

## MANITOBA CHIMNEY SWIFT INITIATIVE (MCSI) – ST ADOLPHE 2009 SUMMARY

The invaluable and ongoing support of the St Adolphe community was appreciated during the 2009 Chimney Swift observation season. Avian landlords, S. and A. Leclerc, Fr. G. Michaud of the Paroisse St Adolphe Church, President M. Lagasse on behalf of Club Amical, and for the first season, H. Brodeur of Brodeur Bros. Ltd, kindly devoted their chimneys to the nesting Chimney Swifts. The collection of chimney contents was facilitated by S. and A. Leclerc, M. Lagasse and J. Brodeur, and H. Brodeur. Our understanding of this species has been improved greatly by your generosity. Thanks are extended for the monitoring assistance provided by A. Lagasse, R.E.A. Stewart, A. Westra, R. E. R. Stewart, J. Machovec, F. Machovec, L. McDonald, C. Little, R. Bazin, M. Lumsden, M. Quigley, G. Ogilvie, J. Ogilvie, J. Hamilton, and E. Gong. The Manitoba Chimney Swift Initiative appreciates R. Mooi and J. Klapecki, of the Manitoba Museum, for preparing a study skin of the 2009 entrapped Chimney Swift and providing access to their database on this species. Bill Anderson did the much needed masonry repairs to the Church chimney, for which we are grateful.

St Adolphe is a nursery community for Chimney Swifts. Three buildings – the Church, Club Amical, and a private Main St. residence, have old brick chimneys with characteristics suitable for nesting. These chimneys were observed to be occupied by Chimney Swifts in 2007, 2008, and again in 2009. Two additional nest chimneys were occupied for the first time in 2009. At Club Amical, the Southeast (SE) chimney, previously known as a post-fledging roost only, was used as a nest site in addition to the Northeast (NE) chimney. The Brodeur Bros. chimney was used for the first time since observations started in 2007.

Chimney observations followed the same protocol whether made during the day or at the roosting hour (½ hour before sunset to ½ hour after sunset). Recording the entry or exit time of a Chimney Swift yields two intervals: a) between-visit interval (exit to entry) and b) duration in the chimney (entry to exit), also known as the turnaround time. Additional observations included: direction of flight toward/away from the chimney; the characteristics of entry: speed, orientation, number of attempts required to enter; whether the chimney swifts were vocal or quiet; and the group size of approaching or departing chimney swifts. Trailing wing edges were observed on some occasions and notches/discontinuities indicated moulting in adults; juvenile swifts had complete/continuous wing edges. Incidental observations have no time period associated with them, as these observations were noted during other activities in St Adolphe e.g., driving down a road and seeing a Chimney Swift exit from a chimney.

In 2009, over 170 hours of observations were made at the 5 nest chimneys (Table 1). Observations were made during all phases of the Chimney Swifts' time spent in St Adolphe: arrival; nest building; incubation of eggs (18-21 days); feeding and brooding juveniles from hatching to 6-7 days of age; feeding non-brooded juveniles aged 6-7 to 28-30 days old; fledging of juveniles from the chimney; pre-migratory grouping; end of season southern migration. Nesting time-line information is based on studies in Texas

(Kyle, G. Z., and P. D. Kyle. 2005. Chimney Swifts. America's Mysterious Birds Above the Fireplace. Texas A & M University, College Station. ISBN 1-58544-371-9).

The Chimney Swifts were first heard in St Adolphe on May 12 (S. Leclerc, pers. comm.). By May 21, Chimney Swifts were entering the Church (n=2) and Main St (n=1) chimneys, while NE Club Amical (n=2) was occupied by May 26. A second adult arrived at the Main St chimney ~ June 7. Late arriving birds occupied the SE Club (n=3) and Brodeur Bros. (n=2) chimneys around June 17-19.

Overall nesting success was 40% (2 of 5 chimneys) for 2009. Juveniles fledged successfully from the Church (n=1) on Aug. 1 and NE Club Amical (n=2) on Aug. 4. The late arriving Chimney Swifts at Main St., SE Club Amical, and Brodeur Bros., likely were compromised from the onset of nesting activities. Ultimately, other factors resulted in nest failures at these sites.

Mortality of Chimney Swifts (eggs – adults) occurred in 3 of 5 chimneys due to a variety of factors:

- **ADULT ENTRAPMENT.** Two Chimney Swifts were trapped in a main floor closet of Club Amical on June 17. The birds emerged from a slightly offset (1/2") face plate on the vertical wall of the SE chimney. One Chimney Swift, in poor condition, was released successfully by M. Lagasse and J. Brodeur. The other Chimney Swift, which died during the entrapment, was donated to the Manitoba Museum and has been prepared as a study skin (Manitoba Museum/Ornithology Catalogue No.: 1-2-5336; R. Mooi and J. Klapecki). Due to the good condition of the specimen and details known about the entrapment, this study skin is considered to be the best, and rarest, Chimney Swift in the Manitoba Museum's collection.
- **EGGS FALLING FROM NEST.** Daytime use of the Brodeur Bros. chimney stopped abruptly on July 26, but the adult Chimney Swifts continued to roost in the chimney until early August. Inspection of the cleanout trap in late August resulted in the recovery of 4 eggs, plus a few twigs, but no complete nest.
- **JUVENILE FALLING FROM NEST.** Daytime between-visit intervals increased to ~1 hour on July 29 and 30 in the Main St chimney. On July 31, daytime use stopped altogether and no swifts roosted that evening. Nesting failure was indicated. During inspection of the cleanout trap on Aug. 3 (see details below), one dead juvenile, likely ~2 days of age, was found. Another larger, dead juvenile was found also. This indicates that the smaller juvenile fell out of the nest (~July 20) in advance of the nest failure.
- **NEST FALLING FROM WALL OF CHIMNEY.** As described above, one juvenile, ~ 11 days of age, was recovered (Aug. 3) from the Main St chimney after the nest failure was indicated on July 29. An entire nest with freshly broken twig ends (= 2009 nest) was found in the cleanout trap. Slippage of nests can occur during periods of intense rain. The Main St adults likely moved to the Church to roost as roosting numbers increased there on Aug. 1 and 2.
- **UNKNOWN CAUSE OF NEST FAILURE.** Daytime entries/exits in the SE Club Amical chimney stopped altogether on July 21. However, the adults continued roosting at night until mid-August (Aug. 13, n=2; Aug. 14, n=0). Due to the inability

to visually inspect the SE Club Amical chimney, the specific cause of nest failure cannot be determined. However, it is known that the nest failure occurred at the incubation stage.

When tending a nest, Chimney Swifts roost (spend the night) in their nest chimney. They may change their location of roosting after a nest failure (Main St), shortly after juveniles fledge (NE Club Amical), and as adults (breeding and non-breeding) prepare to migrate (Brodeur Bros., SE Club Amical). A small group of Chimney Swifts grouped in the NE Club Amical chimney for several days in early Aug. after the fledging of 2 juveniles. In 2009, as in 2008, the largest number of Chimney Swifts was observed roosting at the Church. Numbers of Chimney Swifts roosting at the Church started increasing on Aug. 1 which was also the fledging date for the Church juvenile. The peak number of 19 Chimney Swifts occurred on Aug. 16 and 17. Thereafter, numbers tapered off until the final southern migration occurred on Aug. 28. Only in 2007, the first year of observation, did Chimney Swifts not congregate in the Church prior to migration. However, there was no successful fledging that year as the nest failed during adult entrapment within the Church. It seems that Chimney Swifts in St Adolphe prefer to group in a successful nest chimney prior to migration; non-local birds may assemble there also.

MCSI sponsored the repair of the Church chimney to protect this critical habitat for Chimney Swifts. A winter 2008/2009 report on the Church's roof/chimney indicated that the poor condition of the chimney necessitated immediate repair or demolition. In the spring of 2009, the Chimney Swift was listed as Threatened on Schedule 1 of the federal Species At Risk Act (SARA; [http://www.sararegistry.gc.ca/species/speciesDetails\\_e.cfm?sid=951](http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=951) ). As the Church chimney is an established, successful nest site and a pre-migratory roost, the protection of this chimney for future use is essential to the recovery potential of Chimney Swifts. During the last week of September, Bill Anderson repaired the decaying brick structure of the Church chimney.

Goals for the 2010 Chimney Swift observation season include monitoring the 5 St Adolphe nest chimneys. With 2 sites occupied in 2009 for the first time, the colonization pattern will be important to establish. MCSI will continue to develop a program for the repair and cleaning of known nest chimneys. This will provide the maximum opportunity for continued nesting success of Chimney Swifts in St Adolphe.

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CHIMNEY	FIRST ROOSTED	LAST ROOSTED	CHIMNEY USAGE	MAX. NO. OF SWIFTS	NO. DAY OBS.	NO. ROOST OBS.	NO. INC. OBS.
SE CLUB AMICAL	June 17 – entrapment; 1 dead approx. 1 year old; 1 survivor, unk. age. June 19 – day nesting and roost by 2 adults	Aug. 13 2 adults	July 21 Nest failed during incubation; continued as roost site only for 2 adults	2 adults	49	14	5
NE CLUB AMICAL	May 19-26 2 adults	Aug. 10 <sup>th</sup> ~5 swifts	Aug. 4 fledged 2 juveniles	6 swifts – adults and juveniles, Aug. 9	49	14	5
BRODEUR BROS.	June 19 first recorded entry/exit at this site	Aug. 2-5 2 adults	July 26 nest failed during incubation; 4 eggs rolled out of nest; continued roost site for 2 adults	2 adults	19	7	3
CHURCH	May 11-21 2 adults	Aug. 27 2 swifts	Aug. 1 fledged 1 juvenile	19 swifts - adults and juveniles, Aug. 16 & 17	60	27	3
MAIN ST	May 12 - vocalizations (S. Leclerc) May 21 - 1 adult; June 3-7 – 2 adults	July 30 2 adults	July 29 - nest failed due to slippage; July 31 – 2 adults abandon chimney	2 adults	26	8	5

TABLE 1. SUMMARY OF CHIMNEY SWIFT USE OF 5 NEST CHIMNEYS IN ST ADOLPHE, MB, 2009. THE INFORMATION IS BASED ON 173.5 HOURS OF OBSERVATION.