

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



Pat and Dick Clayton Win Prestigious Emerald Award for Individual Commitment!



Our heartiest congratulations to Dick and Pat Clayton who won the Emerald Award for Individual Commitment in 2003! An honour well deserved! Shown here in Wagner: from left, Irl Miller, Pat Clayton, Dick Clayton.

Photo: Beth Jenkins

by Beth Jenkins

Patricia (Pat) and Richard (Dick) Clayton have given committed service to conservation activities for more than 30 years. Both have served in various board capacities, worked on maintenance and monitoring, and shared their knowledge and expertise through their continuing and concurrent involvement with three different conservation organizations. They have served as conduits of information from one organization to another, facilitating communication and mobilizing an extended network of support among members of the conservation community. Pat and Dick have always supported one another in their separate activities, and often volunteer as a couple in trail monitoring and site cleanup. Their shared commitment stems from their belief in the importance of nature conservation as a way of life for themselves, their children, and their community. Among the groups benefiting from their involvement are the Edmonton Natural History Club, Wagner Natural Area Society, the Federation of Alberta Naturalists, Clifford E. Lee Nature Sanctuary and the Waskahegan Trail Association.

As Pat and Dick were away at the time of the ceremony, Beth Jenkins and Irl Miller accepted the award on their behalf, at the 11th Annual Green Shield Awards held on June 11 in Calgary.

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Wagner Society wins the Alberta Government's Green Shield Award for stewardship, awarded at the Volunteer Stewards' Conference held at the Blue Lake Centre, William Schwitzer Provincial Park, in April this year. Ivan Strang, MLA for West Yellowhead, presents president Alice Hendry with the Award. (See page 7)

Photo: Courtesy Alberta Community Development

Keeping Track of Groundwater!

Early this year Alberta Environment hired a hydro-geological consulting firm, Omni-McCann Ltd, to dig wells in Wagner and on the property of Novo Development Corporation immediately to the north across Highway 16 to determine the direction of groundwater flow. This follows a four-year dispute between Wagner Society and the property owner over the latter's recreational fish pond development, which the Society contended could withdraw water from the aquifer to the detriment of the vital water supply for Wagner Natural Area's marl ponds and fens. See page 2



The Wagner Grapevine



New Executive

Wagner Society welcomes incoming president Alice Hendry. Alice replaces Irl Miller whose term of office expired in March this year. This will be the second go-round for Alice, a proven leader with a legendary (elephantine!) memory for Wagner's history. Many thanks to Irl for ongoing efforts to steer the Society through some difficult times and for faithfully representing the natural area to decision-makers. Also welcome is our new treasurer Tom Sherwood, taking over from Dave Ealey. We have very much appreciated Dave's contributions, and he is missed. See page 4 for a full listing of the executive and their contact numbers.

Wagner Society Celebrates 20th Anniversary

Wagner Society celebrated its 20th anniversary on November 28, 2002 with a special Annual Members' Night event held at the Unitarian Church, 12530-110 Avenue in Edmonton. Peter Lee, now with World Wildlife Fund, and John Kristensen, Assistant Deputy Minister, Parks and Protected Areas, Alberta Community Development, were the guest speakers. Peter, who founded the Volunteer Stewards program and considered Wagner to be the flagship natural area, reminisced about his personal association with the site and its people with the aid of digital photos taken that day. John's presentation featured the Volunteer Stewards Program. The evening had the atmosphere of a reunion, with many people taking the opportunity to renew and revisit their connections with Wagner. Special thanks to organizers, Beth Jenkins, Pat Clayton and Leota Cummins.

Volunteer Stewards' Conference, April 25-27

Several of us from Wagner committee enjoyed this year's conference, held at the Blue Lake Centre in William Switzer Provincial Park. Bouquets to Alberta Parks staff and to the

Friends of Switzer Park for excellent organization and a "retreat-like" venue.

Field Trips

May Count of Plant Species in Bloom

About 33 plant species were recorded in flower by Patsy Cotterill and Frank Rusconi during the Count held in Wagner on May 25 this year. Alice Hendry's acreage (Osborne Acres) yielded another half dozen or so species, for a total count that reflects an average timing of spring.

"New Property" Walk

On the evening of June 9th Alice led a pleasant walk starting in Osborne Acres to examine our new property (an additional quarter-section purchased courtesy of the provincial government in June 2001). Succession is taking place from nodes of shrubs and trees in the main hay pasture, and although the cover is largely tame grass, there appears to be very little incursion of weeds. Some land to the south-east is still under cultivation.

Annual Orchid Walk, June 22

Hats off to Irl Miller, Beth Jenkins and Pat Wishart, who held the day while so many of the rest of Wagner executive were away. About 65 people attended throughout the day, necessitating a record seven tours. Apparently the orchids and other wildflowers cooperated by putting on a splendid display.

NAIT's Field School in Wagner

Since April 2001, NAIT has conducted its hydrogeological field school at the Wagner Natural Area with the support of the University of Alberta, Alberta Geological Survey, Alberta Environment, Elk Point Drilling and Rice Engineering. This partnership provides NAIT students with a real-world field site and also benefits researchers at the University of Alberta. This year, two wells were installed in the Villeneuve field, one of which was artesian. *(Reported by Heather von Haufl)*

Keeping Track of Groundwater, continued from page 1

which the Society contended could withdraw water from the aquifer to the detriment of the vital water supply for Wagner Natural Area's marl ponds and fens.

In April 2001, Wagner Society successfully appealed a conditional development permit issued to Novo Development Corporation by Parkland County after the property owner had obtained a water licence from Alberta Environment in December 2000. However, no stop or remediation orders were ever issued on the pond, which had already been constructed.

The consultant's study reported the existence of a groundwater channel, in line with the Natural Area's marl ponds, extending into the private property, but concluded that a shallow pond was unlikely to affect this aquifer. Wagner Society has expressed concerns with the report on various technical grounds, including the fact that the study was done while the ground was frozen, and water table levels could not be accurately established.

Novo Development Corporation is currently applying to Alberta Environment for a water licence to allow the current pond to be converted into a stormwater management pond. Wagner Society has filed an appeal against it, with demands that mitigative measures be applied, including backfilling to reduce the depth of the pond, and for continuous monitoring of the wells to determine possible effects on the groundwater supply to Wagner Natural Area. Wagner Society is in possession of a proprietary 1984 water licence for "ecological" use of groundwater.

Patsy Cotterill

Wetland Series

This is the fourth installment in a series of papers introducing wetlands titled *Wetlands – shedding some light into their murky waters*. This installment introduces vascular and non-vascular plant communities of the dominant wetland classes in western continental Canada.

Part 4: Western Continental Wetland Plant Communities

by David A. Locky and Markus N. Thormann*

Introduction

Wetland classifications are by definition static categorizations of dynamic systems. Hydrological regimes and plant communities can vary markedly as wetlands develop over time. Using hydrophytic plants to indicate wetland boundaries is useful in delineating boundaries. Using species assemblages assists in classification a site. Plants are easy to collect and plant remains can be found throughout the year. However, once a site has been identified as a wetland it may still be difficult to properly classify that wetland into one of the five wetland classes (bog, fen, marsh, shallow open water, and swamp) (NWWG 1997). One example is the classification of open fens and marshes. Many fens are sedge dominated and appear to be very similar floristically to sedge dominated marshes. This separation is particularly troublesome in regions where fens and marshes are common, e.g., in the southern boreal forest. It may also be difficult to separate the different fen types from one another, e.g., moderate-rich from extreme-rich fens, because this separation is based on the number of rich fen indicator species. Rich fen indicators, the physical manifestation of extreme minerotrophy, often remain at a fen long after that site has developed into a moderate-rich or even poor fen.

Wetlands, although distinct entities unto themselves (i.e., not intergrades between aquatic and upland systems), need to be described using both boundaries (e.g., wetland and upland) and gradients. Using plant species alone will not always guarantee indicators of a particular wetland class. More realistically and preferred, one should take into consideration the suite of plant species in addition to the chemical variables (vegetation, soil, and/or surface water) at the site to classify the wetland into class and form, e.g., class 'fen' and form 'riparian fen' (Mewhort 2000).

That said, plants are still the most important element of wetland classification at the finest scale, i.e., wetland type. Reading a description of every plant species in *The Flora of Alberta* by E.H. Moss

(Packer 1983) would reveal that of the 1,775 vascular plants in Alberta, nearly 250 (14%) grow in wetlands (Vitt et al. 1996). This number would undoubtedly increase if the floras of other provinces and territories in Canada as well as non-vascular plants (mosses, liverworts, hornworts, and lichens) were included. More research is required to (a) complete the list of wetland plants in Canada and (b) gain a better understanding of the factors controlling the distribution of specific plants in different ecosystems, including wetlands. Some work has been done on peatland moss (Gignac and Vitt 1990, Gignac 1992, Belland and Vitt 1995, Vitt and Belland 1995, Gignac et al. 1998, Beilman 2001, Locky unpubl.) and vascular plant (Kenkel 1987, Jeglum and He 1995, Beilman 2001, Locky unpubl.) communities in Canada. However, these studies are relatively uncommon, despite the ubiquity of wetlands in Canada.

The purpose of this installment is to provide a list of plant species (Table 1) one would likely encounter on a visit to western continental wetlands (Manitoba, Saskatchewan, and Alberta). It is not intended to be a complete list or the last word in wetland plant indicators. We used our own experience and information from a wide variety of sources for the list. Readers are encouraged to consult references in our bibliography for further information.

Most species in the list are common, but we also included some rare species. In some cases, only genera are listed. Keep in mind that most wetland plants are not restricted to a specific class of wetlands (Table 1). For example, black spruce, *Picea mariana*, grows in bogs, fens, and swamps, while the big red stem moss, *Pleurozium schreberi*, can be found in many types of fens and bogs. To add to the confusion, both of these plants grow in non-wetland ecosystems as well. Conversely, some of the plants can occur predominantly in one wetland class (using water chemistry, e.g., pH, calcium, as modifier of

continued on page 4

wetland site type). For example, *Scorpidium scorpioides*, scorpion feather moss, is found almost exclusively in extreme-rich fens. Additionally, many species of pondweed, *Potamogeton*, grow almost exclusively in shallow open water wetlands. The degree of shading at a site can dictate species assemblages. Prostrate sedge, *Carex chordorrhiza*, is found in rich fens but only in habitats with little tree or shrub cover. Whether or not a particular plant occurs in more than one wetland class or is “restricted” to a specific wetland class depends on a variety of factors, including primarily water level (moisture), shade, peat depth, acidity, nutrient concentrations, geography, and climate.

Bibliography

- Anderson, L.E. 1990. A checklist of *Sphagnum* in North America north of Mexico. *The Bryologist* 93: 500-501.
- Anderson, L.E., H.E. Crum, and W.R. Buck. 1990. List of mosses of North America north of Mexico. *The Bryologist* 93: 448-499.
- Beilman, D.W. 2001. Plant community and diversity changes due to localized permafrost dynamics in bogs of western Canada. *Canadian Journal of Botany* 79: 983-993.
- Belland, R.J. and D.H. Vitt. 1995. Bryophyte vegetation patterns along environmental gradients in continental bogs. *Écoscience* 2: 395-407.
- Crum H. and L. Anderson. 1981. Mosses of Eastern North America. Columbia University Press, New York, NY, USA.
- Gignac, L.D. 1992. Niche structure, resource partitioning, and species interactions of mire bryophytes relative to climatic and ecological gradients in western Canada. *The Bryologist* 95: 406-418.
- Gignac, L.D. and D.H. Vitt. 1990. Habitat limitations of *Sphagnum* along climatic, chemical, and physical gradients in mires of western Canada. *The Bryologist* 93: 7-22.
- Gignac, L.D., B.J. Nicholson, and S.E. Bayley. 1998. The utilization of bryophytes in bioclimatic modeling: present distribution of peatlands in the MacKenzie River Basin, Canada. *The Bryologist* 101: 560-571.
- Jeglum, J.K. and F. He. 1995. Pattern and vegetation – environmental relationships in a boreal forested wetland in northeastern Ontario. *Canadian Journal of Botany* 73: 629-637.

- Johnson, D., L. Kershaw, A MacKinnon, and J. Pojar. 1995. *Plants of the Western Boreal Forest and Aspen Parkland*. Lone Pine Publishing, Edmonton, AB, Canada.
- Kenkel, N.C. 1987. Trends and interrelationships in boreal wetland vegetation. *Canadian Journal of Botany* 65: 12-22.
- Mewhort, R.L. 2000. Nitrogen dynamics and ecological characteristics in marshes and fens in boreal Alberta, Canada. M.Sc. thesis, Biological Sciences Department, University of Alberta, Edmonton, AB, Canada.
- Mitsch, W.J. and J.G. Gosselink. 2000. *Wetlands*, 3rd Edition. John Wiley & Sons, Inc. New York, NY, U.S.A.
- National Wetlands Working Group. 1997. *The Canadian Wetland Classification System*, 2nd Edition. University of Waterloo, Waterloo, ON, Canada.
- Packer, J.G. 1983. *The Flora of Alberta* by E.H. Moss, 2nd Edition. University of Toronto Press, Toronto, ON, Canada.
- Vitt, D.H. and R.J. Belland. 1995. The bryophytes of peatlands in continental western Canada. *Fragmenta Floristica et Geobotanica* 40: 339-348.
- Vitt, D.H., L.A. Halsey, M.N. Thormann, and T. Martin. 1996. Overview of Peatland Resources in the Natural Regions and Subregions of Alberta. Sustainable Forest Management Network, University of Alberta, Edmonton, AB, Canada.

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Surface water replenished in Wagner this spring!
Photo: Patsy Cotterill

Wetlands (4) continued**Table 1: Vegetation by Wetland Type**

Vascular and non-vascular plants of western continental wetlands in Canada. "Mod R" = moderate-rich fens; "Ext R" = Extreme-rich fens; "Min" (swamp) = mineral swamps; "SWW" = shallow water wetlands; "x" = common in that wetland class; "-" = present in that wetland class; "Sph" = *Sphagnum* moss; "FM" = feather moss; "BM" = brown moss.

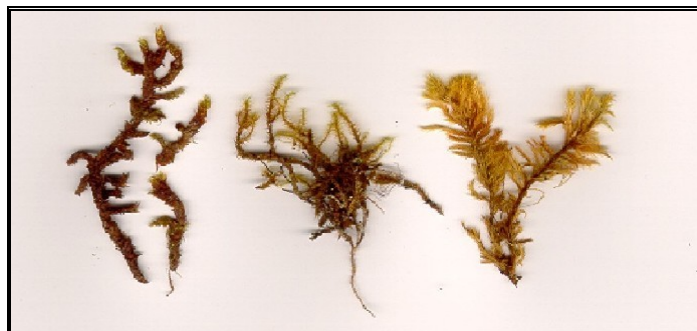
Nomenclature is according to Packer (1983) for vascular plants and according to Anderson (1990) and Anderson et al. (1990) for non-vascular plants.

Plants Common Name	Latin Name	Bog	Fen				Swamp		Marsh	SWW
			Poor	Mod R	Ext R	Peat	Min			
Trees										
Black spruce	<i>Picea mariana</i>	X	X	X	X	X				
Jack pine	<i>Pinus banksiana</i>	-	-	-	-	-				
Tamarack	<i>Larix laricina</i>	-	X	X	X	-				
Balsam Fir	<i>Abies balsamea</i>			-		-				
Tall Shrubs										
Willows	<i>Salix</i> spp.	X	X	X	X	X	X	-		
Dwarf Birch	<i>Betula pumila</i>	-	-	X	X	X	-			
Alder-leaved Buckthorn	<i>Rhamnus alnifolia</i>			X		-	X			
Low Shrubs										
Labrador Tea	<i>Ledum groenlandicum</i>	X	X	X	X	X				
Leatherleaf	<i>Chamaedaphne calyculata</i>	X	X	-						
Northern Bog-laurel	<i>Kalmia polifolia</i>	X	X	-						
Dwarf Bog-rosemary	<i>Andromeda polifolia</i>	-	X	X						
Small Bog Cranberry	<i>Oxycoccus microcarpus</i>	X	X	X	-	-				
Bog Cranberry/Lingonberry	<i>Vaccinium vitis-idaea</i>	X	X	X	-	-				
Cloudberry	<i>Rubus chamaemorus</i>	X	X	-						
Currants and Gooseberries	<i>Ribes</i> spp.			X	-	X				
Herbs										
Three-leaved False Solomon's Seal	<i>Smilacina trifolia</i>	X	X	X	X	-				
Buckbean	<i>Menyanthes trifoliata</i>		-	X	X					
Pitcher Plant	<i>Sarracenia purpurea</i>	X			X					
Sundews	<i>Drosera</i> spp.	X	X	X	X					
Grass-of-Parnassus	<i>Parnassia palustris</i>			X	X					
Seaside Arrow-grass	<i>Triglochin maritima</i>			X	X					
Northern Green Bog Orchid	<i>Habenaria hyperborea</i>			X	X	-				
Round-leaved Orchid	<i>Orchis rotundifolia</i>			X	X	-				
Sticky False Asphodel	<i>Tofieldia glutinosa</i>				X					
Bedstraw	<i>Galium</i> spp.			X	X	X	X	X		
Tufted Loosestrife	<i>Lysimachia thrysifolia</i>			-			X	X		
Nodding Beggarticks	<i>Bidens cernua</i>			-			X	X		
Northern Water Hore-hound	<i>Lycopus uniflorus</i>						X	X		
Marsh Scullcap	<i>Scutellaria galericulata</i>			X			X	X		
Marsh Speedwell	<i>Veronica scutellaria</i>						X	X		
Narrow-leaved Emergents										
Horsetails	<i>Equisetum</i> spp.	X	X	X	X	X	X	X	X	X
Tall Cottongrass	<i>Eriophorum angustifolium</i>		-	X	-					
Sheathed Cottongrass	<i>Eriophorum vaginatum</i>	X	X	-						
Prostrate Sedge	<i>Carex chordorrhiza</i>		-	X	-					
Northern Bog Sedge	<i>Carex gynocrates</i>	-	X	X	-	-				
Hairy-fruited Sedge	<i>Carex lasiocarpa</i>		-	X	-					
Shore Sedge	<i>Carex limosa</i>			X	X					
Lakeshore Sedge	<i>Carex lacustris</i>			X					X	
Water Sedge	<i>Carex aquatilis</i>		X	X	X	-	-	X		
Awned Sedge	<i>Carex atherodes</i>		X	X	X			X	-	
Two-stamened Sedge	<i>Carex diandra</i>		-	X	-					

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Table 1. Vegetation by Wetland Type (continued)

Rushes	<i>Juncus</i> spp.			X	X			X	-
Bluejoint Grasses	<i>Calamagrostis</i> spp.			X	-	-	-	X	
Burreeds	<i>Sparganium</i> spp.							X	X
Reed Canary Grass	<i>Phalaris arundinacea</i>							X	
Common Mare's-tail	<i>Hippuris vulgaris</i>							X	X
Bryophytes									
Sph - Rusty Peat Moss	<i>Sphagnum fuscum</i>	X	X	X	-				
Sph - Poor Fen Peat Moss	<i>Sphagnum angustifolium</i>	X	X	X	-	-			
Sph - Small Red Peat Moss	<i>Sphagnum capillifolium</i>	X	X	X	-	-			
Sph - Midway Peat Moss	<i>Spagnum magellanicum</i>	X	X	X	-	-			
Sph - Warnstorf's Peat Moss	<i>Sphagnum warnstorfii</i>			-	X	X			
FM - Big Red-stem Moss	<i>Pleurozium schreberi</i>	X	X	X	-	-	X		
FM - Stair-step Moss	<i>Hylocomium splendens</i>	-	-	-	-	-	X		
FM - Knight's Plume Moss	<i>Ptilium crista-castrensis</i>	-	-	-	-	-	X		
BM - Yellow Star Moss	<i>Campyllum stellatum</i>			-	X	X	-		
BM - Red Hook Moss	<i>Drepanocladus revolvens</i>			-	X	-			
BM - Hook Moss	<i>Drepanocladus vernicosus</i>			-	-	X			
BM - Scorpion Feather Moss	<i>Scorpidium scorpioides</i>			-	-	X			
BM - Common Hook Moss	<i>Drepanocladus aduncus</i>			X	-	-	X	X	
Golden Fuzzy Fen Moss	<i>Tomenthypnum nitens</i>			-	X	X	-		
Three-angled Thread Moss	<i>Meesia triquetra</i>				X	X			
Glow Moss	<i>Aulacomnium palustre</i>	-	X	X	X	X			
Common Tree Moss	<i>Climacium dendroides</i>			X		-	X		
Hard Scale Liverwort	<i>Mylia anomala</i>	X	-						
Robust Emergents									
Bulrushes	<i>Scirpus</i> spp.			X	X			X	-
Cattail	<i>Typha latifolia</i>							-	X
Broad-leaved Emergents									
Water Plantain	<i>Alisma plantago-aquatica</i>							X	X
Water Arum	<i>Calla palustris</i>							X	X
Arrowheads	<i>Sagittaria</i> spp.							X	X
Floating Plants									
Duckweed	<i>Lemna</i> spp.							X	X
Yellow Water-lily	<i>Nuphar variegatum</i>							-	X
Pondweeds	<i>Potamogeton</i> spp.							X	X
Water Smartweed	<i>Polygonum amphibium</i>							X	X
Submerged Plants									
Bladderworts	<i>Utricularia</i> spp.					X		-	X
Stoneworts	<i>Chara</i> spp.					X		-	X
Pondweeds	<i>Potamogeton</i> spp.							-	X
Coontail	<i>Ceratodon demersum</i>							-	X
Water-milfoil	<i>Myriophyllum</i> spp.							-	X



Common mosses of Wagner, from left: *Scorpidium scorpioides*, found in and around the edges of marl ponds; *Campyllum stellatum*, common fen species; *Tomenthypnum nitens*, species of fen edges and black-spruce-tamarack treed fens. All these are brown mosses. About 1/2 life size.

Wagner Natural Area Recognized by Alberta Community Development for its Efforts to Protect the Environment

By Beth Jenkins

At the 2003 Volunteer Awards Banquet, on April 26, 2003, the Wagner Natural Area Society was honoured to receive the Green Shield Award, presented by Ivan Strang, MLA for West Yellowhead, on behalf of Alberta Community Development. Held at William Switzer Provincial Park, the banquet and awards ceremony were part of the Volunteer Stewards Conference, which was attended by volunteer stewards and campground hosts from all parts of Alberta.

Since 1982, the Wagner Natural Area Society (WNAS) has constructed a guided trail system, provided education programs and presented information on behalf of the Natural Area, when proposed development projects have threatened the fragile ecosystem. As a recent example of their dedication to stewardship, members of the Society braved chill winds and horizontal sleet to pick up trash and clear debris from the trail system during the Spring Clean-up on May 17!

Located 10 km east of Stony Plain, on Highway 16, the Wagner Natural Area covers about three quarter sections or 219 ha (541 acres) of land. Often referred to as "the Wagner Bog", the Natural Area is named for the original farmer owner William (Bill) Wagner. The area is known for its 16 species of wild orchids.

In 1983, the Wagner Natural Area was leased to WNAS by the provincial government. Since then, the WNA management plan, bylaws, and fire management plan have served as models that have been applied to many other protected areas throughout Alberta. The provincial Volunteer Steward Program and the idea of issuing long-term leases for Natural Areas were inspired by the activities of WNAS.

In 1991, Wagner Society members worked with Alberta Transportation to develop an Environmental Protection Plan. This Plan guided the construction of the overpass that linked Secondary Road 794 (now Highway 44) to

Highway 16. The original alignment of the overpass threatened Morgan Creek, and also threatened habitat where a number of rare wild orchids find a home.

Above and beyond its activities in support of the preservation of the Natural Area, WNAS has a spirit of caring and commitment that goes beyond the "usual" volunteer camaraderie. The longevity of the Society's membership – with several of its founding members still very active in monitoring and cleanup activities – is an example of this commitment. WNAS celebrated its 20th anniversary as a society at its November 2002 Annual Members' Night.

The Wagner Natural Area Society has been well honoured for its volunteer work by the provincial government, gaining an Outstanding Steward Group Award in 1990 and the Steward Service Excellence Award in 2000. It achieved prestigious province-wide recognition as the winner in the Community Group Category, 11th Annual Emerald Awards, 2002.

For additional information, contact:

Alice Hendry (President) phone 780/962-4836 or Irl

Miller (Past President) 780/455-3866

The Green Shield Award description is at

http://www.cd.gov.ab.ca/involved/parks/volunteer/vol_heroics.asp The Green Shield Award is the highest level of recognition by the provincial government and was created to celebrate the International Year of Volunteers in 2001.

Past Green Shield recipients are:

2002: Eric & Doris Hopkins

2001: Des Allen & Peter Sherrington

Beth Jenkins is a director of the Wagner Natural Area Society.

Wagner Natural Area Society

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

Executive 2003

President	Alice Hendry (962-4836)
Past President	Irl Miller (455-3866)
Vice-President	Ben Rostron (434-3839)
Treasurer	Tom Sherwood (435-6065)
Secretary/Ed/Membership	Patsy Cotterill (481-1525)

Directors

Pat Clayton (456-9046); Leota Cummins (447-4256); Beth Jenkins (458-1794); Mike Jenkins (481-8695);
Derek Johnson (436-8231); Edgar Jones (436-5327)

Wildflowers of Wagner No. 21

Andromeda polifolia L.
Ericaceae

Bog Rosemary, Dwarf Bog Rosemary
Heath Family



Bog Rosemary is a rather sprawling evergreen shrub that reaches from 10 to 30 cm in height and frequents the drier ridges of vegetation within fens and wet bogs in the boreal forest. In Wagner Natural Area it often forms a showy border to the marl ponds, where it is conspicuous when it is in flower from the end of May through much of June.

The flowers are worth examining, for their delicate, intricate structure. Each flower, borne in a cluster of 3 to 5 at the ends of the thin branches, has a bell-shaped corolla that looks like a tiny (about 6 mm long), inflated lantern of pink. It is made up of five joined petals evident by the five teeth at the narrower end of the “lantern”, and the five slight ridges on the backs of the petals. The corolla sits atop a basal ring of five triangular sepals, while inside lies a ring of 10 stamens, joined at the base. The pollen-containing anthers are hinged flexibly on the sturdy pink filaments, and each has a pair of narrow awns, like slender horns, attached to it. The style and stigma arise like a tapering candle from the centre of the superior ovary.

The fruits are 5-valved capsules, erect, round, a deep reddish-pink until finally ripe when they turn brown, and containing numerous seeds.

The leaves of Bog Rosemary are about 2 to 2.5 cm long, narrow and pointed at both ends. They are hard and leathery in texture, a deep, bluish-green with a fine network of white veins above and a characteristic white waxy coating beneath, strikingly visible against the green of the rolled-under edges of the upper leaf surfaces. The shrub spreads by means of narrow rhizomes which interpenetrate the fen mosses with which this plant usually grows.

Andromeda belongs to the Ericaceae family, various species of which are typical of peatland habitats and show similar characteristics, including leaf features designed to minimize the surface area available for evaporation and so counter drought. Considering that many of these species inhabit wet places, this may seem an anomaly, but many are evergreens and all evergreens must be equipped to tolerate drought during the winter season. In Wagner, other ericaceous plants include Labrador Tea (*Ledum groenlandicum*) and small bog-cranberry (*Vaccinium oxycoccus*). Bog cranberry (*Vaccinium vitis-idaea*) and common bearberry (*Arctostaphylos uva-ursi*) occur in smaller numbers in the Natural Area. Make a point of looking for them and noting the similarities and differences between their various flowers and leaves.

Illustration is of a scanned-in specimen collected in Wagner Natural Area on June 9, 2003.