groundwater and surface water interactions in order to maintain or improve water quality and quantity.	Potential changes in the groundwater and surface water interactions compared to existing conditions.	5	Improvement in groundwater and surface water interactions from existing conditions resulting in improvements to water quality and quantity (positive effect)	No change anticipated.	3	No change anticipated.	3	No change anticipated.	3	Increased pathways and access areas have potential to harden surfaces and intercept seeps, which degrades riparian habitat function	2
			3	No change in groundwater and surface water interactions from existing conditions resulting in no changes to water quality and quantity (neutral effect)								
			1	Decrease in groundwater and surface water interactions from existing conditions resulting in degradation to water quality or decrease in water quantity (negative effect)								
					Subtotal	16	Subtotal	27	Subtotal	23	Subtotal	13
					Normalized to out of 5	2.7	Normalized to out of 5	4.5	Normalized to out of 5	3.8	Normalized to out of 5	2.2

Exhibit 3. The River Management Plan Evaluation Framework and Scoring

Stage 2 Evaluation

Category & Criterion	Description	Measure/Indicator	Rating Scale for Measuring Impacts		Alternative 1		Alternative 2		Alternative 3		Alternative 4	
					Existing Conditions		Naturalized River Corridor		Strategic River Corridor Active Use and Access		Enhanced River Corridor Active Use and Access	
Social/Cultural												
Cultural Heritage	The potential of the alternative to align cultural/heritage resources with existing policies.	Potential of the construction and related changes to the river regime to impact cultural heritage resources.	5	Potential to improve cultural/heritage resources related to changes to the river regime	Bank erosion/treatment failure will detract from the cultural heritage features of the river, and may impact some trails	1	Will maintain cultural/heritage by maintaining a natural river without additional access	3	Improve cultural/heritage by maintaining a natural river with limited access	5	Improve cultural/heritage by maintaining a natural river, potential offset through additional access	4
			3	No potential to degrade cultural/heritage resources related to changes to the river regime								
			1	Potential to degrade cultural/heritage resources related to changes to the river regime								
Public Health & Safety	The potential of the alternative to minimize risk or liability to community health and safety.	Potential change in risk or liability to community health and safety from existing conditions.	5	Potential to improve potential risk or liability to community health and safety (positive effect)	Instability in riverbank environment has potential to increase risk and liability	2	Improving existing access and stabilization of riverbank environment reduces risk and liability	4	More infrastructure, increases risk but also provides opportunities for best management practices to limit risk	4	More infrastructure, increases risk but also provides opportunities for best management practices to limit risk, less potential based on amount of access	4
			3	No change in potential risk or liability to community health and safety (neutral effect)								
			1	Potential to degrade potential risk or liability to community health and safety (negative effect)								
Boating Recreation	The potential of the alternative to provide or enhance boating recreational activities.	Potential change in boating (canoeing, kayaking, etc.) recreational activities and areas from existing conditions.	5	Improvement in boating recreational activities and areas from existing conditions (positive effect)	Decrease anticipated due to continued deterioration in riverbank stability at existing access locations	1	Naturalizing the riverbank environment will reduce opportunity to access the river at informal locations but improved access points will increase opportunities	3	More access locations provide improved boating opportunities	4	More access locations provide improved boating opportunities	5
			3	No change in boating recreational activities and areas from existing conditions (neutral effect)								
			1	Decrease in boating recreational activities and areas from existing conditions (negative effect)								
Fishing Recreation	The potential of the alternative to provide or enhance fishing recreational activities.	Potential change in recreational fishing from existing conditions.	5	Improvement in fishing recreational from existing conditions (positive effect)	Decrease anticipated due to continued deterioration in riverbank stability (i.e. steep, elevated banks)	2	Naturalizing the riverbank environment and improving existing access will improve fish habitat and opportunities for fishing	4	Naturalizing the riverbank environment will improve fish habitat and opportunities for fishing along with more access locations provide improved fishing opportunities	5	Naturalizing the riverbank environment will improve fish habitat and opportunities for fishing along with more access locations provide improved fishing opportunities	5
			3	No change in fishing recreational from existing conditions (neutral effect)								
			1	Decrease in fishing recreational from existing conditions (negative effect)								
Land-Based Recreation	The potential of the alternative to provide or enhance land-based recreational activities such as walking, biking and bird watching along the shoreline and riverbank.	Potential change in land-based recreational activities and areas from existing conditions.	5	Improvement in land-based recreational activities and areas from existing conditions (positive effect)	Decrease anticipated due to continued deterioration in riverbank stability	2	Improvement to existing access locations and pathways provide improved land-based recreation opportunities	3	More access locations and trails provide improved land-based recreation opportunities	4	More access locations and trails provide improved land-based recreation opportunities	5
			3	No change in land-based recreational activities or areas from existing conditions (neutral effect)								
			1	Decrease in land-based recreational activities or areas from existing conditions (negative effect)								
Riverbank Accessibility	The potential of the alternative to enhance public accessibility to the river.	Potential change in sites and areas for riverbank access from existing conditions.	5	Improvement in sites and areas for riverbank access from existing conditions (positive effect)	No change anticipated to riverbank access. Vegetation growth can continue to limit access	3	Naturalized banks with vegetation can limit river access	2	Naturalized banks can be designed with select, stable access locations.	4	More access from improved trails and access locations throughout.	5
			3	No change in sites and areas for riverbank access from existing conditions (neutral effect)								
			1	Decrease in sites and areas for riverbank access from existing conditions (negative effect)								
Aesthetics	The potential of the alternative to maintain or enhance the natural visual character of the river corridor.	Potential change in the natural visual character of the river corridor from existing conditions.	5	Improvement in the visual character of the river corridor from existing conditions (positive effect)	River bank character is improving as vegetated benches develop along the toe, providing floodplain features. However, existing deterioration of treatments will continue (e.g. failing/leaning gabion baskets)	3	Aesthetics improved through improvements to riverbank environment and existing access locations	5	Aesthetics improved through improvements to riverbank environment and existing access locations, no net benefit anticipated through additional selected access	4	Aesthetics improved through improvements to riverbank environment and existing access locations, negative net benefit anticipated through additional access	2
			3	No change in visual character of the river corridor from existing conditions (neutral effect)								
			1	Decrease in the visual character of the river corridor from existing conditions (negative effect)								
Urban Revitalization	The potential of the alternative to support ongoing investment in London's downtown as part of the urban regeneration and revitalization outlined in the Official Plan.	Potential to encourage investing in London's downtown.	5	High potential for encouraging investing in London's downtown in support of urban regeneration and revitalization	Current conditions and further deterioration in river conditions anticipated to discourage revitalization	1	Limited access to river is not anticipated to encourage revitalization	1	Improved access to river is anticipated to encourage revitalization	4	Additional access to river is anticipated to encourage revitalization	5
			3	Moderate potential for encouraging investing in London's downtown in support of urban regeneration and revitalization								
			1	Low or negative potential for encouraging investing in London's downtown in support of urban regeneration and revitalization								
					Subtotal	15	Subtotal	25	Subtotal	34	Subtotal	35
					Normalized to out of 5	1.9	Normalized to out of 5	3.1	Normalized to out of 5	4.3	Normalized to out of 5	4.4

Exhibit 3. The River Management Plan Evaluation Framework and Scoring

Stage 2 Evaluation

Category & Criterion	Description	Measure/Indicator	Rating Scale for Measuring Impacts		Alternative 1	Alternative 2	Alternative 3	Alternative 4				
					Existing Conditions	Naturalized River Corridor	Strategic River Corridor Active Use and Access	Enhanced River Corridor Active Use and Access				
Technical and Economic												
Flood Hazard	The ability of the alternative to mitigate flood hazards.	Potential change in risk of flood and erosion damage to public infrastructure and private property.	5	Positive change in potential risk of flooding	No change anticipated	3	Riverbank improvements anticipated to reduce flood risk	4	River improvements reduce flood risk, additional access points have minimal negative impact flooding	4	River improvements reduce flood risk, additional access points have minimal negative impact flooding	
			3	No change in potential risk of flooding								
			1	Negative impact in potential risk of flooding								
Carbon Footprint	The ability of the alternative to minimize carbon footprint and increase active transportation.	Potential change in carbon footprint from existing conditions with an emphasis on encouraging active transportation opportunities.	5	Positive change in carbon footprint or active transport compared to existing system	No change anticipated	3	No change anticipated	3	Promotes active transportation such as walking or cycling to work	4	Promotes additional active transportation such as walking or cycling to work	
			3	No change carbon footprint or active transportation compared to existing system								
			1	High or negative change in carbon footprint or active transportation compared to existing system								
Constructability	The ease of the alternative to be constructed and implemented on a technical basis.	Ease of constructing the alternative, considering land requirements for works and staging areas, construction equipment, timeframe for construction	5	Easy to implement; no or very little construction requirements; little or no short-term environmental impacts	No construction requirements but degradation in riverbanks/treatments may result in mitigation activities	5	Moderate construction requirements	3	Moderate construction requirements	3	More extensive construction requirements	
			3	Moderately easy to implement; some challenges with construction such as land and equipment requirements, and timeframe for construction; some short-term environmental impacts, easily mitigated								
			1	Very difficult to implement; major construction challenges such as land and equipment availability/requirements, long timeframe for construction, environmental impacts difficult to mitigate during construction								
Approvals & Permitting	The ease of the alternative to obtain required permits and approvals from regulating agencies (e.g. UTRCA, MNRF, MECP, DFO).	Ease of obtaining approvals and permits, including timeframe for receipt	5	No or very few approval requirements	Approvals anticipated for mitigation of bank failures through increased degradation	4	Anticipated that environmental improvements are easily attained	4	Approvals required for environmental work and shoreline alternations to accommodate additional access, moderately easy to obtain	3	Approvals required for environmental work and shoreline alternations to accommodate additional access, may be more difficult to obtain	
			3	Moderately easy to obtain permits and approvals; some challenges relating to timelines and number of approvals necessary but conditions are minor								
			1	Very difficult to receive permits and approvals; timeframe is long and conditions are major								
Operations & Maintenance	The ease of the alternative to be operated and maintained.	Degree of change in operations and maintenance requirements from existing conditions	5	Reduction in operation and maintenance requirements from existing conditions (positive effect)	As pathways, riverbank environments and access points degrade, O&M requirements will increase	2	Improvements to riverbank environments and access points will result in less O&M	4	After existing access point and pathways are upgraded, and selected new ones are installed, O&M anticipated remain the same as current requirements	3	After existing access point and pathways are upgraded, and additional new ones are added, O&M anticipated to increase above current requirements	
			3	No change in operations and maintenance requirements from existing conditions (neutral effect)								
			1	Increase in operation and maintenance requirements from existing conditions (negative effect)								
Compatibility with existing and planned infrastructure projects	The compatibility of the alternative with existing and planned public infrastructure projects.	Ability of an alternative to be integrated with or complement existing and planned infrastructure projects	5	Very compatible with existing and planned infrastructure	Current conditions are not compatible with infrastructure due to continued degradation	2	Improved conditions are moderately compatible with infrastructure	3	Improved conditions and additional access are more compatible with infrastructure	5	Improved conditions and additional access are more compatible with infrastructure	
			3	Moderately compatible with existing and planned infrastructure								
			1	Very low compatibility with existing and planned infrastructure								
Capital Cost	Relative capital costs.	Capital costs of an alternative relative to other alternatives	5	Lowest capital costs	Additional cost to mitigate degradation cost	4	Moderate Costs	3	Higher Costs	2	Highest Cost	
			3	Moderate capital costs								
			1	High capital costs								
					Subtotal	23	Subtotal	24	Subtotal	24	Subtotal	20
					Normalized to out of 5	3.3	Normalized to out of 5	3.4	Normalized to out of 5	3.4	Normalized to out of 5	2.9
					Natural Environment	2.7		4.5		3.8		2.2
					Social/Cultural	1.9		3.1		4.3		4.4
					Technical and Economic	3.3		3.4		3.4		2.9
					Total	2.6		3.7		3.8		3.1