



## STARLING CONTROL PROGRAM

*2008 – A YEAR IN REVIEW*

2008 has been an exciting year for the Starling Control Program, its management committee and those working within the program. The new research component has added a vital dimension that is key to the long-term success of the program. The Starling Control Program continues to be followed and well received by various levels of government, agriculture and the public.

This year has focused on expanding the trapping program throughout the Okanagan-Similkameen and aggressively searching for new locations. With this in mind, more trapping kits were constructed and additional trappers were enlisted. Trappers continue to find their greatest success at feedlots and other cattle operations and at landfill sites. The committee members continue to rely on the expertise and professionalism of the trappers, many of whom have been working for the program since it began.

During the early years of the program trapping was concentrated in the Cawston/Keremeos area and populations there were reduced substantially. Over the past two years those numbers have remained low and flocks have not re-established. In 2003 10,360 birds were captured in the Cawston/Keremeos area. For comparison, in 2008 about one third as many starlings (3,660) were trapped. However, it also points to the need to keep up trapping efforts to prevent the populations from recovering to former levels.

The Oliver area continued to be a steady source of birds over this past 12 months with one trapper manning a number of traps and ending the year with a total of 11,760 birds.

The Penticton Landfill proved to be a good location during the winter with over 2,700 birds trapped at that site in 2 months. The flocks tend to move off when the nesting season arrives and aren't apt to return to that spot in large numbers until winter. New locations were sought throughout the South Okanagan and some were tested but with limited success.



*M-trap, baited and ready to go*

Marshall's Feedlot in Kelowna was once again a hot spot for the program even though trapping did not get underway at that site until early September. A combination of M-traps and a drop trap were used with more than 21, 470 birds reported captured by the trappers to the end the year.

The North Okanagan was identified as a region needing more effort. However the program got off to a late start and as a result the total number of birds captured (2,100) in the North Okanagan in 2008, fell considerably short of our goal. The traditional sites at Coldstream Ranch and the Vernon Regional Landfill continued as the primary locations. Later in the season another three sites were added in the Armstrong/Silver Creek area and others in the Enderby area were identified as potential sites.

| <b>Starling Control Program</b> |                                 |                             |                           |               |
|---------------------------------|---------------------------------|-----------------------------|---------------------------|---------------|
| <b>Bird Counts 2003 – 2008</b>  |                                 |                             |                           |               |
|                                 | <b>Okanagan<br/>Similkameen</b> | <b>Central<br/>Okanagan</b> | <b>North<br/>Okanagan</b> | <b>Totals</b> |
| <b>2003</b>                     | 15,369                          | -                           | -                         | 15,369        |
| <b>2004</b>                     | 26,197                          | 7,359                       | 8,878                     | 42,434        |
| <b>2005</b>                     | 22,249                          | 17,686                      | 7,431                     | 47,366        |
| <b>2006</b>                     | 25,206                          | 14,247                      | 1,915                     | 41,368        |
| <b>2007</b>                     | 22,622                          | 10,591                      | 1,510                     | 34,723        |
| <b>2008</b>                     | 18,129                          | 21,471                      | 2,129                     | 41,729        |
| <b>Totals</b>                   | 129,772                         | 71,354                      | 21,863                    | 222,989       |

The significant increase in funding as a result of the support from the three Okanagan-Similkameen Regional Districts along with the on-going support of the Agriculture Environment Partnership Initiative and the various agricultural commodity groups has meant that a better inventory of traps and supplies could be provided for the trappers and, as well, that more time could be allocated to trapping. That coupled with the research requirements, has resulted in a more closely controlled and disciplined trapping program.

Another benefit from the additional funding is that administration and program management has been greatly enhanced and that has been of tremendous value for the growth of the project.

*The following contributed financially &/ or in-kind towards the success of the 2008 program:*

Regional District North Okanagan  
 Regional District Central Okanagan  
 Regional District Okanagan Similkameen  
 Agriculture Environment Partnership Initiative  
 Okanagan Tree Fruit Cooperative  
 BC Fruit Growers' Association  
 Okanagan Kootenay Cherry Growers' Association  
 BC Grapegrowers' Association  
 Thompson Rivers' University  
 Landowners and their staff who provide trap locations,  
 access to those sites & other services  
 Members of the BC Milk Producers' Association  
 Members of the BC Cattle Feeders' Association

| Starling Control Program   |                   |                   |                   |
|--|-------------------|-------------------|-------------------|
| Budget vs. Actual January 1, 2008 - December 31, 2008 & Proposed Budget 2009 |                   |                   |                   |
|  | 2008<br>Budget    | 2008<br>Actual    | 2009<br>Budget    |
| <b>Revenue:</b>  |                   |                   |                   |
| <b>Program Revenue:</b>  |                   |                   |                   |
| Three Okanagan-Similkameen Regional Districts                                | \$ 75,000         | \$ 69,712         | \$ 75,000         |
| Agriculture Environment Partnership Initiative                               | \$ 25,000         | \$ 15,500         | \$ 20,000         |
| Various Commodity Organizations  | \$ 34,000         | \$ 28,500         | \$ 27,000         |
| Miscellaneous  | \$ -              | \$ 1,065          | \$ 2,000          |
| <b>Research Revenue:</b>   |                   |                   |                   |
| NSERC Industrial Graduate Fellowship   | \$ 15,000         | \$ -              | \$ 15,000         |
| NRC IRAP   | \$ 5,000          | \$ -              | \$ 5,000          |
| Agriculture Environment Partnership Initiative                               | \$ 7,500          | \$ -              | \$ 7,500          |
| BC Wine Grape Council  | \$ 5,000          | \$ -              | \$ 5,000          |
| <b>Total Projected Revenues</b>  | <b>\$ 166,500</b> | <b>\$ 114,777</b> | <b>\$ 156,500</b> |
| <b>Expenses:</b>   |                   |                   |                   |
| <b>Trapping Costs</b>  |                   |                   |                   |
| Team of Trappers - trapping hours, mileage, sundry                           | \$ 90,000         | \$ 54,904         | \$ 97,000         |
| Supplies   | \$ 5,000          | \$ 5,030          | \$ 3,000          |
| New traps construction   | \$ 10,000         | \$ 16,103         | \$ 2,000          |
| Data Collection  | \$ 8,000          | \$ -              | \$ -              |
| <b>Administration, Program Management, Office overhead, sundry</b>           | <b>\$ 12,000</b>  | <b>\$ 10,530</b>  | <b>\$ 12,500</b>  |
| <b>Research</b>  |                   |                   |                   |
| Graduate student (MSc) Fellowship, Fieldwork, Lab work                       | \$ 36,000         | \$ -              | \$ 36,000         |
| Independent survey of starling numbers                                       | \$ 5,500          | \$ -              | \$ 4,000          |
| Preliminary work with Dr. Dickinson & associates                             | \$ -              | \$ -              | \$ 2,000          |
| <b>Total Projected Expenses</b>  | <b>\$ 166,500</b> | <b>\$ 86,567</b>  | <b>\$ 156,500</b> |
| <b>Income over expenses</b>  | <b>\$ -</b>       | <b>\$ 28,210</b>  | <b>\$ -</b>       |

## Research Program

Doctors Tom Dickinson and Nancy Flood, a husband and wife team who teach and conduct research at Thompson Rivers University, are heading a research study to determine the population structure of European Starlings in southern British Columbia.

Dr. Dickinson began by collecting and analyzing data from annual Breeding Bird Surveys conducted through various means -- an example being the Okanagan Christmas Bird Count. He also met with the program's trappers and used their knowledge and the observations they have collected from their trapping results since the program began in 2003. In May 2008 Dr. Dickinson & Dr. Flood put forward recommendations for a two-year research program that will fill the information gap and therefore help to evaluate the effectiveness of the trapping program. These recommendations were accepted and work began. **In summary:**

**1. Standardize the Collection of Trapping data** – By keeping precise records for the exact locations where trapping occurs and the exact numbers of hours that traps are functionally open, trapping data can be used to develop an index of population size.

Corresponding changes to the daily record keeping on the trapping results were implemented in July.

**2. Determine the Origins of Starlings in the Okanagan/Similkameen** – Observations from the initial data collected suggest that while the breeding population may be declining, the winter population continues to increase, likely due to migration from other geographic areas. The new research will use 'signatures' of stable isotopes to map out geographic origins of birds in the problem areas of the province. Recent advances at the University of Saskatchewan have been applied to problems such as the migration routes taken by songbirds, whales, and Monarch butterflies.

Feathers from captured European Starlings record the distribution of certain stable isotopes of the area where the bird hatched and are used to perform stable isotope analyses. By knowing the isotopic signature of local sub-populations and getting reference points from other regions within BC and surrounding geographic locations, a library of signatures can be built. Young of the year Starlings captured in the destination region can then be matched to the source population from which it came.

Trappers are now collecting samples that will become part of that signature data base.

**3. Develop an independent survey of starling numbers** – Using already established protocols for counting birds, the plan is to enlist members of local naturalist clubs to help estimate the number of starlings in a region. The results of those surveys could then be compared to the trapping numbers to determine whether trapping and/or nest control efforts are changing the size of the breeding population on a local, sub-regional, or regional scale.

**4. Graduate Student Fellowship** – Dr. Dickinson is currently searching for a graduate student to work with him on the program starting in the 2009/10 academic year.

## 2009

With the wrap up of 2008, the program's management committee is now planning for 2009. The main effort will continue to focus on trapping, encompassing new sites and contracting and training trappers to ensure adequate coverage within each region. Additional resources will be put to work in the north Okanagan. At the same time improvements in other areas will be undertaken and new ideas investigated to increase the overall effectiveness of the Program while controlling costs.



*A drop trap at Marshall's Feedlot in Kelowna*

*For further information regarding the Starling Control Program*

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