

Park: Point Pelee NP	Date Received: Jan. 16, 2008
Research Permit Number: N/A	

Parks Canada Animal Care Task Force:

HYPERABUNDANT SPECIES PROTOCOL REVIEW FORM

Title of Project: Management of double-crested cormorants on Middle Island.
Project Leader: Dan Reive
New Project: <input checked="" type="checkbox"/> Continuing Project: <input type="checkbox"/> Revised Project: <input type="checkbox"/> Previous Protocol #:

Each *Application* should be evaluated to ensure it complies with all of the following minimum criteria required for approval of the proposed animal handling protocol:

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| 1. Is there adequate justification for undertaking population reduction at this time? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| 2. Has the appropriate technique been selected to reduce the population? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| 3. If not, what technique would be more appropriate or how could the chosen technique be improved? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 4. Is the protocol for removing animals fully documented? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| 5. Is the timing (season, time of day etc.) of the population reduction appropriate for the species? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| 6. Have adequate measures been taken to ensure the monitoring and effectiveness of the population reduction? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| 7. Adequate measures taken to deal with carcasses and injured animals? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |

If the answer to any of the above questions was No, please provide detailed recommendations on what changes are required to be made in the project proposal to meet the minimum criteria for project approval :

Several concerns were raised by the Eastern Animal care task force during a teleconference review of the above project. These are detailed below:

- 1) There were no qualification standards detailed in the operational plan for qualifying shooters who will be conducting the shooting of birds on Middle Island. Strict qualification standards need to be developed and put in place so that shooters can accurately target an area of approximately the size of a cormorant's neck at the base near the thoracic inlet (approximately 5 cm diameter circle) to reduce the number of injuries and non-lethal bullet wounds. These standards should be overseen by an independent qualified range officer from Parks Canada, potentially from another field unit or park to ensure shooters have a high degree of precision and accuracy prior to going into the field. Experienced shooters from other areas that have used this method may be available and may be useful to lend their experience for this qualification (e.g. US and Presque Isle). It was also suggested that a bipod or tripod be used as a shooting rest to stabilize the rifles for more precise shots. If these standards have already been developed, please include them as part of the operational plan and provide a copy to the task force.
- 2) Significant concern was voiced about the practicality of realistically observing hatchlings (especially very young ones) in the nest prior to shooting the adults. The task force felt this could not be realistically achieved with any certainty from a ground location on nests that are potentially 30-40 feet in the tree. This leaves the potential for leaving these birds to die from starvation, which would contravene CCAC guidelines. Guidelines developed by the American Association of Zoo Veterinarians for euthanasia of non-domestic animals (AAZV 2006) also specify that avian embryos that have completed more than 50% of gestation, be euthanized using the same methods used for hatchling birds (e.g. cervical dislocation). The committee felt this would be difficult to achieve unless each nest was subsequently checked individually after the adults had been shot for the presence of either hatchlings or eggs more than 50% through incubation. We realize this may cause disturbance to the other nesting cormorants and other species nesting on the island, but that this factor needs to be balanced with the objective of humane care. A potential solution would be to remove cormorants as early in the nesting season as possible or try to determine if there are behavioural characteristics of the adults on the nest that could be easily observed and used to identify nest with hatchling birds. Alternatively, it was suggested that all nesting cormorants in a particular tree be shot, and then the nests removed to check for the above. We realize this may be impractical due to the disturbance created by this, especially on other colonial nesting species (herons), but that this needed to be balanced with humane care considerations.
- 3) The task force also felt quite strongly that some form of independent observer should be utilized to oversee the operations and ensure transparency and public satisfaction that this project was being carried out as specified in the operational plan and conservation plan. It was suggested that this observer be a veterinarian or other health professional with a background in humane euthanasia standards. This has been done for other controversial projects involving wildlife such as the harp seal hunt in the Gulf of St. Lawrence (Daoust et al 2002) with some success.
- 4) Concern was also raised about ensuring that targeted adult birds are truly dead. Again there was discussion regarding the balance between ensuring a quick and humane death for cormorants without causing excessive disturbance to other colonial nesting species. It was suggested that all of the nests be checked afterward to a) ensure the bird(s) are dead and b) that there are no hatchlings present or late stage eggs (>50% gestation). This could potentially be accomplished using a long pole with a mirror to check for hatchlings and ensure birds are dead. Nest removal would be required to check for stage of incubation by opening eggs or other by some other method. Any eggs with chicks that are mostly developed and >50% through incubation should be euthanized by cervical dislocation. Additionally, all birds that fly out of the nest after being shot need to be checked to ensure that they are truly dead and not lying wounded on the ground. This may mean more time allotted to post-shooting follow-up rather than shooting activities per se, but the task force felt this was important to document as it has caused significant problems with other culling operations in Ontario (e.g. Presque Isle provincial park). This may need to be assessed using a number of different methods, but the task force felt these should be tried on a trial basis the first year to refine methodology for subsequent years, even if that meant that the target numbers of birds culled in Year One were not met. Other methods suggested were to set up either permanent or temporary elevated blinds from which nests could be checked prior to shooting for the presence of hatchling birds.
- 5) It was unclear how long shooting activities would take place during any given day. Please clarify if shooting will continue on a given day for a specified time period or whether it will continue for the entire day. There was a suggestion from some members that restricting the amount of time on the island will decrease the disturbance to other colonial nesting species on the island.
- 6) It was also suggested that cormorant carcasses chosen for toxicological analysis not just come from the periphery of the island, but should represent the entire colony and include birds from near the centre of the island as well to ensure that the sample is not biased. Again, this needs to be done to reduce disturbance to the rest of the colonial nesting species as much as possible.
- 7) Finally, several issues that were more related to the environmental review process were discussed at length including the effects of thousands of cormorant carcasses on predators, soil pH and other species on the island and the effect of lead contamination from the large number of bullets that would be expended and potentially scavenged by scavengers such as bald eagles and gulls. A non-toxic alternative to lead (such as an all copper bullet) should be sought to reduce the cumulative environmental impact of this project if possible. It was felt that these issues were better dealt with through the environmental review process, but the animal care task force would like to keep abreast of responses to the environmental assessment to ensure these issues are adequately dealt with.

American Association of Zoo Veterinarians (AAZV). 2006. Guidelines for euthanasia of nondomestic animals. 111 pp.

Daoust PY, Crook A, Bollinger TK, Campbell KG, Wong J. 2002. Can Vet J. Sep;43(9):687-94. Animal welfare and the harp seal hunt in Atlantic Canada.

Response to questions raised during review sent by Dan Reive Feb. 8, 2008, with further revisions provided March 27, 2008:

The staff at Point Pelee provide the following information that will assist in addressing the concerns raised by the ACTF with respect to the implementation of the draft Middle Island Conservation Plan, more specifically the details as outlined the draft Operational Plan.

1. The Parks Canada shooters who will be involved in the operational phase have all qualified to the Parks Canada firearms standard by PCA Firearms Instructors. Three of the four primary shooters qualified with the most consistently high scores attained by PCA staff in Ontario. The fourth primary, as well as the alternate (2) shooters will have passed the PCA firearms standard. All of the shooters will prepare for the operation by practising at the Windsor Police/DND Range in Windsor prior to April/08. The shooters will be able to consistently (90%+ accuracy) hit a 3 cm. target at 25 yds., as well as a 5 cm. target at 50 yds. using a rest (as there will be no free-standing shots allowed during the operation). These standards will be confirmed by the Windsor Police/DND Firearms Training/Range Officer. Range practice will entail the use of a fixed upright (to simulate the use of a tree trunk for cover/camouflage and stability) as well as bipods, which will be used in the field if suitable trees are not available in some areas.

2. In discussions with a Canadian Wildlife Service biologist who has 30+ years experience in monitoring colonial waterbirds on Middle Island as well as the other islands throughout the western basin of Lake Erie, we have determined that it is possible to observe, identify, and map cormorant and other colonial waterbird nests from a low flying fixed wing aircraft early in the nesting season. The observation and identification of eggs (to species) in the nest is also possible. We will conduct weekly flyovers commencing in late March and into early April to determine first dates of nest initiation for each waterbird species, as well as first egg laying date for cormorants. At that time, estimated to be the first week of April, the operational team will make the first trip to the island to cull the adults from these early season nests. At the same time, this will allow shooters to test the firearm systems chosen for the cull, the efficiency of the .17 calibre hollowpoint ammunition to produce immediately lethal wounds, determine wounding rates, and provide an opportunity to observe each adult immediately after being shot to confirm humane death has occurred. This will also ensure that there are no viable eggs that have more than 50 % gestation completed in active nests at the time that the majority of the nesting activity on the island commences (experience indicates that peak nest initiation should occur during the last week of April). Our goal is complete the culling adult birds from a nest before >50% gestation is completed. It is not practical nor possible to observe eggs in the nest from a ground location early in the nesting season - prime nest locations are in superstorey canopy trees 50-80 ft. tall. As those prime nest locations are filled, later nesters utilize canopy trees of 30-50 ft. Subcanopy trees of 15-30 ft. are utilized last, as these are not preferred nest locations.

Should it become necessary to delay culling activities early in the nesting season due to weather, logistical or other reasons, an alternative to the use of culling to eliminate early season nesters will be implemented to address the potential abandonment of nestlings or late stage eggs (>50% gestation) associated with the culling activities. Instead of culling the adult birds from active nests early in the nesting season, the trees containing all early established nests will be flagged with biodegradable flagging tape and these early nests will be excluded from all subsequent culling activities in that nesting season. No adult birds sitting in trees that have been flagged, whether on a nest or on a branch will be culled. Nest establishment will be identified by the act of an adult physically sitting on the nest which indicates that egg-laying has been initiated. When all active nesting trees on the island, or in a specified area have been identified and flagged, there is then a 15 day period when, in unmarked trees, a new nest is established or adult birds begin to show nesting behaviour (sitting on nest) that that tree could not have eggs that are beyond 15 days gestation. Culling activities can take place during this 15 day period for adult birds associated with nests in these non-flagged trees. Culling activity could only continue after that 15 day time period if it can be established with confidence that all adult birds have been culled from all active nests in the unmarked trees. On the culling day that this has been achieved, there begins another 15 day period during which culling can continue. This may not be possible across the whole island if there are many active nests, but may be realistic for smaller areas such as the priority management zones. For example, if the trees of all active nests were flagged on April 12th, then culling activities could take place on non-flagged trees until April 27th (15 days later). After April 27th, culling could only proceed if both adult birds associated with every active nest in an unmarked tree are culled prior to April 27th. If both adult birds associated with every active nest are culled from the all unmarked trees in priority one management zone on April 24th, then culling activities could continue in the unmarked trees, in that area only, until May 9th (15 days later). This alternative method of excluding early season nests would reduce the number of adult birds available to be culled in a particular nesting season, but it will ensure adherence to the humane euthanasia standards. This alternative method of flagging active nests would require much less staff, equipment and other logistical considerations than culling activities and therefore would be feasible given the restriction of inclement weather or other impediments to the timing of the implementation of the plan.

3. We would welcome Dr. Todd Shury or another veterinarian experienced in humane euthanasia standards to be independent observers during the operation. Experience with wildlife standards as opposed to domestic/laboratory animal standards would be of particular benefit. The most beneficial period of having an independent observer would be during the early weeks of April, when the first nesting occurs in the supercanopy trees and when we are field testing equipment and protocols on the early nesters. The veterinary would be able to assist staff in determining any changes adaptations required, and would be able to confirm any decision made by staff as to whether we would be able to proceed with the culling operation during the peak nest initiation period.

4. As discussed in #2 above, the first trip to the island will allow operational staff to determine the effectiveness of the equipment to quickly and humanely produce lethal wounds. Each adult bird culled will be checked to verify death has occurred. Behavioural characteristics of each adult shot can be observed so that later in the operations, each shooter will be able to determine whether each shot has resulted in death, or whether a follow-up shot will immediately be needed. Even if the project is delayed, this preliminary assessment phase will still occur to determine the lethality of this technique on individual cormorants over the first two to three operational days in the field.

5. Shooting activities will normally commence at approximately 0900 hrs. and end at approx. 1500hrs. We intend to use Pelee Island as a base of operation, as the distance from Leamington to Middle Island by vessel takes approx. 1 1/2 hrs. (30 kms.) In this way, it is less likely that the operations will be cancelled by high winds/waves, as the distance to Middle Island from Pelee Island is only 6 kms. The group will arrive on the island base camp by 0800 hrs, organize equipment, discuss health and safety and operational issues for the day, check communication equipment, and survey the island to ensure there is no one else on the island but operational group members. As indicated in the draft operational plan, the shooting period for each team will be confined to approx. 20 minute intervals. The shooters' assistant will be verifying the length of time other colonial nesters have been flushed off the nest. The team will move to another area to ensure the adults can return to their incubating activity.

6. This will be discussed again with the research group conducting the toxicological analyses. Our intent was to reduce unnecessary disturbance by only collecting carcasses from the periphery of the island, which the research group agreed would meet their sampling needs.

7. We will provide the draft environmental assessment to the ACTF members at the same time it is posted on the EA Registry. The question regarding effects of carcasses on predators, soil chemistry, and other island species will be addressed. Lead contamination will be addressed also, with data on amounts of lead deposited into Lake Erie (if all shots missed) as well as amount of lead left in carcasses dispersed across the entire island. In past discussions with the ammunition manufacturer technical representative, we have purchased the ammunition type best suited to the task, and will keep abreast of development of non-toxic bullet types for this specific calibre.

In summary, the preliminary aerial surveys would be conducted during the March 25- April 4, 2008 period, early phases of the operation should commence during the week of April 7-11, 2008, continue through April 14-25, 2008, with the main operational phase occurring during the two week period of April 28 - May 9, 2008 (coinciding with peak nest initiation). The ACTF should be aware that the behaviours of nesting adults and timing of nesting activity varies with every island colony, and that these dates best reflect the knowledge we have after 5 years of monitoring on Middle Island. Also, our goal is to be able to reduce the number of nests to the level the habitat model identifies by the end of the 5 year project. While the goal of year 1 will be to reduce the nest numbers as much as possible, refinement of equipment and methodologies to ensure operational effectiveness and humane treatment of animals will be of primary importance.

APPROVAL:

- The project described in this protocol is **approved**.
- The project described in this protocol is **approved on the condition** that the changes recommended above are incorporated into the project protocol and are carried out as described.
- The project described in this protocol is **not approved**.

Chair, Animal Care Task Force



Signature

Date: **April 1st, 2008**

Task Force Members

Parks Canada Warden Signature

Date:

Parks Canada Biologist Signature

Date:

Parks Canada non-animal user Signature

Date:

Aboriginal Representative Signature

Date:

Independent Biologist Signature

Date:

Public Member Signature

Date:

Principal Investigators Statement

All animals used in this research project will be cared for in accordance with the policies and guidelines of the Canadian Council on Animal Care (<http://www.ccac.ca>) and the requirements of the relevant international, federal, provincial/territorial and municipal legislations. If any substantial increase in the number of animals used (greater than 10%), changes in care procedures, euthanasia procedures, substantial changes in treatments (surgical, drug or otherwise), changes in personnel or substantial changes in the research protocol are anticipated, an amendment to your protocol must be submitted and approved by the Parks Canada Animal Care Task Force prior to the research being undertaken in the field. Any unexpected mortality or morbidity events involving target or non-target animals must be reported annually in the Investigators Annual Report.

Principal Investigator Name: Dan Reive

Signature:  |

Date: April 1st, 2008