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**QUEBEC INVENTORY OF THE CHIMNEY SWIFT (*Chaetura pelagica*)**

**1998-1999 RESULTS**

**Progress report**



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## 1. INTRODUCTION

The Chimney Swift (*Chaetura pelagica*) is a small, dark, swallow-size bird. In Quebec, it breeds in the south of the province. Most birds arrive in mid May and leave again in August for their South American wintering grounds. The swift is a highly aerial species, spending much of the day foraging on the wing like a swallow. It is a voracious insectivore, and each beakful brought back to its nestlings may contain as many as 200 insects (Chantler 1999). The swift is often associated with urban areas because it has learned to take advantage of human structures (chimneys, barns, ventilation shafts) for nesting and roosting. A peculiarity of this species is that it glues the twigs that make up its nest to vertical surfaces using its own sticky saliva. To learn more about the biology of this bird, readers are invited to consult the works of the following authors: Chantler (1999), Chantler and Driessens (1995), Cyr and Larivée (1995), Fisher (1958) and Lemieux and Robert (1995).

In recent centuries the Chimney Swift was largely constrained to forsake hollow trees and take to the chimneys of buildings, but the spreading tendency to close off chimneys in the last few decades appears to be one of the leading causes of the sharp decline in the Quebec population of this species. Indeed, data from the Breeding Bird Survey (BBS) for 1967-1998 show a dramatic drop in numbers, on the order of 8.3% per year (Collins 1999). Given this disturbing trend, the Canadian Wildlife Service has been inventorying swift roosting and nesting sites in Quebec since 1998. The purpose of this project is to locate and characterize the sites, monitor population trends and decide on conservation measures to protect the species. This is a joint project with the *Association québécoise des groupes d'ornithologues* (AQGO) and the *Société de la faune et des parcs du Québec*. This report presents the raw data from the first stage of the project.

## 2. RESULTS

This inventory would not be possible without a network of volunteers, and since 1998, 59 volunteers have participated by pinpointing sites. The number of roosting or nesting sites thus identified was 32 in 1998 and 55 in 1999, for a total of 73 different sites (Table 1). These sites are spread among 44 widely scattered municipalities covering most regions of Quebec except northern Quebec, the North Shore, Laval and Abitibi-Témiscamingue (Table 3). On the 1999 site location map (Figure 1), each figure represents a site, and the figure itself indicates the maximum number of birds observed at that site. The

region with the largest number of identified sites so far is Chaudière-Appalaches (Table 3). The complete list of all sites is appended.

In almost all reports, birds were roosting or nesting in chimneys. The only exception is a pair which nested for four straight years in a well in Mont Mégantic Park in the Eastern Townships. A third of all cases involved church chimneys (Table 2). No swifts have been reported using hollow trees so far, though some observers have reported seeing adult birds explore trees, but without result.

The largest active roost in Quebec known to date is located in Saint-Georges-de-Beauce. In the summer of 1999, while conducting the weekly tally of this roost in a disused chimney at an old factory, Alain Beauchamp counted an impressive total of 938 swifts! The next largest site is at Mont-Laurier, where Robert LeBrun counted some 862 birds entering a high school chimney. For all sites monitored in the summer of 1999, a graph is provided showing changes in swift numbers throughout the season (pp. 7 to 21).

We were able to obtain film of a pair nesting in a Lévis chimney in the summer of 1999 thanks to Christian Garneau; this visual record runs from nest building to the departure of the three young at the end of the summer. Given the difficulty of seeing these birds up close because they are either constantly in flight or else hidden in inaccessible places, these images are invaluable and constitute an important source of data on the species' behaviour.

Little is known about the factors that induce swifts to choose one chimney rather than another, but in 1999 we were able to shed some light on this mystery. Temperature may play a role, and swifts are thought to seek out sites where the temperature is relatively constant. This remains to be confirmed, as we have not yet sampled many chimneys.

Table 1. Quebec Chimney Swift Inventory: 1998 and 1999 results

	1998	1999	Total
<b>Number of sites</b>	32	55	73
<b>Number of municipalities</b>	26	31	44
<b>Number of observers</b>	27	47	59
<b>Activity</b>			
Roost	20	29	41
Nesting site	8	19	23
Undetermined	4	7 + 1 unused site	12
<b>Structure</b>			
Chimney	31	55	73
Well	1	1	1*

\* Total of 73 structures, two chimneys being used on one building

Table 2. Types of building where swift roosting or nesting sites were identified in Quebec in 1998 and 1999

Type of building	Number		Total
	1998	1999	
Church	9	17	24
School	7	11	13
House	6	9	13
Apartment building	0	4	4
Library	0	2	2
Warehouse	0	2	2
Presbytery	2	1	3
Museum	0	1	1
Home for the elderly	1	1	1
Other	6	6	9

Table 3. Number of swift roosting or nesting sites in Quebec by administrative region in 1998 and 1999

Administrative region	1998	1999	Total
Lower St. Lawrence	4	2	6
Saguenay-Lac-Saint-Jean	0	5	5
Quebec city	5	7	9
Mauricie-Bois-Francs	0	1	1
Eastern Townships	1	5	5
Montreal	1	1	2
Ottawa Valley	1	8	9
Abitibi-Témiscamingue	0	0	0
North Shore	0	0	0
Northern Quebec	0	0	0
Gaspé-Magdalen Islands	2	1	2
Chaudière-Appalaches	8	8	12
Laval	0	0	0
Lanaudière	6	5	8
Laurentians	3	4	5
Montérégie	1	7	8

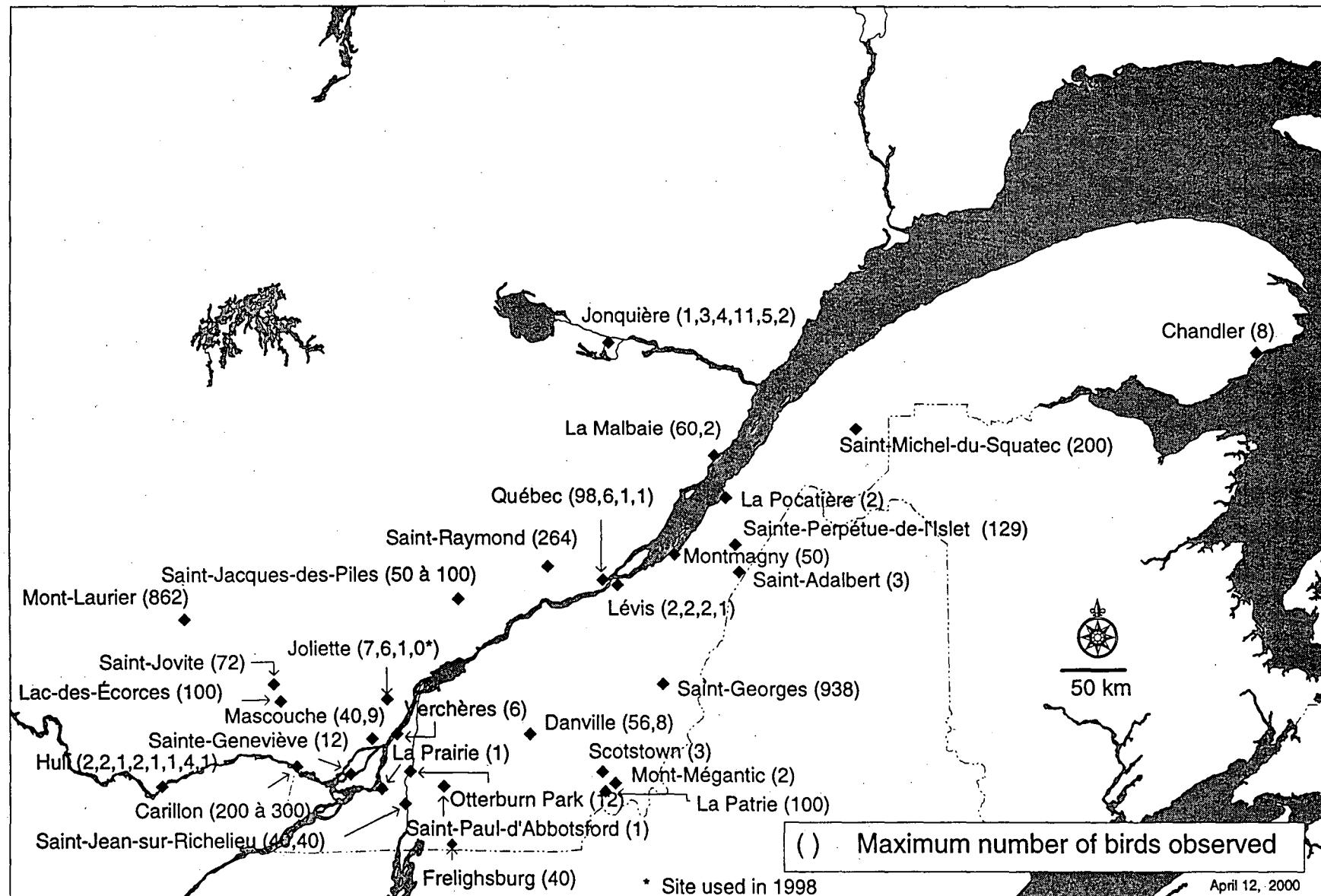
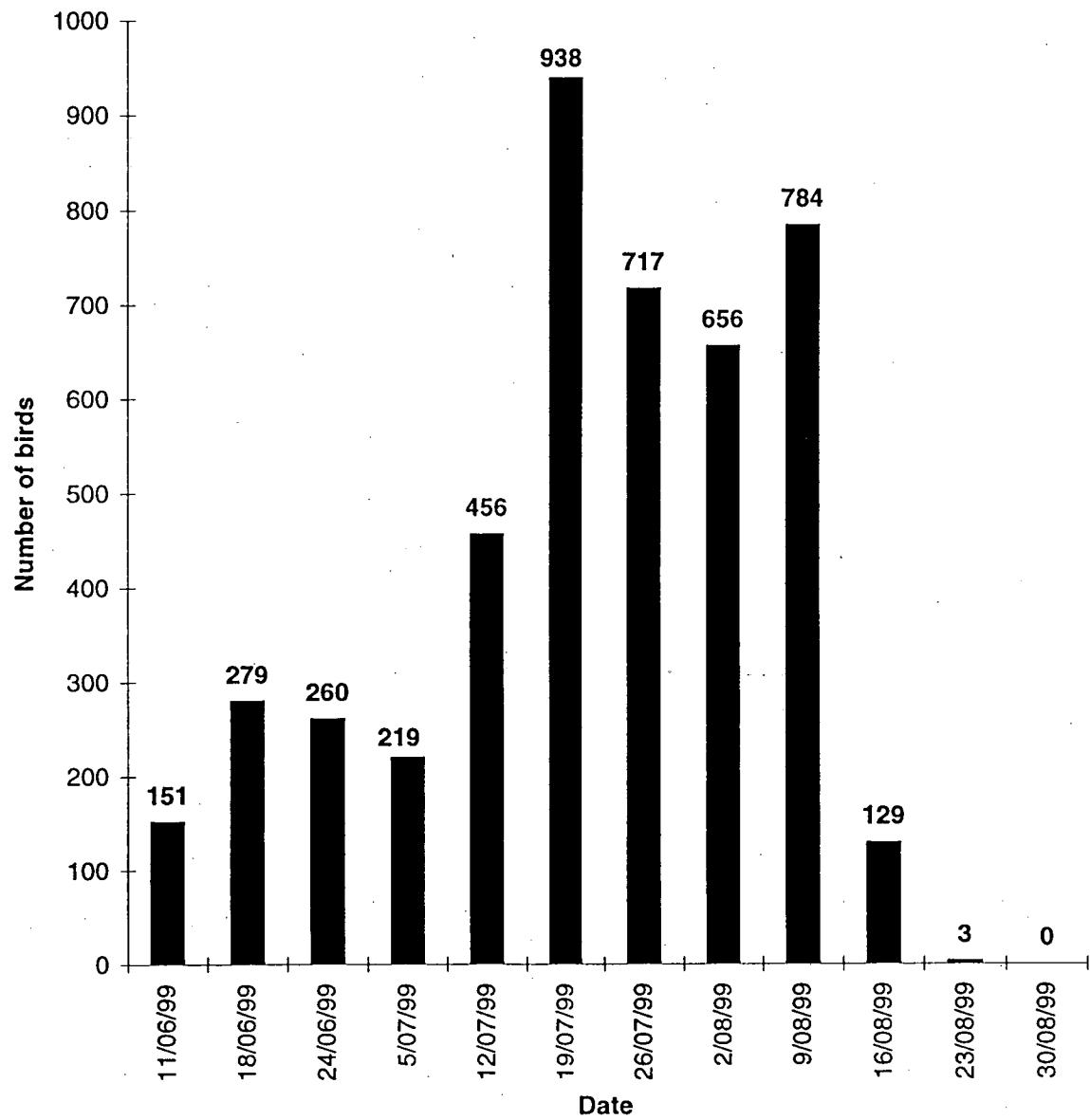


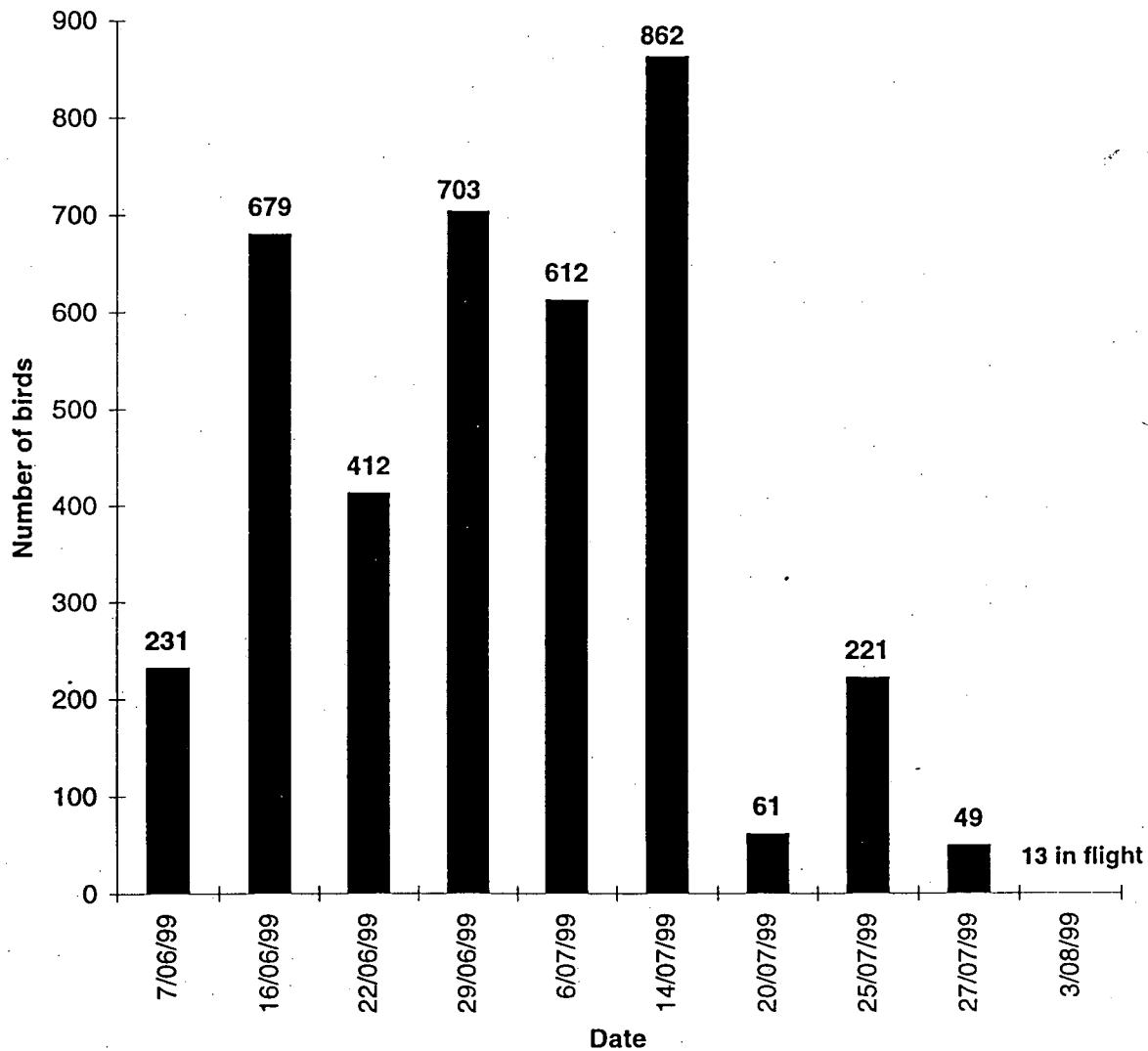
Figure 1. Sites where Chimney swifts were observed in Quebec in 1999, Canadian Wildlife Service, Société de la faune et des parcs du Québec and l'Association québécoise des groupes d'ornithologues.

## Saint-Georges



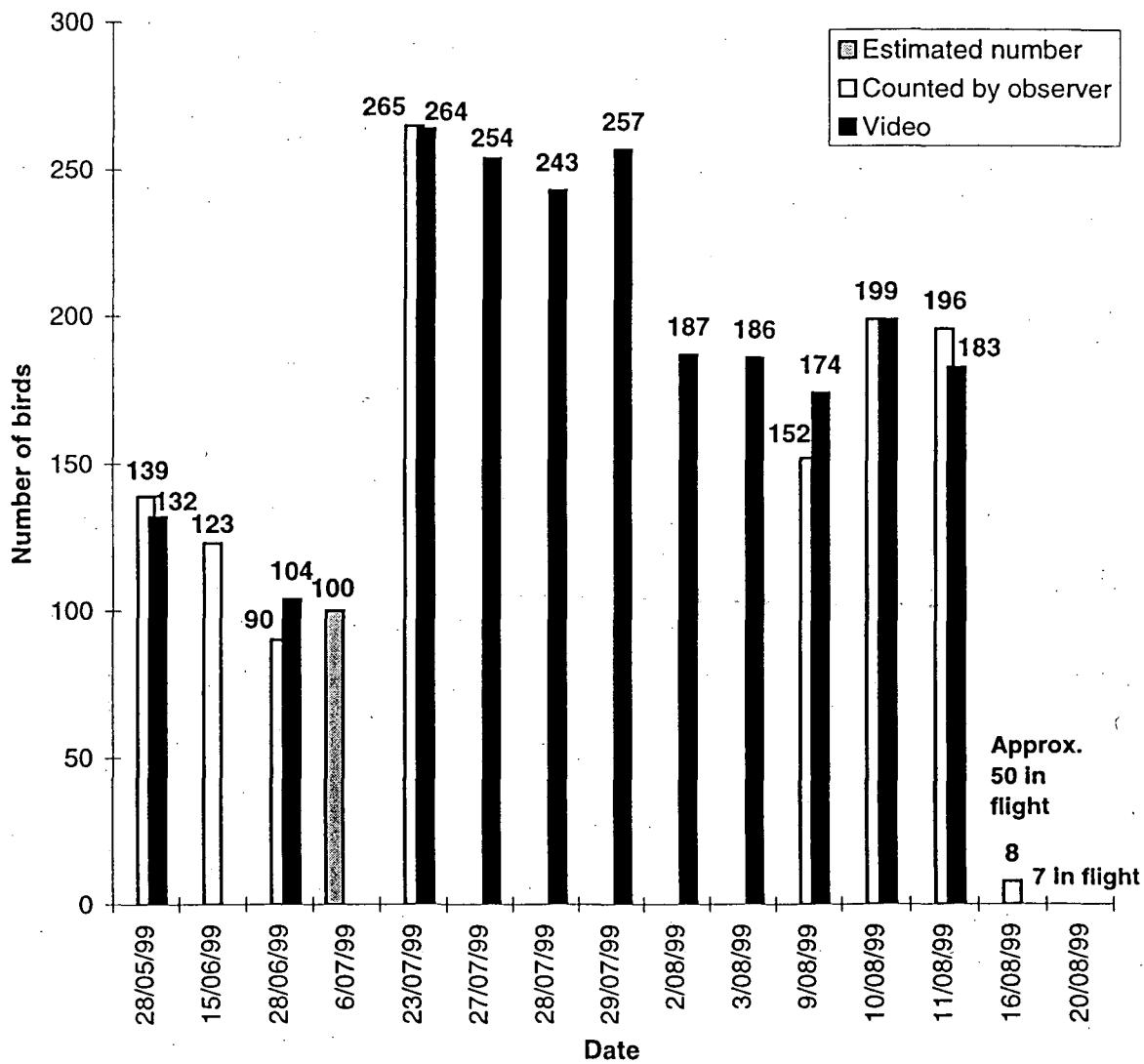
\* Monitoring done by Alain Beauchamp and Renaud Poulin

## Mont-Laurier



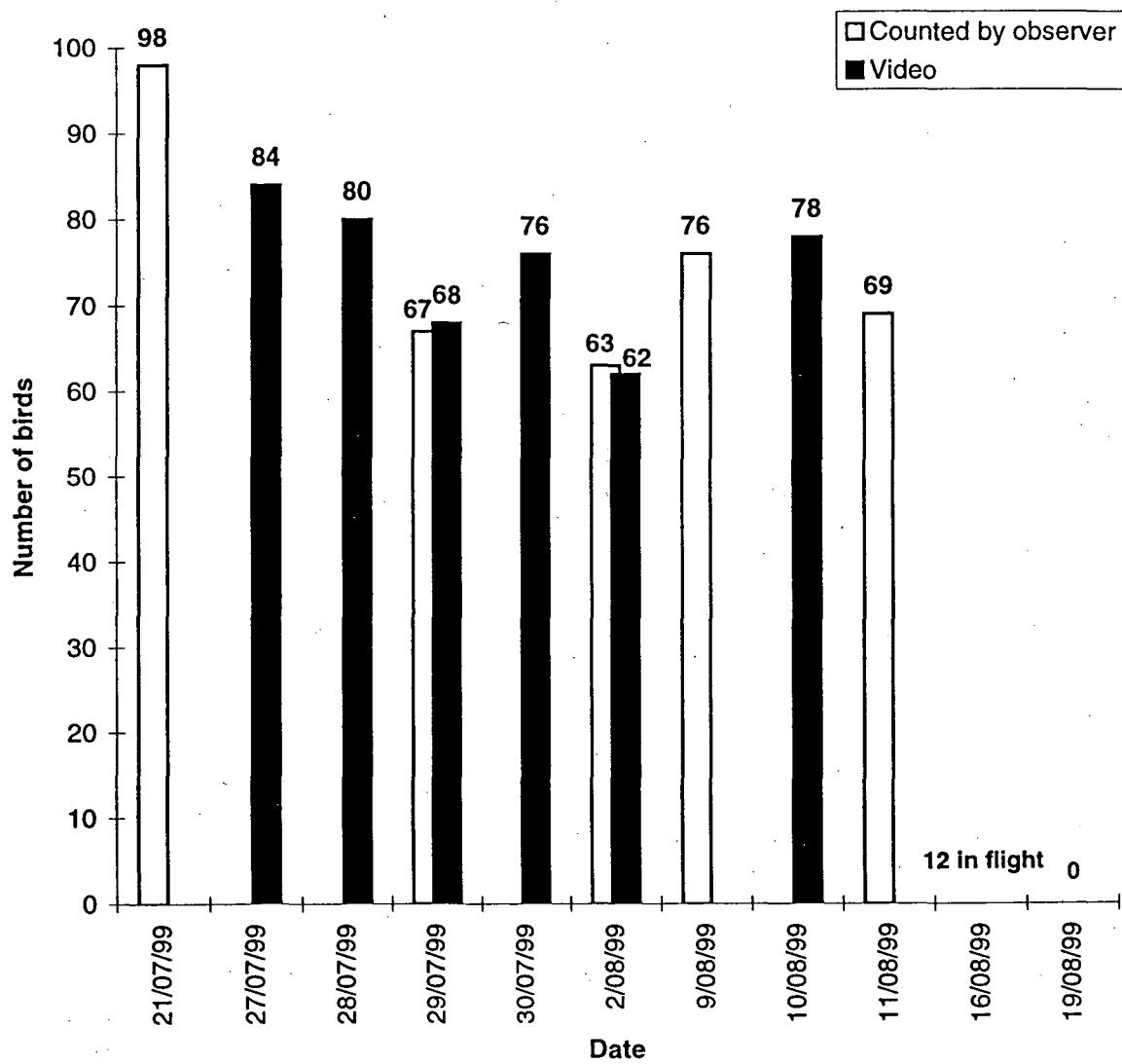
\* Monitoring done by Robert LeBrun

## Saint-Raymond



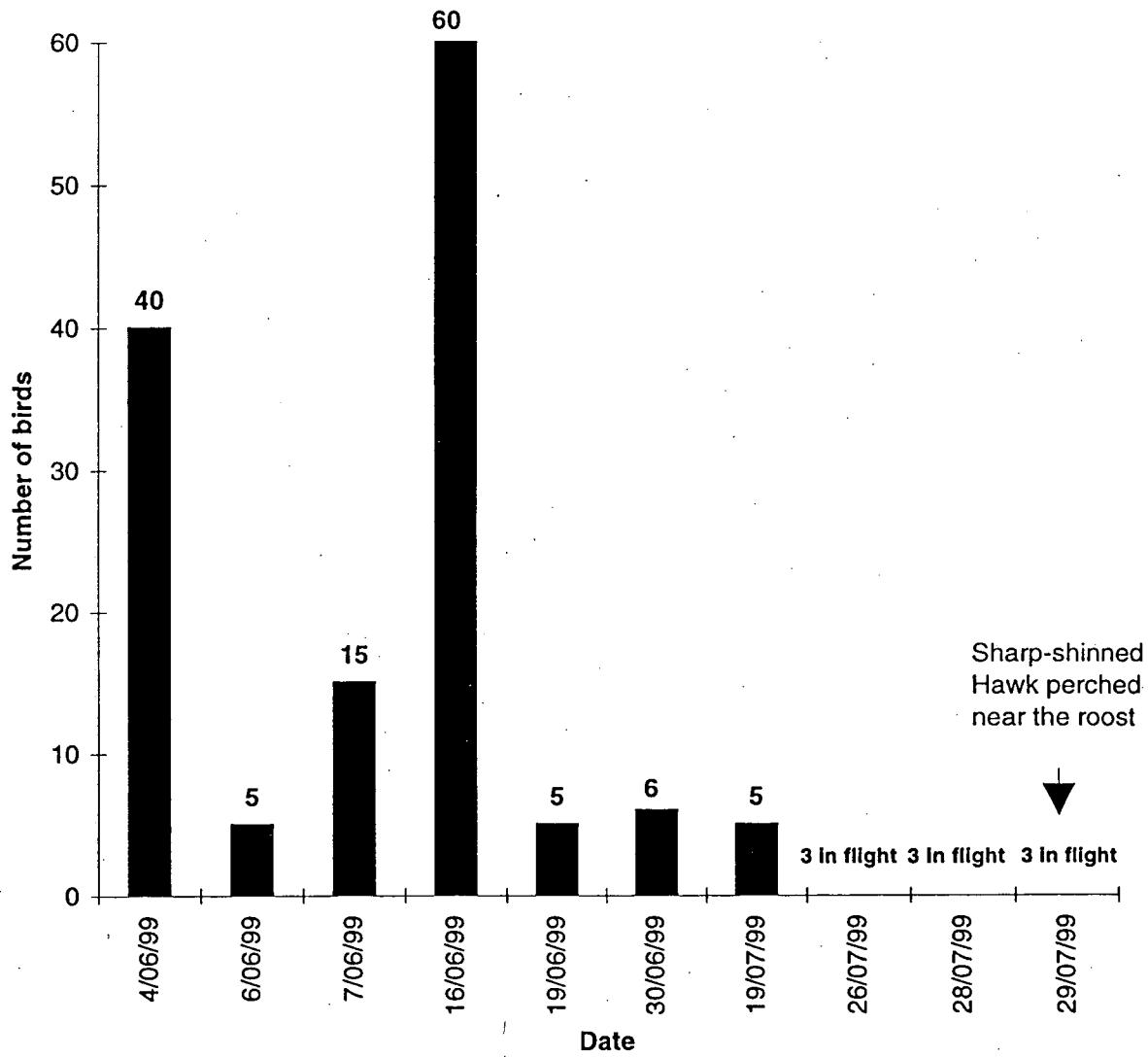
\* Monitoring done by Josée Potvin, Jean Gauthier and Jean-François Rousseau

### Saint-Jean street, Québec city

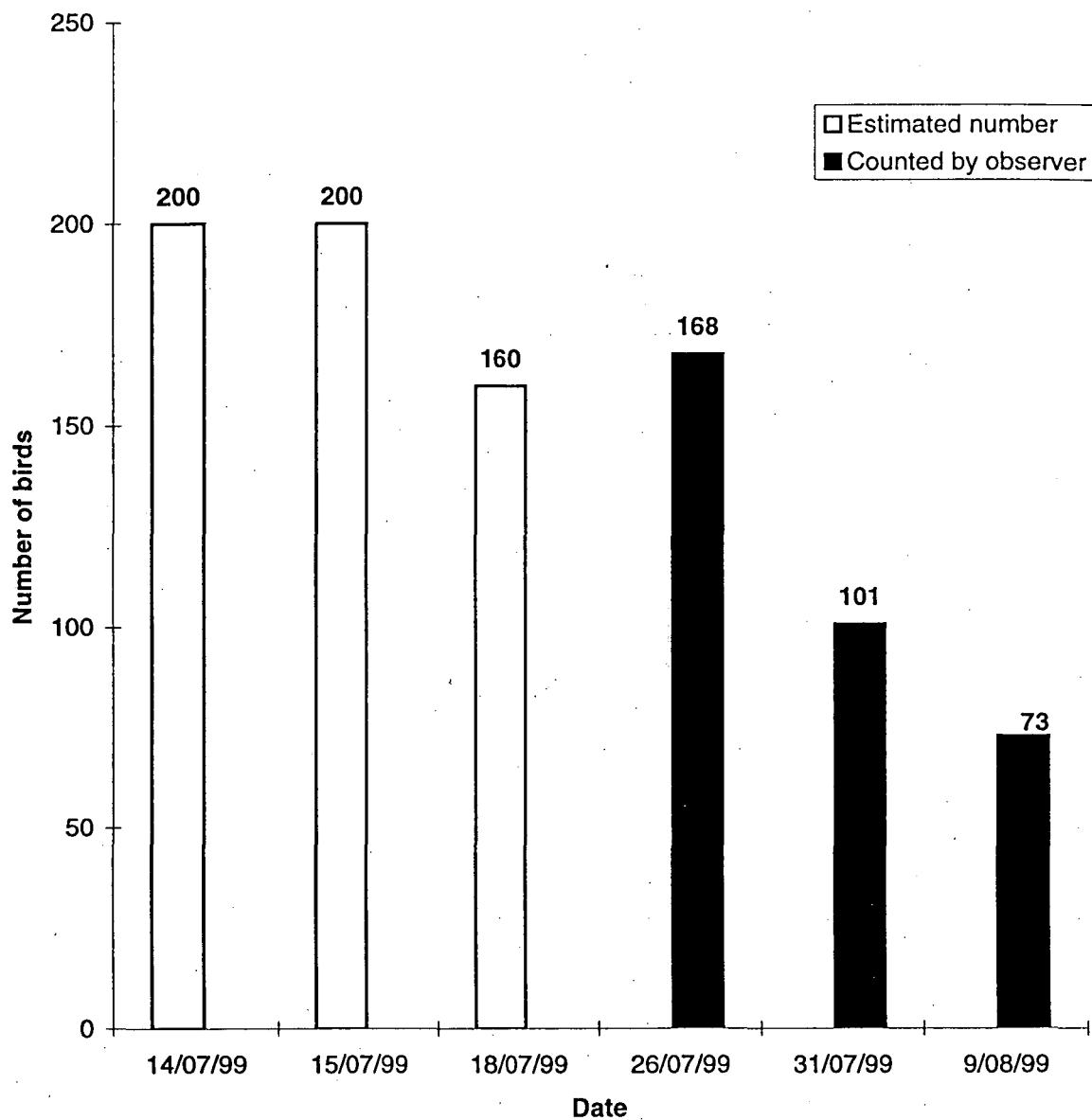


\* Monitoring done by Josée Potvin and Jean-François Rousseau

### La Malbaie, movie theater

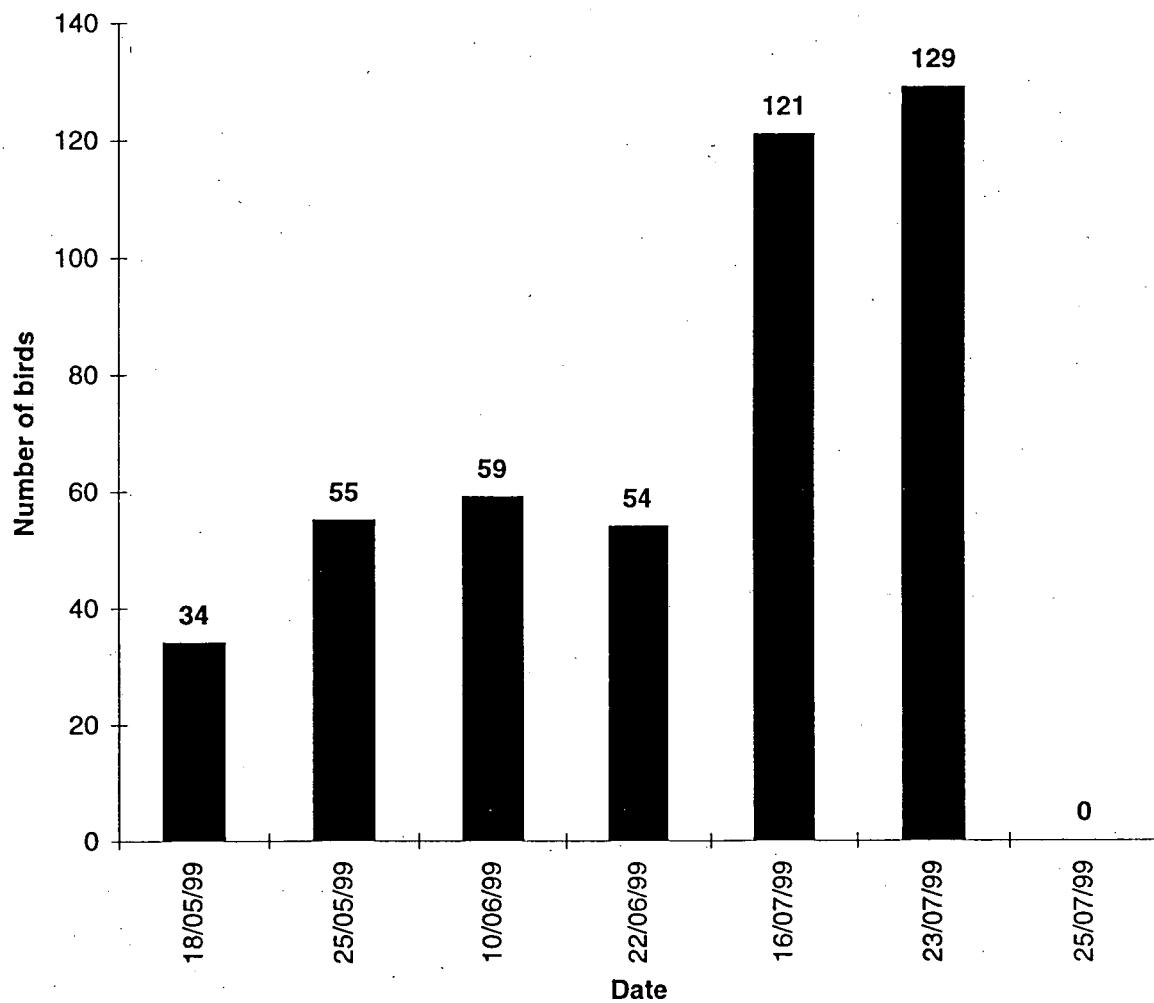


\* Monitoring done by Régine Laberge, Ghyslaine Tremblay and Huguette Routhier

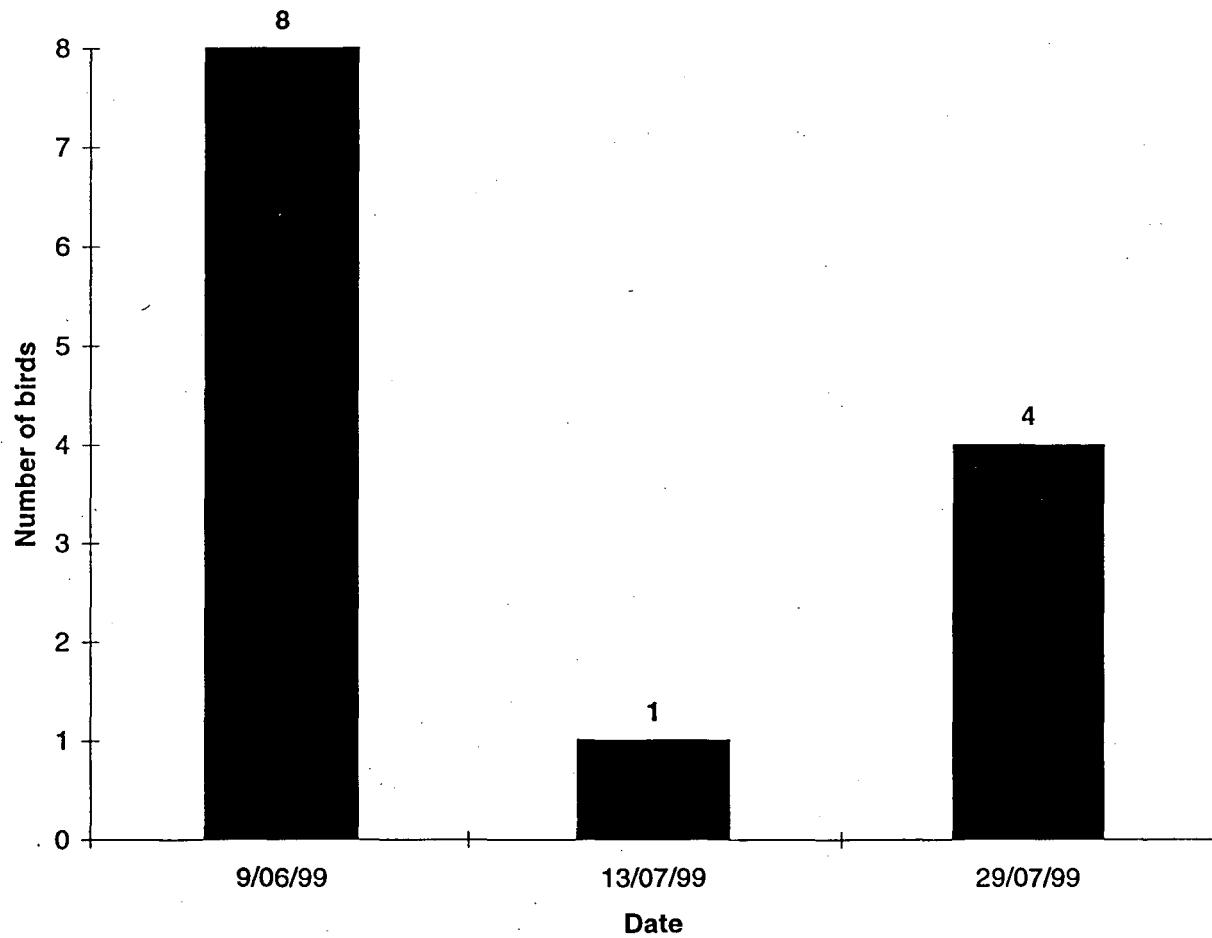
**Squatec**

\* Monitoring done by Denise Brisebois, Jean-Paul Bérubé, Lazare Ouellet, Thérèse Bérubé and Jean-François Rousseau

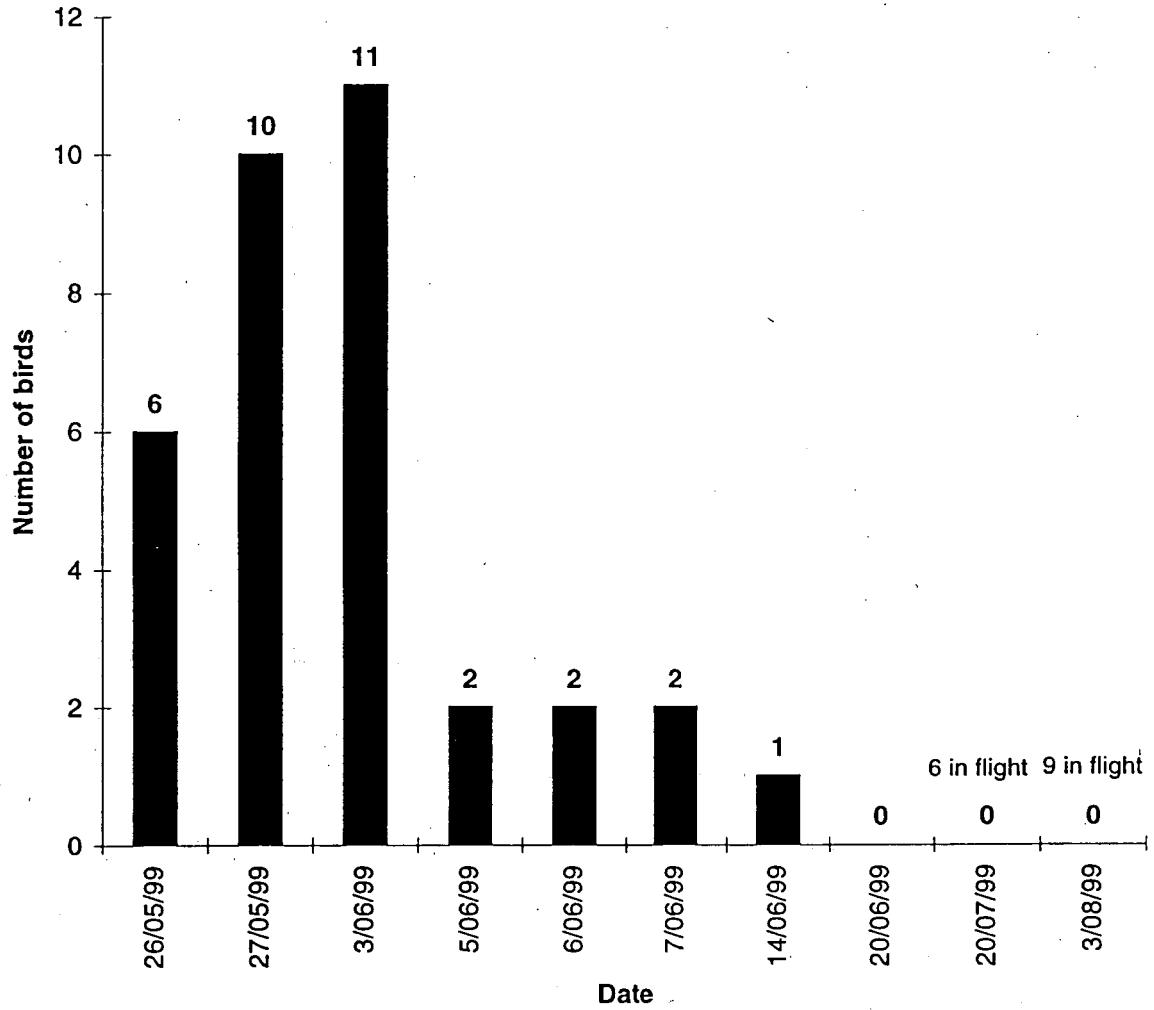
### Sainte-Perpétue church



\* Monitoring done by Gaétan Pelletier

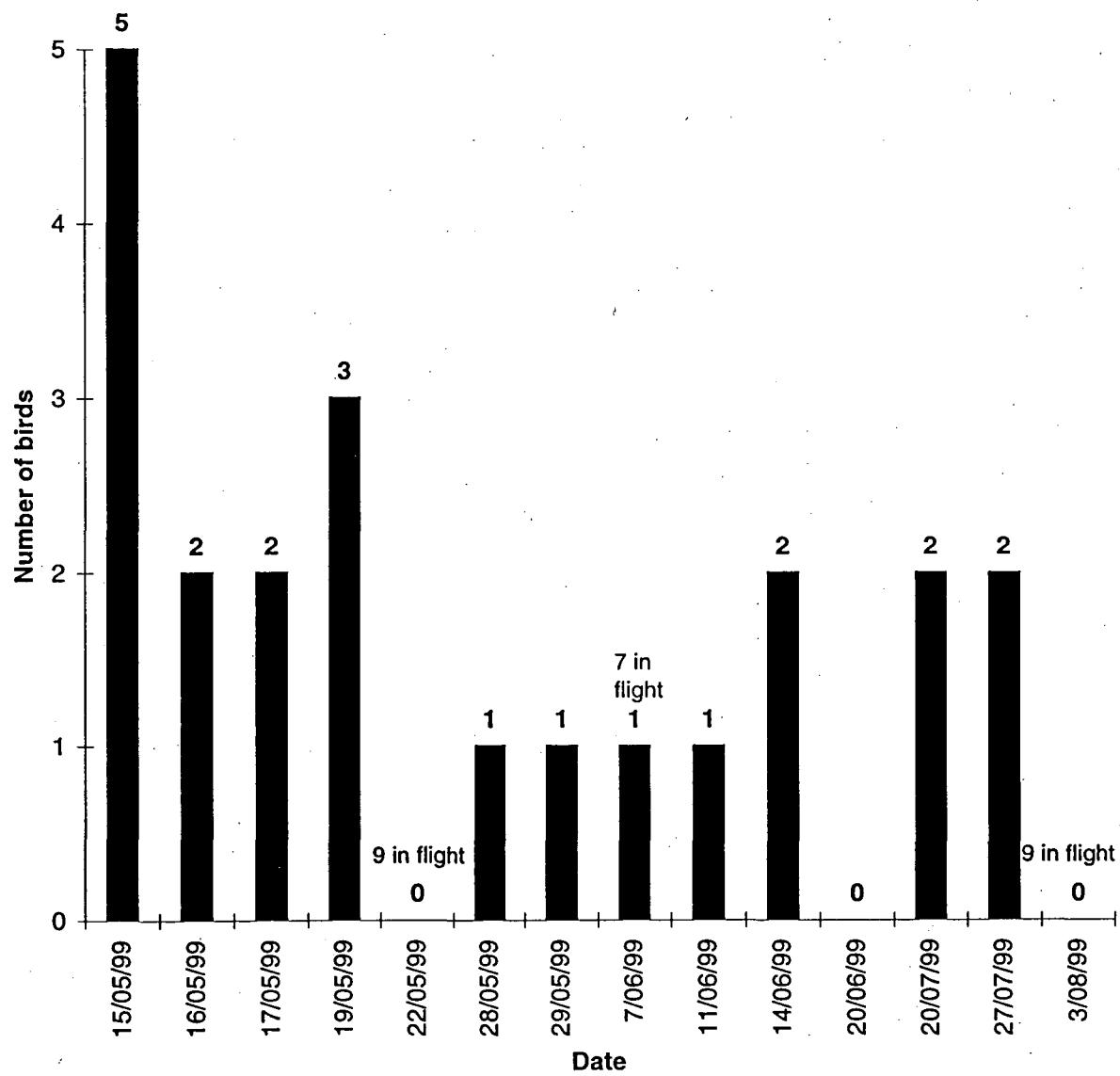
**Chandler**

\* Monitoring done by Pierre Poulin and Jean-Raymond Lepage

**Sainte-Thérèse school, Jonquière**

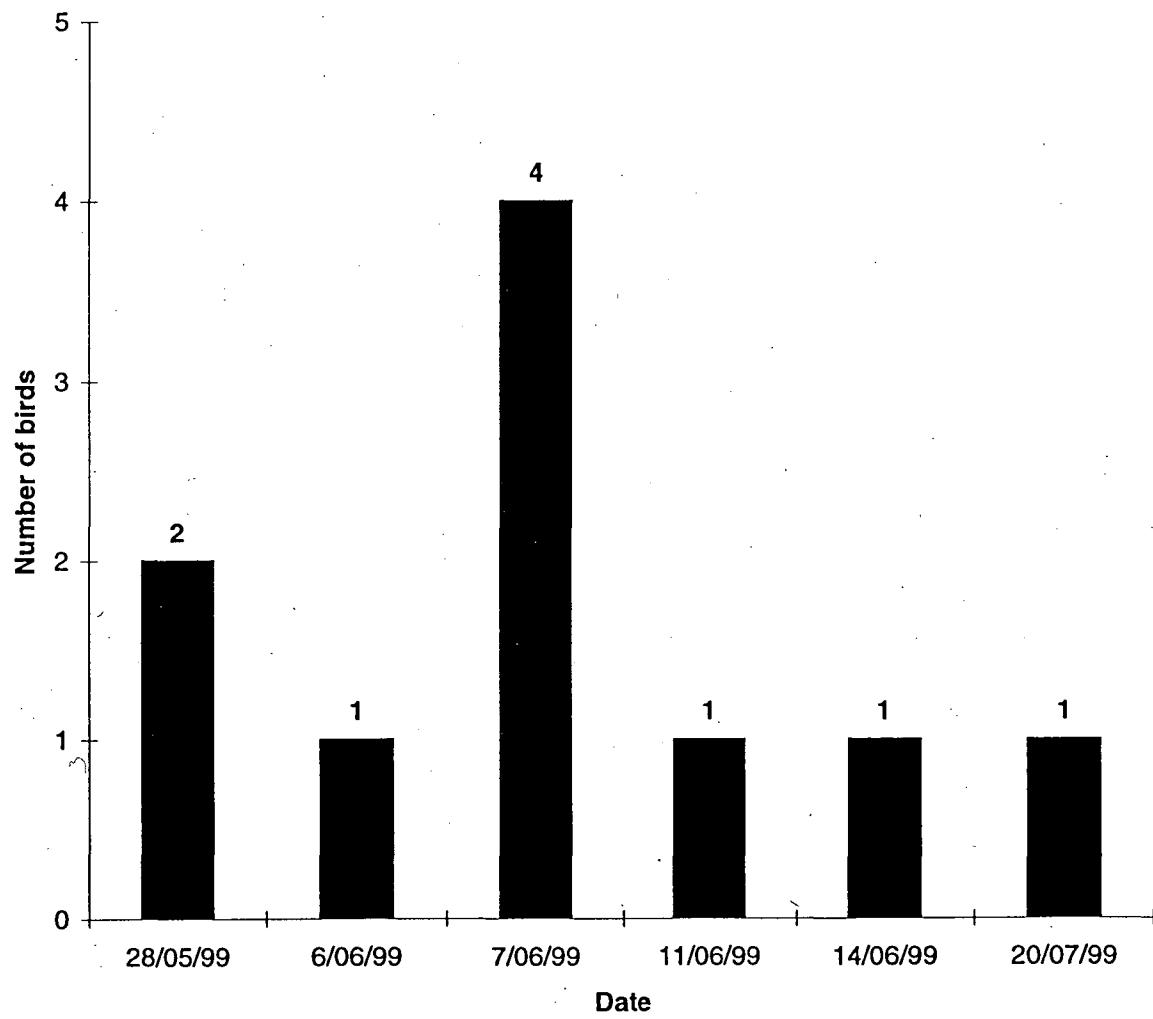
\* Monitoring done by Louise Bouchard, Louise Grenon, Jean-Paul Bérubé and Denise Brisebois

### Library, Jonquière

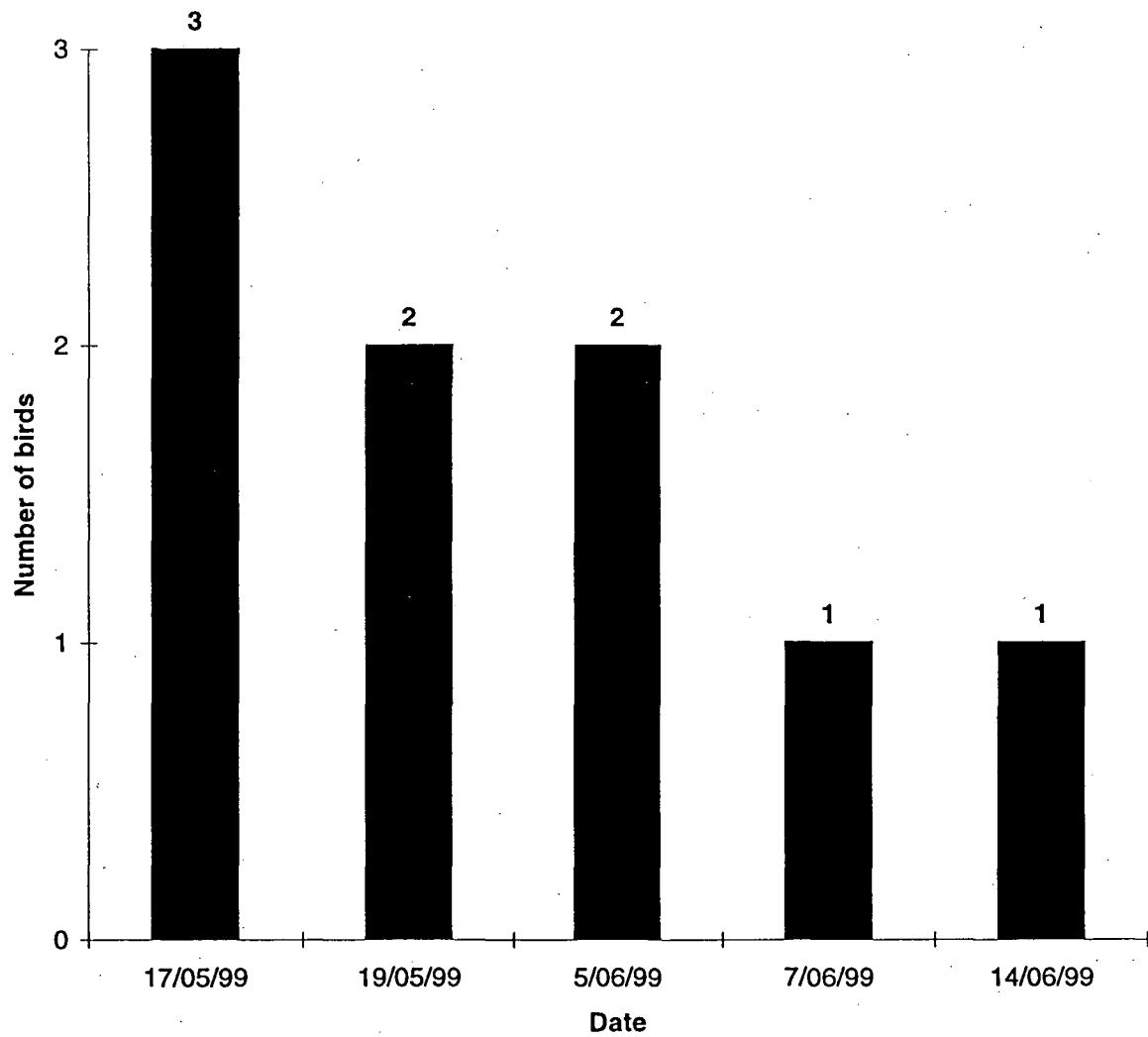


\* Monitoring done by Louise Bouchard, Louise Grenon, Jean-Paul Bérubé and Denise Brisebois

### Theater, Jonquière

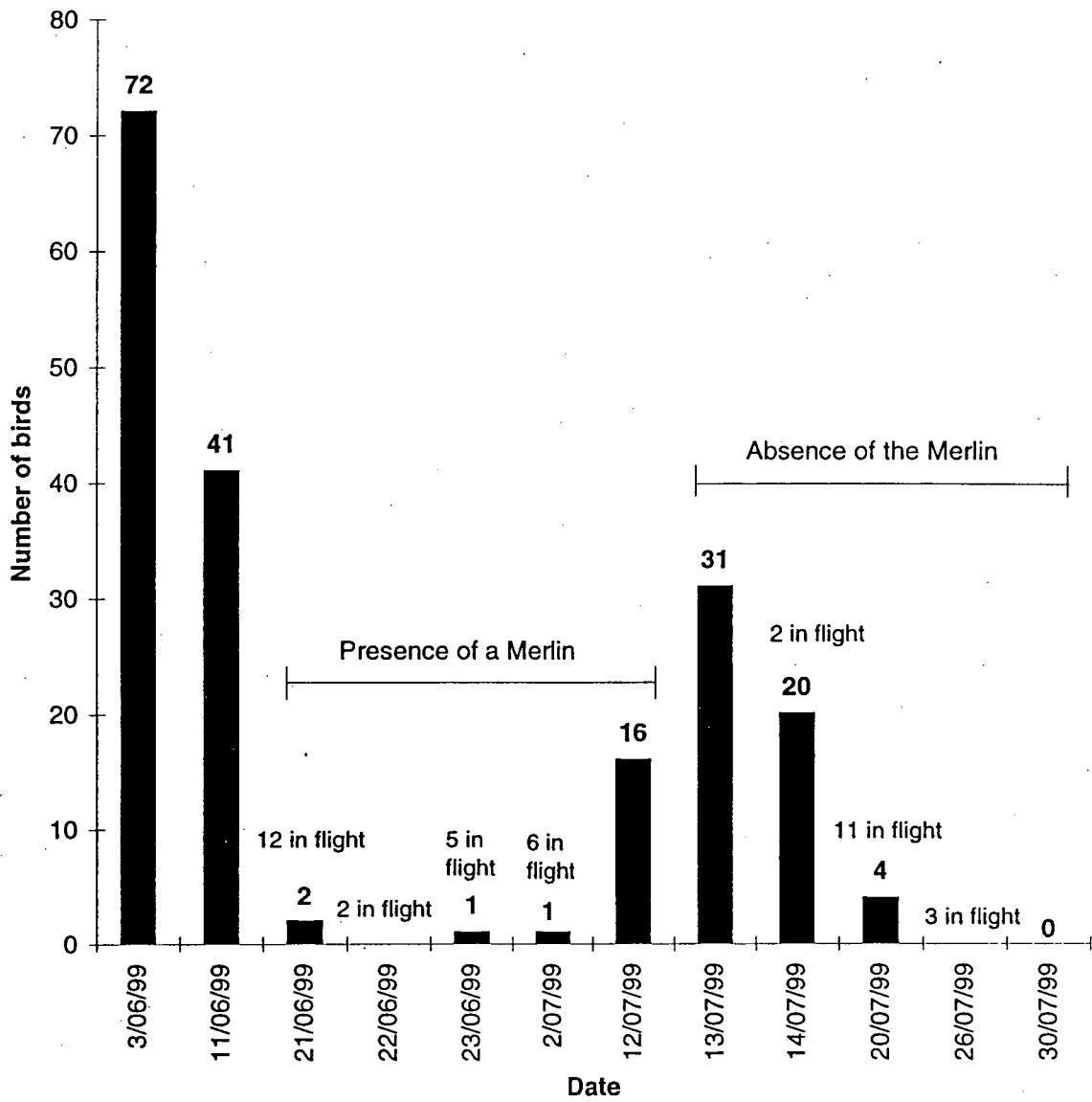


\* Monitoring done by Louise Bouchard, Louise Grenon, Jean-Paul Bérubé and Denise Brisebois

**Bank, Jonquière**

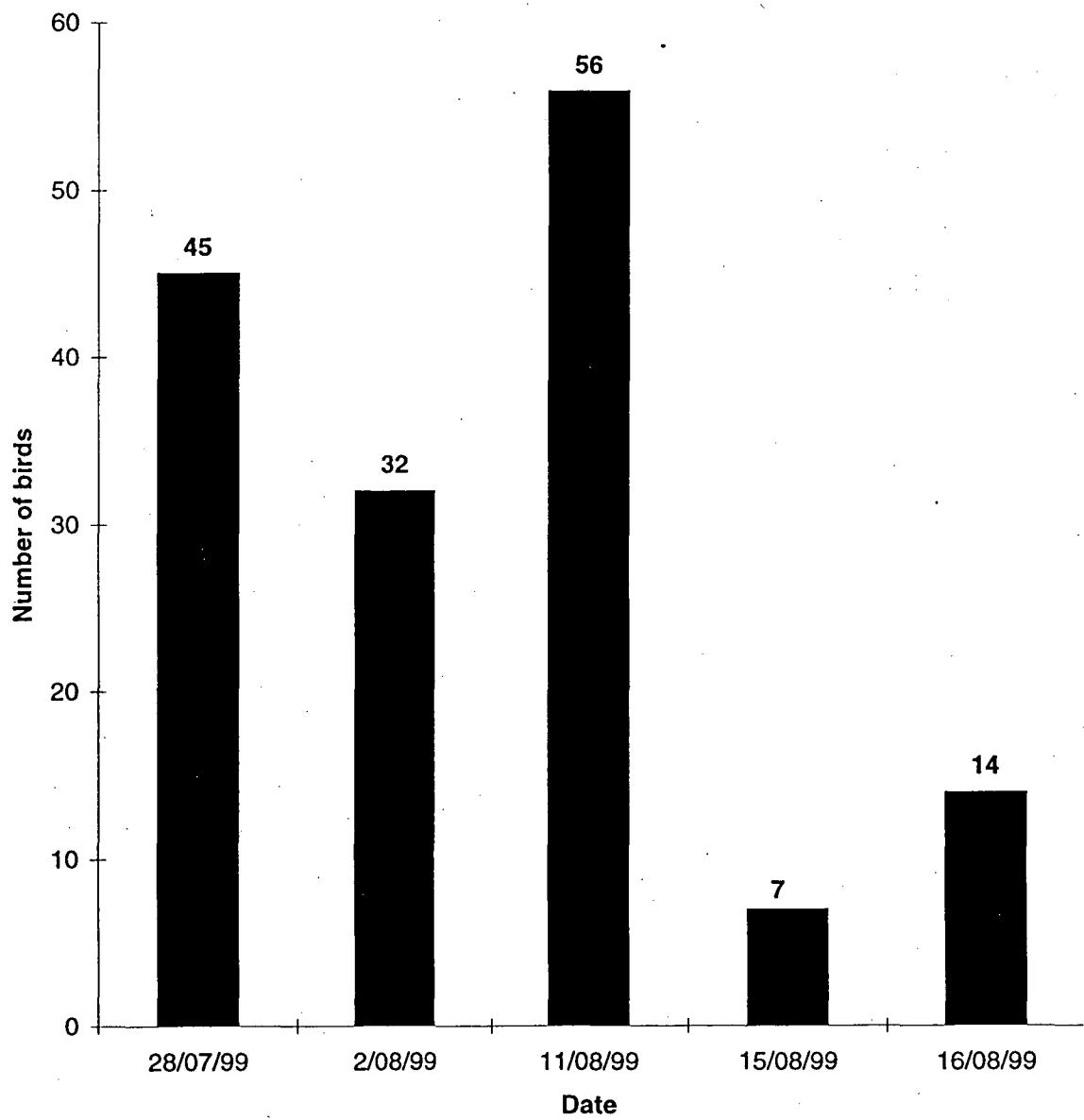
\* Monitoring done by Louise Bouchard, Louise Grenon, Jean-Paul Bérubé and Denise Brisebois

### Saint-Jovite



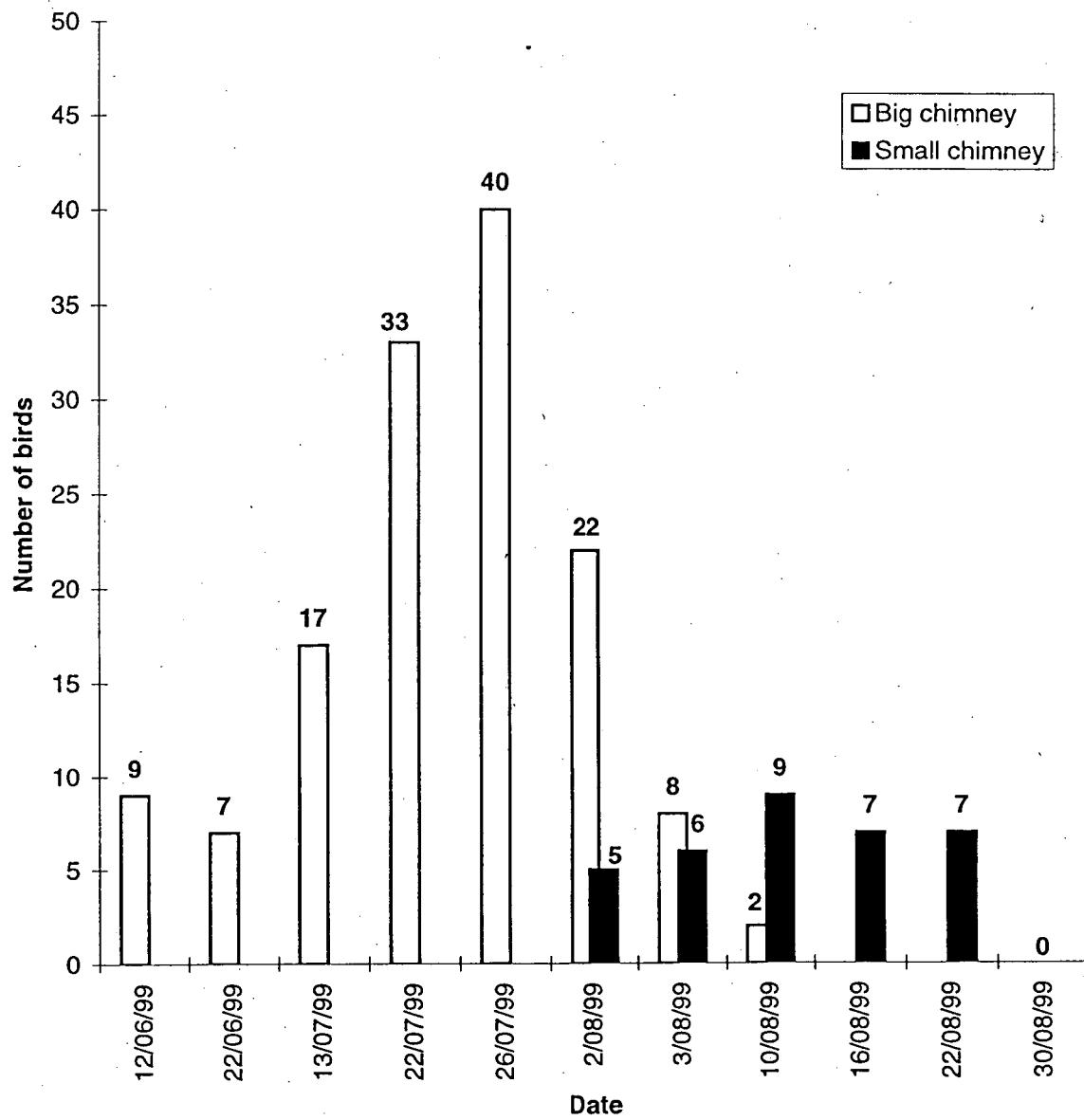
\* Monitoring done by Michel Renaud, Louise Cadieux and André Bouchard

### Danville church



\* Monitoring done by Guy Huot and Diane Labonté

## Mascouche



\* Monitoring done by Mario Lavoie

### 3. CONCLUSION

In the long term, monitoring of sites all across the province will enable us to make a population estimate and confirm abundance trends. To this end, it is important that monitoring of the sites already identified continue, that the number of sites be enlarged and that the network of observers be expanded. Naturally, the role of observers in locating sites used by swifts is crucial, but they also have an important part to play in conserving and protecting the species. In this respect, local birdwatchers seem to have the highest credibility for effective action in their own communities when it comes to educating the public on the problems of the Chimney Swift.

As the number of suitable sites available to swifts continues to dwindle, it is also important to develop conservation measures to maintain the population, such as building alternative habitats and preserving the sites in use now. Accordingly, we are developing false chimneys. In the summer of 1999, various chimney types were tested, and the experiment will continue in the summer of 2000.

### 4. ACKNOWLEDGEMENTS

We would like to thank the following people and organizations for their assistance, and also all the volunteer observers (listed on the following pages), who have contributed to the success of the swift inventory since 1998:

- Association québécoise des groupes d'ornithologues (AQGO)
- Société de la faune et des parcs du Québec
- The staff of the Cap Tourmente National Wildlife Area
- The Town of Saint-Augustin-de-Desmaures
- Jean-Claude Paquet and the firefighters of Saint-Raymond
- Christian Garneau (Lévis)
- Gaétan Pelletier and Jean-Guy Chouinard (Sainte-Perpétue)

Observers :

Lower St.	Saguenay-Lac-	Quebec city	Mauricie-Bois-	Eastern	Montreal
Lawrence	Saint-Jean		Francs	Townships	
• Danielle Kable	• Louise Bouchard	• Régine Laberge	• Martine Laing	• Diane Labonté	• Michael Spencer
• Marco Beaulieu	• Louise Grenon	• Huguette Routhier		• Guy Huot	• André Corbeil
• Lazare Ouellet	• Denise Brisebois	• Ghyslaine Tremblay		• Sophie Grignon	
• Thérèse Bérubé	• Jean-Paul Bérubé	• François Shaffer			
	• Michel Savard	• Michel Robert			
	• Julie Gauthier	• Jean-François			
	• Jasmine Cantara	• Bédard			
	• Nancy Duchesne	• Michel Hamelin			
	• Cécile Chevrier	• Jean Gauthier			
		• Josée Potvin			
		• Jean-François Rousseau			
		• Pierre Laporte			

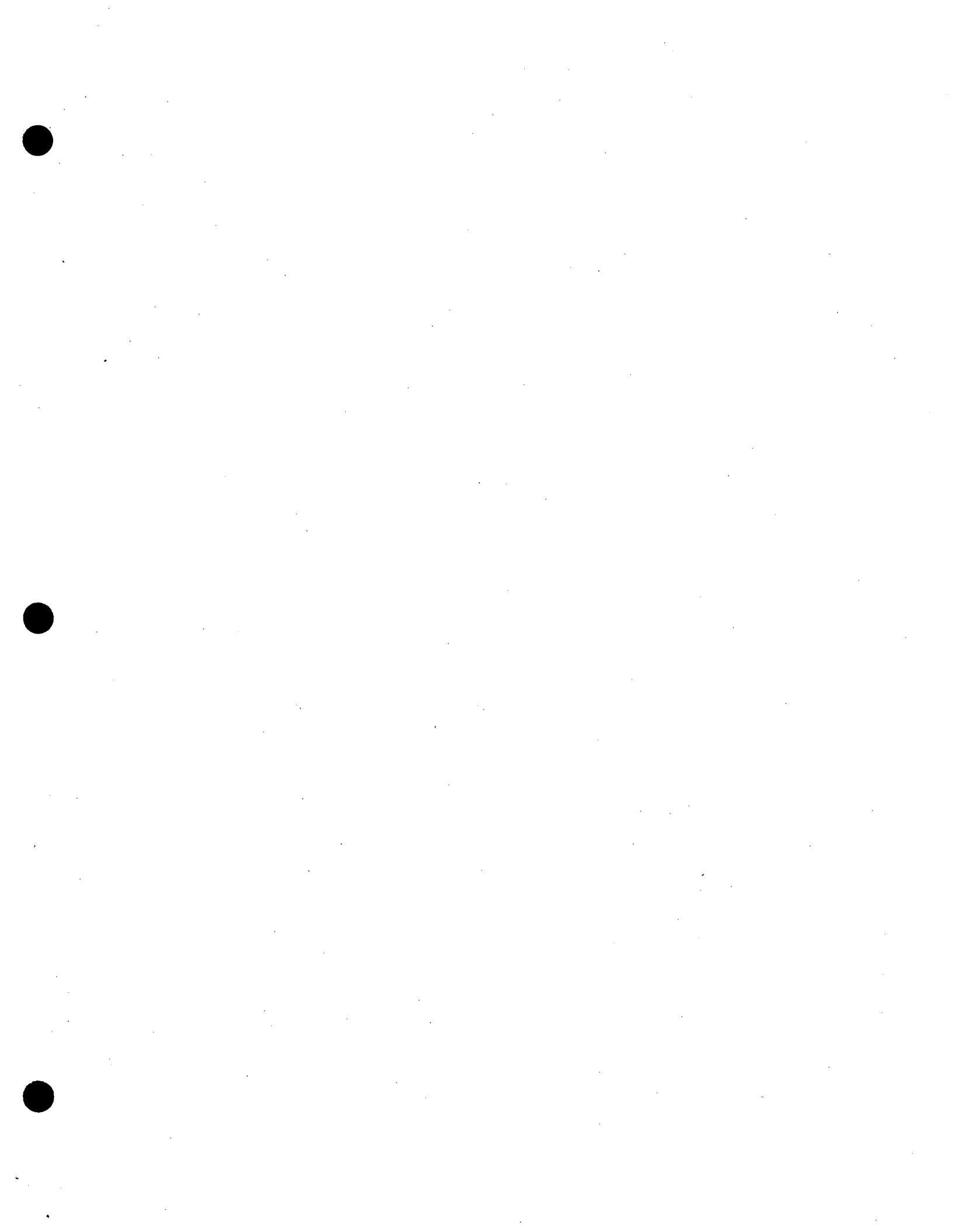
Observers :

Ottawa Valley	Gaspé- Magdalen Islands	Chaudière- Appalaches	Lanaudière	Laurentians	Montérégie
<ul style="list-style-type: none"> <li>• Richard Smith</li> <li>• Monique Provancher</li> <li>• Josée Soucie</li> </ul>	<ul style="list-style-type: none"> <li>• Pierre Poulin</li> <li>• Jean-</li> <li>Raymond Lepage</li> <li>• Jean-Marie Pitre</li> </ul>	<ul style="list-style-type: none"> <li>• Christian Garneau</li> <li>• Lucie Poulin</li> <li>• Alain Beauchamp</li> <li>• Gaétan Pelletier</li> <li>• Rodrigue Poulin</li> <li>• Jean-Guy Chouinard</li> <li>• Joanne Dussault</li> <li>• Renaud Poulin</li> </ul>	<ul style="list-style-type: none"> <li>• Mario Lavoie</li> <li>• Jean-Pierre Joly</li> <li>• Claude Ducharme</li> <li>• Marcel Lanctôt</li> <li>• Hugues Sansregret</li> </ul>	<ul style="list-style-type: none"> <li>• Michel Renaud</li> <li>• Louise Cadieux</li> <li>• Robert Lebrun</li> <li>• André Bouchard</li> <li>• Christine Ferland</li> <li>• Jean-Paul Husereau</li> </ul>	<ul style="list-style-type: none"> <li>• Pierre Beaulé</li> <li>• Lucie Ménard</li> <li>• Claude Martineau</li> <li>• Camille Dufresne</li> </ul>

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**ANNEX**



# CHIMNEY SWIFT ROOSTING AND NESTING SITES IDENTIFIED IN 1998-1999

City	Site	Year	Max number of swifts	Observer(s)
Saint-Raymond	Home for the elderly	1998 (R, S)	206	J. Gauthier
		1999 (R, M)	264	J. Potvin, J. Gauthier, J.-F. Rousseau
Squatec	Church	1999 (R, M)	200	D. Brisebois, J.-P. Bérubé, L. Ouellet, T. Bérubé, J.-F. Rousseau
La Pocatière	François-Pilote museum	1999 (R, M)	2	J.-F. Rousseau
Mont-Laurier	Saint-Joseph high school	1998 (R, S)	approx. 100	R. LeBrun
		1999 (R, M)	862	R. LeBrun
Saint-Jovite	Church	1998 (R, S)	20	M. Renaud
		1999 (R, M)	72	M. Renaud, L. Cadieux, A. Bouchard
Freleighsburg	Church	1999 (R, S)	approx. 40	C. Dufresne
Chandler	Mgr. Sévigny high school	1998 (R, S)	group	P. Poulin
		1999 (R, M)	8	P. Poulin, J.-R. Lepage
Verchères	Warehouse (Marie-Victorin street)	1999 (R, M)	6	L. Ménard
Mascouche	High School (big chimney) (Ste-Marie road)	1998 (R, S)	36	M. Lavoie
		1999 (R, M)	40	M. Lavoie
Mascouche	High School (small chimney)	1999 (R, M)	9	M. Lavoie
Mascouche	Church	1998 (U, S)	1	M. Lavoie
Saint-Jacques-des-Piles	Church	1999 (R, S)	50-100	M. Laing (reported by P. Quenneville)
St-Jean-sur-Richelieu	House (duplex) (Longueuil street)	1999 (R, S)	40	P. Beaulé
St-Jean-sur-Richelieu	Building (Jacques-Cartier street)	1999 (R, S)	40	P. Beaulé
Jonquière	National Bank (Davis square)	1999 (N, M)	3	L. Bouchard, L. Grenon, J.-P. Bérubé, D. Brisebois
Jonquière	Le Palace theater (Mellon boul.)	1999 (N, M)	4	L. Bouchard, L. Grenon, J.-P. Bérubé, D. Brisebois
Jonquière	Ste-Thérèse high school (Neilson street)	1999 (N, M)	11	L. Bouchard, L. Grenon, J.-P. Bérubé, D. Brisebois
Jonquière	Library (Davis square)	1999 (N, M)	5	L. Bouchard, L. Grenon, J.-P. Bérubé, D. Brisebois
Jonquière	St-Laurent church	1999 (N, S)	2	M. Savard, N. Duchesne
Jonquière	Lawyer office (Mellon boul.)	1999 (U, M)	1	L. Bouchard, L. Grenon, J.-P. Bérubé, D. Brisebois
La Malbaie	Apartment building (St-Étienne street)	1999 (U, S)	2	R. Laberge
La Malbaie	Movie theater	1998 (R, S)	12 - 15	R. Laberge, H. Routhier
		1999 (R, M)	60	R. Laberge, H. Routhier, G. Tremblay
St-Georges	Factory (120th street)	1998 (R, M)	605	A. Beauchamp, J. Gauthier
		1999 (R, M)	938	A. Beauchamp, Renaud Poulin
St-Georges	Presbytery	1998 (N, S)	3	A. Beauchamp
Québec	Grand Séminaire de Québec	1998 (U, S)	2	F. Shaffer
		1999 (R, S)	6	J.-F. Bédard
Québec	House (de La Tour avenue)	1999 (N, S)	1	J. Potvin
Québec (St-Jean street)	ALDO shoe store	1999 (R, M)	98	J. Potvin, J.-F. Rousseau
Québec	Manège militaire	1998 (R, S)	30	M. Hamelin
Québec	House (Charest-Gauvreault corner)	1999 (N, S)	1	M. Robert
Mont-Mégantic	Well (Mont-Mégantic park)	1998 (N, M)	2 ad. + 3 y.	S. Grignon
		1999 (N, M)	2 ad. + 4 y.	S. Grignon
Joliette	Duplex (Marguerite-Bourgeois street)	1999 (N, M)	1	J.-P. Joly
Joliette	Académie populaire (de Salaberry street)	1998 (R, S)	11	J.-P. Joly
		1999 (R, M)	7	J.-P. Joly

Joliette	Mgr J. A. Papineau school	1999 (R, M)	6	J.-P. Joly
Joliette	House (St-Thomas street)	1998 (N, S)	4 - 5	M. Lancôt
		1999 (N, M)	0	M. Lancôt
Joliette	House (St-Charles-Borromée boul.)	1998 (R, S)	12	H. Sansregret
St-Adalbert	House (rang 7)	1998 (N, S)	3 to 5	J.-G. Chouinard, J. Dussault
		1999 (N, M)	4 to 5	J.-G. Chouinard, J. Dussault
Ste-Perpétue	Church	1998 (R, M)	120	G. Pelletier, J.-G. Chouinard
		1999 (R, M)	129	G. Pelletier
Ste-Perpétue	Presbytery	1998 (R, M)	10	G. Pelletier
Lévis	House (Bilodeau street)	1999 (N, M)	2 ad. + 3 y.	C. Garneau
Lévis	House (St-Joseph street)	1999 (N, S)	1	C. Gameau
Lévis	House (St-Joseph street)	1999 (N, S)	2	C. Gameau
Lévis	Martin Ford garage (de la Rive-Sud boul.)	1998 (N, S)	2	C. Gameau, J. Gauthier
		1999 (N, S)	2	C. Gameau
Hull	School (Jean-Bosco street)	1999 (N, M)	2	R. Smith, M. Provancher
Hull	Intermediate Hadley school	1999 (N, S)	2	R. Smith
Hull	St-Esprit church	1999 (N, S)	1	R. Smith, M. Provancher
Hull	Presbytery (St-Joseph boul.)	1999 (U, S)	2	R. Smith, M. Provancher
Hull	Lucien-Lalonde library	1999 (U, S)	1	R. Smith
Hull	St-Raymond-de-Pennafort church	1999 (U, S)	1	R. Smith
Hull	St-Jean-Bosco church	1999 (R, S)	4	M. Provancher
Hull	D'Arcy McGee high school	1999 (U, S)	1	R. Smith
La Prairie	Old warehouse (Brossard street)	1999 (N, S)	1	R. Smith
Scotstown	Church	1999 (R, S)	3	J. Gauthier
Saint-Paul-d'Abbotsford	Catholic church	1999 (U, S)	1	J. Gauthier
Danville	Church	1999 (R, M)	56	G. Huot, D. Labonté
Danville	Fire station	1999 (R, S)	8	G. Huot, D. Labonté
Montmagny	St-Thomas church	1999 (R, S)	approx. 50	L. Poulin
Otterburn Park	Notre-Dame primary school	1999 (R, S)	12	C. Martineau
Les Boules	Church	1998 (N, M)	2	F. Shaffer
Chelsea	House (Padden road)	1998 (U, S)	2	J. Soucie
Montréal	Tennis Club (Grey avenue)	1998 (R, S)	6 to 8	M. Spencer
St-Hyacinthe	House	1998 (R, S)	approx. 50	P. Laporte
Dégelis	Church	1998 (R, S)	approx. 25	D. Kable
Bonaventure	Church	1998 (R, S)	30	J.-M. Pitre
Rivière-Malbaie	Jardin aux quatre vents inn	1998 (N, S)	2	H. Routhier
St-Félix-de-Valois	Church	1998 (R, S)	32	C. Ducharme
St-Pamphile	House	1998 (R, S)	6	G. Pelletier
Lachute	St-Julien school	1998 (R, S)	20	C. Ferland
St-Benjamin	Church	1998 (U, S)	4 to 5	R. Poulin
La-Trinité-des-Monts	Primary school	1998 (R, S)	120-150	M. Beaulieu
St-Eusèbe	Church	1998 (N, S)	2 to 4	M. Beaulieu
Carillon	St-Joseph church	1999 (R, S)	200-300	J.-P. Husereau
Sainte-Geneviève	Church	1999 (R, S)	approx. 12	A. Corbeil
Lac-des-Écources	Church	1999 (R, S)	approx. 100	
La Patrie	Church	1999 (R, S)	approx. 100	

Roost, N = Nesting site, U = Unspecified activity

M = Multiple visits, S = Single visit