

Submission in opposition to EBR #013-4124:

A proposal to establish a hunting season for double-crested cormorants in Ontario

**By Barry MacKay
January 3, 2019**



Nesting cormorant: Artist: Barry Kent MacKay

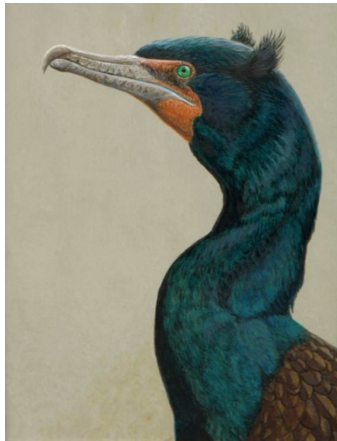
Purpose of this paper:

This paper seeks to have the Ontario government

1. withdraw this Draconian proposal;
2. conduct an Ontario cormorant nest count to determine the current status of the population; and
3. explore non-lethal management options where human/wildlife conflicts occur.

Summary of the Ontario government's cormorant management proposal posted on the Environmental Registry:

Premier Ford and the Ontario government are proposing one of the most regressive wildlife "management" decisions in Canadian history. The proposed changes are rooted in an irrational hatred for cormorants that will fuel their persecution and drive them back to the brink of extinction, or worse, in the province. The purpose of this paper is to examine the government's proposed cormorant management plan and challenge its assertions and assumptions.



Double-crested Cormorant (BKM)

The proposed changes to the province's *Fish and Wildlife Conservation Act* will:

- designate double-crested cormorants as a "game" bird,
- create a province-wide annual hunting season from March 15 until December 31,
- allow anyone holding a valid Ontario Outdoors Card and small game hunting license to kill up to 50 cormorants per day (1,500 per month or more than 14,000 per season) and,
- allow hunters to collect and let the birds rot.

If the proposal becomes law, it would:

- cause unimaginable cruelty by allowing the wholesale, uncontrolled, impossible to monitor, slaughter of cormorants across the province,
- devastate and possibly eradicate a recovered native wildlife species,
- result in disturbance, destruction and death of numerous federally protected non-target bird species such as Great Blue Herons, Great Egrets and White Pelicans,
- irreparably damage natural ecosystems,
- encourage the worst form of "hunting" and

- endanger the public by allowing hunters to discharge firearms throughout the spring, summer and fall season when lakes and natural areas are populated by cottagers, recreationers, and tourists.

In the EBR posting, the government asserts that “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.”



Cormorants fishing: Barry Kent MacKay, Artist (BKM)

This paper will address each of the concerns raised.

1: Fish

Except under extremely rare, contrived or exceptional conditions, there are no significant negative effects by cormorants, directly or indirectly, on the fish species of interest to sport anglers and commercial fishers as demonstrated by numerous studies that date back over a century.

Some people think cormorants eat “too many” fish and compete with human consumers for desired fish stocks. This accusation has been made against all fish eating birds including loons, Ospreys, mergansers, grebes, Belted Kingfishers, herons, pelicans and so on.

A good example of the attitude people have toward cormorants was contained in a letter to the editor (LTE) recently published in a Barrie, Ontario, newspaper (December 21, 2018). It states, in part,

“They are incredible hunters. A pack of about 500 will start on the south side of Atherley in the summer and drive the schools of minnows across the bay with each of the leading birds aiming the school towards shore. They would then fly to the back of the pack and

leave the next barrage to keep herding the bait until they were surrounded in the shallows. I have seen this everywhere they go.”

But concerns about whether cormorants negatively impact fish populations are not supported by third-party academic research. The reality is that cormorants are a natural part of Ontario’s rich biodiversity and an ecologically beneficial species, being major predators of invasive fish species like round gobies and alewives, attracting other waterbirds to their nesting sites, and serving other important functions in the ecosystems they inhabit.



Alewife: non-native fish species (BKM)

What do the scientists say?

As far back as 1929, a scientist named Harrison Flint Lewis wrote (*The Natural History of the Double-crested Cormorant (Phalacrocorax auritus auritus* (Lesson) by Harrison F. Lewis, published under the Auspices of the Province of Quebec Society for the Protection of Birds, Dec. 9, 1929):

“The sum of the Double-crested Cormorant’s injury to man through its food habits is then, practically speaking, comparatively small, scattered, and partly temporary losses at a very few lakes in the Mid-West.”

More recently, in 2003, the then American Ornithologists Union, now the American Ornithological Society (AOS), published an extensive review by American and Canadian scientists of the scientific literature on fish depredation and diets of Double-crested Cormorants. It was conducted in response to a similar, if less egregious, plan by the U.S. Fish and Wildlife Service, to legalize increased persecution of cormorants. The report is called “Review of the Double-crested Cormorant Management Plan, 2003: Final Report of the AOU Conservation Committee’s Panel”. It found that, with exceptions for very specific, man-made circumstances, the Double-crested Cormorant did not have an appreciable negative impact, directly through consumption or indirectly through consumption of prey or degradation of habitat on fish stocks. (For the complete report, see:

<http://www.torontobirding.ca/toc-docs/CormorantsAOU07ConservationAddn5.pdf>)

The presence of cormorants and other colonial waterbirds is an indicator of healthy fish populations so no matter how many prey fish are consumed, the overall amount eaten is but a fraction of what is available.

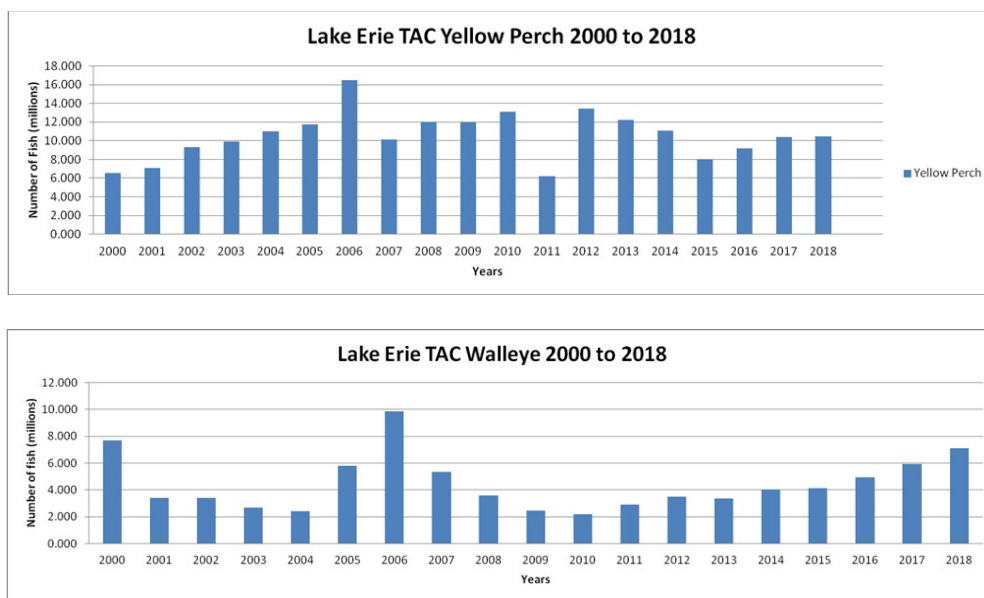
What does the fishing industry say?

Data collected by the Great Lakes Fishery Commission provides a picture of the health of commercial and sport fish in Lake Erie. Lake Erie has the largest commercial fresh water fishery in the world and a large and active sport fishery as well.

The Commission conducts yearly studies of the health of Yellow Perch and Walleye, the two most sought after species in Lake Erie and determines what the Total Allowable Catch will be each year. The Total Allowable Catch (TAC) is an evidence-based indicator of population size of the species and over time, a good indicator of trends in fish population size.

A nineteen year review of the Commission's TAC for Yellow Perch and Walleye discredits the claims that cormorants are depleting fish stocks. The TAC for Yellow Perch in Lake Erie increased continuously between 2000 and 2006, when cormorant populations were peaking, (Linda Wires on Proposed Double-crested Cormorant hunt in Ontario- EBR Registry: 013-4124) and remained at an average of 15.6 million pounds. In the same period of time, there were two years, 2000 (7.7 million pounds) and 2006 (9.9 million pounds) where the TAC for Walleye was the highest over the 18 year period and averaged at 4.7 million pounds. These were years when cormorant numbers were reaching their peak.

The charts below show the TAC for Yellow Perch and Walleye from 2000 to 2018.



Reporting on the Commission's TAC decision, the Simcoe Reporter stated,

“Lovers of deep-fried perch and pickerel will be happy to hear that the tasty fish continue to thrive in Lake Erie. Evidence of that is found in the quota numbers for 2018 approved by the Lake Erie Committee. Yellow perch quota enjoyed a 13 per cent increase last year relative to 2016. The 10.4 million pounds approved in 2017 has been bumped up to 10.5 million pounds this year. The big increase concerns walleye, which usually shows up on the menu as pickerel. Pickerel quota is expressed in terms of number of fish and not by weight. The Lake Erie Committee approved a harvest last

year of 5.9 million pickerel. That will increase this year to 7.1 million.”
(www.simcoereformer.ca/2018/04/05/big-boost-in-pickereel-numbers/wcm/b19f3706-efc8-08e3-f9db-e0da70a491cf - April 5, 2018)

In 2004, the Lake Erie Coordinated Percid Management Strategy was published by the Great Lakes Fishery Commission. Despite the fact that the cormorant population was increasing, peaking in 2005, the report does not identify cormorants as a factor of concern. The Executive Summary of the report states:

Lake Erie walleye and yellow perch populations peaked in the late 1980s, but had declined to low levels of abundance by the late 1990s. As a result, the Lake Erie Committee decided to initiate the Coordinated Percid Management Strategy (CPMS), a 3-year (2001-2003) lake-wide management approach developed to halt population decline, ensure sustainable harvest, and promote stock recovery for walleye and yellow perch. The objectives of the strategy were to reverse declines and rebuild percid stocks to achieve broad distribution of benefits throughout the lake, and to improve approaches used to estimate percid abundance and determine sustainable harvest levels. To achieve the first objective, the LEC reduced walleye harvest by altering recreational fishing regulations and reducing quota to the commercial fishery (Ontario). Population abundance of walleye increased during 2001-2003 as a result of harvest reductions and a strong 1999 year class. Although the decline in walleye abundance was halted, fisheries were not restored lakewide to desired levels and the rebuilding effort was not completed in 2003.

In addition, the “Lake Erie Walleye Management Plan 2015-2019” makes no mention of cormorant impacts on walleye in Lake Erie. The report’s introduction states:

*This document is an update and revision of the original Lake Erie Walleye Management Plan (Locke et al. 2005). It presents a brief recent history of Walleye (*Sander vitreus*) management on Lake Erie, the current status of this important species, fishery and fish population objectives, and management tools for the Lake Erie Committee to use to ensure that the objectives are met. Appendix A details previous strategies employed by the Lake Erie Committee and Walleye Task Group to manage Walleye since the 1970s, and Appendix B provides a glossary of abbreviations used throughout this document.*

What do natural resource managers say?

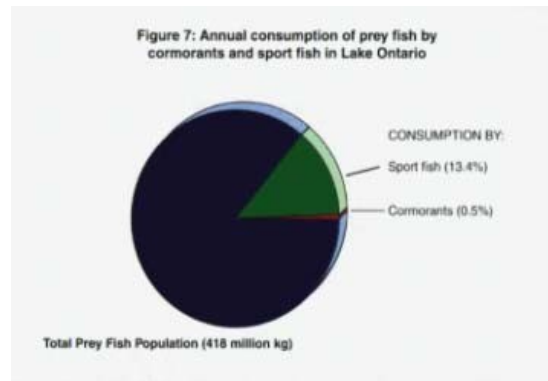
In an Environment Canada publication titled, “The rise of the Double-crested Cormorant on the Great Lakes: WINNING THE WAR AGAINST CONTAMINANTS (<http://publications.gc.ca/site/archivee-archived.html?url=http://publications.gc.ca/collections/Collection/En40-222-2-1995E.pdf>) addresses a number of key controversies surrounding cormorants.

In response to the question, “How many fish do Double-crested Cormorants eat, compared the intake of cormorants to the predation of fish on each other?” the publication states:

To look at the same question in another light, statistics from the Glenora Fisheries Research Station (Ontario Ministry of Natural Resources) are used. In 1991, for example, there were about 6.1 million sport fish in eastern Lake Ontario. The average annual food

consumption by a single Lake Trout is 6.5 kg. The average annual intake of a cormorant on Lake Ontario is 65 kg. In other words one cormorant eats about as much as ten Lake Trout. Approximately 30,000 cormorants fed in eastern Lake Ontario in 1991. Thus, these birds would eat the same amount of fish as 300,000 Lake Trout. Since there are about 6.1 million sport fish in eastern Lake Ontario, this means the cormorants are eating the same amount of fish as only 5% of the sport fish. Hence, scientists and fish managers conclude that the amount of fish which cormorants consume in eastern Lake Ontario is not a serious threat to the sport fish.

The following graph, from the same source, attempts to show the above information in the kind of visual format that might help people understand the actual predator-prey population dynamics involved.



The same document also contains the following text:

Great Lakes fish populations have undergone some profound changes in the last 60 years. One of these was the dramatic decline of large predatory fish, primarily Lake Trout and, to a lesser extent, Burbot. In Lake Ontario the most dramatic declines of these species occurred in the late 1930s and 1940s, while in Lake Huron they occurred during the 1940s and 1950s. The decline of the predatory fish was caused by many factors, including years of heavy fishing, the invasion of the sea lamprey, the loss of spawning areas. Increased amounts of toxic contaminants entering the lakes may have also been a factor.

With the decline of larger predatory fish, the smaller fish species underwent an unprecedented population explosion. The main species involved in this increase were Rainbow Smelt and Alewife, neither of which was native to the upper Great Lakes. Rainbow Smelt were introduced to the Great Lakes in Michigan in 1912. They spread slowly through the lakes, becoming common in Lakes Michigan and Huron by the 1930s and in Lakes Ontario and Erie by the late 1940s. Alewife were abundant in Lake Ontario by the 1890s but did not become common in Lakes Michigan and Huron until the demise of the Lake Trout in the mid-late 1940s.

Thus, for a period of 30 years (1950s - 1970s) these smaller prey species increased in a manner more or less unchecked by any predatory fish or birds higher up the food web. The smaller prey fish came under heavy predation pressure in the 1980s, with the

massive stocking of salmon and trout in most of the Great Lakes. As a result, the population of smaller fish decreased. However, in spite of this predation, Alewife remained abundant throughout much of the Great Lakes and were fed upon heavily by cormorants during this period.

The Ministry of Natural Resources for the State of Wisconsin addresses the accusation of cormorants eating too many fish as follows (<https://www.dnr.state.mn.us/birds/doublecrestedcormorant.html>):

Cormorants commonly eat small fish under six inches in length. Sport fish of this size are not typically caught by anglers. Fish of this small size are more often eaten by predatory fish as well as waterbirds and mammals. A four-to six-inch long fish has a relatively low chance of growing to become a legal or desirable size for an angler because if it does not die of one cause, it will die from another. This is called “compensatory mortality”. In other words, most of the fish eaten by cormorants would have probably been eaten by larger fish or other predators. This is common in all animal populations and this type of mortality does not decrease fish populations.

However, if there are unusually high predation rates on a particular group of fish that reduces those year classes in an unusual manner, this is defined as additive mortality. This was documented at Oneida Lake in New York during the period from 1995 to 2000 for yellow perch and walleyes.

Larger fish that are at least 12 to 14 inches long (for example, walleyes in the 3-year or greater age classes) may occasionally be taken by cormorants, but that is the exception rather than the rule. Excessive mortality from any cause in these older age classes becomes “additive” because such mortality can decrease the fish population if it occurs at excessive levels.

The Toronto and Region Conservation Authority oversees the largest cormorant colony in North America at Tommy Thompson Park. The Authority promotes recreational fishing immediately adjacent to the colony. As the web site states:

“There are many recreational fishing opportunities at Tommy Thompson Park (TTP). Aquatic habitat enhancements have improved conditions for coolwater fish in the Embayments, including successful Northern pike spawning channels. Habitat enhancements scheduled for Embayment D will improve warmwater fish habitat, as they have in the Cell One Wetland.” (tommythompsonpark.ca/park-species/fish/#recreational-fish).

The species of fish caught at TTP include Northern Pike, Largemouth Bass, Yellow Perch, Black Crappie, Freshwater Drum, Brown Bullhead, and Lake Trout.



Cormorant eating lamprey (BKM)

2: Island Forest Habitats

“Island forest habitats” are also identified by the EBR as a matter of concern to those advocating for the “management” of the Double-crested Cormorant. Their concern is understandable because for more than 100 years, cormorants were largely absent, their numbers driven down by persecution and pesticides. So island habitats became forested in their absence. With cormorant numbers rebounding, colonized island vegetation began to change. However, the concern is vastly exaggerated given that cormorants occupy only 3% of the 35,000 islands in the Great Lakes Basin.

In fact, cormorants are returning island habitats to their original state, as they would have been had cormorants never been wiped out in the first place. According to a Wires and Cuthbert paper ([http://www.bioone.org/doi/pdf/10.1675/1524-4695\(2006\)29%5B9:HPOTDC%5D2.0.CO%3B2](http://www.bioone.org/doi/pdf/10.1675/1524-4695(2006)29%5B9:HPOTDC%5D2.0.CO%3B2)) overall cormorant numbers may well be at some level above pre-20th century size, due to the compensatory increase in numbers of smaller fish accessible to cormorants. However, the evidence shows that current numbers continent-wide are probably significantly below pre-20th century size. Flock sizes encountered over a century ago are unknown in modern times. The islands and headlands where trees and other vegetation are subsequently reduced are being naturalized in response to inevitable succession.

Cormorant excrement is rich in nutrients, particularly nitrogen. When suitably diluted it provides nutrients to relatively barren habitat, such as a newly emerged island or the Spit at Tommy Thompson Park in Toronto. Cormorants and other ground-nesting waterbird species, such as gulls, terns and pelicans transfer nutriment (digested fish) from the water to the land, thus enhancing the successive process. The birds may prevent significant plant growth during their tenure on the island but when they leave, the guano provides nutrients for successional plants and trees.

Middle Island, which is in the western basin of Lake Erie and hosts a large cormorant colony, turns vibrant green in the spring. The early spring picture, below, shows the forest floor with new spring vegetative growth and a Canada goose nest.



(Photo courtesy of Point Pelee National Park-April 12, 2012)

There is nothing ecologically destructive about letting nature act naturally. The number of trees killed by the presence of cormorants, either in absolute terms or as a percentage of trees overall, is miniscule. Simply eliminating that part of the Ontario government's omnibus bill 66 that will allow "development" in the Green Belt and on the Oak Ridges Moraine will lead to the saving of significantly more trees, and more benefit from those trees, than would occur from eliminating all cormorants, pelicans and herons from the province. A minor reduction in allowable tree removal by the forest industry would do the same.

We bring human values to the equation, and one is the literal economic value of timber that could be destroyed by nesting cormorants. However, the law already allows actions, up to and including lethal removal of cormorants, in that instance. A new and unenforceable, Draconian measure is not needed.

3: Other species

Parks Canada has expressed concerns about some Carolinian tree species found at the northern edge of their respective ranges in southwestern Ontario, including on islands where individual specimens and stands may be at risk from the effects of the presence of colonial tree nesting birds, most particularly, cormorants. It claims that cormorants "degrade habitat" to the detriment of biodiversity which of course is ecologically false.

Birds put at risk by the proposal:

As stated above, there are no birds at risk from cormorants. The same cannot be said of the EBR proposal for several reasons. If passed this proposal puts other bird species at risk. The species most likely impacted are those who co-nest with cormorants either by being directly killed or wounded or by being disturbed during nesting and feeding activities. Then there is the presence in Ontario of what are often called "lookalike species" which are listed below. They can easily be mistaken for Double-crested Cormorants.

Co-nesting species:

Great Blue Herons, Black-crowned Night-Herons, Great Egrets, American White Pelicans, Ring-billed Gulls, other heron species: As American organizational consultant Margaret Wheatley said, “Probably the most visible example of unintended consequences, is what happens every time humans try to change the natural ecology of a place.” While they are not directly targeted, the proposal covered by the EBR posting under discussion will, if it leads to law, put other colonially nesting species at risk.



Great Blue Heron (BKM)



Black –Crowned Night Heron (BKM)



Great Egret (BKM)

Great Blue Herons (*Ardea herodias*) nest in tops of mature trees. But they choose trees that are not in their prime, selecting for stands where the trees have become compromised by age, disease, flooding, or other factors, including the presence of cormorants. Cormorants help provide a form of succession whereby tree stands become suitable for Great Blue Heron colonies. There is a suite of reasons for this: the herons are long-legged, broad-winged, “gangly” birds that benefit from a thinning of the crowns of trees. This provides enhanced sight-lines to the ground, allows the birds to come and go with decreased likelihood of entanglement, and makes twigs and small branches for nest construction more obtainable.

Additionally, it seems that the presence of cormorants attracts herons, the cormorants’ presence reducing the statistical probability of any one heron nest being the object of predation, and increasing the chance of detection of dangers. It is common to see Great Blue Herons and Double-crested Cormorants nesting in the same, dying tree. Cormorants thereby help provide nesting opportunities for Great Blue Herons.

But Great Blue Herons are not as site-tenacious as cormorants. They are noted for the ease by which they will surrender to disturbance and abandon the colony. A cormorant cull has been conducted on Middle Island which is part of Point Pelee National Park for 10 years. The colony also includes Great Blue Herons who nest in close proximity to the cormorants. Prior to the start of the cull, the number of Great Blue Heron nests peaked at 333 in 2006. As disturbance from the cull continued from 2008 to 2018, many Great Blue Herons abandoned the island and the nest numbers dropped to 49 (85%) in 2015. As the number of cull days was reduced, the nest count increased to 129, still only 39% of the peak numbers.

Whether or not the legislation will allow shooting within cormorant nesting colonies, it will inevitably occur as the appeal will be to those who most hate cormorants and whose motivation is neither food

nor sport, but getting rid of cormorants. Colonies cannot be fully protected and there is no provision for any protection mentioned in the EBR. Many colonies of cormorants that may also contain Great Blue Herons are quite isolated, easily accessed by boat, and it would take little time to wipe them out, as discussed below. Even shooting near the colony can be a deterrent to the nesting success of Great Blue Herons overall.

Finally, as it applies to other species, shooting into trees when foliage has emerged will inevitably put cohabiting species, hidden by the foliage, at risk of wounding by stray pellets within the overall shot pattern.

Black-crowned Night-Herons (*Nycticorax nycticorax*) also co-habit with Double-crested Cormorants. They usually nest toward the edges of the colony, in thick foliage. While nest desertion is not as likely as with Great Blue Herons, the concern here is a mistake in identity due to the heavy foliage causing wounding or death by shotgun pellets.

Great Egrets (*Ardea alba*) are much fewer in number than other colonial waterbirds and are also less likely to desert the colony. Great Egrets are undergoing range expansion and, like other herons, co-habit with Double-crested Cormorants. The egret is at risk of injury due to proximity to cormorants and subjected to extreme disturbance. The MNRF's own publications (see, for example: <https://dr6j45jk9xcmk.cloudfront.net/documents/2798/guide-heronries.pdf>) raise concerns about disturbance in such colonies, a concern that the proposed cormorant management initiative fails to address.

American White Pelican (*Pelecanus erythrorhynchos*) is also put at risk. Not only do American White Pelicans co-habit breeding colonies of Double-crested Cormorants, the latter helps to maintain the treeless condition necessary for the pelican to nest on the ground. They do not nest in, or amid trees, but they do nest amid cormorants.

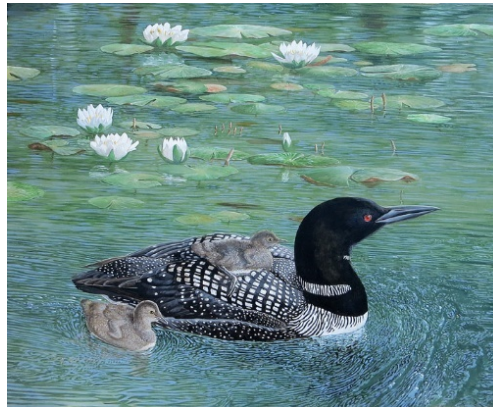
The American White Pelican was once an endangered species in Ontario, and like the Double-crested Cormorant, its numbers have increased. In doing so, it also illustrates a conservation success story. Because they are heavier than cormorants (weight ranges from 5 to 5.8 kgs) they require more fish, and use the same sort of co-operative fishing strategies that cormorants employ, thereby earning the ire of some members of the fishing community as discussed above. White Pelicans have faced similar persecution as cormorants.

Ring-billed Gulls (*Larus delawarensis*) While formally also a targeted species, vilified and subject to culling, the Ring-billed Gull has recently experienced serious declines in Ontario. Most colonies are independent of cormorants but do co-habit with the cormorants in many areas, thus is also vulnerable to disturbance.

Look-alike species:

Common Loon: While ostensibly protected in Ontario, this species was also reviled and persecuted for eating too many fish. It is in the same size range as the Double-crested Cormorant, weighing from 2.78 to 4.48 kgs. Like the cormorant, loons sit low in the water, with its beak usually tilted upward at the same angle. Like cormorants, they may occur in flocks (although not while breeding) and even comingle with post-breeding and young-of-the-year cormorants. In flight they have a similar silhouette, with rapidly beating wings located halfway between tip of beak and tip of tail, and a slightly "hunched-shoulder" look. In non-breeding plumage they are grey above and white below, similar under less than

ideal lighting conditions to the immature plumage of the cormorant, which is brown above and, variably, white below.



Common Loon (BKM)

Other Herons: In 2018 Ontario saw its first Reddish Egret (*Egretta rufescens*), several Yellow-crowned Night-Herons (*Nyctanassa violacea*) as well as at least one Little Blue Heron (*E. caerulea*) and some Cattle Egrets (*Bubulcus ibis*). These are all southern species of heron and while the first three named have not been recorded yet in the province as a nesting species, they also, where their respective ranges overlap, co-habit nesting colonies with cormorants. This “surge” in southern heron species into Ontario obviously may be an outcome of climate change, but whatever the cause, assaults on cormorants can’t help but be deleterious to the potential of these species to nest, thus qualify for endangered status. The concern is not addressed by the EBR.

Anhinga (*Anhinga anhinga*): This species is included simply because it has occurred in Ontario (<https://sora.unm.edu/sites/default/files/106-108%20OB%20Vol%2018%233%20Dec2003.pdf>) and resembles a cormorant in size, colour and shape, but for a distinctly longer tail, longer neck, unhooked beak and, in adult male in breeding plumage, distinct dorsal pattern of black and white.

Great Cormorant: There are at least some 19 recorded sightings for this species for the Greater Toronto Area and a similar number for other parts of southern Ontario, including spring/summer records that are in the breeding season. This would necessarily represent only a small percentage of the number of Great Cormorants that have occurred in Ontario since the species is nearly indistinguishable from, and therefore very easy to mistake for, the Double-crested Cormorants. There is no record of breeding Great Cormorants in Ontario, yet, but it seems only a matter of time.

The nominate subspecies that occurs as a reasonably common nesting bird in eastern Canada is the same one that appears in most of Europe as well. It has probably colonized North America in the relatively near past. Via the St. Lawrence River it has a direct path to the Great Lakes. Throughout the wide range of the species (Europe, Asia, Africa and Australia) it has shown an ability to survive and breed in fresh water environments.

If the species does breed it will qualify for “endangered” status under the Endangered Species Act.

The species would qualify as “endangered” (second category, immediately above) by virtue of living in the wild in Ontario but facing extirpation due to being mistaken for the Double-crested Cormorant. The EBR does not even mention the Great Cormorant, let alone explain how it is to be protected.

Great Cormorants weigh from 1.81 to 2.81 kgs. Double-crested Cormorants weigh from 1.67 to 2.10+ kgs, thus in size there is overlap, although without visual reference size would not allow one species from being distinguished from the other. In the adult there is a white patch back of the throat patch on the Great, missing on the Double-crested, Cormorant. The former in breeding plumage has a small white patch at the rear end of the flank, often missing or hard to see. Those are the most distinguishing feathers and birds in immature plumage are even more similar.

Neotropic Cormorant: There are about eleven records of this species in Ontario, with seven from in or near Toronto. As with the Great Cormorant, should this species breed in Ontario it would qualify for protection that would be impossible to provide if there is such a massive amount of legal “hunting” of the nearly identical Double-crested Cormorant as is being proposed. The EBR does not even mention the Neotropic Cormorant, let alone explain how it is to be protected, and yet, possibly as a function of global climate change, its core breeding range in the U.S. is expanding.

Neotropic Cormorants weigh about 1.81 kgs, thus are smaller than Double-crested Cormorants, but are the same colour, thus virtually indistinguishable in flight.

Extermination Programme Not Hunting:

The EBR states: “...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 proposed hunting “season” is the entire time cormorants are present in Ontario. Hunters with small game permits (197,188 in Ontario in 2017) will be allowed to kill 50 cormorants every day for the entire “season”. If only 1%, 2,000 of small game permit holders each shot 50 cormorants, they would exterminate the entire population on the lower great lakes.



Ground nesting cormorants (BKM)

Monitoring:

The EBR states:

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 provision is patently absurd. The Ministry staff have not conducted a count of cormorants in Ontario since 2009 and then only in the lower Great Lakes. The proposal suggests that cormorant numbers have peaked and may be in slight decline but it is unclear what data the Ministry staff are relying upon to support the statement. This lack of accurate information with regard to cormorant populations in Ontario begs the question: How can the government assess the impact of hunting and adjust the regulations if it has no baseline data from which to make a decision? The answer is they can't. They have decided to proceed with a cormorant hunt regardless of the risk to the population which is irresponsible and unscientific.

The EBR makes no mention of increased funding to allow for proper monitoring of the "hunt" and to fund the number of Conservation Officers needed to enforce the proposed "management" programme.

Regulatory impact statement:

The government claims that "The anticipated environmental consequences of the proposal are expected to be neutral" despite the fact that the express purpose of the proposal is to significantly reduce, or altogether eliminate, cormorants as a breeding species in Ontario. The proposal clearly risks doing exactly that.

So there are clearly consequences of removing most or all of the cormorants from Ontario's environment. However, if the population is expected to remain stable as the government claims, why do it? It will not address the very concerns that it claims is driving the proposed "management" plan.

The Ford government claims that "Those interested in hunting cormorants or who believe cormorants are having detrimental impacts will likely support the proposed changes."

Again the question emerges, why would those who believe cormorants are having detrimental impacts likely support changes that will not have any impact on population size? The answer is, they wouldn't. The proposal is to significantly reducing the number of cormorants in Ontario or eliminating them altogether to placate those who think cormorants are destructive to stocks of fish of interest to commercial and sport anglers, and that they damage the landscape to the detriment of both the environment and esthetic values.



Cormorant carrying nesting materials (BKM)

What kind of hunter is being catered to by this proposal?

Hunters motivated by oft-stated “ethics” of hunting will not likely use their small game permits to shoot cormorants. Those ethics include fair chase, sustainability, and utilization. During the 19th century when hunting was unregulated and ethical standards were only emerging, we saw loss of many very common, even abundant, native species. It should be obvious given historical examples that abundance alone is no guarantee against extinction.

There used to be vast flocks of Eskimo Curlews but now they are extinct. Passenger Pigeons once outnumbered all other birds, but they too became extinct. Bison and Northern Cod are both examples of wildlife species that once occurred in staggering abundance and yet, while not exterminated, were reduced to numbers from which recovery to earlier levels simply could not happen.

Law abiding hunters would not waste meat or kill more than they need, or kill for the sake of killing. But there are those who like to kill for the sake of killing. They would otherwise be considered the worst kind of hunter.

The government proposal allows hunters to simply anchor offshore from a colony and shoot the birds. In the unlikely event of a Conservation Officer appearing on the horizon they can retrieve the birds, otherwise not, possibly sinking them from view with a bit of fishing line and a rock, or simply allowing them to become waterlogged and sink on their own.

There is real risk of conflict between such hunters and the public, given that the “season” proposed extends through the peak holiday season on lakes in Ontario where cormorants occur. The majority of people who enjoy and use the outdoors are not hunters, and this demographic is being ignored.

Cruelty:

Cormorants are highly social animals. They display co-operative behaviour with others of their kind and form strong pair-bonds that last well past the nesting season. They are devoted parents. Both male and female attend the eggs, taking turns, and care for the young hatchlings. Cormorant chicks have no feathers and are helpless. It is essential that the babies be shaded from the sun, since the nests are not protected by shade, but fully exposed. Parents will even soak the babies with mouthfuls of water or wet

leaves to help cool them down. At night the reverse problem can occur and one or the other parent must protect the babies from hypothermia.

What is being proposed will leave many young to die from effects similar to being cooked in an oven. They will literally be cooked alive. Others will die of hypothermia, or will suffer a slow death from dehydration or starvation. One parent alone can't prevent such lingering deaths.



Cormorant chick (BKM)

There is other cruelty that will derive from this proposal and that includes the inevitably high wounding rates that will occur. In ordinary waterfowl hunting the rates are approximately thirty percent (see, for example, https://kb.rspca.org.au/what-are-the-wounding-rates-associated-with-duck-hunting_529.html). Wounding will inevitably occur, and even if we deem the suffering of such birds to be of no consequence there will be concerns by compassionate people, myself included, who do not share such apathy toward suffering in animals, given that hunting these birds will overlap recreational activities in the same region, thus be observed by a wide demographic.

It should be noted that when wounded birds can do so, they tend to seek to land on shore before their less than waterproof plumage slowly drags them under, so it will not necessarily be a case of “out of sight out of mind”, but rather a further source of distress to the non-hunting majority of people who enjoy nature and our waterways.



Cormorant with a wounded wing (BKM)

Conclusion:

The recovery of Double-crested cormorants from two near catastrophic extirpation events has been a spectacular conservation success story. The government's proposed "cormorant management" programme sets the path for a possible third extirpation of the highly persecuted bird.



Cormorant drying wings (BKM)

Linda Wires who is an esteemed Conservation Biologist in Minneapolis, Minnesota has studied and monitored waterbirds in North America for the last 20 years, mostly while employed as a Research Fellow at the University of Minnesota and as a Project Coordinator for the US Fish and Wildlife Service, Integrated Waterbird Management and Monitoring Program.

She has extensive experience monitoring colonial waterbirds, especially Double-crested Cormorants (DCCO) in the US Great Lakes, and has coordinated and reported on the monitoring efforts in this area since the late-1990s. She has extensive experience researching human conflicts with fish-eating birds, and has worked with colleagues around the world studying and managing human-cormorant interactions.

She has reviewed and commented on every management proposal developed for DCCOs in the US since 2003. She has published several papers on numerous aspects of DCCO monitoring, research and management, and has hosted and participated in many workshops and symposia to address conflicts with DCCOs.

In 2014 she had a book published by Yale University Press, *The Double-crested Cormorant: Plight of a Feathered Pariah* (Wires 2014). The book provides a detailed history of the species in North America since the arrival of European settlers to the continent. It includes a rigorous review of the science undertaken to document the cormorant's alleged impacts to resources, and examines whether the management that occurred through 2012 was supported by science.

In her expert capacity, Wires reviewed Ontario's proposed cormorant management plan and wrote, "I can honestly state that of all the many proposals for cormorant management that I have reviewed, *this proposal from the Ontario Ministry of Natural Resources and Forestry is by far the most ill-conceived and irresponsible approach I have seen to date. It essentially misses all key criteria for a reasonable and rational approach to resolving conflicts with a native wildlife species.*"

Based on Wires assessment, the Ontario government should:

1. withdraw the Draconian cormorant "management" proposal;

2. conduct an Ontario wide cormorant nest survey given that Ontario has not conducted one since 2009 and given that the US cormorant nest count shows a 36% decline in the number of nests between 2005 and 2016; and
3. explore non-lethal management options where human/cormorant conflicts occur.