Response to Proposed Amendment Management Strategy for Double-crested Cormorants at Presqu'ile Provincial Park" of November 24, 2006

Cormorant Defenders International

The stated "goal" of what is here called a "management strategy", but is elsewhere referred to as "research" is to "protect representative woodland flora and fauna of High Bluff Island, Presqu'ile Provincial Park, while retaining maximum diversity of nesting colonial bird species."

But the "objectives" do not address that goal, making it difficult to assess what, exactly, the MNR is after, other than reducing absolute numbers of cormorants in Ontario and putting the nesting of other colonial and other bird species at risk, although one of four stated objectives is "to minimize impacts of cormorant management on other colonial bird species nesting on Gull and High Bluff Islands". There was no impact on "other colonial bird species", or on the Red-tailed Hawk family that once lived on High Bluff Island, prior to MNR's aggressive interventions. The fear was that such an impact would happen, but there is no proof that it would have, and studies elsewhere clearly show that all species of colonial bird species found on High Bluff have, in the absence of persecution, co-existed elsewhere.

Thus, while it is stated that "…the strategy has had some success in meeting the first two strategy objectives (limiting nesting in trees and limiting roosting in trees) and greater success in meeting the last two objectives (reducing recruitment from ground nests, minimizing impacts on non-target colonial waterbird species nesting on High Bluff Island) the assumption that these "strategies", while meeting subjectively chosen "objectives" have nothing to do with the stated "goal".

It is our view that the goal is best obtained by forgoing any continuation of both objectives and strategies that have been implemented to date, or that are proposed for next year.

Since, in the absence of MNR interference, there would have been a greater deal of protection for "…representative woodland flora and fauna of High Bluff Island…while retaining maximum diversity of nesting colonial bird species", the MNR is obliged to go back to its original "strategy" of maintaining the islands as a bird sanctuary during the nesting season, and protecting all species of birds that nest there, or use the islands for staging during the nesting season.

REPRESENTATIVE WOODLAND

An assumption has been made, and herein is the heart of the problem we face, that there is something fundamentally non-representative of an uninhabited island in Lake Ontario having nesting birds of a certain species (specifically, at least currently, Double-crested Cormorants) at certain numbers (not specified, but clearly at numbers lower than are sustained by the carrying capacity of the overall environment).

We believe that any flora or other fauna occurring under such contrived conditions (ie., under conditions that include harassment and destruction of individuals of one or more species of birds that naturally would nest on such an island) is not "representative", but rather, is artificial, and contrived.

Thus, in order for the woodland on High Bluff Island to be "representative", it should accommodate those numbers of fauna that would naturally occur there if not disturbed, or reduced.

REPRESENTATIVE FAUNA AND FLORA

Truly (as opposed to species chosen by humans for various political or social or esthetic reasons) representative fauna on High Bluff Island would be the fauna that occurs there in the absence, as much as is reasonable or possible, of human interference.

The MNR has made a second faulty assumption in assuming that some species of fauna are in some fundamental way that is not explained "representative" while others are not, or are less so, or are incompatible with those that are "representative".

Furthermore, that assumption drives the belief that anything that is perceived (incorrectly in our opinion, as we will explore, although that is not the issue) to limit or reduce the "representative" fauna should be reduced to an unidentified level that is apparently believed to eliminate such limits or reductions.

Further, having decided that certain fauna is not "representative", to the degree that it limits flora, that flora is seen to be in need of human interference. Thus are proposed the various "objectives" that boil down to assuming one species, the cormorant, to not be "representative". This includes to planting flora that is deemed to be "representative", apparently because it is seen to flourish in the absence of cormorants.

The logic in this is non-existent unless the cormorant is truly ***not*** a species "representative" of Lake Ontario island fauna. We contend it is, and below we will

explain why we contend that the Double-crested Cormorant ***is*** one of a suite of colonial birds that are representative of the breeding fauna of islands in Lake Ontario.

We believe that the reason that flora that would normally be more limited or absent from High Bluff Island, had it not been for suppression of species of fauna (cormorants) that truly are representative of Lake Ontario island ecology, is considered "representative" is arbitrary. Because such flora occurred there in recorded time, it appears to be assumed that it is "representative". Because cormorants did not occur there in historic time (as recorded, at any rate), it appears to be assumed that they are non-representative.

Because herons (the three species that nest there now, and presumably any others) damage vegetation more slowly than do cormorants (and probably for other reasons, including their greater esthetic value to many people), and in spite of the fact that even they, like the cormorants, were not historically recorded on High Bluff Island, the assumption appears to be that they are "representative" of the fauna of High Bluff Island.

This is somewhat unclear because the rationales for killing off cormorants differ through time, and currently it appears to be that the trees that now grow on High Bluff Island are deemed more "representative" of at least that one island's flora and fauna than do the birds that nest in them (and whose excretions are damaging to them.)

AMENDMENT

If our own conviction, that the Double-crested Cormorant, is representative of the fauna to be found on uninhabited islands in Lake Ontario is correct, then so is our assertion that other species of fauna and flora that cohabit with cormorants are representative of the fauna and flora that are representative of uninhabited islands in Lake Ontario. Thus, if our first belief is correct, and cormorants truly are a species that, when extant, really does nest on islands in lakes within its range, including Lake Ontario, then it follows that any fauna or flora incapable of cohabiting such islands with cormorants is ***not*** representative of the flora and fauna found on lake islands, including High Bluff Island.

While we do not believe that many, if any, species of tree currently found on High Bluff Island is at risk, it really does not matter. The important thing is "to protect representative woodland flora and fauna ofHigh Bluff Island, Presqu'ile Provincial Park, while retaining maximum diversity of nesting colonial bird species."

If any species of tree ***is*** at risk from birds native to and naturally breeding on High Bluff Island, then clearly it is ***not*** representative of the woodland fauna

of High Bluff Island. And if such a tree is essential to the breeding success of a non-cormorant bird species, clearly that species is ***not*** representative of "maximum" diversity possible.

If there are, for example, no Great Blue Herons nesting on Gull Island, then we do not believe that it is logical or sensible to argue that Gull Island's biodiversity is lower than it should be, and that trees should be planted in the hope that Great Blue Herons will nest in them, and that any species of native fauna that interferes with those trees should be reduced or eliminated. And that is not proposed.

And yet what is proposed is equally absurd. Biodiversity is a function of a given habitat's ability to accommodate species native to that habitat, not a function of that habitat's ability to accommodate still more species if some existing species are reduced or removed. This is analogous to "increasing biodiversity" of old growth forest habitat by cutting down trees in order to allow more sunlight to hit the floor thus increasing the numbers of plants that can grow there. It will increase the number of species, but at the expense of the "representative" nature of old growth forest.

This it may be (although we will argue that it is unlikely) that by reducing one species (cormorants) "biodiversity" will be increased, but it will be at the cost of what is "representative" of High Bluff Island's natural ecology.

Therefore we strongly urge that:

> Eggs of cormorants are not oiled anywhere.
> Tree nests are not removed
> Roosting cormorants are not disturbed.

If our assertions are valid, each of those actions will mitigate against the stated goal of protecting "representative woodland flora and fauna of High Bluff Island, Presqu'ile Provincial Park, while retaining maximum diversity of nesting colonial bird species."

ARE OUR ASSERTIONS VALID?

It is our belief that the goal of cormorant management operations at Presqu'ile Provincial Park should be to protect representative woodland flora and fauna of High Bluff and other Islands in Presqu'ile Provincial Park, while retaining maximum diversity of nesting colonial bird species.

Happily, this is also the goal of the Proposed Amendment.

But it is ***not***, if our assertions are valid, what the MNR seeks to do.

Our assertions are that the Double-crested Cormorant actually ***is*** a representative of the fauna of High Bluff and other Islands at Presqui'le Provincial Park and elsewhere in the Great Lakes, and that the "woodland" flora and fauna of High Bluff Island therefore includes all species of birds that nest in woodlands on islands in the Great Lakes, including the Double-crested Cormorant. We believe that not only is the Double-crested Cormorant as native to the Great Lakes as any species of plant or animal found in Presqu'ile, but that their behaviour, and the effects of their behaviour, are also as natural as the behaviour and the effects of such behaviour of any other native species of fauna or flora in Ontario. Thus, while we recognize that the presence of gulls and terns on Gull Island may prevent or limit growth of woody vegetation on Gull Island, we think that their presence is representative of such a habitat. While we recognize that the presence of cormorants and herons on High Bluff Island may prevent or limit growth of woody vegetation on High Bluff Island, we think that their presence is representative of such a habitat.

Clearly the MNR selectively disagrees, seeming to accept some species, and their subsequent effects on other species within their environment, but not, for a changing suite of reasons, cormorants.

Key is the question of whether or not the Double-crested Cormorant truly is "representative" of "woodland flora and fauna" of High Bluff Island. The proposed amendment appears to be predicated on the apparent belief that it is not (otherwise cormorants would be as fully protected as our gulls, terns and herons).

The belief that there is something "alien" or "invasive" or simply "wrong" about the presence of cormorants, is driven, it appears, by the solid fact that they now occur in numbers and in places hitherto unrecorded in southern Ontario. There are several scenarios that have been floated to explain this reality, and we will now explore them.

1: **The Double-crested Cormorant is not native to North America**.

We realize that the MNR does not entertain this notion. However, it has been articulated by at least some people supporting the anti-cormorant lobby which has, in turn, been forceful in demanding continued destruction of cormorants. The lobby has been effective, but as the premise is patently absurd, we will not discuss it further.

2: **The Double-crested Cormorant is native to North America, but not to Ontario, or to the Great Lakes, or at least not eastern Lake Ontario**.

It appears that the MNR has held variations of this view, and possibly still does. While we categorically disagree with it (see below) let us address the ramification of the contention that the cormorant is a newly arrived "invasive" species in Lake Ontario.

All species of colonial nesting birds would have to be considered "invasive", by any criteria that recognized the Double-crested Cormorant as "invasive", and this would include the Great Egret and Black-crowned Night-Herons, to the degree that both are expanding or have expanded their respective breeding ranges in Ontario within recorded time. All reasonably common continental species are subject to "natural" range expansions and contractions as a function of multitudinous factors.

Those factors can conveniently be categorized as changes in carrying capacity due to such things as climate change or an increase or decrease in suitable food or suitable habitat. We have seen numerous such changes within human lifetimes in southern Ontario, and no one considers such species of birds whose numbers have increased (including Northern Cardinals, Chestnut-sided Warblers, Great Egrets, Northern Mockingbirds, Ring-billed Gulls, Great Black-backed Gulls, Caspian Terns, Little Gulls and a great many more) to be "unnatural" or in some way not "representative" of the habitats they respectively inhabit.

All that characterizes them as different from the Double-crested Cormorant is the degree to which they obviously impact on their respective habitats. Thus, for example, an increase in Chestnut-sided Warblers since Audubon's time (he encountered them but once; now they are a very common species in migration in the regions Audubon explored) might mean a subsequent decrease in insects of the species they eat, with competitive impacts on other species who would eat the same insects. But none of this would be noticeable to human observers, nor make an impact that could be measured.

An increase in Great Egrets may eventually produce more quantifiable impacts than do Chestnut-sided Warblers, but only marginally so. Apart from that, egrets are deemed pretty, and are not seen as competitive with anglers and don't occur in Ontario in large concentrations.

By sharp contrast the impact Double-crested Cormorants are very noticeable, they are very widely disliked as competitive with anglers and often described as being ugly. We believe none of this makes them non-representative of the habitats that support them, and thus such opinions of them are irrelevant if the goal is to protect representative species of High Bluff Island.

3: **The Double-crested Cormorant is native to the Great Lakes, but probably not as a nesting species, and certainly not in anything like current numbers.**

This appears to be the most popular view at the current time. It is one shared by Minister of Natural Resources, the Hon. David Ramsay, who, on November 1, 2006, stated in parliament, in support of a Private Members' Bill that would remove all protection for cormorants, "I applaud my member's initiative…As the member has just said, this particular bird has caused severe terrestrial damage on many of the islands and Lake Ontario and has obviously threatened the commercial and sports fishery in our Great Lakes and other inland lakes as they're moving in now. I understand very much his motives bringing in (sic) this forward. I wish him well with the bill and very much support what he's doing."

But while the Minister is obviously of the view that the cormorant is somehow an invasive species, or at least occurring in unprecedented numbers, it is not a view we share, for reasons given, below.

A component of this belief seems to be (if not articulated in so many words) that the increase in cormorants derives from a marked increase in the carrying capacity of the environment (otherwise, why would they have avoided the area in pre-Colonial times, when there was virtually no persecution) and furthermore, that increase is, or may be, anthropocentric in nature (or else why would it not have occurred prior to European colonialism?).

To the best of our knowledge no other explanation as to why Lake Ontario can sustain more fish-eating birds now than previously is forthcoming, although in personal communication MNR fish biologist Mark S. Ridgeway suggested that warming of the post-glacial lake waters may have made them more supportive of fish. So far as we know there is no proof of that, one way or the other, and it suggests that somehow colder, more oxygen rich, and pristine lakes were more supportive of fish-life than they are currently, a proposition we think is counter-intuitive and unlikely.

The obvious other explanation is that non-native fishes have made the difference in carrying capacity, a view that is given weight by an apparent connection between cormorant breeding success and the presence of Alewives in Lake Huron, and the decrease in Alewife die-offs in Lake Ontario (including Presqu'ile Provincial Park, personal observation) coincident to the increase in Double-crested Cormorants.

Notwithstanding the Minister's persistent belief that cormorants are damaging to commercial and sport fisheries, the only reason the MNR gives for reducing the cormorant population at Presqu'ile is to protect the trees (and/or the herons dependent upon those trees for nesting) on High Bluff Island, a reason that is at odds with the

stated goal of protecting the representative woodland flora and fauna of High Bluff Island.

Presumably it can be argued (not that it has been…the MNR does as it chooses) that ***if*** the increase in cormorants in Lake Ontario derives from anthropocentric forces (the introduction of non-native fishes that are more suitable to cormorants than the native species they would displace) it presumably makes some sort of sense to utilize anthropocentric means to control the cormorants.

In other words, without the Alewives (and or other factors caused by humans) there would be many fewer cormorants, thus trees would grow on High Bluff free of significant influence from cormorants, and thus be "representative" of the woodland flora of the island.

This circuitous reasoning is as close as we can get to a logical reason for claiming to want a representative environment, while destroying the very thing that represents the kind of environment one finds on islands in Lake Ontario and is thus "representative" of those islands.

We have been informally asked by an advisor to the MNR (Chip Weseloh, personal communication) if we want to see High Bluff Island look like Gull Island (treeless, full of birds). We agree that to a great many people High Bluff Island is prettier in the absence of cormorants and in the presence of trees, but that is, we would argue, irrelevant. If the purpose of the exercise is to appease those who prefer trees to birds, the goal should so state. That is not the goal that is given.

4: **The Double-crested Cormorant is native to Lake Ontario, has previously occurred in numbers equal to or greater than those observed today, but was nearly wiped out before records were kept, and again experienced severe decreases following World War II.**

This scenario is, we believe, the closest to the truth, although one that the MNR seems to reject out of hand, or not consider. Certainly it is not the Minister's view.

While early explorers saw (and killed) large numbers of what we now know would have to have been Double-crested Cormorants (for example, Champlain encountered what he called an "infinite number" of cormorants in 1604, on the southwest coast of Nova Scotia, which H. F. Lewis, in The natural history of the Double-crested Cormorant (*Pahalacrocorax auritus auritus* (Lesson)., a Ph.D. Thesis at Cornell University, Ithica, NY., 1929, believed included the Double-crested Cormorant (they were later positively identified at the same site, albeit in diminished numbers) we must remember that it was not until 1831 that the species was described by science,

and named (although the source of the type specimen was incorrect and remains unknown).

We do know that the type specimen can be attributed to the race whose range extends from the east coast west as far as Utah. It is the same race that Audubon found in Labrador in the summer of 1833. This is a vast range that covers much of the continent and in the middle of it is the Great Lakes, the largest source of fresh-water fish in the world, and a pristine, virtually un-fished environment prior to the 17thCentury.

The American Ornithologist's Union recognized the Great Lakes as being within the range of the Double-crested Cormorant in the very first report of the Committee on classification and nomenclature, in 1886. It would be absurd to believe that for some reason the cormorant would avoid the Great Lakes – that the Great Lakes would lack enough fish to sustain them at current or higher numbers – prior to European colonization, and yet that is what we are asked to believe.

The first comprehensive list of birds of Ontario was written by the then Hamilton-based T. McIlwraith, 1894 "The Birds of Ontario being a concise account of every species of bird known to have been found in Ontario with a description of their nests and eggs and instructions for collecting bird and preparing and preserving skins, also directions how to form a collection of eggs." Second edition, William Briggs. McIlwraith first describes the larger Great (or, as called then, "common") Cormorant, now known in North America as an east coast species that does not breed in the Great Lakes and is rarely found there, but which, it would appear, occurred more often as a "straggler" in the Great Lakes in his time, he goes on to describe the Double-crested Cormorant.

McIlwraith states: "This, like the common [sic, Great] cormorant, occasionally visits inland lakes, and is distinguished by its smaller size and richer plumage." He describes collecting a specimen, and then opines: "All the Cormorants have the reputation of being voracious feeders, and they certainly have a nimble way of catching and swallowing their prey, but it is not likely that they consume more than other birds of similar size." The prejudice against cormorants was certainly well-established, but did they breed?

He states: "The preparations for incubation are made about the 10th of May, in ***large communities***, on islands and lakes and almost impenetrable marshes, where there are some large old trees, in which they most frequently build their coarse but substantial nests. These are usually bulky from having been added to every year, and consist of weeds, vines and sticks piled together carelessly around a deep depression, in which is deposited the three pale greenish or bluish eggs. ***It is not an uncommon***

sight to see one or more of these nests on the same tree in which are a number of heron nests, and the owners seem to live in harmony." (Emphasis ours.)

Clearly he was familiar with them, and treats them as a breeding species, unlike the Great ("common") Cormorant which he distinguishes as a "straggler" and for which he gives no such detail of breeding information, although providing enough information to indicate he was familiar with them as breeding birds within their range.

He concludes his section on the Double-crested Cormorant by saying: "When the young are sufficiently grown, they gather into ***immense flocks*** in unfrequented sections, and remain until the ice-lid has closed over their food supply, when they go away, not to return till the cover is lifted up in spring." (Emphasis ours.)

McIlwraith's use of the term "immense flocks" was made when, anecdotal evidence suggests, some bird species occurred in far greater numbers than today, thus the term is indicative of truly great numbers coming, as it does, on the heels of the vast numbers of such species as Passenger Pigeons and Eskimo Curlew, now both extinct.

Clearly this was an abundant species in the province of Ontario prior to a level of early and intense persecution that saw its virtual elimination. The fact that they sought "unfrequented sections" of water in immense flocks of post-breeding birds further suggests persecution, in the absence of which they are not fearful of human activity.

Instead of regarding early 20th breeding records (see below) as vanguards of an eastward extension of the prairie population, we believe they should be regarded for what they obviously were, the last remnants of a once abundant species in the Great Lakes during a time of persecution that, following settlement, was somewhat east to west.

We agree with Linda A. Wires and Francesca J. Cuthbert, Historic Populations of the Double-crested Cormorant (*Phalacrocorax auritus*): Implications for Conservation and Management in the 21stCentury, Waterbirds 29(1): 9-37, 2006, that, "Early records suggest Double-crested Cormorants were present in large numbers throughout much of their current range; colonies and flocks much larger than any known in the 1990s are well documented. However, numbers sharply declined through the late 1800s as cormorants were greatly reduced and/or extirpated in many areas."

We have one caveat and that is that the Great Lakes area was colonized by Europeans at a very early date, and not withstanding that there were still obviously abundant numbers in McIlwraith's time, we think that it is likely that subsequent extirpation of

the Double-crested Cormorants would have been well underway well even prior to 1800, with possible respites during hostilities with the U.S. that ended with termination of the war of 1812. It was after that that commercial fisheries began in earnest, wiping out vast populations of fish, and destroying cormorants and other wildlife species.

No lake island, and especially no islands close to shore, would have been immune from extensive persecution of cormorants and other fish-eating birds for the same reason the species is persecuted today by people who, unlike their ancestors, have the means to know better: fear that the cormorant destroys stocks of desired fish species – a fear so blatantly stated by the current Minister of Natural Resources, as recorded in Hansard and cited above.

Yes, there was no early record of cormorants nesting on High Bluff Island, but there were no early records of gulls and terns nesting on Gull Island, either, because by the time records were kept, they were gone.

Wires and Cuthbert, 2006, demonstrate to what we think is beyond a reasonable doubt that the cormorant was once more abundant in North America than it is now. They give actual records of greater numbers in various parts of the species' historic range, giving as close to "proof" as is likely in the absence of contemporary levels of population monitoring and technologically possible recording, that give the lie to the widely held contention that the species is somehow now "over-abundant".

While there can be no reasonable doubt that the Double-crested Cormorants were present in the Great Lakes, Wires and Cuthbert state: "The Great Lakes is the one area within the region where status (e.g. breeder or migrant) and early history of the cormorant are not clear." Unfortunately their paper does not cite McIlwraith.

Thus, while even many of those who think cormorants are invasive usually will grudgingly admit that they were not altogether absent, the prevailing belief is that they didn't actually nest in the Great Lakes, only migrated through. Or, if they nested at all in the Great Lakes (and there is clear evidence that they did so in small numbers in the early 20th Century, with 1913 being widely accepted as the earliest date for cormorants breeding in the Great Lakes, and then only in western Lake Superior, prior to expansion eastward, interrupted by the introduction of DDT, and now in full force as they "invade" the lower Great Lakes for the first time ever) certainly not in eastern Lake Ontario!

However, there is strong evidence for an earlier nesting colony in Georgian Bay, Lake Huron, as reported by James L. Baillie, 1947, The Double-crested Cormorant nesting in Ontario, Canadian Field-Naturalist 61: 119-126, cited by Wires and Cuthbert.

Wires and Cuthbert also cite place names as indicating the presence, if not necessarily as a breeding species, of the cormorant in Ontario as recognized both by native residents and by early European settlers.

In 1877 a cormorant was captured at Sandusky Bay, Ohio, in June, during the height of the nesting season. While Wires and Cuthbert seem to suggest this was during height of persecution of the species, as certainly is true in much of the continent, we surmise that it is entirely likely that the species had, by then, been largely extirpated as a breeding species in the lower Great Lakes, and probably most of the upper Great Lakes as well, by that late date, wiped out by commercial fisheries, although it certainly had been abundant, as indicated by McIwraith's account, quoted above.

While there is record of at least one early subfossil remains from the 1700s, in the lower Great Lakes drainage, it does not prove anything with regard the species' breeding status in the region. This begs the question of an absence of breeding birds in the form of preserved specimens or photographs, prior the beginning of the 20th Century.

In 1891, a flock of migrating cormorants that was described as being four miles long and one and a half miles wide was seen in Minnesota, and as late as 1926 a flock estimated to have between 100,00 and one million birds in it was seen migrating up the Mississippi River. Flocks of these magnitudes have long since disappeared, but it is inconceivable to us that such huge numbers would occur to the west of the Great Lakes and in the numbers encountered to the east and south, and still the species would not establish breeding colonies in all of the Great Lakes and inland regions, especially since it was clearly familiar to McIlwraith, who mentions "immense flocks" of juvenile birds.

We believe the weight of evidence indicates that the default position should be that the birds were a common nesting species in the Great Lakes and inland lakes in Ontario, unless it can be proved otherwise.

However, we acknowledge the difficulty of proving a negative, so we will address the reasons why we think that there is a dearth of hard evidence of breeding colonies in the Great Lakes (and, for that matter, inland lakes in southern and central Ontario, where we believe the species must have occurred).

OBSERVERS, RECORDS AND LACK THEREOF

Put very simply, apart from such evidence as McIlwraith provided, and given that we have not had the resources to thoroughly investigate other sources, there is a dearth of records of breeding colonies of Double-crested Cormorants in the Great Lakes region

because there was, at the time when they would have been a peak numbers, a dearth of competent observers recording evidence. We believe that even as early as 1831, when the species was first described by science, it had already been severely persecuted in much of its former range, and especially so in areas that had been "settled" early, by Europeans, or where significant fisheries had been underway.

Thus, when Baillie reported in 1947, that he believed residents were accurate in stating that cormorants had nested in the general vicinity of the Mink Islands, Georgian Bay in 1919, we believe that not only was this a fair assessment, but far from representing an early record of cormorants that far east in the Great Lakes, it represented a very late breeding record of a species that was, like so many other species of that time and that era, in serious decline. Those birds certainly weren't allowed to nest very long ***after*** 1919, and we believe that was because the persecution of the species had not yet ended, and did not end until they were essentially gone as a breeding species.

In 1927, again as cited by Wires and Cuthbert, it was reported that there was a small colony of Double-crested Cormorants nesting in 1926 at Agawa Bay, on the eastern shore of Lake Superior. What is significant about this is not that there were ten nests, but that the local residents stated that "the cormorants had nested there for years." It took little time to wipe out the nesting colonies of Double-crested Cormorants in the Great Lakes, and by the time competent observers were accurately recording Ontario's avifauna, the cormorants were mostly gone. Good early observers, like Audubon, not only found, but accurately recorded, Double-crested Cormorants on their meanders across the face of 18th and 19th century North America, but they did not visit the Great Lakes. Nonetheless, the Great Lakes were not an uninhabited wilderness at the time, but rather a route of commerce and trade quickly inhabited by resource-consuming settlers and colonists who had the means and the will to destroy any species of animal they deemed useful to their needs, or an impediment. Cormorants, being colonial nesting species, were (and remain) particularly vulnerable.

We find it hard to visualize the staggering numbers of some species of wildlife as reported in early days of the European invasion of North America. Most abundant of all bird species was the Passenger Pigeon, known to exist in flocks that were billions strong. W. Earl Godfrey reports (Birds of Canada, Revised Edition, 1986, National Museum of Canada, p. 301,) states of that species, "Details of former breeding range poorly known." If that is true of a bird whose numbers blotted out the sun for several consecutive days, it should not surprise us that we lack information on the early breeding status of the Double-crested Cormorant.

Not only do we now recognize the blue phase of the Snow Goose as abundant, it clearly was so in the 19th and early 20th century, and yet it was not until the early 1930s that its nest (it was then regarded to be a separate species) was discovered. It is not that the nests were not present in large numbers all along, simply that they were not recorded.

We believe that the cormorant failed to show up in kitchen middens (with one exception to date) in Ontario because it was not consumed as food. Also, it was not traded by native people and was thus unlikely to occur in archeological digs. Its plumage was not sought by the plume trade, nor was it valued as "game". It nested only on islands or remote headlands thus colonies would not be noted by many early lay-observers (such as Mrs. Simcoe), and then as now it was reviled by people under no constraints from destroying every colony – colonies most accessible to fisherfolk with access to boats – that they encountered.

Other species were wiped out with little trace and less incentive, in our region, and so we should not be surprised at this initial, and very early, loss of the Double-crested Cormorant as a breeding species in the lower Great Lakes. It is, we think inconceivable that it was not here. It was recorded here, and in language that suggests it was abundant. We believe there is no objective or fair reason to continue thinking the species was not here or did not breed here, the only question being in what numbers. We think the evidence is that like any other species in the absence of persecution, numbers would have depended on the carrying capacity of the region, and thus they should have been here in numbers that were comparable to today's, unless there is some overwhelming factor that somehow makes the Great Lakes of the current era better suited to cormorants than they were in a more pristine state.

CORMORANTS AND FISH

While it is clear from his comments in Parliament on November 1, 2006, quoted above, that the Minister of Natural Resources believes that cormorants are an invasive species that is damaging to fisheries and to forests or woodlands, concern for the fisheries adjacent to High Bluff Island are putatively not the concern that drives the strategy. Nonetheless, ecology is not as easily compartmentalized as bureaucratic niceties may favour, and there is one aspect of the cormorant's diet that is entirely relevant to our concerns.

Unless the Ministry simply chooses to ignore or disregard all evidence to the contrary, it has to be acknowledged that the Double-crested Cormorant is a native breeding species in Ontario, as much as any other bird found nesting on High Bluff Island. The levels that occurred through the first half of the 20th century were in no way representative of the species as it would have been in the absence of persecution, and,

later, the advent of use of DDT. Early 20th century nesting records did not reflect the beginnings of a new "invasion", but rather, the remnants of once abundant numbers.

How abundant cannot be known. It has been proposed, however, that even if bias is put aside and evidence is accepted that what is obvious (that a fish-eating bird abundant east, west and south of the Great Lakes would not nest in them) it still may be that the carrying capacity of the Great Lakes has been anthropomorphically enhanced through the introduction of non-native fish species.

Primary to this consideration is the arrival of the Alewife. It is generally recognized that Alewives are non-native, and, when present, that they can serve as a primary food source for Double-crested Cormorants during the nesting season. This is because the breeding habits of the Alewife render them most vulnerable during the birds' nesting season, and because the size of the mature Alewife renders it suitable as food for the cormorant, which swallows its prey whole, and then regurgitates it for food for the young.

We think that it is incorrect to put too much store on this relationship for the simple reason that cormorants have been abundant in inland waters lacking Alewives. Nonetheless, evidence from Lake Huron does suggest that numbers of nesting cormorants (and possibly subsequent recruitment) are currently linked to the presence or absence of Alewives.

However, we believe this is likely to reflect not so much an absolute increase in the carrying capacity of Lake Huron (or other Great Lakes) for cormorants as a result of the presence of Alewives, as it is a replacement of suitable native fish stocks by alien species, of which the Alewife (and Rainbow Smelt, non-native sticklebacks, and, lately, Round Gobies) is suitable for cormorants. We believe that numbers of other native fish species (several having been exterminated) are very much lower than they were before the initiation of commercial fisheries wrought such damage. We do not believe that alien fish species were "added to" existing fish numbers to cause an overall increase from "A"number of fish (the number prior to commercial fisheries and to the arrival of non-native fish) being augmented by "B" number of fish (the number of non-native fish) so that "C" (the current overall number) equals A plus B. That would be an ecological impossibility. We believe that "C" equals A minus B. And we would further subtract "X", the unknown number of fish lost to a decrease in the lakes' overall ability to sustain fish as a result of degradation of habitat.

But the factors governing carrying capacity are immense. Ironically, it is truly invasive and alien species who displace native species, not the native cormorants, in our opinion. And it is even more ironic that of the two major sources of alien species – accidental introductions and deliberate introductions – the latter derives entirely

from the activities engaged in by the MNR and other wildlife management agencies and private sector sources. It is impossible to envision such native species as the Lake Trout and Atlantic Salmon enduring at primal numbers in the presence of intentionally introduced non-native, top-of-the-food-chain predators, such as the Coho Salmon.

The irony deepens still more in light of the evidence that while the Alewife, although not native, may be highly regarded as a significant prey species of non-native salmon (just as numbers of cormorants decreased following a precipitous drop in Alewife numbers, so did numbers of non-native Salmon), it, the Alewife, is deleterious to the Lake Trout.

Recent studies by Timothy Stakosh, as a doctoral candidate at the Kansas State University's Cooperative Fish and Wildlife Research Unit, and Dr. Charles Krueger of the Great Lakes Fishery Commission indicate that Lake Trout fry responded to Alewives in controlled conditions, and that Alewives preferentially selected Lake Trout fry for food even when other food sources were present (see Behavior of Post-emergent Lake Trout Fry in the Presence of the Alewife, a Non-Native Predator, Journal of Great Lakes Research, Volume 31, No 3., pp. 296-305, 2005.)

Recent studies have also indicated that even non-native salmon suffer from thiamine deficiency that may be a primary factor in early mortality syndrome, because of consumption of the non-traditional food-fish, the Alewife. Alewives contain high levels of thiaminase, an enzyme that breaks down thiamine.

Thus, both as a predator, and as prey, the Alewife is harming stocks of native Salmonids, and yet instead of valuing the cormorant as a major predator of the Alewife (but not of Lake Trout) it is vilified by the fishery industry, and not only does the Ministry of Natural Resources not seek to educate the public as to the important role the cormorant may serve as a predator of the Alewife whose numbers are linked to Alewives, but serve to underscore the vilification by not educating the Minister of Natural Resources himself, on a more realistic assessment of the cormorant as a native species, but by also failing to educate the public.

Egg oiling and any other control measure feed into the belief that there is something inherently "wrong" about the presence of native cormorants.

We realize that we are simplifying things, although less so than the Ministry has done, in that there are other factors contributing to population sizes of any fish species, such as the dramatic decline in once abundant Diporeia, a potentially essential foundation to simple food chains, lost to the activities of still other invasive species, such as the filter-feeding Zebra and Quagga Mussels.

Which brings us back to the goal, , to "…protect representative woodland flora and fauna of High Bluff Island, Presqu'ile Provincial Park, while retaining maximum diversity of nesting colonial bird species." We believe this goal will never be achieved, since whatever was "representative" of High Bluff Island and the factors contributing to the nature of the "woodland flora and fauna of High Bluff Island" have irretrievably changed from primal times as a result of a massive suite of anthropocentric activities.

However, we believe that we come closest to the "representative" by virtue of the more we protect, and the less we interfere.

We would urge beginning by acknowledging that such non-native species as Round Gobies, various species of Salmon, Alewives, Zebra Mussels, Spiny Water fleas, Sea Lampreys, etc., are here to stay unless there are means to eliminate them. The first and most obvious such means are to,

1: Protect however possible against further accidental introduction, and

2: Protect however possible against further intentional introduction.

This means a cessation of breeding and releasing non-native species into the Great Lakes.

We urge against harassing cormorants in any way, including shooting, egg-oiling, the chasing of roosting birds or the destruction of active or inactive nests.

We urge a vigorous campaign to educate the Minister and the public to the effect that best evidence is that the Double-crested Cormorant is a native, breeding species that is recovering to something like former numbers, is a major predator of species of fish that are damaging to the native species, particularly the native Lake Trout, and that herons and cormorants have co-existed throughout recorded time without any major negative consequences to the herons.

We urge that commercial fisheries be sustainable. While the government of Ontario is committed to sustainable use, no use is sustainable if the population must be augmented by breeding and release programmes. We do not object to such programmes for native species so long as they are connected to controls on take to allow stocks to recover. We object strenuously to such programmes for non-native species. Non-native salmonids are, unfortunately, breeding in the wild, and we can only hope that they will be allowed to die out before more damage is done to native fish stocks.

Addendum

Part of the new Amendment to the management strategy for cormorants of Presqu'ile, 2002 is "disturbance of roosting cormorants"

This is a particularly egregious idea that must not be implemented.

Our concerns are manifold:

1: Presqu'ile Provincial Park is one of the, if not the, most important staging and resting areas for migrant shorebirds there is in all of Lake Ontario. Southbound migrants of species, including those that are in serious decline, such as the Red Knot, or endangered, such as the Piping Plover, regularly use the shorelines of the park, and particularly the beach and islands, to recuperate and restore energy.

As such habitat is in serious decline, it can be of critical importance that such birds can access that which remains. Breeding species, such as the local terns and herons and waterfowl, also often rest, preen or otherwise use shoreline habitat as they build fat reserves preparatory to migration. It is important that their caloric intake, at such times, is greater than their energy output. Otherwise fat reserves that are absolutely critical to their survival will not be maintained.

These various species are almost invariably seen close to where cormorants also nest, as they are required to do. The cormorants have no choices; they must rest and dry out between forays. They do this on beaches, sandbars, rocks and logs and other places in close proximity to a suite of other bird species with, in varying degrees, similar, if not as acute, need to rest, preen or search for prey (shorebirds often feed, not just rest, where cormorants roost).

It is impossible to disturb cormorants to the degree that they will move without similarly chasing off the very birds who depend upon the resources Presqu'ile provides in order to survive.

2: Of even greater concern to us is the cruelty this scheme imposes upon the cormorants, themselves.

The plumage of cormorants is not waterproof. Unlike gulls and terns and waterfowl, who at least do have the general option of resting in rafts offshore, or shorebirds, whose energy output in getting airborne is less than that of larger birds (with the possible exception of shorebirds recently arrived and exhausted from extensive overland flight) cormorants must have the option of undisturbed rest so they may dry their plumage. Similarly, their means of feeding – pushing their bulk through cold

water in pursuit of fish, utilizing energy that must be balanced by the intake of accessible nutriment, including energy, from their prey – requires a reduction in energy output (i.e., a rest) following feeding episodes. Cormorant roosting is not analogous to "lazing" in humans, but rather is an important component of the birds' energy budget. They must do it; it is not a luxury in the sense that an afternoon nap or a coffee-break is to a human.

Constant disturbance, as seems to be the plan under the new amendment, apparently in the hope that it will placate the anti-cormorant lobby, will (if done effectively in terms of dispersing cormorants) force such animals to effectively starve, or drown, either by raising energy demands above input from feeding, or by causing the animals to leave roosts while still wet, thus susceptible to both malnourishment possibly leading to starvation, and hyperthermia.

Double-crested Cormorants are, we must again emphasize, native, natural, predatory animals who belong in our lakes, and we oppose such cruel abuse simply because some people don't like them.

3: It could chase cormorants and other birds away. If effective (which we doubt, see below) this process would chase from Presqu'ile both Double-crested Cormorants, and a proportion of those birds who are in proximity to their roosts, particularly during the immediate post-breeding season.

We think that the end result is that the cormorants would be leaving a place where they have the option to be protected, and where the Ontario Minister of Natural Resources and NGOs have an excellent opportunity to teach people about cormorants and dispel the myths that drive the anti-cormorant lobby (and the myths which appear to inform the Minister of Natural Resources) people can learn about the species and their natural interaction with the environment.

Experience shows that because of the effectiveness of the anti-cormorant lobby, cormorants chased from the park are likely to be persecuted in other areas, or, when they appear in less-optimal environments because the optimal ones, even in "sanctuaries" are denied them, people will incorrectly continue to assume the species is expanding, experiencing exponential population growth and therefore must be stopped.

As for other birds, they are an important draw to birders and naturalists to Presqu'ile and have contributed so much to its reputation as a gem of a park of great (but decreasing, thanks to bad management) value to naturalists at all seasons. Harrassing shorebirds will hardly enhance the park's reputation, if that is important, or contribute to its attractiveness.

4: If it is to work, and not just be a pretense constructed to impress the anti-cormorant lobby that "something is being done" and that the Ministry will be "tough on cormorants" and not listen to intellectuals, conservationists, environmentalists and wimpy bird watchers, then it will cost an enormous budget from an agency already vastly under-funded in critical areas, particularly dealing with wildlife enforcement.

Potential roost sites for cormorants exist around the waterside perimeter of the park, and birds who are dry enough to fly, can cover considerable distances faster than their pursuers. No assessment of costs is given. Nor can be ignored the added costs if, indeed, the MNR fields enough workers in boats, cars, ATVs and on foot and armed with appropriate noise-makers or pyrotechnic devices to run around the entire shoreline, chasing cormorants, and incidentally disrupting other wildlife, in an effort to prevent this natural and essential activity. The ill-will that would be generated by a level of activity needed to actually succeed in chasing cormorants, and the possibility of the cruel results of the effort being seen by the public or recorded by environmentalists and shared with the media, surely renders it an absurd idea counterproductive to all that the park stands for.

We doubt that the dozens, perhaps hundreds, of personnel required to make this idea be effective will be forthcoming, and that most chasing effort will be focused on the islands, both because they are optimal roosting areas for cormorants (but also for other species) and also because the effects of this plan will be least visible to the public and media, (except, if effective, to the degree that roosting cormorants will become more prevalent in other parts of the park, or outside the park, thus feeding the myth the species is "out of control".)