

WAGNER NATURAL AREA NEWSLETTER

#306 10630 122 Street, Edmonton T5N 1M8

(Editor: Terry Thormin) 482-1389

Volume 2

Number 1

May 1988



SOCIETY ANNOUNCES WAGNER INTERIOR OFF LIMITS - THE USE VERSUS PRESERVATION DILEMMA

The Wagner Natural Area Society has announced that the entire central portion - amounting to about one-half of the Natural Area - is now a no use/no access area.

"Even though the site has been established by the Alberta Government as a Natural Area under the Wilderness Areas, Ecological Reserves and Natural Areas Act" says Alice Hendry, President, "our Society was faced with this question: How can the purposes for which the site was set aside best be assured over time? Among other reasons, protecting a core area will allow regeneration of those habitats and species that may be lost on the periphery. It allows us to keep our future options open."

The Society and the Government's Natural Areas Program considers the actual designation by law as only a necessary first step in the overall long-term protection of the site.

"Without appropriate management, which now includes a large off limits zone" says Peter Lec, Natural Areas Manager, "those distinctive values that the designation seeks to protect could easily be lost to gradual and unnoticed attrition, especially by random public use."

This use versus preservation dilemma is a common one faced by those managing protected areas. Some call it merely a choice among philosophical alternatives - the anthropocentric approach or the biocentric approach. Under an anthropocentric philosophy, the Natural Area would be managed primarily for its directly consumable human values (such as scientific, education and recreation use) and management would strive to facilitate and serve those values. Actions to promote human use would then be taken, even if substantial impacts on natural ecological processes result. On the other hand, the biocentric approach would feature maintenance of natural ecological processes as the primary objective, with restriction or even total prohibition of human use as a necessary measure to achieve this objective.

"Although some claim that those plants and animals of the Wagner Natural Area have a right to exist only insofar as they are useful to people" says Alice Hendry, "the members of the Wag-

ner Society believe that these biological species exist in their own right - they have an inherent right to share the Natural Area. To ensure their continued protection, we felt it necessary to declare a sizeable portion of the Natural Area off limits. Public use will still be welcomed along the trail. And as a side benefit for those who might ask - What good is a no use area anyway? - the idea of a core 'ecological reserve' or no use zone has excellent interpretive and educational value."

EARLY SPRING FLOWERS IN WAGNER

Spring, as determined by the start of flowering among higher plants, is a long time coming to the prairie parkland. Especially when compared with its arrival in more southern latitudes and in areas of eastern and western Canada with milder climates. Variability in flowering times has, not surprisingly, been related to temperature. Within species a difference of up to 4 weeks in date of first flowering has been observed and has been correlated with variations in mean monthly temperatures before and during flowering.

Amentiferous (that is, catkin-bearing) trees and shrubs are the earliest to flower, with River Alder (*Alnus tenuifolia*), a tall shrub or tree of streamsides, leading off about mid-April. This year, stamens and stigmas of Alder were beginning to show by March 20! It is followed by Aspen and Balsam Poplars and the earliest willows, and then, about the time most trees are leafing out, by Paper Birch (*B. papyrifera*) and Dwarf Birch (*B. pumila* var. *glandulifera*). Ament-bearers are generally pollinated by wind. The long, pendulous catkins of the poplars precede the leaves. Within numerous flowers for pollen production and reception, they are ideally suited for this type of pollination. Willows, however, can be pollinated by insects as well as by wind. Each of the many crowded flowers in the catkin is equipped with a nectar gland. The conspicuous massing of stamens in the male catkins, as well as their copious pollen production, renders them very attractive to insects.

In birches, (including Alder, a member of the Birch family), male and female aments are borne close together on the same

tree. However, in poplars and willows - the unisexual catkins are on separate male and female plants. This is called dioecy and obligates cross pollination. Nevertheless, such outcrossing results in little genetic recombination. Individuals growing together are often genetically similar and seedlings, at least of poplars, rarely become established. About 15 species of willow occur in Wagner Natural Area, producing a range of flowering from April through June. Pussy Willow (*S. discolor*) and Planeleaved Willow (*S. planifolia*) are the first, producing catkins on bare, leafless twigs, and while their roots are probably still frozen. Under the influence of warmer temperatures, sucrose and water which has been stored in the stems tissue into the vessels and produces sap and gives the impetus to opening flower buds.

Smaller shrubs that flower early include Canada Buffalo-berry (*Shepherdia canadensis*). This is a dioecious, insect-pollinated plant of drier ground. The minute yellow male flowers tend to open (mid-April to May) before the females. In the latter part of May several species of Gooseberry or Currant of the genus *Ribes* are in bloom in the more open parts of wet woodlands. Flowers are small but brightly coloured and clustered, attracting insects to their nectar and pollen. They are hermaphrodite, having both stamens and pistil in the same flower, but probably cannot set seed if pollinated by pollen from the same plant.

Among herbaceous plants, one of the earliest and most welcome is Marsh Marigold (*Caltha palustris*). Its golden flowers and glossy green leaves brighten willow thickets and ditches still winter-bleak. Its buttercup-like flowers supply insects with nectar and pollen. Another common denizen of marshy ground is Arrow-leaved Coltsfoot (*Petasites sagittatus*), whose creamy inflorescences (the plant belongs in the Compositae) break ground ahead of the large, arrow-shaped, white-felted leaves. Plants with mostly female flowers in the heads succeed those with predominantly male flowers, and linger prominently while the white cottony fruiting heads mature on much elongated stalks. Two close relatives of this Coltsfoot with differently shaped leaves also grow in Wagner, *Petasites palmatus* and *P. vitifolius*. But curiously, in this part of the country they seem to confine themselves to forest habitats, where they rarely flower.

It has been suggested that dioecy and other mechanisms favouring outcrossing are common in insect-pollinated spring-flowering plants because it allows them to take advantage of the numerous insects competing for few flowers at this time of year, compared with the summer when many more plants are in flower. Could vegetative structure also play a part in early flowering? For example, Marsh Marigold and Arrow-leaved Coltsfoot, like many marsh plants, have wide, but soft and hollow stems, lacking supporting tissue, which may permit their rapid growth in spring. Flowering through May are other wetland species: several sedges (*Carex* spp.), 2 species of cotton-grass (*Eriophorum* spp.), and a Spike-Rush (*Eleocharis* sp.). Clumps of Tufted Bulrush (*Scirpus cespitosus*), dominate the fens, their stamen-tipped spikes looking like children's paintbrushes that have been dipped in yellow paint. These plants probably rely on wind for their pollination.

In the northern woodlands, where May is still too early for

the majority of species (*Adoxa moschatellina*) to flower, the curious greenish blooms of the low-growing Moschatel are out by the latter part of May. *Adoxa* is typical of a group of deciduous woodland plants with an early growth cycle; even the leaves wither early as the increasing shade makes photosynthesis inefficient.

Wagner Natural Area is not without that harbinger of spring in the city, Common Dandelion (*Taraxacum officinale*). This species shows characteristics of many weeds in that it blooms and produces fruit within a short span of time (the peak period being May). This gives it a tremendous advantage in habitats likely to be disturbed by man (mowing of lawns or use of herbicides) or by natural factors. Common Dandelions produce abundant nectar and pollen which attract a wide range of insects, including bees. Surprisingly pollination is at most only a stimulus to seed production, not an integral part of it. Dandelion seeds are produced apomictically, without the fusion of sexual cells.

All the plants mentioned so far are perennials. The perennial habit, with storage of food in underground organs, is clearly advantageous to an early renewal of growth, and flowering. In addition, many woody species develop their flower buds during the preceding growth season, thereby saving time and effort next spring. Only one or two annual plants can be seen in flower by May in Wagner, and these are invariably weeds of disturbed ground, such as Stinkweed (*Thlaspi arvense*) and the diminutive Annual Draba (*Draba nemorosa*).

Although spring comes late, anyone who walks through Wagner on a fine day in May will undoubtedly conclude that it has been worth waiting for!

OWLS IN WAGNER

Of all the groups of birds, the owls fascinate man more than any others. There are two good reasons for this; first owls are predators, and man, being at least in part, one himself, can relate to this. The second reason is physiological; owls are the only group of birds with total binocular vision. This results from their eyes facing forward on the face, giving them a more human appearance. This has resulted in the folklore idea of owls being wise. In fact they are no more intelligent than any other group of birds.

There are five species of owls that breed, or used to breed at Wagner. These are the Great Horned, Saw-whet, Boreal, Long-eared and Short-eared. It is generally easier to hear these birds than it is to see them. A few years ago, prior to the construction of highway 16X, one could easily go out in a March evening and hear three or four of these owls calling. Ideal conditions for listening to owls are a warm (above freezing), calm, clear, moon lit night. Unfortunately the owl populations at Wagner have declined over the last few years, probably a result of disturbance factors such as the much heavier traffic in the

area. It is quite likely that all five species still do breed in Wagner, even if in smaller numbers, and for that reason we will take a quick look at their breeding biology.

The Great Horned Owl is perhaps our most familiar owl and it is the provincial bird. This species overwinters in Alberta and maintains its territory all year round. When spring is early it may start breeding in early March. In our area it prefers deciduous or mixed forests where it usually utilizes an old crow or hawk nest. There are usually two or three young and they can often be seen poking their downy white heads over the top of the nest in April, well before there are leaves on the trees. The young leave the nest during their fifth week, at which time they scramble among the branches of the trees. They are not actually capable of flying well until the ninth or tenth week. Great Horned Owls feed extensively on mammals, taking large numbers of Snowshoe Hares and occasionally even preying on skunks.

Saw-whet Owl



The Long-eared Owl is not nearly as common as the Great Horned at Wagner. It also prefers deciduous or mixed forests, often using an old nest of a hawk or crow. It starts breeding in April, later than the Great Horned, probably because at least some of our birds migrate further south for the winter. The four to five young leave the nest by the fourth week. The Long-eared Owl feeds largely on mice and voles and hunts almost exclusively at night.

The Short-eared Owl prefers open, wetish grasslands and marshy areas. It also migrates south for the winter, but in Alberta good numbers do stay for the winter. It is a ground nester, usually picking a spot protected by tall grasses, reeds or bushes. It starts nesting in late April or early May. The five to seven young leave the nest within twelve to seventeen days and are

flying about ten days later. This is the most diurnal of the owls at Wagner, flying mostly at dawn and dusk, but occasionally seen during the middle of the day. It feeds largely on rodents, which it hunts by flying low, back and forth over fields and marshes. Unfortunately, most of the suitable habitat for this bird at Wagner has been destroyed or disturbed, and the bird is rarely seen now.

Of all the owls at Wagner, the Boreal is the most sought after by the bird watchers. This secretive bird is a boreal forest bird, nesting in mixed or coniferous forests. It uses old woodpecker holes or natural cavities in trees. It usually starts nesting in late April, laying four to eight eggs. The young do not leave the nest until the fifth week when they are fully fledged. It feeds on small mammals up to the size of a squirrel and not uncommonly takes bats. If found during the day, this bird is usually very unwary, allowing the observer to approach very closely.

The Saw-whet Owl is probably the most common owl at Wagner. One March a few years ago, a field trip to the property to listen for owls resulted in our hearing twelve of these birds giving their whistling calls. As well we heard four Boreals, two Great Horned and one Long-eared. The Saw-whet nests in a variety of woodlands, and like the Boreal, it nests in old woodpecker holes or natural cavities. Both these species will use nest boxes. Nesting usually starts by mid April with the laying of five or six eggs. Like the Boreal, the young do not leave the nest until they are fully fledged, sometime in the fifth week. Their food consists primarily of small voles and mice.

As stated earlier, the owl populations in Wagner seem to have declined in the past few years, probably a result of noise pollution from the heavier traffic on highway 16X and certainly the general loss of habitat surrounding the property. It is our hope that no further disturbances will occur and what birds we still have nesting in the area will remain.

WHERE TO NOW?

A lot has been accomplished in the few years since the Wagner Natural Area Society was formed. The property has been fenced, a boardwalk trail system was built and a self guiding trail system was set up. A picnic shelter and biffies have been put in place. We also have a management plan to work from. So now what do we do? It would be a very easy to sit back now and say that we have done all we can with Wagner. But somehow it seems that the society is busier than ever with all sorts of projects. Many of the earlier projects were done, at least in part, by people that the society hired with grant money. Now we have entered a stage of the development where much of the work is most easily done by the society members.

We are presently working on a variety of checklists for the area. The first one, the bird checklist, is done and available in the information boxes on the property. We hope to have a plant checklist shortly and we are also working on ones for the but-

terflies, mammals, and reptiles and amphibians. Another major project is the production of an education package aimed at school groups. Through this package we hope to introduce students to the ecological fragility of peatland habitats and the problems in preserving and managing such natural areas. We are also producing slide programs for the use of other groups such as Scouts and Guides, Natural History Clubs and any other organization that might be interested. And some basic inventory work and monitoring of the property is still necessary.

Of course, all of this takes a considerable amount of time from the members of the society. Unfortunately, the membership is not very large and most of the present members have been with the society since its beginning. For these reasons we are looking for new members. If you would like to get involved in some very worthwhile projects and contribute to the conservation of a truly priceless natural area, please contact the editor of this newsletter.

MEET OUR EXECUTIVE

No society can run properly without an executive. We thought that you might be interested in knowing who was on the executive of the Wagner Natural Area Society. So here they are:

President: Alice Hendry 962-4836

Vice-President/Treasurer: Barry Jenkins 458-1794

Past President: Pat Seymour 488-7155

Secretary: Patsy Cotterill 481-1525

Newsletter Editor: Terry Thormin 482-1389



WAGNER NATURAL AREA THREATENED???

Developments are rapidly encroaching on the Wagner Natural Area, ominously threatening its integrity.

There are strong indications that just across Highway 16X from the Natural Area, unauthorized dumping has begun, presumably with the intention of eventually providing sufficient fill for an extensive trailer park to be constructed. The Society has contacted the Lac Ste. Anne Health Unit expressing these concerns with this activity: surface and ground water flow blockage and fire hazard due to incineration.

Imminent road construction adjacent to the Natural Area has also been of great concern to us. We have recently written to The Honorable J. A. Adair, Minister of Transportation, and have expressed to him some of our concerns, which include:

- Effects on the quality and quantity of the surface and ground water supply to the Natural Area. Water is the "lifeblood" of the Natural Area!
- Habitat isolation and blockage of corridors preventing animal movement, thereby preventing some species' migration, reproduction and genetic diversification.
- Chemical leachate from construction material and road maintenance.
- Loss of hay income to Society due to disruption of Society's agricultural fields.
- Increased fire hazard due to improved access and shoulder/ditch burning.
- Use of herbicides along road.
- Increased noise pollution (see article on owls in this newsletter).
- Compensation by Alberta Transportation to Society for damage to the Natural Area.
- Interference with our Society's legal rights conferred on us by our Water License from Alberta Environment and by our Lease from Alberta Forestry, Lands & Wildlife.
- Effects on our Society's legal agreement with the Wild Orchid Recreation Society and on our road allowance lease arrangement with the County of Parkland.
- Compensation for any legal costs the Society may incur as a result of our retaining legal counsel to advise us on our rights concerning all of the above issues.

The Department of Transportation has responded to our letter and we will now begin a series of discussions with them and per-

haps the County of Parkland to try and resolve these very serious concerns.

If any of you have any other concerns, let us know!!!

Annual Clean-up

On Saturday, April 23, a tremendous volunteer army spent several hours cleaning up the Wagner Natural Area - A TOTAL OF 120 PERSON-HOURS!!!

The Society sincerely appreciates the help of the 1st, 2nd and 6th Spruce Grove Girl Guides for their 31 guides and leaders that picked up dozens of bags of garbage. Thanks also to Jennifer Lee and Glenn Jenkins for diligently scouring the fences and ditches.

Frog and Toad Walk

On Wednesday, May 11, the Society held its 3rd (?) annual Frog and Toad walk. Wayne Roberts lead 11 amphibian seekers around the marl pond trail where wood frogs and boreal toads were heard. As dusk approached the male toads became very vocal. Though there were no female toads seen in the ponds at that time, many were seen crossing the meadow in the direction of the marl ponds. Who knows what went on after the lights went out!!

