

On proposed hunting of the Double-crested Cormorant (*Phalacrocorax auritus*) in Ontario; a scientifically baseless and environmentally naive proposition

Re: EBR Registration number 013-4124

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1 Executive Summary

The Government of Ontario's current proposal to introduce an open hunting season on Double-crested Cormorants from March 15 to December 31 each year has no basis in scientific knowledge and neglects the interests of a wide variety of citizens who interact with wildlife without killing it. This document offers a critique of the government's proposal while citing the relevant scientific knowledge. Often-repeated concerns by some hunters and recreational anglers that cormorants negatively impact fish populations, forest habitat, and other species have been thoroughly qualified or debunked. Notably, lethal management of waterbirds does not address the root causes of fish population instability or decline, and directly contradicts current conservation measures at local, regional, national, and international levels.

The government's hunting proposal is gratuitous, irresponsible, and cruel. In particular, the proposal to allow hunters to kill 50 cormorants per day could feasibly permit the eradication of the entire species from the Great Lakes in a single year, assuming below average hunter engagement. More specifically, **if only 1 in 100 Ontarian hunters each killed only 50 cormorants over an entire hunting season, this would still be enough to eradicate the species from the Great Lakes entirely.** The Double-crested Cormorant is a native species to Ontario whose population has only recently recovered from human persecution and pollution-induced declines. This is no time to be stepping backwards. This species has a right to exist and feed on its native land, and the government has an ethical and legal responsibility to ensure its relative health.

2 Introduction

The Double-crested Cormorant (*Phalacrocorax auritus*) is a native species to North America, including Ontario and the Great Lakes (Figure 1). Its existence on the continent predates any human inhabitation

by about 1 million years. However, since the time of European colonization and up to present day, the species has often been mercilessly persecuted (Wires 2014).

Figure 1: Double-crested Cormorants at rest and in flight.



The Ontario government is proposing the creation of an open hunting season for Double-crested Cormorants from March 15 to December 31 each year, with a special classification as “small game” in central and northern Ontario from June 16 to August 31 each year, which would allow even more hunters to target these birds during these weeks. The proposal (EBR 013-4124) is being justified as a “management tool,” a justification that has no scientific or ethical basis.

This document aims to summarize the current state of knowledge about the Double-crested Cormorant in and around the Great Lakes, and to critique the Government of Ontario’s hunting proposal on all relevant points. The full EBR is appended to the back of this document in its original form. **Please note that the window to submit comments on this EBR closes on January 3, 2019,** so do not wait to voice your concerns to the Ontario government.

3 Critique of EBR 013-4124

In this section, I quote a piece of the Government of Ontario’s proposal and then critique it. The full text of EBR 013-4124 is reproduced in the Appendix of this document.

Point 1: “Double-crested cormorant (*Phalacrocorax auritus*) populations declined significantly in the Great Lakes from the 1950s to the 1970s primarily due to environmental contaminants affecting reproduction. Their numbers began to increase rapidly from the 1970s to the early 2000s, with the latest information indicating Great Lakes populations have since stabilized or declined slightly.”

- This statement is essentially accurate, but it neglects to mention two important points. First, Double-crested Cormorants are a native species to the Great Lakes. Second, before the human-induced contaminant-based declines of the mid-20th Century, they were hunted extensively. Population analyses of current and historical data indicate that cormorant populations were likely much higher than they are now in the Great Lakes before the advent of European settlement (Wires & Cuthbert 2006). The current population rebound is a common pattern for waterbirds in North America (Blight et al. 2015) and Europe (Grandgeorge et al. 2008) following protection from hunting in the early 1900s (North America) and late 1800s (Europe). The species is not overabundant in the region in any historical or scientific sense, in direct contradiction to the common assertions of many anglers and hunters (see a typical example at OFAH 2018).

Point 2: “There continues to be concerns expressed by some groups (commercial fishing industry, property owners) and individuals that cormorants have been detrimental to fish populations, island forest habitats, other species and aesthetics.”

- Dozens of studies over the past three decades have repeatedly shown that cormorants do *not* have a significant negative impact on commercial fish populations, with most of these studies targeted specifically on the Great Lakes. For example, studies on Lake Ontario indicate that fish most attractive to human fishermen (Lake Trout and Salmon) comprise less than 2% of cormorant diets, and that cormorants consume about 0.5% of critical prey fish, an insignificant number especially when compared against the 13% taken by sport fishermen (Weseloh & Collier 1995). Many other studies that fail to show a meaningful impact of cormorants on open fisheries are discussed in Reed et al. 2003. Moreover, it is well known that cormorant diets consist of mostly nonsport fish species like the invasive Alewife (*Alosa pseudoharengus*) (e.g. see Belyea et al. 1999, Reed et al. 2003). Anglers have been shown to impose far more stress on their preferred fish populations than cormorants do on theirs (Ridgway et al. 2012).

On the other hand, evidence does exist that cormorants can negatively impact aquaculture systems (a distinct concern from openwater fisheries). However, it has been thoroughly documented that lethal management tools are not effective at solving this problem, and are likely to simply allow other piscivorous species to take the cormorant’s place (see Reed et al. 2003 for detailed discussion and many relevant references).

If the Government of Ontario is truly concerned with the health of the Great Lakes ecosystem, then it would be wise to actually pay attention to what ecologists have to say on the issue. Management of piscivorous birds does not address the root causes of fish population instability or decline. Moreover, it directly contradicts current conservation measures, locally, regionally, nationally, and internationally. The most important factor affecting fish stock in the Great Lakes is the establishment of more than 150 exotic and invasive species, many of which have direct, documented impacts on the health of Ontario fisheries (e.g. see Belyea et al. 1999, Wires & Cuthbert 2006).

Figure 2: Double-crested Cormorants at a nesting colony.



- It is true that nesting cormorants (Figure 2) can drastically affect island forest habitats at a very localized level. Cormorant excrement can quickly kill trees and surrounding plant life, which of course will alter the local ecosystem. However, it must be emphasized that these changes occur at an extremely localized level; i.e. there is no evidence that cormorants have

an appreciable effect on forest habitat away from the immediate vicinity of their nesting and communal roosting sites.

Furthermore, there is no evidence that cormorants are threatening island forest habitat in general. In fact, as a native species to the Great Lakes, the default ecological position would be that cormorants are simply active members of a healthy regional ecosystem. There may exist very particular cases where cormorant control is desirable (e.g. to protect the rare habitat of Middle Sister Island, Hebert et al. 2005), but in these cases population control measures must be justified scientifically and instituted only by trained wildlife professionals. Moreover, nonlethal control measures should always be considered first. Such techniques (e.g. habitat enhancement and social attraction) have been shown to be quite successful at relocating cormorants away from sensitive forest areas (Suzuki et al. 2015). Each potential case is unique; there are no generalizable reasons to justify cormorant control.

- There is no evidence (outside of occasional anecdotal observations) that cormorants negatively affect other species (Cuthbert et al. 2002). In particular, Cuthbert et al. (2002) reported that cormorants do not negatively influence Great Blue Heron (*Ardea herodias*) or Black-crowned Night-heron (*Nycticorax nycticorax*) populations. While these species often compete (naturally) for limited nesting sites and can have similar “detrimental” consequences on forest habitat, cormorants are the only species singled out for persecution under the guise of ‘wildlife management.’ Cuthbert et al. (2002) explicitly advise that “*cormorant control policy should not be justified by assumption of potential impacts on other waterbird species.*”

It is also important to note that some species may actually benefit from cormorant-induced habitat change. Dorr and Fielder (2017) pointed out that American White Pelicans (*Pelecanus erythrorhynchos*), an officially ‘threatened’ species in Ontario, may benefit from these habitat changes as they prefer to nest on remote islands with sparse vegetation.

- The supposed negative effect on ‘aesthetics’ that cormorants can have is obviously entirely subjective. Birders are certainly likely to claim that cormorants have many positive aesthetic qualities. Moreover, it is important to once again note that Double-crested Cormorants are a native resident and nesting species of the Great Lakes. Thus, ‘aesthetic’ considerations seem rather irrelevant.

Point 3: “Create an open hunting season for double-crested cormorant from March 15 to December 31 each year across the province.”

- Even discounting all the previous information that stands in opposition to cormorant hunting, the Government of Ontario’s proposed hunting season is gratuitously long. Crucially, it extends across the entire breeding season of the species, from approximately May to August. Cormorants generally nest only once per year, unless their nest fails early enough in the breeding season and, like most seabirds, they have a very high rate of mate fidelity (e.g. Aebischer et al. 1995). Thus, killing a single adult bird during the breeding season can have the likely consequence of wiping out that bird’s offspring for the entire year. If hunting is permitted at or near nesting colonies, this could lead to nest abandonment en masse, condemning any chicks to death by starvation and/or exposure.

Ethically speaking, such a proposition is unacceptably inhumane and could easily destroy the relative health that this species’ population has only recently begun to enjoy.

Point 4: “Create an exemption allowing small game licences to be valid for double-crested cormorant hunting in central and northern Ontario from June 16 to August 31 each year.”

- This policy would serve to only exacerbate the problems previously described. Such an extension of the cormorant hunt could be particularly deleterious given that this proposed small game license time frame would coincide with fledging at cormorant colonies, the time when young cormorants are at their most vulnerable and are poorest equipped to fend for themselves.

Point 5: “Establish a bag limit of 50 cormorants/day with no possession limit.”

- This is an astoundingly short-sighted proposition. The average hunter in Canada will engage in hunting-related activities approximately 44 days of the year (FPTGC, 2014). Supposing hunters kill 50 cormorants a day for only half of these days would mean that each hunter would kill 1100 cormorants per year, on average. The Canadian Nature Survey (FPTGC, 2014) reports that about 709,500 Ontarians participate in hunting activities. If only 1 in every 100 of these hunters participated in this type of kill, this would lead to nearly 8 million dead cormorants in a single year alone, not adjusting for nestling and fledglings mortality due to parental death¹. The entire Great Lakes population is estimated at only about 250,000 birds, and the entire global population is estimated at about 2 million (Dorr et al. 2014).

Making a similar calculation, if only 1 in every 100 Ontarian hunters killed only 50 cormorants per entire hunting season, *this would still be enough to eradicate the species from the Great Lakes in a single year.*² It is obvious that whoever proposed this bag limit has not done the slightest bit of calculation to consider its most rudimentary effects on the cormorant’s population.

Cormorants would not be difficult to hunt. They are generally quite tolerant of a variety of human disturbances, including motorboats. They nest conspicuously out in the open (see Figure 2). Colonies usually consist of a few hundred pairs at most (Wires & Cuthbert 2006). A single hunter could therefore easily eradicate an entire colony of cormorants in less than a week’s time. Cormorants are also well-known for their prominent and frequent outstretched wing displays in open locations. These displays are thought to help dry the cormorant’s wings (Figure 3), as they lack the usual oils that naturally wick away water that are present in most seabirds. This is thought to be an adaptation to make them more effective divers (Dorr et al. 2014). Unfortunately, it also means that they would make particularly easy targets for even the most inexperienced hunter.

Point 6: “Allow hunting from a stationary motorboat.”

- Beside for its obvious ethical indefensibility, the Government of Ontario seems to ignore the socio-political consequences of such a policy. One need only to examine the public backlash from similar machine-aided killing programs in other jurisdictions - for example,

¹14,190,000 × 5% = 709,500 number of hunters in Ontario (5% of total Ontario population figure taken from the Canadian Nature Survey - FPTGC, 2014). 1 in 100 hunters: 709,500 × 1% = 7095. This many hunters killing 50 cormorants a day for 22 days in a year: 7095 × 50 × 22 = 7,804,500 cormorants dead.

²709,500 hunters in Ontario. 1% of these totals 7095 hunters. This many hunters killing 50 cormorants over the course of an entire hunting season: 7095 × 50 = 354,750 dead cormorants.

Figure 3: Double-crested Cormorant in the common wing-drying posture.



the extremely controversial and publicly unpopular helicopter-aided wolf hunt in British Columbia - to realize that the public-political optics of such a proposal are not promising.

Furthermore, allowing hunting from motorboats will mean that no cormorant colony on the Canadian Great Lakes will be safe; all will be accessible to hunters. In Lake Ontario, 16 of 20 major colonies lie in Canadian waters; in Lake Erie, 7 of 11; in Lake Huron, 87 out of 91; in Lake Superior, 37 out of 50. In total, fully 85% of cormorant colonies on the Canadian Great Lakes are situated in Canadian waters (Weseloh et al. 2002). Virtually all will be vulnerable.

Point 7: “Via this posting, the Ministry is also consulting on a proposal to amend the Fish and Wildlife Conservation Act to add provisions so hunters could allow cormorant to spoil. This proposal would add provisions to the Act, so that persons who lawfully hunt (or possess) cormorants could be exempt from this requirement and would be subject to conditions that require the person to retrieve and dispose of the carcass.”

- Allowing a free-for-all retrieval and disposal system of cormorant carcasses is sure to have cascading impacts on the surrounding ecosystem. Under this provision, hunters would be able to simply string the carcasses together with fishing wire, weigh them down, and then toss them into the water so as to be out of sight. But these species do not exist in a vacuum and carcasses do not just disappear. 50 cormorant carcasses lying in the open or washed ashore, even for a short time, will assuredly attract all kinds of scavenging animals, including bears, coyotes, small mammals, crows, and gulls. The consequent effects on other local wildlife (including on these scavenging species) are not at all well understood. Regardless, the wanton waste that would be allowed under the current proposal appears totally unjustified and is reminiscent of the shameless wildlife slaughter scenarios of 100 years ago.

Point 8: “To accompany the proposed hunting seasons, the Ministry will implement a cormorant monitoring program to assess population status and trends. Monitoring of cormorants will allow the Ministry to assess the impacts of the hunting season and to adjust cormorant hunting regulations if necessary to address any concerns about population sustainability.”

- This part of the proposal gets the scientific best practice completely backwards. Monitoring

programs should be in place long before any changes to population management are instituted; otherwise, there is little knowledge available to inform these changes, and even less knowledge of what to expect. This is basic to wildlife management best practice (e.g. see Nisbet 1995, Weseloh & Collier 1995, Weseloh et al. 2002, Reed et al. 2003) and it is inexcusable in the twenty-first century that any government would make a proposal like the one discussed here without substantial knowledge about current population status and trends.

Point 9: “The anticipated environmental consequences of the proposal are expected to be neutral.”

- There is no evidence for this incredibly sweeping claim. In fact, the likely consequences outlined in this document indicate the very real possibility of serious negative environmental consequences of this proposal, including the legal sanctioning of the eradication of the species from the Great Lakes. That is not a “neutral” outcome. Nor is it a far-fetched one given the absurd parameters of the proposed hunt.

Point 10: “The anticipated social consequences are both positive and negative. Those interested in hunting cormorants or who believe cormorants are having detrimental impacts will likely support the proposed changes. Individuals and groups opposing cormorant hunting or hunting during summer months will likely oppose the proposed changes.”

- This claim is likely true. But one should add that people who simply enjoy co-existing with, or watching, or studying wildlife will also likely oppose the proposed changes. This is a sizeable demographic. Birding alone is nearly 4 times more popular than hunting in Ontario. In particular, birding is exceptionally popular among older Canadians, aged 55+; data indicate the past-time is 8 times more popular than hunting in this demographic. On average, Ontarian birders spend 139 days per year engaging in birding activities, whereas hunters spend only 44 days per year (on average) engaging in hunting activities (FPTGC 2014). The Government of Ontario cannot responsibly ignore those large demographics that peacefully engage with wildlife.

Point 11: “The anticipated economic consequences of the proposal are expected to be neutral but depend on levels of hunter participation.”

- This claim is unjustified and quite dubious given the relative popularity of birding and wildlife viewing compared to hunting (FPTGC 2014). Birding generates more than half a billion dollars of economic activity annually in Canada, almost twice as much as what hunting of waterfowl or hunting of other game birds generate (FPTGC 2014).

Since the Government of Ontario claims that all environmental, social, and economic consequences are expected to be neutral, one wonders what possible reason the government could have for even proposing such a drastic change to current policy. The answer seems to be simply that they wish to placate a small group of anglers and hunters, both groups that consume *public* resources. Anglers and hunters do not have some special claim to wildlife. Cormorants, like all native bird species, are considered public resources, and as such, the entire public has the right to access and enjoy them. That the government has not even considered this element of their ill-conceived proposal is evident from the preceding critiques.

4 Concluding Remarks

The Double-crested Cormorant is a beautiful and tenacious native seabird of Ontario and of North America in general (Figure 4). They have survived centuries of hunting, persecution, and poisoning by humans. Now that their population may finally be returning to something resembling what it was before the advent of European settlement (Wires & Cuthbert 2006), it seems the epitome of foolishness to introduce a change in policy that would allow the conservation gains of the past 50+ years to be obliterated in a matter of a year or two. Double-crested Cormorants have a fundamental right to exist and feed on their native lands. The fact that such a simple consequence of reality may inconvenience the occasional angler should not be of the slightest concern to the Government of Ontario, nor to any government.

Figure 4: Double-crested Cormorant portrait.



5 Literature Cited

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6 Appendix: Full Text of EBR 013-4124

The full content of EBR 013-4124 is reproduced below. Visit

<http://www.ebr.gov.on.ca/ERS-WEB-External>

and search for “013-4124” to view the proposal and submit comments online **before the closing date of January 3, 2019**.

Description of Policy:

Double-crested cormorant (Phalacrocorax auritus) populations declined significantly in the Great Lakes from the 1950s to the 1970s primarily due to environmental contaminants affecting reproduction. Their numbers began to increase rapidly from the 1970s to the early 2000s, with the latest information indicating Great Lakes populations have since stabilized or declined slightly.

There continues to be concerns expressed by some groups (commercial fishing industry, property owners) and individuals that cormorants have been detrimental to fish populations, island forest habitats, other species and aesthetics.

To respond to these concerns, the Ministry is proposing to create a hunting season for double-crested cormorants in Ontario. This new population management tool would allow persons who hold a small game licence to hunt these birds.

The following regulatory changes are being proposed to create a hunting season for double-crested cormorants beginning in 2019:

1) List the double-crested cormorant as a “Game Bird”. Hunters would be required to have an outdoors card and small game licence to hunt double-crested cormorants, similar to other species of game birds.

2) Create an open hunting season for double-crested cormorant from March 15 to December 31 each year across the province.

3) Create an exemption allowing small game licences to be valid for double-crested cormorant hunting in central and northern Ontario from June 16 to August 31 each year.

4) Establish a bag limit of 50 cormorants/day with no possession limit.

5) Prescribe shotgun and shot size/type requirements consistent with migratory bird hunting regulations outlined in the federal Migratory Birds Regulations. This would include use of shotguns that are not larger than 10 gauge, that cannot hold more than three shells and use non-toxic shot as described in the migratory bird regulations.

6) Allow hunting from a stationary motorboat.

The Fish and Wildlife Conservation Act currently prohibits anyone who kills game wildlife (including game birds), or who possesses game wildlife killed by hunting, from allowing that meat to spoil. Via this posting, the Ministry is also consulting on a proposal to amend the Fish and Wildlife Conservation Act to add provisions so hunters could allow cormorant to spoil. This proposal would add provisions to the Act, so that persons who lawfully hunt (or possess) cormorants could be exempt from this requirement and would be subject to conditions that require the person to retrieve and dispose of the carcass. Should this proposal proceed, it may be accompanied by regulations to implement the exemption and requirements.

To accompany the proposed hunting seasons, the Ministry will implement a cormorant monitoring program to assess population status and trends. Monitoring of cormorants will allow the Ministry to assess the impacts of the hunting season and to adjust cormorant hunting regulations if necessary to address any concerns about population sustainability.

The Ministry intends to amend the Fish and Wildlife Conservation Act and supporting regulations (including Ontario Regulation 670/98 Open Seasons, Ontario Regulation 665/98 Hunting) to implement the proposal should it proceed. No additional opportunity for comments will be provided.

Purpose of Policy:

We are proposing to list the double-crested cormorant as a game bird, create a hunting season in Ontario for population management and make related changes. This proposal would be implemented through a series of regulatory and legislative amendments.

Other Information:

Regulatory impact statement:

The anticipated environmental consequences of the proposal are expected to be neutral. The double-crested cormorant is abundant in Ontario and anticipated levels of harvest aren't expected to affect sustainability. Hunters will continue to be reminded to properly identify their targets to avoid conflicts with migratory game birds and other waterbirds. Monitoring of cormorant populations will allow adjustments in cormorant hunting regulations as necessary.

The anticipated social consequences are both positive and negative. Those interested in hunting cormorants or who believe cormorants are having detrimental impacts will likely support the proposed changes. Individuals and groups opposing cormorant hunting or hunting during summer months will likely oppose the proposed changes.

The anticipated economic consequences of the proposal are expected to be neutral but depend on levels of hunter participation.

Public Consultation:

This proposal has been posted for a 45 day public review and comment period starting November 19, 2018. If you have any questions, or would like to submit your comments, please do so by January 03, 2019 to the individual listed under "Contact".

On-line submission of comments on this proposal is not permitted.

We are transitioning to the new Environmental Registry of Ontario. Comments on proposals for policies, acts and regulations will no longer be accepted on this site. Read this proposal and submit your comments on the new site. Learn more about the new registry.

All comments received prior to January 03, 2019 will be considered as part of the decision-making process by the Ministry if they are submitted in writing and reference EBR Registry number 013-4124.

Please Note: All comments and submissions received will become part of the public record. Comments received as part of the public participation process for this proposal will be considered by the decision maker for this proposal.

Your personal information may be used in the decision making process on this proposal and it may be used to contact you if clarification of your comment is required. It may be shared (along with your comment) with other Ontario Ministries for use in the decision making process. Questions about this collection should be directed to the contact mentioned on the Proposal Notice page.

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