

Dundas Valley 50-Year Vision & Strategy 2008-2058

Implementation Strategy Cycle 1:
Appendices A

2014-2019



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Dundas Valley 50-Year Vision and Strategy

Implementation Strategy Cycle 1: 2014-2019

Work Plan

Strategic Directions: Preserve and enhance the connectivity of ecosystems in the Valley AND Explore the co-benefits of connecting with the Cootes to the Escarpment natural areas strategy



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Background

Ecological connectivity is important for the health of our environment, and if it is maintained, it can add to the appeal and livability of our communities. Ecological connectivity is maintaining a connected system of open space throughout an ecosystem (Streamlines, 2001). There are a myriad of factors that affect ecological connectivity such as habitat fragmentation, deforestation, wide-scale commercial development, among others. Over time, population increases and affiliated development pressures have exerted both positive and negative impacts upon ecosystem linkages, function, and in turn species numbers, status, and distribution. Ecological connections must be preserved through the integration of scientific skills with applied management and policy in order to achieve practical outcomes with long-term benefits. For land managers and environmental planners, the challenge is to design and implement land-use strategies that will ensure the conservation of natural resources in the face of competing demands for land use (IUCN, 2003).



The Dundas Valley area contains a number of potential natural areas that through the formation of corridors can work towards ensuring ecological connectivity. To the east of the Dundas Valley area are the Cootes Paradise and the Desjardins Canal that ultimately link to the Hamilton Harbour. These areas are also of importance in relation to the Valley being part of the Spencer Creek with sub watersheds that drain into this area. The Valley given its location serves as an influential factor in terms of connectivity. The Cootes to the Escarpment Park System Strategy (CEPS) is a new, visionary approach to protect, restore and connect more than 2,000 hectares (4,900 acres) of natural lands between the Niagara Escarpment and Cootes Paradise/Hamilton Harbour. Two areas of connection between the *Dundas Valley 50 Year Vision and Strategy* and the Cootes to Escarpment Park System Strategy have been noted. One is the Niagara Escarpment with anticipated connections between Rock Chapel and Borer's Falls and Spencer Gorge-Webster's Falls Conservation Area and the other is the Spencer Creek between Cootes Paradise and Dundas Valley Conservation Area. With the development of this work plan, the strategic directions of the Vision- 'Preserve and enhance the connectivity of ecosystems in the Valley' and 'Explore the co-benefits of connecting with the Cootes to the Escarpment natural areas strategy' can be put into action within the Vision's first 5-Year implementation cycle.

1.0 Dundas Valley 50-Year Vision & Strategy: Themes, Goals and Actions

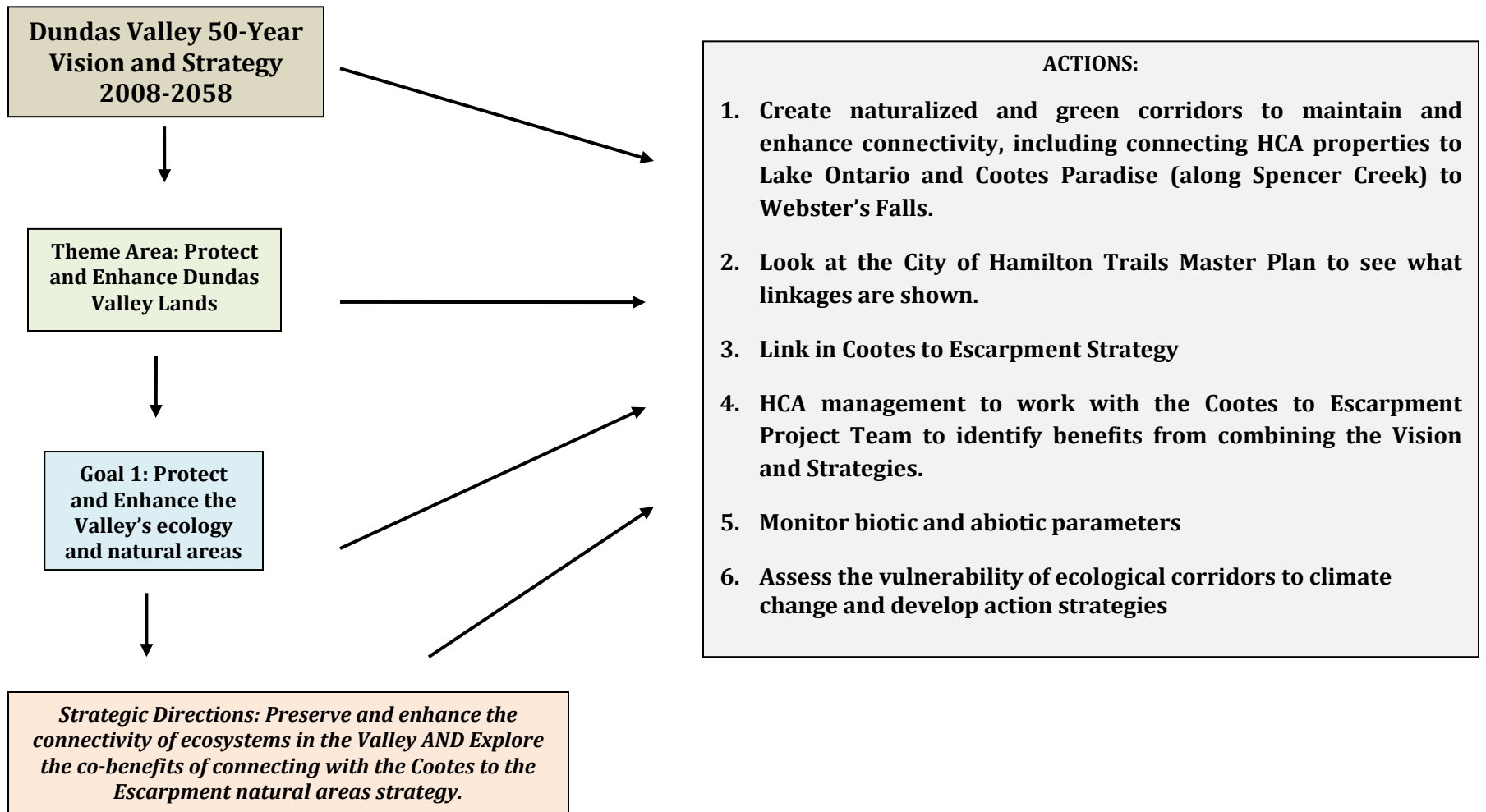


Chart 1: Theme area, Goal, Strategic Direction, and Actions.

2.0 Methodology and Work plan

The objective of the ISC1 and this work plan is to begin the implementation of the Vision's top 10 Strategic Directions (SDs). The preservation of ecological linkages and co-benefits of connecting with the Cootes to Escarpment Strategy was identified as a key area of interest for the first 5 year cycle and is one of the 43 SDs that was highlighted through the development of the 50 Year Vision. Implementation will take the form of project development and execution followed by continuous monitoring and evaluation to gauge the success and highlight any necessary areas for improvement along the way (Refer to Chart 2). With this process in place, over the course of the work plan's implementation, the scope of work will be able to adapt to any unplanned changes.

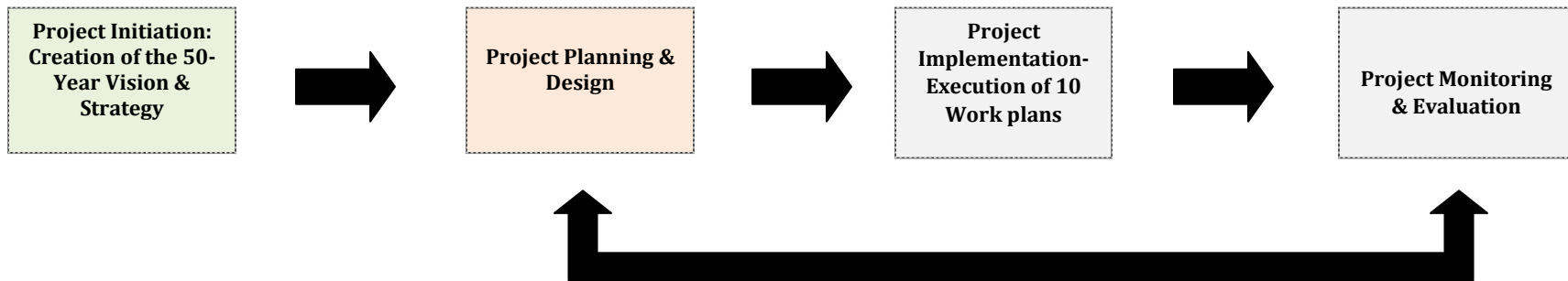


Chart 2: Project Management Framework

Over the 5-Year phase, a work plan with the 6 actions will be implemented (Table 1). For each action item, there are a number of related activities and projected outcomes. It should be noted that for some of these actions, work has already been completed or is ongoing. Additional actions/activities may be identified during ISC1's implementation and may not be limited to the actions identified in the Vision document.

Table 1: Work plan

WP & E: Watershed Planning & Engineering
LM: Land Management

Actions	Activities	Projected Outcomes	Lead	Time	Sub-Budget		Status
					Role	Cost	
1. Look at City of Hamilton Trails Master Plan to see what linkages are shown	<ul style="list-style-type: none"> Review the City of Hamilton's <i>Recreational Trails Master Plan</i>- look specifically at wards 12 and 13 to see which areas have been outlined. 	<ul style="list-style-type: none"> Reviewed the RTMP in relation to the Dundas Valley area. 	HCA	2014-2019	Strategy Manager Overhead	Core Budget (see appendix)	
2. Link in with Cootes to Escarpment Strategy (CEPS) AND 3. HCA management to work with the Cootes to Escarpment Project Team to identify benefits from combining the Vision and Strategies areas strategy	<ul style="list-style-type: none"> Review Wong, Janet. 2009. <i>Cootes to Escarpment Park System Conservation and Land Management Strategy</i>. Burlington, Ontario: Royal Botanical Gardens and Galbraith, D. and Abel, K.M. 2009. <i>Cootes to Escarpment Park System: A Conservation Vision</i>. Burlington, Ontario: Royal Botanical Gardens, in addition to the <i>Cootes to the Escarpment Park System Land Securement Strategy</i> 2011. Continuously work with the RBG and local project partners to towards acquiring the identified areas through regular communication between both teams via project updates. Ensure the promotion of the CEPS with the <i>Dundas Valley 50-Year Vision and Strategy's</i> public awareness programs through webpage, blog, and other outreach material. 	<ul style="list-style-type: none"> Continuously work towards the creation of the identified linkages. Promoted the CEPS with <i>Dundas Valley 50-Year Vision and Strategy</i>. 	HCA	2014-2019	LM and WP & E Staff Overhead	HCA Annual Budget	HCA is a partner with the CEPS's implementation . A staff representative currently serves on the CEPS committee and working collaboratively to ensure linkages between both strategies.

<p>4. Create naturalized and green corridors, including connecting HCA properties to Lake Ontario and Cootes Paradise (along Spencer Creek), and connect Spencer Creek to Webster's Falls</p>	<ul style="list-style-type: none"> • Develop the scope of a plan to create these corridors (see the following draft outline below). • Develop a <i>Habitat Fragmentation Current State Analysis</i> (HFCSA) report for the area: <ul style="list-style-type: none"> - Conduct a literature review on habitat fragmentation and its potential effects on the landscape in the area - Consult with local partners to identify potential patches e.g. City of Hamilton, McMaster University, RBG, HCA staff, landowners, and others - Conduct a GIS Analysis of lands in the Valley area to identify possible habitat patches and compare with older maps where possible to highlight trends and changes in land use, and parcel size over time: <ul style="list-style-type: none"> ○ Create a list of patch/corridor areas and calculate their dimensions/geometries ○ Identify vulnerable species within these areas and monitor numbers, temperature, and water (see action 5) ○ Identify current recreational uses for each patch ○ Map these areas to show location, position relative to Environmentally Sensitive Areas (ESAs), land-use type, and ownership - Use this information to conduct an assessment of the area to demonstrate the impacts of habitat fragmentation on the Valley. • Coordinate work with actions 1 and 2 (see above), HCA's <i>Terrestrial Monitoring Programme</i> (TMP), <i>Aquatic Monitoring Programme</i> (AMP), and HCA's <i>Land Securement Strategy</i> (LSS). 	<ul style="list-style-type: none"> • Consulted with a Technical Specialist • Developed a HFCSA report for the Dundas Valley area. • Developed and initiated the implementation of the DVCP through collaboration with local partners. • Removed barriers to fish passage, low-head dams and mitigated online ponds. • Demolished old buildings in the Dundas Valley and allow area/s to naturalize. • Infilled areas of the Valley where feasible. 	<p>HCA</p>	<p>2014-2019</p>	<p>Technical Specialist</p> <p>LM and WP & E Staff</p> <p>Equipment, materials, and resources</p> <p>Travel</p> <p>Communications</p>	<p>\$15,000</p> <p>HCA Annual Budget</p>	<p>In progress as HCA staff has developed a <i>Land Securement Strategy</i> (LSS) that has identified areas for acquisition. This strategy will assist with the further identification of potential corridors. A <i>Terrestrial Resource Monitoring Program</i> (TRMP) has also been developed and will examine habitat fragmentation in selected areas. The Freeman House in the Valley are is planned to be demolished in addition to an old shed close to Merrick Pond. These areas will be allowed to naturalize.</p>
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	<ul style="list-style-type: none"> • Develop and implement a <i>Dundas Valley Corridor Plan (DVCP)</i> for the area: Use identified target areas from the HFCSA to aid in the design of the corridor/s • Examine, evaluate, and prioritize the recreational and ecological potential of each target area using a corridor prioritization matrix (see appendix) • Rank the top areas for securement • Finalize a list of priority areas for connectivity • Create a map to illustrate these areas • Based on the identified target areas, use conduct a GIS Analysis to design suitable corridors • Develop a Land Securement Strategy to guide securement activities-integrate with HCA's existing Land Securement Strategy 2011 where possible. • Based on land identified, create a budget that will outline how much funds will be needed to secure these lands. • Apply for grants and to fund securement and source additional streams of revenue. • Commence acquisition of lands and work with landowners and community partners to secure them. • Raise awareness in communities about project through 2 open houses and the distribution of promotional material to bolster support e.g. flyers, on HCA's website. 					
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	<ul style="list-style-type: none"> • Work with the <i>Hamilton-Halton Watershed Stewardship Program</i> (HHWSP) and HCA staff to continuously: <ul style="list-style-type: none"> - Identify and modify barriers to fish passage in Spencer Creek where possible - Remove low-head dams/ lower Spencer Creek where feasible - Mitigate online ponds in Sulphur Creek where feasible • Coordinate efforts with the <i>Lower Spencer Creek Integrated Subwatershed Study</i> (LSCS) data and recommendations (refer to SD 'Protect and enhance the health of streams, watercourses, and waterfalls'). • Demolish old buildings in the Dundas Valley where possible and allow area/s to naturalize. • Infill plantings of forest and/or oak savannah (trees and prairie) in feasible areas within the Valley. 						
5. Monitor biotic and abiotic parameters	<ul style="list-style-type: none"> • Use identified target areas from the HFCSA to set-up monitoring stations. • Monitor and collect data for species numbers, temperature, and precipitation for each station at selected intervals. • Create a data baseline and repeat the monitoring process to gain more data to evaluate trends and changes for each habitat patch. 	<ul style="list-style-type: none"> • Monitored and collected data for biotic and abiotic parameters. 	HCA	2014-2019	(see action 4)		
6. Assess the vulnerability of ecological corridors to	<ul style="list-style-type: none"> • Develop climate predictions for 25, 50, and 100 years scenarios for the Valley area. • Source existing data from other institutions 	<ul style="list-style-type: none"> • Conducted a Risk Assessment study of priority land parcels. 	HCA	2014-2019	WP & E Staff Overhead	HCA Annual Budget	

<p><i>climate change and develop action strategies.</i></p>	<p>where possible for these areas e.g. universities</p> <ul style="list-style-type: none"> Analyze collected data from the HFCSA study and existing data from other sources to pinpoint trends and changes in land parcel size/s, species distribution, temperature and precipitation. Conduct a risk assessment- identify and establish possible climate change impacts on each of the top priority areas. Compare and contrast data collected for various locations in the Dundas Valley and determine the higher risk/ more vulnerable areas. Work with the HCA Climate Change Task Force and other partners to develop action strategies. 	<ul style="list-style-type: none"> Created a report with recommended strategies. 					
TOTAL COST							\$ 15,000

3.0 Resources and Constraints

RESOURCES:

- **Overlapping on-going programs-** HCA currently possesses a number of active and future planned programs that overlap significantly with the actions outlined under the SD. Some of these programs are:
 1. *Land Securement Strategy (LSS)* - the LSS was created in 2011 and with its implementation will ensure that the environmentally sensitive lands of the Valley will be secured and in turn protected from any form of degradation.
 2. *Cootes to the Escarpment Parks System (CEPS)* - HCA is currently an active partner on the CEPS steering committee and is providing input to the strategy's implementation.
 3. *Terrestrial Monitoring Program (TMP)* - in 2012, HCA developed a TMP that will track changes in ecosystem health (including trends of habitat fragmentation) and help adapt to climate change.
- **Trained and experienced staff-** HCA possesses highly trained and experienced staff members who are familiar with the environmental and social conditions of the Dundas Valley.
- **Community partnerships-** HCA has over the years established a number of working relationships with landowners and key community partners across the Dundas Valley. In particular, the HHWSP and the LSS has created awareness and engaged landowners. These relationships and connections will continue to be drawn upon for the implementation of this SD.

CONSTRAINTS:

- **Funding Availability and Timing-** sourcing additional funding for work plan execution and for the hiring of a Project Coordinator will be needed for successful implementation and applying for funding by designated time lines while ensuring these align with the work plan's implementation time line as well.
- **Workload Management-** implementing the SD's work plan along with the other 10 SDs' work plans under the 50-Year Vision within the 5-Year timeframe could be a challenge for HCA as there are other multiple programs that also fall under the HCA's mandate and would require sufficient time, dedication, and effort.
- **Lack of specialized in-house knowledge in particular areas-** there may be a need to consult with external professionals in selected areas e.g. technical expert/specialist to aid with designing the corridors and the development of a land securement strategy that will guide the acquisition of the identified areas.

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Appendix

Attachment 1: **Table 1: Corridor Prioritization Matrix**

LAND PARCEL ATTRIBUTES					
SELECTION CRITERIA	Weighting	Land Parcel A	Land Parcel B	Land Parcel C	
1.Ease of securement i.e. already owned, private land					
2. Size of habitat patch					
3. Potential to connect > 1 ecosystem					
4.Contains ESA and/or ANSI					
5. Recreational potential					
6.Probabilty of site loss if no action taken					
7.Economic costs					
8. Interior Forest Creation					
9. Connectivity among sub-watersheds					
10. Tax Exemption under CLTIP					

Corridor Prioritization Ranking Criteria:

On a scale of 0-4, assign an appropriate score based on the following categories:

1. Ease of securement

- 0- Does not apply
- 1- Mixed land ownership
- 2- Privately owned land
- 3- Publicly-owned land e.g. City of Hamilton, Niagara Escarpment Commission (NEC)
- 4- HCA-owned land

2. Size of habitat patch

- 0- Does not apply
- 1- Negligible < 500 hectares
- 2- Small 500-1000 hectares

- 3- Large 1000-5000 hectares
- 4- Extensive > 5000 hectares

3. Potential to connect > 1 ecosystem

- 0- Does not apply
- 1- Habitat patch contains only one type of ecosystem and is very distant from another potential habitat patch
- 2- Habitat patch contains only one type of ecosystem and is close to another potential patch
- 3- Habitat patch contains more than one type of ecosystem and is very distant from another potential habitat patch
- 4- Habitat patch contains more than one type of ecosystem and is close to another potential patch

4. Contains ESA and/or ANSI

- 0- Does not apply
- 1- Habitat patch contains one or more Area of Natural and Scientific Interest (ANSIs)
- 2- Habitat patch contains one or more Environmentally Sensitive Areas (ESAs)
- 3- Habitat patch contains a mix of one or more ANSIs and ESAs
- 4- Habitat patch contains a mix of two or more ANSIs and ESAs

5. Recreational potential

- 0- Does not apply
- 1- Site contains no trail sections or networks or conservation area
- 2- Site contains trail sections at selected points
- 3- Site contains extensive trail networks through traverse a significant portion of its area
- 4- Site comprises part of a larger conservation area with extensive trail networks through traverse portions of its area

6. Probability of site loss if no action taken

- 0- Does not apply
- 1- Site currently being used for another purpose
- 2- Site has a defined purpose for a specific land use but not action has been taken in this regard
- 3- Site has a defined purpose for a specific land use and action will be taken within the coming months
- 4- Site currently being used by the HCA for another purpose

7. Economic costs

- 0- Does not apply
- 1- Fairly expensive to acquire
- 2- Expensive to acquire

- 3- Fairly cheap to acquire
- 4- Cheap to acquire

8. Interior Forest Creation

- 0- Does not apply
- 1- Negligible area of forest block/s joined < 300 hectares
- 2- Small area of forest block/s joined 300-500 hectares
- 3- Large area of forest block/s joined 500-1000 hectares
- 4- Extensive area of forest block/s joined > 1000 hectares

9. Connectivity among sub-watersheds

- 0- Does not apply
- 1- Habitat patch found within one sub-watershed but does not connect to another sub-watershed
- 2- Habitat patch found within one sub-watershed but does connect to another sub-watershed
- 3- Habitat patch found within more than one sub-watershed and does connect to another sub-watershed
- 4- Habitat patch found within more than one sub-watershed and does connect to more than one sub-watershed

10. Tax Exemption under the Ontario Ministry of Natural Resources (OMNR) Conservation Lands Tax Incentive Program (CLTIP)

- 0- NO
- 4- YES

How to use this matrix:

- Use the ranking criteria, apply a score to each of the categories
- Find the sum of scores for each criteria
- Multiply the sum of score by the weighting applied
- The higher scores will be a higher priority for action

Attachment 2: Implementation Strategy Cycle 1: 2014-2019
Core Operational Budget

EXPENSES	PROJECT COSTS PER YEAR	TOAL FIVE YEAR COST
<i>Personnel</i>		
1. Strategy Manager at 100%, \$28/hour + 20% Fringe Benefits	\$60,480.00	\$302,400.00
<i>Travel</i>		
2. Travel at HCA rate of \$0.53/km	\$2,000.00	\$10,000.00
<i>Materials, Supplies & Equipment</i>		
3. Computer and office supplies	\$1,500.00	\$7,500.00
4. Printed reports, surveys, and maps	\$1,500.00	\$7,500.00
<i>Communications Costs</i>		
5. Open Houses, public meetings, and outreach materials (brochures, flyers, and posters)	\$3,500.00	\$17,500.00
6. Web page, press releases, newspaper advertisements	\$2,000.00	\$10,000.00
<i>Overhead (office space, phone, heat, hydro, internet)</i>		
7. Strategy Manager at 100%	\$10,000.00	\$50,000.00
<i>Other Expenses</i>		
8. Cost of attending related networking events, conferences, workshops, and training	\$1,000.00	\$5,000.00
9. Refreshments e.g. committee meetings, stakeholder meetings, open houses	\$500.00	\$2500.00
TOTAL	\$82,480.00	\$412,400.00



Dundas Valley 50-Year Vision and Strategy

Implementation Strategy Cycle 1:2014-2019

Work Plan

Strategic Direction: Combat the impact of invasive and nuisance species within the Valley



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Background

Invasive Alien Species (IAS) are species of plants, animals, and micro-organisms introduced by human action outside their natural past or present distribution, i.e., they originate from other continents, neighboring countries or provinces, or from other ecosystems. IAS are those that after introduction, reach very high numbers and threaten the environment (GC, 2004). Many times, IAS do not only threaten the environment, but also economy and human health. Many species, native or alien, can also become nuisance species given the right conditions and being menacing and problematic to their surroundings such as white-tailed deer in the Valley area.

In the Dundas Valley, there are a number of species that have become of concern being listed as either as IAS or nuisance species (Appendix-Table 1 and 2). According to the Ontario Ministry of Natural Resources (OMNR), IAS move into ecosystems and take over, displacing some native species by disrupting food webs, degrading habitat, introducing parasites and disease, and ultimately causing species to become of local extinction (OMNR, 2012). In addition to threatening biodiversity, these species cost a significant amount of money to be controlled and eradicated and threaten human safety in some instances.



It has been observed, that a number of plant and animal IAS and nuisance species have been increasing and spreading across particular areas of the Dundas Valley (Appendix: Tables 1 and 2) e.g. garlic mustard. There is a need for IAS data presence/absence, distribution, and abundance, IAS management plans, programs or strategies, nuisance species for the Dundas Valley area. HCA has also observed an increase in the number of white-tailed deer in the Dundas Valley. There have been over browsing of vegetation, destruction of gardens and ornamental plants on private properties, vehicle collisions, and deer-human interactions (IHCA, 2011). An HCA *Deer Exclosure Monitoring Program* is underway to determine whether the population of deer in the Dundas Valley is exceeding the carrying capacity of these forested natural areas, therefore detrimentally influencing the forest's overall health and plant biodiversity. With the development of this work plan, the strategic direction of the Vision-‘Combat the impact of invasive and nuisance species within the Valley’ can be put into action within the Vision’s first 5 year implementation cycle.

1.0 Dundas Valley 50-Year Vision & Strategy: Themes, Goals and Actions

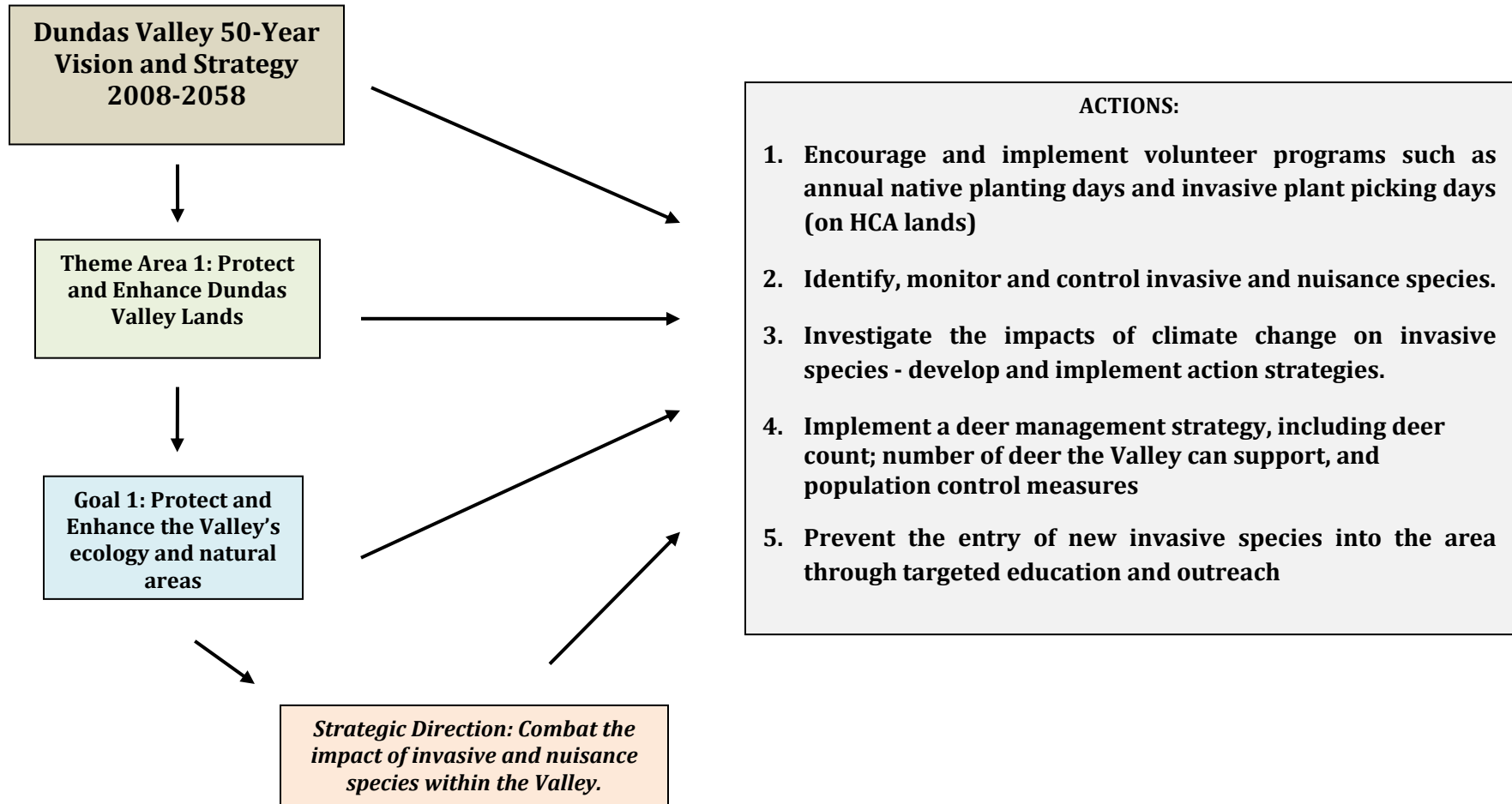


Chart 1: Theme area, Goal, Strategic Direction, and Actions.

2.0 Methodology and Work plan

The objective of the ISC1 and this work plan is to begin the implementation of the Vision's top 10 Strategic Directions (SDs). The control of invasive and nuisance species in the Valley was identified as a key area of interest for the first 5 year cycle and is one of the 43 SDs that was highlighted through the development of the 50 Year Vision. Implementation will take the form of project development and execution followed by continuous monitoring and evaluation to gauge the success and highlight any necessary areas for improvement along the way (Refer to Chart 2). With this process in place, over the course of the work plan's implementation, the scope of work will be able to adapt to any unplanned changes.

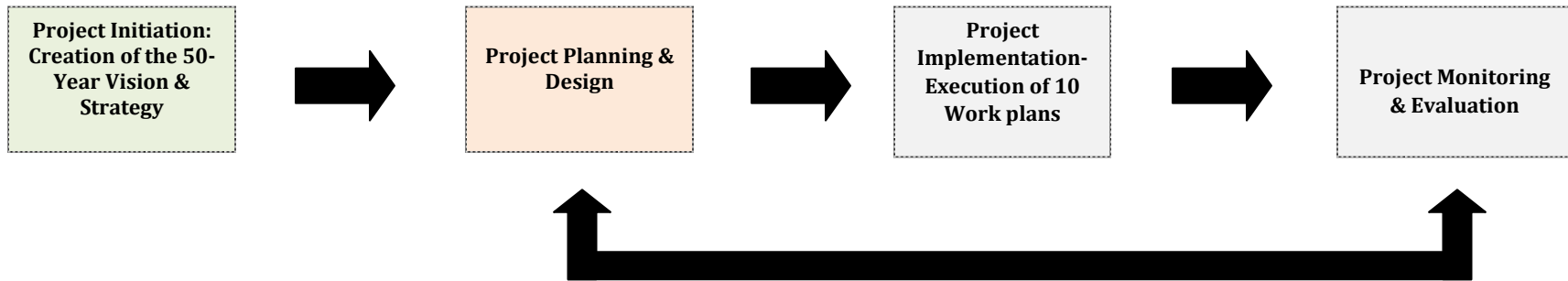


Chart 2: Project Management Framework

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Table 1: Work plan

WP & E: Watershed Planning & Engineering
LM: Land Management

Actions	Activities	Projected Outcomes	Lead	Time	Sub-Budget		Status
					Role	Cost	
1. Encourage and implement volunteer programs such as annual native planting days and invasive plant picking days (on HCA lands)	<ul style="list-style-type: none"> • Develop and implement a volunteer program: <ul style="list-style-type: none"> - Determine the mission and objectives of the program - Research and create a list of native and/or medicinal plants that should be planted in the Valley - Determine key areas and their relevant IAS for picking and native species planting (Map areas- see <i>Action 2</i>). HCA Main office should be a starting point* - Determine time of year e.g. spring-summer, just before peak seed production patterns of select invasive species or during favourable planting conditions for native plants. - Bolster support for this initiative by creating HCA/Dundas Valley webpage, posters, and a pocket-book of invasives in the Valley and how to identify and remove them. • Design Volunteer Roles for the program's implementation: <ul style="list-style-type: none"> - Role title - Duties and responsibilities - Time requirements - Orientation and training i.e. health and safety procedures in the field, tips, things to look out for, how to properly remove invasive plants, tactics to engage fellow neighbours and landowners. 	<ul style="list-style-type: none"> • Created and implemented an annual volunteer program for native planting and invasive plant picking days. • Worked with local nurseries to combat species • Conducted outreach and schools, colleges, and universities. 	HCA	2014-2019	Strategy Manager	Core Budget (see appendix)	
					Overhead		
					LM and WP & E Staff		
					Overhead		
					Equipment, materials, and resources		
					Travel		
					Communications		

	<ul style="list-style-type: none"> - Other details • Recruit for Volunteer Roles <ul style="list-style-type: none"> - Review HCA's existing volunteer contact list and consider involving previous volunteers (if any) for this program. - Create a new volunteer contact list for future use and program implementation - Advertise throughout the Dundas Valley using the former mentioned communications strategies - Host training/orientation sessions for recruited volunteers • Work with local landscaping companies, plant nurseries, and schools to educate members of the public about removing IAS and planting native ones: <ul style="list-style-type: none"> - Create a contact database of community partners in the area - Develop information-sharing material e.g. flyers, posters, brochures, webpage on HCA main web site - Distribute material to community partners - Education of local nurseries of invasive species and suggest alternative non-invasive species to sell instead through the promotion of the 'Grow Me Instead' program and brochure. - Conduct outreach and awareness campaigns about IAS at local schools, colleges, and universities through public presentations, brochures, and HCA's web page 						
<p>2. Identify, monitor and control invasive and nuisance</p>	<ul style="list-style-type: none"> • Review and update HCA's listing of IAS and nuisance species (Appendix 1 and 2) for the Dundas Valley. • Conduct a Status Review for each IAS and create 	<ul style="list-style-type: none"> • Created a Dundas Valley Invasive and Nuisance Species Inventory. 	HCA	2014-2019	WP & E Staff Overhead Equipment, materials, and	HCA Annual Budget	Some invasive species have been identified for the Valley area and

<p><i>species</i></p>	<p>a species profile and in turn a Dundas Valley IAS Inventory for each including:</p> <ul style="list-style-type: none"> - Species Description - Species Characteristics and Threats - Historical Account - Current Distribution and Geography (Map species habitat/s and range where possible to determine priority areas) - Survey Locations - Demographic Analysis - Habitat and Resource Assessment - Threat Analysis-Past, Current and anticipated - Document past control and eradication measures (if any) - Current Control/Eradication Measures <ul style="list-style-type: none"> • Prioritize IAS for management through a risk analysis of each and pathways (See Appendix-Table 3). • Determine through site selection, which top 10 IAS should be tackled first- eliminating further spread of outliers, Species At Risk (SAR) habitats, Environmentally Sensitive Areas (ESAs) and Areas of Natural and Scientific Interest (ANSIs), protecting large blocks of un-invaded areas. • Monitor changes in the numbers and distribution for the top 10 IAS and their associated abiotic conditions (water and precipitation) at selected stations over an initial 3-Year period in priority areas. • Create a data baseline and repeat the monitoring process to get more data to evaluate trends and changes for each IAS and abiotic parameters. • Coordinate data analysis with that of SD 'Protect 	<ul style="list-style-type: none"> • Mapped IAS 'hotspot' areas and potential entry points/pathways into the Valley. • Developed, implemented individual invasive and nuisance species management plans in the Dundas Valley area. 			<p>resources</p> <p>Travel</p>	<p>monitoring has occurred e.g. Gypsy Moth monitoring</p>
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	<p><i>rare, endangered and species at risk in the Valley area.</i></p> <ul style="list-style-type: none"> • Map 'hotspot' areas in the Dundas Valley e.g. Species at Risk habitat, forests and wetlands, native communities, ANSIs. Incorporate socio-economic GIS layers to determine entry points and aid in their control e.g. transportation corridors, agricultural expansion, recreation and tourism, urban development and others where applicable. • Use the individual species status reviews to develop and implement individual IAS management. These strategies will entail: <ul style="list-style-type: none"> - A documentation of the species' background, characteristics, and geographical range i.e. identification of priority areas in the Dundas Valley (Use the species status review) and the issues/concerns faced due to their spread and increasing numbers. - Research, development and implementation of control and preventative measures and techniques. - Monitoring mechanisms e.g. periodic counts in priority areas for new invasions, and at control sites to assess the effectiveness of the implemented management plans. - Public Education and Outreach- develop web page, brochures, trail signage, and fact sheets to create awareness about IAS in the Valley. 						
<p>3. Investigate the impacts of climate change on</p>	<ul style="list-style-type: none"> • Expand the number of monitoring stations as needed in the Dundas Valley area to enhance data collection. 	<ul style="list-style-type: none"> • Conducted a Risk Assessment study for SAR. 	HCA	2014-2019	WP & E Staff Overhead	HCA Annual Budget	

<p><i>invasive species-develop and implement action strategies.</i></p>	<ul style="list-style-type: none"> • Develop climate predictions for 25, 50, and 100 years scenarios for the Valley area. • Source existing data from other institutions where possible for these areas e.g. universities. • Establish monitoring parameters for data collection. • Monitor and collect data at selected intervals during the year for 5 years intervals and evaluate results before monitoring for the following years is undertaken to assess the need for refinement. • Analyze collected data to deduce trends and changes by parameter at appropriate intervals. • Assess vulnerabilities and associated risks to identify and establish possible climate change impacts and possible adaptation opportunities. • Work with the HCA Climate Change Task Force and other partners to develop action strategies. • Initiate the implementation of these action strategies where possible. • Coordinate data analysis with that of SD <i>'Protect rare, endangered and species at risk in the Valley area.</i> 	<ul style="list-style-type: none"> • Developed action strategies. 					
<p>4. Implement a deer management strategy, including deer count; number of</p>	<ul style="list-style-type: none"> • Conduct a review of <i>Iroquois Heights Conservation Area</i> Management Plan (IHCA, 2011) and relevant deer surveys and counts for the Dundas Valley. • Conduct a Status Review of deer in the Valley: <ul style="list-style-type: none"> - Species Description 	<ul style="list-style-type: none"> • Created a deer species status review within the Valley. • Initiated the development, of a 	HCA	2014-2019	LM and WP & E Staff Overhead Equipment, materials, and resources	HCA Annual Budget	Preliminary deer monitoring through aerial surveys, deer exclosures, and pellet counts

<p>deer the Valley can support, and population control measures</p>	<ul style="list-style-type: none"> - Species Characteristics and Threats - Historical Account - Current Distribution and Geography (Map species habitat/s and range where possible to determine priority areas*) - Survey Locations - Current Distribution - Demographic Analysis - Habitat and Resource Assessment - Threat Analysis-Past, Current and Anticipated - Response/s to Climate Change - Document past control and eradication measures (if any). - Current Control/Eradication Measures <ul style="list-style-type: none"> • Monitor changes in the numbers and distribution for deer over an initial 3-Year period in priority areas. • Create a data baseline and repeat the monitoring process to get more data to evaluate trends and changes for deer in response to climate changes. • Use the deer species status review to initiate the development of a Valley-wide deer management plan. These strategies will entail: <ul style="list-style-type: none"> - A documentation of the species' background, characteristics, and geographical range i.e. identification of priority areas in the Dundas Valley (Use the species status review) and issues/concerns due to their growing numbers - Research, development and implementation of control and preventative measures and techniques - Investigate and select adaptation strategies to climate change and 	<p><i>Dundas Valley Deer Management Plan</i> by the collection of deer data through monitoring.</p>			<p>Travel</p>	<p>are underway in the Valley to collect data.</p>
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	<p>integrate into Deer management</p> <ul style="list-style-type: none"> Monitoring mechanisms e.g. periodic counts in priority areas for new invasions, and at control sites to assess the effectiveness of the implemented management plans. 							
<p>5. Prevent the entry of new invasive species into the area through targeted education and outreach</p> <p>*It is important to note that this action is not found in the original Vision document. Upon review by the OMNR, it was recommended this should also be a part of this plan.</p>	<ul style="list-style-type: none"> Investigate the presence of other IAS in adjacent surrounding areas that have not yet been detected in the Dundas Valley area. Create a list of these species. Using the IAS Ranking Matrix (see Appendix) to rank these species to order of priority determine their potential impacts on the Dundas Valley area. Compile the information found into a final report. Use the findings of the report to create awareness among trail and road users in and out of the Valley through the development of: <ul style="list-style-type: none"> Informational boards along key access points into/out of the Valley i.e. along major trail routes Brochures about IAS Webpage on HCA's main page Outreach/ promotional material at key local events Develop an IAS sighting program 'Eye on Invasives'- use through social media. Encourage the public to use of cell phones and other means to record the presence/locations in the Valley area. 	<ul style="list-style-type: none"> Created a final report with findings. Developed outreach and educational materials for targeted groups e.g. trail users, schools, local residents, farmers, and others. 	HCA	2014-2019	<p>WP & E Staff</p> <p>Overhead Equipment, materials, and resources</p> <p>Travel</p>	HCA Annual Budget		
TOTAL COST						HCA Annual Budget		

3.0 Resources and Constraints

RESOURCES:

- **Overlapping on-going programs-** HCA currently possesses a number of active and future planned programs that overlap significantly with the actions outlined under the SD. Some of these programs are:
 1. **Terrestrial Resource Monitoring Program (TRMP)** - in 2012, HCA developed a TMP that will track changes in ecosystem health (including trends of habitat fragmentation) and help adapt to climate change.
 2. **Deer Exclosure Monitoring Program-** a number of exclosures have been set up across the Valley area to monitor the impacts of deer.
 3. **Aquatic Resource Monitoring Program (ARMP)** - has been an on-going initiative of the HCA with monitoring stations being set up across the watershed.
 4. **Hamilton-Halton Watershed Stewardship Program (HHWSP)-** the program works with landowners in the watersheds of Hamilton Conservation Authority and Conservation Halton, providing advice on environmentally friendly ways of managing properties with natural features such as woodlots, wetlands, meadows and creeks.
- **Data Availability-** HCA has existing data for selected species e.g. monitoring of Gypsy Moths. A Deer Management Advisory Committee (DMAC) is also in place and currently focused on the Iroquois Heights Conservation Area (IHCA). This area will be used as a model for deer management in the Dundas Valley area. Information is also available from Land Information Ontario (LIO).
- **Trained and experienced staff-** HCA possesses highly trained and experienced staff members who are familiar with the environmental and social conditions of the Dundas Valley.
- **Community partnerships-** HCA has over the years established a number of working relationships with landowners and key community partners across the Dundas Valley. A large volunteer support from schools, universities, and research organizations will be integral to meeting the goals of this plan.

CONSTRAINTS:

- **Funding Availability and Timing-** sourcing additional funding for work plan execution and for the hiring of additional staff will be needed for successful implementation and applying for funding where by designated time lines and ensuring these align with the work plan's implementation time line as well.
- **Workload Management-** implementing the SD's work plan along with the other 10 SDs' work plans of the 50-Year Vision within the 5-Year period. This could be a challenge for HCA as there will be other multiple programs in addition to the Vision that also fall under the HCA mandate and would require sufficient time and effort.

- **Lengthy monitoring period-** for deer management, at least 10 years of data needs to be collected prior to the development and implementation of a deer management plan for the Dundas Valley. In terms of the IAS, at least 3-5 years of monitoring needs to be carried out to establish clear trends and patterns between different areas of the Valley.
- **Inadequate field staff-** given the large extent of the Dundas Valley area, more staff members would be needed to carry out field work at periodic intervals e.g. invasive species counts. Volunteers can be recruited for this as well as for plant picking days and planting days.

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Appendix

Attachment 1: **Table 1: List of Invasive Species Currently Present in the Dundas Valley**

#	Scientific Name	Common Name
1	<i>Rhamnus cathartica</i>	Common buckthorn
2	<i>Alliaria petiolata</i>	Garlic Mustard
3	<i>Cynanchum rossicum</i>	Dog-strangling vine
4	<i>Acer platanoides</i>	Norway Maple
5	<i>Lythrum salicaria</i>	Purple Loosestrife
6	<i>Agrilus planipennis</i>	Emerald Ash borer
7	<i>Lymantria dispar</i>	Gypsy moth
8	<i>Lonicera maackii, L. morrowii L. tatarica</i>	Amur, Morrow and Tatarian
9	<i>Lonicera Caprifolium</i>	Honeysuckles and Glossy
10	<i>Rhamnus frangula</i>	Glossy Buckthorn
11	<i>Butomus umbellatus</i>	Flowering Rush
12	<i>Heracleum mantegazzianum</i>	Giant Hogweed
13	<i>Fallopia japonica</i>	Japanese knotweed
14	<i>Cyprinus carpio</i>	Common carp
15	<i>Phragmites</i>	Common Reed
16	<i>Berberis thunbergii</i>	Japanese Bareberry
17	<i>Acer pseudoplatanus</i>	Sycamore Maple
18	<i>Poa nemoralis</i>	Wood Bluegrass

Table 2: Dundas Valley Nuisance Species

#	Scientific Name/Family	Common Name
1	<i>Odocoileus virginianus</i>	White-Tailed Deer

Attachment 2: *Table 3: Invasive Species Ranking Matrix* (Adapted from OIPC, 2011)

RANKING CRITERIA	COMMON INVASIVE SPECIES NAME									
	Weighting	Purple Loosetrife	Japanese Knotweed	Emerald Ash- Borer						SUM
1. Extent of Distribution										
2. Hazard/Risk Factor i.e. health impact										
3. Rate/Ease of Spread										
4. Length of Life Cycle										
5. Ability to withstand harsh conditions										
6. Biological control available										
7. Data Availability										
8. Proximity to ESA, ANSI, or protected area										
9. Difficulty of Control										
10. Landscape/Broader Environmental Impact										

Ranking Criteria and Application:

1. Extent of Distribution- how far has the species spread? Rank on a scale of 0-4, where:

- 0- Does not apply
- 1- Not much observed, but the species can be found in other nearby locations e.g. outliers
- 2- Localized in certain selected spots
- 3- Expanding outwards being found in a number of various areas
- 4- Widespread as species have invaded a significant degree of the area and soon will be everywhere

2. Hazard/Risk Factor i.e. health impact- does the species exhibit negative impacts on humans and animals? Rank on a scale of 1-4, where:

- 0- Does not apply

- 1- No observed/recorded impacts can be noted
- 2- A low impact can be noted
- 3- A moderate impact can be noted
- 4- A significant impact can be noted

3. Rate/Ease of Spread- to what extent does the species spread quickly over large areas? Rank on a scale of 1-4, where:

- 0- Does not apply
- 1- No observable expansion
- 2- Slow rate of expansion
- 3- Moderate rate of expansion
- 4- Rapid rate of expansion

4. Length of Life Cycle- what is the length of the species' life cycle? Rank on a scale of 1-4, where:

- 0- Does not apply
- 1- Very short (less than 1 year)
- 2- Short (less than 3 years)
- 3- Moderate (5-10 years)
- 4- Long (more than 10 years)

5. Ability to withstand harsh conditions- to what extent could the species tolerate adverse external conditions such as fire, flooding, and human interference? Rank on a scale of 1-4, where:

- 0- Does not apply
- 1- Very low tolerance
- 2- Low tolerance
- 3- Moderate tolerance
- 4- High tolerance

6. Biological control available- are there existing forms of biological control/s available for this species? Rank on a scale of 0-2 where:

- 0- Does not apply
- 1- Control available
- 2- No control available

7. Data Availability- how much information/resources do you currently have on this species for the area? Rank on a scale of 1-4, where:

- 0- Does not apply
- 1- Extensive data available

- 2- Moderate amount of data available
- 3- Limited data available
- 4- No data available

8. Proximity to ESA, ANSI, or protected area- is the species invasion located adjacent to any of the aforementioned sensitive areas?

Rank on a scale of 1-4, where:

- 0- Does not apply
- 1- Negligible proximity to sensitive area being located away from sensitive areas but forming outlier populations
- 2- Low proximity to sensitive area being located outside or on the periphery of these areas
- 3- Moderate proximity to sensitive area being found in pockets across these areas
- 4- Considerable proximity to sensitive area being widespread across these areas

9. Difficulty of Control- how difficult is it to manage the species given its nature and current distribution? Rank on a scale of 1-4 where:

- 0- Does not apply
- 1- Easy to control requiring a small investment
- 2- Easy to control but with multiple treatments
- 3- Difficult to control, requires multiple treatments
- 4- No effective treatment known

10. Landscape/Broader Environmental Impact- what impact/s is the species causing on the surrounding environment:

- 0- Does not apply
- 1- It invades disturbed areas like edges
- 2- It doesn't outcompete native species, but natives don't regenerate
- 3- It invades undisturbed areas and outcompetes native species
- 4- All is lost, species changes the area so much that few species survive

How to use this matrix:

- Use the ranking criteria, apply a score to each of the categories for the invasive species
- Find the sum of scores for each criteria
- Multiply the sum of score by the weighting applied
- The lower scores will be a higher priority for action

Attachment 3: Implementation Strategy Cycle 1: 2014-2019
Core Operational Budget

EXPENSES	PROJECT COSTS PER YEAR	TOAL FIVE YEAR COST
<i>Personnel</i>		
11. Strategy Manager at 100%, \$28/hour + 20% Fringe Benefits	\$60,480.00	\$302,400.00
<i>Travel</i>		
12. Travel at HCA rate of \$0.53/km	\$2,000.00	\$10,000.00
<i>Materials, Supplies & Equipment</i>		
13. Computer and office supplies	\$1,500.00	\$7,500.00
14. Printed reports, surveys, and maps	\$1,500.00	\$7,500.00
15. Climate Change Components	\$10,000.00	\$50,000.00
<i>Communications Costs</i>		
16. Open Houses, public meetings, and outreach materials (brochures, flyers, and posters)	\$3,500.00	\$17,500.00
17. Web page, press releases, newspaper advertisements	\$2,000.00	\$10,000.00
<i>Overhead (office space, phone, heat, hydro, internet)</i>		
18. Strategy Manager at 100%	\$10,000.00	\$50,000.00
<i>Other Expenses</i>		
19. Cost of attending related networking events, conferences, workshops, and training	\$1,000.00	\$5,000.00
20. Refreshments e.g. committee meetings, stakeholder meetings, open houses	\$500.00	\$2500.00
TOTAL	\$92,480.00	\$462,400.00



Dundas Valley 50-Year Vision and Strategy

Implementation Strategy Cycle 1: 2014-2019

Work Plan

Strategic Direction: Protect and enhance the health of streams, watercourses, and waterfalls



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Appendix

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Background

Water is a critical to all aspects of our lives and it is important that we ensure there is a safe and reliable source of water for all our uses - now and in the future. Our drinking water comes from lakes, rivers, streams or underground sources (aquifers) located across the province. All of these sources of water are linked in a watershed through the water cycle. The best way to protect sources of water is on a watershed basis because water flows across traditional boundaries such as towns and cities (Conservation Ontario, 2009). The Hamilton Conservation Authority (HCA) is responsible for 479 square kilometres (km²) of watershed area with a watershed population of almost 400,000 residents. The Dundas Valley is a particularly unique natural area being comprised of a number of sub-watersheds that collectively forms part of the Spencer Creek watershed system. The Spencer Creek is the prominent stream within the Dundas Valley area. The Spencer Creek watershed is the largest watershed within the jurisdiction of the HCA, or 59% of the HCA watershed, and outlets directly to into the Cootes Paradise. The HCA notes this watershed as being comprised of 15 sub-watersheds. The creek is characterized by wetlands, rural land use and rural communities in the upper part of the watershed and urban development in the lower portions. With the predominance of the Niagara Escarpment in the Valley, this feature has resulted in the formation of a number of waterfall and cascade systems throughout the area.



However, there are number of areas that could be enhanced and strengthened. Water quality monitoring is done at only some locations across the Valley area. In addition to this, areas like Spencer Creek are in need of restoration and naturalization while erosion and run-off are compromising water quality (HCA, 2009b). There is a need for a clearer understanding about the features, their functions and linkages that exist in the Dundas Valley. Tools that will assist with this include water budgets, stream form, water quality parameters of concern and the diversity and abundance of aquatic and terrestrial communities. With the development of this work plan, the strategic direction of the Vision- 'Protect and enhance the health of streams, watercourses, and waterfalls through the Valley can be put into action within the Vision's first 5-year implementation cycle.

1.0 Dundas Valley 50-Year Vision & Strategy: Themes, Goals and Actions

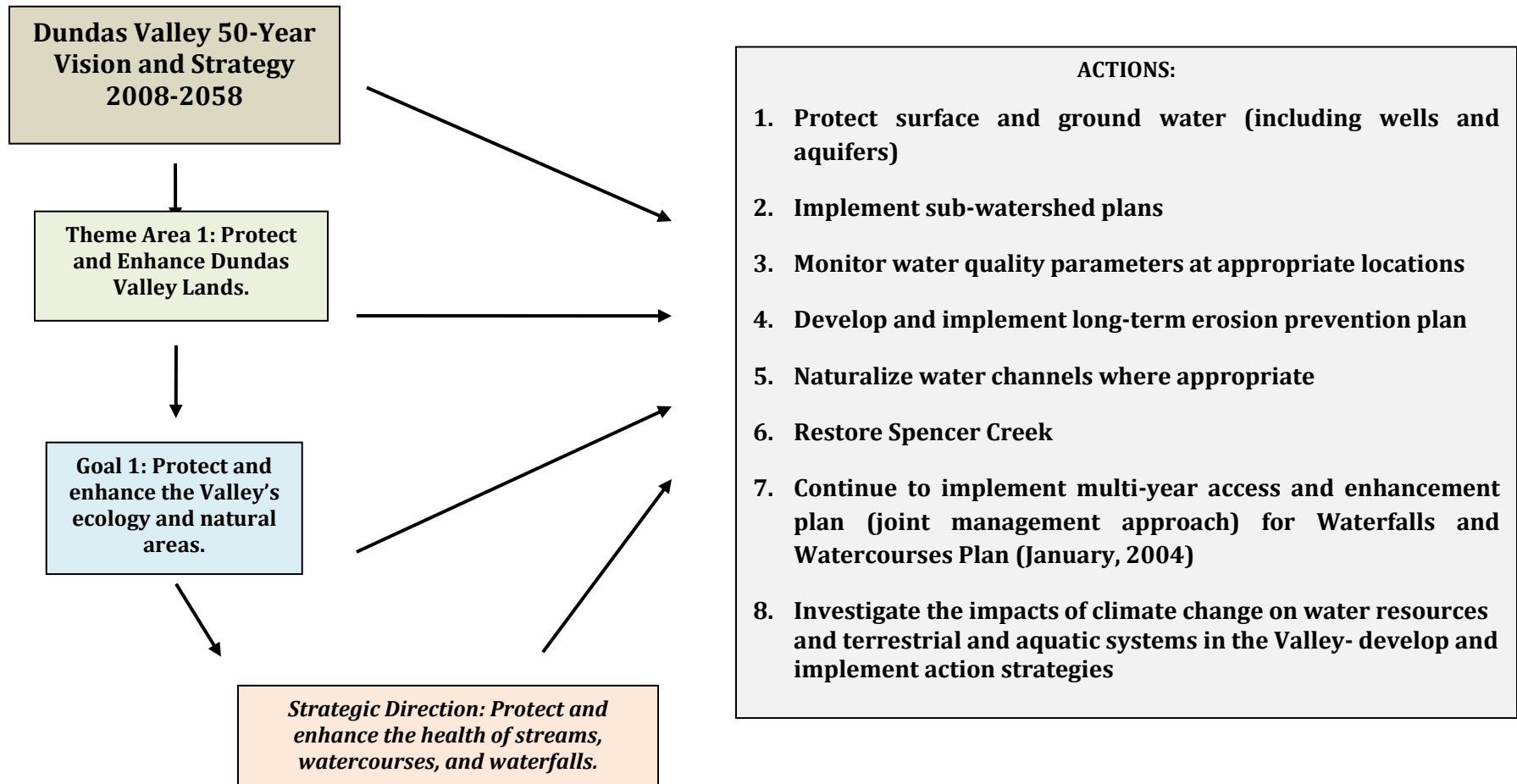


Chart 1: Theme area, Goal, Strategic Direction, and Actions.

2.0 Methodology and Work plan

The objective of the ISC1 and this work plan is to begin the implementation of the Vision’s top 10 Strategic Directions (SDs). The protection and enhancement of the health of streams, watercourses, and waterfalls was identified as a key area of interest for the first 5 year cycle and is one of the 43 SDs that was highlighted through the development of the 50 Year Vision. Implementation will take the form of project development and execution followed by continuous monitoring and evaluation to gauge the success and highlight any necessary areas for improvement along the way (Refer to Chart 2). With this process in place, over the course of the work plan’s implementation, the scope of work will be able to adapt to any unplanned changes.

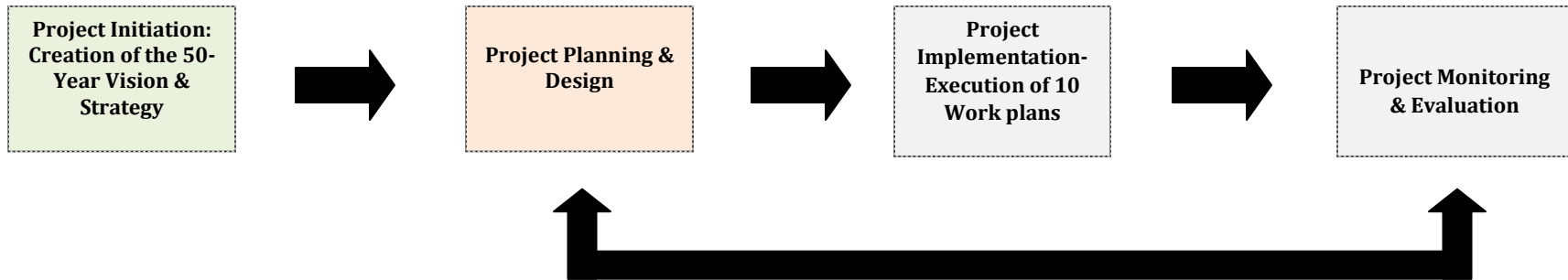


Chart 2: Project Management Framework

Over the 5-Year phase, a work plan with the 8 actions will be implemented (Table 1). For each action item, there are a number of related activities and projected outcomes. It should be noted that for some of these actions, work has already been completed or is ongoing. Additional actions/activities may be identified during ISC1’s implementation and may not be limited to the actions identified in the Vision document.

Table 1: Work plan

WP & E: Watershed Planning & Engineering
LM: Land Management

Actions	Activities	Projected Outcomes	Lead	Time	Sub-Budget		Status
					Role	Cost	
<p>1. Protect surface and ground water (including wells and aquifers)</p> <p>*It should be noted that the Hamilton Halton Source Water Protection Committee had developed a <i>Source Water Protection Plan</i> for this area in 2012. Only a small part of the Greensville well is within the study area.</p>	<ul style="list-style-type: none"> Develop a Tier 3 analysis for the Greensville well Continue to monitor ground water and source water through provincial monitoring programs such as the Provincial Water Quality Monitoring Network (PWQMN) and the Provincial Groundwater Monitoring Network (PGMN). Coordinate efforts with the implementation of the <i>Lower Spencer Creek Integrated Subwatershed Study</i>. 	<ul style="list-style-type: none"> Developed a Tier 3 analysis. Monitored through PWQMN and PGMN. 	HCA & Non-HCA	2014-2019	WP & E Staff Overhead Equipment, materials, and resources Travel	HCA Annual Budget	
<p>2. Implement sub-watershed plans</p>	<ul style="list-style-type: none"> Conduct an integrated science-based study to assess the health of the Spencer creek, its watershed and how it responds to change: <ul style="list-style-type: none"> Analyze historic data Conduct on-going field work to characterize the system Develop a representative model that will aid in anticipating how the creek will react to 	<ul style="list-style-type: none"> Conducted an integrated science-based study and use the findings from this study to develop a management plan. 	HCA	2014-2019			In progress as the <i>Lower Spencer Creek Integrated Subwatershed Study</i> is currently being undertaken by

	<p>future changes</p> <ul style="list-style-type: none"> - Investigate possible approaches that can improve the health of the system e.g. remediation of existing erosion sites, removal of barriers to fish passage, and refining flooding problems through Dundas • Investigate how the watershed responds to changes in future conditions such as climate change (see action 8) and future development and establish a strategy to mitigate negative impacts. • Use the data collected from this study to develop a management plan for the watershed for implementation. 				(see action 1)	the HCA.
3. Monitor water quality parameters at appropriate locations	<ul style="list-style-type: none"> • Review HCA's existing monitoring programs for the area. • Evaluate data collected over time to deduce possible trends. • Identify 'hot spots' so that cause and effect could be understood. 	<ul style="list-style-type: none"> • Collected and evaluated data over time. • Identified 'hot spot' areas in the watershed. • Improved water quality. 	HCA	2014-2019	(see action 1)	
4. Develop and implement long-term erosion prevention plan	<ul style="list-style-type: none"> • Review the City of Hamilton's <i>Storm Drainage Policy</i>, 2004, <i>Watercourse Erosion Assessment Study</i>, 2010, in addition to the <i>Lower Spencer Creek Integrated Subwatershed Study</i>. • Identify and delineate priority area/s and their associated boundaries of land disturbance in the Valley. • Determine the best possible techniques and 	<ul style="list-style-type: none"> • Identified and delineated priority area/s in the Valley. • Determined the best possible actions for erosion prevention. 	HCA & Non-HCA	2014-2019	(see action 1)	

	<p>actions that can be used to assess current erosion and how to prevent erosion within priority areas of the Valley.</p> <ul style="list-style-type: none"> Utilize current erosion and sediment control techniques and best practices on identified lands. Identify stormwater discharge locations and add outlet protection where needed. Determine if other best practices and measures are needed and include into the plan. Provide input to future updates of the City of Hamilton's <i>Watercourse Erosion Assessment Study</i> and <i>Lower Spencer Creek Integrated Subwatershed Study</i>. 	<ul style="list-style-type: none"> Developed a schedule for corrective works. 				
<p>5. Naturalize water channels where appropriate</p> <p>AND</p> <p>6. Restore Spencer Creek</p>	<ul style="list-style-type: none"> Based on the data received from the <i>Lower Spencer Creek Integrated Subwatershed Study</i>: <ul style="list-style-type: none"> Conduct an initial assessment of the study area and determine the core data requirements (use data from actions 1, 2, and 3). Examine water channels in the Valley area, highlight the key problems and concerns, and determine priority areas for naturalization Establish the goals and objectives the project and discuss and finalize through stakeholder involvement. Design the a stream corridor naturalization plan Initiate the implementation of the plan Evaluate the plan at selected locations where necessary Review sub-watershed and Hamilton-Halton Watershed Stewardship Program (HHWSP) 	<ul style="list-style-type: none"> Developed a stream corridor naturalization plan for the area. 	HCA	2014	(see action 1)	

	<p>plans and maps for the Dundas Valley and document restoration work where applicable.</p> <ul style="list-style-type: none"> • Cross-coordinate implementation with SD 'Protect rare, endangered and species at risk in the Valley area' and SD 'Combat the impact of invasive and nuisance species within the Valley.' • Review and summarize monitoring output, assess progress of restoration relative to initial goals, and make adjustments, if necessary. 						
<p>7. Continue to implement multi-year access and enhancement plan (joint management approach) for Waterfalls and Watercourses Plan (January, 2004).</p>	<ul style="list-style-type: none"> • Review the <i>Waterfalls and Cascades of Hamilton: Research and Inventory</i> 2012. • Continue to implement the outlined recommendations along with project partners when planning for future waterfall site access enhancements and visitor potential. • Coordinate efforts with SD 'Develop a Valley-wide sustainable tourism business plan and marketing strategy to promote eco, cultural, culinary and recreational tourism'. 	<ul style="list-style-type: none"> • Implemented outlined recommendations along with project partners in all planning initiatives. 	HCA & Non-HCA	2014-2019	WP & E Staff Overhead	HCA Annual Budget	In progress as the 3 rd Edition of the <i>Waterfalls and Cascades of Hamilton: Research and Inventory Report</i> has been created in 2012.
<p>8. Investigate the impacts of climate change on water resources and terrestrial and aquatic systems in the Valley- develop and implement action</p>	<ul style="list-style-type: none"> • Expand the number of monitoring stations as needed in the Dundas Valley area to enhance data collection. • Develop climate predictions for 25 years, 50 years, and 100 years scenarios for the Valley area. • Source existing data from other institutions where possible for these areas e.g. universities. • Establish monitoring parameters for data collection (see action 3). 	<ul style="list-style-type: none"> • Conducted a Risk Assessment study for the Dundas Valley. • Developed action strategies and implemented where possible. 	HCA	2014-2019	WP & E Staff Equipment, materials, and resources Travel	HCA Annual Budget	HCA has already developed a Climate Change Strategy and is currently implementing. HCA has also signed Hamilton's Climate Change Strategy and working with

<p><i>strategies.</i></p>	<ul style="list-style-type: none"> • Monitor and collect data at selected intervals during the year for 5 years intervals and evaluate results before monitoring for the following years is undertaken to assess the need for refinement. • Analyze collected data to deduce trends and changes by parameter at appropriate intervals. • Assess vulnerabilities and associated risks to identify and establish possible climate change impacts and possible adaptation opportunities for water resources. • Work with the HCA Climate Change Task Force and other partners to develop action strategies. • HCA to participate in and support NEC, City of Hamilton and other local Climate Change investigative monitoring plots • Identify 'quick start' actions to address climate change • Participate in a Climate Change Adaptation Strategy • Encourage Climate Change awareness for businesses and residents in the Valley area • Encourage and drive public dialogue on the impact of climate change 						<p>the City of Hamilton among other local partners to implement the strategy</p>
<p>TOTAL COST</p>						<p>HCA Annual Budget</p>	

3.0 Resources and Constraints

RESOURCES:

- **Trained and experienced staff-** HCA possesses highly trained and experienced staff members who are familiar with the environmental conditions of the Dundas Valley.
- **Community partnerships-** HCA has over the years established a number of working relationships with landowners and key community partners across the Dundas Valley. In particular, HCA has a good relationship with the NEC and the City of Hamilton.

CONSTRAINTS:

- **Workload Management-** implementing the SD's work plan along with the other 10 SDs' work plans of the 50-Year Vision within the 5-Year period. This could be a challenge for HCA as there will be other multiple programs in addition to the Vision that also fall under the HCA mandate and would require significant time and effort.

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Appendix

Attachment 1: Implementation Strategy Cycle 1: 2014-2019- Core Operational Budget

EXPENSES	PROJECT COSTS PER YEAR	TOAL FIVE YEAR COST
<i>Personnel</i>		
21. Strategy Manager at 100%, \$28/hour + 20% Fringe Benefits	\$60,480.00	\$302,400.00
<i>Travel</i>		
22. Travel at HCA rate of \$0.53/km	\$2,000.00	\$10,000.00
<i>Materials, Supplies & Equipment</i>		
23. Computer and office supplies	\$1,500.00	\$7,500.00
24. Printed reports, surveys, and maps	\$1,500.00	\$7,500.00
25. Climate Change Components	\$10,000.00	\$50,000.00
<i>Communications Costs</i>		
26. Open Houses, public meetings, and outreach materials (brochures, flyers, and posters)	\$3,500.00	\$17,500.00
27. Web page, press releases, newspaper advertisements	\$2,000.00	\$10,000.00
<i>Overhead (office space, phone, heat, hydro, internet)</i>		
28. Strategy Manager at 100%	\$10,000.00	\$50,000.00
<i>Other Expenses</i>		
29. Cost of attending related networking events, conferences, workshops, and training	\$1,000.00	\$5,000.00
30. Refreshments e.g. committee meetings, stakeholder meetings, open houses	\$500.00	\$2500.00
TOTAL	\$92,480.00	\$462,400.00



Dundas Valley 50-Year Vision and Strategy

Implementation Strategy Cycle 1: 2014-2019

Work Plan

***Strategic Direction: Protect Rare, Endangered and Species at Risk
within the Valley area***



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Appendix

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Background

According to the Ontario Ministry of Natural Resources (OMNR), a Species At Risk (SAR) is any naturally-occurring plant or animal in danger of extinction or of disappearing from the province. The Dundas Valley area is a unique natural area within Hamilton, forming part of Ontario's Greenbelt as well as one of the province's most significant geological features-the Niagara Escarpment. In addition to this, the Valley comprises a part of the Carolinian Life Zone, making it an ecologically important habitat for a number of species at risk. Over the last few years, the Dundas Valley has been experiencing pressures from development, visitor impacts, and invasive species.

It has been recognized by the *Dundas Valley 50-Year Vision and Strategy*, that action must be taken to address these issues in the Valley. The Valley is home to over 100 species of birds and fish, amphibians, reptiles, mammals, butterflies, and an abundance of native trees, and flora. The area has an unusually high diversity of biological communities and associated plants and animals due to a variety of geomorphological features, soils, water, sunlight, vegetation, and associated microclimates. It possesses a number of Environmentally Sensitive Areas (ESAs),



serves as an Important Bird Area (IBAs), and possesses protected Greenbelt areas. At the provincial level, the Valley has been identified as both a Life Science and Earth Science Area of Natural and Scientific Interest (ANSI), and also as part of the Niagara Escarpment Plan (NEP) and at the international level it has been recognized as part of the Niagara Escarpment World Biosphere Site, and was examined under the *International Biological Programme* (IBP).

Even with the recognition provided, SAR are still under considerable pressure. These species are threatened due to development, increasing numbers of visitors to natural areas, climate change, invasive species among other factors e.g. the Eastern Milk Snake and the Jefferson Salamander. While there is extensive knowledge of the ecological attributes of the Dundas Valley, there is a need for species presence and absence, designations for species, and continuous SAR protection and monitoring programs. With the development of this work plan, the strategic direction of the Vision- 'Protect rare, endangered and species at risk within the Valley area' can be put into action within the Vision's first 5 year implementation cycle.

1.0 Dundas Valley 50-Year Vision & Strategy: Themes, Goals and Actions

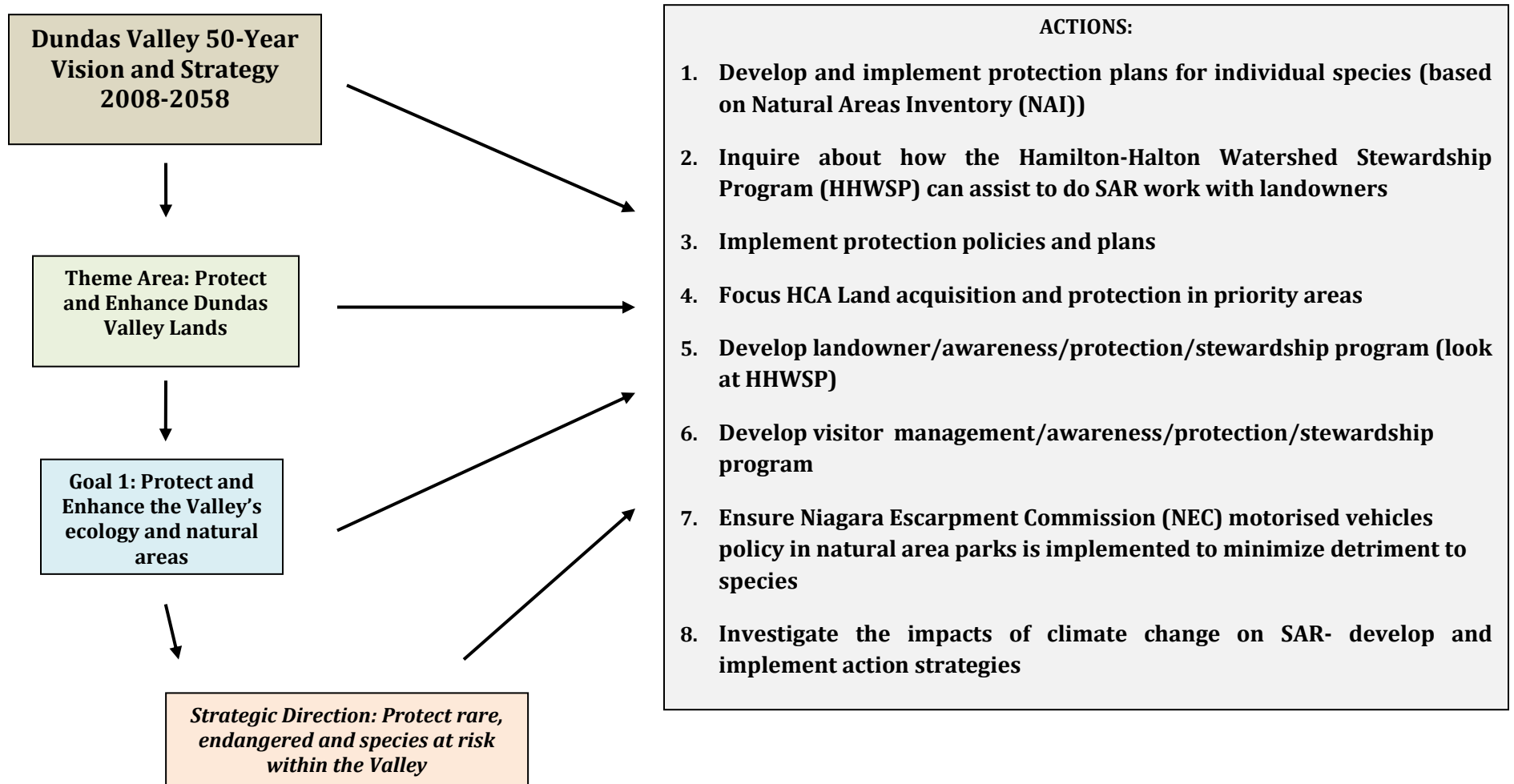


Chart 1: Theme area, Goal, Strategic Direction, and Actions.

2.0 Methodology and Work plan

The objective of the ISC1 and this work plan is to begin the implementation of the Vision's top 10 Strategic Directions (SDs). The protection of rare, endangered, and species at risk was identified as a key area of interest for the first 5 year cycle and is one of the 43 SDs that was highlighted through the development of the 50 Year Vision. Implementation will take the form of project development and execution followed by continuous monitoring and evaluation to gauge the success and highlight any necessary areas for improvement along the way (Refer to Chart 2). With this process in place, over the course of the work plan's implementation, the scope of work will be able to adapt to any unplanned changes.

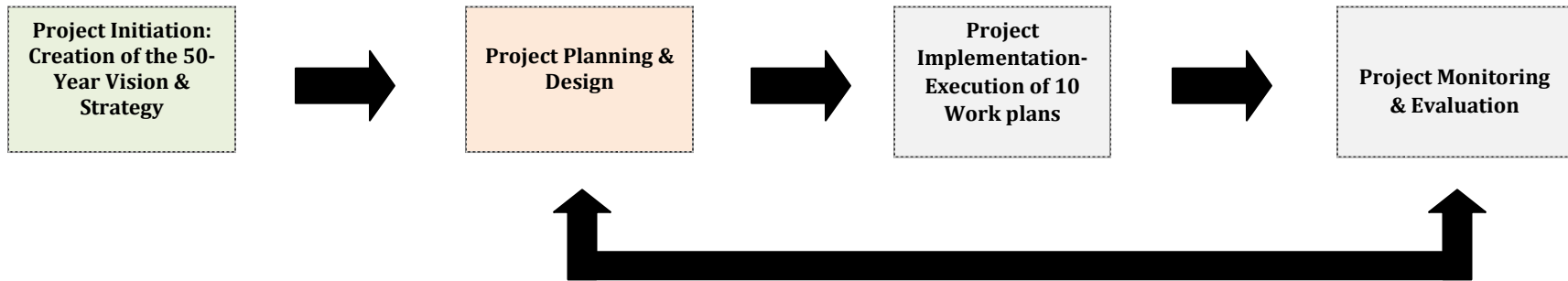


Chart 2: Project Management Framework

Over the 5-Year phase, a work plan with the 8 actions will be implemented (Table 1). For each action item, there are a number of related activities and projected outcomes. It should be noted that for some of these actions, work has already been completed or is ongoing. Additional actions/activities may be identified during ISC1's implementation and may not be limited to the actions identified in the Vision document.

Table 1: Work plan

WP & E: Watershed Planning & Engineering
 LM: Land Management
 DVCA: Dundas Valley Conservation Area

Actions	Activities	Projected Outcomes	Lead	Time	Sub-Budget		Status
					Role	Cost	
1. Develop and implement protection plans for individual species (based on Natural Areas Inventory (NAI)).	<ul style="list-style-type: none"> Review existing data e.g. the NAI and revise listing of SAR for the Dundas Valley area. Commence field surveying and monitoring for each species to determine location, distribution, and numbers in the Dundas Valley. Conduct a status review for each species and use this information to compare and contrast trends and create a species profile for each SAR and create a Dundas Valley Species Inventory using this data: <ul style="list-style-type: none"> Species Description Species Functions and Values Historical Account (where available) Current Distribution and Geography (Map species habitat/s where possible) Survey Locations Demographic Analysis Habitat and Resource Assessment Threat Analysis-past, current and anticipated Current Conservation Methods (if any) Determine species with recovery potential-Review the <i>Endangered Species Act, Final Ontario Recovery Strategies</i> and make a list of species with recovery potential for the Valley. 	<ul style="list-style-type: none"> Developed and initiated the implementation of individual species protection plans. 	HCA	2014-2019	WP & E Staff	HCA Annual Budget	
					Overhead		
					Equipment, materials, and resources		
					Travel		
					Strategy Manager	Core Budget (see appendix)	
					Overhead		

	<ul style="list-style-type: none"> • Monitor numbers and distribution for the SAR, in addition to temperature and precipitation changes over an initial 3-Year period in priority areas. • Create a data baseline and repeat the monitoring process to get more data to evaluate trends and changes. • Coordinate data analysis with that of SD '<i>Combat the impact of invasive species within the Valley</i>'. • Use the information from the species status review and field monitoring to develop and implement individual Species Protection Plans (SPPs) with each having an educational/awareness component. 						
<p>2. Investigate the impacts of climate change on SAR- develop and implement action strategies.</p>	<ul style="list-style-type: none"> • Expand the number of monitoring stations as needed in the Dundas Valley area to enhance data collection. • Develop climate predictions for 25 years, 50 years, and 100 years scenarios for the Valley area. • Source existing data from other institutions where possible for these areas e.g. universities. • Establish monitoring parameters for data collection. • Monitor and collect data at selected intervals during the year for 5 years intervals and evaluate results before monitoring for the following years is undertaken to assess the need for refinement. • Analyze collected data to deduce trends and 	<ul style="list-style-type: none"> • Conducted a Risk Assessment study for SAR. • Developed action strategies and implemented where possible. 	HCA	2014-2019	WP & E Staff Overhead	HCA Annual Budget	

	<p>changes by parameter at appropriate intervals.</p> <ul style="list-style-type: none"> Assess vulnerabilities and associated risks to identify and establish possible climate change impacts and possible adaptation opportunities for water resources. Work with the HCA Climate Change Task Force and other partners to develop action strategies. Initiate the implementation of these action strategies where possible. Coordinate data analysis with that of SD 'Combat the impact of invasive species within the Valley'. 						
3. Inquire about how the HHSWP funding can assist to do SAR work with landowners.	<ul style="list-style-type: none"> Determine how HHWSP funding for water quality and habitat improvement projects currently available to Dundas Valley landowners can be used towards the action plans. Identify source of funding grants and donations available to the HHWSP to undertake the above. 	<ul style="list-style-type: none"> Inquired about HHWSP funding with HCA's Watershed Stewardship team. Investigated an annual source of funding to enable HCA to deliver HHWSP in Dundas Valley. 	HCA	2014-2mths	WP & E Staff Overhead	HCA Annual Budget	
4. Implement protection policies and plans.	<ul style="list-style-type: none"> Implement activities as outlined above (Refer to Action Item 1 above). Implement project work plans in accordance with provincial and federal policies i.e. <i>Species at Risk in Ontario</i> (SARO) List (OMNR, 2012), the <i>Ontario Endangered Species Act</i>, and the federal <i>Species at Risk Act (SARA)</i>. 	<ul style="list-style-type: none"> Implemented project work plans in accordance with related policies. 	HCA	2014-2019	(refer to Action 1 above)		
5. Focus HCA	<ul style="list-style-type: none"> Review HCA's <i>Land Securement Strategy (LSS)</i> in 	<ul style="list-style-type: none"> Reviewed HCA's LSS 	HCA	2014-	WP & E Staff	HCA	In progress

<p>Land acquisition and protection in priority areas.</p>	<p>particular the sub-target areas that have been outlined for potential securement in the Dundas Valley area and the Natural Areas Inventory (NAI).</p> <ul style="list-style-type: none"> • Prioritize the identified sub-target areas in order of importance e.g. Environmentally Sensitive Areas (ESAs), areas close to developing sites. • Coordinate with on-going LSS activities to ensure that these priority areas are secured. • Create a policy document that will guide land securement to ensure best possible outcomes for land securement and biodiversity protection in the Valley area. • Document the progress of land securement in the Dundas Valley. 	<p>and NAI.</p> <ul style="list-style-type: none"> • Created a policy document. • Documented the progress of land securement in the Valley to date. 		2019	Overhead	Annual Budget	through implementation of HCA's Land Securement Strategy (LSS) in the Dundas Valley and the Cootes to the Escarpment Park System (CEPS) Land Securement Strategy. A policy document has already been created and added to the information repository.
<p>6. Develop landowner/awareness/protection/stewardship program</p>	<ul style="list-style-type: none"> • Review applicable completed work from the HHWSP for the Dundas Valley and its relation to the <i>Ontario Species at Risk Stewardship Program</i>. • Document the progress and status of the stewardship program specifically the actions that promote SAR protection in the Dundas Valley area, using pre-existing work done by the HHWSP for the Spencer Creek sub-watersheds. The following activities should be examined: <ul style="list-style-type: none"> - Objectives for the program - Target area/s for program's implementation and delivery within Dundas Valley area sub-watersheds. - Landowners, groups and associations that were consulted for collaboration. - Type of information that was shared/being shared with Dundas Valley landowners e.g. SAR status, program funding and incentives, 	<ul style="list-style-type: none"> • Reviewed HHWSP work as it relates to SAR awareness and protection. • Created a summary of HHWSP activity in Dundas Valley. 	HCA	2014-4mths	<p>WP & E and DVCA Staff</p> <p>Overhead</p> <p>Equipment, materials, and resources</p>	HCA Annual Budget	In progress through the implementation of the Spencer Creek watershed action plans by HCA staff in sub-watersheds of the Dundas Valley: Ancaster, Chedoke, Lower Spencer, Tiffany, Spring, and Mineral Springs creeks of the Spencer Creek

	<p>what they can do to help.</p> <ul style="list-style-type: none"> - Tools and techniques that were/are being harnessed to share information and engage landowners in the program e.g. webpage, workshops, program brochure, local events (Review HHWSP tactics). - Monitoring and evaluation indicators to assess the progress of the program overtime e.g. landowner surveys, interviews, site visits. <ul style="list-style-type: none"> • Compile a summary of the above information describing the activities and progress of the HHWSP as it relates to SAR awareness and protection in the Valley, along with recommendations for future work. 						watershed.
<p>7. Develop visitor management /awareness/ protection/stewardship program</p>	<ul style="list-style-type: none"> • Review applicable work conducted by HCA e.g. the <i>Dundas Valley Master Plan</i>, <i>Spencer Gorge Webster’s Falls Master Management Plan</i>, and other relevant data. • Develop a <i>Visitor Impact Management Program</i> (VIMP) that promotes SAR awareness and protection for the Dundas Valley area with a strong focus on trail systems. The following activities should be undertaken: <ul style="list-style-type: none"> - Use the visitor impact management matrix (see appendix) to determine priority area/s for further analysis by looking at: <ol style="list-style-type: none"> 1. Type of activities e.g. biking, sight-seeing, hiking, picnicking 2. Permitted use/s of area 3. Environmental impact indicators where possible e.g. vegetation loss, compaction, trail deterioration 4. Cause of impact 5. Possible mitigation strategies 6. Additional observations where 	<ul style="list-style-type: none"> • Reviewed applicable work conducted by HCA to date. • Developed and initiated the implementation of a VIMP for the Valley area. • Created and distributed a brochure to visitors. 	HCA	2014-2019	<p>WP & E, LM, and DVCA Staff</p> <p>Equipment, materials, and resources</p> <p>Travel</p> <p>Communications</p>	HCA Annual Budget	

	<p>applicable e.g. origination of visitors, frequency of activities, high visitor/vehicle area/s, interviews with visitors about why they value the site.</p> <ul style="list-style-type: none"> - Map these areas of high impact/concern to highlight the Dundas Valley area trail systems in relation to the main recreational areas and their position relative to ESAs and high density SAR habitat areas. - Determine the best techniques that can be used to collect this data e.g. surveys, GIS mapping, digital/photo-monitoring visitor interviews. - Based on data collected, the current-state situation and problems of the Dundas Valley can be used to develop a VIMP. - Establish objectives for the program - Develop mitigation actions that can be implemented in the Valley through the VIMP matrix and public consultation. - Initiate the implementation the VIMP actions for priority areas where feasible <ul style="list-style-type: none"> • Create and distribute a brochure that targets visitors to create awareness and demonstrate actions they can adopt to minimize their impact. 						
<p>8. Ensure NEC motorized vehicles policy in natural areas parks is implemented to minimize detriment to species.</p>	<ul style="list-style-type: none"> • Review the <i>Niagara Escarpment Plan</i> (NEP) in particular the ‘motorized vehicles policy’ in the natural areas parks. • Review existing methods and map the locations where enforcement is currently being implemented. • Investigate the feasibility of new enforcement strategies for the Dundas Valley areas e.g. information boards/signs, creating public 	<ul style="list-style-type: none"> • Reviewed the NEC motorized vehicle policy. • Mapped areas of existing enforcement. • Investigated and implemented the policy in priority 	HCA	2014-2016	<p>WP & E Staff DVCA Staff Overhead Equipment, materials, and resources</p>	HCA Annual Budget	In progress as the NEC motorized vehicles policy is enforced within selected areas of the Valley area.

	<p>awareness, enforcement of fines and penalties and create a table.</p> <ul style="list-style-type: none"> • Determine other priority areas in the Valley for enforcement e.g. high/multiple use areas, or sensitive habitats such as breeding ponds. Create a map of these areas. • Write a report with findings and recommendations for further action where necessary. • Implement actions where possible. 	<p>areas of the Dundas Valley.</p> <ul style="list-style-type: none"> • Mapped other priority areas for potential enforcement. • Created a report with actions. • Implemented outlined actions. 					
TOTAL COST						HCA Annual Budget	

3.0 Resources and Constraints

RESOURCES:

- **Overlapping on-going programs-** HCA currently possesses a number of active and future planned programs that overlap significantly with the actions outlined under the SD. Some of these programs are:
 1. Terrestrial Resource Monitoring Program (TRMP) - in 2012, HCA developed a TMP that will track changes in ecosystem health (including trends of habitat fragmentation) and help adapt to climate change.
 2. Aquatic Resource Monitoring Program (ARMP) - has been an on-going initiative of the HCA with monitoring stations being set up across the watershed.
 3. Hamilton-Halton Watershed Stewardship Program (HHWSP)- the program works with landowners in the watersheds of Hamilton Conservation Authority and Conservation Halton, providing advice on environmentally friendly ways of managing properties with natural features such as woodlots, wetlands, meadows and creeks.
 4. Spencer Gorge Webster's Falls Master Management Plan- the plan is the principal guiding policy document for the planning, development and resource management of the Spencer Gorge-Webster's Falls Conservation Area.
 5. Natural Areas Inventory (NAI)- is a complete inventory of natural areas in Hamilton (including the Dundas Valley area), created so that current information on plant and wildlife species, vegetation communities, and site boundaries is available for agencies which are responsible for protecting and enhancing natural features.
- **Data Availability-** the NAI and data collected from the TMP and AMP will greatly aid in the formation of the Dundas Valley Species Repository and development of individual SPPs.
- **Trained and experienced staff-** HCA possesses highly trained and experienced staff members who are familiar with the environmental and social conditions of the Dundas Valley.
- **Community partnerships-** HCA has over the years established a number of working relationships with landowners and key community partners across the Dundas Valley.

CONSTRAINTS:

- **Funding Availability and Timing-** sourcing additional funding for work plan execution will be needed for successful implementation and applying for funding where by designated time lines and ensuring these align with the work plan's implementation time line as well.

- **Workload Management**- implementing the SD's work plan along with the other 10 SDs' work plans of the 50-Year Vision within the 5-Year period. This could be a challenge for HCA as there will be other multiple programs in addition to the Vision that also fall under the HCA mandate and would require sufficient time and effort.
- **Lack of specialized in-house knowledge in particular areas**- there would be a need to consult with external professionals in select areas e.g. ornithologists, herpetologist.
- **Inadequate staff**- given the large extent of the Dundas Valley area, more staff members would be needed to carry out field work at periodic intervals e.g. visitor counts to natural areas.

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Appendix

Attachment 1: *Table 1-Dundas Valley Current Species at Risk (SAR)*

Year	Species Code	Scientific Name	Common Name	COSEWIC	OMNR Status	
1994	B-ACFL	Empidonax virescens	Acadian Flycatcher	END	END	END- Endangered
2001	B-BARS	Hirundo rustica	Barn Swallow	THR		SC- Special Concern
1990	B-BOBO	Dolichonyx oryzivorus	Bobolink	THR		
1990	B-CERW	Dendroica cerulea	Cerulean Warbler	END	THR	THR- Threatened
1991	B-CHSW	Chaetura pelagica	Chimney Swift	THR	THR	
1983	B-EAME	Sturnella magna	Eastern Meadowlark	THR		COSEWIC- Committee on the Status of Endangered Wildlife in Canada
1990	B-GWWA	Vermivora chrysoptera	Golden-winged Warbler	THR	SC	
2002	B-HOWA	Wilsonia citrina	Hooded Warbler		SC	OMNR- Ontario Ministry of Natural Resources
1992	B-LOWA	Seiurus motacilla	Louisiana Waterthrush	SC	SC	
1990	H-JESA	Ambystoma jeffersonianum	Jefferson Salamander	END	END	OMNR- Ontario Ministry of Natural Resources
2001	H-MISN	Lampropeltis triangulum triangulum	Eastern Milk Snake	SC	SC	
1987	H-RISN	Thamnophis sauritus	Ribbon Snake	SC	SC	OMNR- Ontario Ministry of Natural Resources
1989	H-SNTU	Chelydra serpentina	Snapping Turtle	SC	SC	
1989	L-MONA	Danaus plexippus	Monarch	SC	SC	OMNR- Ontario Ministry of Natural Resources
2001	P-CASDENT	Castanea dentata	American Chestnut	END	END	
1983	P-CORFLOR	Cornus florida	Eastern Flowering Dogwood	END	END	OMNR- Ontario Ministry of Natural Resources
2005	P-JUGCINE	Juglans cinerea	Butternut	END	END	
N/A		Arisaema dracontium	Green Dragon	SC	SC	OMNR- Ontario Ministry of Natural Resources
2011	P-MORRUBR	Morus rubra	Red Mulberry	END	END	
1991,2002,2005	M-LBBA	Myotis lucifugus	Little Brown Bat	END		OMNR- Ontario Ministry of Natural Resources
1972-1991	P-PHEHEXA	Phegopteris hexagonoptera	Broad Beech Fern	SC	SC	

Attachment 2: Implementation Strategy Cycle 1: 2014-2019
Core Operational Budget

EXPENSES	PROJECT COSTS PER YEAR	TOAL FIVE YEAR COST
<i>Personnel</i>		
6. Strategy Manager at 100%, \$28/hour + 20% Fringe Benefits	\$60,480.00	\$302,400.00
<i>Travel</i>		
7. Travel at HCA rate of \$0.53/km	\$2,000.00	\$10,000.00
<i>Materials, Supplies & Equipment</i>		
8. Computer and office supplies	\$1,500.00	\$7,500.00
9. Printed reports, surveys, and maps	\$1,500.00	\$7,500.00
<i>Communications Costs</i>		
10. Open Houses, public meetings, and outreach materials (brochures, flyers, and posters)	\$3,500.00	\$17,500.00
11. Web page, press releases, newspaper advertisements	\$2,000.00	\$10,000.00
<i>Overhead (office space, phone, heat, hydro, internet)</i>		
12. Strategy Manager at 100%	\$10,000.00	\$50,000.00
<i>Other Expenses</i>		
13. Cost of attending related networking events, conferences, workshops, and training	\$1,000.00	\$5,000.00
14. Refreshments e.g. committee meetings, stakeholder meetings, open houses	\$500.00	\$2500.00
TOTAL	\$82,480.00	\$412,400.00

Attachment 3: **Table 2: Visitor Impact Management Matrix** (HCA, 2012)

Activity	Permitted Use-Area/s	Environmental Impacts	Cause of Impacts	Possible Mitigation Strategies	Additional Observations
1. Horse-back riding					
2. Hiking					
3. Cycling					
4. Picnicking					



Dundas Valley 50-Year Vision and Strategy

Implementation Strategy Cycle 1: 2014-2019

Work Plan

Strategic Directions: Develop farmer-generated mechanisms to develop public support for agriculture AND Increase awareness of the local agriculture as both an activity and a lifestyle AND Support the promotion of locally grown and processed crops in close proximity to residents



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Appendix

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Background

Hamilton is an area with a long standing history of agriculture particularly in rural communities. Given that only 5% of the Canadian land mass constitutes prime agricultural land, the importance of this Hamilton resource is significant. When other factors such as climate, proximity to water and access to market and service infrastructure are also factored in, the agricultural value of the land base in Hamilton becomes even more striking (City of Hamilton, 2003). One of the largest challenges for the agricultural community is to ensure that there is informed understanding of modern agriculture in society. As Canada has moved from a rural to an urban-based society the general understanding of rural lifestyle have declined and this acts as a natural barrier to the involvement of non-rural residents in the agricultural industry (City of Hamilton, 2003). There was a consistent decline in the number of farms across Ontario during the period from 1971 to 2001. In Hamilton, between 1971 and 2001, 837 farms disappeared. This represents a 45% decline as compared to a 37% decline at the provincial level and a 40% decline for the Southern Ontario Region (City of Hamilton, 2003).



Dundas Valley farms and food producers provide essential food supplies to the surrounding urban areas. The agricultural business provides nurseries and sod, cash crops, poultry, fruit, vegetables, horse/pony and greenhouse operations to Ontario's economy (HCA, 2009). In some areas of the Valley, farming is becoming less viable as development pressures drive land prices up. Should the current trend continue, and the threat to viable and sustainable agriculture be realized over the next decade, the rural culture of the area will significantly diminish. It is a priority of the Vision to encourage the restoration and appreciation of agriculture as both an activity and a lifestyle. A general lack of understanding about the profession and lifestyle of farming, is contributing to the erosion of this vital form of livelihood in the area (HCA, 2009). With the development of this work plan, the strategic directions of the Vision- 'Develop farmer-generated mechanisms to develop public support for agriculture', 'Increase awareness of the importance of local agriculture as both an activity and lifestyle', and 'Support the promotion of locally grown and processed crops in close proximity to residents' can be put into action within the Vision's first 5-Year implementation cycle.

1.0 Dundas Valley 50-Year Vision & Strategy: Themes, Goals and Actions

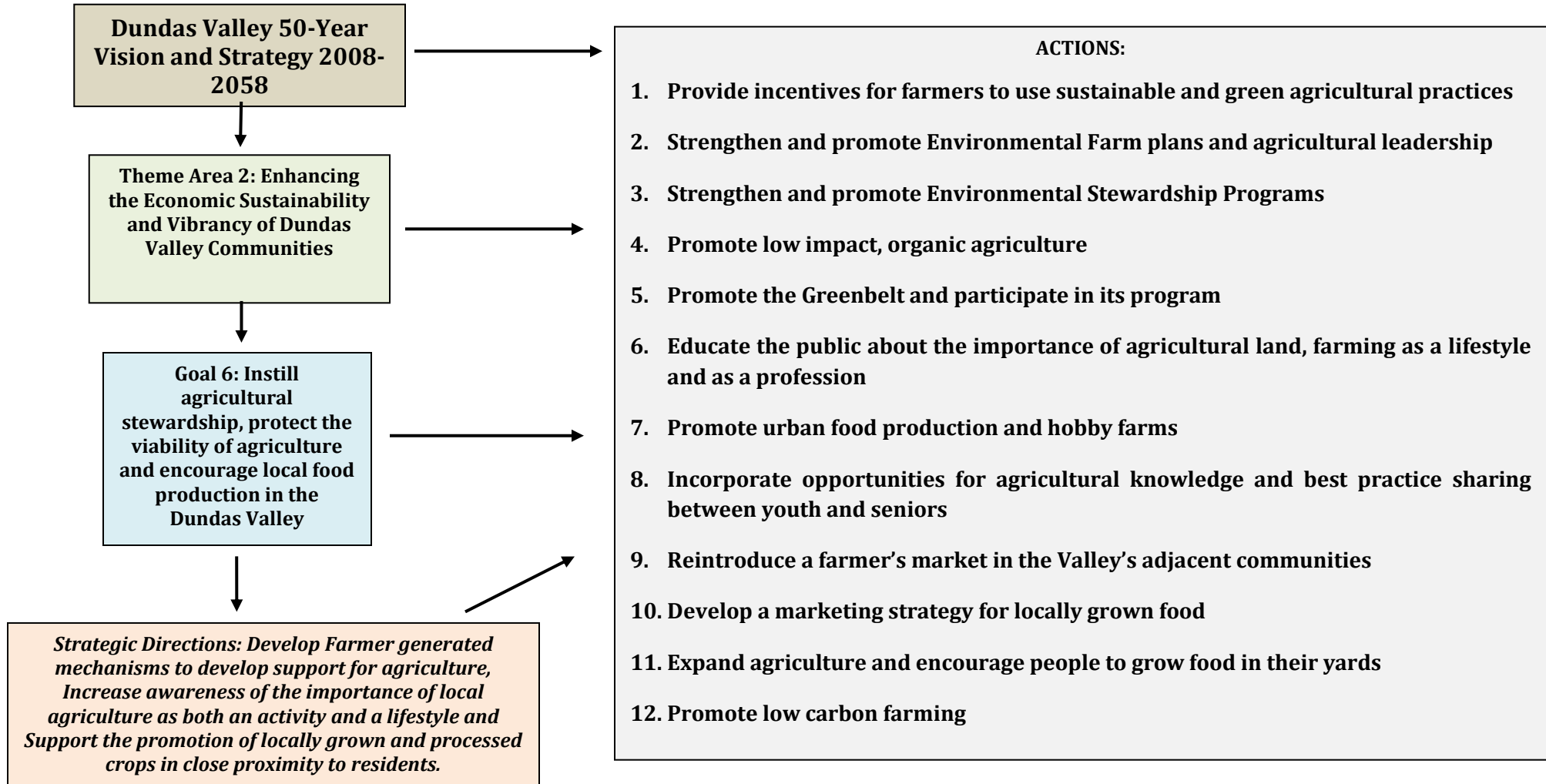


Chart 1: Theme area, Goal, Strategic Direction, and Actions.

2.0 Methodology and Work plan

The objective of the ISC1 and this work plan is to begin the implementation of the Vision's top 10 Strategic Directions (SDs). The promotion of agricultural stewardship was identified as a key area of interest for the first 5 year cycle and is one of the 43 SDs that was highlighted through the development of the 50 Year Vision. Implementation will take the form of project development and execution followed by continuous monitoring and evaluation to gauge the success and highlight any necessary areas for improvement along the way (Refer to Chart 2). With this process in place, over the course of the work plan's implementation, the scope of work will be able to adapt to any unplanned changes.

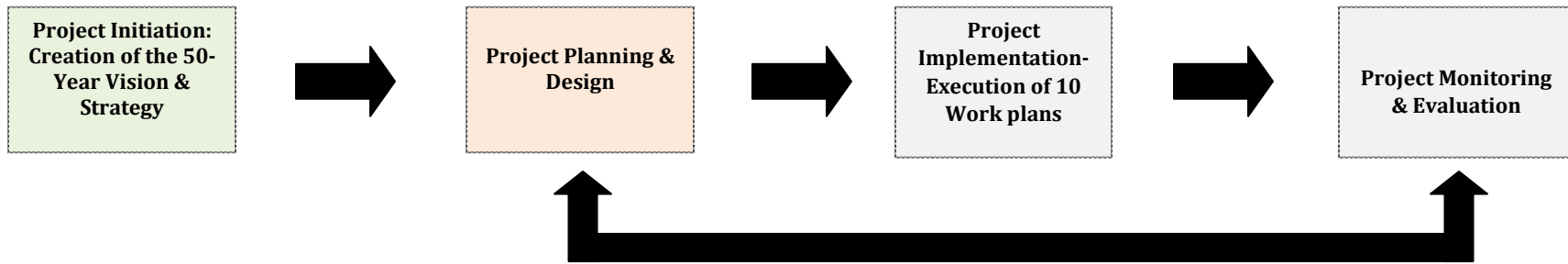


Chart 2: Project Management Framework

Over the 5-Year phase, a work plan with the 12 actions will be implemented (Table 1). For each action item, there are a number of related activities and projected outcomes. It should be noted that for some of these actions, work has already been completed or is on-going. Additional actions/activities may be identified during ISC1's implementation and may not be limited to the actions identified in the Vision document.

Table 1: Work plan

Actions	Activities	Projected Outcomes	Lead	Time	Sub-Budget		Status
					Role	Cost	
1. Provide incentives for farmers to use sustainable and green agricultural practices	<ul style="list-style-type: none"> Research and promote existing member programs in the Valley area to the community e.g. Ontario Soil and Crop Improvement Association (OSCIA), the Greenbelt Foundation, and the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA), Hamilton-Halton Watershed Agricultural Advisory Panel, and Ontario Federation of Agriculture (OFA). Provide input to the City of Hamilton's Food Strategy development. 	<ul style="list-style-type: none"> Promoted member programs in the Valley. 	Non-HCA	2014-2019	Strategy Manager Overhead	Core Budget (see appendix)	
2. Strengthen and promote Environmental Farm plan (EFP) and agricultural leadership AND 3. Strengthen and promote Environmental Stewardship Programs	<ul style="list-style-type: none"> Encourage the distribution of information about the EFP program and Environmental cost-share programs for EFP implementation e.g. <i>Canada-Ontario Farm Stewardship Program</i> (COFSP) and the <i>Ontario Drinking Water Stewardship Program</i> (ODWSP) through website, brochures, farm visits, and local outreach e.g. Greenbelt Harvest picnic, Ancaster Fair, and local farmers markets. Encourage farmers to attend OSCIA workshops in the area by demonstrating the advantages of EFB by use of case studies and available incentives and associated benefits e.g. Greenbelt Foundation, <i>Species at Risk Farm Incentive Program</i>. 	<ul style="list-style-type: none"> Encouraged farmers to develop EFPs and created awareness of the COFSP and ODWSP. Connected interested farmers with resources and experts. 	Non-HCA	2014-2019			
4. Promote low	- Educate local farmers and the community	<ul style="list-style-type: none"> Supported the 	Non-HCA	2014-			

<p>impact, organic agriculture</p>	<p>through promotion of partner programs:</p> <ul style="list-style-type: none"> - HCA's educational programs - Environment Hamilton's <i>Rural Routes</i> and <i>Fruit Tree Project</i> - <i>Farm Crawl Hamilton</i> - Promote Community-Shared Agriculture (CSA) and farms who are involved - Ancaster Agricultural Society (AAS)'s <i>Ancaster Fair</i> and related educational programs - Create awareness of Canadian Young Farmers' Forum (CYFF) and their Best Management Practices (BMPs) workshops - Promotion of Junior Farmers Association of Ontario (JFAO) and their programs - <i>Mustard Seed-Co-op</i> - HCA's Climate Change Strategy's Eat Local Exhibition - Other current programs 	<p>promotion of partner programs.</p>		<p>2019</p>			
<p>5. Promote the Greenbelt and participate in its program</p>	<ul style="list-style-type: none"> • Continue to promote the Greenbelt program to the Dundas Valley community by linking all project-related initiatives to the foundation's: <ul style="list-style-type: none"> - Friends of the Greenbelt Foundation web page: http://greenbelt.ca/ - Greenbelt Fresh web page: http://www.greenbeltfresh.ca/ 	<ul style="list-style-type: none"> • Continued promotion of the Greenbelt program. 	<p>Non-HCA</p>	<p>2014-2019</p>			<p>In progress as the 18-month implementation stage was funded by the Greenbelt and their programs are continuously promoted.</p>
<p>6. Educate the public about the importance of agricultural land, farming as a lifestyle and as a</p>	<ul style="list-style-type: none"> • Collaborate with local farmers, schools, and other groups to educate and engage people through: <ul style="list-style-type: none"> - Promote <i>Farm Smart</i>, <i>FarmStart</i> and encourage use of FarmLINK and other organizations at the Dundas Valley Trail Centre e.g. flyers, posters, and other materials - HCA Educational programs: <i>Soil Ecology</i>, 	<ul style="list-style-type: none"> • Educated the community (in particular the youth) about the importance of farming. • Collaborated with local farmers in the 	<p>Non-HCA</p>	<p>2014-2019</p>			

<p>profession</p>	<p><i>Growth & Changes in Plants, Grow Green Project, and Conservation Projects.</i></p> <ul style="list-style-type: none"> - Promote Environment Hamilton's <i>Rural Routes</i> and the <i>Fruit Tree Project Farm Crawl Hamilton</i> - Royal Botanical Gardens (RBG) <i>Children Garden Program</i> - Ancaster Agricultural Society (AAS)'s <i>Ancaster Fair</i> and related educational programs. - Junior Farmers of Ontario Association (JFAO) Annual Ontario's Young Farmers Association - Ancaster and Dundas Farmers Markets - Create awareness of Canadian's Young Farmers' Forum (CYFF) and their Best Management Practices (BMPs) workshops - Other current programs <ul style="list-style-type: none"> • Facilitate the creation of a school-farm network and work with schools and universities to encourage students to volunteer on farms for work experience and research opportunities. • Create an inventory of current organizations, programs, resources, and contacts in the Valley area. 	<p>Valley area and other groups.</p> <ul style="list-style-type: none"> • Created an inventory. 				
<p>7. Promote urban food production and hobby farms</p> <p>AND</p> <p>8. Expand</p>	<ul style="list-style-type: none"> • Encourage landowners in urban areas to showcase their gardens as demonstration sites. Coordinate with the Hamilton-Halton Watershed Stewardship Program (HHWSP), <i>Rural Routes</i> program and <i>Farm Crawl Hamilton</i>. • Work with local partners to support and promote their programs: 	<ul style="list-style-type: none"> • Successfully worked with partners to promote workshops, and community events. 	<p>Non-HCA</p>	<p>2014-2019</p>		

<p><i>agriculture and encourage people to grow food in their yards</i></p>	<ul style="list-style-type: none"> - Ancaster Discovery Gardens - Dundas Valley Sunrise Rotary Garden - McMaster Teaching & Community Garden - Hamilton Community Garden Network (HCGN) - Other current programs 					
<p>9. Incorporate opportunities for agricultural knowledge and best practice sharing between youth and seniors</p>	<ul style="list-style-type: none"> • Research current programs targeted towards youth. • Promote Youth Engagement /Mentorship programs at local community events, job fairs, libraries, and schools through workshops and brochures e.g. farm internships/volunteer programs. • Work with job/training agencies to explore the promotion of agricultural opportunities to youth at job fairs and local schools. • Facilitate the creation of a school-farm network that will: <ul style="list-style-type: none"> - Encourage local farms in the Valley to offer/increase internship opportunities - Encourage students to volunteer on farm for work experience and research opportunities - Promote farming programs and organizations at the Dundas Valley Trail Centre e.g. flyers, posters, and other materials - Create awareness of the Junior Farmers of Ontario Association (JFAO) and their Annual Ontario's Young Farmers Association through online and outreach avenues e.g. schools and universities - Create awareness of Canadian's Young Farmers' Forum (CYFF) and their Best Management Practices (BMPs) 	<ul style="list-style-type: none"> • Promoted engagement /mentorship programs at local community events and schools. 	<p>Non-HCA</p>	<p>2014-2019</p>		

	<p>workshops through online and outreach avenues e.g. schools and universities</p> <ul style="list-style-type: none"> - Promote the Worldwide Opportunities for Organic Farms (WWOOF) - Other current programs 						
10. Reintroduce a farmer's market in the Valley's adjacent communities							Business Improvement Areas (BIAs) of Ancaster and Dundas have already reintroduced farmers markets in both areas.
11. Develop a marketing strategy for locally grown food	<ul style="list-style-type: none"> • Encouraged area groups to develop a marketing strategy for locally grown food. • Develop a project committee of at least 8 members to oversee the development of this strategy. • Conduct a preliminary local food/agricultural audit of the Dundas Valley area to determine the agricultural resources and local food that the Valley area has to offer through a literature review, site study, and consultation with stakeholder groups. • Conduct a Strengths Weaknesses Opportunities and Threats (SWOT) analysis using the data collected with the project's committee and other community stakeholders. • Undertake a market evaluation of the area to assess: <ul style="list-style-type: none"> - Number and type of local food products 	<ul style="list-style-type: none"> • Developed a project committee of at least 8 members. • Created a local food marketing strategy for the Dundas Valley area. • Initiated the implementation of the strategy where possible. • Assisted with securing funds to drive this initiative. 	Non-HCA	2014-2019			

	<p>available in the Valley</p> <ul style="list-style-type: none"> - Locations of major farms in and around the Valley area and their proximity to Ancaster and Dundas downtown areas - Communal spaces that are available for the sale of local food - Primary reason for people wanting to have access to local food <ul style="list-style-type: none"> • Using the findings from the market evaluation, identify the specific niche markets offered by the Valley to consumers. Examine and highlight possible trends and main areas that relate to each niche market. • Determine the key marketing/customer profile, demographics, and the overall marketing position of the Dundas Valley area. • Mainstream the strategy's functioning with regional and provincial partners where applicable e.g. the Greenbelt. Examine issues such as competition from competing services. • From the on-going stakeholder consultations, identify gaps where possible. • Explore and finalize through consultation with stakeholder groups a marketing strategy for the Dundas Valley area: <ul style="list-style-type: none"> - Objectives and Goals - Priority areas - Action items- determine approaches, techniques and tools that can be used to market the area's local produce - Budget allocation and funding - Monitoring and evaluation of strategy's progress - Implementation partners 						
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	<ul style="list-style-type: none"> Initiate the implementation of the strategy where possible. Assist with applying for funding to drive this initiative 							
12. Promote low carbon farming	<ul style="list-style-type: none"> Research low carbon farming techniques and consult with the Ecological Farmers of Ontario (EFOA), other groups, and local farmers in the Valley about best management practices. Develop a best practices user guide that demonstrates how farmers can practice low carbon farming and work towards developing a strategy to aid farmers in adapting to climate change on farms. Partner with other local organizations to develop this guide. 	<ul style="list-style-type: none"> Developed a best practices user/information guide. Partnered with local groups. 	Non-HCA	2014-2019				
TOTAL COST						Core Budget (See Appendix)		

3.0 Resources and Constraints

RESOURCES:

- **Community partnerships-** HCA has over the years established a number of working relationships with landowners and key community partners across the Dundas Valley. In particular, HCA has a good relationship with the City of Hamilton.
- **On-going and overlapping initiatives-** there are already a number of on-going programs and projects in progress or in development within and around the Valley area. At the local level, some programs include *FarmCrawl Hamilton*, *Rural Routes* and *Eat Local Hamilton* initiatives by Environment Hamilton. At a municipal level, the City of Hamilton is working towards the development of a Food Strategy for the region. The City of Hamilton's Community Food Security Stakeholders Committee (CFSSC) have also put forward a *Farmers Market White Paper Policy* and have worked with a number of partners to develop a *Community Garden Policy* for Hamilton. At a regional level the Greenbelt Foundation and the provincial government have spear headed the creation and implementation of a myriad of initiatives while the Ontario Soil and Crop Improvement Association (OSCIA) have a number of educational programs and workshops that designed to assist farmers in conducting EFPs on their properties, as well as best stewardship practices for their lands.

CONSTRAINTS:

- **Funding Availability and Timing-** sourcing additional funding for work plan execution.
- **Workload Management-** implementing the SD's work plan along with the other SDs' work plans of the Vision within the 5-Year period. This could be a challenge for HCA as there will be other multiple programs in addition to the Vision that also fall under the HCA mandate and would require sufficient time and effort.

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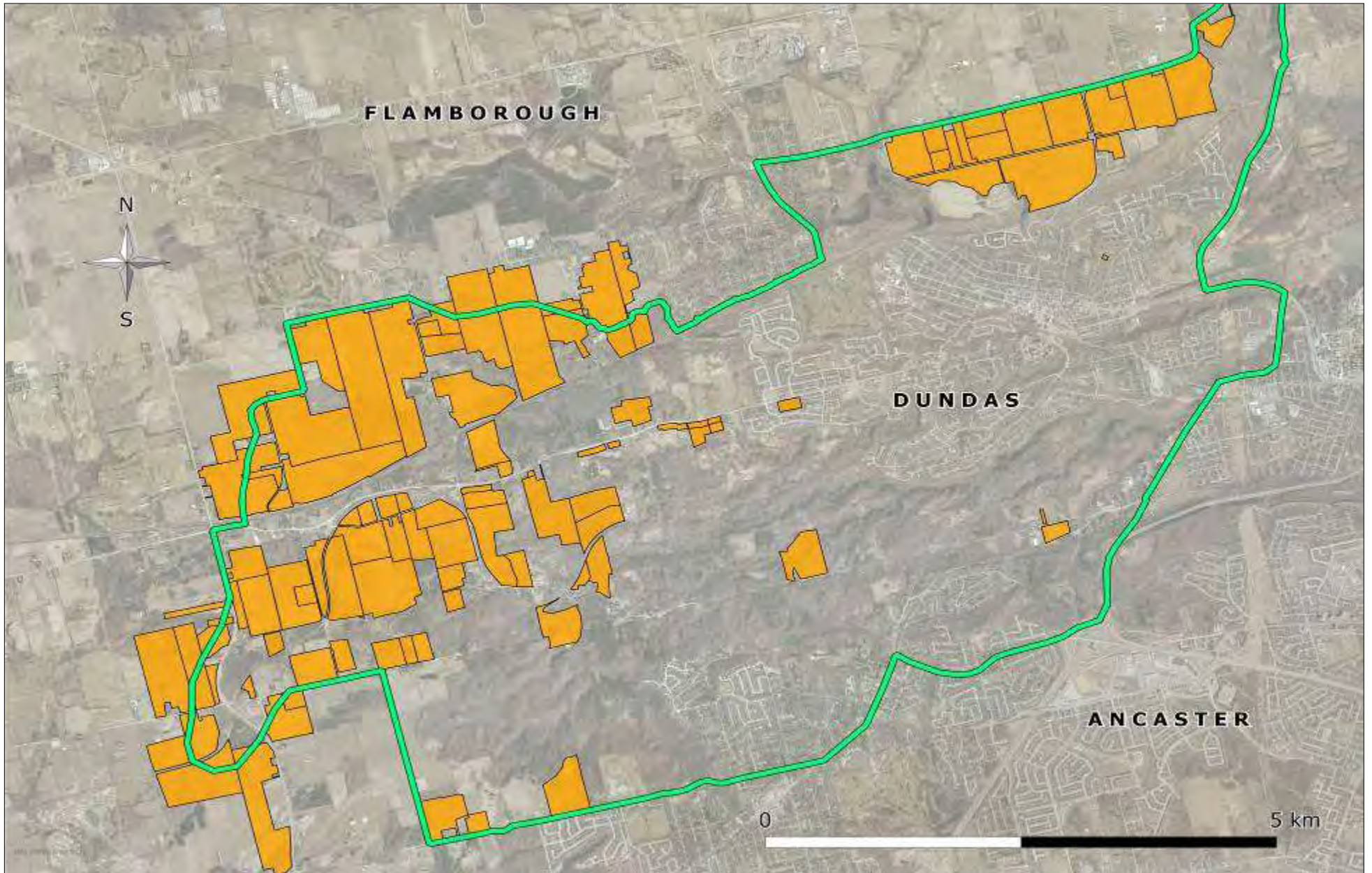
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Appendix

Attachment 1: Implementation Strategy Cycle 1: 2014-2019- Core Operational Budget

EXPENSES	PROJECT COSTS PER YEAR	TOAL FIVE YEAR COST
<i>Personnel</i>		
31. Strategy Manager at 100%, \$28/hour + 20% Fringe Benefits	\$60,480.00	\$302,400.00
<i>Travel</i>		
32. Travel at HCA rate of \$0.53/km	\$2,000.00	\$10,000.00
<i>Materials, Supplies & Equipment</i>		
33. Computer and office supplies	\$1,500.00	\$7,500.00
34. Printed reports, surveys, and maps	\$1,500.00	\$7,500.00
35. Climate Change Components	\$10,000.00	\$50,000.00
<i>Communications Costs</i>		
36. Open Houses, public meetings, and outreach materials (brochures, flyers, and posters)	\$3,500.00	\$17,500.00
37. Web page, press releases, newspaper advertisements	\$2,000.00	\$10,000.00
<i>Overhead (office space, phone, heat, hydro, internet)</i>		
38. Strategy Manager at 100%	\$10,000.00	\$50,000.00
<i>Other Expenses</i>		
39. Cost of attending related networking events, conferences, workshops, and training	\$1,000.00	\$5,000.00
40. Refreshments e.g. committee meetings, stakeholder meetings, open houses	\$500.00	\$2500.00
TOTAL	\$92,480.00	\$462,400.00



Attachment 2: Map of Agricultural Properties in the Dundas Valley study area



Dundas Valley 50-Year Vision and Strategy

Implementation Strategy Cycle 1: 2014-2019

Work Plan

Strategic Direction: Develop a Valley-wide sustainable tourism business plan and marketing strategy to promote eco, cultural, culinary, and recreational tourism



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References

Appendix

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Background

The Dundas Valley is a spectacular natural and cultural area that attracts a large number of visitors from many places for a variety of reasons. In particular, the Dundas Valley Conservation Area (DVCA) has a number of interest points such as the historical Sulphur Springs fountain, the Hermitage Ruins, Gatehouse Museum, Apple Orchard, Old Oak Tree, Hemlock Grove, the Dundas Valley Trail Centre, the Griffin House, and the Thomas A. Beckett Living Forest. Other natural attractions that draw visitors to this area include the Borer's Falls Conservation Area, the Spencer Gorge (Tews Falls, Webster's Falls, and Dundas Peak) as well as Tiffany's Falls. In the wider Valley area, there are approximately 16 waterfalls and cascades, scenic natural routes and a number of trails along the Niagara Escarpment that offer stunning vistas and nature appreciation opportunities. Visitors are attracted to the Dundas Valley primarily to visit the waterfalls as well as historical and cultural sites while partaking in a myriad of outdoor activities such as hiking, biking, horse-back riding, and sight-seeing.



The interest in sustainable tourism and ecotourism reflects a rising tide of social concern about the quality of the natural environment and the effects of tourism. Activities closely associated with experiencing natural environments are very popular (Tourism Canada, 1995). In the Dundas Valley area, there is an opportunity to promote not only eco-tourism but also cultural, culinary, and recreational forms of enjoyment to visitors. Eco-tourism has the potential to further protect environmental and cultural resources as they could be used to create a memorable visitor experience and be available for future generations in addition to added resiliency over the long term. The Dundas Valley area has the potential to support culinary tourism as it could foster a tourism experience in which one learns about, appreciates, and consumes food and drink that reflects the local, regional, or national cuisine, heritage, culture, tradition or culinary techniques. This will in turn assist with the protection and appreciation of cultural heritage while at the same time promotes agricultural stewardship by encouraging people to buy and eat local food. With the development of this work plan, the Strategic Direction of the Vision-‘Reduce the impact of increasing numbers of visitors to the natural areas over time’ can be put into action within the Vision’s first 5-Year implementation cycle.



1.0 Dundas Valley 50-Year Vision & Strategy: Themes, Goals and Actions

This SD does not fall directly within the mandate of HCA, therefore implementation will be a collaborative effort through the assistance of stakeholders such as the City of Hamilton and Tourism Hamilton.

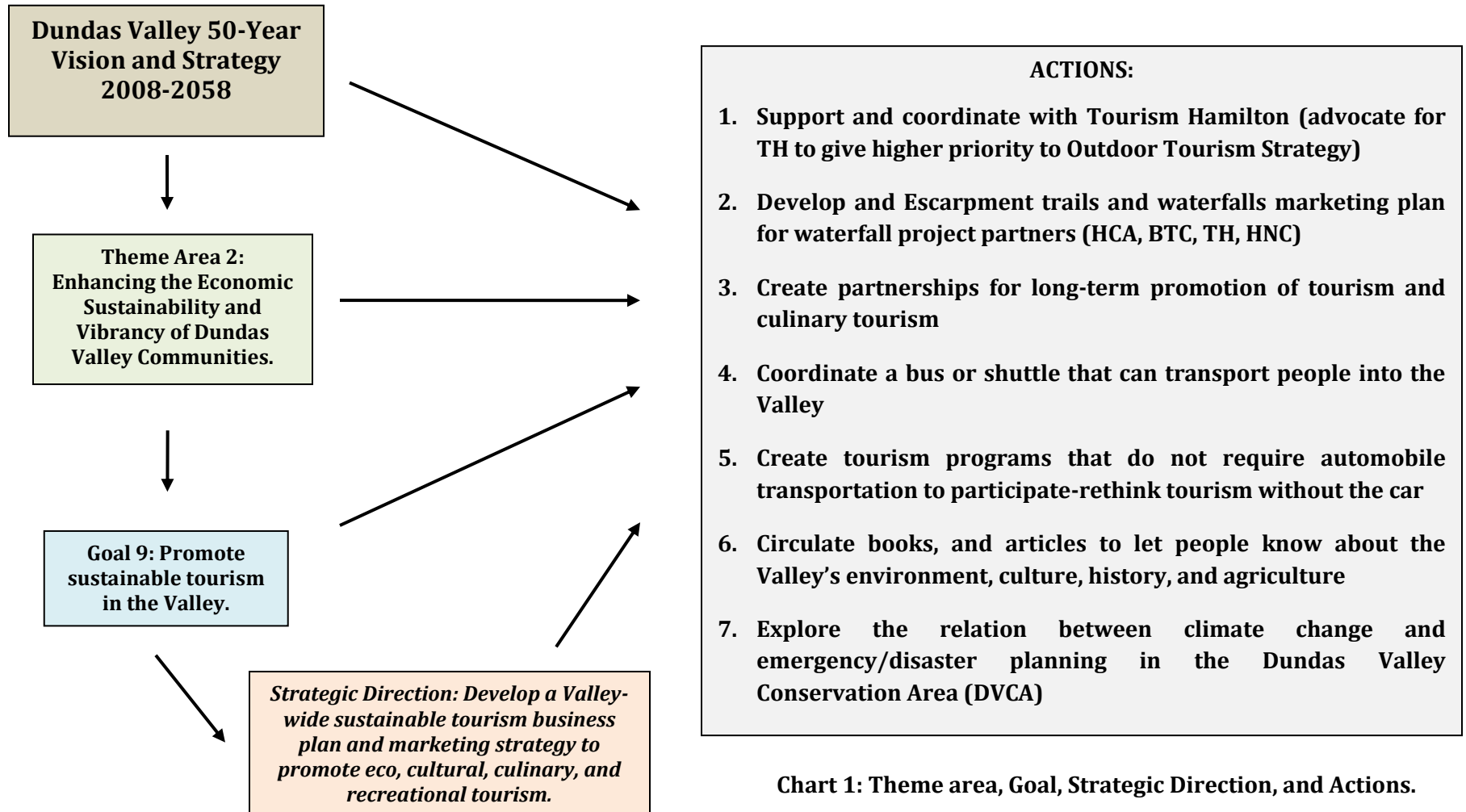


Chart 1: Theme area, Goal, Strategic Direction, and Actions.

2.0 Methodology and Work plan

The objective of the ISC1 and this work plan is to begin the implementation of the Vision's top 10 Strategic Directions (SDs). The development of a Valley-wide tourism business plan and marketing strategy was identified as a key area of interest for the first 5 year cycle and is one of the 43 SDs that was highlighted through the development of the 50 Year Vision. Implementation will take the form of project development and execution followed by continuous monitoring and evaluation to gauge the success and highlight any necessary areas for improvement along the way (Refer to Chart 2). With this process in place, over the course of the work plan's implementation, the scope of work will be able to adapt to any unplanned changes.

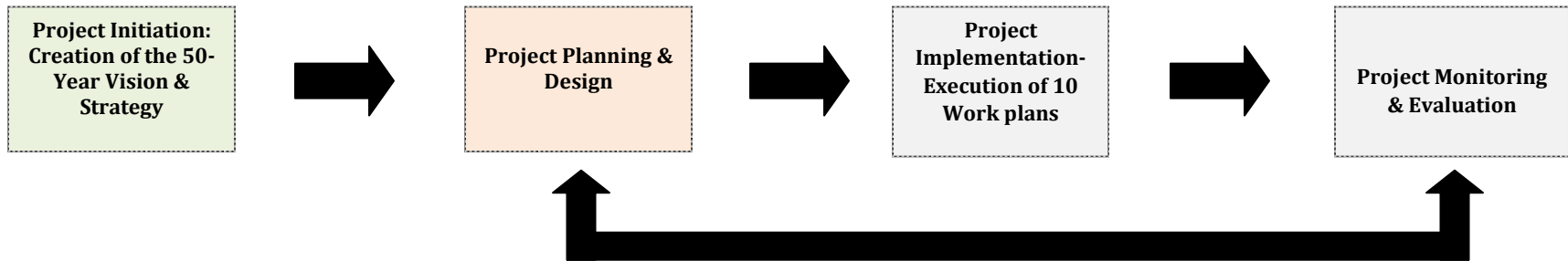


Chart 2: Project Management Framework

Over the 5-Year phase, a work plan with the 7 actions will be implemented (Table 1). For each action item, there are a number of related activities and projected outcomes. It should be noted that for some of these actions, work has already been completed or is ongoing. Additional actions/activities may be identified during ISC1's implementation and may not be limited to the actions identified in the Vision document. Additional actions/activities may be identified during ISC1's implementation and may not be limited to the actions identified in the Vision document.

Table 1: Work plan

Actions	Activities	Projected Outcomes	Lead	Time	Sub-Budget		Status
					Role	Cost	
<p>1. Support and coordinate with Tourism Hamilton (advocate for TH to give higher priority to Outdoor Tourism Strategy)</p>	<ul style="list-style-type: none"> Explore the feasibility of Hamilton’s outdoor tourism product using the Dundas Valley as an example with Tourism Hamilton (TH) and the Hamilton Halton Brant Regional Tourism Association (RTA) 	<ul style="list-style-type: none"> Explored the development of an outdoor tourism product. 	HCA	2013	Strategy Manager Overhead	Core Budget (see appendix)	Completed and on-going as both TH and RTA have been consulted. The RTA has already conducted an outdoor adventure product assessment for the area and is currently developing an outdoor tourism product that should be launched in Fall 2013.
<p>2. Develop an Escarpment trails and waterfalls marketing plan for waterfall project partners (HCA, BTC, TH, HNC)</p>	<ul style="list-style-type: none"> Work with HCA staff to determine how the Dundas Valley area should be marketed. Share ideas with the RTA and other groups for product development. Encourage partners to develop a marketing plan for the area through board presentations and meetings. Review the recommendations for marketing and promotion in the latest edition of the <i>Hamilton Waterfalls and Cascades Research and Inventory Report</i> and <i>Tourism Hamilton’s Strategy Plan</i>. Conduct a preliminary tourism audit of the Dundas Valley area to determine the natural attractions/resources and associated activities that the Valley area has to offer 	<ul style="list-style-type: none"> Encouraged partners to develop a marketing plan. Created an Escarpment trails and waterfalls marketing plan for the Dundas Valley area. Initiated the implementation of the strategy where possible. 	Non-HCA	2014-2019			

	<p>through a literature review, site study, and consultation with stakeholder groups.</p> <ul style="list-style-type: none"> • Conduct a Strengths Weaknesses Opportunities and Threats (SWOT) analysis using the data collected from the tourism audit with the project's committee and other community stakeholders. • Undertake a market evaluation of the Dundas Valley area to assess: <ul style="list-style-type: none"> - Number of visitors to the Dundas Valley area at key areas i.e. major waterfalls, popular trail entry points - Primary reason for visit - Collect data for 1 year and create a baseline for monitoring - Continue annual monitoring until sufficient data is attained • Using the findings from the market evaluation, identify the specific niche markets offered by the Valley to visitors i.e. Eco-Tourism, Natural or Cultural Heritage Tourism, or other forms. Examine and highlight possible trends and main areas that relate to each niche market. • Determine the key marketing/customer profile, demographics, and the overall marketing position of the Dundas Valley area. • Mainstream the draft marketing plan's functioning with regional and provincial partners where applicable. Examine issues such as competition from competing services. 						
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	<ul style="list-style-type: none"> From the on-going stakeholder consultations, identify gaps where possible. Explore and finalize through consultation with stakeholder groups a marketing plan for the Dundas Valley area: <ul style="list-style-type: none"> Objectives and Goals Priority areas Action items- determine approaches, techniques and tools can be used to market the Valley's assets Budget Allocation and funding Monitoring and evaluation of strategy's progress Implementation partners 						
3. Create partnerships for long-term promotion of tourism and culinary tourism	<ul style="list-style-type: none"> Identify and encourage possible partnerships to promote culinary tourism Create an inventory of possible partnerships and explore ways of working together with them. Create connections among partners where possible. 	<ul style="list-style-type: none"> Formed at least 4 partnerships. Created and tracked an inventory. 	Non-HCA	2014-2019			Partnerships have already been formed with the RTA and TH.
4. Coordinate a bus or shuttle that can transport people into the Valley	<ul style="list-style-type: none"> Investigate the feasibility of having a shuttle in the Dundas Valley area. If feasible, proceed to explore options of having the Hamilton Street Railway (HSR) and other service providers to develop and implement a bus/shuttle service for the Valley area. 	<ul style="list-style-type: none"> Explored the development of a bus/shuttle service for the Valley area. Developed an assessment/feasibility report. 	HCA	2014-2019			
5. Create tourism programs	<ul style="list-style-type: none"> Encourage people to see the Valley's beauty through passive means that foster healthy lifestyles and promote natural and cultural 	<ul style="list-style-type: none"> Developed programs for cycling, hiking, 	Non-HCA	2014-2019			

<p><i>that do not require automobile transportation to participate- rethink tourism without the car</i></p>	<p>heritage tourism along trails in the Valley area:</p> <ul style="list-style-type: none"> - Cycling program - Hiking program - Walking program - Horse-back riding program 	<p>walking program, and horse-back riding.</p>					
<p>6. Circulate books, and articles to let people know about the Valley's environment, culture, history, and agriculture</p>	<ul style="list-style-type: none"> • Create an inventory of material that should be shared with the community. • Work with community partners: <ul style="list-style-type: none"> - Hamilton Public Library branches in Dundas, Ancaster, and Greensville - Local schools - Community Centres - Town Halls - Dundas and Fieldcote Museums - Dundas Valley Historical Society - Tourism Hamilton Information Centre to increase awareness of books, articles and other information about the Valley. • Integrate applicable findings from SDs 'Preserve the escarpment and rural countryside, including selected vistas', and 'Maintain and protect architectural and natural heritage' into this circulation where appropriate. 	<ul style="list-style-type: none"> • Created inventory of materials. • Established partnerships with local libraries, town halls, and community centres. 	<p>HCA/Non-HCA</p>	<p>2014-2019</p>			
<p>7. Explore the relation between climate change and emergency/di</p>	<ul style="list-style-type: none"> • Source existing data from other institutions where possible for this study where applicable. • Analyze collected data from monitoring stations in the Valley and pinpoint trends 	<ul style="list-style-type: none"> • Conducted a Risk Assessment study for the Dundas Valley. • Developed action 	<p>HCA</p>	<p>2014-2019</p>	<p>Watershed Planning & Engineering, Dundas Valley Conservation Area, and Land</p>	<p>Core Budget (see appendix)</p>	

<p><i>aster planning in the Dundas Valley Conservation Area (DVCA)</i></p>	<p>and changes in temperature and precipitation. Refer to data collected from SD <i>'Protect and enhance the health of streams, watercourses, and waterfalls.'</i></p> <ul style="list-style-type: none"> • Conduct a risk assessment- identify and establish possible climate change impacts on tourism in relation to extreme/high risk events e.g. storms, high winds, microbursts, flooding. • Compare data collected for various locations in the Dundas Valley and determine high risk/ vulnerable areas. • Work with the HCA Climate Change Task Force and other partners to develop risk management action strategies for emergency/disaster response. • Initiate the implementation of these action strategies in the DVCA where possible. 	<p>strategies and implemented where possible.</p>			<p>Management Staff Overhead</p>		
TOTAL COST						Core Budget (see appendix)	

3.0 Resources and Constraints

RESOURCES:

- **Community partnerships-** HCA has over the years established a number of working relationships with key community partners across the area such as Tourism Hamilton, the Giant Ribs Discovery Centre, and Bruce Trail Conservancy among others.
- **On-going local work-** through consultation with various stakeholder groups across the Valley area, it was found that there are a number of related programs and projects that are currently underway. Instead of duplicating the efforts of these groups, it would be useful to collaborate with these organizations to support and further promote their work in the Valley area.

CONSTRAINTS:

- **Workload Management-** implementing the work plan along with the other ten work plans of the fifty year Vision within the five year period. This could be a challenge for HCA as there will be other multiple programs in addition to the Vision that also fall under the HCA mandate and would require sufficient time and effort.
- **Non-HCA mandate-** the actions that lie outside of HCA's mandate will rely upon the support and interest of other community partners. In order for this initiative to be successful, consideration would have to be given to the partner's budget, resources, and time to ensure as much overlap where possible. Volunteer support could potentially be a good way to gain support from the community in this respect while fostering awareness of the project.

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Appendix

Attachment 1: Implementation Strategy Cycle 1: 2014-2019- Core Operational Budget

EXPENSES	PROJECT COSTS PER YEAR	TOAL FIVE YEAR COST
<i>Personnel</i>		
41. Strategy Manager at 100%, \$28/hour + 20% Fringe Benefits	\$60,480.00	\$302,400.00
<i>Travel</i>		
42. Travel at HCA rate of \$0.53/km	\$2,000.00	\$10,000.00
<i>Materials, Supplies & Equipment</i>		
43. Computer and office supplies	\$1,500.00	\$7,500.00
44. Printed reports, surveys, and maps	\$1,500.00	\$7,500.00
45. Climate Change Components	\$10,000.00	\$50,000.00
<i>Communications Costs</i>		
46. Open Houses, public meetings, and outreach materials (brochures, flyers, and posters)	\$3,500.00	\$17,500.00
47. Web page, press releases, newspaper advertisements	\$2,000.00	\$10,000.00
<i>Overhead (office space, phone, heat, hydro, internet)</i>		
48. Strategy Manager at 100%	\$10,000.00	\$50,000.00
<i>Other Expenses</i>		
49. Cost of attending related networking events, conferences, workshops, and training	\$1,000.00	\$5,000.00
50. Refreshments e.g. committee meetings, stakeholder meetings, open houses	\$500.00	\$2500.00
TOTAL	\$92,480.00	\$462,400.00



Dundas Valley 50-Year Vision and Strategy

Implementation Strategy Cycle 1: 2014-2019

Strategic Work Plan

Strategic Direction: Maintain and protect architectural and natural heritage



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Background

The 'heritage' of a particular place can be referred to as the aesthetic, historic, scientific, cultural, social or spiritual importance or significance for past, present and future generations. The 'heritage value' of an historic place is embodied in its character-defining materials, forms, location, spatial configurations, uses and cultural associations or meanings (Canada's Historic Places, 2010). An area's character-defining elements must be retained in order to preserve its heritage value i.e. the materials, forms, location, spatial configurations, uses and cultural associations or meanings that contribute to the heritage value of an historic place. The conservation of cultural heritage landscapes and archaeological sites often involves constituent natural heritage resources such as streams, lakefronts, and woodlands. Protection of the Niagara Escarpment is a prime example: it is a cultural heritage landscape, containing natural heritage features, and numerous archaeological resources (City of Hamilton, 2008).



The Dundas Valley area contains a rich and diverse physical environment resulting from past and ongoing influences between local culture and the natural environment. The area



encompasses a variety of both natural and cultural features- the Darnley Mill Ruins, the Thomas Beckett Memorial Forest, the Merrick Apple Orchard, the Griffin house among others. In addition to these features, the Valley's surrounding areas of Ancaster and Dundas each possess traditional downtown cores with many commercial "main streets", suburban areas with the Greensville and Flamborough having small hamlets and villages, and an extensive rural area that supports a thriving agricultural economy. The area possesses a few roads that bear special character and scenic qualities that warrant protection. With a unique cultural heritage landscape the areas has been modified by human activities and is deeply valued by the local community. Given the presence of structures, spaces, archaeological sites and natural elements in the Valley, together these form a specific type of heritage form, distinctive from its constituent elements or parts that should be celebrated and preserved to keep the uniqueness of the area in tact but more importantly ensure its sustainable protection. With the development of this work plan, the strategic direction of the Vision-'Maintain and protect local architectural and natural heritage' through the Valley can be put into action within the Vision's first 5-Year implementation cycle.

1.0 Dundas Valley 50-Year Vision & Strategy: Themes, Goals and Actions

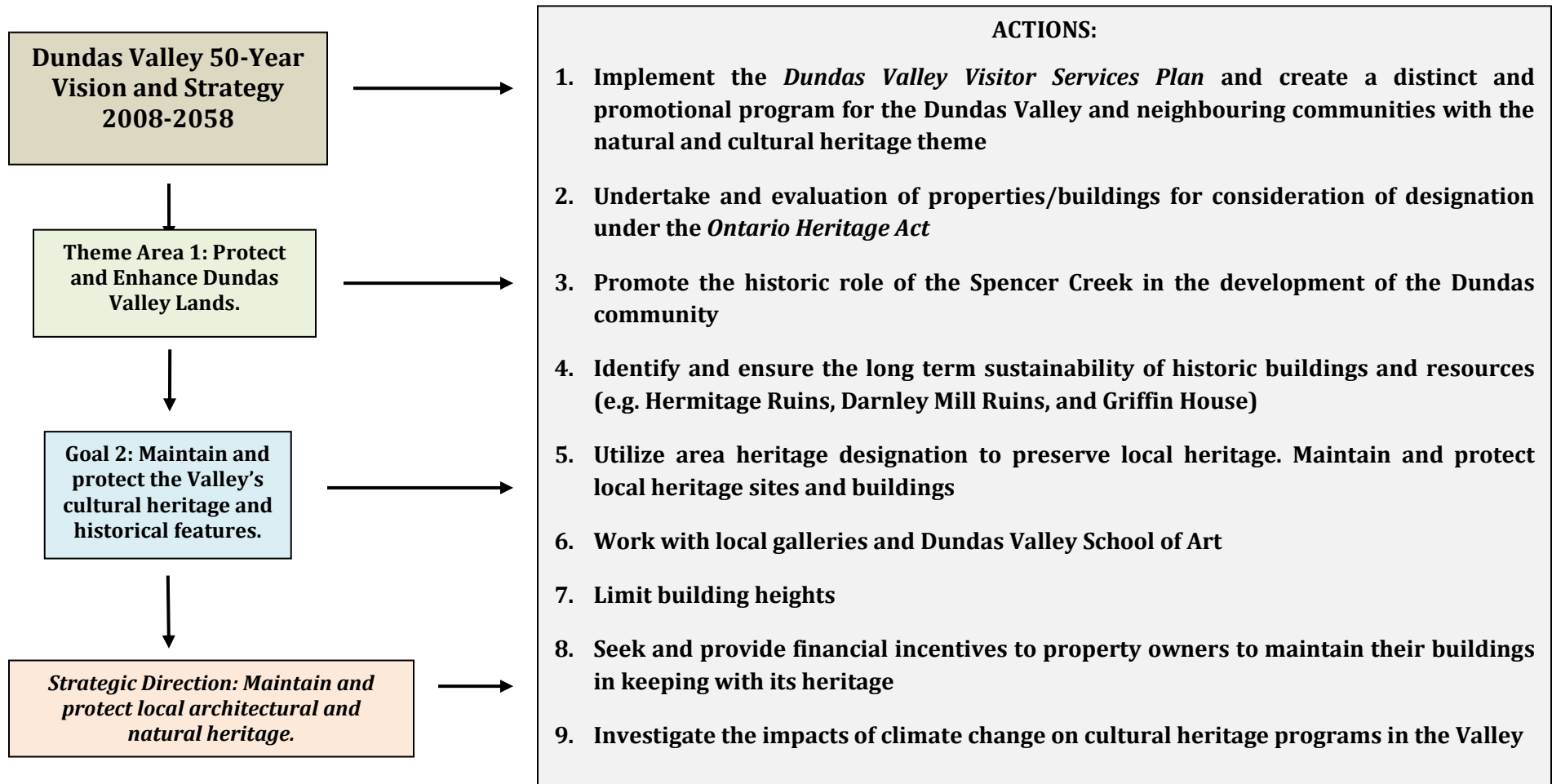


Chart 1: Theme area, Goal, Strategic Direction, and Actions.

2.0 Methodology and Work plan

The objective of the ISC1 and this work plan is to begin the implementation of the Vision's top 10 Strategic Directions (SDs). The maintenance and protection of local architectural and natural heritage was identified as a key area of interest for the first 5 year cycle and is one of the 43 SDs that was highlighted through the development of the 50 Year Vision. Implementation will take the form of project development and execution followed by continuous monitoring and evaluation to gauge the success and highlight any necessary areas for improvement along the way (Refer to Chart 2). With this process in place, over the course of the work plan's implementation, the scope of work will be able to adapt to any unplanned changes.

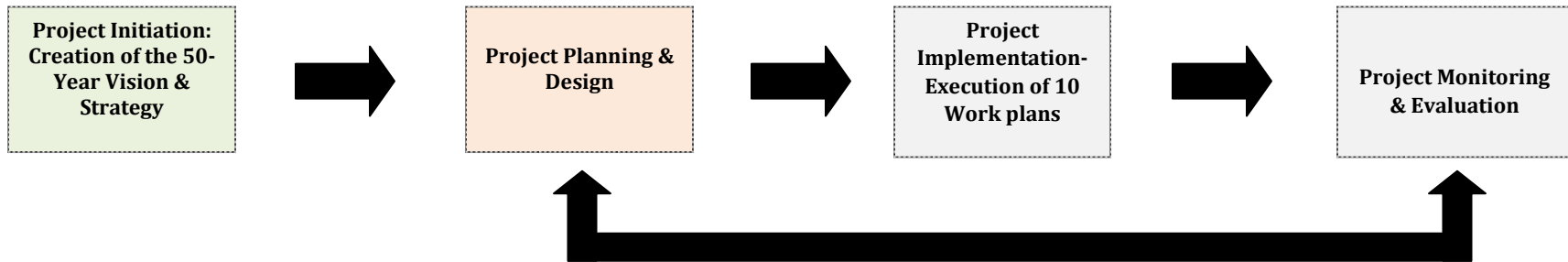


Chart 2: Project Management Framework

Over the 5-Year phase, a work plan with the 9 actions will be implemented (Table 1). For each action item, there are a number of related activities and projected outcomes. It should be noted that for some of these actions, work has already been completed or is ongoing. Additional actions/activities may be identified during ISC1's implementation and may not be limited to the actions identified in the Vision document.

Table 1: Work plan

Actions	Activities	Projected Outcomes	Lead	Time	Sub-Budget		Status
					Role	Cost	
<p>1. Implement the Dundas Valley Visitor Services Plan and create a distinct and promotional program for the Dundas Valley and neighbouring communities with the natural and cultural heritage theme.</p>	<ul style="list-style-type: none"> Review the <i>Dundas Valley Visitor Services Plan 2006 (Dundas Valley Escarpment Centre Visitor Services Plan)</i> and initiate the implementation of the actions outlined. Work with the Hamilton Conservation Foundation to secure funding to implement this plan. Encourage interested partners to develop a promotional program for the Valley through presentations and outreach to councils and related committees. Develop a project committee of at least 8 members to oversee the development of a promotional program (Tourism Hamilton, HCA, City of Hamilton, Bruce Trail Conservancy, Royal Botanical Gardens, Ancaster Business Improvement Area (BIA), Dundas BIA, Giant Ribs Discovery Centre (GRDC), and two citizen representatives). Conduct a preliminary heritage audit of the Dundas Valley area to determine the natural attractions/resources and associated activities that the Valley area has to offer through a literature review, site study, and consultation with stakeholder groups. Conduct a Strengths Weaknesses Opportunities and Threats (SWOT) analysis using the data 	<ul style="list-style-type: none"> Initiated the implementation of the <i>Dundas Valley Visitor Services Plan</i>. Developed and implemented a natural and cultural heritage promotional program. 	HCA & Non-HCA	2014-2019	Strategy Manager Overhead	Core Budget (see appendix)	In progress as a <i>Dundas Valley Escarpment Centre Visitor Services Plan</i> has already been created by HCA.

	<p>collected with the project's committee and other community stakeholders.</p> <ul style="list-style-type: none"> • Undertake a market evaluation of the area to assess: <ul style="list-style-type: none"> - Number of visitors to the Valley at key areas i.e. distinct natural and cultural heritage features and locations - Primary reason for visit - Collect data for 1 year and create a baseline for monitoring - Continue annual monitoring until sufficient data is attained • Using the findings from the market evaluation, identify the specific niche markets offered by the Valley to visitors i.e. Eco-Tourism, Natural or Cultural Heritage Tourism, or other forms. Examine and highlight possible trends and main areas that relate to each niche market. • Determine the key marketing/customer profile, demographics, and the overall marketing position of the Dundas Valley area. • Mainstream the strategy's functioning with local and provincial partners where applicable. • From the on-going stakeholder consultations, identify gaps in existing natural and cultural heritage programs where possible. • Explore and finalize through consultation with stakeholder groups a promotional program for the Dundas Valley area: <ul style="list-style-type: none"> - Objectives and Goals - Priority areas - Action items- determine approaches, techniques and tools can be used to market 					
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	<ul style="list-style-type: none"> - the Valley's assets - Budget Allocation and funding - Monitoring and evaluation of strategy's progress - Implementation partners <ul style="list-style-type: none"> • Initiate the implementation of the promotional program where possible. • Incorporate activities with SD <i>'Develop a Valley-wide sustainable tourism business plan and marketing strategy to promote eco, cultural, culinary and recreational tourism'</i>. 						
<p>2. Undertake an evaluation of properties/buildings for consideration of designation under the Ontario Heritage Act.</p> <p>3. Identify and ensure the long term sustainability of historic buildings and resources (e.g. Hermitage Ruins, Darnley Mill Ruins, and Griffin</p>	<ul style="list-style-type: none"> • Ensure the continued protection of HCA owned properties through the <i>Dundas Valley Conservation Area (DVCA) Heritage Zone objectives the Dundas Valley Conservation Area Master Plan, and the Hamilton Waterfalls and Cascades Research and Inventory Project.</i> • Evaluate heritage properties found on HCA lands in the Valley area and develop an inventory. 	<ul style="list-style-type: none"> • Successfully maintained of cultural heritage features on HCA lands by HCA. • Evaluated heritage properties on HCA lands in the Valley area and developed an inventory. 	HCA	2014-2019	<p>Equipment, materials, and resources</p> <p>Travel</p> <p>Communications</p>	HCA Annual Budget	On-going as HCA has been protecting selected heritage sites in the Valley (see appendix).

<i>House).</i>							
4. Promote the historic role of the Spencer Creek in the development of the Dundas community.	<ul style="list-style-type: none"> • Assess possible 'heritage/industrial 'trail routes on HCA-owned lands and determine how they can be celebrated and communicated to the public: <ul style="list-style-type: none"> - Highlight important natural heritage features along trails i.e. birds, trees, Niagara Escarpment, Carolinian species by display boards and signage - Explore the feasibility of having cue codes for scanning by devices • Document and map the Dundas Valley Portage in addition to other possible heritage features/routes across the Valley. On this map include: <ul style="list-style-type: none"> - Location and marking of significant heritage trees in the Valley - Highlight the historical legacy of outstanding waterfalls in the area and its connection to the natural heritage of its surroundings e.g. the Niagara Escarpment - Archeological features - Outstanding Vistas and Viewsheds • Develop and host 'Guided Heritage Landscape' and 'House Tours' along these routes. • Develop promotional material to assist in creating awareness to the local community: <ul style="list-style-type: none"> - Brochure - Facebook group/web page • Work with the Dundas Valley Historical Society (DVHS), Fieldcote Museum (FM), and the Dundas Museum (DM) to develop an exhibit about the creek for display in the museum and other public spaces. 	<ul style="list-style-type: none"> • Assessed potential heritage trails in the Valley area. • Created a map/s of the Dundas Valley Portage. • Supported the implementation of activities with local partners. • Created promotional materials. 	HCA & Non-HCA	2014-2019			

	<ul style="list-style-type: none"> • Collaborate with local libraries to promote the Spencer Creek display in the library and at events and promote books about the Spencer Creek. • Work with Tourism Hamilton to have a 'Doors open' day for the public to visit local heritage sites within the Valley area. Coordinate and apply for event with the Ontario Heritage Trust. • Promote the following programs and initiatives in the Valley area: <ul style="list-style-type: none"> - 'Dundas- A timeline' website - Ancaster Heritage Days event - Hamilton Postcards - Monumental Hamilton • Work with the Disappearing History initiative to write stories about heritage sites in the Valley. • Work with Historical Hamilton to develop a map of historical and heritage features of the Dundas Valley area. • Incorporate activities with SD <i>'Develop a Valley-wide sustainable tourism business plan and marketing strategy to promote eco, cultural, culinary and recreational tourism'</i>. 					
<p>5. Utilize area heritage designation to preserve local heritage. Maintain and protect local heritage sites</p>	<ul style="list-style-type: none"> • Under the City of Hamilton's <i>Heritage Landscape Study 2013</i>, conduct a field evaluation of the potential heritage area/s in the Dundas Valley. • Create a listing of potential area/s in Hamilton and in turn the Valley area and rank in order of priority areas to be acted upon. 	<ul style="list-style-type: none"> • Developed a <i>Cultural Heritage Landscape Evaluation</i> report for selected area/s in the Dundas Valley. 	Non-HCA	2014-2019		In progress as the City of Hamilton are planning to carry out a Cultural Landscape Assessment for potential areas.

<p>and buildings.</p>	<ul style="list-style-type: none"> • Conduct a background study and develop a <i>Cultural Heritage Landscape Evaluation</i> report: <ul style="list-style-type: none"> - Assess the significance and importance of the area i.e. historical, cultural, and physical values - Conduct an evaluation of the integrity of the area's landscape i.e. design, setting, feeling, association - Potential of the area as an educational and celebratory medium for local heritage - Continuity i.e. ability of the landscape to retain its character with time • Based on the evaluation, determine if a Cultural Heritage Landscape plan is appropriate and should be developed. • If so, then: Define potential study area and study zones/Cultural Heritage Landscape (CHL) within the Valley area using a map. • Draft an initial CHL plan. • Consult with local stakeholders about the draft CHL plan through public open houses and surveys. Use the information gathered to describe impacts, and refine preservation / mitigation strategies for protection, and study boundaries. • Prepare a final CHL plan and guidelines for the proposed area. • Implement recommended strategies of the CHL plan to ensure protection of heritage features. • Incorporate the inclusion of the activities outlined under SD <i>'Support the implementation</i> 					
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	<p><i>of the City of Hamilton's special character roads through the Valley' within the CHL plan.</i></p> <ul style="list-style-type: none"> • Incorporate identified viewshed areas from SD 'Preserve the escarpment and rural countryside, including selected vistas. 						
<p>6. Work with local galleries and Dundas Valley School of Art.</p>	<ul style="list-style-type: none"> • Work with the Dundas Valley School of Art (DVSA), the Giant Ribs Discovery Centre (GRDC), DM, FM, and the Carnegie Gallery (CG) to promote the historical, natural and cultural heritage of the Valley by supporting on-going initiatives and creating new programs: <ul style="list-style-type: none"> - Theme-based exhibitions within communal spaces e.g. storefront art exhibits with exhibits at the CG joint-exhibit between CG and HCA. - Lecture series at the Carnegie gallery - Book club between the Dundas Museum and local libraries - GRDC 's <i>'Bruce Duncan Memorial Lecture Series'</i> - GRDC's 'Art and Photography of the Heritage of the Niagara Escarpment' at the DVCA Trail Centre - CG's <i>'Arts Dundas'</i> annual event - CG's Canada Culture Day Celebration <i>'Dundas Culture'</i> - CG's <i>'Emerging Artists'</i> competition - CG's Eco-Art Contest - DM's <i>'My Dundas!'</i> photography contest - DM's <i>'Your Dundas Stories'</i> - Work with the DM and Dundas Library to promote the <i>Natural Areas Inventory</i> (NAI) and photographs of the Spencer Creek to the public 	<ul style="list-style-type: none"> • Supported the implementation of these activities with local partners. 	Non-HCA	2014-2019	Strategy Manager Overhead	Core Budget	
<p>7. Limit Building</p>	<ul style="list-style-type: none"> • Review the findings of the Viewshed study in SD 'Preserve the escarpment and rural 	<ul style="list-style-type: none"> • Created and submitted a report 	HCA & Non-	2014-	Strategy Manager	Core Budget	

<p>Heights</p>	<p><i>countryside, including selected vistas’ and the findings of the Cultural Heritage Landscape Evaluation report (see action 5).</i></p> <ul style="list-style-type: none"> • Review the following key documents: <ul style="list-style-type: none"> - <i>Niagara Escarpment Plan (NEP)</i> - <i>Niagara Escarpment Planning and Development Act (NEPDA)</i> - Other • Use the information obtained to compile a report that will demonstrate: <ul style="list-style-type: none"> - Unique natural, historical, and cultural features of the Valley - Current challenges faced in the Valley with respect to housing development - Reasons as to why building heights and mass should be limited in the Valley area - Recommendations for actions to ensure future protection • Submit report to the Niagara Escarpment Commission (NEC) in timing with the 2015 NEP review period. 	<p>to the NEC.</p>	<p>HCA</p>	<p>2019</p>	<p>Overhead</p>		
<p>8. Seek and provide financial incentives to property owners to maintain their buildings in keeping with its heritage.</p>	<ul style="list-style-type: none"> • Research federal and provincial grants as incentives for local artists e.g. Canadian Council for Arts and the Ontario Arts Council (OAC). • Examine examples of funding programs from municipal heritage committees in Ontario e.g. Hamilton, Kingston, London, Markham, and Toronto. • Use this information to create a guidebook that will foster awareness of funding, support, and contacts and on-going local programs and events in the Valley. 	<ul style="list-style-type: none"> • Created a guidebook. 	<p>Non-HCA</p>	<p>2014-2019</p>			

<p>9. Investigate the impacts of climate change on cultural heritage programs in the Valley.</p>	<ul style="list-style-type: none"> • Develop climate predictions for 25 years, 50 years, and 100 years scenarios for the Valley area. • Source existing data from other institutions where possible for these areas e.g. universities. • Monitor and collect data at selected intervals during the year for a few years. • Conduct a risk assessment- identify and establish possible climate change impacts on cultural programs. • Compare information collected for various locations within the Dundas Valley and also the watershed to determine higher risk/ more vulnerable areas. • Work with the HCA Climate Change Task Force and other partners to develop action strategies. • Integrate collected data with monitoring data from SDs <i>'Preserve the escarpment and rural countryside, including selected vistas'</i> and <i>'Protect and enhance the health of streams, watercourses, and waterfalls'</i> to deduce trends and patterns. 	<ul style="list-style-type: none"> • Conducted a Risk Assessment study for the Dundas Valley. • Developed action strategies and implemented where possible. 	HCA	2014-2019	WP & E Staff	HCA Annual Budget	
TOTAL COST						Core Budget (see appendix)	

3.0 Resources and Constraints

RESOURCES:

- **Community partnerships-** HCA has over the years established a number of working relationships with key community partners across the area such as the Dundas Valley School of Art, Carnegie Gallery, and the City of Hamilton among others.
- **HCA Heritage site protection-** HCA has been ensuring the protection and maintenance of a number of cultural and natural heritage sites in the Dundas Valley (see appendix). Through HCA's *Strategic Plan*, the *Dundas Valley Conservation Area (DVCA) Heritage Zone Objectives* the *Dundas Valley Conservation Area Master Plan*, the *Spencer Gorge Webster's Falls Master Management Plan* and the *Hamilton Waterfalls and Cascades Research and Inventory Project*, protection for each of these sites will be an on-going initiative.
- **On-going local work-** through consultation with various stakeholder groups across the Valley area, it was found that there are a significant number of related programs and projects that are currently underway. Instead of duplicating the efforts of these groups, it would be better to collaborate with these organizations to support and further promote their work in the Valley area.

CONSTRAINTS:

- **Workload Management-** implementing the work plan along with the other ten work plans of the fifty year Vision within the five year period. This could be a challenge for HCA as there will be other multiple programs in addition to the Vision that also fall under the HCA mandate and would require sufficient time and effort.
- **Non-HCA mandate-** the actions that lie outside of HCA's mandate will rely upon the support and interest of other community partners. In order for this initiative to be successful, consideration would have to be given to the partner's budget, resources, and time to ensure as much overlap where possible. Volunteer support could potentially be a good way to gain support from the community in this respect while fostering awareness of the project.
- **Limiting Building Heights-** currently less than one-third of the area is protected from development through HCA's land ownership. Another seventy two percent lies within the Greenbelt, Escarpment Natural, Protection, and Parks and Open Space System. The NEC is the main body that enforces the NEP and NEPDA to the Niagara Escarpment and its surrounding areas of the Dundas Valley. This includes policies that address the height and location of structures. The HCA with the community's support can only provide comment and possible recommendations to ameliorate the issues of building height and scale in the Valley in timing for the NEP's review in 2015. It would ultimately be the decision of the NEC to place restrictions on the height, location, and scale of structures in the Valley area.

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Appendix:

Attachment 1: Implementation Strategy Cycle 1: 2014-2019: **Core Operational Budget**

EXPENSES	PROJECT COSTS PER YEAR	TOAL FIVE YEAR COST
<i>Personnel</i>		
51. Strategy Manager at 100%, \$28/hour + 20% Fringe Benefits	\$60,480.00	\$302,400.00
<i>Travel</i>		
52. Travel at HCA rate of \$0.53/km	\$2,000.00	\$10,000.00
<i>Materials, Supplies & Equipment</i>		
53. Computer and office supplies	\$1,500.00	\$7,500.00
54. Printed reports, surveys, and maps	\$1,500.00	\$7,500.00
55. Climate Change Components	\$10,000.00	\$50,000.00
<i>Communications Costs</i>		
56. Open Houses, public meetings, and outreach materials (brochures, flyers, and posters)	\$3,500.00	\$17,500.00
57. Web page, press releases, newspaper advertisements	\$2,000.00	\$10,000.00
<i>Overhead (office space, phone, heat, hydro, internet)</i>		
58. Strategy Manager at 100%	\$10,000.00	\$50,000.00
<i>Other Expenses</i>		
59. Cost of attending related networking events, conferences, workshops, and training	\$1,000.00	\$5,000.00
60. Refreshments e.g. committee meetings, stakeholder meetings, open houses	\$500.00	\$2500.00
TOTAL	\$92,480.00	\$462,400.00

Attachment 2: **Table 1: Listing of HCA-owned Heritage Properties**

Name of Property	Additional Details	Photo
<p>1. Griffin House</p>	<ul style="list-style-type: none"> • Griffin house now owned by HCA since 1988, was the home of first black settler in the area from the US – designated by the Ancaster Local Architectural Conservation Advisory Committee for its unique historical and architectural significance • 45-acre land, four-room farmhouse built in 1827, currently open from May to October on holiday Mondays • Member of Central Ontario Network of Black History • Motion put forward to designate as Parks Canada National Historic Site (plaque ceremony in 2010) Over 3,000 artifacts have been unearthed including stoneware, porcelain, clay pipe and masonry 	
<p>2. Hermitage Ruin & Gatehouse</p>	<ul style="list-style-type: none"> • 1855 home now ruin owned by HCA, consideration for stabilization • Trails on this property include sections of the Headwaters, Main Loop and Bruce Trails 	

<p>3. Thomas A Beckett Living Forest</p>	<ul style="list-style-type: none"> Each year supporters of the Conservation Foundation Living Forest Fund are invited to help plant trees and shrubs in the Thomas A. Beckett Forest. Named after well-known conservationist and the first chairman of HCA. Under his leadership from 1966-1972 the HCA began a major land acquisition program including the Dundas Valley 	
<p>4. Woodend House</p>	<ul style="list-style-type: none"> Donated to HCA in 1971, currently part of HCA administrative offices 	
<p>5. Darnley Grist Mill Ruins</p>	<ul style="list-style-type: none"> Located in Crooks Hollow, founded by James Crooks, a Scottish immigrant who came to the area in 1805. The Hollow had its industrial beginnings in 1801, when Jonathan Morden built a sawmill on Spencer Creek. James Crooks built the area's first gristmill, completed in 1813, and named it after his hero, Lord Darnley. By 1829, this area contained the Darnley gristmill and buildings such as a woollen mill, tannery, a distillery, linseed oil mill, cooperage, a general store, clothing factory, foundry, paper mill, agricultural implement factory, log cabins for workers and an inn. The cascade was named after the Darnley Mill, which was destroyed by fire in 1934, leaving only the ruins. 	



Dundas Valley 50-Year Vision and Strategy

Implementation Strategy Cycle 1:2014-2019

Work Plan

**Strategic Direction: Preserve the escarpment and rural countryside,
including selected vistas**



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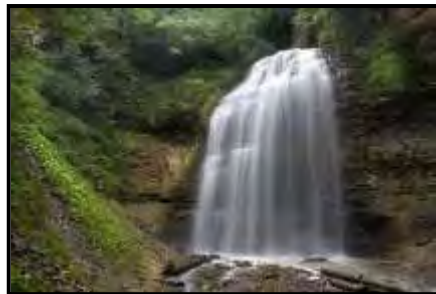
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Background

The most conspicuous geological feature of the Dundas Valley is the Niagara escarpment. The Niagara Escarpment is recognized as one of the world's unique natural wonders and is the most prominent topographical feature of southern Ontario. The Escarpment area encompasses a rich mosaic of forests, farms, recreation areas, scenic views, cliffs, streams, wetlands, rolling hills, waterfalls, mineral resources, wildlife habitats, historic sites, villages, towns and cities. Some of the area's most characteristic features include the Dundas Valley Conservation Area, the Spencer Gorge (Webster's Falls, Tews Falls, and the Dundas peak), the Borer's Falls Conservation Area and Rock Chapel, and the Tiffany Falls area). The Dundas Valley is a re-entrant valley in the escarpment system, being characterized by many forest types on the wide variety of slopes, exposures and moisture regimes, significant wildlife populations and various portions (Carolinian Canada, 1998). The Valley resulted from pre-glacial erosion which cut deeply into the Niagara Escarpment.



The escarpment is protected by the Niagara Escarpment Commission (NEC)'s *Niagara Escarpment Plan* (NEP) and the *Niagara Escarpment Planning and Development Act* (NEPDA). Despite these policies and guidelines, further protection should be considered to preserve areas that fall outside these jurisdictions and their associated lands and ecosystems as development pressures will continue to increase the stress on Valley lands (HCA, 2009). In the Dundas Valley, there are potential vista and scenic areas that should be protected and maintained. A vegetative management and naturalization plan could potentially address how historic and existing views and vistas will be recreated and maintained—specifically valley vista Trail North of the Old Ancaster Road parking lot, valley vista Trail on top of the Hill West of Old Ancaster Road, various locations along the Rail Trail and the escarpment, and lookout trail towards Martins Road (HCA, 2009). A Dundas Valley Viewsheds Analysis if conducted could provide guidelines vista identification and site selection and will strive to provide a detailed and objective analysis of the visual resources of the valley, develop visual impact guidelines to be used in evaluation of proposals, record the methods used to allow for replication, map the results in a form which will enable widespread use, vistas from Regional Roads 299 and 399 along the Bruce Trail and strategic points along public roads were assessed and criteria developed to ensure vistas are included in site planning activities (HCA, 2009). With the development of this work plan, the strategic direction of the Vision—'Preserve the escarpment and rural countryside, including selected vistas' can be put into action within the Vision's first 5-Year implementation cycle.



2.0 Dundas Valley 50-Year Vision & Strategy: Themes, Goals and Actions

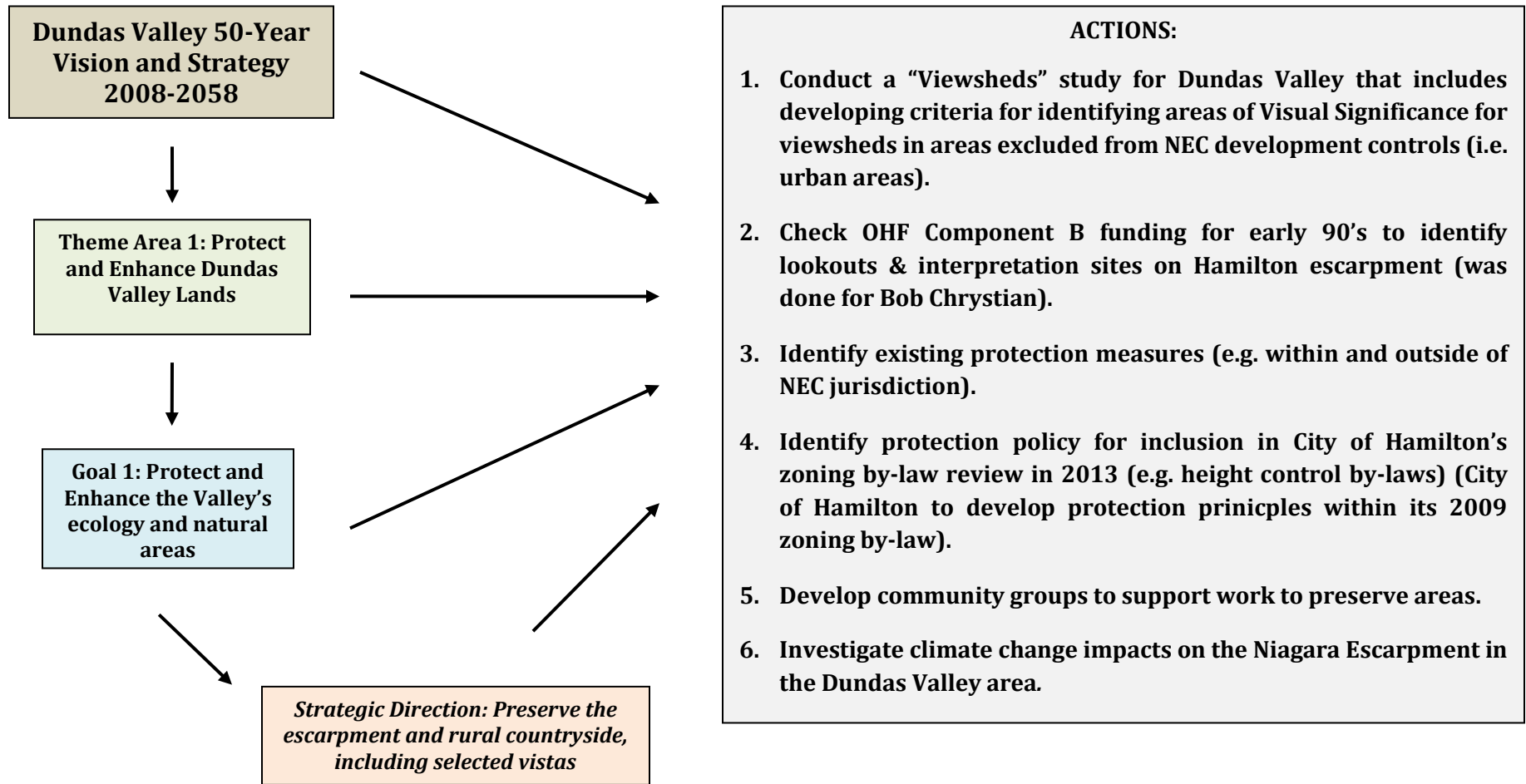


Chart 1: Theme area, Goal, Strategic Direction, and Actions.

2.0 Methodology and Work plan

The objective of the ISC1 and this work plan is to begin the implementation of the Vision's top 10 Strategic Directions (SDs). The preservation of the escarpment, rural countryside, and vistas was identified as a key area of interest for the first 5 year cycle and is one of the 43 SDs that was highlighted through the development of the 50 Year Vision. Implementation will take the form of project development and execution followed by continuous monitoring and evaluation to gauge the success and highlight any necessary areas for improvement along the way (Refer to Chart 2). With this process in place, over the course of the work plan's implementation, the scope of work will be able to adapt to any unplanned changes.

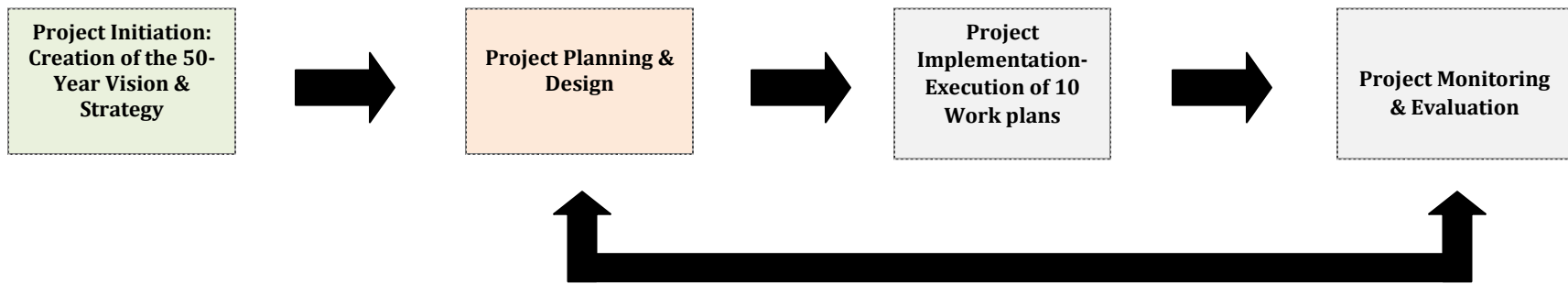


Chart 2: Project Management Framework

Over the 5-Year phase, a work plan with the 6 actions will be implemented (Table 1). For each action item, there are a number of related activities and projected outcomes. It should be noted that for some of these actions, work has already been completed or is ongoing. Additional actions/activities may be identified during ISC1's implementation and may not be limited to the actions identified in the Vision document.

Table 1: SD Work plan

WP & E: Watershed Planning & Engineering
LM: Land Management

Actions	Activities	Projected Outcomes	Lead	Time	Sub-Budget		Status
					Role	Cost	
1. Conduct a “Viewsheds” study for Dundas Valley that includes developing criteria for identifying areas of Visual Significance for viewsheds in areas excluded from NEC development controls (i.e. urban areas).	<ul style="list-style-type: none"> Consult with a Technical Specialist e.g. Landscape Architect Work with the Niagara Escarpment Commission (NEC) to develop a Terms of Reference document that will define the scope of the Viewsheds study. Develop identification criteria for areas of visual significance using an analytical approach. Review the OHF Component B funding, the <i>Dundas Valley Viewshed Analysis 1985</i>, <i>Dundas Valley Conservation Area Master Plan 1997</i> for identified lookouts and interpretation sites on the Dundas Valley escarpment area. Conduct a field check and apply criteria to determine the number of scenic vistas and lookouts (significant visual units) in the Valley and their geographical coordinates. Determine data requirements and identify possible data gaps. Select specific viewpoints points for each of the identified spots and illustrate these on a map of the study area. 	<ul style="list-style-type: none"> Developed identification criteria for areas of visual significance Mapped locations of each specific area. Created listing of scenic vistas and lookouts in the Dundas Valley with specific points and calculated elevations for each. Created a composite map showing rural countryside protection areas as well as identified views and vistas. Compiled a final Viewsheds Analysis study for the Valley. 	HCA & Non-HCA	2014	Technical Specialist	\$20,000	
					WP & E Staff	HCA Annual Budget	
2. Check OHF Component B funding for early 90’s to identify lookouts & interpretation sites on Hamilton					Overhead		
					Equipment, materials, and resources		
					Travel		
					Strategy Manager	Core Budget (see appendix)	
					Overhead		

<p>escarpment (was done for Bob Chrystian).</p>	<ul style="list-style-type: none"> • Conduct an analysis for each viewpoint and field check. • Undertake a second field check to validate data obtained from the viewshed analysis and document each area through photography. • For each specific point, calculate the elevation i.e. determine the estimated height of each point in the study area for the viewshed analysis and create a listing with specific points and elevations. • Determine the percentage or acreage of rural countryside (from Escarpment Rural Area, Protected countryside from <i>Greenbelt Plan</i>, overlaps) for the area. • Create a composite map to show protected rural countryside, viewshed of visual significance. • Compile all information and maps into a final <i>Dundas Valley Viewsheds Analysis</i> report. • Coordinate and incorporate findings into the Cultural Heritage Landscape plan for the Valley under SD '<i>Maintain and protect local architectural and natural heritage</i>' where applicable. 					
<p>3. Identify existing protection measures (e.g. within and outside of NEC</p>	<p>The following documents have been reviewed:</p> <ul style="list-style-type: none"> - <i>Niagara Escarpment Plan</i> (NEP) - <i>Niagara Escarpment Planning and Development Act</i> (NEPDA) - <i>The Greenbelt Plan</i> - <i>The Places to Grow Act</i> - <i>City of Hamilton's Rural Official Plan</i> - <i>City of Hamilton's Zoning By-law 05-200</i> - <i>City of Hamilton's Natural Heritage System</i> (NHS) 	<p>Completed as Executive Summaries for each of these documents have been created and added to the</p>				

<i>jurisdiction).</i>	- HCA's <i>Planning & Regulation Policy and Guidelines</i>						Dundas Valley information repository.
4. Identify protection policy for inclusion in City of Hamilton's zoning by-law review in 2013 (e.g. height control by-laws) (City of Hamilton to develop protection principles within its 2009 zoning by-law).	<ul style="list-style-type: none"> Examine height control by-laws from other cities/municipalities in Ontario/Canada. Develop a report that recommends the inclusion of a Viewshed Protection Policy within NEC protection policies and City of Hamilton's zoning-by-laws to protect significant areas where applicable by outlining: <ul style="list-style-type: none"> Viewsheds within the Valley area that should be preserved The importance of each site in terms of its values and benefits offered to the community e.g. environmental, social. Recommended actions that should be taken to ensure that these Viewsheds are safeguarded. HCA to recommend identified actions on planning applications (where applicable). 	<ul style="list-style-type: none"> Developed a report with recommendations. 	HCA & Non-HCA	2014-2019	Strategy Manager Overhead	Core Budget (see appendix)	
5. Investigate climate change impacts on the Niagara Escarpment in the Dundas Valley area.	<ul style="list-style-type: none"> Develop climate predictions for 25 years, 50 years, and 100 years scenarios for the Valley area. Source existing data from other institutions where possible for these areas e.g. universities. Select a number of monitoring stations in the Dundas Valley area for data collection. Monitor and collect data at selected intervals during the year for a few years for: <ul style="list-style-type: none"> Temperature 	<ul style="list-style-type: none"> Monitored and collected data for key parameters in the area. Conducted a Risk Assessment study for the Dundas Valley. Integrated collected monitoring data with data from the Vision's related 	HCA	2014-2019	WP & E Staff Overhead	HCA Annual Budget	

	<ul style="list-style-type: none"> - Precipitation • Analyze collected data to deduce trends and changes. • Conduct a risk assessment- identify and establish possible climate change impacts. • Compare data collected for various locations within the Dundas Valley and also the watershed to determine higher risk/ more vulnerable areas. • Integrate collected data with monitoring data from SDs ' <i>Protect rare, endangered and species at risk in the Valley</i>', '<i>Combat the impact of invasive and nuisance species within the Valley</i>', and '<i>Protect and enhance the health of streams, watercourses, and waterfalls</i>' to deduce trends and patterns. 	strategic directions.					
6. Develop community groups to support work to preserve areas.	<ul style="list-style-type: none"> • Identify existing local community groups in the Valley area and support on-going work: <ul style="list-style-type: none"> - Giant Ribs Discovery Centre (GRDC) - Coalition on the Niagara Escarpment (CONE) - MACGreen of McMaster University • Work with local partners to promote community awareness and support local community events in the area : <ol style="list-style-type: none"> 1. GRDC 'Bruce Duncan Memorial Lecture Series' 2. GRDC's 'Art and Photography of the Heritage of the Niagara Escarpment' at the DVCA Trail Centre 3. GRDC's 'Awards/Recognition Program' development and distribution of educational material i.e. poster, flyer 	<ul style="list-style-type: none"> • Collaboration with existing community groups. • Creation of outreach and promotional materials, hosting of local events to rally support. 	HCA & Non-HCA	2014-2019	Strategy Manager Overhead	Core Budget (see appendix)	

	<p>4. CONE's awareness campaigns</p> <ul style="list-style-type: none"> Encourage the development of new strategies that will highlight the historical and cultural importance of the Niagara Escarpment. 						
TOTAL COST					\$20,000		

3.0 Resources and Constraints

RESOURCES:

- **Data Availability:**
 1. *Dundas Valley Viewshed Analysis* that was developed by the NEC in 1985 along with a landscape evaluation and assessment of the area. This information can be used as a starting point for the creation of a new study of the Valley.
 2. *Dundas Valley Conservation Area Master Management Plan* was developed by HCA in 1997 and had identified a few areas that could potentially be a viewshed point.
- **Community partnerships-** HCA has over the years established a number of working relationships with landowners and key community partners across the Dundas Valley. In particular, HCA has a good relationship with the NEC, City of Hamilton and other community groups such as the CONE and the GRDC.

CONSTRAINTS:

- **Workload Management-** implementing the SD's work plan along with the other 10 SDs' work plans of the 50-Year Vision within the 5-Year period. This could be a challenge for HCA as there will be other multiple programs in addition to the Vision that also fall under the HCA mandate and would require sufficient time and effort.
- **Funding Availability and Timing-** sourcing additional funding for work plan execution and for the hiring of an external consultant will be needed for successful implementation and applying for funding where by designated time lines and ensuring these align with the work plan's implementation time line as well.
- **Limiting Building Heights-** currently less than one-third of the area is protected from development through HCA's land ownership. Another seventy two percent lies within the Greenbelt, Escarpment Natural, Protection, and Parks and Open Space System. The NEC is the main body that applies the NEP and NEPDA to the Niagara Escarpment and its surrounding areas of the Dundas Valley. This includes policies that address the height and location of structures. The HCA with the community's support can only provide comment and possible recommendations to ameliorate the issues of building height and scale in the Valley in timing for the NEP's review in 2015. It would ultimately be the decision of the NEC to place restrictions on the height, location, and mass of structures in the Valley area.

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and

<http://www.hamilton.ca/CityDepartments/PlanningEcDev/Divisions/StrategicServicesSpecialProjects/ZoningBy-law/RuralZoning.htm>

Appendix

Attachment 1: Implementation Strategy Cycle 1: 2014-2019: **Core Operational Budget**

EXPENSES	PROJECT COSTS PER YEAR	TOAL FIVE YEAR COST
<i>Personnel</i>		
7. Strategy Manager at 100%, \$28/hour + 20% Fringe Benefits	\$60,480.00	\$302,400.00
<i>Travel</i>		
8. Travel at HCA rate of \$0.53/km	\$2,000.00	\$10,000.00
<i>Materials, Supplies & Equipment</i>		
9. Computer and office supplies	\$1,500.00	\$7,500.00
10. Printed reports, surveys, and maps	\$1,500.00	\$7,500.00
11. Climate Change Components	\$10,000.00	\$50,000.00
<i>Communications Costs</i>		
12. Open Houses, public meetings, and outreach materials (brochures, flyers, and posters)	\$3,500.00	\$17,500.00
13. Web page, press releases, newspaper advertisements	\$2,000.00	\$10,000.00
<i>Overhead (office space, phone, heat, hydro, internet)</i>		
14. Strategy Manager at 100%	\$10,000.00	\$50,000.00
<i>Other Expenses</i>		
15. Cost of attending related networking events, conferences, workshops, and training	\$1,000.00	\$5,000.00
16. Refreshments e.g. committee meetings, stakeholder meetings, open houses	\$500.00	\$2500.00
TOTAL	\$92,480.00	\$462,400.00



Dundas Valley 50-Year Vision and Strategy

Implementation Strategy Cycle 1: 2014-2019

Work Plan

***Strategic Direction: Promote green business practices within
the community***

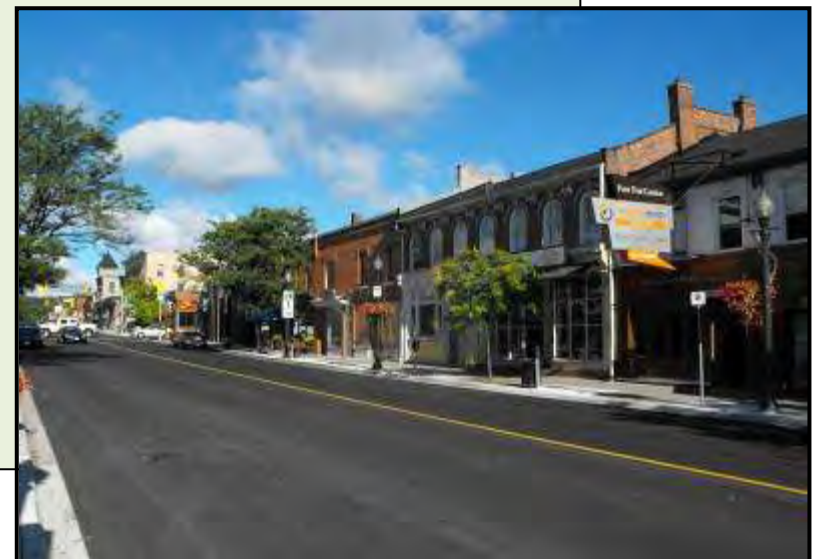


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Background

A 'green' or 'sustainable' business is an enterprise that has no negative impact on the global or local environment, community, society, or economy—a business that strives to meet the triple bottom line i.e. social, economic, and environmental areas. Being a green business involves the adoption and promotion of green business practices and entails principles of working smarter, reducing travel and the consumption, energy efficiency, and sustainable sourcing. These practices can range from simple actions such as recycling, education, teleconferencing, and energy conservation to adopting renewable forms of energy, having a green roof, ensuring natural and energy efficient sustainable product manufacturing and performing a business-wide sustainability inventory (Perreira, 2009).

Green business practices should be encouraged as it can allow enterprises to save money on daily operations. Energy efficiency can lead to considerable cost savings, which can lead to a business becoming leaner and more efficient (Perreira, 2009). These practices can help an organization to win new business as there is growing pressure from society, government, and



customers for businesses to act in an environmentally responsible way with attitudes and expectations of consumers changing and the need to businesses to adapt while at the same time enhancing a company's reputation (Perreira, 2009).

In the Valley area, there is potential for greater promotion of environmentally-friendly practices among the community, starting with local businesses. Business leadership in natural resource management and stewardship should be highlighted and celebrated where possible as good examples to other businesses in the area and community members. In addition, local area residents should be encouraged to reduce their day to day consumption through recycling and proper waste management, and practicing energy conservation as well as shopping at locally-owned businesses. The Hamilton Conservation Authority (HCA) being a local agency would strive to serve as an example by continuously work towards practicing more sustainable techniques in the Dundas Valley where possible through various methods. With the development of this work plan, the strategic direction of the Vision-'Promote green business practices within the community' through the Valley can be put into action within the Vision's first 5-Year implementation cycle.

1.0 Dundas Valley 50-Year Vision & Strategy: Themes, Goals and Actions

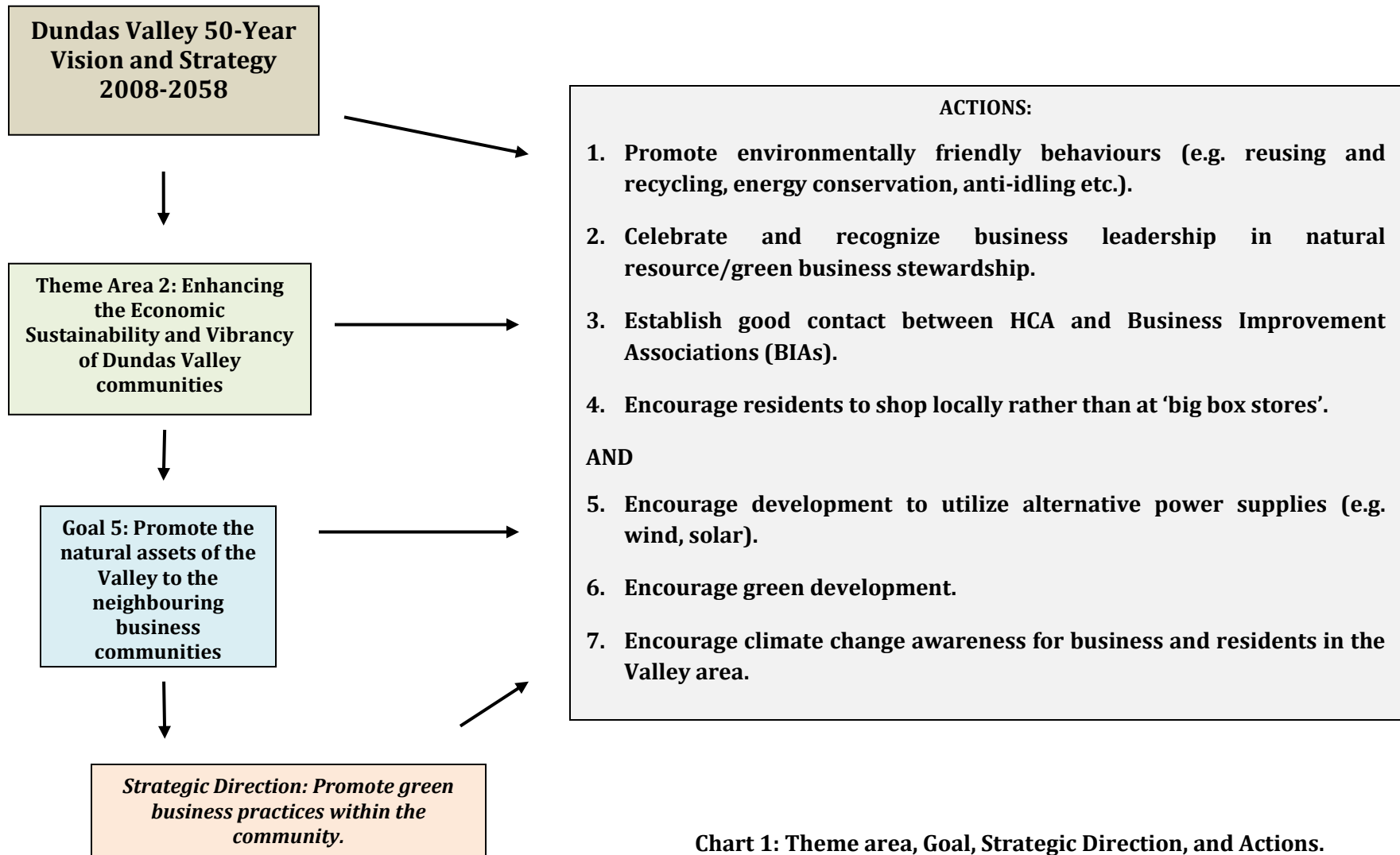


Chart 1: Theme area, Goal, Strategic Direction, and Actions.

2.0 Methodology and Work plan

The objective of the ISC1 and this work plan is to begin the implementation of the Vision's top 10 Strategic Directions (SDs). The promotion of green business practices was identified as a key area of interest for the first 5 year cycle and is one of the 43 SDs that was highlighted through the development of the 50 Year Vision. Implementation will take the form of project development and execution followed by continuous monitoring and evaluation to gauge the success and highlight any necessary areas for improvement along the way (Refer to Chart 2). With this process in place, over the course of the work plan's implementation, the scope of work will be able to adapt to any unplanned changes.

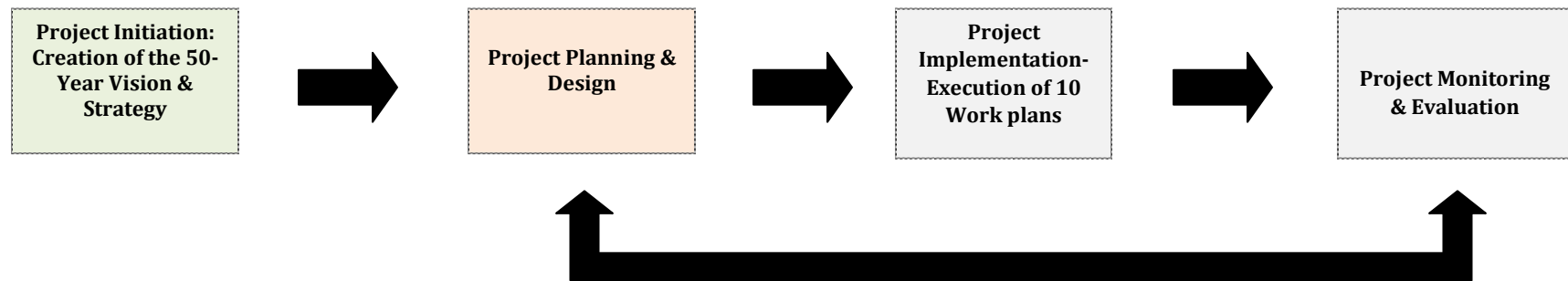


Chart 2: Project Management Framework

Over the 5-Year phase, a work plan with the 7 actions will be implemented (Table 1). For each action item, there are a number of related activities and projected outcomes. It should be noted that for some of these actions, work has already been completed or is on-going. Additional actions/activities may be identified during ISC1's implementation and may not be limited to the actions identified in the Vision document.

Table 1: Work plan

WP & E: Watershed Planning & Engineering
LM: Land Management

Actions	Activities	Projected Outcomes	Lead	Time	Sub-Budget		Status
					Role	Cost	
<p>1. Promote environment ally friendly behaviours (e.g. reusing and recycling, energy conservation, anti-idling etc.).</p> <p>AND</p> <p>2. Encourage green development.</p> <p>AND</p> <p>3. Encourage development to utilize alternative power supplies (e.g. wind, solar).</p>	<ul style="list-style-type: none"> • Work with HCA’s Sustainability Committee and Climate Change Task Force to continue implementation of actions identified by the <i>S-CORE report</i> and HCA’s Climate Change Strategy • Implement actions outlined in the HCA’s <i>Sustainability Audit</i> • Implement actions outlined in HCA’s Climate Change Strategy: <ul style="list-style-type: none"> - Integrate solar panels where possible - National Sweater Day - Adapt the ‘Slow it, Spread it, Sink it’ Homeowner’s guide to using rain as a resource for Hamilton - Wrap and HCA vehicle in environmental messaging - Corporate: Renewable Energy/Water Use and Management - Investigate HCA subscribing to Bullfrog Power - Review existing policies on water quality and quantity - Mobile Neighborhood Greening project - Eat Local Exhibition - Add ‘No-Idling’ stickers to HCA vehicles and for public giveaways and ‘No-Idling’ signage at high traffic areas at 	<ul style="list-style-type: none"> • Continued to implement actions of the S-CORE report • Promoted partner programs and initiative in the Valley area. • Fostered awareness of local programs. • Created a Green Business Guidebook. 	HCA & Non-HCA	2014-2019	Strategy Manager Overhead	Core Budget (see appendix)	An <i>S-CORE Report</i> was created for the HCA in 2012. The green team/Sustainability committee has already been formed and are working towards the implementation of the outlined actions in the report. A <i>Sustainability Audit</i> was developed for HCA in 2012 with recommendations for action. HCA is moving towards ensuring more sustainable practices in the Dundas Valley

	<p>conservation areas</p> <ul style="list-style-type: none"> • Review on-going initiatives from the City of Hamilton's <i>Clean and Green Strategy</i>, <i>Neighbourhood Clean Team program</i>, Hamilton Economic Development office <i>Corporate Energy Policy</i>, and <i>Green Business Zone Certification program</i> from Green Venture and Clean Air Hamilton, and Horizon Utilities. • Encourage local partners to promote initiatives in the Dundas Valley area: <ul style="list-style-type: none"> - Green Venture's <i>Green Business Zone Certification program</i> and <i>Energy Wise</i> initiatives - City of Hamilton's Green roof, Living walls program and anti-idling by-law - Promotion of LEED and BOMA Best-Canadian Green Building Council (CaGBC) - Ontario Power Authority (OPA)'s FIT and MicroFIT programs - Support Horizon Utility's <i>Conservation for myBusiness</i>, <i>Conservation for myHome</i> programs, and <i>Peaksaver</i> programs - Connect local businesses with the <i>REfficient</i> program - Connect local businesses with the <i>Sustainability Learning Centre</i> and it's programs - Other current programs • Work with the City, local groups, Chambers of Commerce, and BIAs to develop: <ul style="list-style-type: none"> -Green Business Guidebook highlighting why/how enterprises can go green, programs/incentives available to them, and 					<p>by relocation of its workshop out of the Valley and to a more appropriate area in Millgrove and demolition of older structures in the area e.g. Merrick Pond Shed and the Freeman House allowing for the naturalization of lands. HCA has also developed a Climate Change Strategy and is working towards its implementation .</p>
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	<p>case studies</p> <ul style="list-style-type: none"> • Work with the Sustainable Communities Research Group of McMaster University and the Canadian Green Building Council (CaGBC) to investigate methods to promote green development in the Valley area • Promote renewable energy generation among businesses through targeted outreach and presentations. 						
<p>4. Celebrate and recognize business leadership in natural resource/green business stewardship.</p>	<ul style="list-style-type: none"> • Work with the City of Hamilton, local BIAs, and Chambers of Commerce to explore the potential of developing a green business/stewardship recognition awards program. • Determine: <ul style="list-style-type: none"> - Investigate the coordination of the Hamilton Community Awards - Activities/programs that should be recognized- e.g. recycling initiatives, renewable energy projects, and the adoption of green building standards. - How often awards should be given- annually or bi-annually. - Funding and sponsors for local awards and award ceremonies - How businesses should be rewarded- an award plaque presentation at a ceremony/networking event, local newspaper highlight, business profile recognition and advertisement on the local BIA webpage, green hall of fame. 	<ul style="list-style-type: none"> • Explored the potential of developing a green business/stewardship recognition program. 	HCA & Non-HCA	2014-2019	Strategy Manager Overhead	Core Budget (see appendix)	
<p>5. Establish good contact between HCA</p>			HCA	N/A			Completed as HCA's Business development,

and Business Improvement Associations (BIAs).							communications staff and the Hamilton Conservation Foundation (HCF) already possess working relationships with local BIAs in Dundas and Ancaster.
6. Encourage residents to shop locally rather than at 'big box stores'.	<ul style="list-style-type: none"> • Research information about the benefits of shopping locally and local businesses in the area. • Work with the City, local groups, chambers of commerce, and BIAs where possible to develop the following materials: <ul style="list-style-type: none"> - Information page on BIA's website for the sharing of information and to facilitate discussion among community residents about why and how they can shop local - Create a shop-local campaign to educate residents (see Monroe County campaign) - A Shop-Local guidebook and directory of local businesses in the area 	<ul style="list-style-type: none"> • Created a community webpage. • Developed a shop-local campaign/program and guidebook with directory of local businesses. 	HCA & Non-HCA	2014-2019	Strategy Manager Overhead	Core Budget (see appendix)	
7. Encourage climate change awareness for business and residents in the Valley area.	<ul style="list-style-type: none"> • Create a fact sheet about climate change and businesses. • Make fact sheet available for HCA staff, at local town halls, libraries, community centres, and schools. 	<ul style="list-style-type: none"> • Created a fact sheet 	HCA	2014-2019	Strategy Manager Overhead	Core Budget (see appendix)	

TOTAL COST	Core Budget (see appendix)
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3.0 Resources and Constraints

RESOURCES:

- **Community partnerships-** HCA has over the years established a number of working relationships with key community partners across the area such as local BIAs, Green Venture, and the City of Hamilton among others.
- **On-going local work-** through consultation with various stakeholder groups across the Valley area, it was found that there are a significant number of related programs and projects that are currently underway. Instead of duplicating the efforts of these groups, it would be better to collaborate with these organizations to support and further promote their work in the Valley area.

CONSTRAINTS:

- **Workload Management-** implementing the work plan along with the other ten work plans of the fifty year Vision within the five year period. This could be a challenge for HCA as there will be other multiple programs in addition to the Vision that also fall under the HCA mandate and would require sufficient time and effort.
- **Non-HCA mandate-** the majority of these actions lie outside of HCA's mandate will rely upon the support and interest of other community partners in Dundas and Ancaster. In order for this initiative to be successful, consideration would have to be given to the partner's budget, resources, and time to ensure as much overlap where possible. Volunteer support could potentially be a good way to gain support from the community in this respect while fostering awareness of the project.
- **Funding Availability and Timing-** sourcing additional funding to support this work plan's execution will be needed for successful implementation and applying for funding where by designated time lines and ensuring these align with the work plan's implementation time line as well.

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Appendix:

Attachment 1: Implementation Strategy Cycle 1: 2014-2019- **Core Operational Budget**

EXPENSES	PROJECT COSTS PER YEAR	TOAL FIVE YEAR COST
<i>Personnel</i>		
40. Strategy Manager at 100%, \$28/hour + 20% Fringe Benefits	\$60,480.00	\$302,400.00
<i>Travel</i>		
41. Travel at HCA rate of \$0.53/km	\$2,000.00	\$10,000.00
<i>Materials, Supplies & Equipment</i>		
42. Computer and office supplies	\$1,500.00	\$7,500.00
43. Printed reports, surveys, and maps	\$1,500.00	\$7,500.00
44. Climate Change Components	\$10,000.00	\$50,000.00
<i>Communications Costs</i>		
45. Open Houses, public meetings, and outreach materials (brochures, flyers, and posters)	\$3,500.00	\$17,500.00
46. Web page, press releases, newspaper advertisements	\$2,000.00	\$10,000.00
<i>Overhead (office space, phone, heat, hydro, internet)</i>		
47. Strategy Manager at 100%	\$10,000.00	\$50,000.00
<i>Other Expenses</i>		
48. Cost of attending related networking events, conferences, workshops, and training	\$1,000.00	\$5,000.00
49. Refreshments e.g. committee meetings, stakeholder meetings, open houses	\$500.00	\$2500.00
TOTAL	\$92,480.00	\$462,400.00



Dundas Valley 50-Year Vision and Strategy

Implementation Strategy Cycle 1: 2014-2019

Work Plan

***Strategic Direction: Support the implementation of the City of Hamilton's
'special character' roads through the Valley***



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2.0 Methodology and Work plan.....	9
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Background

A special character or scenic road includes roads with views from the road to prominent heritage buildings or natural landscape features. These roads are identified by their unique structural, topographic and visual characteristics, as well as abutting vegetation, built environment and cultural landscape, historical significance or location within a heritage conservation area district (City of Cambridge, 2011). The Dundas Valley is an area of rich natural and cultural heritage offering scenic and panoramic views of densely forested areas, the Niagara Escarpment, along with a watershed system of many rivers, creeks, along with cascades and waterfalls. There is a legacy of recognizing the special features of Hamilton roadways. The Niagara Escarpment and areas with significant heritage and natural features have influenced policy. It is certain that many of the legacy policies relating to those roadways should be recognized in a road classification system (City of Hamilton, 2005).

The Valley contains a number of natural, cultural, and historical features e.g. the Sulphur Springs fountain. In the Valley there are roads are encompassed by these environmental, cultural and historical features in addition to being criss-crossed at a number of junctions by trails that connect to a larger trail system. The Old Dundas Road, which has been identified as a Special Character Road in Ancaster could be considered a 'Local Road', because many of the road's characteristics are reflective of the 'Local Road' classification rather than a 'Collector Road' classification, notwithstanding that it fulfills a Collector Road function in linking the communities of Ancaster and Dundas. Another method would be to formally identify additional design elements and operating characteristics that are reflective of its special status. The elements that could be considered for inclusion in this section include; recognition of scenic and historical character, views of and from the Niagara Escarpment and potential for alternative winter control practices to reduce road salt (City of Hamilton, 2005). It has been recognized by the Vision, that these roads add value to the overall character of the Dundas Valley, providing a local distinctiveness that should be protected and managed while at the same time facilitating opportunities to appreciate the many features that border each road. With the development of this work plan, the strategic direction of the Vision-'Support the implementation of the City of Hamilton's 'special character roads' through the Valley can be put into action within the Vision's first 5-Year implementation cycle.



1.0 Dundas Valley 50-Year Vision & Strategy: Themes, Goals and Actions

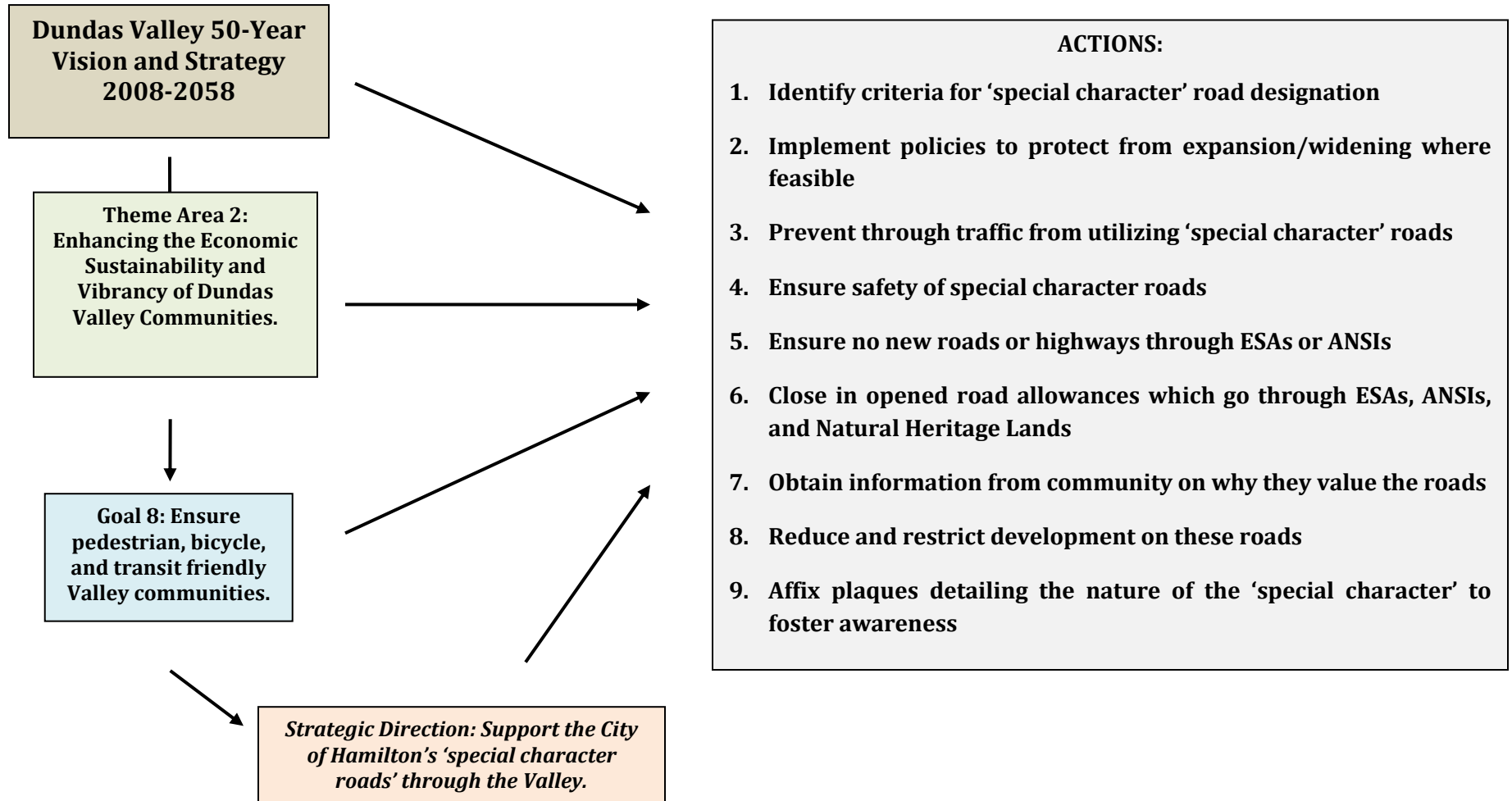


Chart 1: Theme area, Goal, Strategic Direction, and Actions.

2.0 Methodology and Work plan

The objective of the ISC1 and this work plan is to begin the implementation of the Vision's top 10 Strategic Directions (SDs). The notion to support the implementation of the City of Hamilton's 'special character' roads was identified as a key area of interest for the first 5 year cycle and is one of the 43 SDs that was highlighted through the development of the 50 Year Vision. Implementation will take the form of project development and execution followed by continuous monitoring and evaluation to gauge the success and highlight any necessary areas for improvement along the way (Refer to Chart 2). With this process in place, over the course of the work plan's implementation, the scope of work will be able to adapt to any unplanned changes.

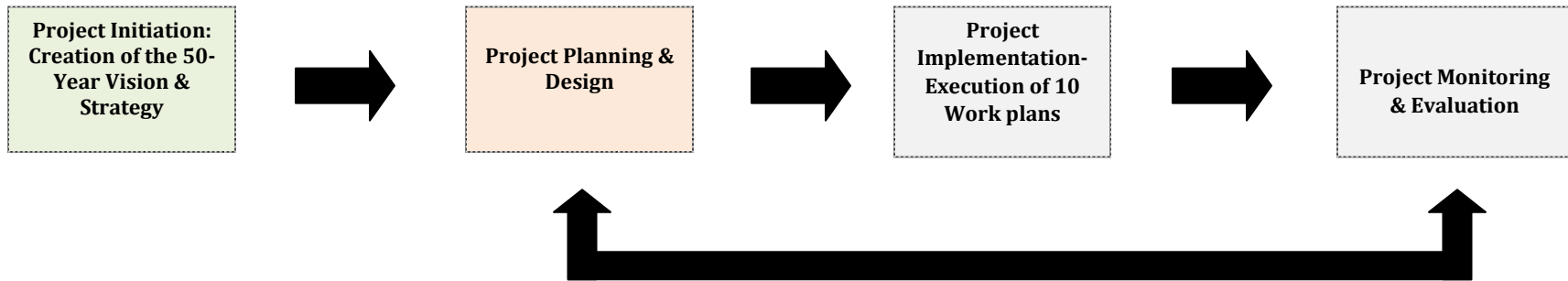


Chart 2: Project Management Framework

Over the 5-Year phase, a work plan with the 9 actions will be implemented (Table 1). For each action item, there are a number of related activities and projected outcomes. It should be noted that for some of these actions, work has already been completed or is on-going.

Table 1: Work plan

Actions	Activities	Projected Outcomes	Lead	Time	Sub-Budget		Status
					Role	Cost	
<p>1. Obtain information from community on why they value the roads</p> <p>2. Identify criteria for 'special character' road designation</p>	<ul style="list-style-type: none"> Design and distribute a community survey (see Appendix for Attachment 2). Obtain information from the public to determine which roads should become designated and why. Develop and refine criteria to analyze potential roads in the Dundas Valley (see Appendix for Attachment 3) Create a draft list of potential 'special character' roads in the area. Conduct a physical assessment of each road i.e. document main features through photography and analyze each road based on the criteria and the community survey results (see Appendix for Attachment 3). Create a profile for each road-noting characteristic features along its way i.e. historical, cultural, environmental features, photos. Use the information to create a map of the Dundas Valley area showing designated roads and their associated features. Based on the map of 'special character' roads, review existing policies of the area/s 	<ul style="list-style-type: none"> Development of a community survey. Creation of road analysis criteria. Creation of a final report with findings. 	HCA & Non-HCA	2014-2019	Strategy Manager Overhead	Core Budget (see appendix)	

	<p>that applies to each road.</p> <ul style="list-style-type: none"> • Creation of a final report with findings and recommendations for their preservation. • Incorporate findings in the City of Hamilton's 2013 <i>Heritage Landscape Study</i> and merge with activities under SD 'Maintain and protect local architectural and natural heritage' where possible. 					
<p>3. Implement policies to protect from expansion/widening where feasible</p> <p>4. Prevent through traffic from utilizing 'special character' roads</p> <p>5. Ensure safety of special character roads</p> <p>6. Ensure no new roads or highways through ESAs or ANSIs</p> <p>7. Close in opened road</p>	<ul style="list-style-type: none"> • Research related scenic road studies done by other cities and municipalities. • Work with the City of Hamilton and other organizations where applicable e.g. Niagara Escarpment Commission (NEC) to investigate the feasibility of developing a Scenic Roads Protection Policy. • Incorporate findings in the City of Hamilton's 2013 <i>Heritage Landscape Study</i> and merge with activities under SD 'Maintain and protect local architectural and natural heritage' where possible. 	<ul style="list-style-type: none"> • Researched related scenic road studies. • Investigated the feasibility of developing a Scenic Roads Protection Policy. 	<p>HCA & Non-HCA</p>	<p>2014-2019</p>		<p>HCA is working towards maintaining the cultural heritage character of roads in the Dundas Valley by relocation of its workshop out of the Valley and to a more accessible area in Millgrove. This will reduce the degree of traffic in and out of the Valley and increase public safety.</p>

<p><i>allowances which go through ESAs, ANSIs, and Natural Heritage Lands</i></p> <p>8. Reduce and restrict development on these roads</p>							
<p>9. Affix plaques detailing the nature of the 'special character' to foster awareness</p>	<ul style="list-style-type: none"> • Apply for funding to purchase plaques e.g. Ontario Heritage Trust • Determine locations where plaques should be affixed and the number that would be necessary and create a listing with associated map to depict positioning. • Determine the size, layout, and what information (text, figures, maps etc.) should be displayed on each plaque e.g. historical, cultural, and environmental information about characteristic features. • Locate a plaque manufacturer/supplier to create and install the plaques. 	<ul style="list-style-type: none"> • Applied and secured funding for plaques. • Created of a listing and map. • Successfully created and installed of plaques. 	<p>Non-HCA</p>	<p>2014-2019</p>			
<p>TOTAL COST</p>						<p>Core Budget (see appendix)</p>	

3.0 Resources and Constraints

RESOURCES:

- **Trained and experienced staff-** HCA possesses highly trained and experienced staff members who are familiar with the environmental conditions of the Dundas Valley.
- **Community partnerships-** HCA has over the years established a number of working relationships with landowners and key community partners across the Dundas Valley. In particular, HCA has a good relationship with the NEC and the City of Hamilton.

CONSTRAINTS:

- **Workload Management-** implementing the SD's work plan along with the other 10 SDs' work plans of the 50-Year Vision within the 5-Year period. This could be a challenge for HCA as there will be other multiple programs in addition to the Vision that also fall under the HCA mandate and would require sufficient time and effort.

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Appendix

Attachment 1: Implementation Strategy Cycle 1: 2014-2019: **Core Operational Budget**

EXPENSES	PROJECT COSTS PER YEAR	TOAL FIVE YEAR COST
<i>Personnel</i>		
17. Strategy Manager at 100%, \$28/hour + 20% Fringe Benefits	\$60,480.00	\$302,400.00
<i>Travel</i>		
18. Travel at HCA rate of \$0.53/km	\$2,000.00	\$10,000.00
<i>Materials, Supplies & Equipment</i>		
19. Computer and office supplies	\$1,500.00	\$7,500.00
20. Printed reports, surveys, and maps	\$1,500.00	\$7,500.00
21. Climate Change Components	\$10,000.00	\$50,000.00
<i>Communications Costs</i>		
22. Open Houses, public meetings, and outreach materials (brochures, flyers, and posters)	\$3,500.00	\$17,500.00
23. Web page, press releases, newspaper advertisements	\$2,000.00	\$10,000.00
<i>Overhead (office space, phone, heat, hydro, internet)</i>		
24. Strategy Manager at 100%	\$10,000.00	\$50,000.00
<i>Other Expenses</i>		
25. Cost of attending related networking events, conferences, workshops, and training	\$1,000.00	\$5,000.00
26. Refreshments e.g. committee meetings, stakeholder meetings, open houses	\$500.00	\$2500.00
TOTAL	\$92,480.00	\$462,400.00

Attachment 2: **Community Survey- Designation of 'Special Character' Roads in the Dundas Valley** (HCA, 2013)

1- What does the term '*special character*' mean to you?

2-Which roads in the Dundas Valley area do you think possess 'special', 'scenic', or heritage characteristics?

3-What feature/s of the road/s do you value most? (E.g. environmental, cultural, historical, other).

4-What are the main threats or current issues facing these roads in the Dundas Valley area?

5-Why do you think they should be protected?

6-What action/s do you think should be taken to ensure their protection?

Attachment 3: **Table 1: Criteria for the Analysis of Potential Roads for 'Special Character' Designation (Adapted from Region of Waterloo, 2011-Scenic Road Evaluation Tool)**

'SPECIAL CHARACTER' ROADS ANALYSIS TABLE: RURAL/NATURAL AREAS					
<u>Identification Criteria for areas of 'special character' in Rural/Natural Areas</u>	Road Scoring 0-3				
	Weighting	Road Y Name: Location: Length:	Road Z Name: Location: Length:		
1. Tree-scapes	3				
2. Diversity of vegetation	3				
3. Structure of vegetation	3				
4. Road layout and design	1				
5. Landform	2				
6. Traffic	1				
7. Infrastructure and development	1				
8. Watercourses	3				
9. Orientation	3				
10. Views of the Niagara Escarpment	3				
11. Panorama	3				
12. Connectivity	2				
13. Cultural built environment	2				
14. Social Community Value	2				
TOTAL SCORE					

Scoring criteria:

1. Tree-scapes

- 0- Does not apply
- 1- Forested area with no tree-scapes close to the road
- 2- Forested area with partial or broken patches of tree-scapes on either side of the road

3- Forested area with continuous tree-scapes on either side of the road for more than 1km

2. Diversity of vegetation

0- Does not apply

1- Low diversity of trees and undergrowth with a visibly dominant tree type

2- Moderate diversity of trees and undergrowth with a visibly dominant tree type

3- High diversity of trees and undergrowth with more than 2-3 different tree types visible

3. Structure of vegetation

0- Does not apply

1- Vegetation exhibits a minimal degree of variable heights, complex arrangements, and visual texture

2- Vegetation exhibits a moderate degree of variable heights, complex arrangements, and visual texture

3- Vegetation exhibits a maximum degree of variable heights, complex arrangements, and visual texture

4. Road layout and design

0- Does not apply

1- Winding road with ditches, official signage and a paved surface

2- Winding road with noticeable changes in terrain at selected points in addition to ditches, official signage and a paved surface

3- Winding road with noticeable changes in terrain at selected points in addition to ditches, official signage and an unpaved surface

5. Landform

0- Does not apply

1- No observable rocky outcrops or changes in terrain, but presence of valleys and hills

2- No observable rocky outcrops, but evident changes in terrain and the presence of valleys and hills

3- Observable rocky outcrops at selected sites with evident changes in terrain and the presence of valleys and hills

6. Traffic

0- Does not apply

1- Four-three lane road that switches to two lanes at certain points

2- Two lane road with paved surface

3- Two lane road with unpaved surface

7. Infrastructure and Development

- 0- Does not apply
- 1- High presence of utility poles, high distribution of housing, signage, and other structures e.g. fences, safety railings, gates
- 2- High presence of utility poles, low distribution of housing, signage, and other structures e.g. fences, safety railings, gates
- 3- Low presence of utility poles, low distribution of housing, signage, and other structures e.g. fences, safety railings, gates

8. Watercourses

- 0- Does not apply
- 1- View of a river and a cascade
- 2- View of more than one river and multiple cascade
- 3- View of a river and/or cascade and waterfall

9. Orientation

- 0- Does not apply
- 1- In close proximity to a natural protected/conservation area
- 2- In close proximity to a natural protected/conservation area and protected farmland and countryside of the Greenbelt
- 3- In close proximity to a natural protected/conservation area, protected farmland and countryside of the Greenbelt, and the Carolinian Life Zone

10. View of the Niagara Escarpment

- 0- Does not apply
- 1- Escarpment is visible from < 1 view point and obscured by vegetation or other structure to a limited extent
- 2- Escarpment is visible from > 1 viewpoint and obscured by vegetation or other structures to a limited extent
- 3- Escarpment is visible from > 1 viewpoint and not obscured by vegetation or other structures

11. Panorama

- 0- Does not apply
- 1- Unbroken view offered from 1 site in the Valley
- 2- Unbroken view offered from 2-3 sites in the Valley
- 3- Unbroken view offered from > 4 sites in the Valley

12. Connectivity

- 0- Does not apply
- 1- Road offers linkages to a protected/conservation area
- 2- Road offers linkages to a protected/conservation area and another special character road

3- Road offer linkages to a protected/conservation area, another special character road, and connects with trail network/s

13. Cultural Built Environment

- 0- Does not apply
- 1- Facilitates access to a historical/cultural feature
- 2- Facilitates access to more than one historical/cultural features
- 3- Facilitates access to more than one historical/cultural features and a portage trail

14. Social Community Value

- 0- Does not apply
- 1- Allows opportunities for natural and cultural appreciation
- 2- Allows opportunities for natural and cultural appreciation, education and interpretation
- 3- Allows opportunities for natural and cultural appreciation, education and interpretation and encourages passive forms of recreation e.g. hiking, cycling

How to use this matrix:

- Use the ranking criteria, apply a score to each of the categories
- Find the sum of scores for each criteria
- Multiply the sum of score by the weighting applied
- The higher scores will be a higher priority for action

'SPECIAL CHARACTER' ROADS ANALYSIS TABLE: URBAN/BUILT UP AREAS

Identification Criteria for areas of 'special character' in Urban/Built-up areas	Road Scoring 0-3				
	Weighting	Road Y Name: Location: Length:	Road Z Name: Location: Length:		
1. View of the Niagara Escarpment	2				
2. Vegetation	1				
3. Road layout and design	2				
4. Landform	2				
5. Traffic	2				
6. Orientation and Connectivity	1				
7. Cultural Built Environment	3				
8. Infrastructure and development	3				
9. Social Community Value	3				
10. Community Feel	3				
TOTAL SCORE					

Scoring Criteria:

1. View of the Niagara Escarpment

- 0- Does not apply
- 1- Escarpment is visible from < 1 view point and obscured by buildings, vegetation or other structure to a limited extent
- 2- Escarpment is visible from > 1 viewpoint and obscured by buildings, vegetation or other structures to a limited extent
- 3- Escarpment is visible from > 1 viewpoint and not obscured by buildings, vegetation or other structures

2. Vegetation

- 0- Does not apply
- 1- Low coverage of trees/undergrowth, with little or no variations in height
- 2- Low coverage of trees/undergrowth, with little or no variations in height, arrangements, and visual texture

- 3- Low coverage of trees/undergrowth, with little or no variations in height, arrangements, and visual texture with some degree of visual continuity

3. Road layout and design

- 0- Does not apply
- 1- Paved road surface with official signage and utility poles
- 2- Paved road surface with official signage, utility poles, and lighting e.g. lampposts
- 3- Paved road surface with official signage, utility poles, lighting e.g. lampposts and street furniture e.g. benches

4. Landform

- 0- Does not apply
- 1- Absence of street-scapes and/or wall art in some areas with an unsteady rhythm that presents itself on a fairly small scale
- 2- Absent-negligible degree of street-scapes and/or wall art in some areas with an unsteady rhythm that presents itself on a fairly small scale
- 3- Considerable degree of street-scapes and/or wall art covering most of the area with a steady rhythm that presents itself on a larger and more continuous scale

5. Traffic

- 0- Does not apply
- 1- Four-three lane road that switches to two lanes at certain points
- 2- Two lane road with paved surface
- 3- > Two lanes with paved surface

6. Orientation and Connectivity

- 0- Does not apply
- 1- In close proximity to another urban area
- 2- In close proximity to another urban area and a natural protected/conservation area, feature or heritage district, and connects with a trail system
- 3- In close proximity to another urban area, a natural protected/conservation area, feature or heritage district, and connects with a trail system and another special character road

7. Cultural Built Environment

- 0- Does not apply
- 1- Facilitates access to a historical/cultural feature

- 2- Facilitates access to more than one historical/cultural features e.g. town halls, civic squares, monuments
- 3- Facilitates access to more than one historical/cultural features e.g. town halls, civic squares, monuments and a heritage conservation district

8. Infrastructure and development

- 0- Does not apply
- 1- Presence of curbs, sidewalks, and localised landscaped surroundings e.g. flower beds, tree plantings, outdoor tiles and/or stone surfaces
- 2- Presence of curbs, sidewalks, and expansive landscaped surroundings e.g. flower beds, tree plantings, outdoor tiles and/or stone surfaces in addition to green spaces and parks (both formal and informal)
- 3- Presence of curbs, sidewalks, and expansive landscaped surroundings e.g. flower beds, tree plantings, outdoor tiles and/or stone surfaces in addition to green spaces and parks (both formal and informal) with continuous low-rise development

9. Social Community Value

- 0- Does not apply
- 1- Allows opportunities for historical/heritage appreciation, education and interpretation
- 2- Allows opportunities for historical/heritage appreciation, education and interpretation and encourages passive forms of recreation e.g. walking, cycling
- 3- Allows opportunities for historical/heritage appreciation, education and interpretation and encourages passive forms of recreation e.g. walking, cycling, and tourism

10. Community Feel

- 0- Does not apply
- 1- Provides a quaint atmosphere and a small-town feel with a mix of small-scale, local shops and businesses and larger/national and international stores
- 2- Provides a mix of a quaint atmosphere and a small-town feel with some existing contemporary elements
- 3- Provides a quaint atmosphere and a small-town feel with predominantly small-scale and local shops and businesses

How to use this matrix:

- Use the ranking criteria, apply a score to each of the categories
- Find the sum of scores for each criteria
- Multiply the sum of score by the weighting applied
- The higher scores will be a higher priority for action

DUNDAS VALLEY 50 YEAR VISION AND STRATEGY

STRATEGIC DIRECTIONS PRIORITY SCORING MATRIX

Potential Strategic Direction and Impact Rating		Strategy Selection and Rating														TOTAL	AVERAGE	WEIGHTED SCORE
		WIGHTING	Data Availability	Time Sensitivity	Time Investment	Social Importance in the Dundas Valley	Economic Importance in the Dundas Valley	Environmental Importance in the Dundas Valley	Overlap with HCA mandate	Local Management Scope	Municipal Management Scope	Provincial Management Scope	Existing Partnerships and local Connections	Facilitates linkages to the Cootes Paradise				
#	Strategic Direction	3	5	5	5	5	5	5	5	5	5	5	5	5				
1	Maintain and improve the ecological diversity of the Valley habitats																	
2	Preserve and enhance connectivity of ecosystems in the Valley																	
3	Preserve the escarpment and rural countryside, including selected vistas																	
4	Preserve identified ecological and geographic zone, ensure limited access																	
5	Protect rare, endangered and SAR within the Valley area																	
6	Combat the impact of invasive and nuisance species within the Valley																	
7	Protect and enhance the health of streams, watercourses and waterfalls																	
8	Develop a climate change action, mitigation and adaptation strategy																	
9	Reduce the impact of increasing numbers of visitors to the natural areas overtime																	
10	Recognize, protect, and connect urban forest areas in surrounding communities																	
11	Recognize the rich history of Aboriginal people and early settlers within the Valley																	
12	Maintain and protect local architectural and natural heritage																	
13	Preserve the small-town atmosphere of the Dundas Valley communities																	
14	Encourage passive recreation within the Valley and provide opportunities for exercise																	
15	Create a Dundas Valley Trails Master Plan																	
16	Develop Accessibility Policy and Plan for the physically challenged																	
17	Continually improve visitor facilities and services																	
18	Develop Visitor Access and Management Plan																	
19	Enhance the economic viability of local business through sustainable natural areas marketing																	
20	Promote green business practices within the community																	
21	Develop farmer-generated mechanism to develop public support for agriculture																	
22	Increase awareness of the importance of local agriculture as both an activity and a lifestyle																	
23	Support the promotion of locally grown and processed crops in close proximity to residents																	
24	Minimize growth impacts on the ecological integrity of the Valley within privately held Valley lands																	
25	Develop a 'best practices' management plan for the development and enhancement of HCA owned lands																	
26	Ensure sufficient environmentally sustainable infrastructure capacities for water, sewer, roads etc. within the Valley																	
27	Create transit, pedestrian and bicycle linkages and visible gateways and entrances between the Valley and neighbouring communities																	
28	Develop a long-term sustainable transportation plan for the Valley																	
29	Achieve public awareness and increased use of active transportation and transit opportunities																	
30	Support the implementation of the City of Hamilton's 'special character' roads through the Valley																	
31	Develop a Valley-wide sustainable tourism business plan and marketing strategy to promote eco, cultural, culinary and recreational tourism																	
32	Develop a management plan for increased number of visitors																	
33	Continually promote good environmental stewardship practices to the local community and work in partnership to implement them																	
34	HCA to provide new and improved outdoor education facilities and programs to meet the current and future demands																	
35	Promote opportunities for demonstration sites																	
36	Develop marketing and visitor attraction plans that focus on the urban wilderness and the proximity of the Valley's beauty to residents																	
37	Explore all opportunities for revenue generation both within HCA conservation lands and the Valley as a whole																	
38	Ensure affordable access to all visitors																	
39	Ensure financial sustainability to maintain HCA lands																	
40	Continue to acquire and secure additional lands for protection in accordance with HCA's land acquisition strategies (2006 Strategic Plan)																	
41	Secure funding to sustain HCA's stewardship program to undertake these actions																	
42	Explore the co-benefits of connecting with the Cootes to Escarpment natural areas strategy financial plan																	
43	Explore funding for dedicated staff to champion this initiative, including a Strategy Coordinator																	

KEY	
RANK	INTERPRETATION
1	Lowest impact level
5	Highest impact level

SD PSM Criteria Sheet

1.	<i>Data Availability</i>	How much information do we already have versus how much more is needed for implementation? (LURA's Current State Matrix and HCA's Current State Analysis 2012).
2.	<i>Urgency or Risk Factor</i>	To what extent does this strategic direction require that action be taken now to prevent future negative impacts?
3.	<i>Time Investment</i>	Would this strategic direction require a significant/prolonged time frame for implementation?
4.	<i>Social Importance</i>	To what extent does the implementation of this strategic direction directly address the social issues and needs of the Dundas Valley?
5.	<i>Economic Importance</i>	To what extent does the implementation of this strategic direction directly address the economic issues and needs of the Dundas Valley?
6.	<i>Environmental Importance</i>	To what extent does the implementation of this strategic direction directly address the environmental issues and needs of the Dundas Valley?
7.	<i>Overlap with HCA mandate</i>	To what degree will the implementation of this strategic direction strengthen the HCA mandate?
8.	<i>Local management scope</i>	Does implementation of this strategic direction entail working with local community partners and local agencies e.g. NEC, Greenbelt?
9.	<i>Municipal management scope</i>	Does implementation of this strategic direction entail working directly with the City of Hamilton?
10.	<i>Provincial & Federal management scope</i>	Does implementation of this strategic direction entail working directly with the provincial government?
11.	<i>Existing Local partnerships and connections</i>	To what extent are there pre-existing contacts or relationships that we can draw upon for implementation?
12.	<i>Facilitates linkages to the Cootes to the Escarpment Park System</i>	To what level will implementation aid in the preservation and protection of the Cootes Paradise and ultimately contribute to the Cootes to the Escarpment Project?

SD PSM Instruction Sheet

1. For each Strategic Direction (SD) listed on the left-a weighting will be applied from 1 to 3 where:
 - **1 refers to the lowest significant level**
 - **3 refers to the highest significant level**

- 2 Each SD will then be scored against the 12 criteria at the top e.g. Data Availability. A score of 1 to 5 will be applied where:
 - **1 is the lowest impact level**
 - **5 is the highest impact level**

3. A total score for each SD will then be determined

4. The average score will then be found for each SD

5. Using the average score, this will be then be multiplied by the weighting factor to produce a final weighted score

6. The final weighted scores for the 43 SDs will be then be sorted from highest to lowest to give the Top 10 SDs.

Implementation Strategy Cycle 1: 2014-2019
Draft Operational Budget

EXPENSES	PROJECT COSTS PER YEAR	TOAL FIVE YEAR COST
<i>Personnel</i>		
15. Strategy Manager at 100%, \$28/hour + 20% Fringe Benefits	\$60,480.00	\$302,400.00
<i>Travel</i>		
16. Travel at HCA rate of \$0.53/km	\$2,000.00	\$10,000.00
<i>Materials, Supplies & Equipment</i>		
17. Computer and office supplies	\$1,500.00	\$7,500.00
18. Printed reports, surveys, and maps	\$1,500.00	\$7,500.00
19. Climate Change Components	\$10,000.00	\$50,000.00
<i>Communications Costs</i>		
20. Open Houses, public meetings, and outreach materials (brochures, flyers, and posters)	\$3,500.00	\$17,500.00
21. Web page, press releases, newspaper advertisements	\$2,000.00	\$10,000.00
<i>Overhead (office space, phone, heat, hydro, internet)</i>		
22. Strategy Manager at 100%	\$10,000.00	\$50,000.00
<i>Other Expenses</i>		
23. Cost of attending related networking events, conferences, workshops, and training	\$1,000.00	\$5,000.00
24. Refreshments e.g. committee meetings, stakeholder meetings, open houses	\$500.00	\$2500.00
TOTAL	\$92,480.00	\$462,400.00

Dundas Valley 50 Year Vision and Strategy: 43 Strategic Directions- Excerpt from main Vision document.

Dundas Valley 50-Year Vision and Strategy

Appendix A: Strategic Directions, Actions, Lead Organizations and Priorities Matrix

Protect and Enhance Dundas Valley Lands

Protect and Enhance Dundas Valley Lands:			
Goal 1: Protect and enhance the valley's ecology and natural areas			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
1 – Maintain and improve the ecological integrity and diversity of the Valley habitats	<ul style="list-style-type: none"> • Conduct a broad, ecological focused Forestry Management and Restoration Plan for the entire Valley, that includes forestry protection measures (including Carolinian forest remnants); count a tree inventory, and regeneration plans and projects for heavily used areas of the Valley • Implement sub-watershed plans • Strengthen awareness of and compliance with International Biosphere designation • Identify and apply for applicable international conservation designations (e.g. IUCN, UNESCO, World Heritage) • Implement biological monitoring program – include volunteer monitoring program • Document change every 10 years using aerial photography • Assess removal/development of infrastructure 	HCA, Public agencies, Land owners, Community volunteers	

Dundas Valley 50-Year Vision and Strategy

Protect and Enhance Dundas Valley Lands:			
Goal 1: Protect and enhance the valley's ecology and natural areas			
Strategic Directions	Actions	Lead Agencies	Priority
2 – Preserve and enhance connectivity of ecosystems in the Valley	<ul style="list-style-type: none"> • Create naturalized and green corridors to maintain and enhance connectivity, including connecting HCA properties to Lake Ontario and Cootes Paradise (along Spencer Creek), and connect Spencer Creek to Webster Falls • Look at City of Hamilton Trails Master Plan to see what linkages are shown • Link in with Cootes to Escarpment Strategy 	HCA, Land stewards	
3 – Preserve the escarpment and rural countryside, including selected vistas	<ul style="list-style-type: none"> • Conduct a “Viewsheds” study for Dundas Valley, that includes developing criteria for identifying areas of Visual Significance for viewsheds in areas excluded from NEC development controls (i.e. urban areas) • Check OHF Component B funding for study early 90’s to identify lookouts & interpretation sites on Hamilton escarpment (was done for Bob Chrystian) • Identify existing protection measures (e.g. within and outside of NEC jurisdiction) • Identify protection policy for inclusion in City of Hamilton’s zoning by-law review in 2013 (e.g. height control by-laws) (City of Hamilton to develop protection principles within its 2009 zoning by-law) • Develop community groups to support work to preserve areas 	Niagara Escarpment Commission, City of Hamilton	
4 – Preserve identified ecological and geographic zones, and ensure limited access	<ul style="list-style-type: none"> • Create preservation areas with limited or no access • Expand and increase number of protected areas 		

Dundas Valley 50-Year Vision and Strategy

Protect and Enhance Dundas Valley Lands:			
Goal 1: Protect and enhance the valley's ecology and natural areas			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
5 – Protect rare, endangered and species at risk within the Valley area	<ul style="list-style-type: none"> • Develop and implement protection plans for individual species (based on natural areas inventory, and nature counts) • Inquire about how HCA's HHWSP funding can assist to do species at risk work with landowners • Implement protection policies and plans • Focus HCA land acquisition and protection in priority areas • Develop landowner/awareness/protection/stewardship program (look at Hamilton-Halton Watershed Stewardship Program) • Develop visitor management/awareness/protection/stewardship program • Ensure NEC motorized vehicles policy in natural areas parks is implemented to ensure minimized detriment to species. 	HCA, MNR, DFO, Provincial Government, Federal Government	
6 – Combat the impact of invasive and nuisance species within the Valley	<ul style="list-style-type: none"> • Encourage and implement volunteer programs such as annual native planting days and invasive plant picking days (could be both public and private lands) • Identify, monitor and control invasive and nuisance species (both indigenous and non-indigenous) (could be on both public and private lands) • Implement a deer management strategy, including deer count; number of deer the Valley can support, and population control measures 	MNR, DFO, Provincial Government, Federal Government	

Dundas Valley 50-Year Vision and Strategy

Protect and Enhance Dundas Valley Lands:			
Goal 1: Protect and enhance the valley's ecology and natural areas			
Strategic Directions	Actions	Lead Agencies	Priority
7 – Protect and enhance the health of streams, watercourses and waterfalls	<ul style="list-style-type: none"> • Protect surface and ground water through Source Water protection plans (including wells and aquifers) • Implement sub-watershed plans • Monitor water quality • Develop and implement long-term erosion prevention plan • Naturalize water channels where appropriate • Restore Spencer Creek • Continue to implement multi-year access and enhancement plan (joint management approach) for Waterfalls and Watercourses Plan (January 2004) 	HCA, City of Hamilton, Well-Aware/Well-Wise, MNR, DFO, Provincial Government, Federal Government	
8 – Develop a climate change action, mitigation and adaptation strategy	<ul style="list-style-type: none"> • HCA to participate in and support NEC/Other government agencies' Climate Change investigative monitoring plots • Identify "quick start" actions to address climate change – e.g. HCA conduct a GHG inventory and develop an action plan to halt/reverse the local impacts of climate change on the valley, and for HCA lands and operations • Participate in a Climate Change Adaptation Strategy • Encourage Climate Change awareness for business and residents in the Valley area. Couple this action with image development/marketing of "Nature Valley" in valley communities • Encourage and drive public dialogue on the impact of climate change 	HCA, City of Hamilton	High

Dundas Valley 50-Year Vision and Strategy

Protect and Enhance Dundas Valley Lands:			
Goal 1: Protect and enhance the valley's ecology and natural areas			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
9 – Reduce the impact of increasing numbers of visitors to the natural areas over time	<ul style="list-style-type: none"> • Look into acquisition of additional lands to mitigate impact of increasing numbers of visitors • Develop education plan to expand public awareness of impacts of visitors 	HCA	High
10 – Recognize, protect and connect urban forest areas in surrounding communities	<ul style="list-style-type: none"> • Encourage tree planting and design/promote gardening plots • Take part in stewardship for urban green spaces and support this through the vision 		

Dundas Valley 50-Year Vision and Strategy

Protect and Enhance Dundas Valley Lands:			
Goal 2: Maintain and protect the Valley's cultural heritage and historical features			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
1 – Recognize the rich history of Aboriginal people and early settlers within the Valley	<ul style="list-style-type: none"> • For areas outside of HCA properties, educate the public about cultural heritage features of the Dundas Valley, including the indigenous trails (develop program to generate awareness) • Provide guided tours and programs to generate and create awareness of culture and history • Identify native portage trail running through the valley Link Cootes Paradise with the Grand River (ancient aboriginal trails) • Implement heritage conservation guidelines • Recognize and conserve heritage sites on HCA properties and conduct study to inventory and assess the status of resources/sites and develop action plans • Develop heritage conservation guidelines • Foster appreciation of heritage to all age groups through education programs, photo and art contests, etc. • Affix plaques in prominent places recognizing historical sites (i.e. Native history, Governor's Rd., etc.) 	First Nations, HCA, Landowners, GRCA	

Dundas Valley 50-Year Vision and Strategy

Protect and Enhance Dundas Valley Lands:			
Goal 2: Maintain and protect the Valley's cultural heritage and historical features			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
2 – Maintain and protect local architectural and natural heritage	<ul style="list-style-type: none"> • Implement the Dundas Valley Visitor Services Plan and create a distinct identity and promotional program for the Dundas Valley and neighbouring communities with the natural and cultural heritage theme • Undertake an evaluation of properties/buildings for consideration of designation under the Ontario Heritage Act • Promote the historic role of the Spencer Creek in the development of the Dundas community • Identify and ensure the long term sustainability of historic buildings and resources (e.g. Hermitage Ruins, Gatehouse, Darnley Mill Ruins, Griffin House) • Utilize area heritage designation to preserve local heritage. Maintain and protect local heritage sites and buildings • Work with local galleries and Dundas Valley School of Art • Limit building heights • Seek and provide financial incentives to property owners to maintain their buildings in keeping with its heritage 	Community Councils, City of Hamilton, Local heritage committees, HCA	
3 – Preserve the small-town atmosphere of Dundas Valley communities	<ul style="list-style-type: none"> • Promote village atmosphere through streetscape and urban design • Conserve green spaces to protect small-town/village atmosphere 	City of Hamilton, BIAs	

Dundas Valley 50-Year Vision and Strategy

Protect and Enhance Dundas Valley Lands: Goal 4: Ensure conservation area facilities are accessible and convenient.			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
1 – Develop Accessibility Policy and Plan for the physically challenged	<ul style="list-style-type: none"> Review of accessibility, develop accessibility policy and implementation plan 	HCA	
2 – Continually improve visitor facilities and services	<ul style="list-style-type: none"> For HCA Properties, Review HCA Visitor Services and Facilities to update and include: <ul style="list-style-type: none"> Implement looping transit facility/shuttles that bring visitors to/from conservation areas Develop a small trail centre at the Administrative building/workshop area Link Ancaster Village core & DV Trails as part of subdivision development on Mt. Mary lands (23 acres being donated to HCA) Work with developers to donate & build simple trails info and servicing centre For All Valley Lands: <ul style="list-style-type: none"> Support implementation of NEC motorized vehicles policy in natural areas Consider changing access fee programs and implement annual fee through taxes 	HCA	

Dundas Valley 50-Year Vision and Strategy

3 – Develop Visitor Access and Management Plan	<ul style="list-style-type: none">• Create parking near the Trail Centre to avoid conflict between trail users with residents• Encourage land owners to allow walking trails through properties for Bruce Trail Route• Maintain the ‘Good Neighbourhood Policy’ between the HCA and Valley residents• Undertake a public education campaign about the conservation areas• Encourage adjacent residents to be aware of invasive species and non-native plants• Encourage trail users to refrain from parking on residential streets• Improve signage on trails (private areas, trash cans, etc.)	HCA	
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Enhancing the Economic Sustainability and Vibrancy of the Dundas Valley Communities

Enhancing the Economic Sustainability and Vibrancy of Dundas Valley Communities: Goal 5: Promote the natural assets of the Valley to the neighbouring business communities			
Strategic Directions	Actions	Lead Agencies	Priority
1 – Enhance the economic viability of local business through ‘sustainable natural areas’ marketing	<ul style="list-style-type: none"> • Participate in economic development strategies to promote the natural assets of the Valley • Install promotional signage at urban gateways 	BIA, Chambers of Commerce	
2 – Promote green business practices within the community	<ul style="list-style-type: none"> • Promote environmentally friendly behaviour (e.g. reusing & recycling, energy conservation, anti-idling, etc.) • Celebrate and recognize business leadership in natural resource/green business stewardship • Establish good contact between HCA and Business Improvement Associations • Encourage residents to shop locally rather than at ‘big box stores’ 	BIA, Chambers of Commerce	

Dundas Valley 50-Year Vision and Strategy

Enhancing the Economic Sustainability and Vibrancy of Dundas Valley Communities:			
Goal 6: Instill agricultural stewardship, protect the viability of agriculture and encourage local food production in the Dundas Valley community			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
1 – Develop farmer-generated mechanisms to develop public support for agriculture	<ul style="list-style-type: none"> • Provide incentives for farmers to use sustainable and green agricultural practices • Strengthen and promote Environmental Farm Plans and agricultural leadership • Strengthen and promote Environmental Stewardship Programs • Promote low impact, organic agriculture • Promote Greenbelt and participate in its program 	HCA, Agriculture Federations	
2 – Increase awareness of the importance of local agriculture as both an activity and a lifestyle	<ul style="list-style-type: none"> • Educate the public about the importance of agricultural land, farming as a lifestyle and as a profession • Promote urban food production and hobby farms • Incorporate opportunities for agricultural knowledge and best practice sharing between youth and seniors 	HCA, Agriculture Federations	
3 – Support the promotion of locally grown and processed crops in close proximity to residents	<ul style="list-style-type: none"> • Reintroduce a farmers' market in the Valley's adjacent communities • Develop a marketing strategy for locally grown food • Expand agriculture and encourage people to grow food in their yards 	HCA, Agriculture Federations	

Dundas Valley 50-Year Vision and Strategy

Enhancing the Economic Sustainability and Vibrancy of Dundas Valley Communities:			
Goal 7: Ensure development best practices that are compatible with the natural environment			
Strategic Directions	Actions	Lead Agencies	Priority
1 – Minimize growth impacts on the ecological integrity of the Valley within privately held Valley lands	<ul style="list-style-type: none"> • In accordance with the Provincial Growth Plan and Greenbelt Plans, support intensification and development within current approved boundaries to reduce land requirements for new developments and encourage the focus of development to Hamilton’s downtown core • Utilize/enforce NEC criteria and guidelines for development and control in urban and rural areas • Encourage development to utilize alternative power supplies (e.g. wind, solar) • Maintain HCA’s policy commitment to influence all regulatory bodies to minimize residential and commercial development impacts on the Valley in areas that are outside NEC’s development control zones • Encourage green development 		
2 – Develop a ‘best practices’ management plan for development and enhancement of HCA owned lands	<ul style="list-style-type: none"> • Developments should meet LEED standards or similar standards where feasible • Construction and site management should use best practices environmental management • Utilize ‘triple bottom line’ decision making 		
3 – Ensure sufficient environmentally sustainable infrastructure capacities for water, sewer, roads, etc. within the Valley areas to minimize impacts on the environment	<ul style="list-style-type: none"> • Continue to include environmentally sustainable infrastructure in City plans 	City of Hamilton	

Dundas Valley 50-Year Vision and Strategy

Enhancing the Economic Sustainability and Vibrancy of Dundas Valley Communities:			
Goal 8: Ensure pedestrian, bicycle, and transit friendly Valley communities			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
1 – Create transit, pedestrian and bicycle linkages and visible gateways and entrances between the Valley and neighbouring communities	<ul style="list-style-type: none"> Establish walking and bicycle linkages between the Valley and neighbouring communities Add or maintain foot trails and bike paths in the downtown cores (in addition to green spaces) 	City of Hamilton	
2 – Develop a long-term sustainable transportation plan for the Valley	<ul style="list-style-type: none"> Develop and implement strategies and plans to achieve pedestrian and bicycle friendly communities within the City of Hamilton’s Transportation Master Plan processes for Dundas and Ancaster Perform traffic surveys to find problem areas Creation of ‘no car zones’ in the short term (on conservation lands) In the long term, contemplate limiting access to automobiles and providing transit accessibility to conservation lands Incorporate bike lanes as a requirement if a road is constructed or widened Implement wheeled trains or trolleys on rail trail or within conservation lands for transportation 	City of Hamilton/HCA	
3 – Achieve public awareness and increased use of active transportation and transit opportunities	<ul style="list-style-type: none"> Ensure conservation area access by mass transit Encourage people to use public transit when possible or bike/walk Publish maps of various trails and how to access the conservation area by transit 	City of Hamilton/HCA	

Dundas Valley 50-Year Vision and Strategy

Enhancing the Economic Sustainability and Vibrancy of Dundas Valley Communities:			
Goal 8: Ensure pedestrian, bicycle, and transit friendly Valley communities			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
4 – Support the implementation of the City of Hamilton’s ‘special character’ roads through the Valley	<ul style="list-style-type: none"> • Identify criteria for ‘special character road’ designation • Implement policies to protect from expansion/widening where feasible • Prevent through traffic from utilizing special character roads • Ensure safety of special character roads • Ensure no new roads or highways through ESAs or ANSIs • Close in opened road allowances which go through ESAs, ANSIs and Natural Heritage Lands • Obtain information from community on why they value the roads • Reduce and restrict development on these roads • Affix plaques detailing the nature of the ‘special character’ to foster awareness 	City of Hamilton/HCA	

Dundas Valley 50-Year Vision and Strategy

Enhancing the Economic Sustainability and Vibrancy of Dundas Valley Communities:			
Goal 9: Promote sustainable tourism in the Valley			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
1 – Develop a Valley-wide sustainable tourism business plan and marketing strategy to promote eco, cultural, culinary and recreational tourism	<ul style="list-style-type: none"> • Support and coordinate with Tourism Hamilton (advocate for TH to give higher priority to Outdoor Tourism Strategy) • Develop an Escarpment trails & waterfalls marketing plan for waterfall project partners (HCA, BTC, TH, HNC) • Create partnerships for long term promotion of tourism and culinary tourism • Coordinate a bus or shuttle that can transport people into the Valley • Create tourism programs that do not require automobile transportation to participate – rethink tourism without the car • Circulate books and articles to let people know about the Valley’s environment, culture, history and agriculture 	BIA/Chambers of Commerce/Tourism Hamilton/City of Hamilton	
2 – Develop management plan for increased number of visitors	<ul style="list-style-type: none"> • Develop a strategy to identify and predict the potential impact of increasing numbers of visitors (recommend maximum capacity to sustain) • Develop management plans 		

Infusing Education and Stewardship in the Community Culture

Infusing Education and Stewardship in the Community Culture:			
Goal 10: Ensure the community values the Valley's ecological and cultural features			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
1 – Continually promote good environmental stewardship practices to the local community and work in partnership to implement them	<ul style="list-style-type: none"> • Continue to expand HCA's Environmental Stewardship Program • Educate residents about the many beneficial uses of local native plants in their area • Create an Artist in Residence program for the HCA (ecology-based art) • Promote Stewardship Forum • Promote trail etiquette 	HCA, Board of Education, Educational NGOs	

Infusing Education and Stewardship in the Community Culture:			
Goal 10: Ensure the community values the Valley's ecological and cultural features			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
2 – HCA to provide new and improved outdoor education facilities and programs to meet the current and future demands	<ul style="list-style-type: none"> • Develop outdoor education facility in HCA lands • Review 2 options and develop business plan for: <ul style="list-style-type: none"> ○ A nature centre for outdoor environmental education program, or ○ A visitor centre, serving multi functions (HCA's outdoor education program, visitor management and servicing, DV and Escarpment interpretation, stewardship education on HCA lands in the Valley) • Identify location and secure financial resources to build preferred visitor/outdoor education facility • Develop strong environmental education program for Valley residents • Educate the public about how to be conscientious watershed residents • Promote an understanding of the uniqueness of the Carolinian ecosystem • Engage youth in conservation through schools and Envirothon • Promote integration of the value of the Valley's ecological features into school curriculum and promote education partnership opportunities • Explore Escarpment centre concept) • Promote youth education opportunities that address consumerism, sustainable land use practices, transportation, agriculture, etc. • Add more signage in the valley describing aspects of its natural history • Include guided hikes and interpretation 	HCA, Board of Education, Outdoor educators, RBG – potential agency	High – should be part of Vision
3 – Promote opportunities for demonstration sites	<ul style="list-style-type: none"> • Encourage land owners to volunteer their land as a demonstration site (e.g. show your native garden) 		

Dundas Valley 50-Year Vision and Strategy

Infusing Education and Stewardship in the Community Culture:			
Goal 10: Ensure the community values the Valley's ecological and cultural features			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
4 – Develop marketing and visitor attraction plans that focus on the urban wilderness and the proximity of the Valley's beauty to residents	<ul style="list-style-type: none"> • Educate residents about lesser know conservation sites • Create a new scenic map of the conservation area with points of beauty, vistas, historical info, etc. 		

Financial Sustainability and Partnerships

Financial Sustainability and Partnerships: Goal 11: Secure long-term, sustainable financial resources			
Strategic Directions	Actions	Lead Agencies	Priority
1 – Explore all opportunities for revenue generation both within HCA conservation lands and the Valley as a whole	<ul style="list-style-type: none"> Secure long-term financial resources through fund raising and land dedication Engage partners in co-marketing opportunities 		
2 – Ensure affordable access to all visitors	<ul style="list-style-type: none"> Develop admission fee policies that ensure access to all income groups 		
3 – Ensure financial sustainability to maintain HCA lands	<ul style="list-style-type: none"> Explore additional opportunities for revenue generation Work with local businesses and community members to organize fund raiser events (tree planting, etc.) Secure Provincial financial support (grants, awards) When HCA acquires properties of culture or historical significance, it should partner with historical groups to ensure protection (museums) 		
4 – Continue to acquire and secure additional lands for protection in accordance with HCA's land acquisition strategies (2006 Strategic Plan)	<ul style="list-style-type: none"> Investigate alternative methods to land acquisition (e.g. land easements or land trusts including the Ontario Realty Corporation) Encourage landowners of Valley properties to continue to donate or sell their lands or participate in stewardship programs to contribute to protection Partner with the Nature Conservancy Canada which would secure lands and raise profile of the Valley nationally Develop land acquisition plan Update protection/acquisition guidelines 		
5 – Secure funding to sustain HCA's stewardship program to undertake these actions	<ul style="list-style-type: none"> See Strategic Direction #1 above 	HCA	

Dundas Valley 50-Year Vision and Strategy

Financial Sustainability and Partnerships: Goal 11: Secure long-term, sustainable financial resources			
<i>Strategic Directions</i>	<i>Actions</i>	<i>Lead Agencies</i>	<i>Priority</i>
6 - Explore the co-benefits of connecting with the Cootes to Escarpment natural areas strategy financial plan	<ul style="list-style-type: none"> HCA management to work with the Cootes to Escarpment Project Team to identify benefits from combining the Vision and Strategies 	HCA/Royal Botanical Gardens	
7 - Explore funding for dedicated staff to champion this initiative, including a Strategy co-ordinator	<ul style="list-style-type: none"> Take steps to apply for available funding for internships/staffing (e.g. Greenbelt Foundation) 	HCA	