

# WAGNER NATURAL AREA NEWSLETTER

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Newsletter of the Wagner Natural Area Society, Management Committee  
and Volunteer Stewards of Wagner Natural Area, Parkland County, Alberta



Yellow Lady's-slipper, *Cypripedium calceolus*  
Photo: Ben Rostron

## Wagner Annual Orchid Walk

June 10, 2007

11 a.m. to 4 p.m.

### Please Join Us!

Guided tours will depart from the main gate as soon as groups form. Bring sturdy footwear and insect repellent.

With an earlier-scheduled walk this year, and a relatively late spring, yellow lady's-slippers should be at their gorgeous peak!

Proposed rezoning by  
Parkland County would  
jeopardize Wagner's  
lifeblood – groundwater!

See "Rezoning," page 3.



"All you need is love, love..." Western (Boreal) toads  
in amplexus, the male on top. See the report by Alana  
Broomfield on page 4. Photo: Sheri Hendsbee

### Contents

President's Report	page 2
Wagner executive	page 2
Wagner Grapevine (1)	page 3
Wagner Grapevine (2)	page 4
"A Walk in the Froggy Dew"	page 4
May Counts	page 5
May Count continued	page 6
"Land of Dreams"	page 6
Extension Inventory Report	page 7

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## President's Report – 2006-2007

by *Ben Rostron*

(This was presented at the WNAS Annual General Meeting on March 26, 2007)

For starters, the most obvious thing to report from this past year is that in March 2006 I was appointed as the new President of the Society. This has involved a huge learning curve for me, and I must thank the other members of the Executive for putting up with the fact that I have a very busy “day” job. There is a wealth of experience at the controls of the Society out there, and I’m still trying to live up to previous performances. To say the least, there is a lot going on with the Wagner Natural Area Society.

The highlight of the highlights for the past year was the completion of the purchase of the east end of the Kichton property. After years of fundraising, grant writing, meetings, phone calls, hand delivery... legal agreements were finally signed in the spring to add an additional 80 acres to the WNA. The WNA now covers approximately 640 acres – double the portion that first formed the natural area.

The addition of the 80 acres could not have been achieved without the help of a generous donation from the Nature Conservancy of Canada, and indeed, once the paperwork was signed we held a joint “opening ceremony” at WNA on June 21<sup>st</sup>. The event was well attended by the public, various government officials, and the media. WNA was featured as the second story on the 6 o’clock CBC news that night. In conjunction with this event, NCC named the WNA as its “gift to Albertans” – which added to the media coverage. Each year NCC chooses one project per province to be recognized and this raises its profile on a national level.

Later in September, NCC held its annual Directors’ meeting in Edmonton. WNA was one of two stops the more than 30 NCC National Directors made on their post-meeting field trip, and thus we garnered additional national recognition. We provided them with a guided tour of over two-and-a-half hours, plus copies of the trail guide and the orchid poster. We received numerous positive comments. National exposure like this cannot hurt us.

A bit closer to home, here are some highlights of the year. During the year a new Biophysical inventory was undertaken on the south half of the WNA in conjunction with NCC. The inventory was undertaken by Rangeland Conservation Service, and their mapping revealed the presence of several vascular plants, bryophytes and lichens new to our records for the WNA, along with a host of new maps, inventories and plant-related data. Currently, we are reviewing the draft report, and will provide the membership with more details when we have the final version.

Not to be outdone, Alice and Patsy also discovered three previously unreported species on the WNA: Northern Starflower, Yellow Rattle, and Dawson or Rock Sandwort.

Over the year, our Treasurer Pat Webb has worked at length putting WNAS on a sound financial footing, from changing banks, re-organizing GIC’s, re-submitting Revenue Canada paperwork, and doing some overdue financial planning. I can report that Wagner’s finances are in good hands.

In terms of water, it was a busy year as well. After drilling and geophysics last winter, the newly installed piezometers were instrumented with more than 30 digital pressure recorders that monitor water pressure 24/7 at the WNA. We also obtained two “Quickbird” satellite images of Wagner, in the spring and late summer, and these are being used to characterize the vegetation and ground/surface water for WNA. The hydrogeology group at the UofA presented two talks on the Wagner Natural Area at the 2007 Geological Society of America Annual meeting in Philadelphia, in October.

In terms of the Executive, I could ramble on about newsletters, trifle, fencing, cookies, dogs, bird seed, herbal tea, weeds, vandalism, clean-up, Alberta Environment, grant applications... County of Parkland, Tim Horton’s, ring road, constitution and by-law amendments....

Wait... is anybody still there??

In summary, it has been a busy year, we’ve accomplished a lot and we are looking forward to more!

### Wagner Natural Area Society

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Visit our website at <http://www.wagner.fanweb.ca>

#### Executive 2004-2005

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## The Wagner Grapevine



### New Threats to Wagner Natural Area!

#### **Rezoning in the recharge area**

(compiled by Patsy Cotterill based on information and wording by Alice Hendry)

The latest draft of Parkland County's new Municipal Development Plan (MDP), to be approved and passed into legislation this coming fall, came as a shock to Wagner Natural Area Society (WNAS) when we saw it in early May. Several of our committee members, ever vigilant for Wagner's safety, attended two previous open houses on the MDP in April and September of 2006 and did not spot anything amiss. Our chief concern then was the possible encroachment of Spruce Grove residential development from the west, without an adequate buffer zone. So this latest iteration of the Plan, the final one into which the public can have input before it goes to Council, came out of the blue, without prior information or consultation.

It proposes to change the zoning of land immediately south of Wagner Natural Area (WNA), east of Atim Road and north of Highway 16A, from Agricultural to Industrial/Commercial. This would allow for further expansion of the Acheson Industrial Area, an area that is already mushrooming on either side of Highway 60 between Highway 16A and the Yellowhead. If such land southwest of WNA were to be developed – and such rezoning is of course an open invitation, an advertisement, for development – it would mean a significant reduction in the area of land over which precipitation can infiltrate the ground to recharge the underlying aquifer. With less water in the aquifer there will be lower discharge in the springs that feed the fens and marl ponds downslope to the north. Such rezoning could open the possibility of a future scenario where, with a combination of drought and development, the springs could dry up altogether, completely altering the nature of the fens.

This change in zoning, with its potentially dire environmental consequences, is inconsistent with the first identified public priority in the MDP which is listed as *Protect the environment, environmentally sensitive areas and wildlife corridors*. The MDP also includes among its guiding principles the support of environmental sustainability through the protection of natural systems that support life. In relation to managing growth the MDP cites *strong environmental management policies...to better protect environmentally significant areas as well as*

*natural features*. To zone land such that it could potentially destroy Wagner's water source would seem then to fly in the face of its own principles and directions!

There is little doubt that Parkland County recognizes the ecological significance of WNA and appreciates its ecotourism potential. And there is plenty of guidance available as to how this value should be preserved. The County's own Acheson Area Structure Plan clearly states the importance of maintaining the groundwater recharge area for Wagner, along with land buffers and wildlife movement corridors that will help maintain its ecological integrity. And if County planners had any doubt about where the recharge area lies, they needed only to have consulted Heather von Hauff's 2004 Master's thesis in which she delineates it with some certainty.

There are, of course, other deleterious effects to be anticipated from development so close to Wagner, including loss of wildlife corridors and habitat, noise, light pollution, traffic, garbage, and possible chemical pollution. Are we one step closer to the doomsday scenario of Wagner becoming nothing more than a fountain (even a slow trickle) in a Spruce Grove shopping mall?

In view of all this, we find it extremely disappointing that the County planners did not consult WNAS, especially because for many years we have had a free flow of communication with them, including face-to-face discussions. WNAS has since expressed our strong objection to the rezoning both to municipal planners and to politicians and we are hopeful that the proposed zoning can be revoked before it ever becomes entrenched as a bylaw. Many members of the public have also contacted Parkland County to express their misgivings and dismay, and we thank them all very much for doing this. This is the most effective way to get the attention of policy-makers. We will keep our Wagner-philes posted!

#### **And another, more distant threat....**

The MDP also shows the route of a **regional ring road**, to be built some time in the future. This alignment shows the future road going up the west side of Wagner and almost touching its northwest corner. Such a road would mean there would be noisy traffic on three sides of Wagner. There would likely be other impacts as well. WNAS is currently investigating this proposal.

To view the County's MDP map, go to

<http://www.parklandcounty.com/Assets/Planning/Municipal+Development+Plan/Map+MDP+2.pdf>

and zoom in. Wagner is the green square in the top right of the map diagonally southwest of the bottom tip of Big Lake. The ring road is shown as a red dotted line.

#### **Concerned about what's happening to land in Alberta and its future?**

To learn more, go to <http://www.gov.ab.ca/home/479.cfm>

To read the booklet "Understanding Land Use in Alberta," go to

<http://www.landuse.gov.ab.ca/docs/LUF%20101%20Final%20Document.pdf>

To fill out the survey online, go to [http://surveys.praxis.ca/luf\\_workbook/index.php?mode=test](http://surveys.praxis.ca/luf_workbook/index.php?mode=test)

The deadline for return of completed surveys is June 15, 2007. **Your input is important!**



## The Wagner Grapevine (continued)



### Bouquets

*To Derek Johnson*, for ecological consultations.

Derek advised the staff of Rangeland Ecological Service Ltd. on and The Nature Conservancy on best practices while they conducted their biophysical inventory, and as well identified the bryophytes and lichens they collected. He served as chief editor and compiler of comments for their draft report. All this requires attention to detail and is very time-consuming!

*To the By-laws committee*, for amending the constitution! *Pat Clayton*, *Beth Jenkins* and *Pat Webb* put in many finicky hours adjusting our Constitution, chiefly in favour of greater clarification over categories of membership. The revamped document has now gone out to the voting members for feedback.

*To Irl Miller*, for working on infrastructure. Irl has been researching and costing out the new fencing that we will need for

our additional properties. He has also hired a contractor (NAIT construction students) to build us a new biffy for the fall.

*To Pat Webb*, for making great strides in getting us organized. This applies to finances, "Wagner Assets" (the bits and pieces, including papers, reports, and even awards, that are scattered throughout our various homes), mailing lists, you name it...

*To Ben Rostron*, for his passion for orchids and his excellent photography of them. Ben, a hydrogeologist and engineer by profession, gave a presentation to a bunch of orchid experts at a conference on native orchids in Florida recently. His presentation, based on his experience of orchids in Wagner, compared the habitat preferences of various species, especially as they relate to water.

*To Mike Jenkins*, for following through on WNAS' decision to purchase a weed-eating tool and accessories. We are almost looking forward to declaring war on weeds this summer!

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## A Walk in the Froggy, Froggy Dew

*By Alana Broomfield*

In the early evening of May 12, Peter Daly, amphibian expert, along with Alana Broomfield, coordinator of the Edmonton Nature Club's Bug and Spider Study Group, led a group of children and adults to look for frogs and toads, and their eggs, in the fens of Wagner Natural Area.

To ensure that participants weren't disappointed on the evening of the field trip, Peter had come out the previous evening to catch any amphibian specimens he could find. Just inside the gate, he opened jars and containers to display several tiny Boreal Chorus Frogs, a good-sized Wood Frog, and a male and female Boreal Toad in amplexus (the picture on page 1 will indicate what this means), as well as a large cluster of frogs' eggs. One couldn't have asked for a better opportunity to compare the two sexes of Boreal Toads the small greener male toad in a persistent

grip on top of the significantly larger, light tan-coloured female. Peter explained that amplexus can last from a few hours to many days in duration. As for the Chorus Frogs, they are often heard (they have a high-pitched rasping call compared to the lower, "quack-quacking" croak that the Wood Frogs make) but are seldom seen, so it was a real treat to touch and hold these cute, tiny creatures.

Once in the fens, one young participant, Emily Hendsbee, was able to find (with the help of Peter's good ear) and catch a Boreal Toad which bravely submitted to a series of photos. A short time later, Peter eyed a significant strand of toad eggs in the marl pond further down the pathway.

Peter released all amphibians and eggs on site after the participants left to go home.

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## Some Gleanings from the Wagner Visitors' Book, last season (2006)

**July:** "Nice but a little too short" – meaning the trail, presumably. "Amazing! (So glad I stopped)"

**August:** "Relaxing, beautiful oasis. Thank you."

**September:** "Our anniversary walk. This is where we fell in love." "I played in the quick sa....."

"How long has it taken for the hay field to grow into forest? Please include in info brochure."

"I saw a woodpecker." "Saw mother and baby deer. Loved it." "Thank heavens it's still here."

Noah wrote to say that his favourite animal was a prairie dog. (Well, we like 'em too, although just about the closest we can get in Wagner is the northern pocket gopher.)

## May Count of Bird Species in Wagner, May 27, 2007

Recorded by *Dave Ealey*, 05:30 – 07:35 h

Species	No.	Heard/Seen
Red-breasted Nuthatch	1	H/S
American Crow	1	H
Least Flycatcher	8	H/S
Red-eyed Vireo	2	H/S
Ring-billed Gull	5	S
Red-tailed Hawk	1	H/S
Red-winged Blackbird	7	H/S
House Wren	1	H
Northern Oriole	2	H
Mourning Dove	1	S
Song Sparrow	2	H
Barn Swallow	1	S
Blue Jay	1	S/H
Mallard	2	S
Tree Swallow	17	S/H
Lincoln Sparrow	2	H
American Robin	8	S/H
Yellow Warbler	10	H/S
Tennessee Warbler	4	H
Common Snipe	3	S/H
Black-capped Chickadee	3	H
Chipping Sparrow	5	H/S
Clay-colored Sparrow	5	H
Ruby-crowned Kinglet	5	H
Brown-headed Cowbird	10	S/H
Canada Goose	1	H
Golden-crowned Kinglet	1	H
White-throated Sparrow	5	H

**Total: 28 species**

Dave notes that these birds were recorded on a walk from the parking lot along the Marl Pond Trail to the western entrance of the Trail, then through the aspen-balsam poplar woods to Atim Road and back along the road to the parking lot. *It is good to know that we still have a considerable diversity of birds in Wagner Natural Area!*

Dave also saw a white-tailed deer.

Pat Clayton and Patsy Cotterill at about 11:00 h on May 27 also observed a solitary sandpiper wheeling and crying (S/H) in the vicinity of Jones's Pond.

In addition, in this west-central portion of the Natural Area they saw: one large Boreal Toad trying desperately to hide under a tree root, one medium-sized toad, two toadlets (dark creatures with remarkably rectangular bodies), and one Wood Frog. They also heard toads calling in the vicinity of Jones's Pond.

Healthy-looking minnows were swimming in Jones's Pond, especially the extensions of the shoreline and the shallow channels caused by high water levels.



Black-capped Chickadee. Photo: Wagner files

## May Count of Plant Species in Flower in Wagner, May 27 and 28

Recorded by *Patsy Cotterill and Pat Clayton*

This year the May Count of plants in flower was carried out over two days, May 27 and 28, with a survey of the central and western portion of the property (plus the Cabin Trail) on the first day and some eastern and southern portions on the second day.

We approached this May Count with some anticipation as to what we should find, given the amount of water that had been present in Wagner habitats until quite recently and the prolonged cool weather. Indeed, spring was delayed, as indicated by the actual numbers of species in flower, but not markedly so. We recorded **53 species in flower in WNA proper**, with an additional six recorded for Alice Hendry's upland forested property in Osborne Acres, for a **total of 59**, which compares with 67 species for last year and very similarly to both 2004 and 2005, with 60.

Among the showy flowers, marsh marigold (*Caltha palustris*) was in its prime (compared with last year when it was somewhat past its best) and very abundant in all the wet hollows beneath the spruce or in the willow swales. Bog violet (*Viola nephrophylla*) was coming into its own in the fens; in contrast, saline shooting-star (*Dodecatheon pulchellum*) was just beginning to flower in open sunny spots in the fens or at their forested edges, with most plants clearly in bud. Among the less showy species, livid sedge (*Carex livida*) was abundant and in bloom in the fens, conspicuous because of its pollen-shedding, yellow, male spikes and distinctive bluish-green leaves; sheathed sedge (*Carex vaginata*), forming lush green patches, was similarly in flower and abundant in the treed fens.

*Continued on page 6*

*(May Count of Plants, continued)*

No matter how late the spring, some early-flowering species never remain in bloom, e.g., Canada buffalo-berry (*Shepherdia canadensis*), and no matter how early, some of the later-flowering ones never have fully open flowers, e.g. wild lily-of-the-valley (*Maianthemum canadense*). Other species, however, show considerable sensitivity to the weather (warmth and sun) preceding the Count, and if we are careful observers the phenology codes we give them, representing percentage of the population of that species that is in flower, should reflect this. The currants and gooseberries (*Ribes* spp., of which we have at least six in Wagner) are a good example. Swamp red currant (*Ribes triste*) is always faded by the end of May even though the flowers remain on their stalks, and northern gooseberry (*R. oxycanthoides*) is often past its peak, but in a late spring fresh flowers of swamp gooseberry (*R. lacustre*) can be found, as well as those of skunk currant (*R. glandulosum*). Wild black current (*R. americanum*) was obviously less advanced this year than last. While about 50% of the shrubs had open flowers, most flowering inflorescences still had lots of buds. Of course, gauging the flowering stage of a plant can become very subjective; when making a decision on what code to assign not only does one weigh up the proportion of the populations in flower but also the percentage of flowers in bloom on individual plants.

With respect to the orchids, it was nice to see heart-leaved twayblade (*Listera cordata*) in its first flush of flower: while

all the plants we spotted had some open flowers, which looked glossy and fresh, those at the top of the inflorescence were still in bud on many plants. Pale coral-root (*Corallorhiza trifida*) was just coming into flower with most of its yellowish or reddish stalks bearing buds only and looking a bit like miniature Asparagus. Only the yellow lady's-slipper (*Cypripedium calceolus*) in sunny spots in meadows at the start of the Marl Pond Trail had obvious buds.

The challenge of the May Count every year is to cover more or less the same route so that every species on the list is accounted for. For example, we have to walk to a particular creek to find buck-bean (*Menyanthes trifoliata*), which is in flower some years but this year was in tight bud. Where we do not see plants previously listed, it usually means that that species occurs so infrequently that we have missed its location. Alternatively, its habitat may have changed. A classic example of this is the drying up of the Atim Pond and its associated channels. The disturbed ground and mud maintained by the beavers with their dam and lodge no longer exists, having been replaced by shrubs and, in the low spots, uniform stands of sedge and grass. By contrast, the fens are pretty much stable and their vegetation varies less.

Whatever the result, the annual May Count is a wonderful exercise for the observer, an unofficial form of monitoring, and a great way to keep in touch with Wagner's diverse habitats.

**Wagner Natural Area – A Land of Dreams by J. Derek Johnson**

(Derek has now organized two tree-planting events with the Junior Forest Wardens)

With all the major land clearing and industrial development occurring around Edmonton these days, it's becoming harder and harder for local chapters of the Junior Forest Wardens to find suitable sites with long-term stability in which to plant their tree seedlings. The farther they have to travel, the fewer are the number of people interested in taking part in the project. It was, therefore, a heart-warming sight worthy of the national news (and it would have made it too if the reporter from the *Spruce Grove Examiner* had deigned to come) as a group of 29 Junior Forest Wardens from Spruce Grove gathered in the Wagner Natural Area parking lot May 10<sup>th</sup> for their annual tree planting day. One young first-grader, with an unbridled look of excitement on her face, held the spruce seedling she received at school in one hand, while holding her mother's

hand with the other. She was hoping to give her seedling a good home in the natural area. Her mother, half jokingly, suggested she give it a name. "I already have," the young girl replied. "I'm going to call it 'Spikey'." And with that, the group headed off on their assigned task. The group had 750 white spruce seedlings planted in a mere 90 minutes. "Spikey" was treated with reverent care and was one of the first seedlings to be planted, much to the delight of the young first-grader. Not only does that special seedling have a name, but it also has a number. "Spikey" proudly sports number 231, attached to a flagged metal pigtail placed next to the seedling by the Wagner Natural Area Society. Members of the Society will take great care to ensure that this special seedling survives to become a majestic tree. No one wants to see a young girl with a broken heart if the seedling doesn't survive...for whatever reason!



Twigs of well-grown white spruce in Wagner. Let's hope Spikey gets this big!  
Photo: P. Cotterill



Pale coral-root (*Corallorhiza trifida*) in full flower.  
Photo: P. Cotterill

## Wagner Natural Area Extension Baseline Inventory

by J. Derek Johnson

In December 2005, the Nature Conservancy of Canada (NCC) purchased the E½ SW 7-53-26 W4M, known locally as the 'Kichton Land'. The Kichton Land is approximately 80 acres in size and is located along the south boundary of Wagner Natural Area (WNA). It was purchased to provide a buffer zone to the WNA and is to be managed in conjunction with this protected area. Through a Stewardship Agreement signed in June 2006 between the NCC and the Wagner Natural Area Society (WNAS), the latter is to be responsible for the day-to-day management of the property.

Rangeland Conservation Service Ltd. (RCS) and Soil Info Ltd. were retained by the NCC in May 2006 to complete a baseline soil and vegetation inventory of the E½ SW 7-53-26 W4M as well as the adjoining SE 7-53-26 W4M, which was added to the WNA in 2001. (These lands are hereinafter referred to as the Wagner Natural Area Extension, WNAE.) The purpose of this soil and vegetation inventory is to assist the NCC and the WNAS with long-term management of the area. The primary objective of the inventory project was to provide detailed baseline information on the vegetation and soils on the property, as well as to set up permanent plots so that the dominant soil and vegetation types can be monitored over time. Secondary objectives were to provide inventories of incidental wildlife species and environmental concerns (e.g., noxious weeds), and to map and document with photographs the anthropogenic features on the property (e.g., roads, buildings, etc.). Field work for this project took place from June 17 to 21, 2006 and from July 10 to 14, 2006.

A number of anthropogenic features were observed in the WNAE during the course of fieldwork. Perhaps the most interesting of these was the remains of an old cabin in a forested area in the south-central part of the property. Much of the WNAE was clear-cut in the late 1950s and early 1960s. Most of the property has since reverted back to forest. Following clearing, the central portion of the property was seeded to tame pasture and this area remains dominated by tame grass species. Two other areas in the south of the property were kept cleared and used for annual cropping.

Vegetation sampling consisted of two components: reconnaissance and detailed/permanent plot inventories. Reconnaissance plot locations were established using a modified systematic sampling approach. A total of 48 reconnaissance plots were established on the property. Vegetation was sampled in accordance with the procedures described in the Alberta Government's *Ecological Land Survey Site Description Manual* (2<sup>nd</sup> Edition). *Vegetation Description Forms* were completed for 34 of the 48 plots.

Ten permanent plots were established on the property for the purpose of monitoring vegetation change over time. General locations for permanent plots were based on discussions with the WNAS prior to conducting field work. Five plots were established in forested areas, two were placed in shrubland, two in shrub fen/marl sites, and 1 was located in the tame pasture. Plots were staked by a team of

professional surveyors. Vegetation within each permanent plot was sampled in a manner similar to that of the reconnaissance plots. In addition, for each forested plot, as well as for some shrubland plots, detailed measurements of trees (e.g., age, height, diameter at breast height) were conducted following protocols established by the Ecological Monitoring and Assessment Network (EMAN).

The WNAE was separated into unique plant communities based on information gained from reconnaissance and permanent plot field work. *Vegetation Description Forms* as well as aerial photography and Quickbird satellite imagery were used to delineate 15 plant communities and several areas of cultivated land. Nearly 300 plant taxa were reported from the WNAE, including 9 tree, 41 shrub, 118 forb, 49 graminoid, 33 lichen, 39 moss, and 8 liverwort species.

Soil inventory field work for the WNAE was conducted over two time periods: June 12 to 14, 2006 (reconnaissance plots) and July 13 to 17, 2006 (permanent plots). Information gathered from the field work was used to classify the property into like soil polygons. All site and soil data collection for the project was performed in accordance with standards and procedures described in the *Ecological Land Survey Site Description Manual* (2<sup>nd</sup> Edition) and in the *Canadian System of Soil Classification*. At each of the 48 reconnaissance plot locations, a *Site Description Form* and *Soil Description Form* were completed. At each of the 11 permanent soil plots, these two forms as well as the *Supplementary Soil Description Form* were completed. Soil mapping of the WNAE resulted in the creation of 23 soil polygons and 10 soil units. The soils for the majority of the WNAE are poorly drained (organic or peaty mineral) and enriched by secondary carbonates. The variability of decomposition and thickness of organic deposits coupled with secondary carbonate enrichment made the classification and mapping of organics difficult. Moderately-well and imperfectly-drained areas are found in the cultivated fields, tame pasture, and aspen-balsam poplar forest adjacent to the cultivated fields. These areas have Dark Gray Luvisols and Eluviated Black Chernozems developed on medium textured glaciolacustrine deposits overlying moderately-fine textured till. Some soils in the upland areas are also enriched with secondary carbonates due to groundwater discharge.

An incidental wildlife survey of the WNAE was conducted during the vegetation inventory. This survey was done to provide a general list of vertebrate wildlife species observations over the course of the 2006 field season in each of the mapped plant community types. In total, direct or indirect sign of seven mammal, 38 bird, and three amphibian species was observed in the WNAE. Of these, four are considered Sensitive in Alberta: Pileated Woodpecker, Brown Creeper, Least Flycatcher, and Western (Boreal) toad. All of these species have been recorded for the WNA. A total of 147 bird, 42 mammal, six herptile, and three fish species have been recorded in the WNA.

## Wildflowers of Wagner No. 28

***Hierochloa odorata* (L.) Beauv.**  
**Poaceae (Gramineae)**

**Sweet Grass**  
**Grass Family**

Sweet grass, also known as holy grass, is a herb of great importance to aboriginal peoples in North America, who burn it as an incense during religious ceremonies. (Its Latin name derives from the Greek *ieros*, sacred, and *chloe*, grass.) It contains a sweet-smelling chemical called coumarin, which is also used medicinally to prevent blood from clotting.

Sweet grass grows in open, grassy places, such as roadside verges, ditches, meadows and sandy areas, and seems equally at home in moist or coarse, well-drained soils. It forms patches, or infiltrates other vegetation, by means of its creeping underground stems or rhizomes.

It is one of the earliest grasses to bloom. We look for it in the grass alongside the main gate at Wagner Natural Area in May, and this year a large patch of it was in flower on May 12 alongside Highway 16 in the vicinity of the northeast (Villeneuve) field. A combination of its early-flowering, the distinctive brownish-colour of its pyramid-shaped inflorescences (panicles) and its sweet smell make it an easy grass to recognize.

The leaves on its non-flowering shoots are long and relatively broad at up to 5 mm wide. By contrast, the 1 to 3 leaves on the flowering stems, which can grow 30 to 60 cm high but are often about 45 cm, have obviously short blades. The branched panicle is spreading at the time of pollen shedding but becomes more compact afterwards.

Each unit of the inflorescence, or spikelet, consists of two papery, boat-shaped glumes about 4-6 mm long, enclosing three brown florets. The two lateral florets, which are markedly boat-shaped and fringed with hairs, contain only stamens (in sets of three) or nothing at all. Only the smaller, central, long-oval floret, which has short hairs only at the tip, also produces a stigma, style and ovary and forms the grain. So distinctive is the appearance of the spikelet that a close look with a hand lens will serve to confirm the identity of this grass.

Recently, as a result of new research which has changed the taxonomy — and the names — of a number of species, the *Hierochloa odorata* species that grows in Alberta has been renamed to *Anthoxanthum hirtum* (Schrank) Y. Schouten & Veldkamp, with a matching common name of hairy

sweet grass. The latter has a close cousin, formerly named *Hierochloa alpina*, which grows in the alpine zone in the mountains, and is now called *Anthoxanthum monticola*. It is similar to the lowland sweet grass but differs in having the staminate florets awned.



Illustration scanned in from a live specimen by P. Cotterill.  
Approximately 80% natural size.