Summary of 2015 Canada Goose Management Program: Egg Addling and Population Surveys

Okanagan Valley Goose Management Program

MAINTAINING THE BALANCE
BETWEEN PEOPLE AND GEESE

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Executive Summary

This document provides a summary of the activities conducted by EBB Environmental Consulting Inc. (EBB) as part of the 2015 Okanagan Valley Goose Management Program. This year the program included egg-addling, population surveys, and analysis of leg-band data. Wise Wildlife Control (WWC) conducted the egg-addling program in Vernon and those data are also included in this report.

The egg-addling program consisted of pre-addling nest surveys in February and March followed by an intensive addling period throughout April and the first half of May. Follow-up ground surveys for population composition (e.g. % young) were conducted in June. Overall, EBB addled 1211 eggs from 254 nests in the southern and central regions of the Okanagan Valley. WWC addled 175 eggs from 31 nests in Vernon and two nests in Central Okanagan for a valley total of 1386 eggs from 287 nests. Post-addling ground surveys indicated that an estimated 8% of the post-nesting population was comprised of young-of-the-year.

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1.0 Introduction

1.1 Background

The global population of Canada geese (*Branta canadensis*) and the smaller, closely related cackling geese (*Branta hutchinsii*) comprise 12 subspecies of geese (Banks *et al*. 2004) collectively referred to as Canada geese. Prior to the 1960's, Canada geese were migrants and summer visitants in British Columbia (Campbell *et al*. 1990). Some nesting was documented on Haida Gwaii and northern Vancouver Island (*B. c. vancouverensis*) and in the northern interior (*B.c. moffittii)*, but the majority of geese native to British Columbia, including the Okanagan Valley were migratory. Geese used the region as a temporary stopover during migration flights between northern nesting and southern wintering grounds.

By the 1970's, however, Canada goose numbers had increased through introduced transplants of flightless young (Campbell *et al*. 1990). Young from different taxonomic stocks of Canada geese from across Canada and the United States were introduced to British Columbia with the aim of providing a sustainable population that would allow harvest and wildlife viewing opportunities.

Translocated young of the 1960's and 70's did not have the opportunity to imprint on mature geese (i.e. parents) and did not learn migratory patterns. These geese and their progeny remained in areas to which they were relocated. The current non-migratory goose population in the Okanagan Valley is comprised of hybrid offspring from different stocks of geese that were transplanted decades ago. As such, these geese do not fall into the recognized subspecies defined by Banks *et al*. (2004).

At the time of the translocations, the British Columbia landscape changed. Urban and rural areas increased and many areas were closed to hunting. Consequently, increased habitat with fewer population controls assisted Canada geese to become abundant in different areas throughout the province.

Today non-migratory, resident populations of Canada geese are largely perceived as problem wildlife due to their abundance, territorial behaviour during breeding season, crop damage, potential risks to human health and safety, fouling of grassy areas with droppings, fecal coliform contamination of public swimming areas, damage to lawns and green spaces, as well as other economic losses (Smith *et al*. 2005). Resident Canada geese can be found on land governed by various jurisdictions including federal, provincial, municipal, and private properties such as golf courses, schools, and agricultural lands.

Canada geese, like all waterfowl in Canada, are protected under the federal *Migratory Birds Convention Act* and pursuant *Migratory Bird Regulations*. Any attempts to manage geese must

abide by the federal *Act* as well as any provincial and municipal regulations that may apply in their respective regions.

1.2 Regional Background

The Okanagan Valley in the interior of British Columbia is coping with a serious goose management issue. Canada geese are fouling green spaces and contaminating lake waters to such an extent that they pose a risk to human health and the associated economic losses from tourism and recreation. Communities and stakeholders of the Okanagan Valley formed an Okanagan Regional Goose Management Committee (ORGMC) to implement a unified and landscape-level approach to goose management throughout the region. In 2015, contributing partners included:

- City of Vernon
- District of Lake Country
- Central Okanagan Regional District
- City of Kelowna
- Glenmore-Ellison Improvement District
- District of West Kelowna
- District of Peachland
- District of Summerland
- City of Penticton
- Naramata
- Regional District of Okanagan-Similkameen
- Okanagan Falls
- Town of Oliver
- Town of Osoyoos
- Westbank First Nation
- Western Canada Turfgrass Association

1.3 Management

The Okanagan Regional Goose Management Strategy and Action Plan (Robertson Environmental and Ophiuchus Consulting 2006) drafted for ORGMC identified several management options to control the population of resident Canada geese. These options were adopted by ORGMC and are being implemented by EBB Environmental Consulting Inc. (EBB) and other contractors (e.g., Wise Wildlife Control, LaHawk Enterprises). This specific document describes the protocol and results of the ninth season of the egg addling program, which was implemented in the spring of 2015; population surveys; and analysis of leg-band observations.

1.4 Coordination and Implementation of a Valley-Wide Egg Addling Program

Egg addling is a relatively simple, cost-effective and humane tool for controlling the reproductive output of Canada geese. To be effective, crews must be trained to access nesting areas and addle eggs in such a way that geese will not attempt to immediately re-nest. Crews must be thorough, ensuring all nests in a targeted area are included. Many target areas are within public viewing; crew members must be able to sensitively address questions and refer the public to the program coordinator and other resources for additional information.

In addition to actual addling, the early years of the program included development of an egg addling protocol manual, including mapping nest locations using GPS technology, and maintaining records of nest sites and addling activities. This protocol is available as an additional reference document.

1.5 Canada Goose Reproductive Ecology

A successful Canada goose egg addling program depends on a sound ecological approach; factors influencing goose behaviour and reproductive output must be understood. Canada geese usually build nests within sight of water; however, will find alternative sites if necessary (Elphick *et al*. 2001, Environment Canada 2003). Preferred nesting locations are islands, including the tops of beaver lodges and floating mats of vegetation. First-time breeders exhibit high natal fidelity, and will attempt to nest in the same area they were fledged (Mowbray *et al*. 2002). Geese will return to old nest sites, or nearby locations year after year. This knowledge is helpful for finding nests in successive years.

Nests are generally simple, constructed out of weeds, twigs and other local vegetation (Figure 1). Females will use their bodies to make a depression in the vegetative mound, and insulate it with down and feathers removed from her breast, resulting in a noticeable area of fewer feathers (brood patch). In the Okanagan, EBB has observed geese that have adapted their nest construction to urban environments. Nests have been created from scrapes in flower planters; depressions in sagging boat covers; conifer needle debris on roof-tops; ripped stuffing from patio/house boat furniture; and other materials.

Females are responsible for building nests and incubating eggs. During this time, the male will diligently “mate guard” ensuring other geese and predators do not disturb the female. A good indicator of a nearby nest is a lone male, particularly if he is in an alert posture with his head and neck held high, or as he is approached, he lowers his head and neck in a threatening stance and hisses. Our experience suggests that a male may be >100 m away from his mate and nest (i.e., across a wetland), but provided he maintains her within his sight line, he will remain in a vigilant stance.

During mild climatic conditions, Canada geese may begin nesting as early as February. Egg-laying is initiated in March and can continue into late May. Females typically lay 4-7 creamy white eggs (average is 5; total can be greater than 12) on consecutive days. They may also lay replacement eggs if originals are preyed upon, or the nest is destroyed early in incubation, which is approximately 25-27 days (Mowbray *et al*. 2002, Environment Canada 2003).

Figure 1. Canada goose nest in shed

2.0 Methodology

2.1 Administration

2.1.1 Permits

In 2015, EBB obtained permits from Environment Canada for goose egg addling, scientific salvage, and addling in the Vaseux Lake Migratory Bird Sanctuary. In addition, EBB holds a five year permit for accessing and addling within BC Provincial Parks (Table 1).

Environment Canada required individual landowner authorization forms in addition to the overarching OVGMP permit for activities that occurred on private lands. Under this permitting structure, the egg addling permit EBB received for the OVGMP was sufficient for activities conducted on public lands owned or managed by members of the ORGMC (e.g., municipal

parks). Additional lands (e.g. private residences, institutions, docks/groins above the high water mark) required the signature of a landowner or designated manager attesting EBB was addling on their behalf. Landowner authorizations are valid for up to three years, depending on the preference of the landowner. Copies of all authorizations are required to be submitted to CWS as part of mandatory reporting. Landowners who choose the multi-year option must be listed in the permit application of the following year (e.g., application for 2016 egg-addling activities).

Table 1. Permit Summary

Permit	Issuer
Canada Goose Egg Addling Permit for OVGMP	Environment Canada (Canadian Wildlife Service)
Landowner attestations as required to augment the OVGMP addling permit	Environment Canada (Canadian Wildlife Service)
Scientific Salvage	Environment Canada (Canadian Wildlife Service)
Canada Goose Egg Addling Permit, Vaseux Lake Migratory Bird Sanctuary	Environment Canada (Canadian Wildlife Service)
Research and Education Park Use Permit	BC Parks/Ministry of Environment

2.1.2 Media and Public Involvement

A toll number (1-877-943-3209) and e-mail address (coordinator@okanagangooseplan.com) were established in 2007 for public to call with nest locations and other questions. These contacts remain active throughout the year. As well, media statements were released throughout the addling season to inform and encourage public to report nests or observations of leg-banded birds.

2.2 Field Program

2.2.1 Pairs Surveys

Prior to the addling season, pairs of geese and early nests were located and identified. This allowed crews to become familiar with the landscape for efficient addling when egg laying occurred. This year, with the early onset of spring, the first pairs surveys were conducted in late February. Additional nest surveys were conducted in mid- and late March. Field crew surveyed lands (e.g. parks, playing fields, beach accesses) that EBB had permission to access. Pairs and lone Canada geese were identified and nest searches were conducted in these locations. Flocks of geese were noted, but these groups were typically not nesting (e.g., had not reached maturity or lost their mates). Where nests were located, crew members recorded

UTM coordinates as well as a general description of the area to facilitate relocation and reporting. Nests containing full clutches of eggs were addled, marked and noted following the appropriate egg addling protocol (Section 2.2.2). Crews did not use nest-marking techniques (e.g. flagging tape), as this can attract the general public or predators to the nest. In general, if nests are destroyed, the pair will likely re-nest, thus defeating the purpose of addling.

The pairs survey also acted as an opportunity to engage with landowners regarding authorizations. Information requirements or authorizations sorted out prior to peak nesting saved time during the field-intensive addling season.

2.2.2 Egg Addling

Daily addling occurred between March 30 and May 13. Spot checks and responses to nest reports from the public were conducted until the end of May. Nests located during the pre-addling nest surveys were visited first. Nest searching continued with the expectation that most newly located nests would contain eggs, and this was generally the case. Crews worked in pairs following the United States Humane Society Canada Goose Egg-addling Protocol (HSUS 2009) and ***Best Practices for Destroying Eggs or Preventing Hatching: Canada Goose Management*** (Environment Canada 2011). During addling, one crew member moved the female or pair away from the nest while the other worked at the nest. In high density nest areas (e.g., Vaseux Lake), where there were many agitated geese, working in threes and fours was more effective. The crew member working at the nest counted, addled and marked each egg with an "X." In high density areas crews numbered the nests in the field to make rechecking easier and allow them to identify new nests quickly. In this case, marking was such that all the eggs in Nest 1 were labelled "1", all the eggs in Nest 2 were labelled "2" etc. (Figure 2). In addition, the crew member at the nest took GPS coordinates and field notes. Nests were rechecked once (occasionally twice) about one week following the first addling visit.

Canada goose eggs are humanely addled until about 14 days of incubation (HSUS 2009). If there was concern that eggs were older than 14 days, crews performed a float test to estimate their age (Section 2.2.2.2). Float tests were routinely performed during the last part of the egg addling season. If eggs were less than 14 days incubation, the crew member working at the nest addled each egg, either by shaking or oiling.

Figure 2. Eggs in the process of being addled and numbered in a Canada goose nest (Vaseux Lake, 2015). The small egg (left) may have been the first egg laid by the goose and was not likely viable.

2.2.2.1 Oiling and Shaking Eggs

Oiling as a technique for sterilizing eggs was introduced during the 2011 addling program. To use oil, eggs were either dipped in a container of 100% food-grade corn oil and removed with a slotted spoon, or misted with oil from a spray bottle. Only a light coating of oil is necessary to stop gas exchange and interrupt egg development (HSUS 2009).

When addling by shaking, the egg is vigorously shaken for about one minute. In doing so, the inner membranes are broken, and the egg contents "slosh", which can be heard and felt by the field technician (Figure 3).

Effectiveness and efficiency (i.e. timing and ease of use) of the two addling methods were compared in 2011. In general, the crew has found the logistics of shaking simpler (i.e., no need for extra equipment and the oil can be messy), but oiling is physically easier and appears less

aggressive in sensitive public locations. Eggs early in incubation (i.e. 1-2 days) are not easily addled with shaking and oiling is more effective on these nests. It continues to be up to the discretion of the crew which technique should be applied at each location.

Figure 3. Field technician shaking goose eggs.

2.2.2.2 Float Tests

Float tests were used to determine the incubation stage of an egg. If the incubation stage was unknown, the addling crew used a bucket of water to perform a float test. Eggs that did not float were less than two weeks old and were humanely addled. Eggs that rose near the surface were older than two weeks and were not addled (Figure 4; HSUS 2009).

2.2.3 Follow-Up Surveys

Follow-up ground surveys for goslings were conducted in June (after the addling program) to help identify areas where nests were missed and estimate the number of young in the population. The entire valley was surveyed, so the estimate contained data from properties that did not participate in the egg addling program.

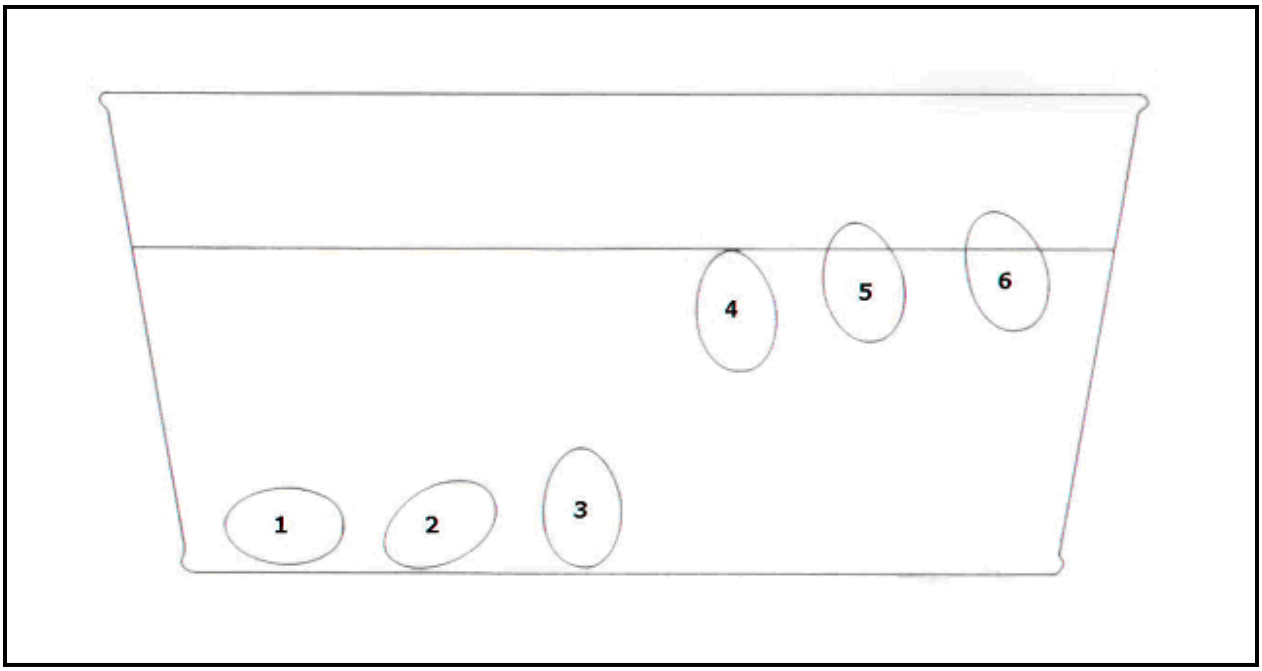

Figure 4. Cross-Section of a Float Test: Stages 1-3 represent eggs incubated for less than 2 weeks; Stages 4-6 represent eggs incubated for 14-27 days (Diagram from HSUS Canada Goose Egg Addling Protocol)

2.3 Leg Band Data

Leg-banding to mark Canada geese was conducted during 2012, 2013, and 2015. Geese were captured, banded, and released during their annual moult. A standard uniquely-coded metal leg band (supplied by the National Bird Banding Office) and a colour leg-band were applied to each captured bird. In 2012, colour-bands were applied to legs of birds based on area of capture; red (Penticton), green (Kelowna), and White (Vernon). The goal was to easily identify birds in the field and collect data that contributed to understanding the extent of mixing and distributing of resident birds based on colour origin of bands.

After the success of the banding program in 2012, in 2013 we received authorization from the National Bird Banding Office to use individually coded colour bands to track individual bird movements in the field. We were authorized to use yellow bands with codes. On each of these bands a unique three letter alpha-numeric code combination is engraved in black against yellow (Figure 5). These are read from the foot up the leg. Penticton, Kelowna and Vernon were again the banding sites. In 2015, banding was conducted in conjunction with a relocation program in the District of West Kelowna. Light blue bands with white alpha-numeric codes were applied (Figure 6).

Using band data we can gain information about individual and population movements. During all field activities EBB crew observed geese for leg-bands (Figure 7). Leg-band data returns were

provided from the National Bird Banding Office (i.e. observations that were reported to that office were forwarded to EBB) and directly through the OVGMP website from general public.

Figure 5. Yellow plastic leg band with black alpha-numeric code.

Figure 6. Blue band "A1J" on left and government-issued metal band on right, applied during relocation program (June 2015).

Figure 7. Yellow band "A8M" on left leg and government-issued and metal band on right leg (Observed on April 3, 2015; Kaloya Regional Park)

All band data were compiled and mapped. Maps were created to provide an overview of distribution of banded birds in the valley and occurrences outside of the Okanagan Valley. Mapping assisted with determining if geese nesting and moulting in the Okanagan Valley goose were resident or migratory.

3.0 Results

3.1 Egg Addling

The mean clutch size was 5 eggs, which is consistent with other years of the program and common for geese. In total 254 nests, containing 1211 eggs were addled by EBB. Wise Wildlife Control addled an additional 175 eggs from 33 nests. Table 2 provides a summary of egg addling data. An overview of nest distribution and egg densities are provided in Figures 8 and 9. Regional data are detailed in Appendix A. Crews identified 29 nests that were not addled/inaccessible (e.g., landowner was unavailable for consent; landowner did not want the nest addled; nest identified after humane addling window; nest in unsafe working conditions; Figure 10).

Table 2. Okanagan Valley Egg Addling Data Summary

Nest Element	Value
Minimum Clutch Size	0
Maximum Clutch Size	12
Mean Clutch Size	4.83 (5)
Total Number of Nests	287
Total Number of Eggs	1386
Number of Geese Prevented from Entering Population (approximately 75% of addled eggs)	1039

Nests were built on a variety of substrates including, but not limited to:

- Rooftops (cottage, home and industrial)
- Planters
- Boat Covers, boats and barges
- Groins/breakwaters
- Trees
- Docks/wharves
- Osprey nesting platforms
- Barges
- Cliffs
- Islands and peninsulas, and
- Debris piles.

Nests built on osprey platforms may be reclaimed by osprey pairs, which return to the Okanagan in April to nest. The success of osprey platform nests by geese depends on the osprey pair that occupies a nesting territory. This year in Kelowna, the city put an exclosure over an osprey platform that prevented geese from using the platform as a nest site, which occurred in 2014 (see 2014 report for details on this nest). The exclosure was removed when the osprey returned; the osprey successfully used the nest platform in 2015.

Based on our experience addling the osprey platform goose nest in 2014, EBB crews again used a boom truck with a lift (i.e., cherry-picker truck) provided by Kelowna to access a nest in a heavily pruned willow tree that was accessible from the road. Nest site photos from the field season are provided as Appendix B.

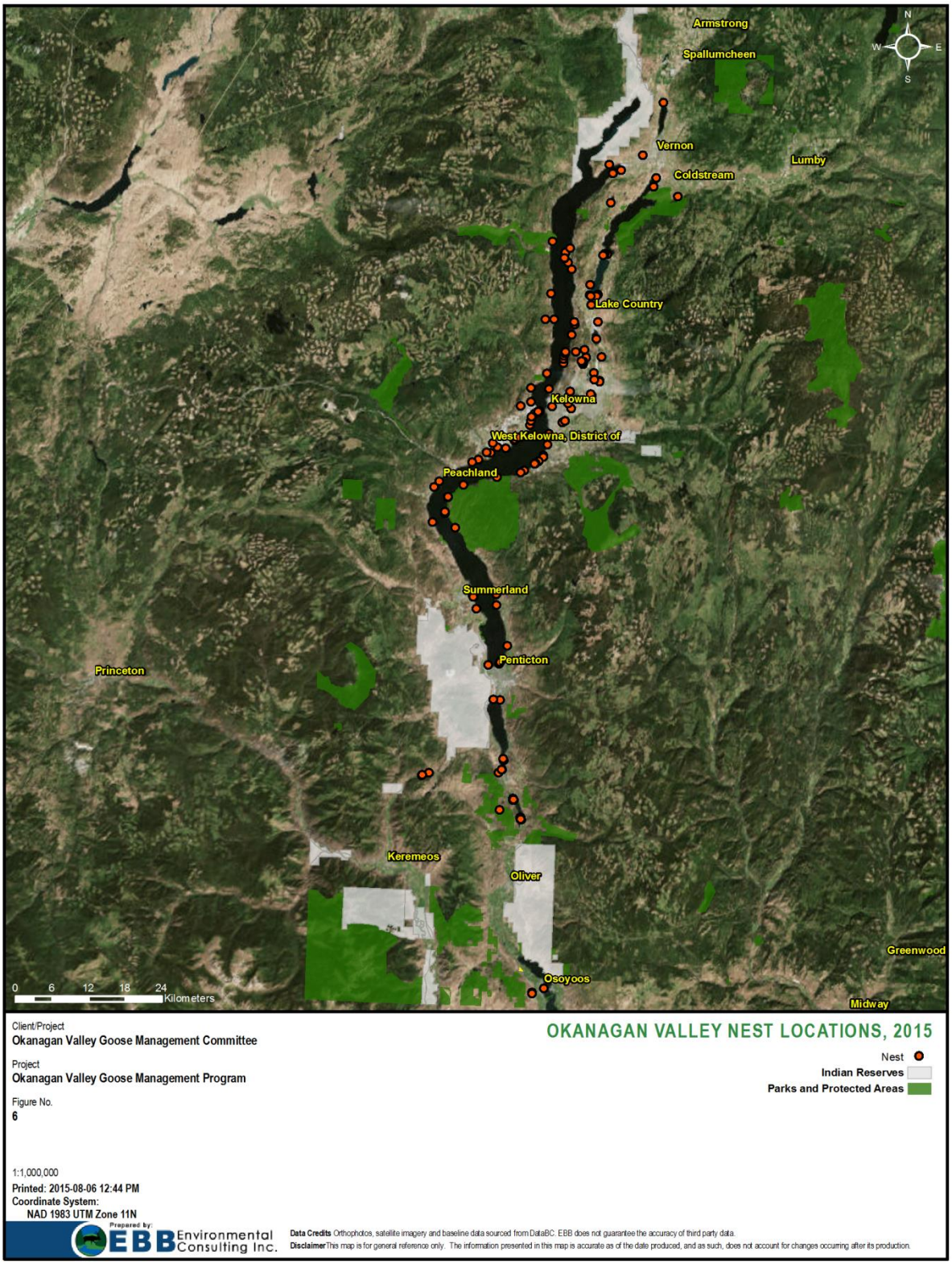

Figure 8. Nest distribution during the 2015 field season (valley overview)

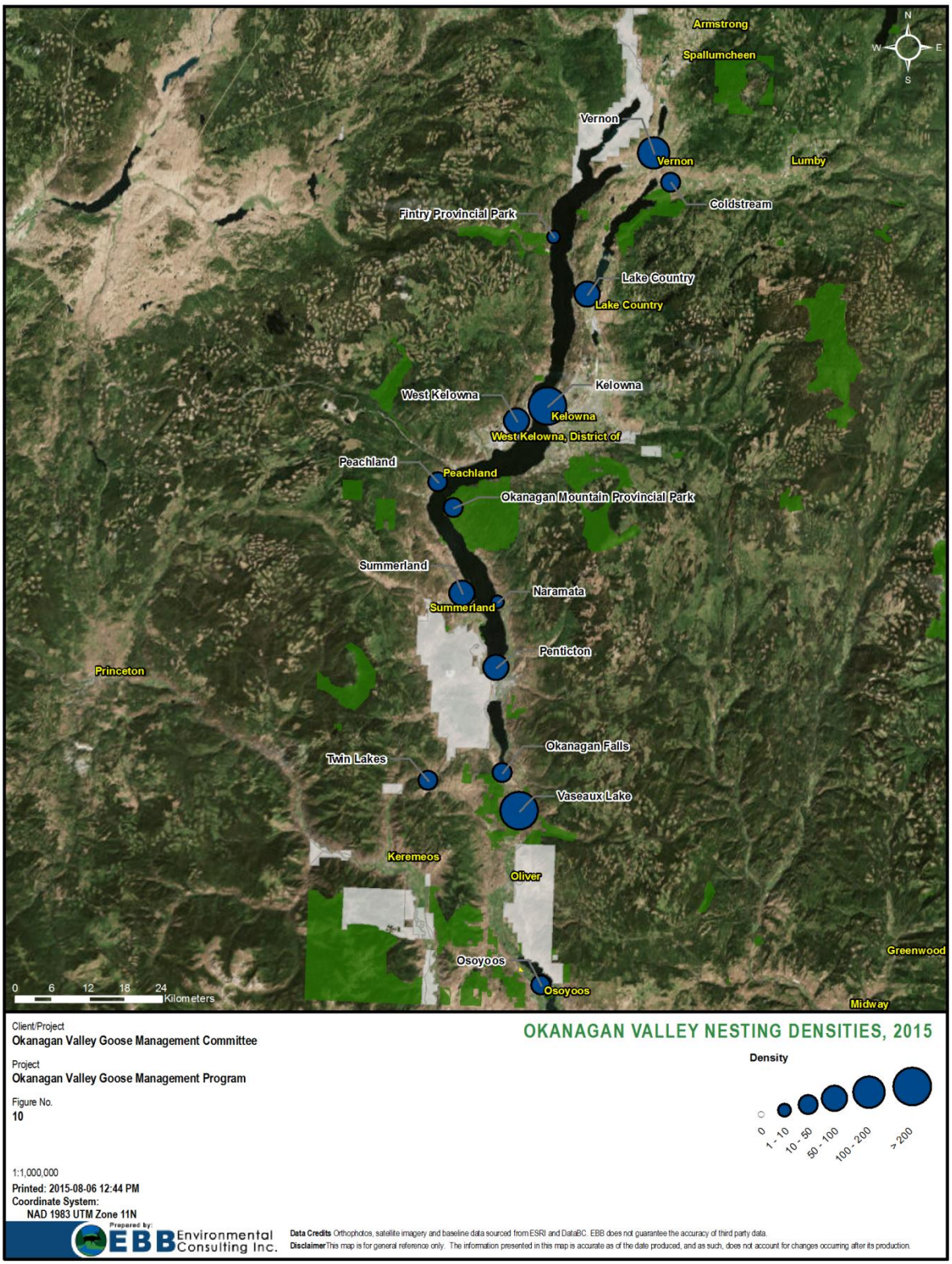

Figure 9. Egg addling density (# eggs/locality) for the 2015 field season (valley overview)

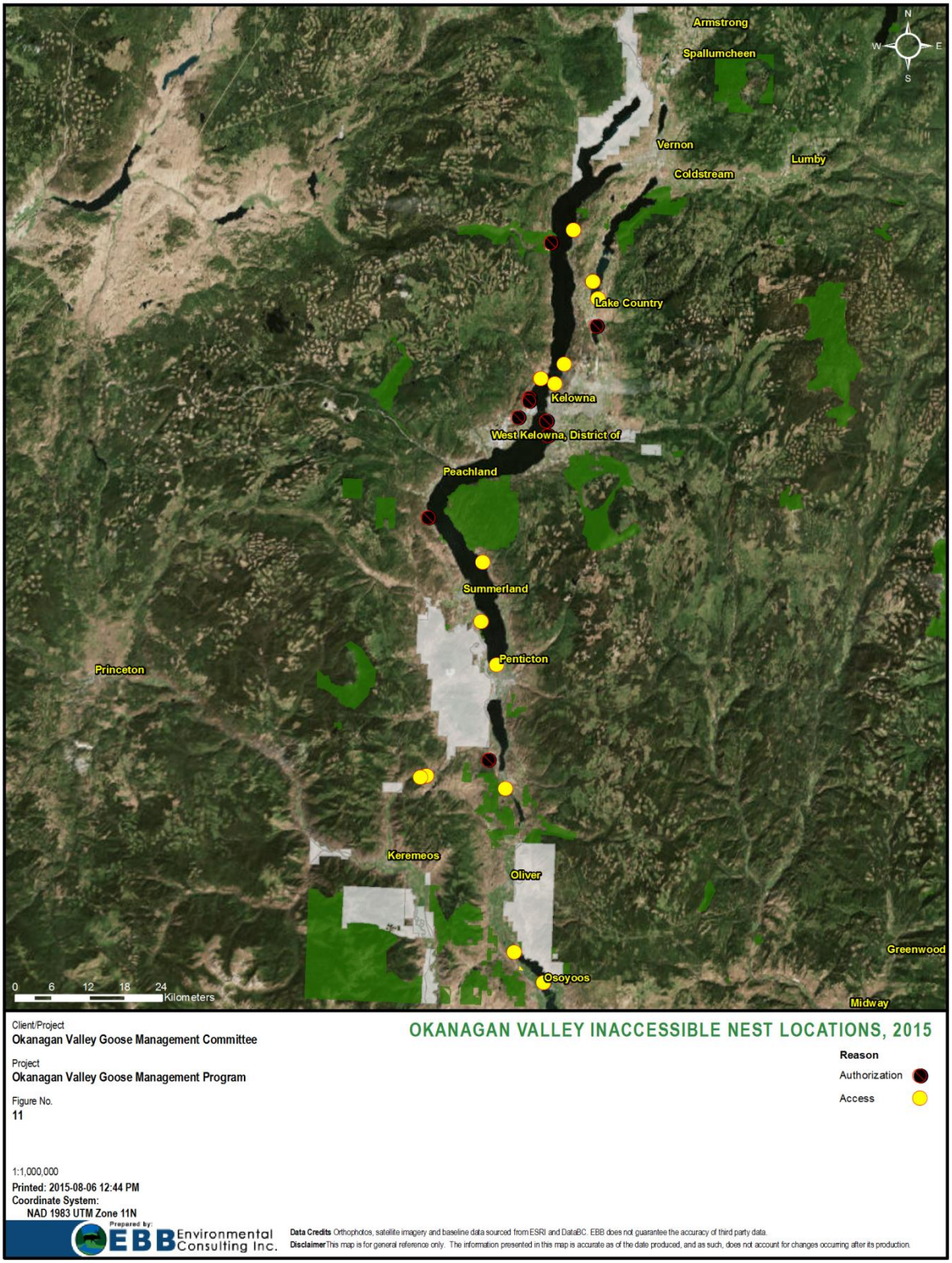

Figure 10. Inaccessible nests during 2015 field season

3.2 Media and Public Involvement

A press release for the addling program was issued March 30, 2015. This release received very positive feedback, including an article published in The Province newspaper. Articles were published by most local papers (e.g., *Vernon Morning Star*, Kelowna *Daily Courier*, *Osoyoos Times*) as well as other media platforms (Castanet.net, Global News and radio).

EBB received multiple calls and emails from the general public every day between March 27 and April 17. The volume of calls/emails slowed after mid-April, but continued until mid-May. For a short time in July calls increased with the onset of moulting geese. A reporter in The District of Lake Country published a July article regarding moulting geese and the OVGMP in general, which shed positive light on the program and the origins of the non-migratory goose population.

This year, Naramata and Oliver initiated mail-outs to property owners explaining the goose management program and the value of providing authorization for addling nests identified on private on lands. This resulted in two nests being identified and addled in Naramata. In addition, ORGMC had new participants at the April meeting (Water Quality Manager from RDOS and the Energy and Sustainability Manager from School District No. 23). Additional public involvement included meeting with landowners at specific properties to discuss mitigation options on private lands (including lakeshore interfaces, boats, docks and wharves), scare programs, assisting with damage permit applications, and increasing awareness of banded birds and reporting bands.

3.3 Follow-Up Surveys

During the ground surveys, EBB recorded 859 geese. The population composition was 790 adults and 69 juveniles (8.0%; Table 3).

Table 3. Summary Data for 2014 Follow-up Surveys

Region	Adults	Juveniles	Total
Peachland	41	5	46
Summerland	54	0	54
Penticton	54	8	62
Vaseux	314	14	328
OK Falls	24	0	24
West Kelowna	39	10	49
Lake Country	220	15	235
Kelowna	44	17	61
Total	**790**	**69**	**859**

3.4 Leg Band Data

The band database contained 113 entries and will increase as observations increase. Band data indicated that geese banded in 2012 and 2013 were resident geese that nest and winter in the Okanagan Valley. Figure 11 shows the overall distribution of band returns relative to their origin. Figure 12 provides a valley-wide aspect of local data.

Birds banded in Vernon have been observed outside of the Okanagan Valley in Washington, Oregon, Idaho, and Alberta. Therefore, the data suggests moulting geese in Vernon contain migratory birds that may nest further north, moult in Vernon, and then continue to migrate.

In addition, a bird banded in Penticton in 2013 was identified in Alberta. This bird was banded as a hatch year bird during a relocation program. It was relocated from downtown (Marina Beach) to outside of urban Penticton. It is likely that this bird imprinted with a migratory flock of geese and continued on a migratory pathway with that flock.

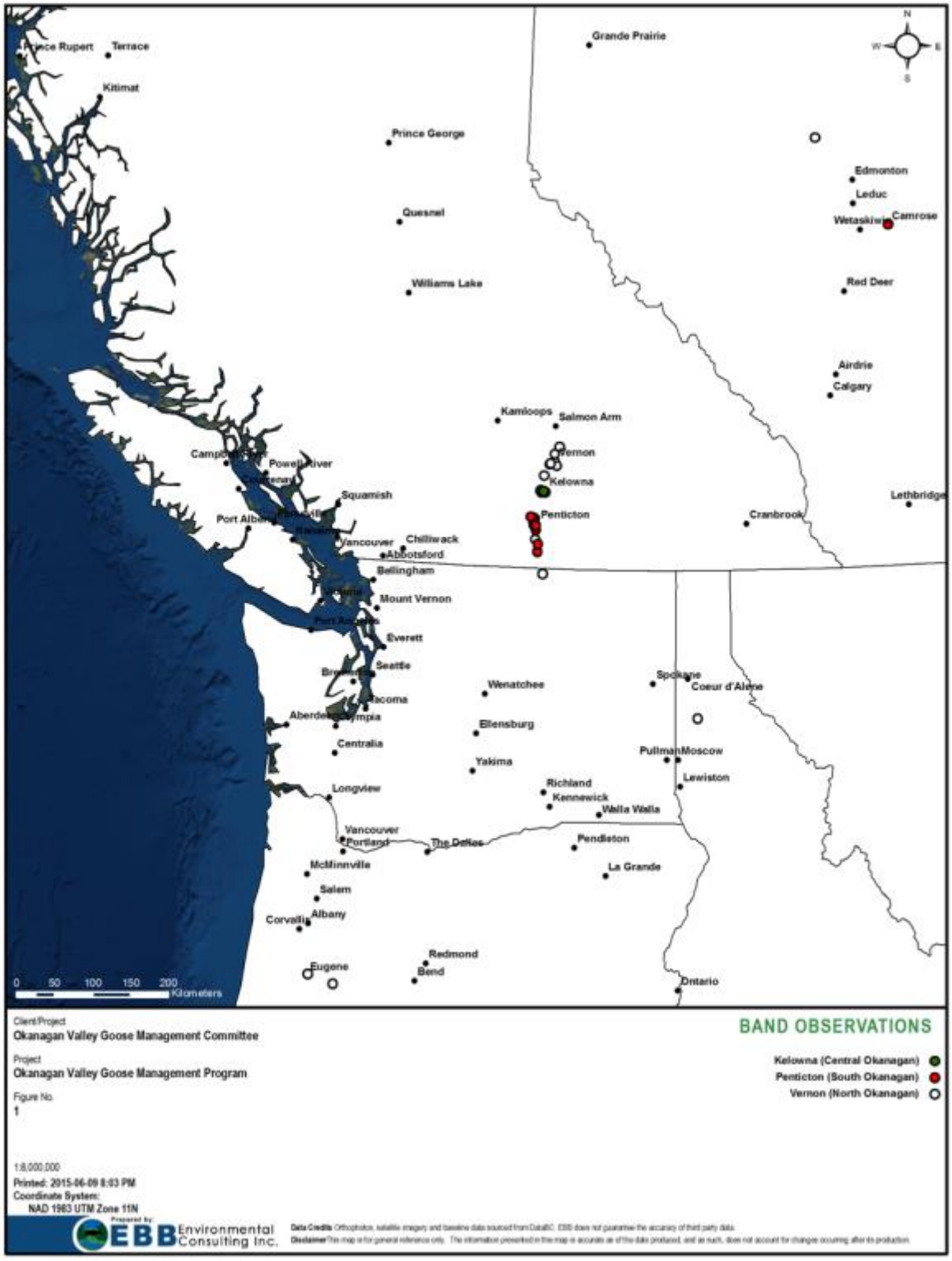

Figure 11. Band observations coloured by banding origin

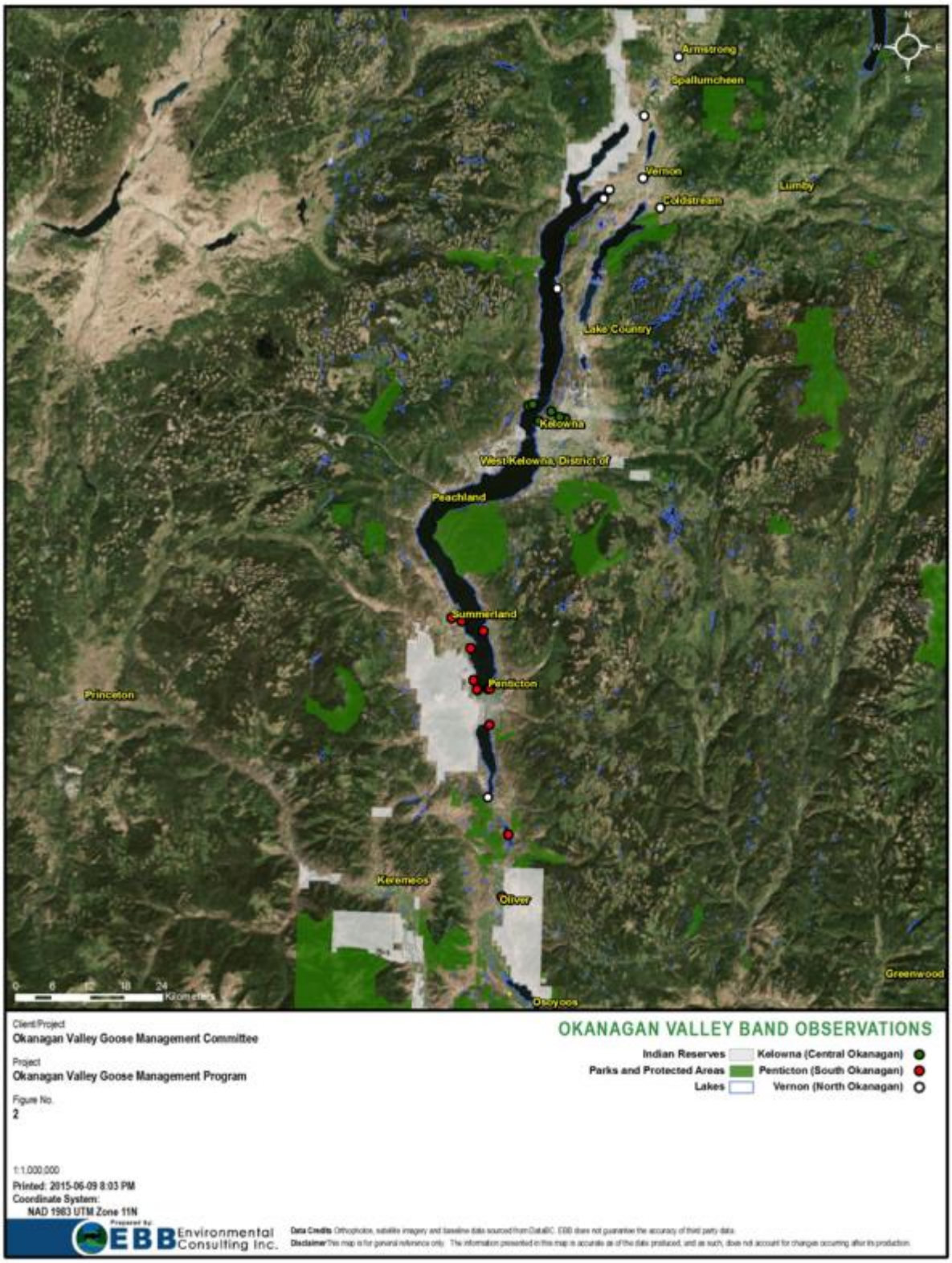

Figure 12. Band observations within the valley

4.0 Summary and Discussion

This year 1386 eggs were addled in the Okanagan Valley. Taking natural mortality into account, addling prevented over 1000 new geese from entering the population. Similar to previous years, EBB found that the highest density and number of nests were in the Vaseux Lake Migratory Bird Sanctuary. This year, crews identified 86 nests (439 eggs) in the sanctuary. The number is up from last year (72 nests) and 2013 (77 nests), but remains lower than in the first years of the program (93 in 2012; 123 nests in 2010 and 2011). Similar to previous years, Vaseux Lake accounts for approximately one third of the eggs addled this year.

Our follow-up surveys suggested that an estimated 8.0% of the valley-wide population was comprised of juveniles. This value is fairly consistent with previous years; 8% is certainly lower than would be seen if this population was not managed. However, some located nests were impossible for field crew to access, either due to safety issues (e.g. cliff or osprey platform nests), or nests located on private property where access was denied. As well, non-participating jurisdictions were not surveyed for nests and likely produce a number of eggs that continue to contribute to the Okanagan Valley goose population.

We suspect the distribution of nesting birds has been influenced by the addling program over the years. Pairs that have been repeatedly unsuccessful may have shifted their nest sites outside of the addling area. Using gosling observations and population survey data, we continue to identify areas where efforts should be increased to engage the public and increase awareness about goose management as well as look for nests. In doing so, more nest reports and access to lands will increase the ability of crews to successfully find and addle nests.

We also suspect that goose distribution was impacted by water levels this year. The goose numbers observed at Kaloya Regional Park and Vaseux Lake during gosling/moult surveys were examples of locations with substantially higher numbers of geese than seen in past years. In addition, we suspect the “new” nests identified in the north marshes of Vaseux Lake represented a redistribution of geese from areas that had lower water levels than in previous years.

As the band observation database grows, our understanding of movements, nesting, longevity and population mixing will improve. The maps provided in this report indicated most geese do not travel along or outside of the valley to a great extent. Currently, these data indicate that geese originating from Penticton and Kelowna are resident non-migratory birds. In terms of population management, this support the conclusion that population control of these birds will not impact natural migratory populations and will likely have long-term benefits towards mitigation and prevention of damage caused by geese in central and south Okanagan.

Data from birds banded in Vernon continued to indicate that birds moulting in Vernon are comprised of resident non-migratory geese and migratory geese. Similar to geese banded in Penticton and Kelowna, resident birds move locally and nest within the valley. Migratory birds however, may be birds that nest north of Vernon and temporarily stop in Vernon to moult prior to migrating south. As such, management of moulting birds from Vernon is not as clearly defined as for birds from Kelowna or Penticton.

As in the past, large numbers of flocking geese were observed in the District of West Kelowna (DWK; e.g., Powers Creek) prior to nesting and during moult. DWK supported a new hazing program during 2014 and 2015, which reduced conflict. In addition, DWK implemented a relocation program which resulted in the temporary removal of 40 geese from the Powers Creek area.

Geese are long lived (up to 20 years) and with addling as the primary population control tool, we have not seen enough natural attrition to confidently confirm that the existing adult population has decreased. However, informal discussions with landowners and managers on lands we accessed, praise program results. We received many comments over the past three years of the program about decreases in specific goose conflicts and the reduced efforts required by landowners to discourage geese from nesting on their lands.

As long as some geese are still breeding, population levels may remain stable. Initial population modeling (see 2007 and 2011 reports) predicts the population increases slightly before it decreases in approximately 2015 (this year) or 2016. Aerial surveys in 2014 indicated the population had stabilized and future aerial surveys may provide some clarity on population status. According to modeling and current field data, what is not happening is an exponential increase in the population that would have started by year 2013.

Other factors that contribute to changes in population levels include:

1. The Okanagan Valley Canada Goose Population may experience natural fluctuations that contribute to varying annual reproductive rates;
2. Some geese, after experiencing breeding failure or changes to nesting locations such as covering of planters or boat covers, may have found more reclusive nesting locations and/or, may have moved outside the geographic area targeted by the addling program, , but returned to the program area after hatching their clutch;
3. Geese that would otherwise have hatched from addled eggs in the previous years of the program are not entering the breeding population; and
4. Changes in hunting regulations and hunting pressure.

5.0 Recommendations

On review of this year's season, the following recommendations have been provided to ensure continued success. Recommendations include items that are on-going or newly identified. Action items from previous years that were addressed have been removed. Recommendations are as follows:

- Achieve greater buy-in from new partners, stakeholders and the general public

  Action: Continue to promote program activities at conferences or other forums (e.g. environmental fairs, Western Canada Turfgrass Association conference);

  Action: Have committee members discuss the issue with their counterparts in other jurisdictions, engage councils where appropriate; discuss the issue with potential partners such as golf course superintendents, hunting/fishing clubs, naturalist groups.

- Develop Best Management Practices (BMPs) that are available at municipal halls and online. These could be developed for landscaping, development (i.e., creating goose unfriendly landscapes when planning neighbourhoods, buildings, and parks), water management (e.g., retention pond or aesthetic water feature designs that do not encourage geese), and osprey pole management (e.g., provide mandatory access for seasonal exclosure placement and removal prior to placement approval).

- Improve leg-band reporting from jurisdictional staff and general public

  Action: Continue to have committee members discuss the issue with their staff and provide a reporting mechanism.

  Action: Improve web-based reporting mechanism (consider adding mapping as a visual tool).

- Limit nest destruction on private property or boat covers. Destruction of nests within a breeding season can result in geese re-nesting in new locations, and addling crews missing the new nest;

  Action: Encourage residents to prevent nesting (e.g., by eliminating sag in boat covers) by providing information in media releases following breeding season, or early in spring; have bylaw officers notify residents of laws regarding protection of breeding birds and their nests.

- Continue to build public awareness, so the program's email and toll number are utilized more by the public

  Action: Continue website and distribute OVGMP pamphlets; have bylaw officers draw attention to the signs, have parks staff discuss the issue with park users;

  Action: Continue to provide an information package with a copy of the information pamphlet, landowner attestation form (required by Environment Canada),

  Action: Continue to promote program activities at conferences or other forums (e.g. environmental fairs, Western Canada Turfgrass Association conference);

  Action: Prior to addling, draft a media release with results for the public (e.g., population growth statistics such as flattened population growth, and % young).

- Expand educational materials to assist partners and the general public in identifying goose breeding behaviour

  Action: Where public interest is identified, provide training sessions or informational materials to resident volunteers, and/or partners such as golf course superintendents and maintenance staff, on observing and identifying goose breeding behaviour to assist in identifying nest locations

- Increase ethical population control

  Action: Examine feasibility of promoting hunting in nearby farmland and other areas open to hunting (see provincial regulations), particularly on opening weekend when geese are most susceptible.

- West Kelowna: District of West Kelowna and Westbank First Nation—specific actions to control the population on the west side of the lake

  Action: evaluate the pilot relocation program to determine if this is an action that DWK should plan for in future years

- North Okanagan/Greater Vernon Area—specific actions

  Action: Continued addling pressure at Mackay Reservoir to prevent nesting colony expansion.

  Action: Where (if) feasible assist landowners in applying for damage permit to lethally remove geese on farmed lands.

  Action: Increase reach of program to include new potential source locations; nest surveys along the northern shoreline of the lake.

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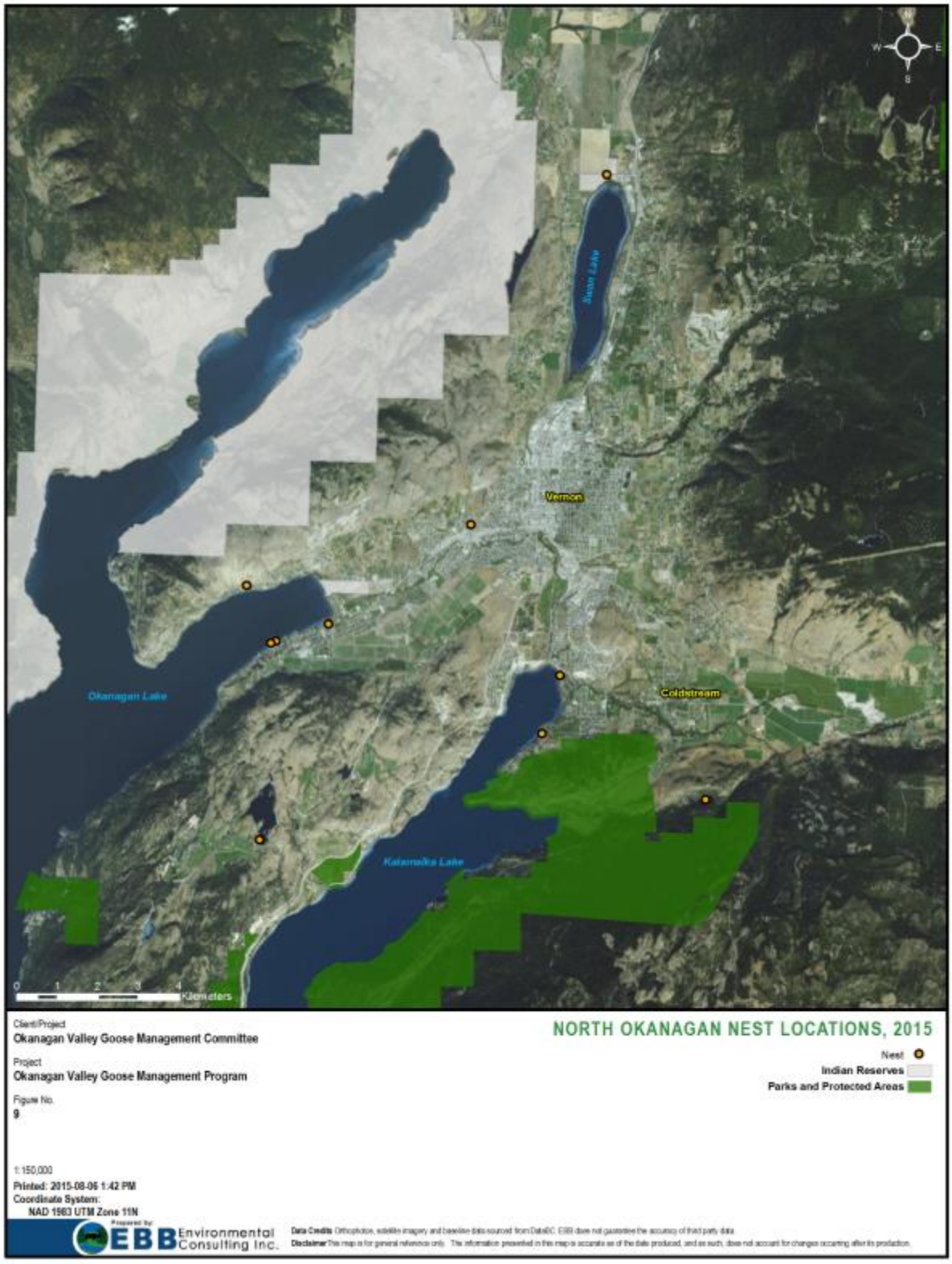
APPENDIX A

Egg Addling Data: Regional Summaries

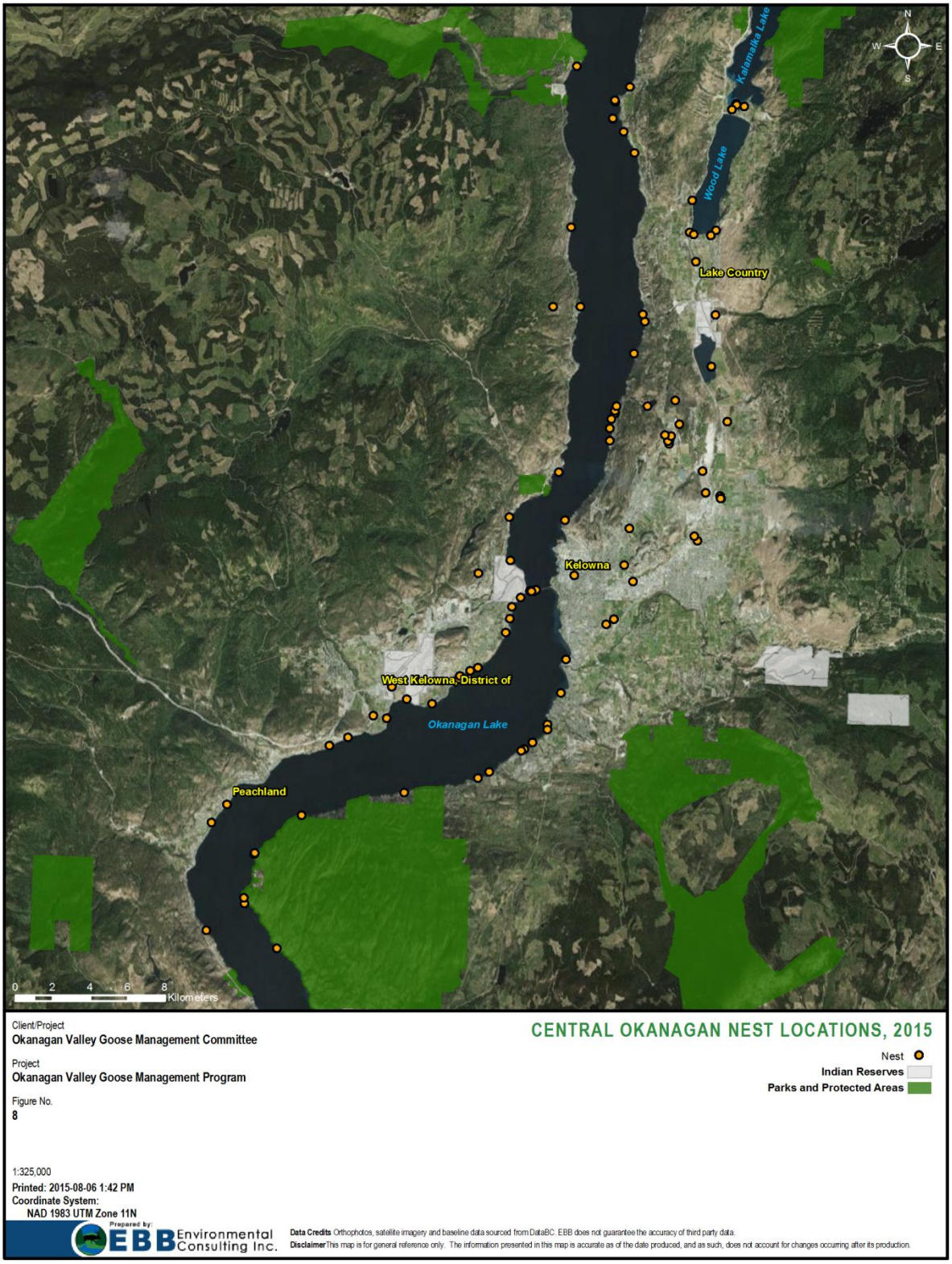
North Okanagan



Locality	Site	UTM			Total Eggs
		Zone	*Easting*	*Northing*	
Vernon	North End	11	339694	5578868	**6**
Vernon	North End	11	339694	5578868	**7**
Vernon	Cross Rock #1	11	336332	5570226	**7**
Vernon	Tronson Road	11	330798	5568734	**4**
Vernon	The Strand Okanagan Ave	11	332811	5567779	**7**
Vernon	Paddlewheel Log Boom #1	11	331518	5567359	**5**
Vernon	Paddlewheel Log Boom #2	11	331518	5567359	**6**
Vernon	Paddlewheel Log Boom #3	11	331518	5567359	**3**
Vernon	Paddlewheel Fishing Boat #1	11	331518	5567359	**4**
Vernon	Yacht Club	11	331392	5567310	**5**
Vernon	Kal Lake Lagoon #1	11	338538	5566502	**5**
Vernon	Rrivate rd off Kidston	11	338092	5565067	**6**
Vernon	Deep Lake	11	342126	5563444	**4**
Vernon	Deep Lake	11	342126	5563444	**6**
Vernon	Mackay Reservoir #1	11	331117	5562449	**5**
Vernon	Mackay Reservoir #2	11	331117	5562449	**5**
Vernon	Mackay Reservoir #3	11	331117	5562449	**4**
Vernon	Mackay Reservoir #4	11	331117	5562449	**6**
Vernon	Mackay Reservoir #5	11	331117	5562449	**5**
Vernon	Mackay Reservoir #6	11	331117	5562449	**6**
Vernon	Mackay Reservoir #7	11	331117	5562449	**7**
Vernon	Mackay Reservoir #8	11	331117	5562449	**6**
Vernon	Mackay Reservoir #9	11	331117	5562449	**5**
Vernon	Mackay Reservoir #10	11	331117	5562449	**6**
Vernon	Mackay Reservoir #11	11	331117	5562449	**5**
Vernon	Mackay Reservoir #12	11	331117	5562449	**6**
Vernon	Mackay Reservoir #13	11	331117	5562449	**4**
Vernon	Mackay Reservoir #14	11	331117	5562449	**4**
Vernon	Mackay Reservoir #15	11	331117	5562449	**6**
Vernon	Mackay Reservoir #16	11	331117	5562449	**6**
Vernon	Mackay Reservoir #17	11	331117	5562449	**2**

Nest Element	Value
Minimum Clutch Size	2
Maximum Clutch Size	7
Mean Clutch Size	5.25 (5)
Total Number of Nests	31
Total Number of Eggs	163

Central Okanagan



Locality	Name	UTM			Total Eggs
		Zone	*Easting*	*Northing*	
Fintry Provincial Park	Okanagan Lake - Fintry	11	321529	5556124	**6**
Kelowna	Okanagan Lake - Kelowna	11	324376	5555023	**5**
Lake Country	Okanagan Lake - Lake Country	11	323585	5554323	**2**
Lake Country	Okanagan Lake - Lake Country	11	323600	5554242	**1**
Lake Country	Oyama Camp Hatikvah	11	330036	5554119	**2**
Lake Country	Oyama Camp Hatikvah	11	330074	5554066	**5**
Lake Country	Kal Lake	11	330486	5553989	**6**
Lake Country	Oyama Camp Hatikvah	11	329826	5553815	**1**
Lake Country	James Grant Island	11	323476	5553370	**6**
Lake Country	James Grant Island	11	323468	5553368	**6**
Lake Country	James Grant Island	11	323461	5553362	**4**
Lake Country	James Grant Island	11	323464	5553350	**2**
Lake Country	James Grant Island	11	323458	5553346	**3**
Lake Country	James Grant Island	11	323452	5553335	**1**
Lake Country	Okanagan Lake - Lake Country	11	324030	5552639	**7**
Lake Country	Okanagan Lake - Lake Country	11	324628	5551521	**7**
Lake Country	Wood Lake	11	327714	5548986	**4**
Kelowna	Okanagan Lake - Kelowna	11	321229	5547562	**4**
Lake Country	Wood Lake	11	328965	5547381	**6**
Lake Country	Turtle Bay Marina	11	327574	5547272	**1**
Lake Country	Kokanee Beach Resort	11	327771	5547167	**3**
Lake Country	Wood Lake	11	328688	5547111	**4**
Lake Country	Winfield Pond	11	327881	5545715	**6**
West Kelowna	Okanagan Lake - West Kelowna	11	320284	5543312	**2**
West Kelowna	Okanagan Lake - West Kelowna	11	321734	5543310	**2**
Kelowna	Okanagan Lake - Kelowna	11	325072	5542915	**5**
Kelowna	Jim Bailey Industrial Park	11	328942	5542876	**6**
Kelowna	Okanagan Lake - Kelowna	11	325175	5542510	**5**
Kelowna	Okanagan Lake - Kelowna	11	324603	5540803	**2**
Kelowna	Duck Lake Island	11	328723	5540113	**4**
Kelowna	Duck Lake Island	11	328720	5540104	**2**
Kelowna	Duck Lake Island	11	328715	5540097	**3**
Kelowna	Duck Lake Island	11	328708	5540084	**5**
Kelowna	Glenmore Landfill	11	326792	5538295	**4**
Kelowna	McKinley Reservoir	11	325307	5538016	**7**
Kelowna	Okanagan Lake - Kelowna	11	323664	5538000	**5**
Kelowna	Okanagan Lake - Kelowna	11	323584	5537749	**1**
Kelowna	Okanagan Lake - Kelowna	11	323579	5537630	**6**
Kelowna	Okanagan Lake - Kelowna	11	323391	5537319	**0**

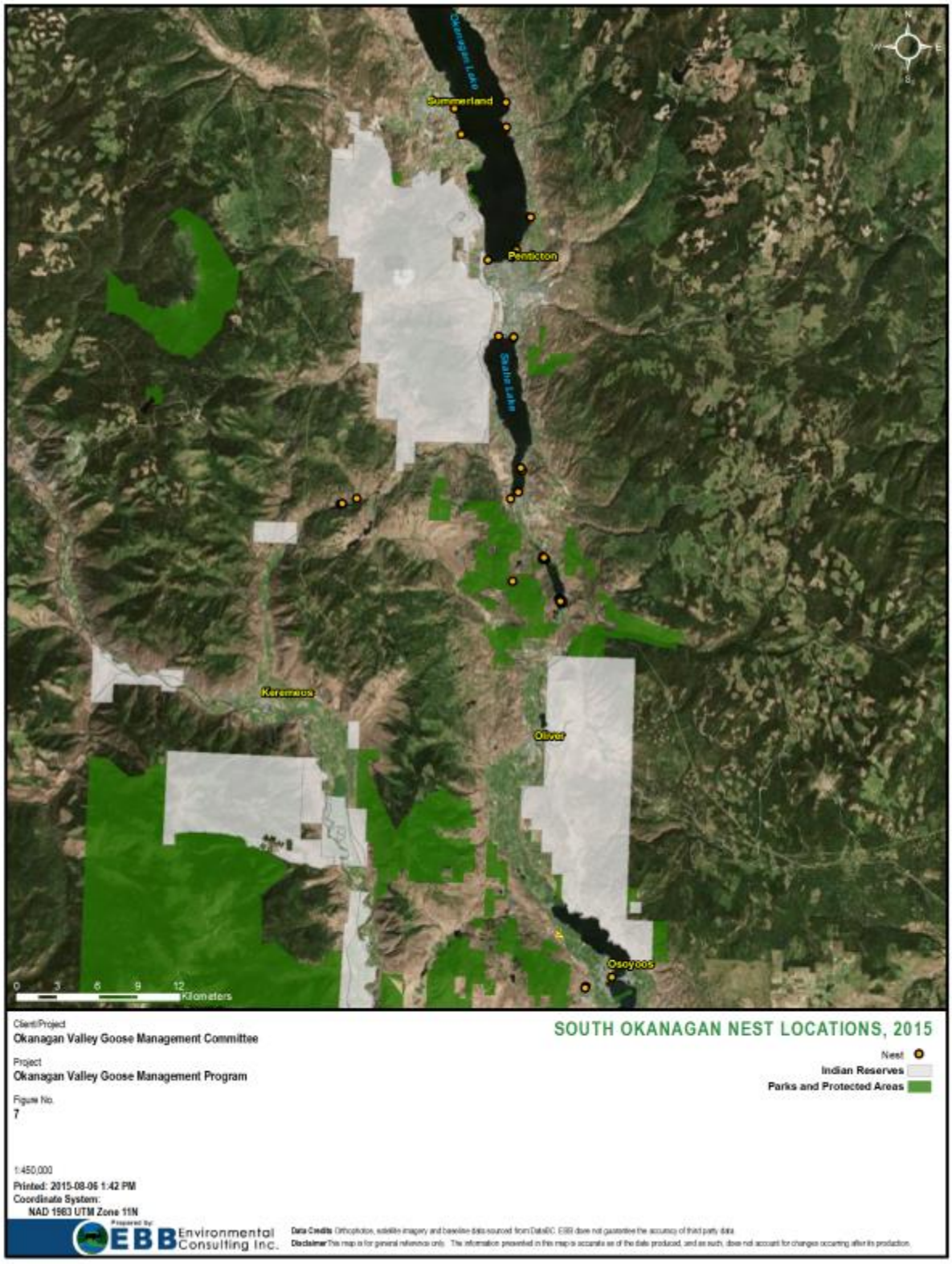
Locality	Name	UTM			Total Eggs
		Zone	*Easting*	*Northing*	
Vernon	Kelowna Airport (YLW)	11	329572	5537174	**6**
Kelowna	Glenmore Landfill	11	327015	5537039	**7**
Kelowna	Okanagan Lake - Kelowna	11	323290	5536822	**5**
Kelowna	Glenmore Landfill	11	326244	5536450	**1**
Kelowna	Glenmore Landfill	11	326574	5536416	**6**
Kelowna	Glenmore Landfill	11	326455	5536245	**6**
Kelowna	Glenmore Landfill	11	326484	5536210	**5**
Kelowna	Okanagan Lake - Kelowna	11	323303	5536154	**2**
Kelowna	Glenmore Landfill	11	326420	5536136	**8**
Kelowna	Glenmore Landfill	11	326466	5535997	**4**
Kelowna	University of British Columbia Okanagan	11	328254	5534536	**7**
West Kelowna	Okanagan Lake - West Kelowna	11	320565	5534469	**2**
Kelowna	Chester Pond	11	328410	5533394	**5**
Kelowna	John & Brenda's Farm	11	329177	5533219	**3**
Kelowna	John & Brenda's Farm	11	329232	5533085	**8**
Kelowna	John & Brenda's Farm	11	329224	5533085	**7**
West Kelowna	Okanagan Lake - West Kelowna	11	317938	5532082	**2**
Kelowna	Okanagan Lake - Kelowna	11	320915	5531929	**5**
Kelowna	Glenn Valley Wetlands	11	324357	5531474	**8**
Kelowna	Kelowna	11	327799	5531066	**7**
Kelowna	Chichester Wetlands	11	327964	5530826	**4**
West Kelowna	Okanagan Lake - West Kelowna	11	317985	5529771	**1**
Vernon	Kelowna Golf & C Club	11	324078	5529533	**6**
West Kelowna	Rose Valley Elementary	11	316296	5529078	**7**
Kelowna	Orchard Manor	11	321404	5528986	**5**
Kelowna	Enterprise Way	11	324546	5528661	**5**
Kelowna	WR Bennett Bridge	11	319356	5528219	**5**
Kelowna	WR Bennett Bridge	11	319038	5528156	**6**
Kelowna	WR Bennett Bridge	11	319232	5528151	**6**
Kelowna	WR Bennett Bridge	11	319199	5528148	**7**
Kelowna	WR Bennett Bridge	11	319188	5528147	**5**
Kelowna	WR Bennett Bridge	11	319180	5528145	**6**
Kelowna	WR Bennett Bridge	11	319211	5528143	**8**
Kelowna	WR Bennett Bridge	11	319239	5528142	**7**
Kelowna	WR Bennett Bridge	11	319198	5528140	**6**
Kelowna	WR Bennett Bridge	11	319195	5528139	**5**
Kelowna	WR Bennett Bridge	11	319188	5528137	**5**
Kelowna	WR Bennett Bridge	11	319138	5528131	**5**
Kelowna	WR Bennett Bridge	11	319156	5528131	**5**
Kelowna	WR Bennett Bridge	11	319171	5528131	**5**

Locality	Name	UTM			Total Eggs
		Zone	*Easting*	*Northing*	
Kelowna	WR Bennett Bridge	11	319229	5528131	**5**
Kelowna	WR Bennett Bridge	11	319118	5528129	**0**
Kelowna	WR Bennett Bridge	11	319140	5528124	**6**
Kelowna	WR Bennett Bridge	11	319111	5528122	**6**
Kelowna	WR Bennett Bridge	11	319109	5528118	**6**
West Kelowna	Shelterbay Marina	11	318540	5527792	**4**
West Kelowna	Okanagan Lake - West Kelowna	11	318070	5527300	**6**
West Kelowna	Okanagan Lake - West Kelowna	11	317967	5526670	**5**
Kelowna	Munson Pond	11	323529	5526638	**6**
Kelowna	Munson Pond	11	323115	5526373	**1**
West Kelowna	Okanagan Lake - West Kelowna	11	317743	5525936	**7**
Kelowna	El Dorado Hotel	11	320959	5524493	**5**
West Kelowna	Okanagan Lake - West Kelowna	11	316261	5524057	**6**
West Kelowna	Okanagan Lake - West Kelowna	11	315851	5523894	**3**
West Kelowna	Okanagan Lake - West Kelowna	11	315288	5523599	**3**
West Kelowna	Okanagan Lake - West Kelowna	11	315229	5523440	**7**
West Kelowna	Carrington Road	11	311666	5523043	**7**
Kelowna	Okanagan Lake - Kelowna	11	320688	5522709	**2**
West Kelowna	Okanagan Lake - West Kelowna	11	312455	5522368	**5**
West Kelowna	Okanagan Lake - West Kelowna	11	313797	5522138	**7**
Kelowna	Glen Canyon	11	310664	5521503	**3**
West Kelowna	West Kelowna Yacht Club	11	311391	5521355	**4**
Kelowna	Okanagan Lake - Kelowna	11	319963	5521013	**5**
Kelowna	Okanagan Lake - Kelowna	11	319965	5520744	**8**
Peachland	Okanagan Lake - Peachland	11	309316	5520325	**6**
Kelowna	Okanagan Lake - Kelowna	11	319182	5520055	**6**
Peachland	Okanagan Lake - Peachland	11	308338	5519909	**6**
Kelowna	Okanagan Lake - Kelowna	11	318728	5519705	**6**
Kelowna	Okanagan Lake - Kelowna	11	318569	5519623	**2**
Kelowna	Okanagan Lake - Kelowna	11	316873	5518491	**1**
Kelowna	Okanagan Lake - Kelowna	11	316259	5518160	**5**
Kelowna	Okanagan Lake - Kelowna	11	312325	5517407	**5**
Peachland	Pentownia Marina	11	302857	5516771	**6**
Okanagan Mountain Provincial Park	Okanagan Lake - Okanagan Mountain Provincial Park	11	306844	5516175	**5**
Peachland	Peachland Shed	11	302038	5515809	**8**
Okanagan Mountain Provincial Park	Rattlesnake Island	11	304344	5514178	**1**
Okanagan Mountain Provincial Park	Rattlesnake Island	11	304321	5514110	**2**
Okanagan Mountain Provincial Park	Okanagan Lake - Okanagan Mountain Provincial Park	11	303773	5511772	**6**

Locality	Name	UTM			Total Eggs
		Zone	*Easting*	*Northing*	
Okanagan Mountain Provincial Park	Okanagan Lake - Okanagan Mountain Provincial Park	11	303796	5511490	**6**
Peachland	Okanagan Lake - Peachland	11	301749	5510050	**6**
Okanagan Mountain Provincial Park	Okanagan Lake - Okanagan Mountain Provincial Park	11	305514	5509097	**1**

Nest Element	Value
Minimum Clutch Size	0
Maximum Clutch Size	8
Mean Clutch Size	4.8 (5)
Total Number of Nests	150
Total Number of Eggs	722

South Okanagan



Region	Name	UTM			Total Eggs
		Zone	*Easting*	*Northing*	
Naramata	Okanagan Lake - Naramata	11	312240	5498236	**3**
Summerland	Summerland Yacht Club	11	308428	5497906	**7**
Summerland	Summerland Yacht Club	11	308513	5497898	**6**
Summerland	Summerland Yacht Club	11	308479	5497893	**3**
Summerland	Summerland Yacht Club	11	308470	5497892	**8**
Summerland	Summerland Yacht Club	11	308497	5497892	**6**
Summerland	Summerland Yacht Club	11	308524	5497892	**1**
Summerland	Summerland Yacht Club	11	308521	5497890	**7**
Summerland	Summerland Yacht Club	11	308511	5497890	**7**
Summerland	Summerland Yacht Club	11	308445	5497864	**2**
Summerland	Summerland Yacht Club	11	308518	5497861	**7**
Summerland	Summerland Yacht Club	11	308514	5497841	**1**
Summerland	Summerland Yacht Club	11	308515	5497829	**6**
Summerland	Summerland Yacht Club	11	308511	5497811	**1**
Summerland	Summerland Yacht Club	11	308515	5497791	**6**
Summerland	Summerland Yacht Club	11	308444	5497761	**5**
Naramata	Okanagan Lake - Naramata	11	312307	5496417	**3**
Summerland	Okanagan Lake - Summerland	11	308955	5495854	**5**
Penticton	Okanagan Lake - Penticton	11	314072	5489715	**1**
Penticton	Okanagan Lake - Penticton	11	313006	5487283	**4**
Penticton	Penticton Yacht Club	11	312887	5486993	**8**
Penticton	Penticton Yacht Club	11	312858	5486983	**2**
Penticton	Penticton Yacht Club	11	312851	5486980	**3**
Penticton	Penticton Yacht Club	11	312851	5486980	**3**
Penticton	Penticton Yacht Club	11	312811	5486969	**4**
Penticton	Penticton Yacht Club	11	312774	5486957	**1**
Penticton	Penticton Yacht Club	11	312759	5486952	**7**
Penticton	Penticton Yacht Club	11	312667	5486751	**5**
Penticton	Okanagan Lake - Penticton	11	310939	5486563	**5**
Penticton	Kittyhawk AC Services	11	311738	5480921	**6**
Penticton	Skaha Marina	11	312842	5480843	**5**
Penticton	Skaha Marina	11	312842	5480816	**1**
Penticton	Skaha Lake - Penticton	11	313370	5471168	**4**
Penticton	Skaha Lake - Penticton	11	313485	5470970	**6**
Okanagan Falls	Christie Island	11	313173	5469418	**5**
Okanagan Falls	Christie Island	11	313173	5469418	**7**
Okanagan Falls	Christie Island	11	313155	5469409	**1**
Okanagan Falls	Christie Island	11	313162	5469407	**10**
Okanagan Falls	Christie Island	11	313170	5469404	**2**
Okanagan Falls	Christie Island	11	313160	5469389	**3**
Okanagan Falls	Christie Island	11	313173	5469375	**3**

Region	Name	UTM			Total Eggs
		Zone	*Easting*	*Northing*	
Twin Lakes	Toy Lake	11	301219	5468929	**5**
Okanagan Falls	Okanagan River Island	11	312601	5468900	**5**
Twin Lakes	Yellow Lake	11	300130	5468558	**3**
Twin Lakes	Yellow Lake	11	299981	5468511	**5**
Vaseaux Lake	North Vaseaux Lake Wetlands	11	315014	5464635	**1**
Vaseaux Lake	North Vaseaux Lake Wetlands	11	315079	5464540	**1**
Vaseaux Lake	North Vaseaux Lake Wetlands	11	315015	5464461	**2**
Vaseaux Lake	North Vaseaux Lake Wetlands	11	314973	5464446	**1**
Vaseaux Lake	North Vaseaux Lake Wetlands	11	315077	5464398	**3**
Vaseaux Lake	North Vaseaux Lake Wetlands	11	315197	5464393	**2**
Vaseaux Lake	North Vaseaux Lake Wetlands	11	315030	5464383	**1**
Twin Lakes	Sleeping Waters	11	312766	5462782	**7**
Vaseaux Lake	Hatfield Island	11	316176	5461550	**6**
Vaseaux Lake	Hatfield Island	11	316173	5461544	**1**
Vaseaux Lake	Hatfield Island	11	316195	5461541	**4**
Vaseaux Lake	Hatfield Island	11	316188	5461534	**2**
Vaseaux Lake	Hatfield Island	11	316208	5461534	**5**
Vaseaux Lake	Hatfield Island	11	316196	5461531	**5**
Vaseaux Lake	Hatfield Island	11	316184	5461529	**6**
Vaseaux Lake	Hatfield Island	11	316173	5461527	**7**
Vaseaux Lake	Hatfield Island	11	316219	5461526	**3**
Vaseaux Lake	Hatfield Island	11	316174	5461524	**5**
Vaseaux Lake	Hatfield Island	11	316219	5461521	**6**
Vaseaux Lake	Hatfield Island	11	316177	5461521	**7**
Vaseaux Lake	Hatfield Island	11	316183	5461521	**4**
Vaseaux Lake	Hatfield Island	11	316207	5461513	**6**
Vaseaux Lake	Hatfield Island	11	316225	5461508	**5**
Vaseaux Lake	Hatfield Island	11	316179	5461505	**5**
Vaseaux Lake	Hatfield Island	11	316200	5461501	**6**
Vaseaux Lake	Hatfield Island	11	316211	5461498	**6**
Vaseaux Lake	Hatfield Island	11	316184	5461498	**5**
Vaseaux Lake	Hatfield Island	11	316234	5461493	**5**
Vaseaux Lake	Hatfield Island	11	316238	5461492	**4**
Vaseaux Lake	Hatfield Island	11	316185	5461491	**5**
Vaseaux Lake	Hatfield Island	11	316220	5461487	**6**
Vaseaux Lake	Hatfield Island	11	316181	5461487	**6**
Vaseaux Lake	Hatfield Island	11	316242	5461481	**8**
Vaseaux Lake	Hatfield Island	11	316221	5461477	**7**
Vaseaux Lake	Hatfield Island	11	316207	5461477	**2**
Vaseaux Lake	Hatfield Island	11	316203	5461475	**8**
Vaseaux Lake	Hatfield Island	11	316244	5461446	**7**

Region	Name	UTM			Total Eggs
		Zone	*Easting*	*Northing*	
Vaseaux Lake	Hatfield Island	11	316218	5461441	**6**
Vaseaux Lake	Hatfield Island	11	316215	5461433	**7**
Vaseaux Lake	Hatfield Island	11	316249	5461424	**2**
Vaseaux Lake	Hatfield Island	11	316245	5461423	**1**
Vaseaux Lake	Hatfield Island	11	316226	5461419	**5**
Vaseaux Lake	Hatfield Island	11	316236	5461407	**8**
Vaseaux Lake	Hatfield Island	11	316256	5461400	**5**
Vaseaux Lake	Hatfield Island	11	316228	5461400	**5**
Vaseaux Lake	Hatfield Island	11	316249	5461395	**4**
Vaseaux Lake	Hatfield Island	11	316239	5461388	**5**
Vaseaux Lake	Hatfield Island	11	316259	5461381	**4**
Vaseaux Lake	Hatfield Island	11	316267	5461368	**7**
Vaseaux Lake	Hatfield Island	11	316254	5461362	**12**
Vaseaux Lake	Hatfield Island	11	316236	5461360	**6**
Vaseaux Lake	Hatfield Island	11	316279	5461347	**7**
Vaseaux Lake	Hatfield Island	11	316264	5461345	**6**
Vaseaux Lake	Hatfield Island	11	316278	5461329	**4**
Vaseaux Lake	Hatfield Island	11	316249	5461328	**8**
Vaseaux Lake	Hatfield Island	11	316277	5461324	**8**
Vaseaux Lake	Hatfield Island	11	316259	5461322	**4**
Vaseaux Lake	Hatfield Island	11	316276	5461313	**8**
Vaseaux Lake	Hatfield Island	11	316281	5461313	**4**
Vaseaux Lake	Hatfield Island	11	316290	5461308	**6**
Vaseaux Lake	Hatfield Island	11	316258	5461304	**7**
Vaseaux Lake	Hatfield Island	11	316275	5461301	**8**
Vaseaux Lake	Hatfield Island	11	316269	5461293	**6**
Vaseaux Lake	Hatfield Island	11	316265	5461288	**8**
Vaseaux Lake	Hatfield Island	11	316283	5461286	**7**
Vaseaux Lake	Hatfield Island	11	316292	5461271	**6**
Vaseaux Lake	Hatfield Island	11	316302	5461257	**6**
Vaseaux Lake	Hatfield Island	11	316277	5461257	**7**
Vaseaux Lake	Hatfield Island	11	316284	5461256	**7**
Vaseaux Lake	Hatfield Island	11	316284	5461242	**7**
Vaseaux Lake	Hatfield Island	11	316288	5461242	**2**
Vaseaux Lake	Hatfield Island	11	316300	5461241	**7**
Vaseaux Lake	Hatfield Island	11	316293	5461235	**1**
Vaseaux Lake	Hatfield Island	11	316283	5461233	**7**
Vaseaux Lake	Hatfield Island	11	316293	5461233	**4**
Vaseaux Lake	Hatfield Island	11	316296	5461227	**2**
Vaseaux Lake	Hatfield Island	11	316283	5461225	**1**
Vaseaux Lake	Hatfield Island	11	316306	5461224	**6**

Region	Name	UTM			Total Eggs
		Zone	*Easting*	*Northing*	
Vaseaux Lake	Hatfield Island	11	316301	5461220	**10**
Vaseaux Lake	Hatfield Island	11	316291	5461220	**4**
Vaseaux Lake	Hatfield Island	11	316297	5461216	**5**
Vaseaux Lake	Hatfield Island	11	316290	5461215	**3**
Vaseaux Lake	Hatfield Island	11	316294	5461213	**8**
Vaseaux Lake	Hatfield Island	11	316313	5461213	**2**
Vaseaux Lake	Hatfield Island	11	316305	5461210	**5**
Vaseaux Lake	Hatfield Island	11	316310	5461208	**3**
Vaseaux Lake	Hatfield Island	11	316298	5461206	**5**
Osoyoos	Osoyoos Lake Island	11	320108	5433486	**8**
Osoyoos	Sewage Lagoons	11	318142	5432825	**5**
Osoyoos	Sewage Lagoons	11	318127	5432742	**5**
Osoyoos	Sewage Lagoons	11	318112	5432692	**2**

Nest Element	Value
Minimum Clutch Size	1
Maximum Clutch Size	12
Mean Clutch Size	4.9 (5)
Total Number of Nests	136
Total Number of Eggs	664

APPENDIX B

Select Project Photographs

Accessing a cliff nest (Okanagan Mountain Park)

House boat nest, Penticton

Boat-accessible cliff nest (Yellow Lake)

Roof nest, Kelowna (see corner enlargement)

Accessing roof nest (from photo above)

Nest access using bucket truck supplied by City of Kelowna

Roof Nest, Lake Country