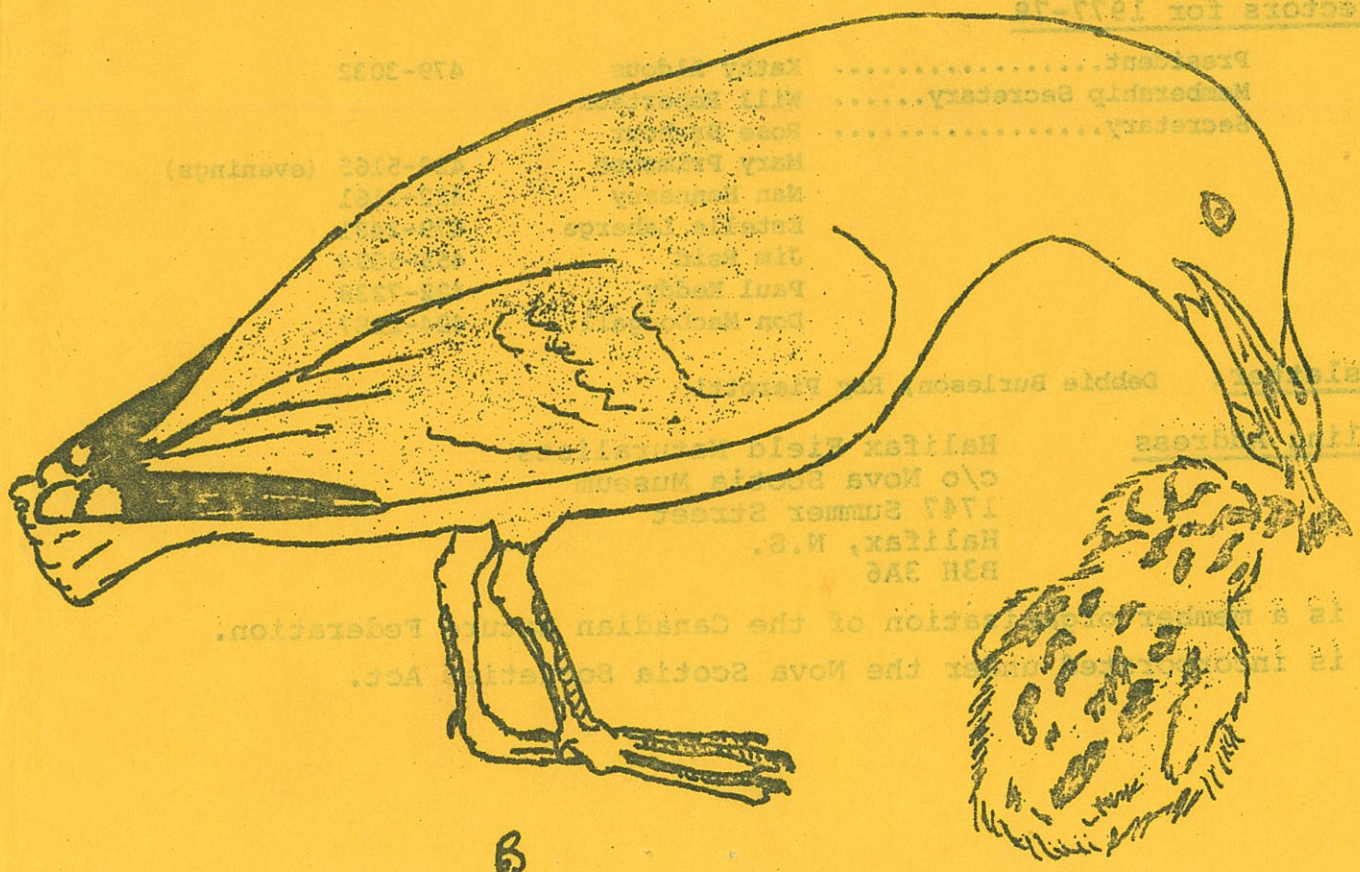
HALIFAX FIELD NATURALISTS NEWSLETTER

BIOLOGY - The science of life is the liveliest science

DALHOUSIE UNIVERSITY
HALIFAX, NOVA SCOTIA
CANADA

c/o Nova Scotia Museum
1747 Summer Street
Halifax, N. S.

NOV.-DEC. '77



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November-December 1977 Number Fourteen

Meetings are held on the first Thursday of every month, at 8:00 p.m. in the Auditorium on the ground level of the Nova Scotia Museum, 1747 Summer St., Halifax.

Field Excursions are held at least once a month.

Membership is open to anyone interested in the natural history of Nova Scotia. Membership is available at any meeting or by writing to Membership, Halifax Field Naturalists, c/o the Nova Scotia Museum. Individual membership is five dollars yearly; family membership is seven dollars. Members receive the newsletter and notice of all excursions and special programs.

Directors for 1977-78

President.....	Kathy Aldous	479-3032
Membership Secretary.....	Will Robertson	
Secretary.....	Rose Barbour	
	Mary Primrose	423-5165 (evenings)
	Nan Hennesey	422-3161
	Estelle Laberge	479-2481
	Jim Reid	455-5894
	Paul Keddy	422-7238
	Don MacDougall	424-2287

Newsletter: Debbie Burleson, Ray Pierotti

Mailing Address

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c/o Nova Scotia Museum
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HFN is a member organization of the Canadian Nature Federation.

HFN is incorporated under the Nova Scotia Societies Act.

NEWS - - - - - - - -

October brought the departure of our President, Heather Harbord, to a new and challenging position on the West Coast. Her loss is keenly felt and has resulted in the addition of two new faces to the executive. Rosemary Barbour has taken over as Treasurer, while Will Robertson has filled the dual position of Secretary and Membership Secretary.

Membership fees for 1978 have been raised to $5.00 for individuals and $7.00 for families. The increase was necessary to cover increased costs in printing and mailing newsletters and flyers. Don't forget to renew your membership soon so as not to miss any newsletters!

An organizational meeting of the newsletter staff was held in October. Several new volunteers have joined the group and it is hoped that this additional help will enable the newsletter to be published on schedule in the future. Many thanks to Jim Reid who single-handedly edited the newsletter during the summer months. Lack of input by members has been a serious handicap to the newsletter and we hope you all will make contributions in the form of articles, drawings, poetry or brief notes. This material should be sent to Ray Pierotti, Biology Department, Dalhousie University.

The October meeting was a roaring success with Tim Randall and Howard Ross as speakers. Tim provided a most interesting slide talk on the HFN conservation corp's work at Martinique Beach. Howard gave us a fascinating look at Sable Island and its plant and animal inhabitants. Many thanks to both for their excellent slides and relaxed commentaries.

Merry Christmas and Happy New Year to you all! We will be looking for you at our first meeting of the new year on January 5, 1978.

Kathy Aldous.

NOTES

ENDANGERED SPECIES: Review of Law Triggered by Tellico Impasse-

"To condense the evolution of life on Earth... suppose the whole history of the planet is contained within a single year. The conditions suitable for life do not develop until late June. The oldest known fossils are living creatures around mid-October, and life is abundant.. by the end of that month. In mid-December, dinosaurs and other reptiles dominate the scene. Mammals... appear in large numbers only a little before Christmas. On New Year's Eve, at about five minutes to midnight, man emerges... The period since 1600 A.D., when man-induced extinction began to increase rapidly, amounts to three seconds, and the quarter century just begun, when the disappearance of species may be on the scale of all the mass extinctions of the past put together, will take another sixth of a second - a twinkling of an eye in evolutionary time." Norman Myers, in Natural Resources Defense Council Newsletter.

EDITORIAL - - - - - - - - - -

The editorial is a new feature of the HFN newsletter. Every issue will have an editorial opinion page where members of HFN can express their feelings over controversial matters concerning conservation and nature. Anyone is welcome to submit an editorial, and we will print anything short of outright slander. So please feel free to submit and then I won't always have to write the editorial as I did this month.

Love,

The Editor.

MINDLESS IN THE WATERS -

There has been a rather disturbing trend in the world of cinema in recent years. This is the tendency to view nature, and particularly certain types of animals, as vengeful and/or outright malignant. If these films were attempting to document, however amateurishly, the responses of nature to human excesses this might be excusable, albeit a touch misguided. However, these films seem to have no other motive than to show a considerable amount of gore, and to make a great deal of money.

The two prime examples of this genre are "Jaws" and "Orca". At first perusal, these films would seem to have no overall effect other than to create a desire for vacations away from the ocean, but at their core they are far more noxious in their impact on the mass subconscious. Both films bring across a basic message: that is, no matter how brutal man can be, nature can be even more brutal, cold and unfeeling.

A disturbing result of both films has been that certain people, after having seen these films, take it upon themselves to shoot and kill these "monsters from the deep". The summer "Jaws" was released a baby whale was stranded on a beach in Florida. Amid screams of "Shark", a heroic crowd proceeded to stone and club the helpless infant to death. Since the yahoos responsible for such behavior obviously couldn't tell a shark from a baby whale, or a porpoise, the potential for harm to already threatened species of marine mammals is obvious.

Even worse than "Jaws", however, which is at least a well-made film is "Orca". This film which purports to show the vengeance wrought on a Newfoundland fisherman and his village by an Orca, or 'killer whale', is cynical beyond belief. The film, despite its efforts to anthropomorphize the whale, only succeeds in cheapening it, and by implication, all of the natural world. While there is little doubt that some animals, including whales, have strong social bonds and feel loss at the death of a mate, only Homo sapiens seems to stoop to vengeance and wholesale slaughter for no purpose. Regardless of this movie, there has never been a documented report of an attack on a person by a killer whale (If only the reverse could be said to be true).

In closing, I would like to request that all members of HFN boycott "Orca" and other films like it, and encourage others to do likewise. One of our major purposes as naturalists should be to defend nature against not only physical damage, but against slander as well. And only when trash films like "Orca" fail to make money will films of this nature cease to be made.

Respectfully

Ray Pierotti.

It's not 'just A seagull'

City dwellers become more aware of birds in winter. At least I get more phone calls about them. Maybe birds fill more of our need for contact with nature, otherwise dormant. Most people ask about bird feeders. Feeders concentrate and rearrange nature for our pleasure, like gardens in summer. But people are not merely attracted by fine feathers. They seem to enjoy being told that "their" bird is unusual -- a laggard from a Fall migration, or a stray from afar. Don MacDougal spoke recently about the sense of time and space that is the gift to us in a wild bird. Mere listing or "ticking" is only part of the game; the serious birder spends much more time poring over books and journals for fine points of appearance, variations, or geographical distributions, so to know the birds in a deeper sense.

I get a lot of pleasure out of a Sunday afternoon's tour of the Halifax and Dartmouth waterfronts to scrutinize gulls. The city is a large feeder, whose dependents are less well known to the public than are the Chickadees, Grosbeaks and Blue Jays of our backyards. Here is a little survey of the Gulls with something of their whithers and whences.

1. The everyday Herring Gull gives us a baseline. No doubt our local populations are replaced and augmented by northern birds, for they breed into the Arctic. Most seen in winter are adults or near-adults, as the dark first-year birds generally winter farther south. Note that the spanking white heads of summer adults become streaky in winter, whitening again towards spring. Occasionally a very white-headed bird stands out in winter, but whether this is just an excess of androgens or indicates geographical origin (European birds are said to stay whiter) cannot be said.

2. The familiar and easily recognized adult Great Black-backed Gull is much as in summer. Immature birds can be distinguished from among other large, grubby gulls by size and massive bill. They are also more whitish and mottled than young Herring Gulls, and show distinct tail bands when flying.

Although Nova Scotia's only record of the Lesser Black-backed Gull (from Iceland or Europe) is a perennial winter visitant to Digby, they should be watched for around Halifax. Although dark-backed (generally slaty) like the Great Black-backs, they are about Herring Gull size or smaller, and have grubby heads in winter. They seem to occur commonly off southern Greenland in winter, and are increasingly regular in eastern North America; perhaps a few stay to miscegenate with Herring Gulls in remote colonies.

3. Our Iceland Gulls, truly winter bird here, are fascinatingly variable in size and plumage. In adults the backs (mantles) are distinctly paler than those of Herring Gulls. Their rounded foreheads, smaller bills, and buoyant, stern-high setting on the water make them much more attractive than the slightly larger Herring Gulls. The young are varyingly marked with sooty or brown streaks, but the ground colour is always white or pale buffy grey. The dark bills of the first-year birds, becoming pale at the base in the second winter, are much more slender than those of Herring Gulls.

Last year was an "Iceland Gull winter" in Halifax-Dartmouth, perhaps another reflection of the continent-wide severity of that winter. They usually come in numbers only well into the new year, probably when ice becomes heavy in the Gulf of St. Lawrence. Most of our birds hail from southern Baffin Island and are distinguished as Larus glaucoides kumlieni, or "Kumlien's" Gull. Birds of this race as adults generally have varying amounts of grey or even blackish markings on the wing tips, which can look quite dark when the birds sit. Some "Kumlien's" may lack the dark markings, and cannot be distinguished with certainty from individuals of the populations of Greenland and Iceland, which are said to occur here.

The truly keen might look (as some of us have done vainly for several winters among the Iceland Gulls for a stray Thayer's Gull. This form has only recently been removed as a race of the Herring Gull where it certainly doesn't belong, and given full species status. It nests in the high Arctic of Canada and migrates to the west coast in winter. A few have been spotted in eastern North America since birders have begun to "list" it. It has the size, shape, and manner of an Iceland Gull, but its mantle is as dark as or darker than a Herring Gull's, the darkish on the wing tips is restricted (like an extreme "Kumlien's" Gull), and its eyes are dark. To add to the confusion, eye pigment and feather pigment in the "Kumlien's" Gull are corelated so that, as you might imagine, all this can lead to endless, hopeful (or hopeless) scrutiny of winter gulls.

The immature Thayer's Gull is small-billed, like the Iceland, but darker, with wing tips usually as dark as or darker than the back.

Evidence of interbreeding among "Kumlien's" and Thayer's Gulls in Baffin Island, and the occurrence of intermediate plumages, may lead to its being resubmerged as a race of the Iceland Gull. Systematic ornithology seems to be on a "lumping" phase, to the consternation of life-listers.

The possibility of hybrids among gulls may depress or elevate the birding spirit, depending on one's view of obscurity and diversity. Last year I photographed a second year gull on the Halifax dump that was the size and shape of an Iceland, with darkish wing tips, and with a relatively massive bill. I think it was the result of a little dalliance between an Iceland and a Herring Gull; not a bird for beginners.

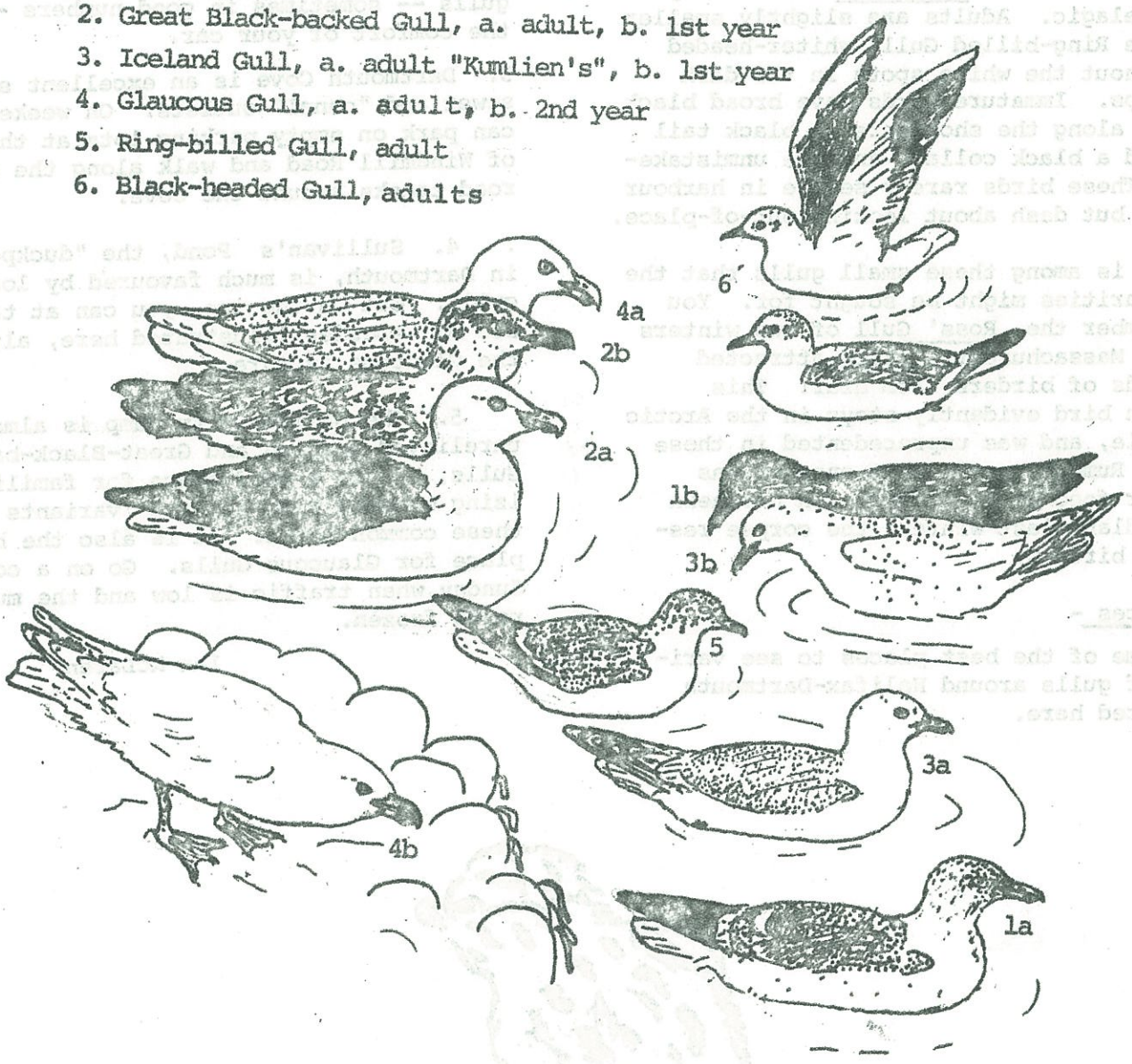
4. Among Glaucous Gulls the second-year birds, like the one sketched, are most conspicuous, as they are whiter-than-white, even on fresh snow. Their first-year and adult plumages are like those of the Iceland Gull, but they are more massive, with robust bills. A useful trait of yearlings is the pale base of the bill, unlike the all dark Iceland Gull's. Glaucous Gulls nest widely in the Arctic, but don't seem to visit us in numbers. They are usually seen as singles, standing around on shore or ice, occasionally snatching things from lesser gulls. Your best bet is the Halifax dump or the nearby ice of Bedford Basin.

5. The smallish Ring-billed Gull hangs back in small numbers in winter, usually as adults. These are more heavily marked around the head than indicated by field guide illustrations of summer birds. They are like small Herring Gulls, the small bill "ringed" rather more obscurely in winter because of the overall darkening of the bill colour. They are usually seen flying lightly around sewer outlets, snatching dubious goodies from the effluent. Ringbills don't nest in Nova Scotia, although they do around the Gulf of St. Lawrence and Newfoundland.

The cognoscenti will want to keep eyes open for a Common or Mew Gull, which closely resembles the ringbill in all plumages, but which has a smaller, plain bill in adults (it can be ringed in sub-adults). There are four sight records for Nova Scotia. Immatures can be identified as to origin; those from Europe have sharply defined tail bands, unlike the Ring-billed or the western North American race of the Mew Gull.

6. Black-headed Gulls grace our harbour in winter. This charming little species is black-headed only in spring and summer, but has an "ear" spot and varying amounts of smudginess on the head in winter. They can be seen in small groups wheeling around sewer outlets or sleeping in small huddles on the shore or the ice. They only began to appear some 50 years ago from their breeding grounds in Europe and Iceland. They now tend to arrive earlier and leave later in the season, and a few may be breeding on our east coast somewhere. A "mystery" gull at Brigantine, New Jersey, in the winters of 1974 and 1975 was thought by some to be a hybrid Black-headed Ring-billed -- the sort of thing that happens when species expand into new territories.

1. Herring Gull, a. adult, b. 1st year
2. Great Black-backed Gull, a. adult, b. 1st year
3. Iceland Gull, a. adult "Kumlien's", b. 1st year
4. Glaucous Gull, a. adult, b. 2nd year
5. Ring-billed Gull, adult
6. Black-headed Gull, adults



An occasional Bonaparte's Gull may linger at sewer outlets well into winter. These are very like Black-headeds, with the same white outer forewing (see sketch of Black-headed with wings raised), but are slightly smaller, have finer black (never red or yellow-based) bills, and lack the dark under wing tips of the Black-headed (see sketch).

Another small gull occasionally turns up in the Harbour, especially after an onshore blow. The Kittiwake is normally quite pelagic. Adults are slightly smaller than the Ring-billed Gull, whiter-headed and without the white spots in the dark wing tips. Immature birds have broad black streaks along the shoulders, a black tail tip, and a black collar, and are unmistakeable. These birds rarely settle in harbour waters, but dash about looking out-of-place.

It is among these small gulls that the great rarities might be sought for. You may remember the Ross' Gull of two winters back in Massachusetts, which attracted thousands of birders from afar. This Siberian bird evidently stays in the Arctic as a rule, and was unprecedented in these parts. Rumour has it that another was shot for food by a fisherman in northern Newfoundland last winter, the corpse rescued by birders.

The Places -

Some of the best places to see varieties of gulls around Halifax-Dartmouth are listed here.

1. Around piers 23-24, where the grain loading facilities and National Sea Products plant are found. The offloading of fish is an attraction. On weekends, you can drive out to the end of the piers and observe several species around the sewer outlets.

2. At the large sewer outlet alongside the entrance to the Volvo Plant, north end of Barrington Street. You can drive down alongside the fence and observe gulls -- sometimes in good numbers -- from the comfort of your car.

3. Dartmouth Cove is an excellent spot, with sewer and "canal" outlets. On weekends you can park on empty parking lots at the end of Windmill Road and walk along the railroad tracks around the cove.

4. Sullivan's Pond, the "duckpond" in Dartmouth, is much favoured by loafing gulls. Out on the ice, you can at times see all species illustrated here, although the Glaucous is rare.

5. The Halifax city dump is almost unrelieved Herring and Great-Black-backed Gulls, but is a good place for familiarizing oneself with all the variants among these common forms. It is also the best place for Glaucous Gulls. Go on a cold Sunday, when traffic is low and the mucky roads frozen.

Ian McLaren

The gull 'problem' & gull 'control'

People that live in areas that adjoin large bodies of water are familiar with gulls. Those individuals that are interested in environmental concerns are probably aware of what is generally called the "gull problem". The exact nature of this "problem" is rarely specified, but it invariably has to do with the great increase in gull numbers that has occurred worldwide over the last 30 or 40 years. If one investigates further, this problem resolves itself into one of three areas. First, there are fishermen who complain about birds eating fish, and others may complain about the possibility of a danger to aircraft. Finally, and perhaps the most serious aspect of the problem is the threat that an increase in the number of gulls poses to other seabirds. Among the prime examples of seabirds said to be threatened by gulls are terns in the Maritimes and the northeastern U.S., and puffins off the coast of Newfoundland.

The solution that is generally suggested to the "problem" of increasing numbers of gulls is gull "control". a concept as nebulous as the "problem" itself. "Control" usually means killing gulls, either by

shooting or poisoning adults, or by the wholesale destruction of breeding colonies by crushing eggs and killing young chicks. The concept of gull "control" is similar to the attempts at "predator control" that have been aimed at wolves, foxes, hawks, cougar and many other species that have had the temerity to prey occasionally on domestic animals.

Unfortunately, in most cases, these attempts at "control" have usually been far more disastrous in terms of both the environment and the economy than any havoc the predators may have wrought. A classic example of this was the elimination of cougar and wolves from the Kaibab plateau in Arizona. This led to a rapid increase in the deer population in the area, and the subsequent starvation of most of this deer herd during a series of bad winters. Perhaps even more significant from the human point of view, however, was the wholesale slaughter of hawks, owls, and foxes that was carried out in the U.S. and Canada for many years because these wild animals were observed taking chickens. The result was that the rabbit and rodent populations in farming areas enjoyed unprecedented success and did extensive damage to grain and vegetable crops.

Even more horrifying than the misguided attempts at predator "control", however, is the sheer ignorance that is displayed by some "controllers". A grimly ironic example occurred in Maine's Muscongus Bay where, during an attempt at Herring Gull "control" in the 1940's, an ignorant "controller" wiped out the only colony of terns nesting in Muscongus Bay, when he mistook their nests for those of gulls. This is a good example of man's disastrous efficiency. It would have taken the gulls several years to displace the terns, if indeed they would have done so, whereas one ignorant human was able to accomplish the same feat in a single afternoon.

A lesson that should be taken from all this is that, whenever possible, nature should be left alone to maintain her own controls. Predator-prey systems, when left alone, usually maintain a fairly stable equilibrium. Perhaps the best example of this is the moose-wolf case on Isle Royale in Lake Superior. A consistent number of both wolves and moose have coexisted on this island for years. If the wolves were re-

moved the moose would over-eat the vegetation and starve. An impressive statistic to consider is that for as long as man has been observing nature no predator species has ever been observed to cause the extinction of any species of prey under natural conditions. In fact, all of the extinctions on record have been due to occasional natural disasters, such as volcanic eruptions, or to the actions, either direct or indirect, of Homo sapiens.

To discuss the problems involved in attempts at gull "control", it is important to analyse the history of gull populations in relation to their ecology. It is difficult to believe in 1977, but around the turn of the 20th century gulls of all species were quite uncommon along the entire Atlantic Coast of North America. This was apparently due in large part to the actions of eggers, and of a millinery industry that required the plumage of thousands of birds to construct the elaborate plumed hats that were popular at the time. Gulls were especially favoured by milliners who continued to buy their skins and wings even after the passage of legislation protecting these birds. In one raid on a milliner's warehouse in Baltimore more than 26,000 gull skins were seized by authorities in 1901.

However, with the passage of legislation, including the Migratory Bird Treaty between Canada and U.S., the gulls began to recover from their persecution. Another important factor in the recovery of gull populations and their subsequent explosion in numbers was the concentration of human populations into large cities. These concentrations of people produced large amounts of garbage and sewage which became important winter food sources for gulls.

Perhaps the most important effect of man upon gull populations, however, has been the elimination of many of the other species that competed with gulls, and other seabirds for small fish as food. Since 1800 man has greatly reduced the numbers of whales, seals, and large fish, such as cod and salmon that feed upon small 'bait-fish'. Once people ceased persecuting seabirds around 1900, these seabird species were free to reap the bountiful harvest of small fish that existed as a result of the elimination of many individuals of other species that preyed on the small fish. Since the turn of the century, gulls have increased greatly in number, but so have other seabirds such as kittiwakes, murres, gannets and fulmars. The numbers of all these species have levelled out in the 1970's, which suggests that two things may be occurring; 1) seabirds have at last saturated their environment, and 2) that as man has turned more to harvesting small fish, such as smelt and capelin, he may be eliminating this food source for seabirds as well.

Having introduced the gull "problem", the "control" problems, and having briefly described the history of gull populations, it seems appropriate to discuss the population ecology of gulls, and then to relate this to the gull "problem" and to possible solutions to the "problem".

Gulls have probably been selected to adjust to 'boom or bust' situations. That is, there are peribds when conditions are extremely bad for gulls, but there are also times when conditions are very good. In bad times, many gulls die and the size of the gull population may decrease rapidly. To make up for these bad times, in good times gulls produce more offspring than is necessary to maintain the population at a stable size and the population increases. Another species that follows a 'boom or bust' cycle is the lemming of the Canadian Arctic. However, in lemmings the 'boom or bust' cycle is quite short, averaging about 3-5 years, whereas in gulls the cycle may be longer.

In the last 50 years gulls have quite obviously been on a 'boom' end of the cycle. However, in the last several years, gull populations have levelled off, or actually declined in many areas. During the same period, populations of several other species of seabirds have shown slight declines as well. Some biologists have attributed this decline in other species to the presence of gulls, but in truth, these fluctuations in the population sizes of

both gulls and other species of seabird may be due to cycles in the oceanic environment that are beyond our current knowledge, or perhaps to indirect effects of man himself.

The species of seabird that are considered to be threatened by the increase in gull numbers are terns and puffins. In actuality, the gulls themselves are probably only a secondary threat to these birds. The primary threat to these species is almost certainly the alteration of their environment by Homo sapiens. Terns, especially, are the most sensitive of seabirds, and are susceptible to any disruption of their environment. In many areas, however, gulls and terns live together in breeding colonies and, only when the terns are disturbed by man, or their food sources are overfished, do terns suffer. It is probably no coincidence that the only tern colonies that gulls seem to affect adversely are those that are also regularly disturbed by man. In many cases, the people who disturb the tern colonies are the same ones who report on the destruction of tern colonies by gulls. Additionally, the only tern colonies that seem to be adversely affected are those in Northeastern North America, which is one of the world's most heavily overfished areas.

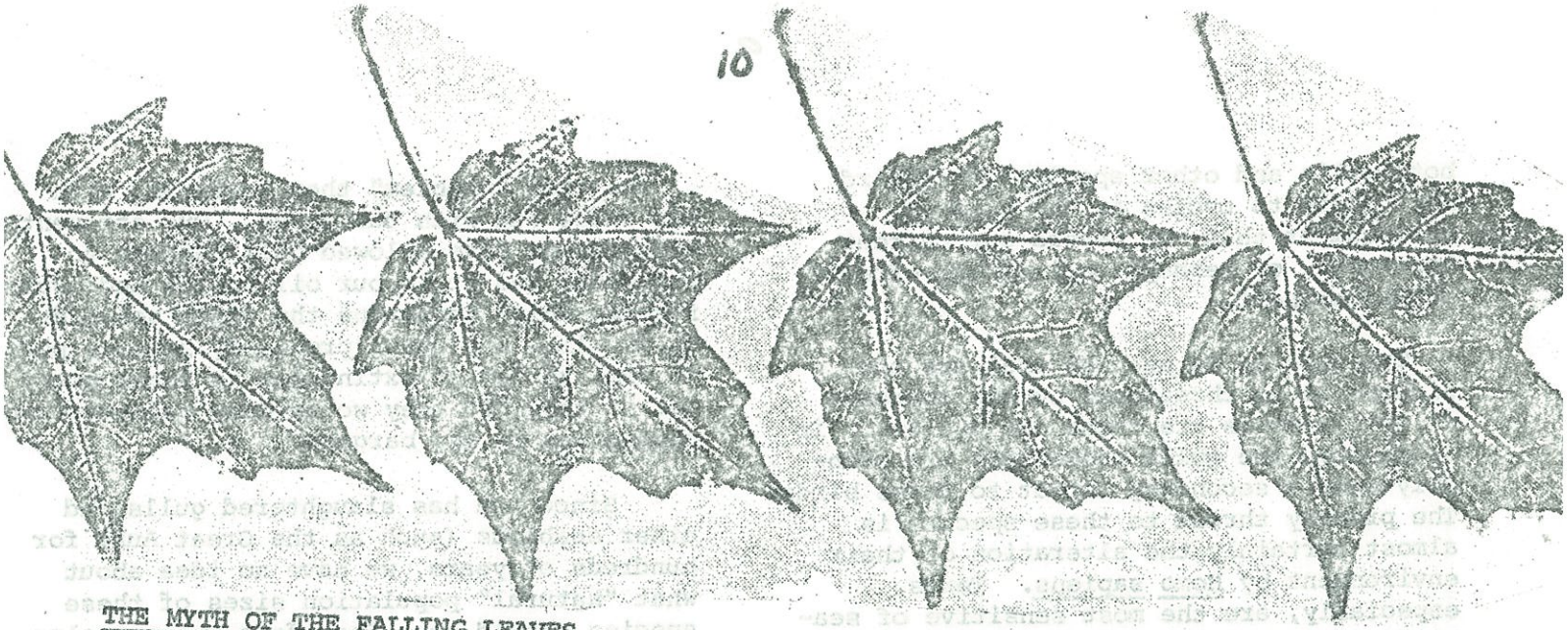
Similarly with puffins, the biggest threats to these clownish seabirds are the possibility of oil spills and the destructio of the capelin stocks that they depend on for food. The gulls are only sporadic predators on puffin chicks, and, very rarely, on adults.

The real "problem" then rests not with the gulls but with ourselves. Our effluent and garbage have allowed gull numbers to increase, and it is our oil spills and over fishing which threatens the other seabirds. Gulls, like any other predatory species pos no real threat of extinction to their prey, for if they did they would only be destroyi themselves in the bargain.

Since man has slaughtered gulls and other seabirds (such as the Great Auk) for hundreds of years, we have no idea about what "natural" population sizes of these species should be. Therefore, we are also quite ignorant of any natural regulation mechanism these populations may have.

Is there any justification for attempt at gull "control"? The answer is "Maybe, but only if very carefully caried out." Destruction of eggs and chicks does very little, if any, good for such practises only reduce competition for food and other resources, and as many chicks survive as ever would have. The best way to control gulls is to clean up our own mess. We must also restrain our destructive tendencies for, although there are hundreds of thousands of gulls, there were once millions of American Bison and billions of Passenger Pigeons. All of our lives would be poorer for the destruction of any species and, over the long run, nature will take care of her own.

Ray Pierotti.



THE MYTH OF THE FALLING LEAVES -

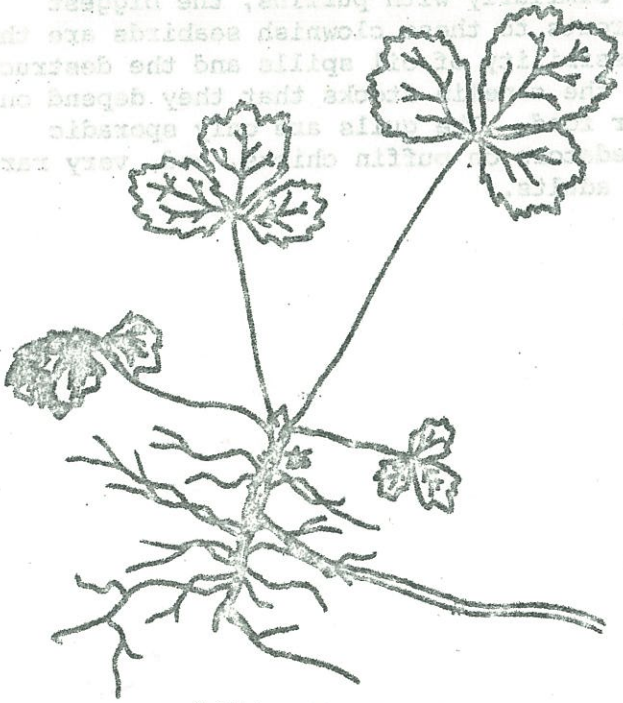
Autumn has been here and is now almost gone! Everywhere carpets of fallen leaves remind one of the artistry of fall that has now disappeared to leave hardwood trees bare of foliage and herbaceous plants withered and brown. The only foliage remaining is that of the conifer canopies which keep their needles through the winter months. Right? WRONG!

True, most hardwoods do shed their leaves in order to prevent the destructive water stress that would occur if transpiration from leaves continued throughout the winter. However, a walk through the woods at this time of year will show that the conifers are not the only species that stay green while the snows fly. Although many woodland plants do die back to survive the winter as seeds or underground buds, others retain their leaves, taking advantage of the blankets of litter and snow that reduce the drying effect of the wind and prevent excessive transpiration.

After the wild lily-of-the-valley (Maianthemum canadense) and star flower (Trientalis borealis) have died, a careful parting of the leafy carpet will reveal the still green leaves of bunchberry (Cornus canadensis), gold thread (Coptis trifolia) and mayflower (Epigaea repens) Later, when snow covers the forest floor, minature forests of lambkill (Kalmia augustifolia) stand above the white banks, their green leaves folded protectively downward.

A non-deciduous habit seems to offer an adaptive advantage to these "evergreens". In the spring they are, of course, the first woodland plants to "appear". Before buds in the tree canopy burst open to fill the spaces above with clusters of shade-casting leaves, these plants take advantage of the photosynthetic energy of the early spring sun, while other herbs must use the energy to produce new leaves. Then, when the canopy above has filled in, the old leaves of goldthread, bunchberry and other evergreen herbs dies as they are replaced with vigorous new leaves that will repeat the long winter wait for spring.

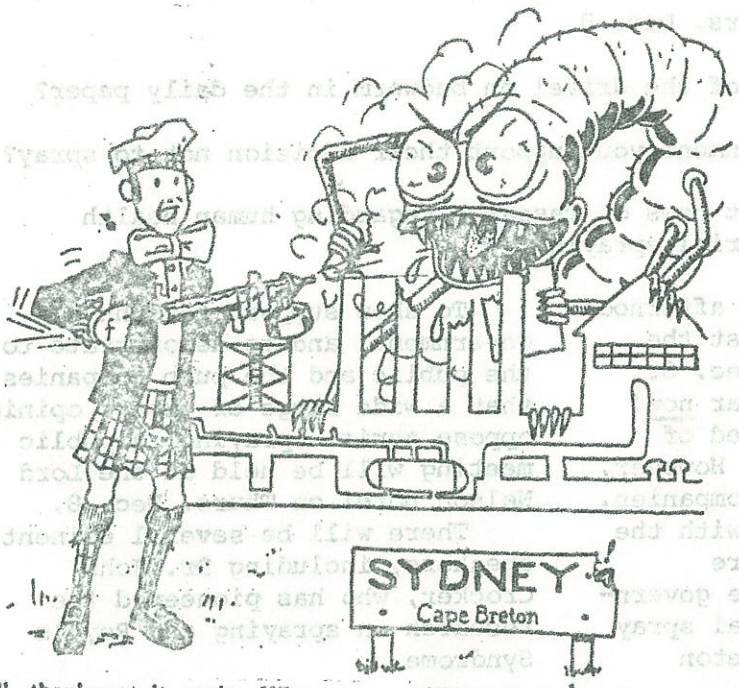
Jane Spavold



goldthread, Coptis trifolia

Nova Scotia Nutbook

Plain Talk



Well, they're at it again. Who are they? The usual. What's "it"? Attacking the economic welfare of this province, and of this paper's publisher, in the interests of socialism and stupidity.

I'm a simple man.

But I don't pull my punches.

Just because I don't know what a paragraph is doesn't mean I can't express my opinions in the pages of this paper, even if nobody else can.

We've got a simple choice: use the budworm spray or lose our chance at a new steel mill.

Make your choice, or you'll soon find that in the world of modern economic forces the choice, which is no choice at all, is but the will of an oil sheik and the dirty unfairness of a world gone sour and the values are not those of the, as can surely be seen.

This is clear.

But other things are not so self-evident (such as why I got this job). One of these not-so-self-evident-things is the connection between the environmentalist kooks and the business concerns of Upper Canada, the promoters of the National (central) policy.

I don't know for sure yet what it is, but I know it's there and I'm working on it.

You'll be the first to know.

They kept us from getting the Concorde, they sabotaged heavy water, they attacked McCains. But all that's not enough. Now they're out to destroy the economy of this province and send us all into the arms of the commies. How, ask you? Simple, answer I. By stopping the budworm spray.

Will they do it?

Yes, if they have their way. Will they have it?

NO WAY!

We've had enough, and we won't take any more. It's time to make a stand. So what if the spray stands a good chance of killing children? So what if it turns your hair green and makes you think you're the son of the devil? So what if it doesn't work anyway?

I say you have to face the facts. Number one:.....

Well, what's the good of getting bogged down by facts. Let's face it; When you see the jerks who oppose the spray, you've just got to support it! The hell with the kids. It'll do them good. Toughen them up. If it works on their minds long enough, they might even grow up to like me.

And write in short sentences.

And be illiterate.

Maybe the spray will fix my typewriter.

It seems to be stuck on indent.

Bull Schmidt

REMEMBER ?

>>

PUBLIC MEETING ON SPRUCE BUDWORM !!!

Lord Nelson Hotel, Thurs. Dec. 8

Are you getting tired of the drivel on budworm in the daily paper?

Want to show the government you support their decision not to spray?

Want to hear the latest news on research regarding human health implications of aerial spraying?

Then set aside the afternoon and evening (or at least the evening) of Thursday Dec. 8. Mark it on your calendar now!

You must be as tired of this topic as we are. However, once again, the pulp companies, in close co-operation with the Halifax Herald Ltd., are attempting to force the government to launch an aerial spray program in the Cape Breton Highlands.

So far their tactics have included: (1) a widely publicized (but deliberately biased) "poll" claiming that a majority of citizens "favour" aerial spraying.

(2)front page claims that the N.B. spray program was "highly successful"---when in fact budworm counts are up in most sprayed areas.

(3)careful side-stepping of the fact that budworm counts in many areas of Cape Breton have gone down this year. (You didn't see this on the front page of our daily, did you?)

To show support for the N.S. government, and to demonstrate to the public and the pulp companies that a wide range of expert opinions oppose aerial spraying, a public meeting will be held at the Lord Nelson Hotel on Thurs. Dec. 8.

There will be several eminent speakers, including Dr. John Crocker, who has pioneered the research on spraying and Reye's Syndrome.

Further details will be announced at our December meeting, and in the media. Delegations will arrive from Maine, New Brunswick, and other parts of eastern North America.

Don't miss it!

(Meeting organized by Cape Breton Land Owners Against the Spray.)

READ THIS PAGE

INVISIBLE ALLIES -

Everyone by now has heard of coliform bacteria. Probably most of us at one time have suffered from bacterial food poisoning or been infected with streptococci. These are potentially dangerous micro-organisms, but how many of us are aware of the myriads of "friendly" microbes which naturally inhabit the soil. Did you know that a gram of good soil contains billions of bacteria, millions of molds, and thousands of protozoa none of them harmful? What are they doing there? Well, if they were to suddenly disappear we would either starve to death or suffocate. These micro-organisms convert dead organic matter to nutrients essential for plant growth.

When a green plant dies and falls to earth, it initiates a food chain and is decomposed by a predictable series of events. Soil food chains are very complex because of the variety and number of organisms involved. They proceed something like this. First, heterotrophic bacteria secrete enzymes into the plant litter leeching out simple sugars and amino acids from the insoluble lignin and cellulose. These sugars and amino acids are immediately used by the heterotrophs as an energy source and as a supply of carbon, nitrogen and phosphorous. The remaining cellulose and lignin is now enriched by the presence of these bacteria and their by-products, e.g. vitamins are an excellent food supply for fungi. Cellulose is readily utilized by the brown-rot fungi. The more resistant lignin, requiring months to years to be decomposed, is preferentially attacked by the white-rot fungi. Brown or white refers to the colour of the wood after the cellulose or lignin has been removed.

Fungi are in turn consumed by predacious bacteria and protozoa. All protozoa do not eat all microbes but show preferences for certain species. In this way they may be responsible for maintaining some crude form of equilibrium in the populations of soil micro-organisms. Finally mites and larger animals consume the protozoa.

By these steps and the decomposition of the members of this food chain, most of the original plant litter is eventually mineralized to carbon dioxide, water, nitrate and phosphate, which are then readily available for new plant growth. The remaining organic plant matter is a recalcitrant substance known as humus. Although not readily decomposed it still serves many important functions such as increasing the water holding capacity of the soil and improving soil structure.

Without these micro-organisms there would be nothing for naturalists to study, indeed there would be no naturalists. Think about them this autumn when you are walking through field and forest.

William Robertson

Want to write or draw for us?

Send your contributions to the Newsletter, HFN, c/o Nova Scotia Museum, 1747 Summer Street, Halifax, N. S.

EVENTS

THE CHRISTMAS BIRD COUNTS -

During the Christmas holiday period birdwatchers throughout North America will be undertaking a census of bird populations in a rite of the winter solstice known as the Christmas Bird Count. Near the turn of the century, at a time when the size of many bird species had ebbed very low as a result of hunting, the Christmas Counts were initiated to replace the previously popular Christmas Bird Shoot. Christmas counts have increased in popularity to the point where now most of the inhabited region of North America is represented by sample Count Areas.

Christmas Counts are made within circular areas 15 miles in diameter on a single day. Birders attempt to count as many birds as possible in representative areas of each of the habitats included in the count area. Counters also keep records of distances travelled and time spent counting so that estimates of population size can be corrected for variation in effort from year to year. The tradition in the Halifax area is that at the end of the day all the participants meet for the tally of the day's numbers and something hot to help them thaw out.

Because Christmas Counts are completed within a rather short period, they represent a "snapshot" of the North American bird populations. From the Counts we can tell the geographical distributions of species and their relative abundances. From the results of different years we can recognize changes in the abundance of species or change in their migration and wintering patterns. Because the results of a particular count will depend on many factors including weather, enthusiasm and competence of the participants and completeness of coverage of all habitats in the count area, these results allow description of only the general trends in bird populations throughout North America. However, such information is of value and an operation of this scope could only be successful with widespread volunteer participation.

Overall the Christmas Bird Counts are co-ordinated by the National Audubon Society (of the U.S.A.) and locally by the Nova Scotia Bird Society. Two different counts are held in the Halifax area and many others throughout the province. If you are interested in participating in a count (you needn't be an expert!) contact the count co-ordinator:

R. Anderson
90 Victoria Road
Dartmouth, N.S., B3A 1V1

Phone: 463-4188

Howard Ross

BOOKS

The Deer of Nova Scotia, by D. W. Benson and G. D. Dodds, is a new publication from the Department of Lands and Forests. If you would like to review it for this newsletter, contact Debra Burleson, 429-4610, to obtain a copy.

HFN PROGRAM

Dec. 1 — MONTHLY MEETING: The Role of Predators
Speaker: Ray Pierotti
Predators, be they wolves, hawks or wildcats, are an unfairly maligned group of animals. Many 'predator control' programs stem from misconceptions. Come and learn more about the fact and fiction of predators.

Dec. ? — Bogs In Winter: Explore Nova Scotia's bogs in the winter season. The date and time for this walk will be announced later.

Jan. 5 — MONTHLY MEETING: Prince Leopold Island
Speaker: Anne Linton
Anne has spent two years working on sea birds in Canada's fascinating Arctic. Come and learn about them.

Jan. ? — Movie Night

Feb. 2 — * 2nd ANNUAL GENERAL MEETING *

Special Address: Title to be announced
Speaker: Rev. Don MacDougall

Slide Talk: A Lighthearted Look At Winter
Speaker: Mary Primrose

Movie: High Arctic - Life On The Land

Election of 1978 Executive

Come and share in our 2nd birthday celebration. Cake and refreshments will be served.

Membership in the Halifax Field Naturalists is open to anyone interested in the natural history of Nova Scotia. Membership fee is five dollars annually, family membership seven dollars. Come to a meeting or write care of the Nova Scotia Museum, 1747 Summer Street, Halifax.

Halifax Field Naturalists new____ or renewal____

name _____

address _____

occupation or interests _____

suggestions for programs? _____

_____

HUNTERS TAKE NOTE

This is the Common Snipe; learn to identify it and shoot only if you are sure.