



Waterfalls and Cascades of Hamilton - Research and Inventory report, November, 2007

EXECUTIVE SUMMARY

The goals of this study were to establish a set of criteria for examining waterfalls in the City of Hamilton, to inventory each waterfall in Hamilton that met these criteria and to evaluate and rank these waterfalls from a visitors' perspective. This information would then be used to provide updated and consistent information, as well as coordination and guidance, for the Waterfalls Project Advisory Team and their parent organizations so that educated decisions can be made in regards to Hamilton's waterfall visitor potential. This report provides an international benchmark to which others can define or identify a waterfall, as well as, the scientific basis for the City of Hamilton as having 'the most waterfalls of any urban municipality of comparable size in Ontario, Canada, and perhaps the world'.

The results of this study can be used as a framework for the Project Advisory Team to fundraise and allocate multi-year capital and operating funds to ensure that the visitor experience is safe and of high quality. This report is a tool which will contribute to Tourism Hamilton's Outdoor Tourism Action Strategy 2008-2010 as well as the Hamilton Conservation Authority's (HCA), the Bruce Trail Association's, and the City of Hamilton's ongoing outdoor marketing efforts. This information would be used by the Hamilton Conservation Authority, the Corporation of the City of Hamilton, Tourism Hamilton, the Bruce Trail Association, the Hamilton Naturalists' Club and other community and media partners to inform residents, educate children and draw visitors, not only to waterfalls found within the City of Hamilton, but to our Niagara Escarpment parks, the Ontario Greenbelt, the Bruce Trail, the Dundas Valley and Red Hill Valley, and Hamilton's extensive regional trails network.

To be identified as a 'Hamilton Waterfall' and included in this report, a waterfall had to meet the following criteria:

- The waterfall must be located within the boundaries of the City of Hamilton,
- The waterfall must have a minimum vertical descent of 3 metres (10 feet);
- The waterfall's crest width must be a minimum of 1 metre (3 feet);
- Water flowing over the waterfall must originate from a defined channel, ravine, ditch, swale, creek, stream, river, rock fissure or storm sewer device;
- The waterfall must have some natural component and not be entirely man-made;
- Water must be flowing over the waterfall at least during peak storm events;
- The waterfall must be photographed with water flowing over the rock face;
- Where waterfalls are located on the same watercourse they are identified as separate waterfalls if they were not visible as one unit from a safe location; and
- Where two waterfalls are close to one another but coming from two different watercourses they are identified as separate waterfalls.

All results, interpretations, and conclusions within this report were assembled with the aid of a Project Advisory Team which helped guide HCA staff through the development of this report. This Project Team represented stakeholders from the Hamilton Conservation Authority, the City of Hamilton, Tourism Hamilton, the Bruce Trail Association, the Iroquoia Bruce Trail Club, the Hamilton Naturalists' Club and local waterfall photographers and enthusiasts.

Since the publication of the 1st edition, *Waterfalls & Cascades of Hamilton (2005)*, thirty-one (31) new waterfalls were documented within the City of Hamilton, bringing the total number of waterfalls within the City to ninety-six (96). Although one main goal of this study was to identify waterfalls within Hamilton's boundaries, four waterfalls located within the City of Burlington are noted within this report. These four additional waterfalls are noted as they lie just on the outskirts of Hamilton's boundary, are part of the same creek systems and are within short distances of nearby Hamilton waterfalls thereby forming part of waterfall clusters identified in this study. These waterfalls are not included in the body of this report and they are not part of any statistical calculations completed for Hamilton's waterfalls; however data and photographs for these Burlington waterfalls do appear within the appendices of this report.

Waterfalls within the City of Hamilton were mainly found within the communities of Flamborough (27), Stoney Creek (27), Hamilton (23), and Ancaster (18). The City wards with the highest number of waterfalls within their boundaries were Ward 11 (18), Ward 12 (17), and Ward

15 (17). Eighty-nine (89) waterfalls were found within the HCA watersheds, with the Spencer Creek watershed containing the most (54). The area with the highest density of waterfalls is the Chedoke Creek subwatershed, located near Hamilton's city centre, which contains fifteen (15) waterfalls; twelve (12) of these border the Chedoke Civic Golf Course & Winter Sports Park. The majority of the waterfalls outlined in this report are a result of the Niagara Escarpment's steep slopes as they flow over the Escarpment's bedrock or near the Escarpment face. Additionally, Hamilton's waterfalls are located within a 23 kilometre radius of the Highway 403 and Main Street intersection in Hamilton. The most visible waterfall is Lower Princess Falls which can be viewed travelling on Highway 403 between the Aberdeen Avenue and Lincoln M. Alexander Parkway exits.

The waterfall field surveys gathered valuable information regarding the natural characteristics and visitor accessibility of Hamilton's waterfalls. However, visitor accessibility characteristics (property ownership and difficulty of site access) were found to be the main driving factor when drawing visitors to waterfall sites.

It was found that the average dimensions of Hamilton's waterfalls are 10 metres high by 5 metres wide. The highest and widest waterfalls are both found within the community of Flamborough and within walking distance of one another, Tew's Falls (41 m) and Webster's Falls (30 m), respectively. Although the best time to visit Hamilton's waterfalls is during the spring and fall months, it was found that thirty-one (31) waterfalls have year-round flow.

Out of all ninety-six waterfalls reported, fifty-eight (58) waterfalls are located on public lands and twenty-nine (29) of these are located on lands owned by the Corporation of the City of Hamilton. There are twenty-five (25) waterfalls situated on lands owned by the Hamilton Conservation Authority. Other property owners include: Royal Botanical Gardens, Ministry of Transportation, Canadian National Railway, industrial and commercial establishments, and private citizens. Twenty (20) waterfalls are found to be currently inaccessible, therefore they are either on private property in which the Bruce Trail does not traverse, or it is too dangerous to access these waterfalls. Of the seventy-six (76) waterfalls that are currently accessible, thirteen (13) have a low degree of difficulty and are accessible by all age groups, including visitors with strollers and wheelchairs. Fifty-six (56) of these waterfalls are accessible by visitors aged 5 to 65 years, and there are seven (7) waterfalls that have a high degree of difficulty and are only accessible by hikers with special arrangements. Additionally there are forty-five (45) waterfalls that can be

viewed from a trail, with forty-one (41) of these being visible from the Bruce Trail. On average it takes a visitor 9 minutes and 327 metres to access Hamilton's waterfalls from the roadway or parking area noted in this report.

All one-hundred (100) waterfalls in the Hamilton area were ranked on visual appeal of the waterfall and its surroundings (Aesthetics Rank), the awe-factor to the visitor (Magnitude Rank), and current visitor accessibility (Visitor Access Rank). Finally these three ranks were used to develop a standardized numerical ranking score that incorporated both natural waterfall characteristics and visitor accessibility, allowing visitors to compare one waterfall to another. Based on natural breaks in the ranking scores, waterfalls were then divided into three Overall ranks: excellent, good, or satisfactory. All waterfall ranks examine different waterfall characteristics and therefore can be used in isolation or in combination with one another. However, the Overall Ranks will help guide the Project Advisory Team in determining potential visitor attraction to Hamilton's waterfalls.

The Overall Ranking analysis identified sixteen (16) waterfalls within the City of Hamilton as having excellent potential for attracting visitors, thirty-one (31) waterfalls have good potential, and forty-nine (49) waterfalls have satisfactory potential. In order of Overall Ranking score, those sixteen waterfalls that resulted in excellent potential visitor attraction are: Tew's Falls, Webster's Falls, Devil's Punchbowl Falls, Albion Falls, Felker's Falls, Tiffany Falls, Darnley Cascade, Chedoke Falls, Sherman Falls, Borer's Falls, Great Falls, Progreton Falls, Westcliffe Falls, Lower Chedoke Falls, Cliffview Falls, and Buttermilk Falls.

Overall, this report recommends that HCA, the Corporation of the City of Hamilton, the Bruce Trail Association and the remaining members of the Project Advisory Team work together to improve waterfall access, information and education for those waterfalls that exhibit the most potential for attracting residents and visitors. It is also recommended that this group works to promote and strengthen the image of Hamilton as "A City of Waterfalls". There is no question that when the scenic waterfalls are combined with the natural beauty and amenities of Hamilton's waterfront, the Niagara Escarpment, Royal Botanical Gardens, the Dundas Valley, parklands and regional trails, that Hamilton has great potential as an active outdoor and nature-based tourism destination.