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# FINAL WRITTEN EVALUATION REPORT

**Project #:** MB-26003

**Organization Name:** Nature Manitoba

**Address:** 401 - 63 Albert Street  
Winnipeg, MB, R3B 1G4

**Project Title:** Manitoba Chimney Swift Initiative

**Main Project Contact:** Laurel McDonald

**Telephone Number:** (204) 474-2013

**Fax Number:** (204) 943-9029

**Email Address:** laurelm25@hotmail.com

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## 1. PROJECT GOALS & OBJECTIVES

*Referring to Appendix A of your Contribution Agreement (i.e., measurable results and indicators) and your original project proposal, please summarize your project's intended goals and objectives.*

The primary objectives of the Manitoba Chimney Swift Initiative (MCSI) are to increase our knowledge on the status and biology of Chimney Swifts in Manitoba and to implement measures that will reverse perceived declines. To achieve these objectives in a scientifically rigorous manner, our approach is three-fold: 1) to determine the rate and likely causes of decline in Chimney Swift populations in Manitoba; 2) to provide nesting and roosting sites appropriate for northern latitudes; and 3) to increase public awareness and participation in conservation efforts for this very important neotropical species.

Specifically, the following goals were outlined at the time of the Contribution Agreement submission:

- 1 Hire a part time MCSI Co-ordinator to provide project oversight, define the study area, and establish a volunteer monitoring network and a public education and awareness program.
- 2 Establish community participation and awareness by engaging MNS Members and the community at large in a volunteer Chimney Swift monitoring program.
- 3 Locate active roosting and nesting sites within Manitoba.
- 4 Gather essential Chimney Swift breeding biology information in order to identify existing high potential nesting and roosting sites.
- 5 Design and construct several optimized made-for-Manitoba Chimney Swift nesting and roosting towers within the Province of Manitoba.
- 6 Increase public awareness of this project and the plight of Chimney Swifts via the local media, public information sessions and articles in the MNS Bulletin.

## 2. SUCCESSES/ ACCOMPLISHMENTS

*Using your Goals and Objectives statements and Indicators of Success, comment on the extent to which your project met them.*

*Elaborate on (as applicable):*

- *Activities and achievements for the environment, the community, and the economy;*
- *The extent to which your project contributed towards community capacity building (e.g. participant involvement, behavioural changes, actions taken, media coverage, access to expertise, provision of services that met needs and demands, etc.); and,*
- *How your organization's capacity was increased by undertaking this project (e.g. new skills developed/improved, new partnerships created, increased ability to manage project elements, communications, events, etc.)*

1. Mike Quigley was hired in 2006. He oversaw the project and established a successful, ongoing volunteer monitoring program. Laurel McDonald replaced Mike Quigley in early 2009.



## FINAL WRITTEN EVALUATION REPORT *cont'd*

2. Over the course of the winter of 2007, a standard monitoring protocol and data sheet were developed for the volunteer monitoring program. 41 volunteers participated with the monitoring component of this project the first season. This number has grown each year, and to date, over 75 volunteers have donated their time. The monitoring program focuses in Winnipeg, but has also expanded to Selkirk, Starbuck, Portage la Prairie, Dauphin, Southpoint, and St. Adolphe
3. The volunteer monitoring program has successfully identified 51 Chimney Swift roosting and nesting sites, including two large communal roosts. In addition, we have compiled historical data and started a sightings database in order to map the current and previous ranges and relative densities of the Chimney Swift in Manitoba.
4. The volunteer monitoring program has gathered much data on the nesting, roosting, and migration behaviour of Chimney Swifts in Manitoba. This is important because there is much evidence to suggest that Chimney Swifts nesting in northern latitudes behave differently from those nesting in southern latitudes. The monitoring program has identified geographical nesting patterns in Manitoba such as the tendency to nest near water and to nest in close proximity to other Chimney Swift nests. Certain areas of Winnipeg with higher densities of Chimney Swifts have been identified. These are typically older areas of town near water that still contain uncapped brick chimneys.

In addition, the MCSI measured the dimensions of a chimney in St. Adolphe that was used as a nesting site to learn more about nest site characteristics. Starting with the 2009 monitoring season, volunteers will be noting the characteristics of each chimney observed including approximate dimensions, colour, and surrounding habitat in order to identify any patterns in chimney selection by swifts.

5. In the spring and summer of 2008, five nesting towers were built in Manitoba: two in Winnipeg, and one each in Portage la Prairie, Starbuck, and St. Adolphe. Due to cost restrictions, all but one of these towers was built with concrete blocks instead of bricks. Using data from the volunteer monitoring program, the MCSI developed a strategy to place nesting towers in the vicinity of other nest sites in the hopes that swifts will have a greater chance to discover and use the sites in future years. The rationale to do this was based on the following information:
  - 1) Chimney Swifts return to the exact same nesting site each year;
  - 2) After leaving the nest, juveniles seek out potential sites in the area to use in subsequent years;
  - 3) Monitoring data demonstrate that Chimney Swift nesting sites show a clumped distribution, indicating that they are more likely to nest in areas where other nests are already established.

In spring 2009, temperature probes were placed inside three of the five towers to determine the insulative properties of the towers and their thermal suitability for nesting Chimney Swifts. If necessary, modifications to the design of existing towers will be made. Presently, we have not yet detected any use of the towers by swifts; however, nesting towers constructed in the United States have often sat vacant for a year or two while swifts become accustomed to their presence. Therefore, we maintain hope that these structures will provide nesting habitat for Chimney Swifts at some point in the future. Experimentation in the summer of 2009 has shown that swifts can be attracted using call-playback. We may attempt this next summer as a method of attracting them to our towers.

6. In addition to volunteer involvement, the MCSI has also committed itself to raising general public awareness of the plight of the Chimney Swift. To this end, the following media have been used:
  - Three articles in the Nature Manitoba bulletin
  - An article in each of the Metro, Times, Lance, Herald, Winnipeg Free Press, Portage Daily Graphic, and South Mountain Press
  - Two radio interviews on CBC Radio Noon with Marilyn Macki, one each in 2007 and 2009.
  - Two interviews on Shaw TV
  - One interview on CTV news
  - A section of the Nature Manitoba website devoted to the MCSI project



## FINAL WRITTEN EVALUATION REPORT *cont'd*

- A section of the Nature North website devoted to Chimney Swifts and the MCSI project
- An MCSI brochure, produced in 2008, is distributed at presentations, through the MCSI website, and at the Preferred Perch store.

The MCSI also conducted presentations about Chimney Swifts for the following audiences:

- The Wildlife Society
- The Charleswood Horticultural Society
- Selkirk Bird Watchers Club
- Nature Manitoba workshop participants
- Nature Conservancy of Canada staff and board members
- A Rocha Morden
- Portage Natural History Group
- West Kildonan Collegiate, Grades 9-10
- John Pritchard School, Grade 4

### 3. CHALLENGES

*What challenges did your group face, what options were considered, and what solutions were implemented during the life of the project? Consider obstacles, delays, impacts on work plan, timeline, budget, and resources levered. Describe how your organization adjusted accordingly.*

#### Volunteer Recruitment

The results of the MCSI's monitoring program are limited by the number and time commitment of volunteers. Although many hard-working and dedicated volunteers have participated, the scope of the project is such that many areas of the City of Winnipeg and the Province of Manitoba cannot be covered. As an example, there are very few volunteers that live in Winnipeg's Downtown and North End, where the highest densities of swifts occur. Because of this, and the perception that these areas are dangerous at sunset, the areas most in need of volunteer monitoring receive the least attention.

In 2007, this challenge was mitigated by a one-day monitoring blitz performed by the steering committee. Steering committee members worked in pairs, moving from site to site to conduct daytime monitoring of downtown chimneys. This method was successful in locating a number of nesting sites. This idea of a one-day blitz in under-monitored areas will be repeated in 2009, but will be offered to all volunteers and combined with social events in order to increase their appeal.

Due to the number of volunteers required for this program to be a success, it became evident that Nature Manitoba was not a large enough pool to draw from. Therefore, a number of campaigns were initiated in order to increase recruitment, including media and personal solicitation. This problem has also been mitigated by the program coordinator doing more monitoring themselves than was originally anticipated.

#### Tower Construction

When the Manitoba Chimney Swift Initiative was first formed, the original plan was to build wooden nesting and roosting towers based on designs developed by researchers in Texas. These designs were going to be modified to reflect the difference in climate (with a focus on temperature) that can occur at more northerly latitudes. In particular, towers were to be insulated to keep temperatures above 13°C, a critical temperature at which Chimney Swifts appear to abandon nests and roosts. However, based on recent feedback from researchers in Quebec, it was found to be difficult to modify wooden towers to meet this criterion.

The MCSI Steering Committee measured the dimensions of a brick chimney in St. Adolphe that was used as a nesting site. Upon investigation, it was discovered that the walls of the chimney consisted of two layers of brick and measured eight inches thick. The thickness of the chimney indicated a high capacity to maintain internal temperature relative to changes in outside temperature. This theory was strengthened by the collection and comparison of temperature data from the chimney in question with that of a conventional wooden tower. Based on this finding, the MCSI Steering Committee opted to build towers constructed of brick or concrete due to the greater thermal stability of these structures over wooden ones. Brick and concrete nesting and roosting towers are expected to last longer and to be far superior to wooden structures with regard to internal temperature.

The MCSI hired a mason in the spring of 2008 to construct the first concrete Chimney Swift nesting tower in St. Adolphe. A deposit of 50% of the cost was submitted to the said contractor who subsequently deposited it. The contractor verbally



## FINAL WRITTEN EVALUATION REPORT *cont'd*

committed to meet in St. Adolphe during the week of May 12<sup>th</sup>-18<sup>th</sup> to drop off equipment and stated his intention to complete this project by June 1<sup>st</sup>, 2008. This timeline was important due to the breeding biology of the birds and previously arranged media coverage. However, when the MCSI coordinator tried to reach the contractor by telephone numerous times after May 5<sup>th</sup>, he received no response, acknowledgement, or any form of communication. Finally, the MCSI coordinator sent a letter to the contractor requesting an immediate response and commitment or a refund of the initial deposit. The contractor responded, and built the Chimney Swift nesting tower in St. Adolphe, however, it was not built to the standards previously agreed upon. The MCSI decided not to deal with this contractor in the future, and hired two new masons to construct the towers in Winnipeg, Starbuck, and Portage la Prairie. These towers were successfully constructed; however, the timeline was impacted, and they were not ready for the 2008 breeding season as originally anticipated.

### New Coordinator Training

The change in project coordinators part-way through the project was a challenge as time and resources went towards training and preparing me, the new coordinator, for the job. For example, I needed help from steering committee members to write this report because I wasn't present during the first six quarters of the project.

#### 4. UNANTICIPATED RESULTS

*Provide information on any results, positive or negative, from your project that was not anticipated (e.g. new partnerships formed).*

The identification of only two confirmed communal roosts, neither of which is located in Winnipeg, was surprising. More of these sites were anticipated, particularly within Winnipeg where the majority of active nesting sites are located. Many chimneys in the downtown and North End consist of larger, commercial brick chimneys potentially suitable for roosts. However, most of these were not monitored in the evening, due to the aforementioned perception of this area as dangerous and the fact that most volunteers live outside this area. It is also possible that roosts exist in large smokestacks of Winnipeg's industrial areas. Roosts in these locations could easily escape notice due to lack of populace in the evening. Industrial areas have also been poorly monitored for similar reasons. The lack of a known roost in Winnipeg is unfortunate because, in addition to the loss of a valuable research opportunity, roost-watching has been used in other areas of North America as an excellent tool to introduce people to the species and increase publicity.

Additionally, our monitoring activities indicate that habitat availability may not be a limiting factor for Chimney Swifts in Manitoba. Studies done in the United States and Quebec have overwhelmingly pointed to a lack of nesting and roosting sites as the most important cause of the Chimney Swift's decline. However, presently in Manitoba, there appear to be more suitable nesting and roosting sites than there are swifts. This said, the nesting and roosting sites in Manitoba are disappearing at an alarming rate. Indeed, over the lifetime of this project, numerous monitored chimneys have been capped or demolished. If the Chimney Swift population does not decline faster than the number of suitable sites, nesting site availability will become a limiting factor in the near future. Additionally, there is much evidence that Chimney Swifts are very selective of their nesting sites. Although there presently appear to us be sufficient numbers of nesting and roosting sites, it is possible that the quality of available sites is a limiting factor.

On a brighter note, the MCSI did not anticipate the receipt of funding from sources other than EcoAction and SDIF. We were, therefore, very pleased to accept \$700 from the Lady Gray'l Fund towards the construction of one of our nesting towers. Additionally, colleagues from other areas of Canada and the United States have been extremely helpful towards this project. Everyone involved in the research and monitoring of Chimney Swifts is very keen to share any available information and to help each other achieve success. As such, productive relationships have been established with Chimney Swift researchers and volunteers in Quebec, Ontario, Minnesota, Texas, and North Carolina.

#### 5. FINANCIAL VARIANCE

*Explain any major financial variances reported in the financial report ("Budget Forecast and Financial Reporting Form"). This section is found in the column titled "Variance". Review each line item under funding sources and expenditures and provide reasons for any major surplus or deficit. Did your group generate revenue or receive a tax rebate? If yes, has the amount been included in the financial report and/or audit?*



## FINAL WRITTEN EVALUATION REPORT *cont'd*

- \$1750 less than expected was spent on project coordinator wages. This was due to a period of time in which no acting coordinator was present.
- \$5048 less than expected was spent on administration, mileage, and miscellaneous expenses. This is due in part to an overestimation of the costs necessary to cover mileage. In addition, \$1500 in funds from SDIF was originally budgeted to go towards administration. This amount was later removed, and put towards tower construction. Further, a call playback system at an anticipated cost of \$600 was never purchased.
- \$7591 more than expected was spent on material, supplies, and equipment. \$1500 of this came from a change in allocation of SDIF funds, as previously mentioned. In addition, \$700 was received as a grant from the Lady Gray'l Fund, and this was used on tower construction. Tower construction ended up costing much more than originally anticipated, largely due to the decision to build with bricks and concrete instead of wood. Therefore, money saved in other areas such as mileage was put towards tower construction. Additionally \$1292 was spent on new temperature probes. This was not an original anticipated cost, therefore it increased the amount spent on materials and supplies
- The MCSI did receive a GST rebate through Nature Manitoba. However, this rebate is already reflected on the Budget Forecast and Financial Reporting Form as all costs are reported as net values.

### 6. SUSTAINABILITY

*Elaborate on whether or not the activities launched through your EcoAction project will be continued; will the project or part of the project's activities be sustained after your EcoAction funding ends? If yes, describe how the project or its activities will continue.*

The MCSI entered Phase II of its project on July 1, 2009. This phase will last for another two years and will be funded by EcoAction and the Sustainable Development Initiatives Fund (SDIF). At some point in the future, we hope to gain sufficient partnerships, volunteers, and community support to enable certain components of the project to continue indefinitely.

### 7. LESSONS LEARNED

*What have you learned from this project experience that could serve as advice to other organizations wishing to undertake a similar initiative?*

Enhancing Chimney Swift breeding and roosting habitat is much more complicated than putting up Blue Bird nest boxes, Purple Martin towers or Wood Duck boxes. It is, unfortunately, not simply a matter of "if we build it they will come." We still have a huge amount to learn about Chimney Swifts, particularly considering they are a long-time urban adapted species.

We based much of our initial project planning on studies done in the United States, only to discover that Chimney Swifts living in northern latitudes have very different behavior and breeding biology than their southern counterparts. Therefore, our baseline data and project plans have been constantly revised. The best recommendation we could make to others wishing to undertake a similar initiative is to be flexible in your planning and to expect the unexpected.

### 8. SHARING EXPERIENCES

*EcoAction would like to share your project experience as inspiration for other groups and Canadians across the country. Using the information that you have prepared in this report, please provide a 200-300 word summary describing the quantitative and qualitative accomplishments of your project.*

*Note: This summary may be used as content by EcoAction staff to highlight project success stories on EcoAction's website or in other formats. Based on your story, other groups may wish to contact you to obtain more information about your project. Upon receipt of such a request, EcoAction will contact you for permission before providing your contact information.*

In 2006 members of the Manitoba Naturalists Society became aware of the rapidly decreasing population of the Chimney Swift (*Chaetura pelagica*), a decline largely attributed to the reduction of pre-1960's brick chimneys (their primary breeding and roosting habitat). As a result, the Manitoba Chimney Swift Initiative (MCSI) was formed.



## FINAL WRITTEN EVALUATION REPORT *cont'd*

Based on habitat creation programs in the Southern U.S. and monitoring programs in Ontario and Quebec, the MCSI Steering Committee developed a two-phased approach: (1) Set up a volunteer monitoring program to identify nesting and roosting sites; and (2) Using the data collected, choose high potential sites to place new nesting towers to increase available breeding and roosting habitat.

From the spring of 2006 to date, over 75 volunteers have participated in the monitoring program, and approximately 50 active nesting and roosting sites have been identified within Manitoba. Based largely on this data, five nesting towers were built in the spring and summer of 2008: one each in Portage la Prairie, St. Adolphe, and Starbuck, and two in Winnipeg. Constructed out of concrete blocks, the towers stand 12 feet high and are designed to resemble the characteristics of typical chimneys as closely as possible. We are also collecting temperature data that will indicate whether we will need to modify the tower design, based on the Chimney Swift's breeding biology.

In addition to monitoring nesting and roosting sites, the MCSI is practicing public outreach in order to spread awareness of the Chimney Swift's plight. This has consisted of radio, television, and newspaper interviews, as well as public presentations. Most recently, the coordinator has begun visiting schools hosting Chimney Swifts in order to educate the students and teachers about their special tenants! Future plans of the MCSI include an expansion of the education component, and a program to help finance the refurbishment of Chimney Swift nesting or roosting sites in need of repair.

### 9. EcoACTION FEEDBACK

*Was the EcoAction program information and materials provided by your Project Officer helpful? Please elaborate.  
Was the service provided by your EcoAction Project Officer helpful? Please elaborate.*

The service provided by the EcoAction Project Officer was helpful. Gord Yelland responded to all questions promptly and effectively.

Although I understand the reasons for travel not being an eligible expense, it was unfortunate for our program as there was a very important Chimney Swift conference in Ontario that I was not able to attend due to lack of funds.

### 10. OTHER COMMENTS

*Use this space to provide us with any other relevant information on your project or on the EcoAction program.*

#### Recipient

Report Prepared by: Laurel McDonald

Signature:

Date:

#### Project Officer

Report Reviewed by:

Signature:

Date:

**Thank you for your time and input.**



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## FINAL WRITTEN EVALUATION REPORT *cont'd*

