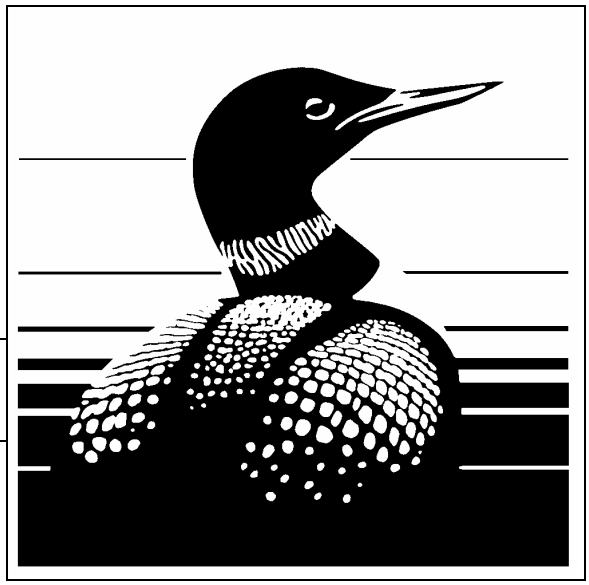
AN ATLAS OF CONTAMINANTS IN EGGS OF FISH-EATING COLONIAL BIRDS OF THE GREAT LAKES (1998-2001)

Volume II. Accounts by Chemical

Jermyn-Gee, K.[1], C. Pekarik[2], T. Havelka[1], G. Barrett[2], D.V. Weseloh[1]

Canadian Wildlife Service 2005
Environmental Conservation Branch
Ontario Region



Technical Report Series Number 417

Environment Canada | Environnement Canada
Canadian Wildlife Service | Service canadien de la faune

Canada

TECHNICAL REPORT SERIES
CANADIAN WILDLIFE SERVICE

This series of reports, established in 1986, contains technical and scientific information from projects of the Canadian Wildlife Service. The reports are intended to make available material that either is of interest to a limited audience or is too extensive to be accommodated in scientific journals or in existing CWS series.

Demand for these Technical Reports is usually confined to specialists in the fields concerned. Consequently, they are produced regionally and in small quantities; they can be obtained only from the address given on the back of the title page. However, they are numbered nationally. The recommended citation appears on the title page.

Technical Reports are available in CWS libraries and are listed in the catalogue of the National Library of Canada in scientific libraries across Canada. They are printed in the official language chosen by the author to meet the language preference of the likely audience, with a résumé in the second official language. **To determine whether there is significant demand for making the reports available in the second official language, CWS invites users to specify their official language preference. Requests for Technical Reports in the second official language should be sent to the address on the back of the title page.**

SÉRIE DE RAPPORTS TECHNIQUES DU
SERVICE CANADIEN DE LA FAUNE

Cette série de rapports donnant des informations scientifiques et techniques sur les projets du Service canadien de la faune (SCF) a démarré en 1986. L'objet de ces rapports est de promouvoir la diffusion d'études s'adressant à un public restreint ou trop volumineuses pour paraître dans une revue scientifique ou l'une des séries du SCF.

Ordinairement, seuls les spécialistes des sujets traités demandent ces rapports techniques. Ces documents ne sont donc produits qu'à l'échelon régional et en quantités limitées; ils ne peuvent être obtenus qu'à l'adresse figurant au dos de la page titre. Cependant, leur numérotage est effectué à l'échelle nationale. La citation recommandée apparaît à la page titre.

Ces rapports se trouvent dans les bibliothèques du SCF et figurent aussi dans la liste de la Bibliothèque nationale du Canada utilisée dans les principales bibliothèques scientifiques du Canada. Ils sont publiés dans la langue officielle choisie par l'auteur en fonction du public visé, avec un résumé dans la deuxième langue officielle. **En vue de déterminer si la demande est suffisamment importante pour produire ces rapports dans la deuxième langue officielle, le SCF invite les usagers à lui indiquer leur langue officielle préférée. Il faut envoyer les demandes de rapports techniques dans la deuxième langue officielle à l'adresse indiquée au verso de la page titre.**

AN ATLAS OF CONTAMINANTS IN EGGS OF FISH-EATING COLONIAL BIRDS OF THE GREAT LAKES (1998-2001)

VOLUME II. Accounts by Chemical

Jermyn-Gee, K.[1], C. Pekarik[2], T. Havelka[1], G. Barrett[2], D.V. Weseloh[1]

Technical Report Series Number 417
Canadian Wildlife Service 2005

Canadian Wildlife Service
Environmental Conservation Branch
Ontario Region
Environment Canada

[1] Canadian Wildlife Service (Ontario Region), Environment Canada, 4905 Dufferin St., Downsview, Ontario M3H 5T4

[2] Canadian Wildlife Service (Ontario Region), Environment Canada, P.O. Box 5050, 867 Lakeshore Rd., Burlington, Ontario L7R 4A6

This report may be cited as:

Jermyn-Gee, K., C. Pekarik, T. Havelka, G. Barrett and D.V. Weseloh. 2005. An Atlas of contaminants in eggs of colonial fish-eating birds of the Great Lakes (1998-2001). Volume II. Accounts by Chemical. Technical Report Series No. 417. Canadian Wildlife Service, Ontario Region.

Published under the authority of the
Minister of Environment
Canadian Wildlife Service

Catalogue No. CW69-5/417-2E
ISBN 0-662-37426-6

Copies may be obtained from:

Canadian Wildlife Service
Environmental Conservation Branch (Ontario Region)
Environment Canada
4905 Dufferin Street
Downsview, Ontario, Canada
M3H 5T4

EXECUTIVE SUMMARY

During 1998-2001, Canadian Wildlife Service – Ontario Region (CWS), collected 936 eggs from 26 sites. Five species of fish-eating colonial waterbirds were sampled:

- Herring Gull (*Larus argentatus*)
- Great Black-backed Gull (*Larus marinus*)
- Black-crowned Night-Heron (*Nycticorax nycticorax*)
- Black Tern (*Chlidonias niger*)
- Forster's Tern (*Sterna forsteri*)

The purpose was to measure the levels of the following compounds:

- organochlorine pesticides
- chlorinated benzenes
- polychlorinated biphenyls
- dioxins and furans
- lipid and moisture

The data presented in this report were generated as part of a monitoring program initiated in 1970 to understand the temporal and spatial trends of environmental contaminant levels in Great Lakes wildlife. Since the 1970s, the levels of most chlorinated hydrocarbons have decreased significantly at most colonies on the Great Lakes. The change-point regression analysis, which we have used since 1997, continues to show that most contaminant levels at most sites (72.4%) are declining as fast as or faster now than they did in the past. This is particularly evident for dieldrin, HCB, HE and DDE. The rates of decline have slowed for some compound-site comparisons (21.9%), particularly PCBs and mirex. Since the last Atlas was published (Pekarik *et al.* 1998a; b), levels and trends of a relatively new contaminant, brominated diphenyl ethers (BDEs), have been documented in Great Lakes Herring Gull eggs (Norstrom *et al.* 2002). At the time of this writing in early 2004, routine analysis for BDEs was just being incorporated into CWS protocols. Hence, the data of Norstrom *et al.* (2002) are not included here. The BDE data for Herring Gull eggs will be included for 2004 onwards in the next Atlas.

The data from 1998-2001 are summarized in two volumes. Volume I contains contaminant data for all five species summarized by location as well as non-coplanar PCB data for all species. Volume II contains contaminant data for all five species summarized by compound. Both volumes contain maps of sample locations and the means and standard deviations or the pooled analysis values for organochlorine pesticides, chlorinated benzenes, non-ortho polychlorinated biphenyls, dioxins and furans, and percent lipid and moisture. Non-coplanar PCB data are presented only in Volume I and are only summarized by location. Additionally, contaminant data for Black and Forster's Terns from 1996 have been added, since they were not included in Pekarik *et al.* *(*1998a; b).

Since the last Atlas (Pekarik *et al.* 1998a; b), several papers have been published or are in press from the Herring Gull database. These include: DiMaio *et al.* 1999; Weseloh and Pekarik 1999; Hebert et al. 1999; Weseloh et al. 2002; Hebert and Weseloh 2003; Weseloh *et al* 2003; Weseloh *et al.* (In Review).

RESUME ADMINISTRATIF

Entre 1998 et 2001, le Service canadien de la faune (SCF) – Région de l'Ontario a collecté 936 œufs dans 26 sites. Cinq espèces d'oiseaux aquatiques piscivores ont été échantillonnées :

- le Goéland argenté (*Larus argentatus*)
- le Goéland marin (*Larus marinus*)
- le Bihoreau gris (*Nycticorax nycticorax*)
- la Guifette noire (*Chlidonias niger*)
- la Sterne de Foster (*Sterna forsteri*)

Le but de l'opération était de mesurer les concentrations des composés suivants :

- les pesticides organochlorés
- les benzènes chlorés
- les polychlorobiphényles
- les dioxines et les furanes
- les teneurs en lipides et en humidité

Les données présentées dans ce rapport ont été obtenues dans le cadre d'un programme de surveillance amorcé en 1970 dans le but de mieux comprendre les tendances temporelles et spatiales des concentrations de contaminants environnementaux chez les espèces sauvages des Grands Lacs. L'analyse de régression au point de changement que nous utilisons depuis 1997 continue de montrer que la concentration de la plupart des contaminants diminue aussi vite que par le passé, sinon plus, dans la majorité des endroits (72,4 %). Cela est particulièrement évident pour la dieldrine, le HCB, le HE et le DDE. Le rythme de la diminution a ralenti pour certaines comparaisons composé-site (21,9 %), notamment pour les PCB et le mirex. Depuis la parution du dernier atlas (Pekarik *et al.* 1998a; b), on relève les concentrations et les tendances d'un contaminant relativement nouveau, les diphényléthers bromés (BDE), dans les œufs des Goélands argentés des Grands Lacs (Norstrom *et al.* 2002). Au moment de la rédaction du présent rapport, au début de 2004, les analyses de routine pour les BDE viennent tout juste d'être incorporées dans les protocoles du SCF. Par conséquent, les données de Norstrom *et al.* (2002) n'y sont pas incluses. Les données sur les BDE dans les oeufs de Goélands argentés figureront dans le prochain atlas de l'année 2004 et dans les suivants.

Les données pour la période 1998-2001 sont présentées sommairement en deux volumes. Le volume I contient les données sur les contaminants pour les cinq espèces, en fonction du lieu, de même que des données sur les PCB non-coplanaires pour toutes les espèces. Le volume II contient les données sur les contaminants pour les cinq espèces, en fonction du composé. Les deux volumes comprennent des cartes des lieux d'échantillonnage, de même que les moyennes et les écarts types ou les valeurs d'analyse groupées pour les pesticides organochlorés, les benzènes chlorés, les polychlorobiphényles non-ortho, les dioxines et les furanes, et la teneur en lipides et en humidité. Les données sur les PCB non-coplanaires ne sont présentées que dans le volume I, et uniquement sous forme de résumé, en fonction du lieu. On a en outre ajouté les données sur les contaminants chez la Guifette noire et la Sterne de Forster depuis 1996, qui ne figuraient pas dans Pekarik *et al (*1998a; b).

Depuis la parution du dernier atlas (Pekarik *et al.* 1998a; b), plusieurs articles ont paru ou sont sous presse à propos de la base de données sur le Goéland argenté, notamment des articles de DiMaio *et al.* 1999; Weseloh et Pekarik 1999; Hebert et al. 1999; Weseloh et al. 2002; Hebert et Weseloh 2003; Weseloh *et al.* 2003; Weseloh *et al.* (en cours d'examen).

ACKNOWLEDGEMENTS

We would like to acknowledge the following people who have enthusiastically and diligently contributed to the study of contaminants in colonial waterbirds during 1998-2001 by collecting eggs or otherwise contributing to this project: Holly Brose, William Bowerman, Steve Elliott, Ray Faber, Glen Fox, Keith Grasman, Doug Haffner, Craig Hebert, Loren Knopper, Crystal Lambert, Jim Ludwig, Carolyn Matkovich, Brain McHattie, Margaret Morris, Ralph Morris, Ross Neureuther, Martin Parker, Brady Pollock, Jim Quinn, Jamie Reid, Brian Ratcliff, Jeff Robinson, Scott Rush, Laird Shutt, Bruce Szczechowski, Kimberly Wickert-O'Hare and Kim Williams. We hope that we have not forgotten anyone, but some volunteers who came out for a day or for a few hours to help may have been omitted; our apologies to those people.

Access to nesting colonies was graciously provided by: Jim Day, Phillips Petroleum Company, Presqu'ile Provincial Park, Toronto Parks and Recreation, Toronto and Region Conservation Authority, Hamilton Harbour Commissioners, The City of Hamilton, Ontario Hydro, Niagara Parks Commission, Department of Transport, Canadian Wildlife Service, Long Point Company, Cruse Moss, Ontario Ministry of Natural Resources, BASF Corporation, Walpole Island First Nation, and the U.S. Army Corps of Engineers.

Laboratory analyses were conducted at the National Wildlife Research Centre (NWRC) by the following people: Henry Won, John Moisey, J. Carroll, Mary Simon, Michael Mulvihill.

Editing of the final draft and associated revisions were done by Ian Parsons and Julie Suzanne Pollock.

We gratefully acknowledge support from Environment Canada's Great Lakes Program and the Canadian Wildlife Service's Wildlife Toxicology Program.

TABLE OF CONTENTS

Executive Summary ..... **i**

Resume Administratif ..... **ii**

Acknowledgements ..... **iii**

Table of Contents ..... **iv**

List of Tables ..... **v**

List of Figures ..... **vi**

Introduction **1**

Document Outlines **2**

Instructions for Users of this Atlas **3**

Compounds Analyzed **5**

Methodological and Statistical Notes **9**

Herring Gull Annual Monitoring Colonies **11**

Section 1
Data summarized by sample size **12**

St. Lawrence River **13**
Eastern Lake Ontario and Western St. Lawrence River **15**
Western Lake Ontario/Niagara River **17**
Eastern Lake Erie **19**
Western Lake Erie, Detroit River and Lake St. Clair **21**
Lake Huron (Main Body) **23**
Georgian Bay, Lake Huron **25**
North Channel, Lake Huron **27**
Lake Michigan **29**
Lake Superior **31**
Inland Lakes **33**

Section 2
Data summarized by chemical **35**

Index to contaminant data, summarized by chemical **36**

Table 13a. Contaminant data summarized by chemical **38**

Index to Table 13B (Contaminant data, summarized by compounds analyzed, Black and Forster's Terns) **108**

Table 13b. Contaminant data summarized by chemical, Black and Forster's Terns **110**

References **141**

LIST OF TABLES

Table 1. Herring Gull annual monitoring colonies.....11

Table 2. The sample sizes of eggs analyzed in each year (1998-2001) from the St. Lawrence River, arranged by collection site, species sampled and compound analyzed. 14

Table 3. The sample sizes of eggs analyzed in each year (1998-2001) from eastern Lake Ontario and Western St. Lawrence River, arranged by collection site, species sampled and compound analyzed.....16

Table 4. The sample sizes of eggs analyzed in each year (1998-2001) from western Lake Ontario and the Niagara River, arranged by collection site, species sampled and compound analyzed....18

Table 5. The sample sizes of eggs analyzed in each year (1998-2001) from eastern Lake Erie, arranged by collection site, species sampled and compound analyzed. 20

Table 6. The sample sizes of eggs analyzed in each year (1998-2001) from western Lake Erie, the Detroit River and Lake St. Clair, arranged by collection site, species sampled and compound analyzed.....22

Table 7. The sample sizes of eggs analyzed in each year (1998-2001) from Lake Huron (main body), arranged by collection site, species sampled and compound analyzed. 24

Table 8. The sample sizes of eggs analyzed in each year (1998-2001) from Georgian Bay (Lake Huron), arranged by collection site, species sampled and compound analyzed. 26

Table 9. The sample sizes of eggs analyzed in each year (1998-2001) from the North Channel (Lake Huron), arranged by collection site, species sampled and compound analyzed. 28

Table 10. The sample sizes of eggs analyzed in each year (1998-2001) from Lake Michigan, arranged by collection site, species sampled and compound analyzed. 30

Table 11. The sample sizes of eggs analyzed in each year (1998-2001) from Lake Superior, arranged by collection site, species sampled and compound analyzed. 32

Table 12. The sample sizes of eggs analyzed in each year (1998-2001) from Sturgeon Lake and Lake Simcoe, arranged by collection site, species sampled and compound analyzed..... 34

Table 13a. Contaminant data, summarized by chemical 38

Table 13b. Contaminant data, summarized by chemical, Black and Forster's Terns.....110

LIST OF FIGURES

Figure 1. Herring Gull annual monitoring colonies.....11

Figure 2. St. Lawrence River colonies from which eggs were collected for contaminant analysis. Herring Gull annual monitoring colonies are indicated by an asterisk (*).....13

Figure 3. Eastern Lake Ontario and Western St. Lawrence River colonies from which eggs were collected for contaminant analysis. Herring Gull annual monitoring colonies are indicated by an asterisk (*).....15

Figure 4. Western Lake Ontario and Niagara River colonies from which eggs were collected for contaminant analysis. Herring Gull annual monitoring colonies are indicated by an asterisk (*).....17

Figure 5. Eastern Lake Erie colonies from which eggs were collected for contaminant analysis. Herring Gull annual monitoring colonies are indicated by an asterisk (*).....19

Figure 6. Western Lake Erie, Detroit River and Lake St. Clair colonies from which eggs were collected for contaminant analysis. Herring Gull annual monitoring colonies are indicated by an asterisk (*).....21

Figure 7. Lake Huron (main body) colonies from which eggs were collected for contaminant analysis. Herring Gull annual monitoring colonies are indicated by an asterisk (*).....23

Figure 8. Georgian Bay (Lake Huron) colonies from which eggs were collected for contaminant analysis. Herring Gull annual monitoring colonies are indicated by an asterisk (*).....25

Figure 9. North Channel (Lake Huron) colonies from which eggs were collected for contaminant analysis. Herring Gull annual monitoring colonies are indicated by an asterisk (*).....27

Figure 10. Lake Michigan colonies from which eggs were collected for contaminant analysis. Herring Gull annual monitoring colonies are indicated by an asterisk (*).....29

Figure 11. Lake Superior colonies from which eggs were collected for contaminant analysis. Herring Gull annual monitoring colonies are indicated by an asterisk (*).....31

Figure 12. Lake Simcoe and Sturgeon Lake colonies from which eggs were collected for contaminant analysis.....33

INTRODUCTION

During 1998-2001, Canadian Wildlife Service – Ontario Region (CWS) collected eggs from five species of colonial waterbirds from 26 colonies (sites) throughout the Great Lakes to measure the concentrations of chlorinated hydrocarbons. These data were generated as part of a monitoring program initiated in 1970 to understand the temporal and spatial trends of environmental contaminant levels in the Great Lakes. Since the 1970s, the levels of most chlorinated hydrocarbons have decreased significantly at most colonies on the Great Lakes. The Herring Gull monitoring program, which was started in 1974, contributes a great deal of information to these Atlases. The annual monitoring colonies are shown on page 11.

Black Terns and Forster's Terns nest in the marshes on the Great Lakes as well as some inland lakes. Data are included here from both these types of sites from 1996 and 1999. The 1996 data were not included in the previous Atlas.

The present documents, *An atlas of contaminants in eggs of fish-eating colonial birds of the Great Lakes (1998-2001) Volume I, Accounts by Location* and *An atlas of contaminants in eggs of fish-eating colonial birds of the Great Lakes (1998-2001) Volume II, Accounts by Chemical,* are meant to continue six earlier volumes:

- *An atlas of contaminants in eggs of fish-eating colonial birds of the Great Lakes (1970-1988). Volume I. Accounts by Species and Locations* (Bishop *et al.* 1992a)
- *An atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes (1989-1992). Volume I. Accounts by Location* (Pettit *et al.* 1994a)
- *An atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes (1993-1997). Volume I. Accounts by Location* (Pekarik *et al.* 1998a)
- *An atlas of contaminants in eggs of fish-eating colonial birds of the Great Lakes (1970-1988). Volume II. Accounts by Chemical* (Bishop *et al.* 1992b)
- *An atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes (1989-1992). Volume II. Accounts by Chemical* (Pettit *et al.* 1994b)
- *An atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes (1993-1997). Volume II. Accounts by Chemical* (Pekarik *et al.* 1998b)

To facilitate access to the data, the text and tables are organized as in the earlier reports. These reports contain the means and standard deviations or pooled analysis values for organochlorine pesticides, polychlorinated biphenyls, polychlorinated dioxins and furans for the five species of colonial waterbirds sampled between 1998-2001.

Data from specific sampling locations or for specific compounds can be retrieved in a stepwise manner. Instructions for data retrieval are detailed below. In both volumes, maps are provided showing the locations of the sampling sites (Section 1, Figures 2-12) and tables summarizing the number of eggs collected at each colony (Section 1, Tables 2-12). In Volume I, the data are summarized by location; in Volume II, the data are summarized by chemical. The PCB congener data are presented by location as well as graphically (Volume I).

DOCUMENT OUTLINES

OUTLINE OF DOCUMENT - VOLUME I

Section 1 - Data Summary by Sample Size

For each area, a map (Figures 2-12) and a corresponding table (Tables 2-12) present sampling sites and compounds analyzed by species and year.

Section 2 - Data Summary by Location Sampled

The index (page 36) lists the pages in Table 13 where all contaminant data can be found concerning each species at each colony. Following the index, Table 13 presents contaminant data for eggs of fish-eating birds summarized by water body, colony, species and years sampled.

Section 3 - Non-Coplanar PCB Congener Patterns in Herring Gull Eggs

The index (page 197) lists the pages in Table 14 where PCB congener data can be found for each site and species. Following the index, Table 14 presents non-coplanar PCB congener data summarized by water body, colony and years sampled. Figures 13-27 (pages 182-196), are graphic representations of the means (1998-2001) of the percentage that each PCB congener contributes to total PCB congeners. These data are given only for Herring Gull eggs from 15 annual monitoring colonies.

OUTLINE OF DOCUMENT - VOLUME II

Section 1 - Data Summary by Sample Size

For each area, a map (Figures 2-12) and a corresponding table (Tables 2-12) present sampling sites and the compounds analyzed by species and year.

Section 2 - Data Summary by Compound

The indices on pages 36 and 108 list the pages in Tables 13a and b, respectively, where data can be found for each compound. Tables 13a and b present contaminant data for eggs of fish-eating birds summarized by compound, water body, colony, species and years sampled.

INSTRUCTIONS FOR USERS OF THIS ATLAS

GENERAL NOTES

1. It is important that the summary of methodologies and statistical notes (page 9) be examined by all readers to facilitate proper interpretation of the data.

2. The locations, chemicals analyzed, and species are listed in the following order in all indices and tables:
   - The water bodies and colony locations are generally listed in east to west order.
   - The contaminants measured are generally listed in alphabetical order. A list of the order of the contaminants and the abbreviations used in the tables begins on page 5.
   - The species sampled are listed:

     - Herring Gull (*Larus argentatus*)
     - Great Black-backed Gull (*Larus marinus*)
     - Black-crowned Night-Heron (*Nycticorax nycticorax*)
     - Black Tern (*Chlidonias niger*)
     - Forster's Tern (*Sterna forsteri*)

   While contaminant levels in Herring Gull eggs are monitored on an annual basis at each of the 15 annual monitoring colonies, contaminants in eggs of other colonial waterbirds are monitored on a much less frequent schedule, usually every five to 10 years. During the current Atlas period (1998-2001), eggs from the four species listed above (in addition to Herring Gulls) were sampled and analyzed. Four other species not included here will be sampled and analyzed during the next Atlas period: Common and Caspian terns, Double-crested Cormorant and Ring-billed Gull.

3. The Atlas is designed to be used in a stepwise manner. The quickest methods of finding the data available for a specific location or chemical are described below.

   Tables 2-12 are designed to indicate the data that are available. They summarize the locations where eggs were collected and the contaminants analyzed, by species and year. The accompanying maps (Figures 2-12) illustrate the locations of the sampling sites. The colony names are numbered on the maps, corresponding to numbers on the accompanying tables. These tables and figures are included in both volumes (Section 1). In Tables 2-12, colonies that are part of the Herring Gull annual monitoring program are indicated by an asterisk (*).

5. In both volumes, Table 13 summarizes the data either by location (Volume I) or by chemical (Volume II). In Volume I, Table 14 summarizes (by location) the data for non-coplanar PCBs.

EXAMPLES OF HOW TO LOCATE DATA

EXAMPLE 1: LOCATING DATA BY LOCATION (VOLUME I)

If you were interested in types of contaminants and the concentrations found in eggs of fish-eating birds in the Kingston area, you would do the following:

1. Locate the map that covers the area of interest.
   For Kingston you would refer to Figure 3 (page 15). Four colonies, from which eggs have been collected, are located near Kingston:
   - Snake Island (colony 3)
   - Little Galloo Island (colony 4)
   - Pigeon Island (colony 5)
   - Bath (colony 6)

2. Refer to the accompanying table and the sampling site(s) based on the colony number(s) determined in step 1.
   In this case you would refer to Table 3 (page 16). You would then locate the appropriate colony numbers (in this case 3, 4, 5 and 6) and determine which species were sampled, the years and the contaminants for which data are available.

3. Locate the appropriate page that contains the contaminant data.
   Beginning on page 36 (Volume I) there is an index for the sampling sites presented in Table 13. You would locate the colonies of interest (in this case Snake Island, Pigeon Island, Little Galloo Island and Bath) and turn to the appropriate page(s) to locate the contaminant data.

EXAMPLE 2: LOCATING DATA FOR NON-COPLANAR PCBs (VOLUME I)

For example, if you were interested in the levels of non-coplanar PCBs in Herring Gull eggs from the Kingston area, you would do the following:

1. Locate the map and the Herring Gull colonies that cover the area of interest.
   For Kingston you would refer to Figure 3 (page 15). One annual monitoring colony from which Herring Gull eggs have been collected is located near Kingston (Snake Island), as well as two other sites in 2001 only:
   - Little Galloo Island (colony 4)
   - Pigeon Island (colony 5)
2. Locate the appropriate page that contains the non-coplanar PCB data.
   On page 197 (Volume I) there is an index for the Herring Gull annual monitoring colonies presented in Table 14. Determine the page(s) where the non-coplanar PCB data for Snake Island are summarized. In this case you would refer to page 207 (Volume I) to find the pooled values for non-coplanar PCB congeners in Herring Gull eggs from Snake Island.

EXAMPLE 3: LOCATING DATA BY CHEMICAL (VOLUME II)

For example, if you were interested in the data available for PCB 1254:1260, you would do the following:

1. In Volume II (Accounts by Chemical) refer to the indices beginning on page 36 for Table 13a and page 108 for Table 13b. For PCB 1254:1260 you would determine that the data begin on page 88 in Table 13a and 135 in Table 13b.

2. Refer to the appropriate page in Section 2, Tables 13a and 13b to find the means and standard deviations or pooled values for PCB 1254:1260 at the various sampling sites and for various species.

COMPOUNDS ANALYZED IN EGGS OF FISH-EATING BIRDS OF THE GREAT LAKES

The following compounds are listed in alphabetical order except for "percent lipid in egg" and "percent moisture in egg", coplanar PCBs, dioxins and furans. The underlined sections of the chemical names are the words that were used to place the chemicals in their alphabetical positions. Chemical congeners are listed in order of increasing chlorination. Values for dioxin and furan congeners whose names are preceded by an asterisk (*) are only given in Volume I. Values for 2,3,7,8-TCDD and 2,3,7,8,-TCDF are given in Volume II, however for values of all other dioxin and furan congeners please refer to Volume I. The order of names in this list is used consistently throughout the tables in this document. Abbreviations correspond to those on Tables 2-12. Chemical Abstract System (CAS) numbers have been included, when they were available. PCB congener numbering follows Ballschmiter and Zell 1980.

CAS #	COMPOUNDS	ABBREVIATION
	Percent lipid in egg	% Lip
	Percent moisture in egg	% Mois
5103-71-9	Alpha(cis)-chlordane	a-CHL
5103-74-2	Gamma(trans)-chlordane	g-CHL
7304-13-8	Oxy-chlordane	o-CHL
634-66-2	1,2,3,4-tetrachlorobenzene	1234-CB
95-94-2	1,2,4,5-tetrachlorobenzene	1245-CB
608-93-5	Pentachlorobenzene	PeCB
118-74-1	Hexachlorobenzene	HCB
72-54-8	pp'-DDD	DDD
72-55-9	pp'-DDE	DDE
50-29-3	pp'-DDT	DDT
60-57-1	Dieldrin	DIEL
1024-57-3	Heptachlor epoxide	HEP EPX
39-84-6	Alpha-hexachlorocyclohexane	a-HCH
39-85-7	Beta-hexachlorocyclohexane	b-HCH
58-89-8	Gamma-hexachlorocyclohexane	g-HCH
7439-97-6	Total mercury	Hg
3010-80-8	Tris (4-chlorophenyl) methanol	TCPM
2385-85-5	Mirex	MIR
39801-14-4	Photomirex	P-MIR
5103-73-1	Cis-nonachlor	c-NON
39765-80-5	Trans-nonachlor	t-NON
29082-74-4	Octachlorostyrene	OCS
11097-69-1	PCB:1260	PCB 1260
11096-82-5	PCB:1254-1260	PCB 1254:1260
7782-49-2	Total (sum of) PCB congeners (non-coplanar)	SUM PCB
Coplanar PCB Congeners		
38444-90-5	PCB #37 3,4,4'-trichlorobiphenyl	COP PCB
32598-13-3	PCB #77 3,3',4,4'-tetrachlorobiphenyl	COP PCB
70362-50-4	PCB #81 3,4,4',5-tetrachlorobiphenyl	COP PCB
57465-28-8	PCB #126 3,3',4,4',5-pentachlorobiphenyl	COP PCB
32774-16-6	PCB #169 3,3',4,4',5,5'-hexachlorobiphenyl	COP PCB
39635-31-9	PCB #189 2,3,3',4,4',5,5'-heptachlorobiphenyl	COP PCB
Dioxins		
1746-01-6	2,3,7,8-tetrachlorodibenzo-p-dioxin	DIOXIN
	* 1,3,7,9-tetrachlorodibenzo-p-dioxin	DIOXIN
	* 1,3,7,8-tetrachlorodibenzo-p-dioxin	DIOXIN
	* 1,2,7,8-tetrachlorodibenzo-p-dioxin	DIOXIN

** Values for dioxin and furan congeners preceded by an asterisk are not given in Volume II- for values for these compounds please refer to Volume I.*

	* 1,2,4,7,9/1,2,4,6,8-pentachlorodibenzo-p-dioxin	DIOXIN
	* 1,2,3,6,8-pentachlorodibenzo-p-dioxin	DIOXIN
	* 1,2,4,7,8-pentachlorodibenzo-p-dioxin	DIOXIN
	* 1,2,3,7,9-pentachlorodibenzo-p-dioxin	DIOXIN
	* 1,2,3,8,9-pentachlorodibenzo-p-dioxin	DIOXIN
40321-76-4	* 1,2,3,7,8-pentachlorodibenzo-p-dioxin	DIOXIN
39227-26-8	* 1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	DIOXIN
39227-28-6	* 1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	DIOXIN
19408-74-3	* 1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	DIOXIN
	* 1,2,4,6,7,9/1,2,4,6,8,9-hexachlorodibenzo-p-dioxin	DIOXIN
	* 1,2,3,6,7,9/1,2,3,6,8,9-hexachlorodibenzo-p-dioxin	DIOXIN
35822-46-9	* 1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	DIOXIN
	* 1,2,3,4,6,7,9-heptachlorodibenzo-p-dioxin	DIOXIN
3268-87-9	* Octachlorodibenzo-p-dioxin	DIOXIN

Furans

51207-31-9	* 2,4,6,8-tetrachlorodibenzofuran	FURAN
	* 2,3,6,8-tetrachlorodibenzofuran	FURAN
	* 1,2,7,8-tetrachlorodibenzofuran	FURAN
	* 2,3,6,7-tetrachlorodibenzofuran	FURAN
	2,3,7,8-tetrachlorodibenzofuran.	FURAN
	* 1,2,3,6,8-pentachlorodibenzofuran	FURAN
	* 2,3,4,6,8-pentachlorodibenzofuran	FURAN
51207-31-4	* 2,3,4,7,8-pentachlorodibenzofuran	FURAN
69698-57-3	* 1,2,4,6,8-pentachlorodibenzofuran	FURAN
58802-15-6	* 1,2,4,7,8-pentachlorodibenzofuran	FURAN
57117-41-6	* 1,2,3,7,8-pentachlorodibenzofuran	FURAN
	* 2,3,4,6,7-pentachlorodibenzofuran	FURAN
	* 1,2,3,4,6,8-hexachlorodibenzofuran	FURAN
70658-26-9	* 1,2,3,4,7,8-hexachlorodibenzofuran	FURAN
	* 1,2,3,6,8,9-hexachlorodibenzofuran	FURAN
69698-59-5	* 1,2,4,6,8,9-hexachlorodibenzofuran	FURAN
	* 2,3,4,6,7,8-hexachlorodibenzofuran	FURAN
67562-40-7	* 1,2,4,6,7,8-hexachlorodibenzofuran	FURAN
57117-44-9	* 1,2,3,6,7,8-hexachlorodibenzofuran	FURAN
	* 1,2,3,6,7,9-hexachlorodibenzofuran	FURAN
67462-39-4	* 1,2,3,4,6,7,8-heptachlorodibenzofuran	FURAN
55673-89-7	* 1,2,3,4,7,8,9-heptachlorodibenzofuran	FURAN
39001-02-0	* Octachlorodibenzofuran	FURAN

** Values for dioxin and furan congeners preceded by an asterisk are not given in Volume II- for values for these compounds please refer to Volume I.*

Non-coplanar PCB congeners reported for Herring Gulls at annual monitoring colonies in Table 14 (Volume I)

Non-coplanar PCB congeners

CAS #	COMPOUNDS	ABBREVIATION (not applicable)
38444-78-9/38444-77-8	PCB #16/32	2,2',3-trichlorobiphenyl/2,4',6-trichlorobiphenyl
37680-66-3	PCB #17	2,2',4-trichlorobiphenyl
37680-65-2	PCB #18	2,2',5-trichlorobiphenyl
38444-85-8	PCB #22	2,3,4'-trichlorobiphenyl
7012-37-5	PCB #28	2,4,4'-trichlorobiphenyl
16606-02-3	PCB #31	2,4',5-trichlorobiphenyl
38444-86-9/38444-84-7	PCB #33/20	2',3,4-trichlorobiphenyl/2,3,3'-trichlorobiphenyl
36559-22-5	PCB #42	2,2',3,4'-tetrachlorobiphenyl
41464-39-5	PCB #44	2,2',3,5'-tetrachlorobiphenyl
2437798/70362-47-9	PCB #47/48	2,2',4,4'-tetrachlorobiphenyl/2,2',4,5-tetrachlorobiphenyl
	PCB #47	2,2',4,4'-tetrachlorobiphenyl
41464-40-8	PCB #49	2,2',4,5'-tetrachlorobiphenyl
35693-99-3	PCB #52	2,2',5,5'-tetrachlorobiphenyl
41464-43-9/33025-41-1	PCB #56/60	2,3,3',4'-tetrachlorobiphenyl /2,3,4,4'-tetrachlorobiphenyl
33025-41-1	PCB #60	2,3,4,4'-tetrachlorobiphenyl
52663-58-8	PCB #64	2,3,4',6-tetrachlorobiphenyl
32598-10-0	PCB #66	2,3',4,4'-tetrachlorobiphenyl
	PCB #66/95	2,3',4,4'-tetrachlorobiphenyl/2,2',3,5',6-pentachlorobiphenyl
32598-11-1/70362-48-0	PCB #70/76	2,3',4',5-tetrachlorobiphenyl/2',3,4,5-tetrachlorobiphenyl
32690-93-0	PCB #74	2,4,4',5-tetrachlorobiphenyl
65510-45-4	PCB #85	2,2',3,4,4'-pentachlorobiphenyl
38380-02-8	PCB #87	2,2',3,4,5'-pentachlorobiphenyl
52663-61-3	PCB #92	2,2',3,5,5'-pentachlorobiphenyl
38379-99-6	PCB #95	2,2',3,5',6-pentachlorobiphenyl
41464-51-1	PCB #97	2,2',3',4,5-pentachlorobiphenyl
38380-01-7	PCB #99	2,2',4,4',5-pentachlorobiphenyl
37680-73-2	PCB #101	2,2',4,5,5'-pentachlorobiphenyl
37680-72-3/68194-07-0	PCB #101/90	2,2',4,5,5'-pentachlorobiphenyl/2,2',3,4',5-pentachlorobiphenyl
32598-14-4	PCB #105	2,3,3',4,4'-pentachlorobiphenyl
38380-03-9	PCB #110	2,3,3',4',6-pentachlorobiphenyl
31508-00-6	PCB #118	2,3',4,4',5-pentachlorobiphenyl
38380-07-3	PCB #128	2,2',3,3',4,4'-hexachlorobiphenyl
55215-18-4	PCB #129	2,2',3,3',4,5-hexachlorobiphenyl
52663-66-8	PCB #130	2,2',3,3',4,5'-hexachlorobiphenyl
35694-06-5	PCB #137	2,2',3,4,4',5-hexachlorobiphenyl
35065-28-2	PCB #138	2,2',3,4,4',5'-hexachlorobiphenyl
52712-04-6	PCB #141	2,2',3,4,5,5'-hexachlorobiphenyl
51908-16-8	PCB #146	2,2',3,4',5,5'-hexachlorobiphenyl
38380-04-0	PCB #149	2,2',3,4',5',6-hexachlorobiphenyl
52663-63-5	PCB #151	2,2',3,5,5',6-hexachlorobiphenyl
35065-27-1	PCB #153	2,2',4,4',5,5'-hexachlorobiphenyl

Non-coplanar PCB congeners reported for Herring Gulls at annual monitoring colonies in Table 14 (Volume I)

Non-coplanar PCB congeners

CAS #	COMPOUNDS		ABBREVIATION (not applicable)
38380-08-4	PCB #156	2,3,3',4,4',5-hexachlorobiphenyl	
69782-90-7	PCB #157	2,3,3',4,4',5'-hexachlorobiphenyl	
74472-42-7	PCB #158	2,3,3',4,4',6-hexachlorobiphenyl	
35065-30-6	PCB #170	2,2',3,3',4,4',5-heptachlorobiphenyl	
35065-30-6/41411-64-7	PCB #170 /190	2,2',3,3',4,4',5-heptachlorobiphenyl/ 2,3,3',4,4',5,6-heptachlorobiphenyl	
52663-71-5	PCB #171	2,2',3,3',4,4',6-heptachlorobiphenyl	
52663-74-8	PCB #172	2,2',3,3',4,5,5'-heptachlorobiphenyl	
38411-25-5	PCB #174	2,2',3,3',4,5,6'-heptachlorobiphenyl	
52663-65-7	PCB #176	2,2',3,3',4,6,6'-heptachlorobiphenyl	
52663-70-4	PCB #177	2,2',3,3',4',5,6-heptachlorobiphenyl	
52663-67-9	PCB #178	2,2',3,3',5,5',6-heptachlorobiphenyl	
52663-64-6	PCB #179	2,2',3,3',5,6,6'-heptachlorobiphenyl	
35065-29-3	PCB #180	2,2',3,4,4',5,5'-heptachlorobiphenyl	
60145-23-5	PCB #182	2,2',3,4,4',5,6'-heptachlorobiphenyl	
	PCB#182/187	2,2',3,4,4',5,6'-heptachlorobiphenyl/2,2',3,4',5,5',6-heptachlorobiphenyl	
52663-69-1	PCB #183	2,2',3,4,4',5',6-heptachlorobiphenyl	
52712-05-7	PCB #185	2,2',3,4,5,5',6-heptachlorobiphenyl	
52663-68-0	PCB #187	2,2',3,4',5,5',6-heptachlorobiphenyl	
35694-08-7	PCB #194	2,2',3,3',4,4',5,5'-octachlorobiphenyl	
52663-78-2	PCB #195	2,2',3,3',4,4',5,6-octachlorobiphenyl	
42740-50-1/52663-76-0	PCB #196/203	2,2',3,3',4,4',5,6'-octachlorobiphenyl/ 2,2',3,4,4',5,5',6 octachlorobiphenyl	
52663-73-9	PCB #200	2,2',3,3',4,5',6,6'-octachlorobiphenyl	
40186-71-8	PCB #201	2,2',3,3',4,5',6,6'-octachlorobiphenyl	
2136-99-4	PCB #202	2,2',3,3',5,5',6,6'-octachlorobiphenyl	
52663-76-0	PCB #203	2,2',3,4,4',5,5',6-octachlorobiphenyl	
40186-72-9	PCB #206	2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	
52663-79-3	PCB #207	2,2',3,3',4,4',5,6,6'-nonachlorobiphenyl	
52663-77-1	PCB #208	2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl	

METHODOLOGICAL AND STATISTICAL NOTES SPECIFIC TO TABLES 13-14

(VOLUMES I & II)

1. The following abbreviations are used for species:

Herring Gull	HERG
Great Black-backed Gull	GBBG
Black-crowned Night-Heron	BCNH
Black Tern	BLTE
Forster's Tern	FOTE

2. All analytical data have been calculated on a wet weight basis.

3. Means and standard deviations for contaminant data are reported to four decimal places. For percent lipid and percent moisture they are reported to two decimal places. Trailing zeros in numerical values are truncated.

4. Dioxin, furan and non-ortho PCB compounds are reported in pg/g (parts per trillion). All other compounds are reported in μg/g (parts per million).

5. All sample sizes reported as 1 represent a pooled sample of 6-16 eggs that were analyzed together as one sample unless otherwise indicated. Sample sizes reported greater than 1 were individual samples and the mean and standard deviation are given.

6. Detection limits used in analytical determination of all chlorinated hydrocarbons were 0.0001 μg/g. Trace levels were determined to be between 0.0001 and 0.0009 μg/g.

   For dioxin and furan concentrations the minimum detection limits vary by compound and are subject to fluctuation. This fluctuation can be due to the cleanliness of the samples at the time of analysis and/or the condition of the ion source of the mass spectrometer at any given time. All samples were measured on a high resolution mass spectrometer.
   Dioxin and furan minimum detection levels occur between the ranges of:

Tetrachlorodioxins/furans	0.1 – 2 pg/g
Pentachlorodioxins/furans	0.1 – 2 pg/g
Hexachlorodioxins/furans	0.1 – 4 pg/g
Heptachlorodioxins/furans	0.1 – 6 pg/g
Octachlorodioxins/furans	0.1 – 7 pg/g

7. Chlordane isomers have been presented as alpha-chlordane, trans-chlordane, and oxy-chlordane. Alpha-chlordane is synonymous with cis-chlordane, and trans-chlordane is synonymous with gamma-chlordane.

8. In 1997, the gas chromatographic instrument used for the analysis was coupled to a Mass Selective Detector. This affected the results of PCB congener analysis. Therefore, the PCB congeners detected in Black Tern and Forster's Tern eggs from 1996 are different than the rest of the data. In 1996, 42 non-coplanar PCBs were detected:

   #28, 31, 42, 44, 49, 52, 60, 64, 66, 70, 74, 87, 97, 99, 101, 105, 110,
   118, 128, 129, 137, 138, 141, 146, 149, 151, 153, 158, 170, 171, 172,
   174, 180, 182, 183, 185, 194, 195, 200, 201, 203, 206

   Many changes were made to PCB identification with the new method. These are attributed to refinements in methodology and the greater specificity of congener identification possible with the new technology. Congener 129 was re-identified as PCB 178, and congener 182 was re-identified as PCB 187. Five congeners reported individually with the old method and which co-elute from the gas chromatographic column were more properly identified in the newer reporting system, which coincided with the adoption of the new methodology. PCB 60 co-elutes with PCB 56 and is reported as PCB 56/60; PCB 70 co-elutes with

PCB 76 and is reported as PCB 70/76; PCB 101 is reported as PCB 101/90; PCB 170 is reported as PCB 170/190; PCB 203 is reported as PCB 196/203. Congeners 156, 171 and 202 co-eluted and were reported as PCB 171 with the old methodology, under the new methods and reporting system they are detected individually. Sixteen additional congeners were first reported in 1997:

16/32, 17, 18, 22, 33/20, 47/48, 85, 92, 95, 130, 157, 176, 177, 179, 207, 208

The total number of congeners reported after 1997 was 59. The 1996 data for Black Terns and Forster's Terns are reported under the old methodology (42 PCB congeners), all other data are under the new methodology (59 PCB congeners).

9. All PCB data are expressed as Aroclor 1254:1260 1:1 mixture and/or Aroclor 1260 and total PCB congeners. It should be noted that the sum PCB values for 1996 data are the result of 42 PCB congeners, while all other data are the result of 59 PCB congeners.

10. In 1996, the organochlorine and PCB analyses were performed by Henry Won at the Canadian Wildlife Service National Wildlife Research Centre (NWRC) and dioxin, furans and coplanar PCB congener analyses were performed by Mary Simon at NWRC. Organochlorine and PCB analyses from 1998-2001 were performed by Henry Won and Michael Mulvihill at NWRC. Dioxins, furans and coplanar PCB congeners were analyzed in 1998-2001 by Mary Simon and Abde Miftah-Idrissi at NWRC (Won *et al.* 2001; Simon and Wakeford 2000).

Figure 1. Herring Gull Annual Monitoring Colonies

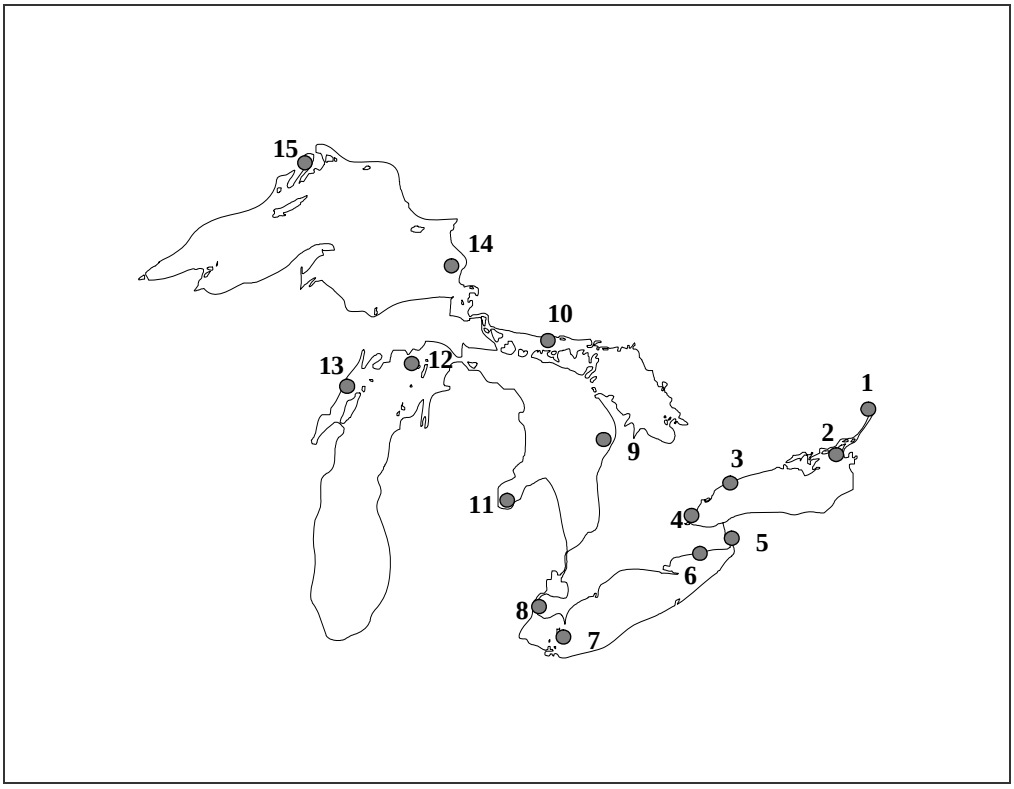


Table 1. Herring Gull Annual Monitoring Colonies

Number	Site	Location	First Year
1	Strachan Island	St. Lawrence River	1986
2	Snake Island	Lake Ontario	1974
3	Toronto Harbour *	Lake Ontario	1974
4	Hamilton Harbour	Lake Ontario	1981
5	Niagara River	Niagara River	1979
6	Port Colborne	Lake Erie	1974
7	Middle Island	Lake Erie	1974
8	Fighting Island	Detroit River	1978
9	Chantry Island	Lake Huron – Canada	1974
10	Double Island	Lake Huron – North Channel	1974
11	Channel Shelter Island	Lake Huron – US	1980
12	Gull Island	Lake Michigan	1977
13	Big Sister Island	Lake Michigan	1976
14	Agawa Rocks	Lake Superior	1974
15	Granite Island	Lake Superior	1974

* Mugg's Island 1974-1987, Leslie Street Spit 1988-present

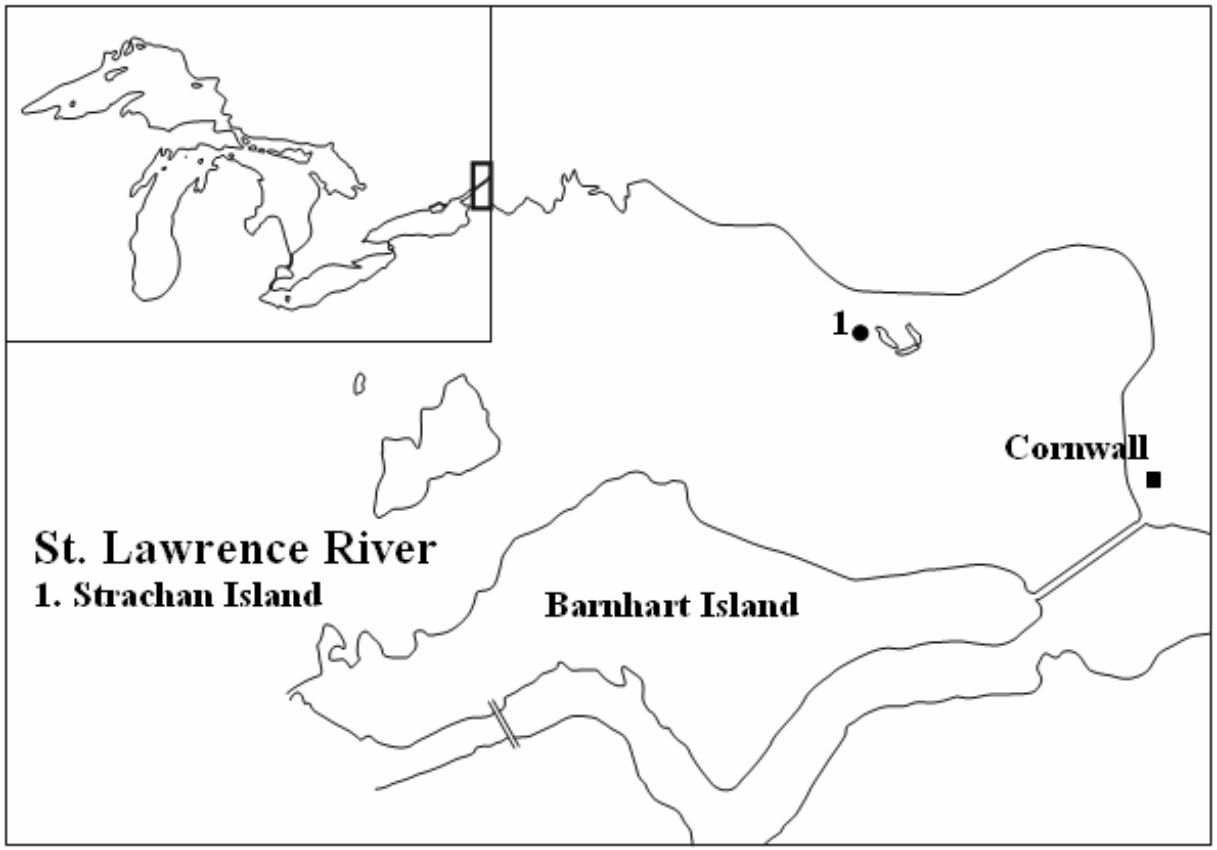
SECTION 1

DATA SUMMARIZED BY SAMPLE SIZE

Figures 2-12. Location of colonies from which eggs were collected

Tables 2-12. Sample sizes

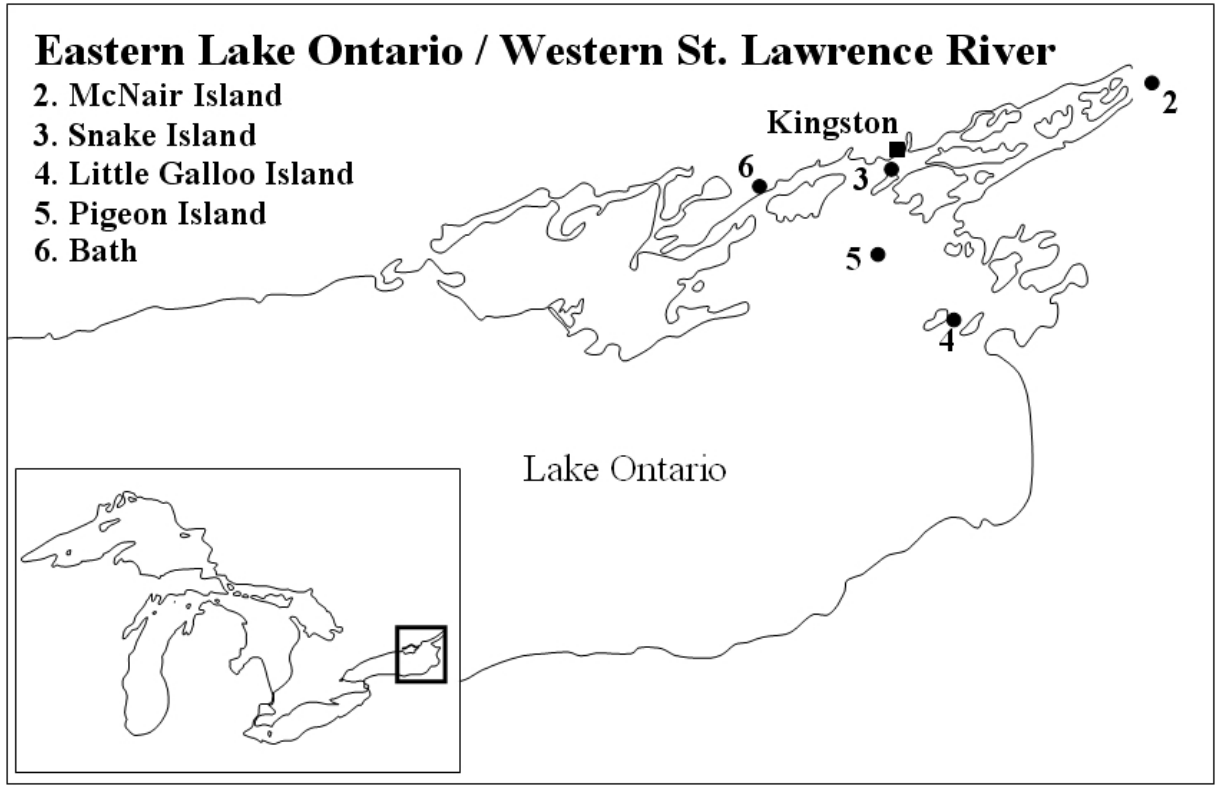
Figure 2. Colonies in the St. Lawrence River



Col. No.	Spec.	Yr.	% Lip	% Mois	a-chl	g-chl	o-chl	1234-CB	1245-CB	PeCB	HCB	DDD	DDE	DDT	Diel	HE	a-HCH	b-HCH	g-HCH	Hg	TCPM	MIR	P-MIR	c-non	t-non	OCS	PCB 1260	PCB 1254:	SUM PCB	PCBs	NO PCB	Dioxin	Furan
1*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1

Table 2. The sample sizes of eggs analyzed in each year (1998-2001) from the St. Lawrence River, arranged by collection site, species sampled and compound analyzed. Herring Gull annual monitoring colonies are indicated by an asterisk (*). All samples with a value of 1 refer to a pooled sample.

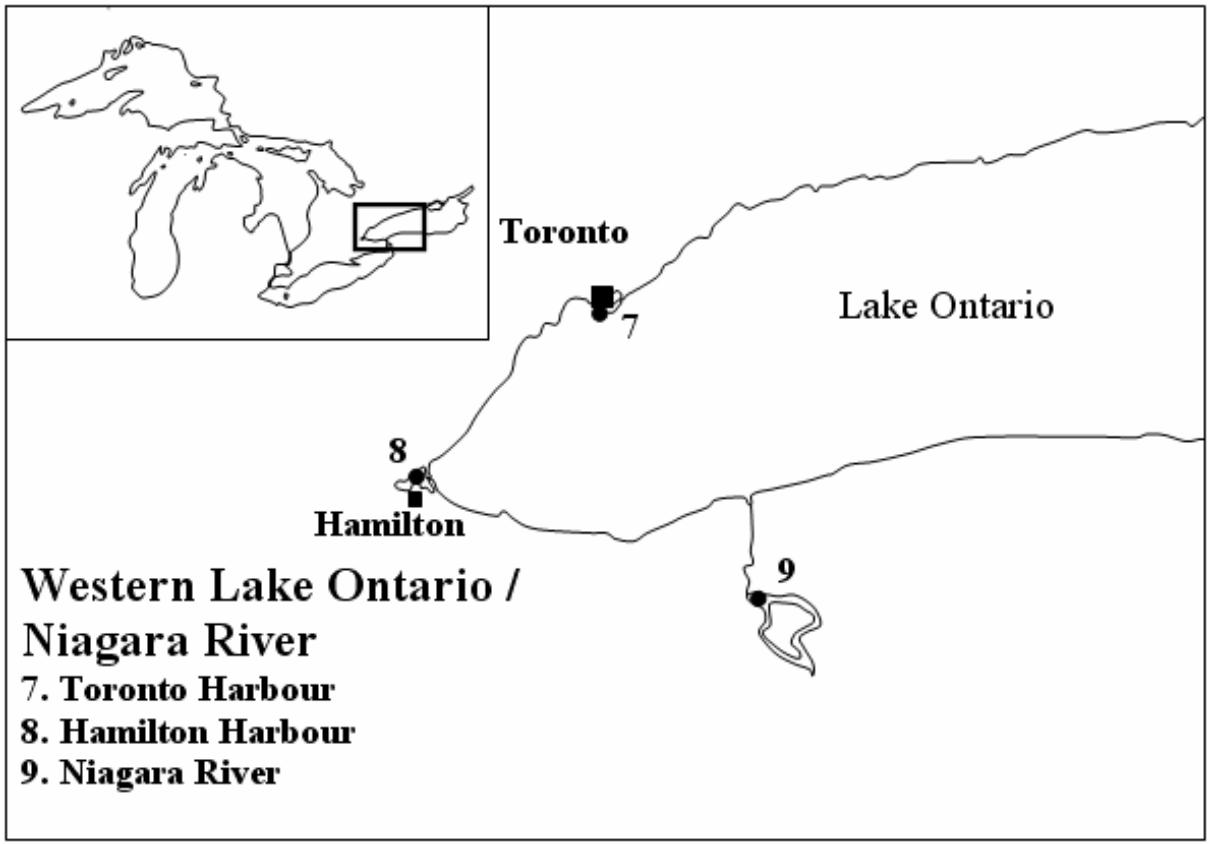
Figure 3. Colonies in Eastern Lake Ontario and Western St. Lawrence River



Col. No.	Spec.	Yr.	% Lip	% Mois	a-chl	g-chl	o-chl	1234-CB	1245-CB	PeCB	HCB	DDD	DDE	DDT	Diel	HE	a-HCH	b-HCH	g-HCH	Hg	TCPM	MIR	P-MIR	c-non	t-non	OCS	PCB 1260	PCB 1254:	SUM PCB	PCBs	NO PCB	Dioxin	Furan
2	BCNH	00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
3*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
4	HERG	01	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	6	6	6	6	6	6	6	6	6	1	1	1	1
	GBBG	01	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	6	6	6	6	6	6	6	6	6	1	1	1	1
5	HERG	01	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	6	6	6	6	6	6	6	6	6	1	1	1	1
	GBBG	01	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	6	6	6	6	6	6	6	6	6	1	1	1	1
6	BLTE	96	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Table 3. The sample sizes of eggs analyzed in each year (1998-2001) from Eastern Lake Ontario, arranged by collection site, species sampled and compound analyzed. Herring Gull annual monitoring colonies are indicated by an asterisk (*). All samples with a value of 1 refer to a pooled sample.

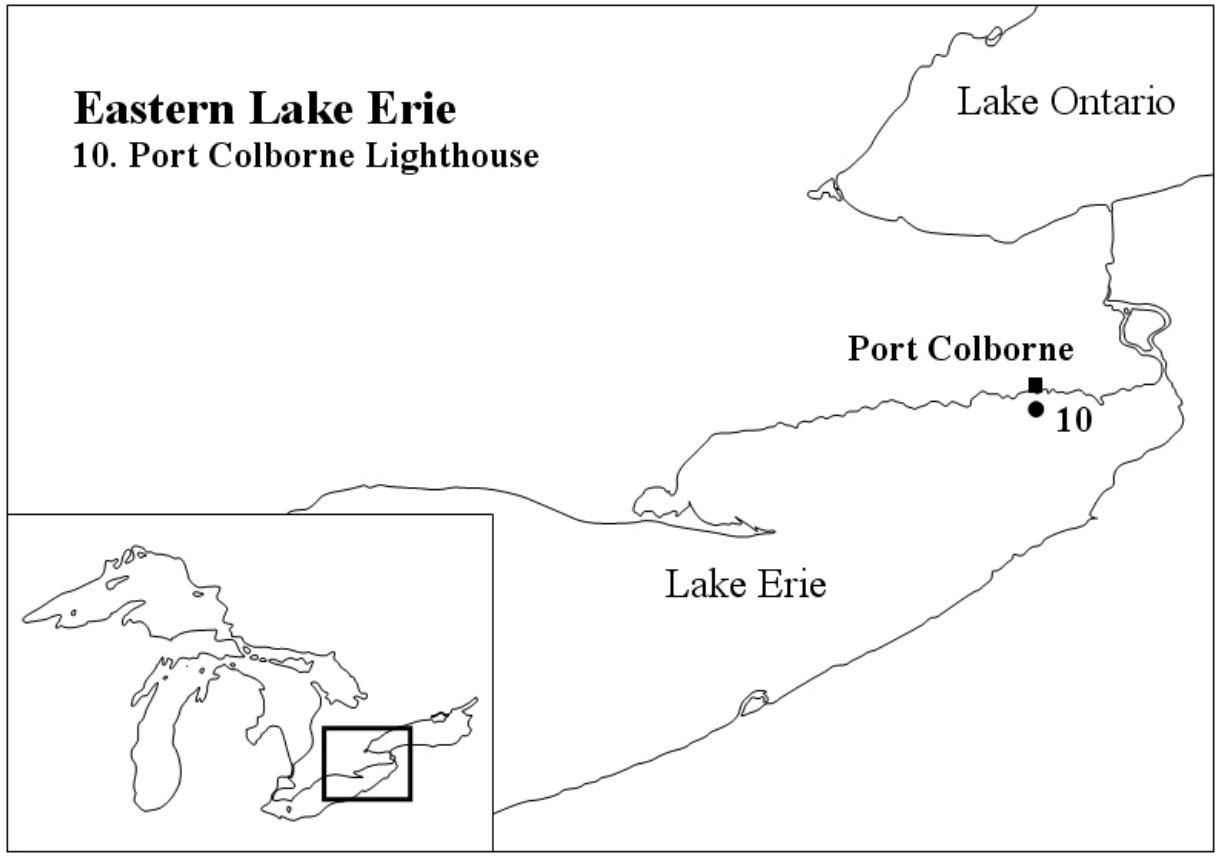
Figure 4. Colonies in Western Lake Ontario and the Niagara River



Col. No.	Spec.	Yr.	% Lip	% Mois	a-chl	g-chl	o-chl	1234-CB	1245-CB	PeCB	HCB	DDD	DDE	DDT	Diel	HE	a-HCH	b-HCH	g-HCH	Hg	TCPM	MIR	P-MIR	c-non	t-non	OCS	PCB 1260	PCB 1254:	SUM PCB	PCBs	NO PCB	Dioxin	Furan
7*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
8*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	BCNH	00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
9*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	BCNH	00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0

Table 4. The sample sizes of eggs analyzed in each year (1998-2001) from the Western Lake Ontario and the Niagara River, arranged by collection site, species sampled and compound analyzed. Herring Gull annual monitoring colonies are indicated by an asterisk (*). All samples with a value of 1 refer to a pooled sample.

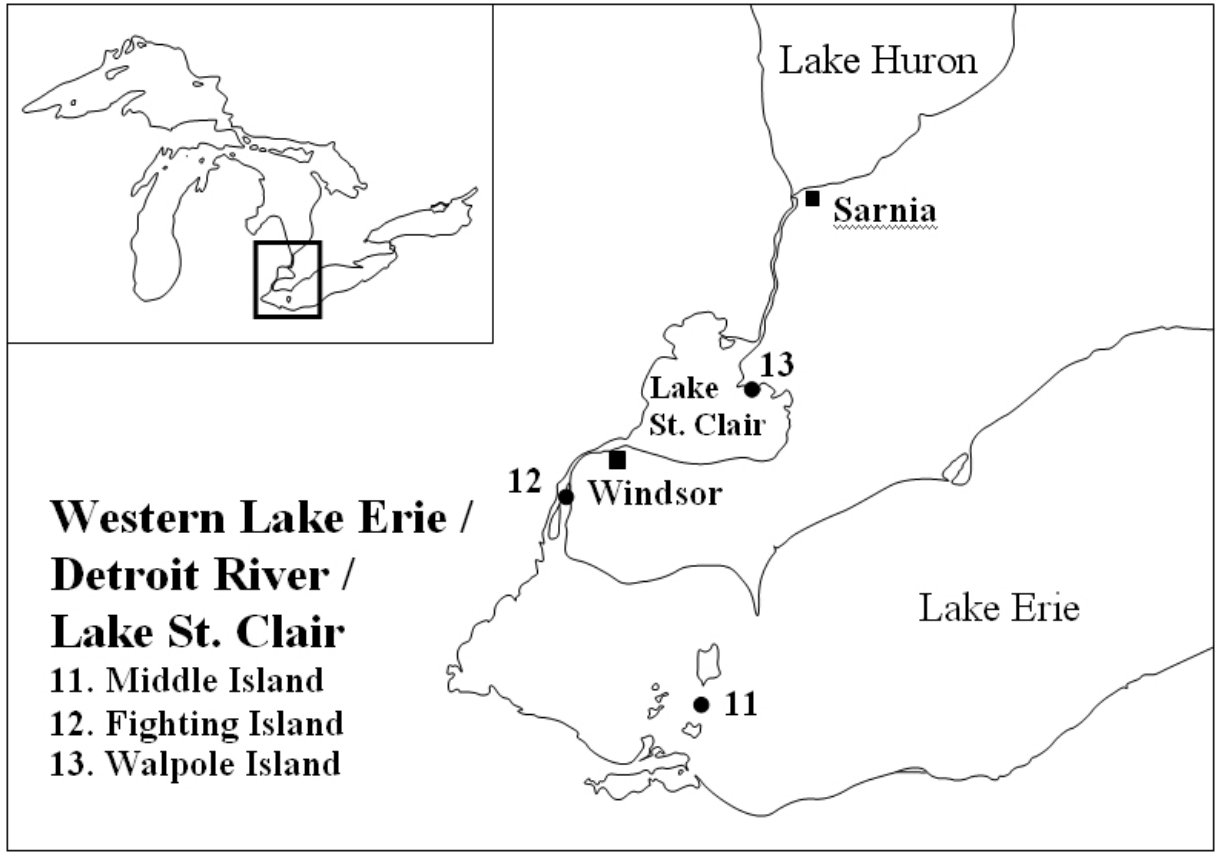
Figure 5. Colonies in Eastern Lake Erie



Col. No.	Spec.	Yr.	% Lip	% Mois	a-chl	g-chl	o-chl	1234-CB	1245-CB	PeCB	HCB	DDD	DDE	DDT	Diel	HE	a-HCH	b-HCH	g-HCH	Hg	TCPM	MIR	P-MIR	c-non	t-non	OCS	PCB 1260	PCB 1254:	SUM PCB	PCBs	NO PCB	Dioxin	Furan
10*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1

Table 5. The sample sizes of eggs analyzed in each year (1998-2001) from the Eastern Lake Erie, arranged by collection site, species sampled and compound analyzed. Herring Gull annual monitoring colonies are indicated by an asterisk (*). All samples with a value of 1 refer to a pooled sample.

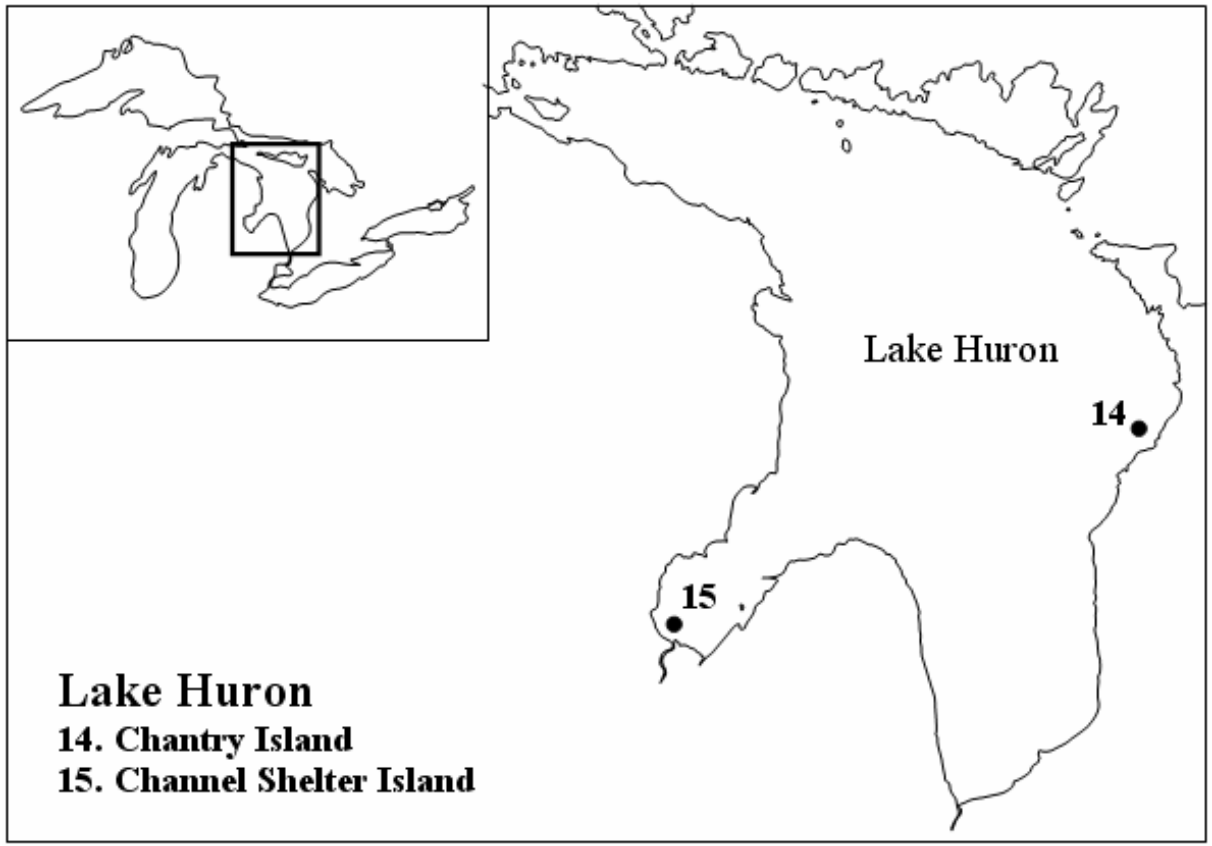
Figure 6. Colonies in Western Lake Erie, Detroit River and Lake St. Clair



Col. No.	Spec.	Yr.	% Lip	% Mois	a-chl	g-chl	o-chl	1234-CB	1245-CB	PeCB	HCB	DDD	DDE	DDT	Diel	HE	a-HCH	b-HCH	g-HCH	Hg	TCPM	MIR	P-MIR	c-non	t-non	OCS	PCB 1260	PCB 1254:	SUM PCB	PCBs	NO PCB	Dioxin	Furan
11*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	BCNH	00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
12*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
13	BLTE	99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	FOTE	99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Table 6. The sample sizes of eggs analyzed in each year (1998-2001) from Western Lake Erie and the Detroit River, arranged by collection site, species sampled and compound analyzed. Herring Gull annual monitoring colonies are indicated by an asterisk (*). All samples with a value of 1 refer to a pooled sample.

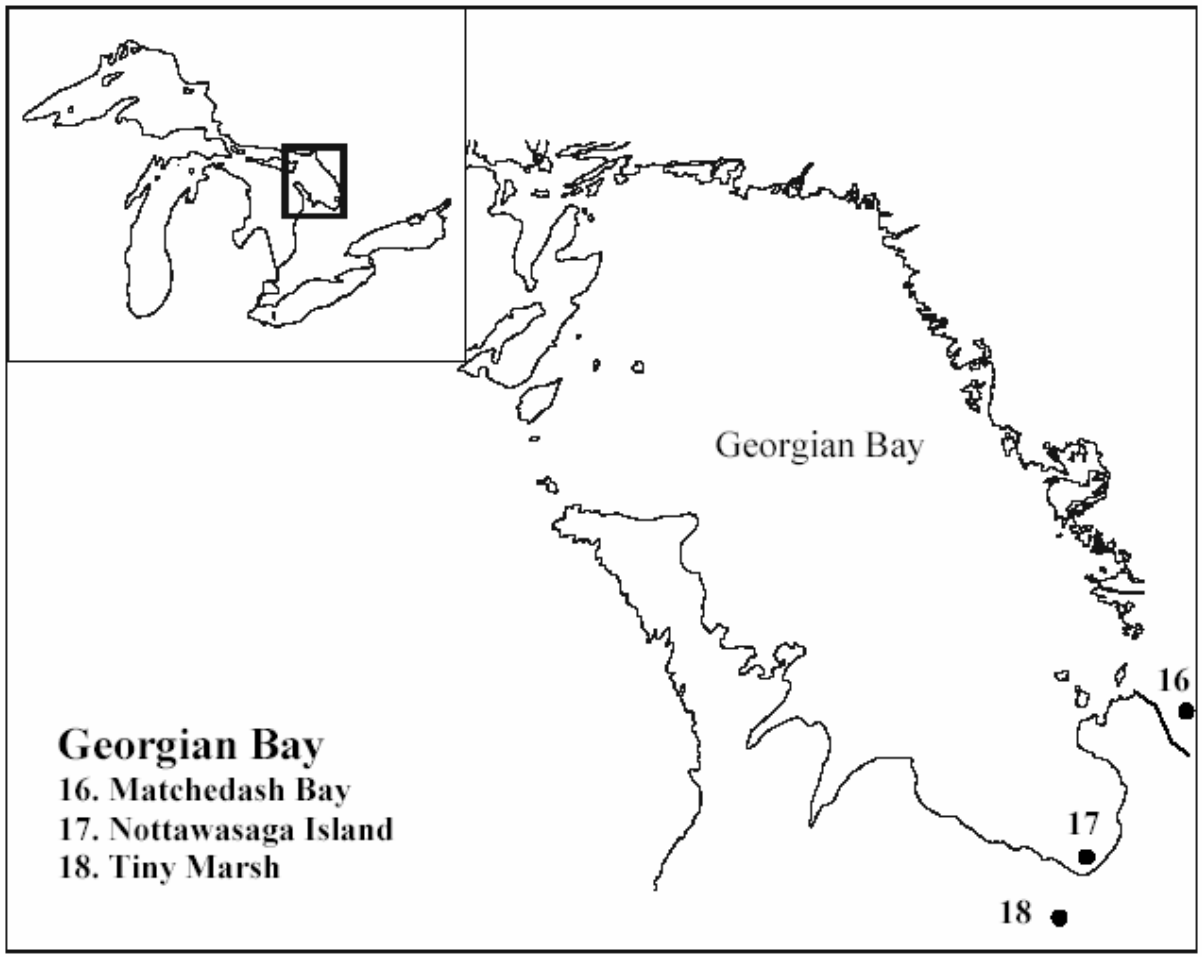
Figure 7. Colonies in Lake Huron



Col. No.	Spec.	Yr.	% Lip	% Mois	a-chl	g-chl	o-chl	1234-CB	1245-CB	PeCB	HCB	DDD	DDE	DDT	Diel	HE	a-HCH	b-HCH	g-HCH	Hg	TCPM	MIR	P-MIR	c-non	t-non	OCS	PCB 1260	PCB 1254:	SUM PCB	PCBs	NO PCB	Dioxin	Furan
14*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
15*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	BCNH	00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0

Table 7. The sample sizes of eggs analyzed in each year (1998-2001) from Lake Huron, arranged by collection site, species sampled and compound analyzed. Herring Gull annual monitoring colonies are indicated by an asterisk (*). All samples with a value of 1 refer to a pooled sample.

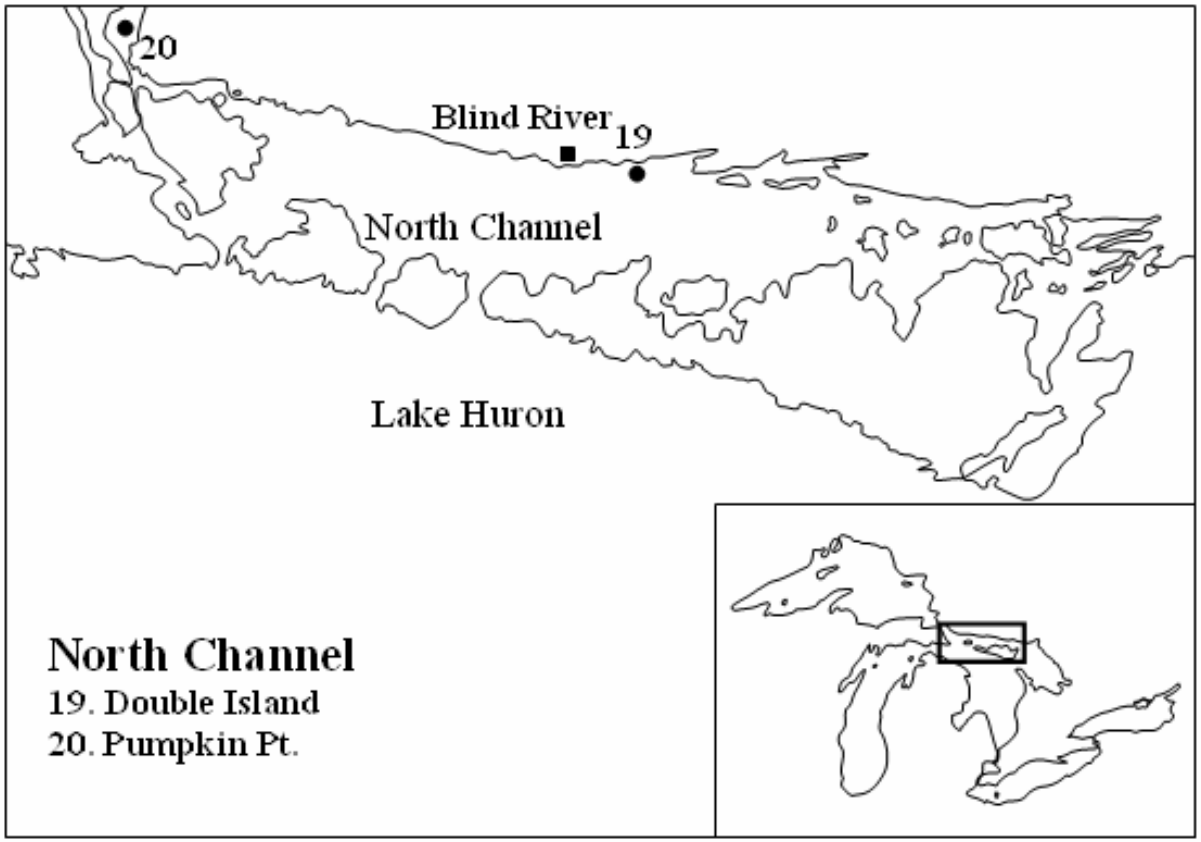
Figure 8. Colonies in Georgian Bay (Lake Huron)



Col. No.	Spec.	Yr.	% Lip	% Mois	a-chl	g-chl	o-chl	1234-CB	1245-CB	PeCB	HCB	DDD	DDE	DDT	Diel	HE	a-HCH	b-HCH	g-HCH	Hg	TCPM	MIR	P-MIR	c-non	t-non	OCS	PCB 1260	PCB 1254:	SUM PCB	PCBs	NO PCB	Dioxin	Furan
16	BLTE	96	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	BCNH	00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
18	BLTE	99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0

Table 8. The sample sizes of eggs analyzed in each year (1998-2001) from Georgian Bay, arranged by collection site, species sampled and compound analyzed. Herring Gull annual monitoring colonies are indicated by an asterisk (*). All samples with a value of 1 refer to a pooled sample.

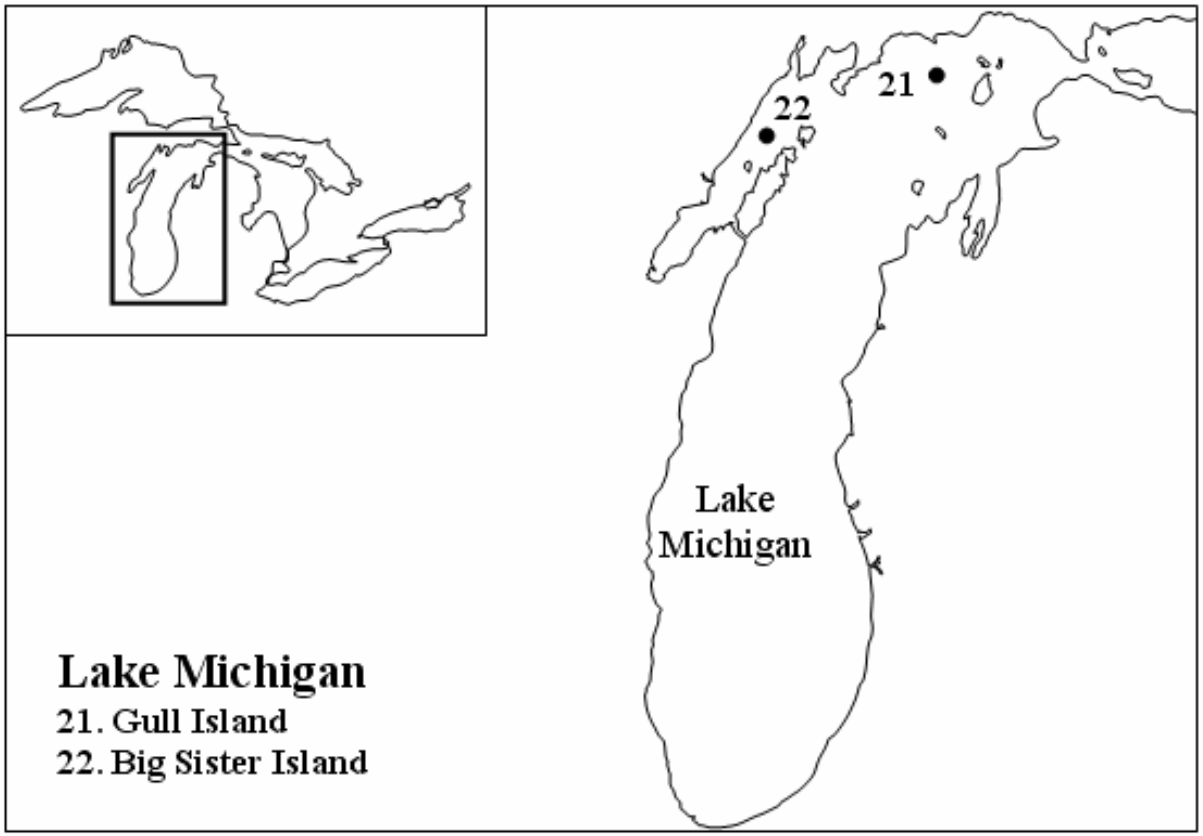
Figure 9. Colonies in North Channel (Lake Huron)



Col. No.	Spec.	Yr.	% Lip	% Mois	a-chl	g-chl	o-chl	1234-CB	1245-CB	PeCB	HCB	DDD	DDE	DDT	Diel	HE	a-HCH	b-HCH	g-HCH	Hg	TCPM	MIR	P-MIR	c-non	t-non	OCS	PCB 1260	PCB 1254:	SUM PCB	PCBs	NO PCB	Dioxin	Furan
19*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
20	HERG	00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0

Table 9. The sample sizes of eggs analyzed in each year (1998-2001) from the North Channel, arranged by collection site, species sampled and compound analyzed. Herring Gull annual monitoring colonies are indicated by an asterisk (*). All samples with a value of 1 refer to a pooled sample.

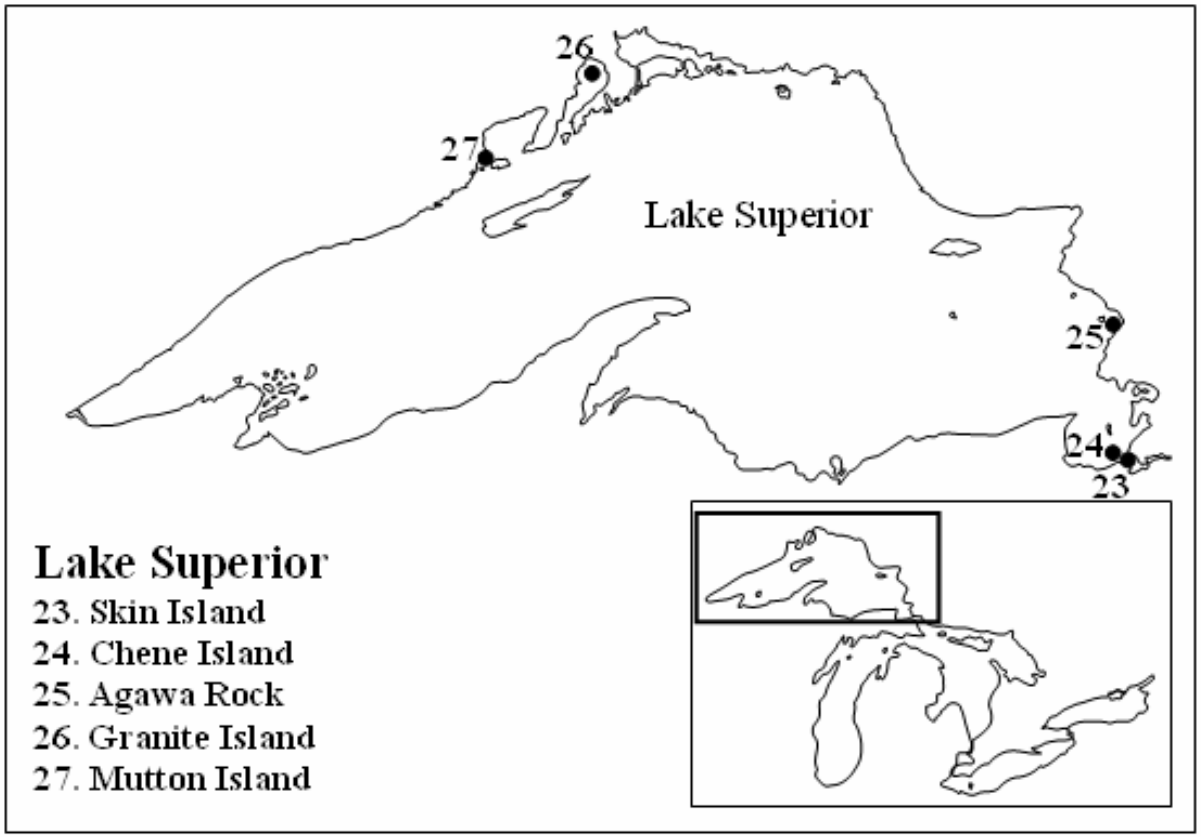
Figure 10. Colonies in Lake Michigan



Col. No.	Spec.	Yr.	% Lip	% Mois	a-chl	g-chl	o-chl	1234-CB	1245-CB	PeCB	HCB	DDD	DDE	DDT	Diel	HE	a-HCH	b-HCH	g-HCH	Hg	TCPM	MIR	P-MIR	c-non	t-non	OCS	PCB 1260	PCB 1254:	SUM PCB	PCBs	NO PCB	Dioxin	Furan
21*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
22*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1

Table 10. The sample sizes of eggs analyzed in each year (1998-2001) from the Lake Michigan, arranged by collection site, species sampled and compound analyzed. Herring Gull annual monitoring colonies are indicated by an asterisk (*). All samples with a value of 1 refer to a pooled sample.

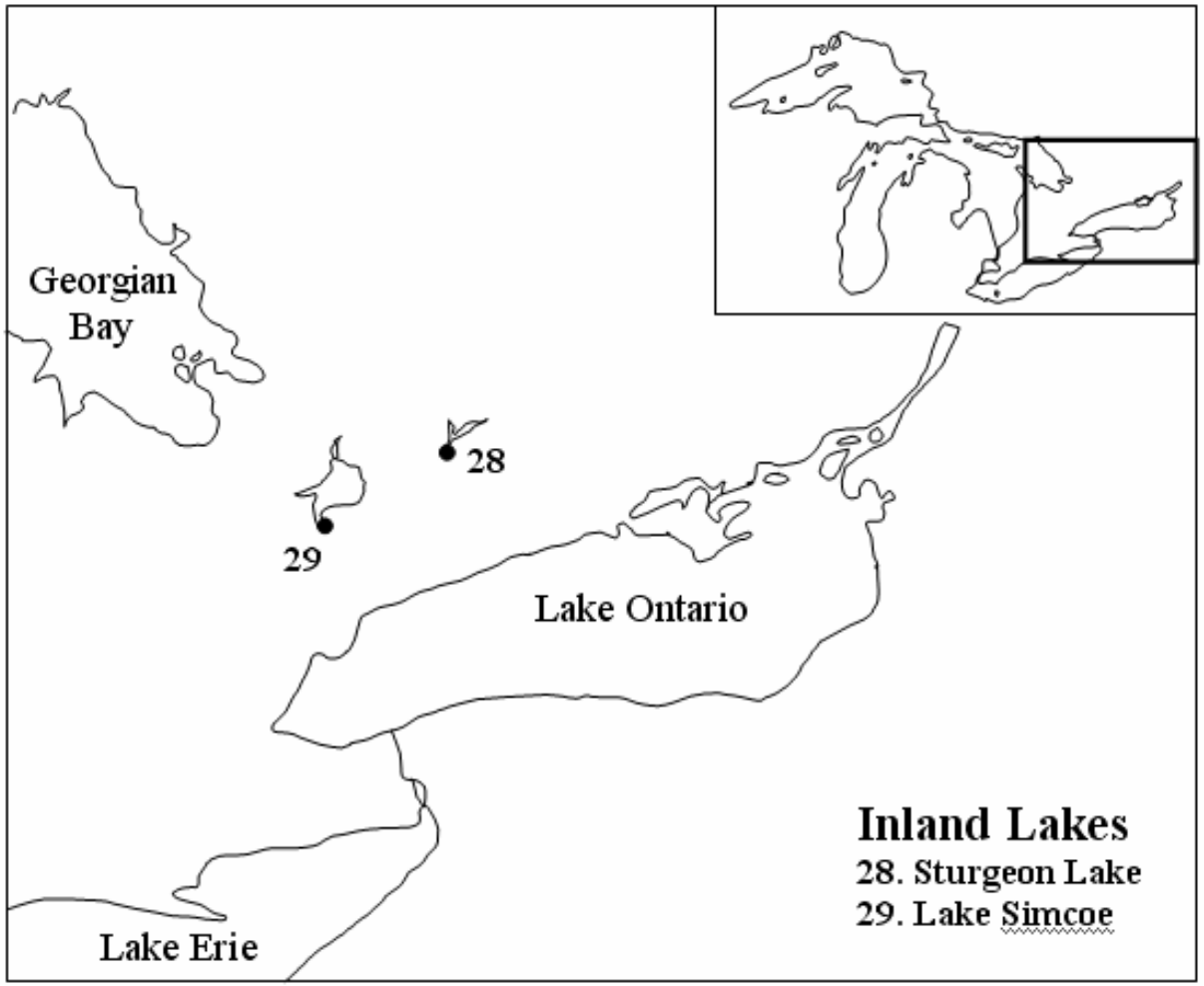
Figure 11. Colonies in Lake Superior



Col. No.	Spec.	Yr.	% Lip	% Mois	a-chl	g-chl	o-chl	1234-CB	1245-CB	PeCB	HCB	DDD	DDE	DDT	Diel	HE	a-HCH	b-HCH	g-HCH	Hg	TCPM	MIR	P-MIR	c-non	t-non	OCS	PCB 1260	PCB 1254:	SUM PCB	PCBs	NO PCB	Dioxin	Furan
23	HERG	00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
24	HERG	00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
25*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
26*	HERG	98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
27	HERG	00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0

Table 11. The sample sizes of eggs analyzed in each year (1998-2001) from Lake Superior, arranged by collection site, species sampled and compound analyzed. Herring Gull annual monitoring colonies are indicated by an asterisk (*). All samples with a value of 1 refer to a pooled sample.

Figure 12. Colonies in Inland Lakes



Col. No.	Spec.	Yr.	% Lip	% Mois	a-chl	g-chl	o-chl	1234-CB	1245-CB	PeCB	HCB	DDD	DDE	DDT	Diel	HE	a-HCH	b-HCH	g-HCH	Hg	TCPM	MIR	P-MIR	c-non	t-non	OCS	PCB 1260	PCB 1254:	SUM PCB	PCBs	NO PCB	Dioxin	Furan
28	BLTE	96	2+	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	0	0	0	0
29	FOTE	99	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	BLTE	96	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	0	0

Table 12. The sample sizes of eggs analyzed in each year (1998-2001) from Sturgeon Lake and Lake Simcoe, arranged by collection site, species sampled and compound analyzed. Herring Gull annual monitoring colonies are indicated by an asterisk (*). All samples with a value of 1 refer to a pooled sample.
+ Represents the same egg analyzed twice.

SECTION 2

Table 13a. Data summarized by compound analyzed

Table 13b. Data summarized by compound analyzed, Black and Forster's Terns

INDEX TO TABLE 13A: CONTAMINANT DATA, SUMMARIZED BY COMPOUNDS ANALYZED

Percent Lipid in Egg....38

Percent Moisture in Egg....40

Alpha (Cis)-Chlordane....42

Gamma (Trans)-Chlordane....44

Oxy-Chlordane....46

1234-Chlorobenzene....48

1245-Chlorobenzene....50

Pentachlorobenzene (QCB)....52

Hexachlorobenzene (HCB)....54

DDD....56

DDE....58

DDT....60

Dieldrin....62

Heptachlor Epoxide (HE)....64

Alpha-Hexachlorocyclohexane....66

Beta-Hexachlorocyclohexane....68

Gamma-Hexachlorocyclohexane....70

Total Mercury....72

Tris (4-chlorophenyl) methanol....74

Mirex....76

Photomirex....78

Cis-nonachlor....80

Trans-nonachlor....82

Octochlorostyrene....84

PCB 1260....86

PCB 1254:1260....88

Sum PCB....90

PCB 37.....92

PCB 77.....94

PCB 81.....96

PCB 126.....98

PCB 169.....100

PCB 189.....102

2,3,7,8-TCDD 104

2,3,7,8-TCDF.....106

Index to Table 13B (Contaminant data, summarized by compounds analyzed, Black and Forster's Terns)…….108

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PERCENT LIPID IN EGG

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	9.19	8.77	10	8.89
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			7	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	9.1	8.56	9.7	9.05
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				8.2917
		SD				1.6151
	Great Black-backed Gull	N				6
		MEAN				7.645
		SD				1.4537
Pigeon Island	Herring Gull	N				6
		MEAN				9.845
		SD				1.3265
	Great Black-backed Gull	N				6
		MEAN				7.45
		SD				1.18
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	8.96	8.36	9.5	9.27
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	9.47	9.04	9.1	8.07
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			6.17	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	8.94	8.7	9	9.45
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			6.84	
		SD				

Lake Erie			**Year**				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	8.73	10.35	9.5154	10.5	9.03
		SD			0.9529		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	8.87	8.41		10.4	9.25
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				6.04	
		SD					

Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	7.48	8.81	9.5	9.13
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PERCENT LIPID IN EGG

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	8.7	9.1	9.7	9.82
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	9.73	8.12	9.5	9.12
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			6.05	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			6.31	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	9.6	9.03	11.3	9.16
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	9.64	8.97	10.2	9.54
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	8.4	9.9	8.52	8.75
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			10.02	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			10.53	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			9.64	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	9.65	9.13	10	9.38
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	8.81	8.27	9.7	8.59
		SD				
Mutton Island	Herring Gull	N				
		MEAN			9.97	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED PERCENT MOISTURE IN EGG

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	75.95	76.16	76.1	75.8
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			79.71	
		SD				
Lake Ontario			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	76.22	76.39	76.4	75.52
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				77.0917
		SD				2.2788
	Great Black-backed Gull	N				6
		MEAN				76.645
		SD				0.6179
Pigeon Island	Herring Gull	N				6
		MEAN				74.9217
		SD				3.1518
	Great Black-backed Gull	N				6
		MEAN				76.07
		SD				2.24
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	76.66	76.04	76.5	75.79
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	75.79	74.68	77.1	76.04
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			81.84	
		SD				
Niagara River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	76.41	76.48	76.2	75.33
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			80.06	
		SD				

Lake Erie			Year				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	76.14	75.06	76.3231	76.1	75.3
		SD			0.9020		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	76.74	76.78		76.3	75.63
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				83.42	
		SD					
Detroit River			Year				
Colony	**Species**		**1998**	**1999**	**2000**		**2001**
Fighting Island	Herring Gull	N	1	1	1		1
		MEAN	77.41	76.45	76.6		76.73
		SD					

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PERCENT MOISTURE IN EGG

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	76.62	75.73	76.7	75.82
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	74.74	75.23	75.5	73.74
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			80.23	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			79.03	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	75.47	75.85	73.9	76.55
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	75.52	76.27	76.2	75.01
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	76.5	75.41	76.62	76.98
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			74.65	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			74.76	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			74.75	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	76.05	76.24	75.7	75.23
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	76.61	75.2	76.5	75.4
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			75.31	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
ALPHA (CIS) - CHLORDANE

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.001	TR	0.001
		STD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				
Lake Ontario			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.001	0.001	TR	TR
		STD				
Pigeon Island	Herring Gull	N				6
		MEAN				0.0062
		STD				0.0132
	Great Black-backed Gull	N				6
		MEAN				0.01
		STD				0.01
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0079
		STD				0.0153
	Great Black-backed Gull	N				6
		MEAN				0.012
		STD				0.0078
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.002	0.002	0.002
		STD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.005	0.002	0.003
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.004	
		STD				
Niagara River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.001	0.003	0.002	0.001
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				

Lake Erie			Year				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	TR	0.003	0.0024	0.003	0.001
		STD			0.0016		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.005	0.003		ND	0.003
		STD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.005	
		STD					

Detroit River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.003	0.002	0.003
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
ALPHA (CIS) - CHLORDANE

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.001	
		STD				
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	TR	0.004	0.001	TR
		STD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.001	0.003	0.004	0.005
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.002	
		STD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.002	0.001	0.001
		STD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.007	0.01	0.005	0.004
		STD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.006	0.002	0.002
		STD				
St. Mary's River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.003	
		STD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			ND	
		STD				
Chene Island	Herring Gull	N			1	
		MEAN			TR	
		STD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.004	0.002	0.002
		STD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.004	0.004	0.001	TR
		STD				
Mutton Island	Herring Gull	N			1	
		MEAN			TR	
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
GAMMA (TRANS) - CHLORDANE

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		STD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
Pigeon Island	Herring Gull	N				6
		MEAN				ND
		STD				0
	Great Black-backed Gull	N				6
		MEAN				ND
		STD				0
Little Galloo Island	Herring Gull	N				6
		MEAN				ND
		STD				0
	Great Black-backed Gull	N				6
		MEAN				ND
		STD				0
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		STD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		STD				

Lake Erie			**Year**				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	ND	ND	ND	ND	ND
		STD			0		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	ND	ND		ND	ND
		STD					
	Black-crowned Night-Heron	N				1	
		MEAN				ND	
		STD					

Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
GAMMA (TRANS) - CHLORDANE

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		STD				
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		STD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
St. Mary's River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			ND	
		STD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			ND	
		STD				
Chene Island	Herring Gull	N			1	
		MEAN			ND	
		STD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		STD				
Mutton Island	Herring Gull	N			1	
		MEAN			ND	
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
OXY - CHLORDANE

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.029	0.044	0.032	0.036
		STD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.015	
		STD				
Lake Ontario			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.039	0.059	0.039	0.041
		STD				
Pigeon Island	Herring Gull	N				6
		MEAN				0.0422
		STD				0.0169
	Great Black-backed Gull	N				6
		MEAN				0.0628
		STD				0.0171
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0528
		STD				0.0123
	Great Black-backed Gull	N				6
		MEAN				0.067
		STD				0.0187
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.027	0.05	0.041	0.031
		STD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.022	0.045	0.029	0.040
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.027	
		STD				
Niagara River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.023	0.03	0.025	0.022
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.026	
		STD				

Lake Erie			Year				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.021	0.011	0.0142	0.016	0.023
		STD			0.0071		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.032	0.029		0.036	0.034
		STD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.014	
		STD					

Detroit River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.031	0.037	0.025	0.025
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
OXY - CHLORDANE

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.012	
		STD				
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.035	0.051	0.033	0.034
		STD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.062	0.045	0.054	0.068
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.011	
		STD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.051	0.047	0.041	0.040
		STD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.151	0.222	0.187	0.033
		STD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.146	0.12	0.176	0.079
		STD				
St. Mary's River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.062	
		STD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.033	
		STD				
Chene Island	Herring Gull	N			1	
		MEAN			0.058	
		STD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.095	0.016	0.099	0.043
		STD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.199	0.1	0.065	0.046
		STD				
Mutton Island	Herring Gull	N			1	
		MEAN			0.06	
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
1234-CHLOROBENZENE

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		STD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
Pigeon Island	Herring Gull	N				6
		MEAN				0.0006
		STD				0.0002
	Great Black-backed Gull	N				6
		MEAN				ND
		STD				0
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0005
		STD				0.0003
	Great Black-backed Gull	N				6
		MEAN				TR
		STD				0
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		STD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				

Lake Erie			**Year**				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	TR	TR	0.0005	TR	ND
		STD			0.0001		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	TR	ND		TR	TR
		STD					
	Black-crowned Night-Heron	N				1	
		MEAN				ND	
		STD					

Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
1234-CHLOROBENZENE

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		STD				
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.026	0.065	0.015	0.02
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	ND	ND
		STD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.003	TR	TR	ND
		STD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	TR	TR	TR
		STD				
St. Mary's River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			TR	
		STD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			ND	
		STD				
Chene Island	Herring Gull	N			1	
		MEAN			ND	
		STD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	ND	ND
		STD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	ND	ND
		STD				
Mutton Island	Herring Gull	N			1	
		MEAN			TR	
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
1245-CHLOROBENZENE

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
Pigeon Island	Herring Gull	N				6
		MEAN				TR
		STD				0
	Great Black-backed Gull	N				6
		MEAN				ND
		STD				0
Little Galloo Island	Herring Gull	N				6
		MEAN				TR
		STD				0
	Great Black-backed Gull	N				6
		MEAN				0.0008
		STD				0.0006
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	TR	0.001	TR	TR
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				

Lake Erie			**Year**				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	TR	TR	0.0005	TR	TR
		STD			0.0001		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	TR	TR		TR	TR
		STD					
	Black-crowned Night-Heron	N				1	
		MEAN				TR	
		STD					

Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
1245-CHLOROBENZENE

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	TR	TR	TR
		STD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.005	0.019	0.005	0.01
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	ND
		STD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
St. Mary's River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.031	
		STD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			TR	
		STD				
Chene Island	Herring Gull	N			1	
		MEAN			TR	
		STD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	ND
		STD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		STD				
Mutton Island	Herring Gull	N			1	
		MEAN			TR	
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PENTACHLOROBENZENE (QCB)

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.001	0.001	0.001
		STD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.003	0.002	0.001	TR
		STD				
Pigeon Island	Herring Gull	N				6
		MEAN				0.0036
		STD				0.0071
	Great Black-backed Gull	N				6
		MEAN				0.0039
		STD				0.0055
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0033
		STD				0.0057
	Great Black-backed Gull	N				6
		MEAN				0.0043
		STD				0.0041
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	ND	0.002	0.001	TR
		STD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.003	0.002	TR
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.002	0.001	0.002
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				

Lake Erie			**Year**				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.001	0.001	0.0012	0.002	TR
		STD			0.0015		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.001	0.001		0.002	0.001
		STD					
	Black-crowned Night-Heron	N				1	
		MEAN				TR	
		STD					

Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.001	0.002	0.003	0.002
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PENTACHLOROBENZENE (QCB)

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.002	0.002	0.002
		STD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.011	0.011	0.005	0.005
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			TR	
		STD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.001	0.001	TR	TR
		STD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	TR	TR	TR
		STD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	TR	0.005	0.001
		STD				
St. Mary's River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.001	
		STD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			TR	
		STD				
Chene Island	Herring Gull	N			1	
		MEAN			0.001	
		STD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	TR	0.001	TR	TR
		STD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.001	0.002	TR
		STD				
Mutton Island	Herring Gull	N			1	
		MEAN			ND	
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
HEXACHLOROBENZENE (HCB)

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.016	0.015	0.012	0.015
		STD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.003	
		STD				
Lake Ontario			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.019	0.02	0.014	0.01
		STD				
Pigeon Island	Herring Gull	N				6
		MEAN				0.0118
		STD				0.0042
	Great Black-backed Gull	N				6
		MEAN				0.04
		STD				0.05
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0145
		STD				0.0071
	Great Black-backed Gull	N				6
		MEAN				0.0407
		STD				0.0292
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.001	0.015	0.011	0.008
		STD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.014	0.019	0.014	0.009
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.007	
		STD				
Niagara River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.028	0.014	0.013	0.019
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.006	
		STD				
Lake Erie			Year				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.01	0.008	0.0088	0.009	0.007
		STD			0.0113		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.011	0.011		0.013	0.011
		STD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.003	
		STD					
Detroit River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.008	0.02	0.021	0.015
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
HEXACHLOROBENZENE (HCB)

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.002	
		STD				
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.015	0.018	0.013	0.009
		STD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.028	0.024	0.025	0.026
		STD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.003	
		STD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.013	0.013	0.013	0.011
		STD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.01	0.017	0.014	0.01
		STD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.013	0.014	0.013	0.009
		STD				
St. Mary's River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.091	
		STD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.007	
		STD				
Chene Island	Herring Gull	N			1	
		MEAN			0.011	
		STD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.009	0.014	0.015	0.008
		STD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.015	0.019	0.014	0.01
		STD				
Mutton Island	Herring Gull	N			1	
		MEAN			ND	
		STD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
DDD

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.001	0.001	0.004
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.001	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.002	0.002	0.002
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0063
		SD				0.006
	Great Black-backed Gull	N				6
		MEAN				0.0052
		SD				0.0027
Pigeon Island	Herring Gull	N				6
		MEAN				0.0023
		SD				0.003
	Great Black-backed Gull	N				6
		MEAN				0.0048
		SD				0.0031
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.001	0.002	0.002	0.002
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.003	0.005	0.003
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.02	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.026	0.003	0.003	0.001
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.003	
		SD				

Lake Erie			**Year**				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	TR	0.005	0.0016	0.002	0.002
		SD			0.0008		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.008	0.003		0.005	0.003
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.007	
		SD					
Detroit River			**Year**				
Colony	**Species**		**1998**	**1999**	**2000**		**2001**
Fighting Island	Herring Gull	N	1	1	1		1
		MEAN	0.003	0.003	0.006		0.004
		SD					

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
DDD

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	0.001	TR
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.023	0.012	0.02	0.024
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.012	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.002	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	TR	TR	TR	TR
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.003	0.002	0.004	0.002
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.009	0.003	0.001	0.001
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.002	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			TR	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			0.001	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	TR	0.002	TR	TR
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	TR	0.001	TR	TR
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			TR	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
DDE

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	1.946	2.231	1.639	1.832
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.601	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	2.357	2.594	1.968	2.15
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				3.6665
		SD				1.5378
	Great Black-backed Gull	N				6
		MEAN				9.7973
		SD				3.1474
Pigeon Island	Herring Gull	N				6
		MEAN				2.6703
		SD				1.6606
	Great Black-backed Gull	N				6
		MEAN				7.00
		SD				1.55
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	1.661	1.814	1.741	1.631
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	1.96	2.174	1.987	1.758
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			1.771	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	1.637	1.016	0.725	0.774
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			1.143	
		SD				
Lake Erie			**Year**				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.598	0.504	0.3816	0.375	0.562
		SD			0.1742		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	1.057	1.021		1.08	0.913
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.801	
		SD					
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	1.342	1.321	1.254	1.131
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
DDE

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.727	1.372	0.877	0.89
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	3.579	2.579	3.796	4.724
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			1.071	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.24	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	1.228	1.237	1.16	1.082
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	4.945	6.463	6.287	3.741
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	5.347	3.626	4.877	3.042
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			1.64	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.938	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			1.541	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	1.728	1.687	2.18	0.883
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	3.591	2.425	1.537	1.211
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			1.618	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
DDT

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.007	0.01	0.006	0.009
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.002	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.005	0.015	0.005	0.004
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0095
		SD				0.0051
	Great Black-backed Gull	N				6
		MEAN				0.0265
		SD				0.0488
Pigeon Island	Herring Gull	N				6
		MEAN				0.007
		SD				0.003
	Great Black-backed Gull	N				6
		MEAN				0.01
		SD				0.01
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.003	0.011	0.005	0.004
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.006	0.012	0.005	0.004
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.002	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.881	0.011	0.002	0.002
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.002	
		SD				

Lake Erie			Year				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.003	TR	0.0022	0.002	0.003
		SD			0.0008		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.009	0.002		0.003	0.003
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.002	
		SD					

Detroit River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.013	0.005	0.067	0.005
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
DDT

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.004	0.012	0.009	0.006
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.003	0.013	0.068	0.024
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.003	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.001	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.005	0.011	0.006	0.004
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.016	0.02	0.016	0.008
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.042	0.016	0.016	0.01
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.015	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.002	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			0.004	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.006	0.016	0.004	0.004
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.013	0.018	0.003	0.003
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			0.004	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
DIELDRIN

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.023	0.052	0.03	0.024
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.019	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.031	0.05	0.036	0.024
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0345
		SD				0.0065
	Great Black-backed Gull	N				6
		MEAN				0.1218
		SD				0.0848
Pigeon Island	Herring Gull	N				6
		MEAN				0.0398
		SD				0.0307
	Great Black-backed Gull	N				6
		MEAN				0.08
		SD				0.07
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.024	0.049	0.032	0.028
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.017	0.074	0.038	0.049
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.031	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.019	0.054	0.038	0.026
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.018	
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.014	0.058	0.0371	0.035	0.034
		SD			0.0159		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.049	0.039		0.042	0.049
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.03	
		SD					
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.022	0.036	0.032	0.037
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
DIELDRIN

Lake Huron			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.08	0.041	0.032
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.039	0.038	0.037	0.051
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.013	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.007	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.035	0.057	0.039	0.029
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.098	0.156	0.077	0.076
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.087	0.121	0.085	0.063
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.038	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.014	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			0.032	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.05	0.077	0.053	0.04
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.082	0.131	0.048	0.042
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			0.025	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
HEPTACHLOR EPOXIDE (HE)

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.013	0.022	0.016	0.02
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.005	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.018	0.029	0.02	0.018
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0195
		SD				0.0055
	Great Black-backed Gull	N				6
		MEAN				0.0327
		SD				0.0106
Pigeon Island	Herring Gull	N				6
		MEAN				0.0205
		SD				0.0087
	Great Black-backed Gull	N				6
		MEAN				0.03
		SD				0.01
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.012	0.021	0.014	0.013
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.009	0.022	0.015	0.017
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.013	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.01	0.02	0.013	0.011
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.013	
		SD				

Lake Erie			Year				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.01	0.016	0.0106	0.012	0.015
		SD			0.0041		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.021	0.019		0.02	0.02
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.009	
		SD					

Detroit River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.013	0.02	0.016	0.017
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
HEPTACHLOR EPOXIDE (HE)

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.016	0.032	0.018	0.019
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.021	0.024	0.021	0.023
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.004	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.003	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.024	0.029	0.021	0.019
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.064	0.093	0.059	0.043
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.067	0.065	0.062	0.035
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.025	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.014	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			0.024	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.039	0.04	0.041	0.022
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.058	0.062	0.031	0.025
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			0.024	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
ALPHA – HEXACHLOROCYCLOHEXANE

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Little Galloo Island	Herring Gull	N				6
		MEAN				ND
		SD				0
	Great Black-backed Gull	N				6
		MEAN				ND
		SD				0
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Pigeon Island	Herring Gull	N				6
		MEAN				ND
		SD				0
	Great Black-backed Gull	N				6
		MEAN				ND
		SD				0
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Lake Erie			**Year**				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	ND	ND	ND	ND	ND
		SD			0		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	ND	ND		ND	ND
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				ND	
		SD					
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
ALPHA – HEXACHLOROCYCLOHEXANE

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			ND	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			ND	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			ND	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			0.002	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
BETA – HEXACHLOROCYCLOHEXANE

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.001	ND	ND
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.004	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.002	ND	ND
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				ND
		SD				0
	Great Black-backed Gull	N				6
		MEAN				ND
		SD				0
Pigeon Island	Herring Gull	N				6
		MEAN				ND
		SD				0
	Great Black-backed Gull	N				6
		MEAN				ND
		SD				0
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	ND	0.001	ND	ND
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	ND	0.002	ND	ND
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	ND	0.002	ND	ND
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.015	
		SD				

Lake Erie			**Year**				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	ND	ND	ND	ND	ND
		SD			0		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	ND	ND		ND	ND
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.041	
		SD					

Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
BETA – HEXACHLOROCYCLOHEXANE

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.002	ND	ND
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			ND	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			ND	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			ND	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	ND	TR	ND	ND
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	ND	TR	ND	ND
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			ND	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
GAMMA – HEXACHLOROCYCLOHEXANE

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				ND
		SD				0
	Great Black-backed Gull	N				6
		MEAN				ND
		SD				0
Pigeon Island	Herring Gull	N				6
		MEAN				ND
		SD				0
	Great Black-backed Gull	N				6
		MEAN				ND
		SD				0
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Lake Erie			**Year**				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	ND	ND	ND	ND	ND
		SD			0		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	ND	ND		ND	ND
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				ND	
		SD					
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
GAMMA – HEXACHLOROCYCLOHEXANE

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			ND	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			ND	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			ND	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	ND	ND	ND	ND
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			ND	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
TOTAL MERCURY

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N		1	1	1
		MEAN		0.8298	0.8543	1.37
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			1.127	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N		1	1	1
		MEAN		1.1	0.6761	0.856
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				0.2303
		SD				0.2158
	Great Black-backed Gull	N				6
		MEAN				0.6847
		SD				0.2503
Pigeon Island	Herring Gull	N				6
		MEAN				0.1949
		SD				0.0550
	Great Black-backed Gull	N				6
		MEAN				0.5945
		SD				0.3501
Leslie Street Spit	Herring Gull	N		1	1	1
		MEAN		0.5202	0.6403	0.64
		SD				
Hamilton Harbour	Herring Gull	N		1	1	1
		MEAN		0.634	0.6874	0.74
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.727	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N		1	1	1
		MEAN		0.5347	0.4706	0.506
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			1.205	
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Port Colborne	Herring Gull	N		1	1	1
		MEAN		0.542	0.4595	0.607
		SD				
Middle Island	Herring Gull	N		1	1	1
		MEAN		0.4192	0.3912	0.766
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			1.409	
		SD				
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N		1	1	1
		MEAN		0.4601	0.6551	0.664
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
TOTAL MERCURY

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N		1	1	1
		MEAN		0.4996	0.4468	0.612
		SD				
Channel-Shelter Island	Herring Gull	N		1	1	1
		MEAN		0.6045	0.8344	0.787
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.808	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			1.38	
		SD				
Double Island	Herring Gull	N		1	1	1
		MEAN		0.6331	0.6892	0.759
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N		1	1	1
		MEAN		0.656	1.863	1.1
		SD				
Big Sister Island	Herring Gull	N		1	1	1
		MEAN		0.6284	0.6968	0.771
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.8915	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.472	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			0.4848	
		SD				
Agawa Rock	Herring Gull	N		1	1	1
		MEAN		0.5654	0.7288	1.05
		SD				
Granite Island	Herring Gull	N		1	1	1
		MEAN		0.4579	0.924	0.694
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			0.46	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
TRIS (4-CHLOROPHENYL) METHANOL

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.003	0.002	0.002
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Lake Ontario			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.006	0.004	0.004
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0057
		SD				0.0023
	Great Black-backed Gull	N				6
		MEAN				0.0125
		SD				0.0054
Pigeon Island	Herring Gull	N				6
		MEAN				0.0088
		SD				0.0109
	Great Black-backed Gull	N				6
		MEAN				0.02
		SD				0.01
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	ND	0.005	0.003	0.008
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	ND	0.003	0.006	0.004
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Niagara River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	ND	0.002	0.002	0.002
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				

Lake Erie			Year				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	ND	ND	ND	ND	0.002
		SD			0		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	ND	0.002		0.003	0.003
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				ND	
		SD					

Detroit River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.002	0.004	0.002
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
TRIS (4-CHLOROPHENYL) METHANOL

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.003	0.004	0.002
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.012	0.016	0.009
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.003	0.003	0.003
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.011	0.012	0.006
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.006	0.006	ND	0.005
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			ND	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			ND	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			ND	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	ND	0.003	0.004	0.001
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.005	0.003	0.002
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			ND	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED MIREX

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.406	0.494	0.328	0.317
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.029	
		SD				
Lake Ontario			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.45	0.482	0.366	0.358
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				0.7287
		SD				0.3136
	Great Black-backed Gull	N				6
		MEAN				1.9997
		SD				0.7644
Pigeon Island	Herring Gull	N				6
		MEAN				0.4785
		SD				0.2744
	Great Black-backed Gull	N				6
		MEAN				1.98
		SD				0.51
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.334	0.424	0.335	0.349
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.321	0.419	0.369	0.218
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.292	
		SD				
Niagara River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.096	0.104	0.066	0.067
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.215	
		SD				
Lake Erie			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.038	0.021	0.0147	0.015	0.023
		SD			0.0062		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.012	0.01		0.022	0.008
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.051	
		SD					
Detroit River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.013	0.01	0.015	0.011
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED MIREX

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.02	0.074	0.083	0.051
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.067	0.022	0.03	0.024
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.004	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.018	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.024	0.035	0.045	0.022
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.018	0.023	0.051	0.022
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.036	0.014	0.022	0.013
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.03	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.023	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			0.048	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.021	0.018	0.027	0.016
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.066	0.04	0.044	0.043
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			0.023	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED PHOTOMIREX

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.14	0.174	0.128	0.111
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.02	
		SD				
Lake Ontario			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.182	0.201	0.166	0.133
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				0.2823
		SD				0.1283
	Great Black-backed Gull	N				6
		MEAN				0.7618
		SD				0.3287
Pigeon Island	Herring Gull	N				6
		MEAN				0.1873
		SD				0.105
	Great Black-backed Gull	N				6
		MEAN				0.73
		SD				0.21
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.133	0.159	0.134	0.121
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.122	0.16	0.144	0.085
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.117	
		SD				
Niagara River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.04	0.041	0.033	0.034
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.082	
		SD				

Lake Erie			Year				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.017	0.009	0.0062	0.006	0.009
		SD			0.0032		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.005	0.004		0.01	0.003
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.007	
		SD					

Detroit River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.006	0.004	0.014	0.004
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED PHOTOMIREX

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.012	0.037	0.054	0.021
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.033	0.013	0.008	0.01
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.003	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.006	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.015	0.02	0.028	0.013
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.019	0.022	0.038	0.016
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.025	0.014	0.02	0.01
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.035	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.02	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			0.031	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.017	0.013	0.02	0.011
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.038	0.025	0.038	0.022
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			0.022	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
CIS-NONACHLOR

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.015	0.026	0.016	0.023
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.004	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0245
		SD				0.012
	Great Black-backed Gull	N				6
		MEAN				0.0582
		SD				0.0263
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.021	0.037	0.023	0.023
		SD				
Pigeon Island	Herring Gull	N				6
		MEAN				0.0232
		SD				0.0124
	Great Black-backed Gull	N				6
		MEAN				0.05
		SD				0.03
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.014	0.027	0.018	0.017
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.015	0.03	0.022	0.02
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.025	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.013	0.022	0.012	0.013
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.024	
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.008	0.014	0.01	0.01	0.013
		SD			0.0035		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.019	0.023		0.019	0.023
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.017	
		SD					
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.012	0.019	0.015	0.018
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
CIS-NONACHLOR

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.013	0.037	0.019	0.02
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.018	0.026	0.027	0.031
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.01	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.007	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.032	0.036	0.032	0.028
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.05	0.087	0.092	0.06
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.041	0.058	0.055	0.035
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.039	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.017	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			0.024	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.026	0.043	0.036	0.024
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.05	0.07	0.031	0.031
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			0.027	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
TRANS-NONACHLOR

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.011	0.018	0.012	0.021
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			0.011	
		SD				
Lake Ontario			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.011	0.018	0.014	0.011
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				0.016
		SD				0.0119
	Great Black-backed Gull	N				6
		MEAN				0.1407
		SD				0.1227
Pigeon Island	Herring Gull	N				6
		MEAN				0.0122
		SD				0.0101
	Great Black-backed Gull	N				6
		MEAN				0.10
		SD				0.12
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.009	0.02	0.014	0.014
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.01	0.02	0.013	0.012
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.046	
		SD				
Niagara River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.007	0.016	0.007	0.006
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.049	
		SD				
Lake Erie			Year				
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.004	0.011	0.0069	0.007	0.007
		SD			0.0019		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.013	0.013		0.002	0.011
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.032	
		SD					
Detroit River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.013	0.012	0.012
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
TRANS-NONACHLOR

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.009	0.027	0.012	0.01
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.013	0.019	0.021	0.021
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.016	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.019	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.015	0.026	0.016	0.012
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.037	0.061	0.06	0.037
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.016	0.044	0.021	0.019
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.026	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.01	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			0.011	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.012	0.032	0.02	0.015
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.037	0.057	0.016	0.019
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			0.014	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
OCTOCHLOROSTYRENE

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.005	0.007	0.005	0.006
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.007	0.007	0.006	0.007
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				0.0147
		SD				0.0146
	Great Black-backed Gull	N				6
		MEAN				0.0323
		SD				0.0118
Pigeon Island	Herring Gull	N				6
		MEAN				0.0053
		SD				0.0022
	Great Black-backed Gull	N				6
		MEAN				0.02
		SD				0.01
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.004	0.005	0.003	0.004
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.004	0.007	0.006	0.004
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.003	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.005	0.005	0.003	0.004
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.002	
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	0.001	0.002	0.0017	0.002	0.002
		SD			0.001		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	0.008	0.008		0.008	0.009
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				0.002	
		SD					
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.006	0.011	0.02	0.013
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
OCTOCHLOROSTYRENE

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.001	0.004	0.004	0.002
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	0.019	0.02	0.024	0.033
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			0.003	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			ND	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.002	0.002	0.002
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.001	0.002	0.001
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.003	0.001	0.001	0.001
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			0.003	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			0.001	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			0.002	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	TR	0.002	0.002	0.002
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.002	0.003	0.002	0.003
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			0.001	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 1260

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	8.34	7.573	6.651	4.8814
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			2.235	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	6.2087	5.2099	4.599	4.3066
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				7.3936
		SD				3.0553
	Great Black-backed Gull	N				6
		MEAN				21.8872
		SD				8.0662
Pigeon Island	Herring Gull	N				6
		MEAN				4.8616
		SD				3.6818
	Great Black-backed Gull	N				6
		MEAN				18.02
		SD				5.32
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	5.5545	4.6898	4.398	4.2153
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	9.4449	8.1569	7.172	5.4106
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			6.268	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	6.2318	3.7226	4.307	3.1569
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			3.193	
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	4.8278	4.1058	3.4124	3.266	3.5401
		SD			1.9364		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	13.9261	11.5967		10.639	13.9234
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				1.67	
		SD					
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	13.8369	11.8613	19.443	14.9544
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 1260

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	1.8156	2.2628	1.715	1.9161
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	14.7131	13.0839	17.089	20.55
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			1.141	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.347	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	2.3745	2.2993	1.825	2.1350
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	8.8214	10.1642	12.153	7.1989
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	8.084	6.1953	6.022	3.9416
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			3.111	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			1.77	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			3.002	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	3.4615	3.7774	4.599	1.8248
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	6.7743	3.7682	2.947	2.6095
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			2.6	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 1254:1260

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	17.1280	16.8356	14.712	13.7260
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			3.548	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	15.1247	13.7534	11.411	11.8082
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				20.79
		SD				9.4475
	Great Black-backed Gull	N				6
		MEAN				51.95
		SD				16.3429
Pigeon Island	Herring Gull	N				6
		MEAN				14.1918
		SD				10.1471
	Great Black-backed Gull	N				6
		MEAN				44.36
		SD				7.86
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	11.4496	10.0685	8.74	9.9726
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	16.4897	16.2603	15.479	13.6439
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			15.534	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	10.8331	7.4932	7.164	6.5479
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			7.932	
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	7.8282	6.5479	5.4679	5.014	6.5616
		SD			3.0301		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	23.3514	19.0685		18.301	24.863
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				4.014	
		SD					
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	20.7481	18.1781	25.603	26.3288
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 1254:1260

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	3.5629	5.9315	4.137	4.4795
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	35.0019	27.0685	36.274	48.45
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			3.027	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.795	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	5.5971	5.7397	4.904	5.411
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	26.0726	29.4795	31.178	18.6165
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	23.151	17.3562	22.986	13.1644
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			8.493	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			4.178	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			7.301	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	8.6762	8.7534	11.356	5.0822
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	17.244	10.5616	7.973	7.0411
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			6.973	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
SUM PCB

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	11.207	10.328	9.138	8.659
		SD				
McNair Island	Black-crowned Night-Heron	N			1	
		MEAN			2.188	
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	7.856	7.168	5.941	5.919
		SD				
Little Galloo Island	Herring Gull	N				6
		MEAN				10.5805
		SD				4.9230
	Great Black-backed Gull	N				6
		MEAN				26.4633
		SD				7.995
Pigeon Island	Herring Gull	N				6
		MEAN				7.182
		SD				5.1928
	Great Black-backed Gull	N				6
		MEAN				22.71
		SD				4.65
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	5.713	5.329	4.613	4.903
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	8.595	8.78	8.135	6.676
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			7.735	
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	5.802	4.18	3.98	3.489
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			3.97	
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	13	1	1
		MEAN	4.286	3.752	3.0977	2.893	3.558
		SD			1.6114		
Middle Island	Herring Gull	N	1	1		1	1
		MEAN	12.578	10.63		9.799	13.087
		SD					
	Black-crowned Night-Heron	N				1	
		MEAN				3.355	
		SD					
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	11.086	10.188	15.141	13.769
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
SUM PCB

Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	1.97	3.201	2.241	2.328
		SD				
Channel-Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	21.224	17.074	24.037	30.52
		SD				
	Black-crowned Night-Heron	N			1	
		MEAN			1.902	
		SD				
Nottawasaga Island	Black-crowned Night-Heron	N			1	
		MEAN			0.48	
		SD				
Double Island	Herring Gull	N	1	1	1	1
		MEAN	2.898	3.044	2.431	2.732
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	12.042	14.064	14.62	8.917
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	12.082	9.294	11.22	6.962
		SD				
St. Marys River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Pumpkin Point	Herring Gull	N			1	
		MEAN			4.56	
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Skin Island	Herring Gull	N			1	
		MEAN			1.992	
		SD				
Chene Island	Herring Gull	N			1	
		MEAN			3.459	
		SD				
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	4.096	4.455	5.394	2.447
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	8.163	5.45	4.038	3.485
		SD				
Mutton Island	Herring Gull	N			1	
		MEAN			3.208	
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 37

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	5.94	1.83	1.26	2.46
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.7	1.23	3.6
		SD				
Little Galloo Island	Herring Gull	N				1
		MEAN				2.55
		SD				
	Great Black-backed Gull	N				1
		MEAN				4.55
		SD				
Pigeon Island	Herring Gull	N				1
		MEAN				1.83
		SD				
	Great Black-backed Gull	N				1
		MEAN				4.47
		SD				
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	ND	1.96	1.1	1.93
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	ND	1.16	0.225	4.51
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	2.35	1.27	2.18	2.35
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	1	1
		MEAN	1.1	4.01	2.77	2.36
		SD				
Middle Island	Herring Gull	N	1	1	1	1
		MEAN	2.02	0.88	1.3	1.65
		SD				
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	1.99	1.16	0.16	5.01
		SD				
Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.99	0.96	1	1.15
		SD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	4.54	56.16	8.52	16.06
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 37

Double Island	Herring Gull	N	1	1	1	1
		MEAN	ND	0.37	ND	2.72
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	3.08	2.26	1.47	3.38
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	INT	8.91	7.47	11.21
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.83	0.83	1.38	1.62
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	2.52	0.8	0.15	2.97
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 77

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	464.14	317.83	262.21	416.95
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	248.69	167.42	388.8	158.58
		SD				
Little Galloo Island	Herring Gull	N				1
		MEAN				249.8
		SD				
	Great Black-backed Gull	N				1
		MEAN				888.16
		SD				
Pigeon Island	Herring Gull	N				1
		MEAN				156.28
		SD				
	Great Black-backed Gull	N				1
		MEAN				955.88
		SD				
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	160.41	142.78	163.98	150.4
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	78.82	401.44	293.51	266.43
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	76.27	429.17	391.73	127.41
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	1	1
		MEAN	50.09	483.04	269.03	230.98
		SD				
Middle Island	Herring Gull	N	1	1	1	1
		MEAN	310.06	425.87	666.94	523.68
		SD				
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	94.02	245.68	141	405.01
		SD				
Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	19.86	442.2	157.48	125.71
		SD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	377.48	871.53	594.71	1204.74
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 77

Double Island	Herring Gull	N	1	1	1	1
		MEAN	81.34	161.19	109.33	192.65
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	371.4	1380.04	416.61	781.91
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	236.21	1291.78	639.34	1270.74
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	49.69	547.18	80.65	220.06
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	157.85	579.59	138.31	91.97
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 81

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	176.72	191.35	169.67	215.19
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	179.88	207.14	201.04	198.3
		SD				
Little Galloo Island	Herring Gull	N				1
		MEAN				220.27
		SD				
	Great Black-backed Gull	N				1
		MEAN				270.75
		SD				
Pigeon Island	Herring Gull	N				1
		MEAN				148.39
		SD				
	Great Black-backed Gull	N				1
		MEAN				271.1
		SD				
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	62.47	140.51	72.52	94.21
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	42.33	165.96	139.24	134.7
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	41.13	127.93	74.82	85.81
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	1	1
		MEAN	30.56	73.07	51.46	98.2
		SD				
Middle Island	Herring Gull	N	1	1	1	1
		MEAN	151.55	157.76	205.45	325.44
		SD				
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	33.79	140.54	82.11	176.52
		SD				
Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	28.73	172.01	75.18	96.14
		SD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	235.63	252.34	328.96	505.22
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 81

Double Island	Herring Gull	N	1	1	1	1
		MEAN	62.65	106.6	72.44	109.01
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	182.67	360.52	258.72	190.49
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	263.19	280.74	341.45	354.39
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	52.11	127.15	74.2	100.08
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	125.81	243.68	149.19	148.77
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 126

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	1977.86	1956.75	2062.65	1852.15
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	2117.97	1685.64	2000.42	1925.73
		SD				
Little Galloo Island	Herring Gull	N				1
		MEAN				3027.29
		SD				
	Great Black-backed Gull	N				1
		MEAN				3497.06
		SD				
Pigeon Island	Herring Gull	N				1
		MEAN				2196.63
		SD				
	Great Black-backed Gull	N				1
		MEAN				216.83
		SD				
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	1505.51	1192.77	1213.79	1256.96
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	1042.5	1357.69	1795.72	1592.4
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	1036.08	790.45	1128.35	1411.22
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	1	1
		MEAN	765.93	704.37	659.2	836.56
		SD				
Middle Island	Herring Gull	N	1	1	1	1
		MEAN	2098.06	1755.9	2282.67	2831.03
		SD				
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	1189.72	1507.27	1760.06	1653.75
		SD				
Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	693.38	1162.23	836.68	926.34
		SD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	4446.65	2600.43	5271.35	5967.14
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 126

Double Island	Herring Gull	N	1	1	1	1
		MEAN	1289.5	1120.32	1201.61	1112.98
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	4455.32	5211.41	5840.79	2333.65
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	4406.48	3070.41	4274.87	2278.92
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	1335.07	1480.11	2120.89	1027.11
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	2534.2	2135.15	1659.39	1304.09
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 169

St. Lawrence River			Year			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	155.86	176.84	164.72	183.12
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	195.89	149.06	177.61	213.54
		SD				
Little Galloo Island	Herring Gull	N				1
		MEAN				369.47
		SD				
	Great Black-backed Gull	N				1
		MEAN				207.51
		SD				
Pigeon Island	Herring Gull	N				1
		MEAN				306.35
		SD				
	Great Black-backed Gull	N				1
		MEAN				245.88
		SD				
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	165.13	139.2	135.84	218.7
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	109.6	145.74	181.58	217
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	122.04	74.85	107.73	191.78
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	1	1
		MEAN	78.87	80.67	67.16	128.36
		SD				
Middle Island	Herring Gull	N	1	1	1	1
		MEAN	188.79	202.5	223.61	464.82
		SD				
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	157.58	187.2	182.8	218.26
		SD				
Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	120.57	160.03	101.97	185.54
		SD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	488.55	355.25	585.8	888.6
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 169

Double Island	Herring Gull	N	1	1	1	1
		MEAN	219.02	163.66	196.52	238.51
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	578.66	687.06	761	464.78
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	455.62	356.61	553.45	383.75
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	265.85	230.82	380.69	239.88
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	348.35	271.15	255.19	260.84
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 189

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	114.3	54.65	48.42	42.05
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	18.91	19.3	35.93	50.95
		SD				
Little Galloo Island	Herring Gull	N				1
		MEAN				87.29
		SD				
	Great Black-backed Gull	N				1
		MEAN				182.23
		SD				
Pigeon Island	Herring Gull	N				1
		MEAN				69.49
		SD				
	Great Black-backed Gull	N				1
		MEAN				207.52
		SD				
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	26.83	40.6	31.72	23.64
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	34.85	43.24	81.2	54.83
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	19.24	14.74	32.31	46.66
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	1	1
		MEAN	29.41	40.43	35.66	28.42
		SD				
Middle Island	Herring Gull	N	1	1	1	1
		MEAN	63.43	82.52	105.98	83.28
		SD				
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	72.13	86.62	151.75	127.96
		SD				
Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	19.12	28.08	16.77	15.63
		SD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	137.5	113.93	168.68	240.6
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
PCB 189

Double Island	Herring Gull	N	1	1	1	1
		MEAN	16.08	15.09	31.73	37.15
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	117.18	46.39	109.58	60.07
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	84.37	65.26	73.05	65.56
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	27.24	15.29	27.44	31.71
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	73.76	13.91	44.77	45.22
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
2, 3, 7, 8 - TCDD

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	13.73	25.64	19.14	16.39
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	18.08	30.76	32.36	25.55
		SD				
Little Galloo Island	Herring Gull	N				1
		MEAN				25.45
		SD				
	Great Black-backed Gull	N				1
		MEAN				33.76
		SD				
Pigeon Island	Herring Gull	N				1
		MEAN				20.15
		SD				
	Great Black-backed Gull	N				1
		MEAN				34.94
		SD				
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	9.6	24.67	16.62	14.04
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	4.38	17.26	20.28	13.21
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	4.24	13.84	7.41	15.25
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	1	1
		MEAN	3.33	3.51	2.34	4.05
		SD				
Middle Island	Herring Gull	N	1	1	1	1
		MEAN	6.53	6.37	7.71	9.7
		SD				
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	4.03	5.86	7.12	8.65
		SD				
Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	5.19	14.98	9.51	7.98
		SD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	25.35	19.81	32.68	36.55
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
2, 3, 7, 8 - TCDD

Double Island	Herring Gull	N	1	1	1	1
		MEAN	8.16	12.26	12.36	9.43
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	7.75	6.55	9.52	3.59
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	6.6	5.16	7.35	4.72
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	5.22	5.63	7.33	5.93
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	8.44	9.96	8.6	8.06
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
2, 3, 7, 8 - TCDF

St. Lawrence River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Strachan Island	Herring Gull	N	1	1	1	1
		MEAN	0.25	0.24	0.19	0.32
		SD				
Lake Ontario			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Snake Island	Herring Gull	N	1	1	1	1
		MEAN	0.22	0.19	0.55	ND
		SD				
Little Galloo Island	Herring Gull	N				1
		MEAN				0.42
		SD				
	Great Black-backed Gull	N				1
		MEAN				0.65
		SD				
Pigeon Island	Herring Gull	N				1
		MEAN				0.51
		SD				
	Great Black-backed Gull	N				1
		MEAN				0.81
		SD				
Leslie Street Spit	Herring Gull	N	1	1	1	1
		MEAN	0.49	0.45	0.42	0.6555
		SD				
Hamilton Harbour	Herring Gull	N	1	1	1	1
		MEAN	0.27	0.54	0.65	0.15
		SD				
Niagara River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Niagara River	Herring Gull	N	1	1	1	1
		MEAN	0.37	0.69	0.86	1.17
		SD				
Lake Erie			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Port Colborne	Herring Gull	N	1	1	1	1
		MEAN	INT	0.9	0.64	0.85
		SD				
Middle Island	Herring Gull	N	1	1	1	1
		MEAN	1.06	1.2	1.74	1.19
		SD				
Detroit River			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Fighting Island	Herring Gull	N	1	1	1	1
		MEAN	0.51	0.95	0.36	1.55
		SD				
Lake Huron			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Chantry Island	Herring Gull	N	1	1	1	1
		MEAN	0.14	0.69	0.46	3.05
		SD				
Channel Shelter Island	Herring Gull	N	1	1	1	1
		MEAN	1.11	2.03	1.96	2.87
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13a: CONTAMINANT DATA SUMMARIZED BY COMPOUNDS ANALYZED
2, 3, 7, 8 - TCDF

Double Island	Herring Gull	N	1	1	1	1
		MEAN	0.68	0.95	0.96	1.67
		SD				
Lake Michigan			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Gull Island	Herring Gull	N	1	1	1	1
		MEAN	1.42	2.69	1.25	1.06
		SD				
Big Sister Island	Herring Gull	N	1	1	1	1
		MEAN	0.57	1.53	0.79	1.27
		SD				
Lake Superior			**Year**			
Colony	**Species**		**1998**	**1999**	**2000**	**2001**
Agawa Rock	Herring Gull	N	1	1	1	1
		MEAN	0.42	1.21	0.39	0.74
		SD				
Granite Island	Herring Gull	N	1	1	1	1
		MEAN	0.6	0.7	0.34	0.35
		SD				

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in µg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

INDEX TO TABLE 13B: CONTAMINANT DATA, SUMMARIZED BY COMPOUNDS ANALYZED, BLACK AND FORSTER'S TERNS

Percent Lipid in Egg....110

Percent Moisture in Egg....111

Alpha (Cis)-Chlordane....112

Gamma (Trans)-Chlordane....113

Oxy-Chlordane....114

1234-Chlorobenzene....115

1245-Chlorobenzene....116

Pentachlorobenzene (QCB)....117

Hexachlorobenzene (HCB)....118

DDD....119

DDE....120

DDT....121

Dieldrin....122

Heptachlor Epoxide (HE)....123

Alpha-Hexachlorocyclohexane....124

Beta-Hexachlorocyclohexane....125

Gamma-Hexachlorocyclohexane....126

Total Mercury....127

Tris (4-chlorophenyl) methanol....128

Mirex....129

Photomirex....130

Cis-nonachlor....131

Trans-nonachlor....132

Octochlorostyrene....133

PCB 1260....134

PCB 1254:1260....135

Sum PCB **136**

PCB 37 ..... **137**

PCB 77 ..... **137**

PCB 81 ..... **138**

PCB 126 ..... **138**

PCB 169 ..... **139**

PCB 189 ..... **139**

2,3,7,8-TCDD **140**

2,3,7,8-TCDF **140**

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
PERCENT LIPID IN EGG

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	8.9	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	10.71	
		SD		
	Forster's Tern	N	1	
		MEAN	9.2	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	10.2	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		9.38
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	8.95	
		SD	0.9192	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	9.7	
		SD		
	Forster's Tern	N		1
		MEAN		8.63
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
PERCENT MOISTURE IN EGG

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	74.9	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	73.5	
		SD		
	Forster's Tern	N	1	
		MEAN	77.15	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	74.8	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		77.2
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	74.3	
		SD	0.2828	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	74.8	
		SD		
	Forster's Tern	N		1
		MEAN		77.5
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
ALPHA (CIS) -CHLORDANE

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.0009	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.004	
		SD		
	Forster's Tern	N	1	
		MEAN	0.002	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.0009	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		ND
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0036	
		SD	0.0011	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0051	
		SD		
	Forster's Tern	N		1
		MEAN		0.002
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
GAMMA (TRANS) -CHLORDANE

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	ND	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N	1	
		MEAN	ND	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	ND	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		ND
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0000375	
		SD	0.0000177	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N		1
		MEAN		ND
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
OXY -CHLORDANE

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.0058	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.004	
		SD		
	Forster's Tern	N	1	
		MEAN	0.009	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.007	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		ND
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.006	
		SD	0.0018	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0096	
		SD		
	Forster's Tern	N		1
		MEAN		0.006
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
1234-CHLOROBENZENE

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	ND	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N	1	
		MEAN	ND	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	ND	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		ND
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0002	
		SD	0.0001	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N		1
		MEAN		ND
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
1245-CHLOROBENZENE

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	ND	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	TR	
		SD		
	Forster's Tern	N	1	
		MEAN	TR	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	ND	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		TR
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.00023	
		SD	0.00011	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N		1
		MEAN		TR
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
PENTACHLOROBENZENE (QCB)

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	ND	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.001	
		SD		
	Forster's Tern	N	1	
		MEAN	TR	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	ND	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		TR
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0044	
		SD	0.0017	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N		1
		MEAN		TR
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
HEXACHLOROBENZENE (HCB)

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.005	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.011	
		SD		
	Forster's Tern	N	1	
		MEAN	0.007	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.0052	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		0.001
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0088	
		SD	0.0001	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0076	
		SD		
	Forster's Tern	N		1
		MEAN		0.004
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
DDD

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	ND	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N	1	
		MEAN	TR	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	ND	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		TR
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0001	
		SD	0.0001	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0073	
		SD		
	Forster's Tern	N		1
		MEAN		0.005
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
DDE

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.1767	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.176	
		SD		
	Forster's Tern	N	1	
		MEAN	0.621	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.23	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		0.082
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.1291	
		SD	0.0146	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.4815	
		SD		
	Forster's Tern	N		1
		MEAN		0.818
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
DDT

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.0032	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N	1	
		MEAN	TR	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.0026	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		ND
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0017	
		SD	0.0004	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0104	
		SD		
	Forster's Tern	N		1
		MEAN		TR
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
DIELDRIN

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.0174	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.033	
		SD		
	Forster's Tern	N	1	
		MEAN	0.016	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.0206	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		0.004
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0275	
		SD	0.0006	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0389	
		SD		
	Forster's Tern	N		1
		MEAN		0.011
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
HEPTACHLOR EXPOXIDE (HE)

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.0052	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.004	
		SD		
	Forster's Tern	N	1	
		MEAN	0.007	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.0102	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		0.001
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0088	
		SD	0.0012	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0099	
		SD		
	Forster's Tern	N		1
		MEAN		0.004
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
ALPHA-HEXACHLOROCYCLOHEXANE

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	ND	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N	1	
		MEAN	ND	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	ND	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		ND
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0001	
		SD	0.0001	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N		1
		MEAN		ND
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
BETA-HEXACHLOROCYCLOHEXANE

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	ND	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N	1	
		MEAN	ND	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	ND	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		ND
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0252	
		SD	0.0017	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N		1
		MEAN		ND
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
GAMMA-HEXACHLOROCYCLOHEXANE

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	ND	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N	1	
		MEAN	ND	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	ND	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		ND
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0023	
		SD	0.0005	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N		1
		MEAN		ND
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
TOTAL MERCURY

Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.53	
		SD		
	Forster's Tern	N	1	
		MEAN	2.57	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Tiny Marsh	Black Tern	N		1
		MEAN		0.67
		SD		
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Forster's Tern	N		1
		MEAN		2.21
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
TRIS (4-CHLOROPHENYL) METHANOL

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	ND	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N	1	
		MEAN	0.005	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	ND	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		ND
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0002	
		SD	0.0001	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	ND	
		SD		
	Forster's Tern	N		1
		MEAN		0.002
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
MIREX

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.0206	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.001	
		SD		
	Forster's Tern	N	1	
		MEAN	0.014	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.0056	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		0.002
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0073	
		SD	0	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0053	
		SD		
	Forster's Tern	N		1
		MEAN		0.006
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
PHOTOMIREX

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.0091	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.001	
		SD		
	Forster's Tern	N	1	
		MEAN	0.003	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.0032	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		0.001
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0028	
		SD	0.0009	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0029	
		SD		
	Forster's Tern	N		1
		MEAN		0.002
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
CIS-NONACHLOR

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.0043	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.007	
		SD		
	Forster's Tern	N	1	
		MEAN	0.018	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.005	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		0.002
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0052	
		SD	0.0003	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0114	
		SD		
	Forster's Tern	N		1
		MEAN		0.01
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
TRANS-NONACHLOR

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.01	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.03	
		SD		
	Forster's Tern	N	1	
		MEAN	0.042	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.0134	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		0.003
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0184	
		SD	0.0016	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0246	
		SD		
	Forster's Tern	N		1
		MEAN		0.022
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
OCTOCHLOROSTYRENE

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.0014	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	0.005	
		SD		
	Forster's Tern	N	1	
		MEAN	0.033	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.0012	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		ND
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.0084	
		SD	0.0014	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.0023	
		SD		
	Forster's Tern	N		1
		MEAN		TR
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
PCB 1260

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.4108	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	2.5912	
		SD		
	Forster's Tern	N	1	
		MEAN	3.4307	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.4132	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		0.1734
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	0.5514	
		SD	0.0186	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.7353	
		SD		
	Forster's Tern	N		1
		MEAN		2.0164
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
PCB 1254:1260

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.9435	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	2.7534	
		SD		
	Forster's Tern	N	1	
		MEAN	7.5205	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	1.1163	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		0.3288
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	2	
		MEAN	1.5709	
		SD	0.0363	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	1.4045	
		SD		
	Forster's Tern	N		1
		MEAN		3.9589
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED
BLACK AND FORSTER'S TERNS
SUM PCB

Lake Ontario			**Year**	
Colony	**Species**		**1996**	
Bath	Black Tern	N	1	
		MEAN	0.4616	
		SD		
Lake St. Clair			**Year**	
Colony	**Species**		**1999**	
Walpole Island	Black Tern	N	1	
		MEAN	1.861	
		SD		
	Forster's Tern	N	1	
		MEAN	4.404	
		SD		
Georgian Bay			**Year**	
Colony	**Species**		**1996**	**1999**
Matchedash	Black Tern	N	1	
		MEAN	0.5184	
		SD		
Tiny Marsh	Black Tern	N		1
		MEAN		0.226
		SD		
Sturgeon Lake			**Year**	
Colony	**Species**		**1996**	
Sturgeon Lake	Black Tern	N	1	
		MEAN	2.168	
		SD	0.0012	
Lake Simcoe			**Year**	
Colony	**Species**		**1996**	**1999**
Lake Simcoe	Black Tern	N	1	
		MEAN	0.7426	
		SD		
	Forster's Tern	N		1
		MEAN		2.407
		SD		

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED BLACK AND FORSTER'S TERNS

PCB 37

Lake St. Clair			**Year**
Colony	**Species**		**1999**
Walpole Island	Black Tern	N	1
		MEAN	276.8
		SD	
	Forster's Tern	N	1
		MEAN	22
		SD	
Georgian Bay			**Year**
Colony	**Species**		**1999**
Tiny Marsh	Black Tern	N	1
		MEAN	28.2
		SD	
Lake Simcoe			**Year**
Colony	**Species**		**1999**
Lake Simcoe	Forster's Tern	N	1
		MEAN	37.8
		SD	

PCB 77

Lake St. Clair			**Year**
Colony	**Species**		**1999**
Walpole Island	Black Tern	N	1
		MEAN	3366
		SD	
	Forster's Tern	N	1
		MEAN	2571.9
		SD	
Georgian Bay			**Year**
Colony	**Species**		**1999**
Tiny Marsh	Black Tern	N	1
		MEAN	1416.8
		SD	
Lake Simcoe			**Year**
Colony	**Species**		**1999**
Lake Simcoe	Forster's Tern	N	1
		MEAN	2213.2
		SD	

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED BLACK AND FORSTER'S TERNS

PCB 81

Lake St. Clair			**Year**
Colony	**Species**		**1999**
Walpole Island	Black Tern	N	1
		MEAN	273.4
		SD	
	Forster's Tern	N	1
		MEAN	988.1
		SD	
Georgian Bay			**Year**
Colony	**Species**		**1999**
Tiny Marsh	Black Tern	N	1
		MEAN	91.8
		SD	
Lake Simcoe			**Year**
Colony	**Species**		**1999**
Lake Simcoe	Forster's Tern	N	1
		MEAN	428.5
		SD	

PCB 126

Lake St. Clair			**Year**
Colony	**Species**		**1999**
Walpole Island	Black Tern	N	1
		MEAN	3479.4
		SD	
	Forster's Tern	N	1
		MEAN	5613.6
		SD	
Georgian Bay			**Year**
Colony	**Species**		**1999**
Tiny Marsh	Black Tern	N	1
		MEAN	793.5
		SD	
Lake Simcoe			**Year**
Colony	**Species**		**1999**
Lake Simcoe	Forster's Tern	N	1
		MEAN	3409.8
		SD	

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED BLACK AND FORSTER'S TERNS

PCB 169

Lake St. Clair			**Year**
Colony	**Species**		**1999**
Walpole Island	Black Tern	N	1
		MEAN	433.6
		SD	
	Forster's Tern	N	1
		MEAN	447.4
		SD	
Georgian Bay			**Year**
Colony	**Species**		**1999**
Tiny Marsh	Black Tern	N	1
		MEAN	165.9
		SD	
Lake Simcoe			**Year**
Colony	**Species**		**1999**
Lake Simcoe	Forster's Tern	N	1
		MEAN	342
		SD	

PCB 189

Lake St. Clair			**Year**
Colony	**Species**		**1999**
Walpole Island	Black Tern	N	1
		MEAN	38.6
		SD	
	Forster's Tern	N	1
		MEAN	440.6
		SD	
Georgian Bay			**Year**
Colony	**Species**		**1999**
Tiny Marsh	Black Tern	N	1
		MEAN	30.6
		SD	
Lake Simcoe			**Year**
Colony	**Species**		**1999**
Lake Simcoe	Forster's Tern	N	1
		MEAN	261.5
		SD	

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

TABLE 13b: CONTAMINANT DATA SUMMARIZED BY COMPOUND ANALYZED BLACK AND FORSTER'S TERNS

2, 3, 7, 8 - TCDD

Lake St. Clair			**Year**
Colony	**Species**		**1999**
Walpole Island	Black Tern	N	1
		MEAN	1.34
		SD	
	Forster's Tern	N	1
		MEAN	3.47
		SD	
Georgian Bay			**Year**
Colony	**Species**		**1999**
Tiny Marsh	Black Tern	N	1
		MEAN	0.35
		SD	
Lake Simcoe			**Year**
Colony	**Species**		**1999**
Lake Simcoe	Forster's Tern	N	1
		MEAN	1.91
		SD	

2, 3, 7, 8 - TCDF

Lake St. Clair			**Year**
Colony	**Species**		**1999**
Walpole Island	Black Tern	N	1
		MEAN	0.52
		SD	
	Forster's Tern	N	1
		MEAN	0.15
		SD	
Georgian Bay			**Year**
Colony	**Species**		**1999**
Tiny Marsh	Black Tern	N	1
		MEAN	0.43
		SD	
Lake Simcoe			**Year**
Colony	**Species**		**1999**
Lake Simcoe	Forster's Tern	N	1
		MEAN	0.3
		SD	

All units measured on a wet weight basis. Dioxins, furans and non-ortho PCBs measured in pg/g; all others in μg/g. Percent lipid and percent moisture given in percent. For all compounds: ND indicates not detected; TR indicates a trace amount detected; INT indicates interference with the sample. See page nine for methodology and detection limits.

REFERENCES

Ballschmiter, K. and M. Zell. 1980. Analysis of polychlorinated biphenyls (PCBs) by glass capillary chromatography. Composition of technical Aroclor- and Clophen-PCB mixtures. Fresenius Zeitschrift für Analytische Chemie 302(1):20-31.

Bishop, C.A., D.V. Weseloh, N.M. Burgess, J. Struger, R.J. Norstrom, R. Turle and K.A. Logan. 1992a. An atlas of contaminants in eggs of fish-eating colonial birds of the Great Lakes (1970-1988). Volume I. Accounts by species and locations. Technical Report Series No. 152, Canadian Wildlife Service, Ontario Region.

Bishop, C.A., D.V. Weseloh, N.M. Burgess, J. Struger, R.J.Norstrom, R. Turle and K.A. Logan. 1992b. An atlas of contaminants in eggs of fish-eating colonial birds of the Great Lakes (1970-1988). Volume II. Accounts by chemical. Technical Report Series No. 153, Canadian Wildlife Service, Ontario Region.

DiMaio, J., C. Pekarik and D.V. Weseloh. 1999. Contaminant levels in herring gull eggs from Lake Erie and the Detroit and Niagara Rivers: change-point regression analysis, 1974 to 1996. In: Munawar, M., T. Edsall and I. F. Munawar (eds.). State of Lake Erie – Past, Present and Future. Ecovision World Monograph Series. Backhuys Publishers, Leiden, The Netherlands. Pp 399-416.

Hebert, C.E. and D.V.C. Weseloh. 2003. Assessing temporal trends in contaminants from long-term avian monitoring programs: The influence of sampling frequency. Ecotoxicology 12:141-151.

Hebert, C.E., R.J. Norstrom, and D.V. Weseloh. 1999. A quarter century of environmental surveillance: the Canadian Wildlife Service's Great Lakes Herring Gull Monitoring Program. *Environmental Reviews* 7:147-166.

Norstrom RJ, Simon M, Moisey J, Wakeford B, Weseloh DV. 2002. Geographical distribution (2000) and temporal trends (1981-2000) of brominated diphenyl ethers in Great Lakes hewing gull eggs. Environmental Science and Technology. 36(22): 4783-9.

Pekarik, C., D.V. Weseloh, G.C. Barrett, M. Simon, C.A. Bishop, and K.E. Pettit. 1998a. An atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes (1993-1997): Volume I-Accounts by Location. Canadian Wildlife Service. 321:pp.1 Technical Report Series.

Pekarik, C., D.V. Weseloh, G.C. Barrett, M. Simon, C.A. Bishop, and K.E. Pettit. 1998b. An atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes (1993-1997): Volume II-Accounts by Chemical. Canadian Wildlife Service. 322:pp.1 Technical Report Series.

Pettit, K. E., C. A. Bishop, D.V. Weseloh and R.J. Norstrom. 1994a. An atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes (1989-1992). Volume I. Accounts by location. Technical Report Series No. 193, Canadian Wildlife Service, Ontario Region.

Pettit, K. E., C. A. Bishop, D.V. Weseloh and R.J. Norstrom. 1994b. An atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes (1989-1992). Volume II. Accounts by chemical. Technical Report Series No. 194, Canadian Wildlife Service, Ontario Region.

Simon, M. and B.J. Wakeford. 2000. Multiresidue method for the determination of polychlorinated dibenzo-*p*-dioxins, polychlorinated dibenzofurans and non-ortho substituted polychlorinated biphenyls in wildlife tissue by HRGC/HRMS. Technical Report Series No. 336E. Canadian Wildlife Service, Headquarters, Hull, Québec, Canada.

Weseloh, D.V. and C. Pekarik. 1999. Declining contaminant levels in herring gull eggs from Toronto Harbour, Lake Ontario, 1974-1998. Great Lakes Research Review 4(2): 23-27.

.

Weseloh, D.V., K.D. Hughes, P.J. Ewins, D. Best, T. Kubiak and M.C. Shieldcastle. 2002. Herring Gulls and Great Black-backed Gulls as indicators of contaminants in Bald Eagles in Lake Ontario. Environ. Toxicol.Chem. 21: 1015-1025.

Weseloh, D.V.C., R. Joos, C. Pekarik, J. Farquhar, J.L. Shutt, T. Havelka, I. Mazzocchi, G. Barrett, R. McCollough, R.L. Miller and A. Mathers. 2003. Long-term monitoring of Lake Ontario's nearly 1 million colonial waterbirds: Egg contaminants and breeding populations. In: Munawar, M. (ed.). State of Lake Ontario – Past, Present and Future. Ecovision World Monograph Series. Backhuys Publishers, Leiden, The Netherlands.

Weseloh, D.V.C., R. Faber and C. Pekarik. In review. Spatial and temporal trends of organochlorine contaminants in Herring Gull eggs from Lake Michigan, 1976-2002. In: Munawar, M. (ed.). State of Lake Michigan – Past, Present and Future. Ecovision World Monograph Series. Backhuys Publishers, Leiden, The Netherlands.

Won, H.T., M.J. Mulvihill and B.J. Wakeford. 2001. Multiresidue methods for the determination of chlorinated pesticides and polychlorinated biphenyls (PCBs) in wildlife tissue by Gas Chromatography/Mass spectrometry. Technical Report Series No. 335E. Canadian Wildlife Service, Headquarters, Hull, Quebec, Canada.

.