

Manitoba Laws affecting the Conservation of Orchids

by

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Conservation and Biodiversity

As the bumper sticker says, 'Extinction is forever.' And that is a very bad thing. Once a species is lost it can never come back, and we are poorer as a result. The scientist, Edward O. Wilson, in his book *The Future of Life*, shows that unless we are able to drastically change our ways immediately, half of all the species on this planet might disappear by the end of this century. This loss of life could be crucial to us all. For one thing these species provide countless vital ecological services that cannot readily be replaced. For example, they provide food, medicine, water filtering, and carbon storing services, to name just a few. Even more disturbingly, these species likely provide many important ecological services of which we are not yet even aware. Consequently we would be wise to be cautious and modest.

Added to that we must always remember that when we destroy one species or one part of our environment, we upset the balance of nature and harm our environment in ways that we do not expect and cannot anticipate. That is why we must always be cautious.

As David Suzuki said in his book *The Sacred Balance*, Greystone Books (1997) at page 7 "Biologists have learned that the most powerful survival principle of life is **diversity**; there is no single right way that works -- there will be hundreds or thousands." That is why it is absolutely critical to preserve that diversity. Nature needs diversity to find the solutions to its problems. If we don't have diversity, we will have disaster instead. It is just a question of time. Diversity or disaster that is our choice. William Cowper did not say enough when he said that variety is the spice of life. It is much more than that. It is the principle that keeps life going. Variety is the glue of life!

To quote David Suzuki again, at page 124, "Life achieved all that, and continues to maintain its unique handiwork, by means of its extraordinary power to diversify - to adapt to opportunities as they present themselves and to create new opportunities in the process. No single species is indispensable, but the sum total of all life forms maintains the fecundity of the Earth. Thus, diverse array of life itself may be regarded as another of the fundamental elements that support all living things. Biodiversity must take its place beside air, water, earth, and fire, the ancient creators of the planet's fertility and abundance." It is through the marvellous agency of diversity that evolution is able to contrive the stunning durability of life in the face of perpetual challenges. Therefore if we destroy diversity, we risk losing it all.

Diversity is important both for species and ecosystems. In relation to species, scientists talk about genetic polymorphism and it is absolutely critical to the long-term survival of every species. When a

species such as the whooping crane, or the western prairie fringed orchid is reduced seriously in numbers as has recently happened, its long term future is in doubt because the range of its genetic variability has been sharply impoverished and the species ends up with less options to adapt to changed circumstances. A reasonably diverse mixture of gene variations are needed to maintain the health of the species so that it can continue to adapt to unpredictable, but inevitable changes. Without that diversity its range of responses is limited and its chances of success are impaired.

In the same analogous manner ecosystems require species diversity to adapt well to changed environments. The more species that are contained in an ecosystem, the better it is able to adapt to disease, or stresses like drought. While some species die under the stress, others flourish or at least survive. If an ecosystem has some variety it has some chance of success. In any environment, the worst thing is monoculture, because it increases the risk of fatal damage to which the ecosystem is unable to adequately respond.

That is why the best strategy for any ecosystem or a species is to encourage diversity. With it the ecosystem or the species has the best chance to succeed when challenging change occurs. Diversity brings in its wake durability, adaptability, and the ability to renew. All of which are critical to survival of life on our planet. In modern times we have come to learn to our dismay of the risks of a lack of diversity. A lack of diversity makes a species, or an ecosystem, extremely vulnerable to change. The ability to adapt may be lost.

But that is not all. Diversity is important because it is a part of who we are. Every loss of diversity diminishes us. We are less. This is why we must do all we can do to stop this incredible loss. We cannot afford to be further diminished. We should no longer accept any further ravishment of our environment.

Until recently, we have been blessed with an incredible diversity of flora and fauna on this planet. And like uncaring children, we have taken that beneficence for granted. Yet unfortunately that tremendous biological diversity is now shrinking every day, and the rate of shrinkage seems to be ever increasing at an alarming rate. According to one of our leading scientists in this field, Edward O. Wilson, scientists now usually agree, "that the rate of species extinction is now 100 to 1,000 times as great as it was before the coming of humanity. Throughout most of geological time, individual species and their immediate descendants live an average of about 1 million years (some say one thousand years). New species evolved at about the same rate, thus maintaining a rough equilibrium. No longer. Now some scientists believe that globally we are losing from 1 to 3 species every day! Not only has the extinction rate soared, but also the birthrate of new species has declined as the natural environment is destroyed." (Time Magazine April-May 2000 at page 30)

Richard Leakey, another important scientist, has pointed out that there were probably more than twice as many species a million years ago as there are today. He also noted that most of life's experiments over time have ended in extinction. It is estimated that over 95% of the species that have existed in the past 600 million years are now gone. Some think that therefore we need not be concerned about extinction. Extinction is natural and will always occur. Extinction, like death, is part of death. That is

true, but it continues to be important for us to be concerned about extinction, because for the first time the pace of extinction is incredibly fast, and our own species appears to be to blame.

Leakey said, in Time Magazine, Spring 2000, at page 35 "We know that the well-being of the human race is tied to the well-being of many other species, and we can't be sure which species are most important to our own survival." Yet he recognizes that dealing with the extinction crisis is no simple matter, since much of the world's biodiversity resides in its poorest countries, especially in Asia, Africa, and Latin America. He asked important questions. Can such countries justify setting aside national parks and nature reserves where human encroachment and even access is forbidden? Is it really legitimate for them to spend large sums of money to save some species - be it an elephant or an orchid - in a nation in which a sizable percentage of the people are living below the poverty line? Such questions are deeply troubling to us all. Yet I believe conservation is vital to us all. It is important even for poor countries that also have other pressing problems.

It has been estimated by some scientists that more than 11,000 species of animals and plants are already known to be seriously threatened with extinction. Some disturbingly estimate that one third of all coral reefs, the source of an amazing diversity of marine life, are expected to vanish in the next 30 years. Some worry that 15 million hectares of forest are being destroyed worldwide each year, while the plant and animal life that they sustain more and more imperilled. Some scientists estimate that these destructions around the globe are creating the worst record of extinctions since the dinosaurs were eliminated about 65 million years ago.

In the last decade of the last century, the world's forests were reduced in aggregate by 2.43%. It is now estimated that 11% of all birds are now threatened. 12.5% of all vascular plants, 20% of the world's reptiles, 25% of the world's mammals, 25% of the amphibians, and a whopping 345 of the planet's fish.

It would be wonderful if Manitoba avoided this fate being suffered everywhere else, but clearly that is not the case. In Manitoba this decline has been experienced no less than other areas of the globe. For one example, among many, the Tall Grass Prairie that once covered much of our province has now been reduced to about 1% of its original size. As a result, many of the species that depend on that habitat have suffered grievous declines as well. Similarly, our wetlands have been under siege for about a century, all in the name of the god, Progress. The decline would no doubt be even more precipitous if the wetlands had more obvious economic value. Native Orchid Conservation Inc., ('NOCI'), the driving force behind this book is one of the nature organizations in Manitoba that is working hard to arrest this disturbing decline.

One of the most serious problems facing the world today is the continuing relentless destruction of the environment and the species therein contained. Even though many people acknowledge this concern, very little is ever done about it. Some lip service is paid to the problem by politicians, but the most common reaction is that we cannot afford to deal with this problem, and that we must instead concern ourselves with more practical problems, with a more immediate and direct economic impact. This is a disastrously shortsighted attitude, but it is a fact of life. Who can put an economic value on the benefits obtained from clean air, fertile soils, potable water, or natural energy? What would it cost to replace

these, assuming replacement is ever possible? Nonetheless, the short-term view is definitely in control of the seats of power in modern industrial society. Everywhere. There is no denying this. The forces of reaction to any change along environmentalist lines are well equipped to fend off all attacks from naturalists and environmentalists. The status quo is deeply entrenched, and opponents of the status quo have a huge battle ahead of them as they fight overwhelming odds. For that reason nature organizations like NOCI face a momentous challenge.

No individual, no organization, and no government for that matter can tackle at once all of the environmental problems that we face. That is why sometimes it is necessary to face one problem at a time. That is why NOCI concentrates on native orchids and other plants, even though it recognizes that all species are important and worthy of protection.

Opinion polls have demonstrated clearly that a vast majority of Canadians have a strong connection to nature. It is so strong that 8 out of 10 Canadians believe environmental protection should trump the need for economic growth. This was revealed by an Environics International opinion poll conducted in 1999. That is why governments in Canada at times make statements that are difficult to back up. For example the Federal Department of Environment claimed in 1996 that "Canada's environmental record is among the best in the world." That is likely more wishful thinking than fact. As David R. Boyd said, in his book *Unnatural Law: Rethinking Canadian Environmental Law and Policy*, at page 10, "the values expressed by Canadians dramatically diverge from our performance, as a nation, on environmental issues."

Legal Framework for the Protection of Endangered Species

Fortunately some things have been done in Canada and Manitoba to preserve our natural heritage. In Canada the jurisdiction over the environment is shared between at least three levels of government, federal, provincial, and municipal. Some would more controversially add a fourth level of government, namely First Nations. Each government plays an important role in this process and frequently these roles overlap often with mixed results. Mixed in with the various governments is important role played by private nature conservancy organizations. In 1992 the federal government and provinces signed an accord for the protection of species at risk. This was an important first step in the vital process.

The Law of Canada

Canada has established at least 7 statutes which impact on the conservation of our biological diversity, including the Species at Risk Act ('SARA'), Canada Wildlife Act, Migratory Bird Convention Act, Wild Animal and Plant Protection and Regulation of International and Inter-provincial Trade Act, Canadian Environmental Assessment Act, Fisheries Act, and the National Parks Act. All of these play an important role in the conservation of biodiversity.

Species at Risk Act ("SARA")

In introducing SARA David Anderson the Minister of the Environment for Canada at that time claimed that the law was a major step toward protecting species at risk and their habitats in Canada. It was Canada's attempt to honour its obligations under the United Nations Convention on Biological Diversity that it had signed. Anderson went on to add,

The loss of species is a warning light, signaling possible problems ahead for all species. As we learn more about what a species needs to survive, the strategies to ensure survival become clear. Protecting habitat - the places where species live, where they reproduce, where they feed - is essential. Protecting species from the effects of pollution, from over-harvesting and poaching, and from alien invasive species is essential. Finding ways to do this can be challenging, but with the approval of the Species at Risk Act, we are certainly headed in the right direction.

SARA is a step in the right direction, but we should not delude ourselves into thinking it is much more than an important small first step.

Identification of Species At Risk

In order to protect or conserve species it is important to know which species require special protection. We have to know which wild species are in some danger of disappearance. It would not be possible to have an effective protection or recovery program without identifying which species require protection. Therefore it is important to know which species are endangered or threatened. Through SARA the Federal government has established an organization to do that important work. The organization that does that at the federal level is, the Committee on the Status of Endangered Wildlife in Canada or COSEWIC as it is commonly called. COSEWIC produces the official, Canada-wide list of "endangered", "threatened" or "special concern" species.

SARA gives COSEWIC the authority to produce a Canadian endangered species list which is the basis for the wildlife protection and recovery measures of the Federal government. COSEWIC has actually been operating since 1977 and made its first designations in 1978.

COSEWIC examines the risk of extinction or extirpation of species from Canada, based on the assumption that current conditions will continue. All species listed as "endangered" or "threatened" are considered to be at risk of being lost from Canada in the short or near term. It designates some species as being of "Special concern." These species should be scrutinized with care even if they are not in immediate danger of extinction or extirpation in Canada. We must realize though that the neither the loss of these species nor their continued survival can be taken for granted. Experts regularly assess the status of wildlife across the country. The species considered "at risk" are listed in five categories: Special Concern, Threatened, Endangered, Extirpated, and Extinct.

At the time of writing, COSEWIC is comprised of 20 different agencies and organizations, each of which send individuals who act as members, as well as the chairs of its eight Species Specialist Groups.

COSEWIC comprises representatives from each provincial and territorial government wildlife agency and four federal agencies (Canadian Wildlife Service, Parks Canada, Fisheries and Oceans, Canadian Museum of Nature), and three nonjurisdictional members. All members have considerable experience with wildlife and biological science, including ecology, genetics, management, systematics and/or risk assessment, combined with years of field experience. The chairs of the Species Specialist Groups are respected and knowledgeable university academics and government, museum or independent biologists who volunteer their time and efforts. We are fortunate that such people are willing to devote their time and effort to such important projects with minimal personal compensation.

COSEWIC determines the national status of wild Canadian species, subspecies and separate populations suspected of being at risk. COSEWIC bases its decisions on the best up-to-date scientific information and Aboriginal Traditional Knowledge available. All native mammals, birds, reptiles, amphibians, fish, molluscs, lepidopterans (butterflies and moths), vascular plants, mosses and lichens are included in its current mandate.

COSEWIC maintains and updates from time to time, three important lists. These are the following:

Species at Risk - species designated in the extinct, extirpated, endangered, threatened, or special concern categories;

Not at Risk - species that have been evaluated and found to be not at risk;

Data Deficient - species for which there is insufficient scientific information to support a risk or not at risk designation.

COSEWIC's mandate is to assess the conservation status of species that may be at risk in Canada, to report the results of its assessments, including their reasons and uncertainties, to the Canadian Endangered Species Conservation Council (CESCC) and to the Canadian public. COSEWIC makes assessments on the basis of the best available scientific and traditional knowledge, and then is guided by the precautionary approach as set out in SARA. The preamble to the statute provides that,

The Government of Canada is committed to conserving biological diversity and to the principle that, if there are threats of serious or irreparable damage to a wildlife species, cost-effective measures to prevent the reduction or loss of the species should not be postponed for a lack of full scientific certainty.

The function of COSEWIC is to review and approve candidate and priority lists of species for assessment as submitted by the Co-Chairs Subcommittee, using accepted criteria and definitions. It then reports to CESCC and publishes its assessments and reports. It also prepares guidelines, standards and criteria to assess the status of wildlife species, and then forwards them to CESCC for endorsement and to publish them.

Ordinarily at least, COSEWIC does not examine all species of living things in Canada. Rather, its regular Species Specialist Groups include 1) Terrestrial Mammals, 2) Marine Mammals, 3) Birds, 4) Amphibians and Reptiles, 5) Freshwater Fishes, 6) Marine Fishes, 7) Plants and Lichens, and 8) Lepidopterans (i.e. butterflies and moths) and Molluscs. These groups of species collectively account for less than 20% of all the species of organisms known to exist in Canada. COSEWIC does not have specialist groups for

organisms such as crustaceans, echinoderms, algae, micro-organisms, dragonflies, beetles, or spiders as part of its ordinary mandate. From time to time however, it does consider other species if a suitable status report is received from a third party.

COSEWIC has not yet completed its work of reviewing every species in every group it has been asked to investigate. Consequently, its list continues to expand. It takes time to fully investigate and designate species suspected of being at risk. COSEWIC's current list is never complete and requires continual updating. As a result one must use their numbers with care. One cannot reasonably infer from their work whether or not there is discernable trend in the rate at which species are becoming endangered. When COSEWIC began its work the lists of endangered and threatened birds and mammals grew rapidly for that reason. COSEWIC lists contain many fish and plants because the members of these groups of species are so numerous. Lepidopterans and Molluscs are the most recent additions to COSEWIC's mandate. It may be that in future its list may expand even more.

Naturally, COSEWIC investigates mainly those species its suspects are at risk of endangerment. Its evaluation process is very thorough and as a result it is very time-consuming. It has decided that it is not worth its while to focus on species that are obviously thriving. It is not easy to correctly assess any species. As a result of its thorough and objective work, free from political influence it has achieved an enviable reputation for integrity. It has implemented a rigorous criteria system modeled after that used by the World Conservation Union in order to help it arrive at its assessments.

Part of the problem with SARA is that although it produces a very good report, its designations are only recommendations. They are not binding automatically on the government as similar designations in the United States are binding. In Canada, the Federal Cabinet has the authority to decide whether a species should be added, reclassified, or removed from the formal List of Species at Risk. Many scientists wrote to the Federal government urging it to take away this power from the political masters, but this advice was ignored. Many fear this may seriously undermine the effectiveness of the legislation.

At this time COSEWIC has designated 431 plant and animal species at risk in Canada. A few well known examples include the Whooping Crane, the right whale, the monarch butterfly and the blue ash. Two of our Manitoba native orchids have been placed on the endangered species list of COSEWIC.

The first of these is **Small White Lady's-slipper** (*Cypripedium candidum*). It has been classed as endangered. The reason for its designation is that it is a species of wet prairies found in a few widely disjointed and restricted areas. One of the best places to find it in Manitoba is the Tall Grass Prairie Preserve. Most populations of this orchid have low genetic diversity and are subject to threats from habitat modification and loss. Added to that, hybridization with the more common Yellow Lady Slipper does occur and the orchid is subject to competition from exotic species. Sadly, misguided collectors also from time to time remove it from the wild. It was designated as endangered in April of 1981 and that status was reconfirmed in 1999 and 2000.

Another of our Manitoba orchids on the COSEWIC list is the **Western Prairie Fringed-Orchid** (*Platanthera praeclara*). It was designated as endangered because it is a globally rare orchid occurring in tall-grass prairie remnants in southeastern Manitoba with widely fluctuating population numbers and

varied threats to the species and its habitat. The Manitoba Tall Grass Prairie is the best location in the world to find this endangered species. Although it does occur from southeastern Manitoba south to Kansas, it has declined significantly throughout its range. More than 90% of the world's known population of the Western Prairie Fringed Orchid occurs in the Red River Valley of North Dakota, Minnesota, and south-central Manitoba. Probably at one time it was more broadly distributed in southern Manitoba, but its habitat was greatly reduced with the loss of tall-grass prairie in Manitoba. Of course, Tall-grass Prairie has been regularly cultivated to form agricultural fields. Currently in Canada the population of Western Prairie Fringed Orchids is restricted to a 48 km² area around the Manitoba townships of Vita and Stuartburn. During a recent survey, there were at least 8,000-9,000 flowering plants in the Canadian population. This orchid is probably at the northern edge of its range and its abundance is limited by our climate. It is thought to have a low reproductive potential. It is probably sensitive to various periodic climatic effects such as precipitation and temperature. It is feared that the loss of habitat may also be affecting the populations of the orchid's pollinators and consequently reducing its capacity to reproduce. Threats to it have included overgrazing by livestock, intensive hay mowing by farmers, frequent draining of wet areas, fire suppression (which allows shrubby species such as aspens to crowd out, or shade out, the orchids) and the adverse influence of competition with exotic or introduced species. Some plants have been affected by municipal and provincial road maintenance activities such as ditch clearing and spraying with herbicides.

Habitat

Often much of the decline in the population of a species can be explained by a loss of habitat. In fact this is recognized in the preamble to SARA where it is explicitly states "the habitat of species at risk is key to their conservation." SARA recognizes that it is critical to recovery and protection efforts to identify habitat that is crucial to a species' survival or recovery and to find ways to protect it. The federal government claims that the most important part of preserving critical habitat is through making available information, education and stewardship programs. It provides landowners - ranchers, farmers, fishers, cottagers, resource corporations, industries, governments, and others - with information about species at risk found on their properties and explaining what actions destroy critical habitat and what actions can help to preserve it, landowners can make informed decisions about what they do on their land. They use as an example their work with the endangered Eastern Loggerhead Shrike (*Lanius ludovicianus*). This is an endangered songbird with a raptor-like beak, but it requires grasslands or pasture lands for feeding and breeding. It also needs to avoid major disturbances that could be caused by agricultural producers. For example, to thrive it must avoid broad pesticide application around nesting areas between April and August, and must stay away from land where are contained pasturing cattle are contained nearby in order to maintain the short grass the birds need. Such land is increasingly hard to find. Federally supported Stewardship programs can provide help for volunteer teams and free materials are provided to fence suitable pastures so that farmers can use them for their cattle. Programs like this can benefit both the farmer and the endangered bird!

Through SARA, the Federal government intends to protect critical habitat as much as possible through voluntary actions and stewardship measures. Some critics believe that the government is shirking its responsibilities by 'passing the buck.' The federal government has established the Habitat Stewardship Program to assist in such actions. If those measures do not protect the critical habitat, prohibitions against destruction of critical habitat can come into play. The Minister of Environment for Canada, David Anderson put it well when he said, quite eloquently, as reported in Canadian Nature Federation Species at Risk Report Card 2000 (<http://www.naturecanada.ca>),

...a federal law that does not adequately protect the critical habitat of an endangered species is a law of little value. Why? Simple. No habitat, no species. This is not a political argument this is a biological fact. For 80% of all species habitat is the critical feature of their recovery. (emphasis added)

These are wonderful words, but sadly, it is exactly here that SARA has some serious flaws. To begin with, the Act protects only the "residence" of aquatic species and species living on federal lands. Scientists would much rather that SARA referred to "habitat", or even "critical habitat" since these are terms that they understand. They do not understand words such as "residence". In this context, David R.Boyd has said, at page 187,

Residence is a much narrower and more restrictive concept than habitat or even 'critical habitat.' To grasp the difference, imagine an endangered bird nesting in a tree of old growth forest on federal land. Under the Act, a logging company could leave that single tree standing in the middle of a large clear-cut and be in full compliance with the law. The residence would be intact, although the habitat would be destroyed. If the tree were on provincial land, the Act would not even apply.

COSEWIC says that it does not even talk about residence. It talks only about habitat. That is what it identifies. According to some scientists this use of the word 'residence' rather than 'habitat' is an unfortunate attempt to circumvent and avoid the use of the word habitat. They say that the use of such a word is scientifically unacceptable. Moreover, even though SARA provides a mandatory procedure for protecting critical habitat in national parks, marine protected areas under the Oceans Act, national wildlife areas, and migratory bird sanctuaries it does not protect habitat in national park reserves nor does it protect habitat in marine protected areas under the National Marine Conservation Areas Act. Even more important it does not protect habitat on provincial or territorial land, though that is possible at the discretion of the federal cabinet. As the environmental lawyer Stewart Elgie said in testimony before the Parliamentary Standing Committee on the Environment and Sustainable Development in the 2001 Hearings on Bill C-5, The Species at Risk Act, April 26, June 7, (<http://www.parl.gc.ca>),

"it would be difficult to design a more cumbersome, discretion-laden, and delay prone process for protecting habitat."

The law therefore requires that within 180 days of its identification in a finalized recovery strategy or action plan, critical habitat on federal lands or for aquatic species must be protected through stewardship arrangements, or under another Act of Parliament. If not, the critical habitat offence in

section 58 applies. That section makes it an offence to destroy the critical habitat of endangered and threatened species (and for extirpated species for which a recovery strategy has recommended its reintroduction) found on federal lands and the critical habitat of aquatic species. An order by one of the responsible federal ministers ('competent minister') is required before the offence in section 58 can apply. Added to that, regulations to protect critical habitat by directing what can and cannot be done on federal lands may be put in place by the government if critical habitat remains unprotected and, in the opinion of the competent minister, requires protection.

If critical habitat is found on private or provincial lands and is not protected through stewardship arrangements, conservation agreements, or provincial or territorial laws, SARA has another safety mechanism. Section 61 of SARA provides that the government may make it an offence to destroy critical habitat in a province or territory. The Minister must make a recommendation if, after consultation with the provincial or territorial minister, the Minister finds that the critical habitat is not effectively protected.

SARA requires the government to publish information about what is being done to protect unprotected critical habitat in the Public Registry every six months until the critical habitat is protected or no longer needs to be protected.

Jurisdictional Problems

One of the fundamental problems with SARA is a typically Canadian jurisdictional one. In Canada jurisdiction for protecting wildlife is apportioned between our federal and provincial governments. When the government introduced the bill it said that the law would protect habitat everywhere in Canada, and not just federal lands, but provincial lands, and even private lands as well. This is true to only a limited extent. Once again, although the rhetoric was excellent, the performance was lacking. SARA is really much narrower than at first it appears. It automatically protects designated species at risk in Canada but only if the species is aquatic or lives on federal land, not even including federal land in the three territories.

The federal government has responsibility for:

- federal lands,
- aquatic species, and
- migratory birds covered by the Migratory Birds Convention Act, 1994.

Federal lands are those lands that are owned by the federal government, such as national parks, lands used by the Department of National Defence, federal airports, reserve lands and most of the land in the three territories of Canada, but this is a very small portion of land in Canada. SARA does not effectively deal with endangered species on provincial land, private lands, or territorial lands. It has been estimated that it applies to only about 5% of the land in Canada. That is not good enough for effective federal legislation.

There are complicated provisions in SARA that permit the federal cabinet to extend the application of SARA to protect species and their critical habitat in the provinces and the territories if the federal minister of the environment believes that provincial laws are inadequate, but it is very unlikely that these measures would ever be implemented.

In fact a major flaw in SARA is the meek deference it shows to the provincial governments. Although the provinces generally have jurisdiction over wildlife, except for migratory birds and aquatic species, there are strong legal arguments that could be made, and which have been endorsed by leading legal scholars, that the federal government could go much further in protecting endangered species on the basis of its existing powers. Instead we argue over jurisdiction and the species do not respect jurisdictions. They go where they will. As Sergio Marchi so eloquently put it as shown in Hansard, House of Commons Debates, October 31, 1996, at page 5961,

For too many years in this country when it has come to endangered species the time clock has ticked while federal and provincial governments have bickered over the rock that the bird lands on. We argue: is it your rock, is it my rock and what do we do about it?

It reminds me of the Bob Dylan song that laments T.S.Eliot and Ezra Pound battling in the captain's tower while the Titanic sinks. In crucial environmental matters like endangered species, such turf wars can be downright obscene. It is interesting to note that the American statute, the famous Endangered Species Act applies on federal, state, and private land. The same is true in Mexico. Sadly, in Canada our laws are much more feeble than that.

Incentives

One of the more interesting and promising aspects of SARA is its innovative attempt to utilize non-traditional governmental conservation tools. For example, it recognizes that much can be done to aid in conservation of our biological diversity by using positive incentives, rather than relying simply on punishments, as governments are ordinarily wont to do. SARA specifically permits the government to enter into private agreements with individuals and landowners to preserve habitat or species. The government can even promote such private activities with funding. The government is also able to acquire land, enter into easement agreements with farmers or other landowners, and can create action plans. It is also able to use positive funding to encourage conservation activity.

Of course sometimes everyone should share the cost of conserving species. As a result the government is authorized to provide fair and reasonable compensation to anyone who suffers a loss as a result of being severely impacted by the prohibition against the destruction of critical habitat, or of an emergency order which the government makes to protect habitat. It would not be fair in all circumstances to place the burden on landowners.

Offences and Penalties

Although the emphasis in SARA is actually on encouraging species protection through voluntary actions and supported stewardship activities, it also discourages harmful activity by creating offences and setting penalties for committing those offences.

SARA makes it an offence in sections 32 and 33 to:

- kill, harm, harass, capture or take an individual of a listed species that is extirpated, endangered or threatened;
- possess, collect, buy, sell or trade an individual of a listed species that is extirpated, endangered or threatened, or its part or derivative;
- damage or destroy the residence of one or more individuals of a listed endangered or threatened species or of a listed extirpated species if a recovery strategy has recommended its reintroduction.

The following are the range of penalties for a person or corporation found guilty of a SARA offence:

Summary conviction offence (less serious) :

- Corporation - up to a \$300,000 fine for each offence
- Non-profit corporation - up to a \$50,000 fine for each offence
- Individual - up to a \$50,000 fine or up to a prison term of one year for each offence.

Indictable offence (more serious) :

- Corporation - up to a \$1,000,000 fine for each offence
- Non-profit corporation - up to a \$250,000 fine for each offence
- Individual - up to a \$250,000 fine or up to a prison term of five years for each offence.

Depending on the severity of the alleged offence and other factors, SARA offences can be prosecuted as indictable or summary conviction offences. The Justice Department has a discretion as to how it wishes to proceed.

Recovery Plans

SARA establishes a two-step process for protective action for endangered species after they are placed on the endangered species list. Step one is to develop a recovery strategy for endangered and threatened species within 1 or 2 years respectively of listing. The second step is to prepare an action plan based on that strategy to protect these species. One of the problems with SARA is that there is no time limit for completing or implementing the action plan. It is also questionable whether or not the federal government will be prepared to designate adequate resources to implementation of these action plans. Our government is not always famous for putting its money where its mouth is, at least

when it comes to our environment. Too often the government is willing to announce major environmental protection programs, which later are quietly shelved or starved of the necessary funds.

Other Canadian Legislation

Another law that impacts on federal efforts to promote biological diversity internationally, that can have a direct effect on orchids, is the Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRIITA). **WAPPRIITA** is the legislative vehicle by which Canada tries to meet its obligations under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). CITES is the international agreement that attempts to control the trade in endangered species. CITES is an international agreement that protects species of animals and plants that are or may be threatened with extinction by regulating their international trade. Since 1973, more than 160 countries, including Canada, have signed the CITES agreement. These countries are working together to protect thousands of the world's most threatened species. WAPPRIITA, brought into force by the Government of Canada in 1996, provides federal wildlife officers with an enforcement tool to pursue corporations or individuals who illegally import endangered animals and plants into Canada. Maximum penalties under WAPPRIITA for summary convictions are a fine of up to \$25,000 and/or up to six months in jail for individuals, and up to a \$50,000 fine for corporations. For indictable convictions, maximum penalties are a fine of up to \$150,000 and/or up to five years in jail for individuals, and a fine of up to \$300,000 for corporations.

This law played an important part of an interesting legal case that arose in Ontario. In that case the defendant pled guilty in the Ontario Court of Justice, to illegally exporting a rare and endangered species of orchid from Canada to Germany via the United States and England. As a result of the conviction, the defendant was ordered to pay a total of \$3,125 for this infraction, representing a fine of \$2,500 plus a 25% victim surcharge of \$625. The defendant a, resident of Port Stanley, Ontario was charged by Environment Canada under section 6 (2) of WAPPRIITA. It was alleged that the orchid, now named "Phragmipedium tetzlaffianum", was unknown at the time and was smuggled out of Canada for the purpose of identification. He was charged with an offence after he bragged openly of his efforts to illegally smuggle the plant to Germany while conducting a presentation to orchid enthusiasts in western Canada. It is believed that this species of orchid was believed to have originated in Venezuela. They were listed as rare and endangered species (Appendix I) in the CITIES which prohibited the trade and movement of this species.

Manitoba was the site of another case involving WAPPRIITA. A nursery in Winnipeg was fined a total of \$15,000.00 in Provincial Court in Winnipeg for illegally importing endangered orchids into Canada, in violation of WAPPRIITA. Interestingly, five thousand dollars of the fine was ordered to be directed to a non-profit group "Friends of the Conservatory", to build an educational display at the Assiniboine Park Plant Conservatory to house the seized orchids. The charges stemmed from an investigation that showed that the nursery illegally imported rare and endangered Asian Tropical Lady Slipper Orchids into Canada by describing them as hybrid orchids on import documents. The orchids lacked the mandatory

export permits from Taiwan and did not have the required Canadian import permits to verify that they were legally traded under CITES/WAPPRIITA. Customs officers are responsible for ensuring that travelers and goods entering Canada comply with various laws, which prohibit, control or regulate the importation of goods into Canada. The CCRA will prosecute those individuals who make false statements in order to circumvent the Customs Act or other government statutes.

There are other federal statutes that affect the conservation of native orchids in Canada, but limitations of space do not permit them to be considered here.

Provincial Legislation

Since 1990 Manitoba has commenced several initiatives to protect endangered species and their habitat, in order to promote biological diversity. The provincial Endangered Species Act was proclaimed in 1990 and as of the date of this research 20 species have been designated as endangered or threatened pursuant to that legislation. In the same year the province began what it called its Protected Areas Initiative to create a network of areas in which species and their habitat would be protected throughout all of the natural regions of the province.

Manitoba defines a protected area as land, freshwater, or marine area that is legally protected from logging, mining, hydro-electric development, oil and gas exploration and development, and any other activity that significantly and adversely affects habitat in the province.

When the province of Manitoba was created in 1870 there was no law in the province that prevented anyone from killing wildlife at any time in any amounts. Eventually, in 1876 the province passed the Act for the Protection of Game provided some protection for wildlife. The first game preserve, as they were then called was established in 1911. Many federal lands were transferred to the province in 1930 when a provincial department of Mines and Natural Resources was established. That system was completely changed in 1963 when the provincial Wildlife Act was passed. Since then the province began to establish what were now called Wildlife Management Areas ("WMA"). Some of the Game Preserves became instead Wildlife Refuges where the hunting of some species was prohibited. This legislation is currently under review in Manitoba.

Manitoba started to establish a provincial park system under the administration of provincial forests. In 1960 the province passed its first Provincial Parks Act which permitted the creation of provincial parks and recreation areas. The main goal of that legislation was to preserve areas for recreational purposes, but the provincial parks were also expected to help conserve and manage plants and animals to assist to some extent in preserving areas of geological, cultural or scientific interest. Yet mining and forestry were permitted in the provincial parks so long as they did not impinged on recreational uses.

In subsequent years with the growing recognition of the importance of ecological concerns increasing numbers of people wanted more from their provincial parks than places of outdoor recreation. By the 1990's it was generally recognized that Manitoba had the most generous laws and policies in the

country that the resource extraction industries could wish for. Yet in 1990 Manitoba became the first province in Canada to sign on to the World Wildlife Fund Endangered Species Campaign.

Protected Areas Initiative

In 1992, Canada's federal, provincial and territorial Ministers responsible for Environment, Parks and Wildlife signed an accord whereby they agreed to complete Canada's network of protected areas. Manitoba had actually committed to start a Protected Areas Initiative in 1989. Since then, the area of protected lands in Manitoba has increased from 350,000 hectares to just over 5.4 million hectares in 2003. Approximately 8.4% of Manitoba's lands are now protected. Lands so set aside in Manitoba include federal and provincial crown lands. As a result of these efforts 16 ecological reserves have been established, as well as 39 Provincial Parks/Park Reserves, 44 Wildlife Management Areas (protected in whole or in part), 1 Provincial Forest, and 2 National Parks.

One of the areas that NOCI believes ought to enjoy protected status is an area near Gull Lake that is often referred to as the Gull Lake wetlands or Scantbury Bog. Dr. Karen Johnson the former Curator of the Botany of the Museum of Man and Nature, and certainly one of the recognized experts in the area of Manitoba plant biology and one of the scientists instrumental in creating the Ecological Reserves Act of Manitoba (the "Ecological Reserves Act") has said that these wetlands have more rare and unusual plants, including rare native orchids and carnivorous plants than any known site in Manitoba. NOCI has conducted a botanical survey of the area during 1998 and 1999 during which time it found 350 plant species in the wetlands, including 28 native orchids. It also found 8 species of insectivorous plants including the rare oblong leaved and linear leaved Sundews and Horned Bladderwort. In all 23 species of rare plants have been identified in this area by NOCI.

A large part of the Gull Lake wetlands is made up of a calcareous fen, which is in itself rare in North America. Only a handful of such fens are left in North America. Such fens in Minnesota for example are being fully protected. In Canada Quebec is a leader in preserving wetlands. Manitoba has much to learn from these jurisdictions. Many jurisdictions are beginning to realize the importance of wetlands and establishing the most important of them as ecological reserves. More and more managed nature preserves are being set aside. NOCI asserts that it is very important to protect this area from destruction. The Ecological Reserves Advisory Committee has recommended that this area be protected, but NOCI will not rest until this goal is fulfilled. NOCI is working towards identifying other areas that could be protected to preserve our biological diversity.

In 1993 the province for the first time enacted legislation that permitted it to designate areas in parks where it would no longer permit intensive recreational, forestry, mining, or hydro-electric development. The legislation that authorized this was the new Provincial Parks Act. Pursuant to that legislation a new provincial parks system was designated in 1997. However, conspicuously, the law still allowed for resource extraction areas in the parks, but for the first time, in some areas at least, little or no extraction was tolerated.

One of the tools the Province of Manitoba uses to help conserve and protect our biological diversity is the Wildlife Act. Section 2 (1) of that statute provides that if the province "is satisfied that the wildlife resource of the Province would be better managed, conserved, or enhanced, it may, by regulations, designate areas of the Province as a wildlife management area."

The Act provides that the Province may designate Crown lands or "any other type of area that the Lieutenant Governor and Counsel may specify" as a wildlife management area. It also states that Manitoba may designate Crown lands and lands other than Crown lands as

- a) animal control areas;
- b) game bird refuges;
- c) managed hunting areas;
- d) wildlife refuges; or
- e) any other type of area that the Lieutenant Governor and Counsel may specify.

S.3 (1) of the Act then goes on to provide that

Unless otherwise provided by this Act or the Regulations, the designation of an area for the better management, conservation and enhancement of the Wildlife resource of the Province in accordance with s.2 does **not** limit or affect the uses and activities that may be undertaken in the area, and the Minister may make regulations as the Minister considers appropriate

- a) respecting the use, control and management of an area;
- b) authorizing, regulating or prohibiting any use, activity or thing in an area;
- c) authorizing the construction, operation and maintenance of any building, structure or thing in a wildlife management area. (emphasis added)

This permits the province to impose restrictive uses of the area if it chooses to do so. S.6 of the Wildlife Act permits the Government of Manitoba to acquire land required as a designated area for the purposes of the Act. This is a very flexible legislative tool that the Province of Manitoba may use to conserve protected areas. This method of preserving a protected area is usually used where the use of the area is only **partially** restricted. Although conditions could be designed which are very restrictive, ordinarily this statute is not used for that purpose, but it is interesting that it was used to establish the Tall Grass Prairie Preserve which contains some of the most endangered orchids in Canada.

Since 1997 the province began to look at all of the WMA's to determine if any of them could become a protected area instead. Mere designation as a WMA does not make it a protected area, for as the statute specifically says, it does not of itself prohibit any particular use of the land or species on it.

A higher degree of protection is ordinarily provided by the Parks Act which can also be used to establish a protected area. The Parks Act provides in s.5 that,

in accordance with Park classifications and land use categories, the purposes of our Provincial Park system include the following:

- a) to conserve ecosystems and maintain bio-diversities;
- b) to preserve unique and representative natural, cultural and heritage resources;
- c) to provide outdoor recreational and educational opportunities and experiences in a natural setting.

The Government has also given itself the power to designate land as Provincial Parks by regulations. S.7 (2) provides that each Provincial Park is to be given a name and classified as either a Wilderness Park, a Natural Park, a Recreational Park, a Heritage Park, or any other type of Provincial Park that may be specified in the regulations. If property is to be designated as a Wilderness Park, "the main purpose of the designation is to preserve representative areas of a natural region." It is to be designated as a Natural Park, "if the main purpose of the designation is both to preserve areas of a natural region and to accommodate a diversity of recreational opportunities and resource uses."

S.32 of the Parks Act provides that the Government may, make regulations for the purposes of specifying "activities that can not be undertaken in a Wilderness Park or any area of any other Provincial Park that is categorized in the Wilderness, Back Country or Heritage Land use categories." Thus the government of Manitoba could make the restrictions inside the park as restrictive as desired. But nothing requires any of these restrictions!

S.33 of the Parks Act provides that the Province "**may**, in respect of Provincial Parks, make regulations...

- (d) respecting the protection of soils, waters, fossils, natural features, air quality and cultural, historical and archaeological resources;
- (e) respecting the protection of flora and fauna, the taking of specimens of flora and fauna for scientific or propagation purposes, and the destruction or removal of dangerous or super in abundant flora and fauna;...
- (f) governing the prohibition and regulation of activities in Provincial Parks by the posting of signs and notices...
- (g) prescribing the minimum and maximum of periods of stay of persons, vehicles and other conveyances, and equipment;...
- (h) respecting activities of Provincial Parks and the issuance, terms and conditions, renewal and cancellation of licences and permits for activities;
- (i) prohibiting and regulating commercial activities;
- (j) respecting the removal and use of resources in Provincial Parks and prescribing restrictions and conditions respecting the removal and use of resources...." (Emphasis added)

The Province of Manitoba has used the Parks Act in the past to designate areas as protected areas. In such areas, again by regulation, the Province can be as restrictive as it wishes to be. It can however leave pedestrian access or other forms of access as it desires. This is not the best legislative instrument for the province to use in designing the appropriate many protected areas since it could not as easily prevent damage from neighbouring development. It was for that reason, for example, that NOCI, did not argue to use this vehicle to establish a protected area for the important Gull Lake wetlands. It prefers that an ecological reserve be established pursuant to the Ecological Reserves Act instead.

The most effective means of protecting species is the Ecological Reserves Act, which provides in s.2 (10) that the Province of Manitoba may establish "land in the province as an ecological reserve." That legislation then goes on to provide in s.2 (3) that,

An ecological reserve designated under subsection (2) shall be set aside in the interests of the people of Manitoba to enhance the overall well being of present and future generations of Manitobans.

This recognizes, that laws to establish ecological reserves should also be used to benefit both humans in existence now and future generations. The present generation should not be allowed to compromise the rights of future generations. S.3 of the Act states that,

subject to the provisions of this Act, reserves shall be devoted to, and shall be designed and administered to fulfill, the following purposes:

- (a) to afford opportunities for and to encourage the study of and research into the ecological features of the Province;
- (b) to afford opportunities for and to encourage the enjoyment by residents of the Province and visitors to the Province of the educational and aesthetic benefits of the ecological features of the Province;
- (c) to reserve, for the purposes of clauses (a) and (b) and for posterity,
 - i. unique and rare examples of botanical, zoological and geological features of the Province,
 - ii. examples of natural habitats of rare or endangered plants and animals that are native to the Province,
 - iii. representative examples of natural ecosystems in the Province,
 - iv. representative examples of ecosystems in the Province that have been modified by man and that offer opportunities for the study of and research into the recovery of the ecosystems from modification.

It is noteworthy that the Ecological Reserves Act firmly establishes three goals, education, enjoyment by humans, and preservation of the habitat for posterity. All of these are of course important. None should be sacrificed for any of the others unless absolutely necessary.

By s (1) of the Act, the Minister of the Province who is designated to be responsible for the ecological reserve is permitted by the Act to make regulations respecting the management of the reserve, or regulating the use of the reserves, or any other matter necessary or advisable to carry out effectively the intent and purpose of the Act.

S.8 (1) of the Act legislates that,

"no person shall

- a) enter or pass through a reserve; or
- b) use a reserve in any way or for any purpose; or
- c) carry on any activity within a reserve; or
- d) do any act or thing within a reserve; or

- e) use any product of thing from a reserve; or
- f) remove any product or thing from a reserve;

except in accordance with any regulation made under subsection 4.1 (1) and applicable within the reserve."

In other words one can do **nothing** inside an ecological reserve **unless it is in compliance** with the regulations established. This is potentially very restrictive, though not necessarily so. The Province can make the conditions of the reserve as restrictive as it wishes, or as liberal as it wishes, but this statutory instrument is probably the easiest of the three here considered, for it to use if it wants to make the conditions restrictive. It is thus commonly used to make a restrictive reserve. Yet the legislative tool is a flexible method of establishing a protected area. The Minister may craft conditions to be as strict or lenient as he or she desires in the creation of the particular ecological reserve.

Regulation 12/10/88 passed by the Legislature pursuant to the Act provides in s.2 that,

No person shall enter, use or occupy a reserve unless the persons does so

- a) pursuant to an order issued by the minister under subsection 8 (2) of the Act permitting such entry, use or occupation; or
- b) under the authority of a permit issued by the minister under this regulation.

It is noteworthy that there is no limitation on the ability of the Minister to permit activities under such regulations. Theoretically it could permit anything, logging, mining, hydro-electric development or much less intrusive activities such as hiking, bird watching, or limited structures such as boardwalks or pathways. For example, NOCI would like to see boardwalks or pathways established in the Gull Lake ecological reserve so that members of the public could see and learn what a wonderful place it is. NOCI currently leads small groups of nature enthusiasts to enjoy the glorious array of plants that grow there. Of course, usually ecological reserves are established where the government wants to be restrictive. Nonetheless, the minister is given great flexibility to do what the minister thinks is fit and proper. A permit though must be limited to 12 months. An order could be effective indefinitely.

These tools are flexible enough to provide ample protection of endangered species such as orchids, but could also be used to permit activities that would damage sensitive species. Any one of these three legislative tools could be used to design and craft a protected area. The Province of Manitoba more or less the freedom to do what it wants.

In 1997 the province also passed the Conservation Agreements Act which permits landowners to enter into legally binding agreements which allow for what are called 'easements' to prevent future owners from destroying the natural features of their land. The first of these agreements was signed in 1999 when the Minister of Natural Resources led by example and signed such an agreement that bound future owners as well as him to protect 35 acres of his land in perpetuity. As of this time, 29 of such agreements have been entered into protecting about 900 hectares of land. Apparently the province is actively considering more of such agreements.

In 1989 the province of Manitoba through its Department of Natural Resources together with the Manitoba Habitat Heritage Corporation, the Manitoba Naturalists Society, Wildlife Habitat Canada, and the World Wildlife Fund Canada signed an agreement implementing the important Critical Wildlife Habitat Program. The Nature Conservancy of Canada later joined this group. Through this program it was intended to preserve and protect the remaining critical habitats in Manitoba. They were particularly interested in preserving the native provincial grasslands and the habitats of unique and rare endangered species such as the Western Prairie Fringed orchids and the Small White Lady's slipper.

They noted that less than 1% of Manitoba's tall grass prairie was left in its natural state, making it one of the world's most endangered ecosystems. Before Europeans arrived in Canada only Manitoba and Ontario had such an ecosystem. The largest remnant areas were found in southeastern Manitoba where this group helped to establish the Tall Grass Prairie Preserve. The partners bought the land from private owners as it became available, and this important work continues to this day. Wisely, local representatives have been actively involved in the process through a Local Advisory Committee.

One very interesting research project in the Tall Grass area involved the Small White lady's slipper. This research project involved using a twice-over rotational grazing to complement fires. Through this system, 3 paddocks each are grazed intensively twice each summer for about half a month in June and July followed by even longer periods for the balance of the summer. (see a paper prepared by Helios Hernandez delivered to the Endangered Species Conference in Winnipeg Manitoba in 2001 entitled Manitoba's Rare, Threatened, or Endangered Species: To What extent is their Habitat Protected?) Scientific research has demonstrated that this system has stimulated growth, especially of grasses. It has been theorized that the reason this is so successful is that it mimics grazing of bison that historically roamed over the area as well as intense disturbance by fire.

Importantly for orchid lovers, this area contained the Small White Lady's slipper and the scientists concluded that this endangered orchid benefited from this twice over rotational grazing and fire, perhaps because of decreased litter and shading. Farmers also appreciated that their cattle had good weight gains under the system.

The next major step in the battle to preserve biological diversity by legislation in this province occurred in 1990 when the legislature passed the Endangered Species Act. Three of the first species designated pursuant to that legislation were the charismatic orchids of the tall-grass prairie -- the Small White Lady's slipper, Western Prairie Fringed orchid, and Great Plains Ladies Tresses. All three have been designated as endangered in Manitoba. This is interesting, because the Great Plains Ladies Tresses have not received similar protection under the federal statute, probably because it is more secure elsewhere. After that less glamorous species have been designated as well. The purpose of this legislation is to ensure the protection and enhancement of endangered species in Manitoba, to assist in the reintroduction of extirpated species in Manitoba, and to designate species which are threatened, endangered, extirpated, or extinct. It is designed to complement SARA.

This legislation is applicable to **all land** in Manitoba, including crown land. However no species is entitled to protection under this legislation until it is declared by regulations to be one of threatened,

endangered, extirpated, or extinct. To date, 28 species have been designated as belonging to one of these categories. Like the federal legislation once a species has been so designated, like the three orchids referred to, then it is unlawful to kill, injure, possess, disturb or interfere with the species or its habitat or a resource on which it depends for its life and propagation. Even though this statute permits the creation of further regulations to govern other matters such as the preservation and survival of critical habitat, no regulations are yet in force.

In 1994 the government of Manitoba also established the Manitoba Conservation Data Centre ('MBDC') to create an comprehensive inventory of plant and animal species of special concern and representative plant communities together with an integrated biodiversity bank. The MBDC is part of a network of similar bodies throughout North America. Its role is to develop and maintain a computerized inventory of Manitoba's biodiversity. It obtains information from a variety of respected sources, including private groups or individuals such as NOCI. It uses a geographic information system ('GIS') to organize the information based on scientific information available to it. MBDC like the similar other organizations on this continent uses a standardized ranking system whereby species are evaluated and then ranked on the basis of their range-wide (global-G) status, and their province-wide (subnational-S) status. These rankings can then be used by conservation authorities to determine protection priorities and strategies. For each level of distribution species are given a numeric rank ranging from 1 (very rare) to 5 (demonstrably secure). For example, the Small White Lady's slipper is ranked G4 and S1. This means that globally its is secure, but it is very rare in Manitoba and may be vulnerable here to extirpation if we are not careful.

Local Governments

In Manitoba municipalities are not often thought of as important in the process of protecting endangered species such as orchids, but the fact is that they have important jurisdiction which impacts on many species. Yet often their actions, or inactions as the case, have a profound impact on the state of our environment.

In assessing what a municipality can or cannot do, one must always bear in mind the fundamental principal of municipal law that all authority of local governments is delegated from one of the other more senior levels of government, usually, the provincial government. Yet the powers granted to the municipalities of Manitoba are wide.

To begin with, The Municipal Act of Manitoba provides that,

"the purposes of a municipality are

- a) to provide good government;
- b) to provide services, facilities or other things that, in the opinion of the council of the municipality, are necessary or desirable for all or a part of the municipality; and
- c) to develop and maintain safe and viable communities."

This is rather broad, but shows how the purpose of the municipality can be to do almost anything the members of its governing council deem fit, subject of course to the Municipal Act.

Under that legislation, in section 232 (1) municipal councils are given the specific authority to pass by-laws for municipal purposes respecting the following matters:

- a) the safety, health, protection and well-being of people, and the safety and protection of property...
- b) subject to section 233, activities or things in or on private property;...
- c) drains and drainage on private or public property;
- d) wild and domestic animals and activities in relation to them, including by-laws differentiating on the basis of sex, breed, size or weight;...
- e) the enforcement of by-laws.

These are just some of the many specific authorizations granted to municipalities in Manitoba. As if those powers are not broad enough, the Municipal Act goes on to provide in s.232 (2), that

Without limiting the generality of subsection (1), a council may in a by-law passed under this Division

- (a) regulate or prohibit;...
- (b) deal with any development, activity, industry, business, or thing in different ways, or divide any of them into classes and deal with each class in different ways;
- (c) prohibit a development, activity, industry, business or thing until a licence, permit or approval is granted,
- (d) providing that terms and conditions may be imposed on any licence, permit or approval, and providing for the nature of the terms and conditions and who may impose them,

These provisions in our Manitoba legislation, similar to legislative provisions in other provinces have permitted municipal governments to get heavily involved in the regulation of many activities that affect our environment.

For example, until recently there was considerable uncertainty about how far municipal governments could go in regulating activities in their territorial jurisdictions where senior levels of government were already involved. This issue was recently laid to rest by the Supreme Court of Canada in the landmark case of 114957 Canada Ltee v. Hudson in 2001. That case involved the attempt of a municipal government, the town of Hudson, to regulate pesticide use inside the territory of the municipality. Its bylaw prohibited the use of pesticides except for essential purposes. Pesticide companies challenged the right of the Town to pass such a bylaw stating that regulating pesticides was inside the exclusive jurisdiction of the provincial and federal governments. The Supreme Court of Canada rejected that challenge and unanimously upheld the validity of the municipal bylaw. The court specifically acknowledged that **all** levels of government had an important role to play in environmental protection. No level of government had exclusive jurisdiction.

In fact it was noteworthy that our highest court invoked the suggestion of the famous Brundtland Commission that also gave to us the notion of "sustainable development," that "local governments should be empowered to exceed, but not to lower, national norms" for environmental protection. No doubt this case will be used as a precedent-making pronouncement by many future environmentally vigorous municipal governments. The Supreme Court specifically stated that it is local governments who are best able to respond to specific geographic conditions and local concerns when it comes to the environment. Just like Manitoba, even though there was no specifically enabling provision in the provincial legislation of Quebec where Hudson was located, authority was found by the court for the municipal action in a general provision such as our s.232 (1) quoted earlier to make bylaws for the general health and welfare of their citizens.

Added to that the Supreme Court of Canada also endorsed the application of the precautionary principle (very similar to the principle adopted by SARA):

Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Many legal observers believe that this decision of the Supreme Court of our country will have a huge impact on the future of environmental law in our country. There is little doubt that municipal governments will play a much-expanded role in environmental regulation in the future.

Municipalities can also get involved in establishing Conservation Districts to be established under the Conservation Districts Act in order to provide for the conservation and prudent management of natural resources. In section 2 of that statute it is stated that the purpose of the legislation is The purposes of the Act are "(a) to provide for the conservation, control and prudent use of resources through the establishment of conservation districts; and (b) to protect the correlative rights of owners." A number of municipalities can join to create a conservation district under that legislation. Then after that, such district may then be governed as to some conservation issues at least, by a board composed of appointed by each municipality. Once established, a Conservation District Board has the authority to create a "scheme" which is a plan to carry out the conservation objectives of the statute and for that purpose it may,

- (a) study and investigate, or cause to be studied and investigated such resources of the district as may be necessary to prepare a scheme;
- (b) implement a scheme;
- (c) transfer, for the purposes of maintenance and operation, to an included municipality or other person, jurisdiction, authority, or control, over any works in the district;
- (d) enter into an agreement with the owner of any land for the carrying out of any works considered necessary for the implementation and operation of a scheme;
- (e) issue, subject to provisions of The Forest Act, permits for cutting of forest from protected areas;
- (f) issue, subject to provisions of The Water Rights Act, permits to alter surface water courses;
- (g) recommend the acquisition by the Crown, of any real or personal property necessary for a scheme;

- (h) sell, subject to the provisions of The Water Rights Act, water from reservoirs constructed or operated by the board;
- (i) require the municipality to furnish to the board information pertinent to a scheme.

It is even possible for the Conservation District to designate "a protected area" pursuant to that legislation. A protected area is defined to be "an area that has been designated in the regulations as a protected area and managed primarily for its beneficial effects for resource conservation." There does seem to be some room here for innovation in the future in the protection of the environment by a number of municipalities working co-operatively. In the future conservation districts may affect the conservation of native plants such as orchids.

In Manitoba the importance of municipalities has already been felt in many areas, but perhaps none more than in the regulation of intensive livestock operations ('ILO'). In most municipalities in Manitoba if one wants to construct or operate an intensive livestock operation it is first necessary to apply for and obtain a conditional use permit. This means that the municipality may approve an ILO subject to conditions. For example, it could insist that the farmer provide proof that water resources will not be impaired by the proposed development. Municipalities in Manitoba are given quite a bit of leeway as to what conditions they impose. In particular they have an important role to play in the regulation of animal waste from these operations. And animal waste can have an important impact, both for good and ill, on our environment. And this clearly includes the habitat of endangered species such as native Manitoba orchids. No one is suggesting that this ought to go unregulated. If properly used animal livestock waste can have an important beneficial effect on the environment, but if not properly applied can have a harmful effect.

This is not the time or place to go into detail about the effects of animal waste from ILO's on our environment but a few comments are in order. The effects are not without controversy, at the national, provincial, and local levels. There are at least three important contaminants in agricultural runoff, pesticides, fertilizers, and animal waste products. These substances can contaminate our water system directly, by means such as the aerial application of pesticides, indirectly, by means of leaching after animal waste is applied to crop lands or pasture, or accidentally by means of ruptures or overflowing of manure lagoons. It is interesting to note, as David Boyd said, at page 37, "Although Canada spends billions of dollars to treat human sewage, the far greater volumes of animal manure produced, receive no treatment at all." Now that does not mean Manitoba has no regulation of animal manure. On the contrary, in addition to the municipal regulations already alluded to, the province of Manitoba has implemented some specific regulations for the management of livestock waste. (e.g. see the Livestock Manure and Mortalities Regulation Man. Reg. 81/94)

Now any level of government would have a very difficult time monitoring our agricultural producers since there are so many of them in Canada. Yet often this unenviable task is left to the most junior level of government with the least resources to tackle the problems created by such contamination. Now in the past decade and half the vast majority of farm operations have changed dramatically from small-scale farms to industrial style agriculture. Critics often disparagingly refer to these as 'industrial farms.' Unfortunately our laws have not kept pace. As the Environmental commissioner in Ontario concluded,

"Environmental laws created when small operations were the norm may not address the associated environmental risks that come with more intensive farm operations." (Environmental Commissioner of Ontario 2000a, Changing Perspectives Annual Report 1999-2000 Toronto). It is unfortunately true that environmental laws have not kept pace with the speed of the development of modern farms.

This is particularly true of our municipal governments. Of all the levels of government, the local governments frequently have the least ability to access scientific knowledge and the least financial wherewithal, yet they are expected to make some of the most important governmental decisions affecting our environment. Unfortunately, as a result, those decisions may be based on prejudice, bias, and faulty or outdated information, rather than the best scientific evidence. This can't be good for either our farmers or our environment. All too often local government councils are in a position to be swayed by the most vocal party to any environmental issues that come to them for decisions making. The voice that is listened too often is not the most rational voice, just the most shrill. Important environmental or economic decisions should not be made in such circumstances.

The degree to which municipal governments effectively regulate ILO's will have an important impact on our environment, and hence, naturally, on the orchids of Manitoba. Orchids, being among the most sensitive of plants, require a good clean environment with sufficient safe water in order to thrive. Municipal governments, together with their more senior governments, have a vital role to play in this important relationship.

First Nations

First Nations are not always thought of as governments by everyone, but without treading on controversial ground, they do have at the very least, important government-like functions to play in the management and nurturing of our environment. Aboriginal governments have an important role to play in our environment by virtue of their constitutionally protected rights and powers, which have been increasingly recognized by our courts. Some of these rights have been established by treaty and they can be crucial in the protection of the environment. For example, as Boyd said at page 175, "the strongest legal protection that can be given to a park in Canada is inclusion in a treaty and land claim settlement with Aboriginal People. Because treaties enjoy constitutional protection, and because changing the Constitution Act is a daunting task, parks included in these agreements will be extraordinarily difficult to reduce or eliminate."

At the same time, aboriginal interests can severely impact the ability to create protected areas. For example, in Manitoba, NOCI has been advocating for the creation of an ecological reserve, or at the very least some other protected status, for the important Gull Lake wetlands between Gull Lake and Lake Winnipeg. NOCI wants to achieve that designation because it believes that this area is one of the most important areas in the province for native orchids, carnivorous plant, and other plant species. Yet this area is close to the Brokenhead First Nation territory and no government will act without at the very least seriously consulting with that First Nation, and probably without their consent. Fortunately, NOCI is able to work closely with the Brokenhead First Nation and it is optimistic that in time this important

area will be protected for the benefit of all Manitobans. In some other areas where governments have failed to work with Aboriginal groups, for example in the creation of new parks, the courts of this country have required that governments negotiate with the affected First Nations in a meaningful way.

The Manitoba provincial government has indicated that it won't proceed with protection measure without meaningful consultation with First Nations where their interests are affected. In fact it has signed a Memorandum of Understanding ("MOU") with the First Nations which provides that, new protected areas will be identified and designated only after full consultation with directly affected First Nations. The intent of MOU is to first reach consensus regarding the establishment and management of a protected area with directly affected First Nations before designating a site as protected. It also provides that new protected areas will respect existing Aboriginal and treaty rights of First Nations peoples, or rights under the Manitoba Natural Resources Transfer Agreement. The government also promised that MOU would be interpreted in a manner that is consistent with the provisions of any agreements between First Nations in Manitoba and the government respecting lands, waters and natural resources.

The trend in many parts of the country, especially the north, is to have co-management agreements with First Nations wherever possible. This may improve the protection of species because of their traditional knowledge and conservation values. It is obvious that the importance of First Nations in the protection of species and areas will not diminish in the future.

Private Nature Organizations

Many private nature organizations play an important role in the conservation of native species. For example, the Nature Conservancy of Canada and the Manitoba Naturalists are two of such organizations. NOCI is another private organization that has also made important contributions to the protection of native plants. It is concerned about all native plants and species, not just orchids as its name might imply.

NOCI has worked together with all levels of government and more than one First Nation. These include the rural municipalities of Piney, St.Clements, Ste.Anne, and Lac du Bonnet to name just a few. It has also worked co-operatively with the Buffalo Point First Nation and Brokenhead First Nation.

NOCI has also worked co-operatively with private industry to protect important orchid habitat. For example, one of its significant projects was the identification of important plant habitat that could be excluded from timber sales in South-eastern Manitoba. This required the co-operation of the Manitoba Department of Forestry and resource harvesting industries such as Tembec, Sungro Horticulture, and Premier Peat Moss. Working together they managed have more than 400 hectares of rare plant habitat set aside to avoid the serious effects of resource extraction. Industry government, and nature conservancy organizations thus proved that they could work together to protect important species. This may not be large amount of land, but it is significant in itself, and even more importantly, demonstrates how all three of these sectors can work in partnership to protect our environment. This success might

serve as a model to encourage other non-governmental organizations to do the same, and even improve on their own efforts.

In the course of a mere three years NOCI identified and documented locations containing 35 native plant species of special concern (S1-S3) and 16 native plant species of cultural significance to First Nation people. NOCI notified Forestry of all these locations so this data could be worked into their timber harvesting plans and they have done this. Sungro Horticulture was notified of a large wetland with Ragged Fringed orchids and Rose Pogonia orchids in their licence area and they voluntarily set this area aside. They also helped NOCI to put up a sign that letting people know about the importance of this wetland, and asking the public to help protect it. The information NOCI collected made a significant increase in the data held by the Manitoba Conservation Data Centre. Collecting such information may be important for future conservation efforts of it or other nature organizations.

The Root Problem

Despite these important efforts of various governments and private organizations, many species, such as orchids, are under threat in Manitoba. The fundamental problem of all of these conservation efforts, both governmental and private, is that they merely attack the symptoms. No one attacks the root of the problem. As the noted naturalist Henry David Thoreau said, "there are a thousand hacking at the branches of evil to one who is striking at the root." Thoreau in fact, was one of the rare individuals who attacked the root. Fundamentally, all of the environmental efforts considered here, though important, cannot stop the decline of biological diversity in Canada. In some ways our environmental laws remind one of the old constitution of the Communist USSR. The words of that constitution out of context sounded excellent. But the facts belied the lovely words. They were mere window dressing, or even worse actual camouflage. As a result these efforts often seem like mere tilting at windmills. The real problem, which is rarely faced, is the fact that humans as a species incessantly ravage more of our resources than can be sustained. We humans are a deeply rapacious species. This is particularly important because our species seems to grow without respite.

The root cause of environmental degradation is our marriage to consumer values that enslave the vast majority of us, even including most well-meaning, but ultimately ineffective environmentalists. Until the fundamental basis of consumer society is changed the most that can be done is to slow down the inexorable destruction of our environment. Until that is done all of us will just continue to 'battle in the captain's tower.' If we genuinely want to stop the destruction of species such as orchids, we have to find some way of turning the ship of society around toward a new direction. That direction must be one where humans realize that they are a part of nature, and have no inalienable right to dominate it. Here is hoping that we can do that. If we cannot do that, we will all be deeply impoverished; it is merely a question of time.