Raven Predation in Ontario

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To gain a better understanding of raven predation, a three-part project was conducted throughout the summer of 2019. Part one involved coordinating a province-wide survey to collect information on the magnitude of raven predation on sheep and beef farms. Part two involved trialing non-lethal raven deterrents on sheep farms to collect data on the effectiveness of the deterrent. A third part was to map raven predation reported through the Ontario Wildlife Damage Compensation Program.   This article will discuss part one and part three of the project.

Ontario Avian Predation Stats Mapped

Data from the Ontario Wildlife Damage Compensation Program (OWDCP) was mapped in order to observe any trends in avian predation specifically. Figure 1 shows the number of approved OWDCP avian predation claims by year for sheep, which included ravens and crows. The data for all avian predators was combined as often avian kills are hard to distinguish between species.

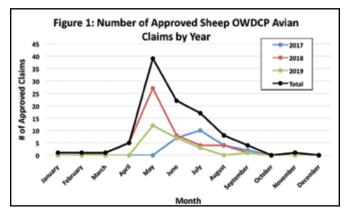Figure 1: Number of Approved Sheep OWDCP Avian Claims by Year

Table 1 shows the number of approved OWDCP avian predation claims by county and by year for sheep.

Figure 1 and Table 1 reveal that there was a spike in avian predation in 2018. One farm experienced a high number of losses from ravens killing lambs on pasture. In 2019 the farm lambed ewes in barns, therefore the rate of predation on the farm dropped. This practice is not practical for most large pasture flocks and has other implications. Through the project, it was also found that a confinement sheep operation was experiencing problems with ravens coming into the barns and killing 90 to 110-pound lambs. Therefore, confinement is not a total solution.

In 2019, the number of kills from avian predation are slightly lower than in 2017, this may be due in part to the OMAFRA raven predation project.   Non-lethal deterrents

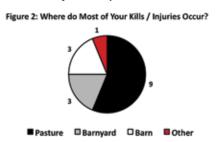| TABLE 1: APPROVED SHEEP OWDCP AVIAN PREDATION CLAIMS				
County	2017	2018	2019	3 Year Total
Bruce County	2	1	-	3
Dufferin County	-	2	1	3
Grey County	3	6	-	9
Kawartha Lakes	-	1	-	1
Leeds and Grenville County	2	2	3	7
Lennox and Addington County	1	-	1	2
Manitoulin District	-	3	1	4
Parry Sound District	13	4	15	32
Peterborough County	-	26	1	27
Simcoe County	1	-	-	1
Stormont, Dundas & Glengarry County	-	-	1	1
Thunder Bay District	-	5	-	5
Timiskaming District	4	-	-	4
Total	26	50	23	99

were tested on farms and some of the deterrents did work for short time periods therefore reducing the amount of raven predation on some farms during the lambing period.

The survey data and on-farm interviews from the project revealed that under-reporting of raven predation is also an issue. Some of the reasons why producers were not submitting claims to the OWDCP included that they didn't want to believe that they were experiencing raven kills, didn't know that the program included ravens as a predator, some were unaware that the losses or injuries were due to ravens and didn't think it was worth it to claim one newborn lamb.

Sheep Survey Results

The sheep survey was completed by 24 farms which represented 11,585 ewes with an average flock size of 480 ewes. Out of the 24 farms represented in the survey, 16 had experienced

Figure 2: Where do Most of Your Kills / Injuries Occur?

■ Pasture ▢ Barnyard ▢ Barn ■ Other

raven predation while seven observed ravens on their farms and a select few had experienced past issues with raven predation. Most of the kills or injuries occurred on pasture, as can be observed in Figure 2. One farm checked the 'other' category and cited that they had kills in the pasture, barnyard and barn.

Killing methods observed can be found in Table 2.

TABLE 2: WHAT KILLING / INJURING METHODS DO YOU OBSERVE? (CHECK ALL THAT APPLY)	
Method	**Number of Responses**
Pecking eyes	16
Pecking rectum	10
Pecking / pulling hide (back)	8
Pecking tongues	7
Pecking at skull	7
Pecking abdomen	7
Tearing bellies on cast ewes	4
Puncture wounds throughout body	3
Pecking through armpit on lambs	2
Tearing bellies on lambing ewes	2
Peck holes at side & pull at wool	1
Peck at navel & ribs of small lambs	1
Pecking nose	1
Tearing udders on cast ewes	1
Chasing sheep & lambs to one corner	1

The most common age group for killed animals (ranked in order) was:
Pre-weaned (5/16 farms)
Newborn - first 24 hours of life (4/16)
First week of life (4/16)
Weaned (1/16)
Adult (1/16)
No killed animals (1/16)

The most common age group for injured animals (ranked in order) was:
Adult (5/15 farms)
Newborn – first 24 hours of life (2/15)
First week of life (2/15)
Pre-weaned (2/15)
No injured animals (4/15 farms)

Survey participants were asked if they had success deterring ravens. 13 out of 16 said yes, they have either had success or some success and three said they have had no success deterring ravens. Some of the successful measures utilized can be found below (respondents were asked to record all measures that worked):
• Livestock guardian dogs (6 farms/14 farms)
• Shooting (3/14)
• Shooting as a warning (1/14)
• Scare Eye Balloons (2/14)
• Raven Decoys (2/14)
• Close windows in the barn (1/14)

From the responses, participants reported they had varying degrees of success with these measures and some alluded to the short-term effect of the deterrents. A survey respondent noted some methods are not practical such as closing barn windows or curtains and cited they experienced ventilation problems from doing so. From the preliminary 2019 findings of the small project, it is recommended that non-lethal deterrents be utilized only when experiencing active raven predation. Since ravens are intelligent, deterrents should only be used for a short time period to ensure the ravens do not become accustomed to them. **OSN**

Thank you to all farms who participated in the on-farm non-lethal deterrent trials and to those who took the time to fill out the raven predation survey. Your participation is greatly appreciated.

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