

Federation of
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FNSN is affiliated with the Canadian Nature Federation.

The FNSN purpose is to further communication and cooperation among naturalists and natural history societies in Nova Scotia. We also work towards a coordinated effort on the provincial level to protect our natural environment.

- We promote the enjoyment and understanding of nature by our members and the general public through education via publications, lectures, symposia, field trips, and other activities; through fostering the creation of nature centres and education programs; and by defending the integrity of existing facilities and programs.
- We encourage the establishment of protected natural areas, as represented in parks, nature reserves, wilderness areas, heritage rivers, and other such protected areas.

- We defend the integrity of existing sanctuaries by exercising constant vigilance against pollution and habitat destruction.
- We promote and engage in funding and research needed for protecting the integrity of all natural ecosystems.
- We encourage and engage in the protection and restoration of threatened and endangered species, with special attention to the preserving essential habitats through: working for the inclusion of all major habitats in a system of protected areas; encouraging and facilitating the reintroduction of extirpated flora and fauna to their former ranges in the province; and encouraging and facilitating the restoration and enhancement of essential habitats.

Visit our website at <http://chebucto.ns.ca/Environment/FNSN/hp-fnsn.html>

or call Doug Linzey at (902) 684-0943 for more information.

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From the editor

It's spring again and our landscape is going through its annual rebirth. Naturalists are busy and generally content with the multitude of changes that spring brings every year. We should all be exulting in the natural world – in its fullness and beauty and diversity and proper place in our human schemes.

But I'm continually reminded that not all is well – contrary to the latest from the Fraser Institute, which would have us believe that the environment has greatly improved in almost all respects since the first Earth Day was proclaimed 32 years ago.

Specifically in Nova Scotia, wild fish stocks continue to decline, irresponsible forestry practices abound, ATVs decimate wetlands and tear up endangered species habitat, and suburban expansion continues apace with little regard for ecosystem or human health. Across the country, national parks are endangered and a majority government still can't bring itself to lend adequate protection to endangered species.

The really grating thing about all this is the persistent imbalance within our governments whereby policies that would enhance both the human and natural conditions are not advanced – to a large degree, they're not even represented. Should departments of the environment not be wholesale defenders of environmental health? Should departments of natural resources not be keenly advancing the restoration and conservation of renewable resources? Should not every level of government have ministries whose sole purpose is the protection of natural assets and the mental health of its citizens?

I think so. It's time to confront the paradox of our destroying the very elements that must in the long run sustain us.

Doug Linzey

Owl Monitoring

Atlantic Canada Owl Monitoring Workshop
Sackville, New Brunswick, 24 November 2001

by Randy Lauff

More than 30 people from Atlantic Canada, representing almost as many groups, gathered in Sackville to discuss plans for creating a region-wide nocturnal owl monitoring strategy. Several presentations addressed survey methods already in use in parts of Atlantic Canada and Ontario. Roundtable discussions followed the presentations and focused on the use of volunteers, survey protocol, survey expansion, and survey management needs.

Key to the training of volunteers would be getting them comfortable with identifying all the owls by their calls, and learning how to distinguish them from other night sounds – like that of the common snipe. Evidently, confusion between winnowing snipe and singing boreal owls has happened in the past.

A lot of discussion was generated regarding the use of tape playback of calls to entice the birds to respond. Some participants preferred not to use playback because they thought that doing so causes unrest, or worse, among owls. Others preferred not to use playback simply to make running



a route much less time consuming. In addition, regional differences in owl fauna will make a standard playback protocol unlikely.

Participants agreed wholeheartedly that every stop in a survey, whether using playback or not, be started with a two-minute silent period; several studies have shown that it is in this silent period that many – sometimes most – of the owls are detected at any one stop. In contrast, Susann Myers presented evidence that showed most of the small number of boreals detected in Cape Breton surveys last spring were detected after the first playback. Addi-

Randy is editor, *Nova Scotia Birds*, and a part-time faculty and laboratory supervisor in the Department of Biology at St. Francis Xavier University. He also represents the Eastern Field Naturalists on the FNSN board.

tionally, for different routes to be most comparable, the audio equipment and recordings used by volunteers would have to be the same, prompting the question of who will fund the purchase of the portable stereos and recordings.

In regions of vast wilderness areas and good road access, route selection tends not to be a problem. For reasons of sound experimental design, routes should not be chosen “because I know there are owls there” or for other biases. However, given the skinniness of Nova Scotia and the lack of reliable

spring roads, many routes may have to be chosen because of availability (i.e., there may be only one suitable 18 km road within the area of interest).

There was a suggestion that different naturalist groups could take charge of doing the surveys in their areas, and that groups would then submit their results to the group coordinating the whole province. The Nova Scotia Bird Society is a natural to coordinate a monitoring program, but as yet this has not been decided.



The Atlantic Canada Nocturnal Owl Survey

Designed to monitor owl populations on both crown and private lands, this survey currently involves volunteers across New Brunswick and Prince Edward Island. The best part is: you don't have to be an expert! Anyone can monitor owls, with a bit of practice.

In 2001, owl survey routes were established in a random fashion across New Brunswick and PEI. *We need your help!* If you'd like to survey a route (or two), please contact Becky Whittam at the Atlantic Region office of Bird Studies Canada in Sackville, New Brunswick. Let her know where you live, and how far you're willing to drive to reach a route. Every attempt will be made to match volunteers with routes near their

homes; however, existing routes will be filled on a first-come, first-served basis.

Participants run their owl survey route once per year, during any evening in April (starting half an hour after sunset). Each route takes approximately three hours to complete, and consists of ten stops spaced 2 km apart. At each stop, participants will play a CD of owl calls (boreal owl and barred owl; boreal owl calls will attract both northern saw-whet owls and boreal owls) interspersed with timed listening periods. Portable CD players and CDs are provided, along with a training CD containing recordings of all possible species that could be heard in the region. Participants record the kinds and

numbers of owls that respond to playback at each stop, and return these data to Bird Studies Canada for analysis.

The goals of this survey are to determine population trends of owls (especially barred owls) in Atlantic Canada, to gather location information on rare or little-known owl species (especially boreal and long-eared owls), and to involve volunteer birders from across the region in active wildlife monitoring. The Atlantic Canada owl survey follows the recently developed North American guidelines for monitoring nocturnal owls. Volunteers can receive a tax receipt for the amount of any expenses incurred while running an owl

survey route (e.g., mileage, batteries, accommodation); they will also receive an annual report of survey results.

Bird Studies Canada hopes to expand this survey across the Atlantic provinces to include mainland Nova Scotia and Newfoundland within one or two years. A volunteer-based nocturnal owl survey is already underway on Cape Breton Island, led by local naturalists. Anyone interested in knowing more about owl monitoring in Atlantic Canada can contact:

Becky Whittam
Atlantic Canada Program Manager

Uncouth Birds of Ill Omen

from *Nature Watch, Guardian Weekly*, Aug 3–9, 2000

by Mark Cocker

It may be wrong to anthropomorphize, but with some birds it's almost impossible not to. The cormorants at Cley Marshes in Norfolk are a classic case. Like a bunch of uncouth heavies, a flock has taken over a manmade island on the reserve as if it were their den. Most of the time they just loaf around preening or sleeping off some heavy fish meal. Their wings and upper parts are a menacing leather-jacket black, although the juveniles sport large white or oily-coloured stains down the front.

Their table manners perfectly reflect the slovenly appearance. Occasionally one will slump down after a spot of fishing with the catch still bulging in its gular pouch. It then thinks

nothing of vomiting the thing back up and catching it in its beak. Finally the bird throws its head up and shovels the meal back down.

Yet this is a delicate performance compared with what happens at the other end. At routine intervals each cormorant shuffles off to one side and thrusts its big webbed feet sideways with the ritual flourish of a sumo wrestler. Then the bird leans forward, raises its tail slowly and fires out a great stream of guano with all the relish of a naughty schoolboy. Historically, the bird always had an unsavoury image. In the Bible, for instance, it was the sort of bird that took up residence once God's vengeance had reduced a place to des-

olation. Cormorants served medieval and Renaissance writers as a metaphor for greed, rather in the way that we use its relative, the gannet.

More recently the cormorant's reputation as a glutton has been revived by various commercial fishing interests, which blame a loss of fish stocks on the increase in Britain's cormorant population. But artificially high concentrations of fish, such as in commercially stocked lakes, create their own kind of ecological syndrome. The birds are simply drawn in by the abundance of prey.

The bird is simply acting as nature's emissary and, as one English town discovered, it doesn't always pay to blame the messenger for the message. One September morning in 1860 a cormorant took up position on a Boston spire and gazed down for several days upon the inhabitants. Eventually a superstitious caretaker took fright at this omen and killed the bird. Shortly afterwards news arrived that a ship, the *Lady Elgin*, had gone down offshore with the loss of 300 lives on the day the cormorant first appeared.

Cranberries in Coastal Wetlands

For many of us, cranberries are associated with a thick red jelly that comes out of a can - ssschlock! - at Thanksgiving and Christmas. But do we associate cranberries with Nova Scotia wetlands? This berry is native to Nova Scotia and can be found growing along the coasts of the province and in inland bogs.

Cranberries often grow in tidal freshwater marshes, along wet shorelines, and on the edges of salt marshes. Another common cranberry habitat is in depressions behind beaches. When sand dunes form along beaches they can create depressions behind them that hold water, and cranberries grow well in these sandy soils.



Large cranberries on Sable Island.



Cranberries were an important food source to Native peoples all along the Northeast Atlantic Coast, and were an essential part of their winter diets. They were also used extensively by colonists, and were even used by the early US Navy to prevent scurvy. They were such an important wild crop in New England that laws were passed to limit cranberry harvests as early as 1670.

Today cranberries are farmed commercially, in large irrigated bogs. They were an important crop in Nova Scotia earlier in the century, and there has been some revival in the last decade. Changes in farming technology have led to amazing increases in productivity - from 20 barrels per acre in 1900 to 140 barrels per acre annually in 1997!

Eating locally grown cranberries is a good way to include local fruit in our diet, and they are available either fresh or frozen year round. While researching this article I discovered how easy it is to make your own cranberry sauce. Just boil a bag of cranberries with half a cup of cranberry-apple cocktail and half a cup of water until it thickens - much better than the stuff from a can!



Jennifer Ford works for the Ecology Action Centre in Halifax. Coastlines is supported by the Henry P. Kendall Foundation. Illustrations are provided by the Museum of Natural History.

We want **you** to write for *Coastlines*! If you enjoyed this column, and would like to be able to talk to others about coastal wildlife or ecology, you could guest write an article. Columns are about 350 words and include an illustration. For more information, call Jennifer Ford at the Ecology Action Centre: (902) 429-2202

An Off-road Vehicle Policy for Nova Scotia

FNSN is working toward a policy on off-road vehicle use in Nova Scotia. Board member and Wild Flora Society representative Barry Sawyer has undertaken over the past year to put together the federation position. The policy is still in draft form subject to approval and comment by member clubs. The final version will appear in a future issue of this newsletter.

There seems to be little neutral ground in the question of off-road vehicle (specifically ATV, or all-terrain vehicle) use. Owners want to be able to use their ATVs and dirt bikes wherever they please, referring generally to their use as a “sport,” which sort of implies a harmless and healthful activity. Most non-owners would just like them to go away or be seriously restricted in where and under what circumstances they can be used.

The naturalist community is particularly interested in two aspects of ATV use: the potential for damage to the environment and intrusion on the quiet enjoyment of nature. At the leading edge of current concern is access to protected areas of the province. The Department of Natural Resources (DNR) has jurisdiction and the responsibility to regulate and enforce regulation in protected areas and much of the crown land in general.

The ATV community is becoming well organized, vocal, and persuasive. It's doing a pretty good job of lobbying

the provincial government for more access, particularly where old roads exist in wilderness (or what passes for wilderness in Nova Scotia) areas. The environmental community, on the other hand, is not as well organized and tends to have little effect in persuading DNR to actively enforce existing regulations regarding off-road vehicles on beaches and in protected areas.

One thing Nova Scotians *can* do is report incidents to DNR of damaging ATV or motor bike use on beaches or crown lands. As Jon Stone of the Canadian Wildlife Service recently wrote on NatureNS, regarding beaches and the potential for damage to piping plover habitat in particular, “Beaches are a provincial responsibility. Anyone wishing to report an ATV on the beach or similar incident should call the local DNR conservation officer, with specific details, *immediately*. There is also a toll free number to call: 1-800-565-2224. Conservation enforcement personnel *do* take these complaints seriously when they are filed, but they *have* to be reported. We need the eyes and ears of people such as Nova Scotia's naturalists to call us when there is a problem.”

Some people are more in favour of dealing with ATV operators as fellow human beings with specific needs and helping them find acceptable places where they can establish trails. One of the problems is that although there

is a credible organization (ATVANS) for ATV operators, it represents only a small fraction (reportedly less than 20%) of the almost 20,000 licensed operators in Nova Scotia).

One thing is clear: we need enforceable legislation – taken seriously by the authorities, whether DNR, RCMP, or whomever – that applies to the most vulnerable parts of the natural environment. And we need to establish credible dialogue among all interested parties, not the politically charged lobbying that exists now. At the very least, the provincial government should establish a task force on off-road vehicle use. We understand that New Brunswick did

exactly that, with an All-Terrain Vehicle Task Force that “was established with a mandate to develop recommendations to ensure that the growing use of ATVs could be accommodated in greater safety and at less risk to the environment.”

The Canadian Parks and Wilderness Society – Maritimes Region and the Tobetic Wilderness Committee (an FNSN member) have both made positive approaches to provincial government MLAs to put forward the view that our very limited existing parks and wilderness areas should be subject to serious limitations on vehicle use.



A Naturalist’s Code of Conduct

In 1997, the New Brunswick Federation of Naturalists adopted a code of conduct.

The guiding principle:

The New Brunswick Federation of Naturalists recognizes that all wildlife has an intrinsic value and that it must be allowed to coexist with us and thrive. It is our responsibility to serve as stewards who look out for the well-being of all wildlife and all habitats.

The code:

1. Advance your own and others’ respect for and understanding of nature.
2. Always put the welfare of wildlife ahead of your desire to view it.
3. Always preserve the integrity of natural areas and ecosystems.
4. Always respect the rights of others.
5. When in groups, individuals must assume special responsibilities.

For details, see the NBFN website: <www3.nbnet.nb.ca/maryspt/Code.html>.

Titus Smith: Nova Scotia's First Scientific Botanist

by Barry Sawyer

In a small park at the corner of Lacewood Drive and Vimy Avenue in Fairview stands a six-foot granite obelisk with the simple inscription, "Titus Smith Died January 4, 1850." This is the only public monument to a Nova Scotian who, during his lifetime was one of our best-known citizens. Widely known and respected not only in the province, he also corresponded with eminent European scientists of his day. Few who pass through the park can have any notion of how important a person he was during his lifetime.

The granite obelisk marks the site of his grave, which, when visited by Harry Piers, curator of the Nova Scotia Museum, and other members of the Nova Scotia Institute of Science in 1936, was still the small fenced patch of forest standing across the (then) Dutch Village Road from the Smith family farm in which Smith had, at his own request, been buried. Piers remarked in an article published in 1938 on how overgrown the forgotten grave of this eminent Nova Scotian had become.

Smith was born in Massachusetts in 1768, son of a Protestant minister. The family migrated to Nova Scotia in 1783 during the American Revolution

and originally settled near Preston, moving in 1796 to the "Dutch Village." Smith was a precocious child, a serious child who grew into a serious adult. By the age of seven, he was fluent in Latin, by twelve in Greek, French, and German. His brother William recalled that "he evinced no desire to mingle in the amusements of children, but always sought the society of those from whom he could derive knowledge." In his twenties, needing a profession, he learned land surveying.

A true polymath, by the end of his life he was a respected botanist, geologist, and agriculturalist (he and his father were pioneers of scientific plant breeding; for many years he published weekly newspaper columns on agriculture). In 1835, he read before the Mechanics' Institute in Halifax and subsequently published an article in the *Magazine of Natural History* (edited by J.C. Loudon, an eminent British botanist) describing a theory of forest succession that, but for minor details, holds up today and "may well have been the first major contribution to plant ecology in North America" (E. Gorham, in *Ecology*, January 1955).

Barry is the Nova Scotia Wild Flora Society's representative to FNSN. This article first appeared in the NSWFS spring 2001 newsletter (vol. 11, no. 3).

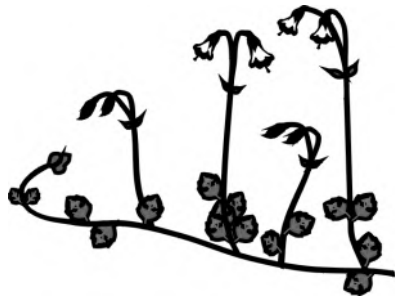
From our perspective, the pivotal events in Smith's career began with a gift from Governor John Wentworth to Rev. Smith of a copy of Linnaeus's great work on scientific plant taxonomy. This gave him the means to become, to quote Harry Piers, "our first true naturalist."

From 1801 to 1803, Smith undertook a commission from Governor Wentworth to survey the mainland, the work for which he is chiefly remembered. In summary, his instructions were to visit the (rather empty) interior of the province, especially "rivers, lakes, and swamps"; to inventory forest resources, with an emphasis on trees suitable for masts and shipbuilding timber; to inventory arable or potentially arable land (it was felt that Nova Scotia needed more settlers); to investigate soils (cultivation of hemp – hmm! – was the object) and minerals; to recommend "drainage works" (dykes?); and to correct existing maps. Wow!

This task involved traversing (as readers will know) very rugged terrain. In all, three major surveys and one minor one were completed: *Eastern*, to the headwaters of the Stewiacke, Musquodoboit, and St. Mary's Rivers (six weeks); *Western*, following the St. Croix river drainage to St. Margaret's Bay, and inland North of Chester, Lunenburg, Liverpool, Shelburne, and Argyle to Yarmouth, exploring the headwaters of rivers draining into the Atlantic and the Lake Rossignol area, and, time permitting, to survey the South Mountain (six weeks); *Northern*, from Wallace to the Minas Basin (four weeks); and a gap-filling survey from Lower Sackville to Stewiacke (one day).

The results were submitted in the form of journals, with ink drawings and descriptive lists of plants and a map (not bettered for 30 years), now in the Public Archives of Nova Scotia. The focus was on trees, shrubs, grasses, and plants with medicinal properties. Smith's astute sociological and cultural observations on Indians, his observations on the decline in wildlife, and his prediction of the consequences of the slash and burn agricultural practices of the day all resonate today. Writing at the dawn of the Industrial Revolution, he believed in a more pastoral ideal, in which if man was a good steward of his environment, he would be repaid with a good life (albeit, perhaps, one without BMWs . . .).

In later years, Smith continued to contribute to the advancement of botanical knowledge in, for example, Alderson's *General Description of Nova Scotia* (1825) and through writing the texts for Maria Morris's *Wild Flowers of Nova Scotia* (1839–40). To the day of his death, aged 81 years, he continued to write on the subjects that interested him, leaving several weeks' newspaper columns to appear posthumously.



Leaving the Model Forest

At its March 24, 2002, meeting, the FNSN board voted to withdraw the federation from the Northern Forest Alliance (NFA). For the past two years, we had been one of some 45 partners, of which about five were in the “environmental” category. Earlier this year, three of the environmental partners pulled out: The Eastern Shore Forest Watch Association on January 23 and the Ecology Action Centre and the Nova Scotia Environmental Network Forest Caucus on February 25. The Nova Scotia Woodlot Owners and Operators Association also withdrew on the 25th.

In a joint press release dated February 26, the latter three demand “that the Nova Forest Alliance, a Model Forest project, do what it is supposed to do: promote leading edge forest practices in Nova Scotia.” They go on to say that their “participation has been used to bolster the credibility of industry partners and the Nova Scotia Department of Natural Resources” and that they now understand that they “were co-opted into an effort that allows forest companies to claim publicly that they are participating in a multi-stakeholder process along with environmentalists and woodlot owners, while having absolutely no intention of implementing any real on-the-ground improvements in harvesting practices.”

The three groups decided that “maintaining their partnership in the NFA will lend a false credibility to the NFA and allow the organization to

apply for model forest status before it has developed a process that recognizes and represents the concerns and interests of all stakeholders.”

FNSN board member Jill Comolli and her colleagues in the South Shore Naturalists Club put in a lot of time and effort to analyze the situation with the NFA, which was in the process of finalizing a draft plan for the management of an independently funded Nova Scotia Model Forest apart from the Fundy Model Forest. They concluded that, given the performance of the NFA since its inception and the withdrawal of organizations with more experience than FNSN, our continued membership would not result in the NFA meeting its stated vision or objectives. Rather, a united voice from outside the NFA might have more influence with the funding organization.

Member clubs were aware of the situation, and some had discussed it to one degree or another. The directors discussed at length the motion to withdraw. Generally, the federation believes that in the long run more can be accomplished from a position on the inside rather than pounding on the door from the outside. In this case, however, the inside position was looking dire, and the board voted for withdrawal.

Now, of course, we have a responsibility to encourage the funding agency – Natural Resources Canada – to encourage, in return, the NFA to take seriously its stated vision: “to achieve

sustainable forest management through a cooperative partnership within the context of Nova Scotia's Acadian forest ecosystems.”

The twig that broke the Alliance's back was the recently released Genuine Progress Index (GPI) Forest Accounts report. It paints a dismal picture of Nova Scotia's forestry practices: clearly unsustainable, ecologically damaging, and not economically viable in the long run. Unfortunately, the chairman of the NFA publicly denigrated the report,

which has been otherwise favourably received as being reasonably impartial and scientifically valid.

You can visit the NFA on line at <www.novaforestalliance.com>.

The GPI Atlantic website is at <www.gpiatlantic.org>. The Nova Scotia GPI Forest Accounts report can be ordered from this site (\$35 each for the two volumes). For an abstract, see <www.gpiatlantic.org/abstract.html>.



The Amphibian Tongue

In 1911, J. Arthur Thomson, a prominent Scottish biologist, published *The Biology of the Seasons*, in which he describes the ontogeny of the frog from egg mass through tadpole and into fully developed frog. Coming into tadpole season, we were particularly taken with his description of the development of the frog's tongue.

But it is equally interesting to go into minute detail and notice the young tadpole's small tongue has not much muscularity about it; that as long as the tongue increases in size the muscles also increase, but yet are quite unable to move the tongue, though perhaps of some service in compressing glands; and that, as the metamorphosis is accomplished and the frogling hops ashore, the muscles of the tongue are at length strong enough to shoot out the tongue on the daydreaming fly.

The peculiar interest of this is that Amphibians were the first animals to have a movable tongue, that of fishes being even worse than flabby, entirely non-muscular.

It is very interesting to consider in the same way the other momentous acquisitions made by the race of Amphibians such as fingers and toes, and the power of gripping things, vocal cords, and the power of speech – though how much they have to say in their extraordinary jabber no one knows.

Binoculars – for Botany?

by Charles Cron

So you want a pair of binoculars. To make an intelligent decision you must first determine what you need – you must know what you want to do. Some types are designed to be used in marine environments (waterproof and fog-proof), others primarily for star gazing (wide objective “fast” lenses), and some for birding, general use, etc.

Do you need binoculars for botanical subjects? Yes – of course you do. That Alpine in full bloom completely out of reach 20 feet down that abrupt precipice – what is it? The bloom in the middle of that patch of blackberry bushes, that you can’t reach without getting nicked by the sharp barbs? What about the minute details of flower structure? Turn the binoculars backwards and look through the objective lens and you have a magnifier (about 2x).

The better the quality the higher the price, but unless you have unlimited funds (and few of us do), there must be a compromise. The better quality optics have fewer problems with flare and other optical defects. If you plan to leave them in the car all the time or use them in higher risk situations, you might be better off with cheaper ones.

For botanical subjects and birds, close-focus ability is most important. It is also useful for studying flighty but-

terflies and insects (such as wasps) that you don’t want to approach too closely. Close focus means you don’t have to leave the trail and trample some of the very flowers you want to study just a little bit off the path.

Binocular Basics

You must learn some of the technology if you are to make an intelligent choice:

- *Magnification* makes the object seem closer. At 8x, for example, an object will appear to be eight times closer or eight times the size you see with the naked eye. Any magnification greater than 7x to 8x will likely require a tripod for reasonable image stability.
- The *objective lens* is the light-gathering lens at the front of the binoculars. The larger the diameter (the second number in the binoculars specification, in millimetres), the better for use in low light, but the heavier the binoculars.
- The *exit pupil* is the eyepiece aperture diameter. Aperture size is a function of the magnification and the objective lens diameter (e.g., a pair of 7x35 binoculars has an exit pupil of 5 mm). The maximum diameter of the pupil of a human eye is about 7 mm. 7x50 marine binoculars therefore maximize potential light delivery to

Charles is a photographer and member of the Nova Scotia Wild Flora Society. This article is from the Winter 2001 issue of the NSWFS newsletter (vol. 11,

the eye and image clarity, though at the expense of both extra weight and poor close focusing, neither of which is critical for marine use. But these binoculars would be, on balance, a poor choice for botanical use.

- The *twilight factor* (the square root of the product of magnification and objective lens diameter) is the ability of the binoculars to be useful in low light (e.g., at dawn or dusk, or in deep woods). The twilight factor for 7x50 marine binoculars is 18.7, very similar to the 18.3 delivered by 8x40 birding binoculars. By contrast, 8x23 compacts yield only 13.5. In general, the higher the number the better, though for botanical use close-focusing is more critical. *Optical quality* can also significantly affect image brightness.

- The *field of view* is the width of terrain you can see through the binoculars at a distance of 1000 m; it is sometimes expressed in degrees (angle of view).

- Special *lens coatings* – usually designed to reduce the amount of flare, glare, and other optical distortions – vary by manufacturer and with price.

- *Power binoculars* operate with an image stabilization system by placing small corrective (moving) lenses within the optical system to counteract instrument movement (shaky hands) and allow higher magnification without great increase in weight. Are they worth the higher price? For some they may be well worthwhile.

Making the Choice

For astronomy and subjects requiring optical perfection, the higher priced optics are worthwhile. For most general purposes, cheaper binoculars may be suitable. In my experience, heavier ones are likely to stay at home and be used for viewing birds at the feeder, astronomy, etc. A lightweight instrument would seem most appropriate when you are already weighed down with camera gear and other equipment. Maybe you need two pairs – a good (heavy, fast) one at home for special use and everyday lightweight optics to carry in your camera bag or leave in the car.

Because of their limited field of view and relatively limited low-light capability, compact binoculars are really not very good for birding or marine use. But because they often have excellent close-focusing capability and are light and handy, they are a decent choice for botanical use, where field of view is relatively unimportant, and for travel, where weight and bulk are factors.

Finally, you might consider a good monocular – smaller and lighter than equivalent binoculars. The same principles apply.

Camera stores or sporting goods stores usually have a wide selection of binoculars and monoculars. Many companies produce good literature on choosing an instrument. Read the material *before making a final choice*.

Decide first what you want to do, where you will leave them, how you will use them, and what will serve you best.

Report on the Fish: Situation Normal – in Decline

by Doug Linzey

The Fisheries Resource Conservation Council (FRCC) reports annually to the Minister of Fisheries and Oceans on “conservation requirements” for various fish stocks. This is the group that recommends annual quotas. The latest report, dated January 2002, is *2002/2003 Conservation Requirements for Groundfish Stocks on the Scotian Shelf and in the Bay of Fundy (4VWX), in Sub-Areas 0, 2 + 3 and Redfish Stocks.*

The FRCC takes “the most recent scientific advice from DFO,” it consults with “stakeholders” in Atlantic Canada, and it receives written briefs.

In the cover letter to the minister, the chairman, Fred Woodman, refers to the council’s March 2001 report on “3Ps cod,” in which “we delivered to you a prescription for the management of this stock. The medicine prescribed was a formula for a sustainable fishery in 3Ps [a fishing management zone south of Newfoundland]. Many of our recommendations have been implemented, but in order to sustain this fishery, the total suite of measures recommended need to be enforced. There has been a relaxation of some of these measures.”

That’s just a taste of the general tenor of this report. Leafing through it, one gets the feeling that relaxation

is the norm for DFO.

Woodman expresses concerns that the average Nova Scotian knows instinctively: “Harvesting capacity is still a major problem in Atlantic Canada. Even though actual numbers of fishermen may have decreased in certain areas, the technology to find and kill fish far outstrips the available resource. Closed areas and seasons are ways we are trying to address this problem, by limiting the ability of this capacity to fish.”

The report deals with stocks on the Scotian Shelf: “For most of these stocks, the Council’s advice maintains our past approach. This stability reflects the lack of recovery of many stocks, especially the cod stocks in 4Vn and 4VsW [waters to the east and southeast of Cape Breton]. It is of great concern to the Council that these stocks are showing no signs of recovery with little or no fishing.”

Another perennial problem is the size of, and disposition of, by-catches: “A significant concern to the Council in this report is the increasing catch of fish which have been recommended as by-catch fisheries only. White hake, as an example, has been the subject of restrictive by-catch recommendations in past reports, but catches have been

increasing with the relaxation of allowed levels of by-catch.” There’s that relaxation word again.

There is a clear note of frustration in this cover letter: “In its first full report in November 1993, the Council asked for better information on catches of flatfishes in 4VWX [a huge management zone encompassing most of the waters south and west of Nova Scotia]. This recommendation has been repeated every year since, without implementation. As recently as last November, the Council was simply told by the Department: ‘*Reporting catches by individual species was not implemented in 2001. Implementation of this recommendation is a prerequisite to individual conservation measures*’ [author’s emphasis]. Such a response is clearly not satisfactory.”

The cover letter ends with a hint that perhaps DFO has not done everything in its power to bring the fishing industry on board: “This report again outlines what the FRCC sees as the elements for the development of viable sustainable fisheries. In order for these measures to be effective, the cooperation and goodwill of the fishing industry is required. It is our hope that the industry will afford such cooperation and will endeavour to make these conservation measures operational.”

The bulk of the report, some 90 pages, deals with stock-by-stock recommendations, much of which makes for illuminating reading. Apart from the fishing analysis and recommendations for specific species in specific management zones, the narrative briefly covers

species identification, range, habitat, food sources, spawning habits, and relevant information about such things as sexual maturation and fecundity. Three themes repeat over and over: (1) stocks of most species continue to decline, (2) we don’t yet fully understand the marine world and its inhabitants, and (3) many commercial fish species become more fecund with age. This latter point is important because fish size is directly proportional to age, and the continuing reduction in average size of fish caught indicates that fishing is interfering substantially with the ability of a species to reproduce. In cod particularly, “the fecundity of females at first maturity [age 3] is low then increases dramatically with age.”

Finally, in an appendix, another letter to the minister deals with advice on priorities for DFO science. Here is an excerpt:

“As you appreciate, good information from both science and from the fishing industry are vitally important to our ability to provide you with sound and credible advice on many important groundfish stocks in Atlantic Canada. The need for science in fisheries is clear, and the FRCC continues to be a full supporter of fisheries science both within DFO and the academic community in Canada.

“In the past, the FRCC has made recommendations for specific projects. These remain important, and we note that many of these have already been acted upon. Some have not, such as the need to identify critical habitats (e.g., key spawning and juvenile areas

of many species), and we reiterate the need to accomplish this and other unattained objectives. Nevertheless, in this letter we would like to stress three more generic issues that the FRCC and the fishing industry believe to be essential as priorities for Science in the immediate term:

- a revitalization of the scientific basis of fisheries management;

- improved monitoring and surveying of fish stocks and the environment; and
- improvements in the communication of DFO science.”

One gets the definite sense reading this material that we’ve been over (and over) these topics before.



CNF Nature News

From the Canadian Nature Federation (February 2002)

Canadians want a better law to protect endangered species

The Canadian Nature Federation recently delivered nearly 60,000 petitions to Prime Minister Jean Chretien, and asked him to pass effective legislation to protect species at risk in Canada. The government has indicated it will only support much weaker legislation. Consult the 2001 Endangered Species Report Card to find out more about how your federal and provincial governments are doing in protecting species at risk: <www.cnf.ca/species/report01/grades.html>.

Frogs in the top 40

Ever had an interest in amphibians? Check out the CNF’s award-winning FrogWatch web site, recently voted as one of the Backwash Top 40 Links of the Week. On the CNF’s FrogWatch site, you can listen to frog calls, find out more about frog behaviour, and get

involved in the FrogWatch program. Learn more: <www.cnf.ca/frog/>.

The ABCs of IBA

Do you want to learn more about birds and where to watch them in Canada? Find out more about how the CNF, through the Important Bird Areas program, is working with our partners to build a healthy future for Canada’s birds: <www.ibacanada.com>.

Build a better club, and a better Canada

Are you involved in a local or provincial naturalist organization in Canada? This June, the CNF is holding a series of capacity-building sessions to help you learn more about what it takes to run a successful club, celebrate past successes, look forward to future efforts, and discuss the future of the naturalist movement in Canada. Read more: <www.cnf.ca/members/power.html>.

Announcement

Naturalists clubs from every community in Canada will be gathering for the first time at a national level for:

NATURE POWER

Celebrating Naturalists' Contributions to Nature
Conservation in Canada

Capacity Building and Training Seminar and Conference

June 19–23, 2002

Carleton University, Ottawa, Ontario

Representatives of municipal, provincial and national naturalist organizations will be meeting to learn more about what it takes to run a successful club, to celebrate past successes, to look forward to future efforts, and to discuss the future of the naturalist movement in Canada.

For more information contact

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Federation of Nova Scotia
Naturalists
**2002 AGM and
Annual Conference**

May 31–June 2, 2002
Halifax (Mount Saint Vincent University campus)

Environmental Change – The Good, the Bad, and the Ugly

It's not too late to get in on this year's conference, which focuses on how environmental and climate change are affecting our plant and animal species.

See the enclosed program and registration form.
Non-members are welcome.

