WAGNER NATURAL AREA NEWSLETTER

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OPEN HOUSE

On January 16, 1990, Spencer Environmental Management Services Ltd. held the second Wagner Study Advisory Group (WAGSAG) Open House at Winterburn Community Hall. Spencer is the private consulting company that is doing the environmental impact assessment of the proposed road on the Wagner Natural Area, and the purpose of the Open House was to make the general public aware of what the study had produced to date and give them an opportunity to comment and express their concerns. Over 300 people attended, and on the whole, the Society felt it was well conducted.

The consultant's study is divided into five distinct parts, the wildlife, botany, hydrology, geophysical and acoustic studies. Certain facts were brought out that were very interesting and, the Society thought, were rather damning to the proposed road construction. It was mentioned that the road would create a new edge next to the Natural Area, and studies have shown that this could result in effects to the wildlife as far back as 600 m from the edge. This would result in impacts to as much as one-third of the Natural Area. It was also mentioned that, as a result of the soft ground the road would be built on, the road bed may have to be as wide as 110 m at the north end where it comes off the overpass ramp at the corner of Highways 16X and 794. This would result in a very large chunk of habitat being directly destroyed. The third important piece of information was the fact that 16 plants of the bog adder's-mouth would be destroyed. This is dealt with in more detail in the article on this rare plant in this issue.

The Society had some criticism of the consultant's report, particularly the hydrology portion. We felt that the consultant was downplaying the importance of the surface water. It is our opinion that the quality, quantity and flow patterns of the surface water are absolutely integral to the well being of the peatland. Because Wagner is a mixed peatland with both rich, calcareous fen and acid bog components, any disruption to the springs that feed the peatland, and any change in water levels and flow patterns, would adversely affect the flora and fauna of the area. It is our feeling that the proposed road could not help but result in these disruptions.

For this reason, the Society wrote a letter to the consultant expressing these and a number of other concerns. The consultant has already sent us a reply, assuring us that all of these concerns will be taken into account and that the spring locations will be determined as much as possible.

*Proposed interchange and connecting road at the juction of 16X and SR794 **

Remember, this was only the second of three Open Houses. Everyone who is presently on our mailing list should receive notice of the future Open House. The third and final WAGSAG open house will be held in the later part of May or early June so look for it's announcement. We would encourage you to attend if at all possible. Your continued support will ensure that we get the best possible report from the consultant, and we feel that this is essential to ensure that the right decision is made regarding the road.

In mid May, the draft consultants report will be released for review so watch for it and be sure to provide comments.

* Diagram reprinted with permission from the Wagner Study Advisory Group News, Number 1, June

SOCIETY MEMBERSHIP

This is the first issue of the newsletter for 1990, and as such, it should be the first time the newsletter is being sent out to members only. We have decided, however, to send it to everyone who is on the old mailing list, regardless of whether they have taken out a membership or not. This gives us one more opportunity to encourage everyone to join the society if you have not already done so. For the sake of convenience, membership is always from January 1st to December 31st. Anyone joining before July 1st will receive the back issue for that year, and anyone joining from July 1st onward will have their membership start in the new year.

Membership entitles you to three issues of the newsletter, at least one field trip for members only every year and a special members evening to be held in the fall of the year. Membership is $10 regular, $8 for students and $12 for families. The membership fees will help the society pay for the newsletter, postage and such operational costs as insurance, etc.

THE BOG ADDER'S-MOUTH

In mid-July of this past year, Matt Fairbarns, while working on contract for the Natural Areas Program of Alberta Forestry, Lands and Wildlife, discovered *Malaxis paludosa* (the bog adder's-mouth) on Lot 14, the property immediately to the east of the Wagner Natural Area. Thirteen plants were found right on the proposed road alignment and an additional three plants were found very close to the edge of the alignment.

The bog adder's-mouth is a very small orchid, averaging about 5 cm to 10 cm high and rarely growing to 15 cm. The inflorescence has up to 35 very tiny yellow-green flowers with the green striped lip oriented uppermost. It is a plant of wet, acid bogs and is usually found growing in sphagnum moss. It is also one of the rarest North American orchids. Holarctic in distribution, it was first discovered in North America in 1905 when it was found in a sphagnum bog in northern Minnesota. Since then, it has been found in Ontario, Alberta, British Columbia and Alaska.

The first known locality in Alberta for this orchid was a bog just north of Gunn, near Lac Ste. Anne, but unfortunately, due to disturbance factors, this population no longer exists. In 1980, however, the orchid was discovered at Wagner. By 1988, a total of eight plants had been found in six different areas throughout the peatland. The discovery of the 16 plants this past summer triples the known population at Wagner and, for that matter, in the whole province. It is unlikely that the plants found this past summer represent the total population of the species on the road allowance.

It is quite possible that the bog adder's-mouth is the rarest vascular plant species, with a viable population, in Alberta. Considering that two-thirds of this population could be destroyed if the road follows its present alignment, this becomes a very strong argument for realigning the road. Attempts to transplant this orchid have never succeeded, as it is apparently too sensitive to disturbance and even slight environmental changes.

It is hoped that, eventually, rare plants such as this will have some official protection. Until then, let us hope that Alberta Transportation and Utilities and the County of Parkland think that this rare plant is worth saving.

Locations of the Bog Adder's-mouth orchid (Malaxis Paludosa) in Alberta

■ Known location, Wagner Natural Area

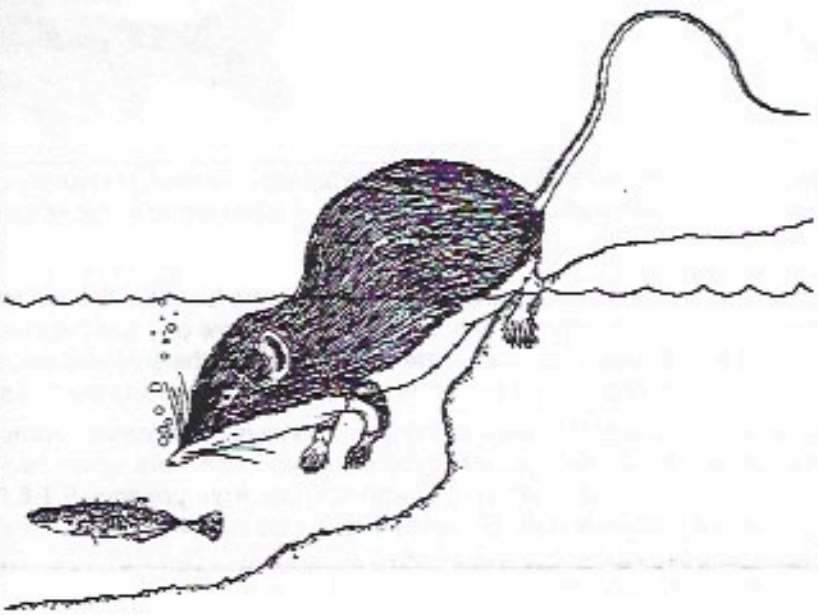
● Believed to be expirated near Glenevis

THE WATER SHREW: FISHERMAN OF THE WAGNER NATURAL AREA

by Wayne Roberts, Museum of Zoology, University of Alberta

The American water shrew *Sorex palustris*, the smallest aquatic mammal found in Alberta, lives but is seldom seen in the wetlands of the Wagner Natural Area. This is because of its small size (about 150 mm total length) and also because, when foraging, it scurries through dense riparian vegetation and slips quietly in and out of water. Rarely, it may be seen swimming on the surface or, less frequently, running on the water's surface on a cushion of air bubbles trapped beneath the hairy fringes of its feet (perhaps when it crosses a small expanse of open water in haste).

Shrews are, strictly speaking, insectivores (Order Insectivora) with teeth adapted for eating insects. In addition to insects, water shrews will include in their diet invertebrates such as snails and crustaceans, perhaps supplemented by tadpoles, small frogs and toads. Like other carnivorous animals, they will also eat carrion which may include other animals as large as themselves, such as microtine rodents and even other water shrews. It is unlikely that water shrews prey on larger animals because of the expense of energy it would require, as well as the risk that would be involved in attacking large prey when such an abundance of smaller prey (primarily invertebrates) is available.



This hungrey water shrew is about to make a meal out of the brook stickleback.

One relatively large prey item that is frequently found in the diet of water shrews in Alberta is the brook stickleback *Culaea inconstans*. This fish is widespread, often locally abundant and, as it is not a fast swimmer, is easily caught by water shrews. Brook sticklebacks are found in the creek and beaver dams within the Wagner Natural Area and may represent an important component of the water shrew diet during the winter. These fish may be restricted to deep pools or move to areas where oxygen levels are greatest, such as near springs, beaver dam outflows or lodges where beaver activity keeps some water open.

The aggregations of brook sticklebacks provide an abundance of food for the water shrew. Water shrews make only brief excursions into the water (usually measured in seconds) so that they do not lose too much body heat, yet they can quickly locate and catch brook sticklebacks. The brook sticklebacks perhaps "help" by trying to hide on the bottom or in vegetation from where they are seized and removed from the water. The head is usually eaten first and then the water shrew grooms and dries its fur. After grooming and resting, the shrew returns for a snack, rests some more, snacks again, followed by another rest and then finishes the meal. After resting awhile, the shrew will go "fishing" again.

A good, balanced diet for water shrews in the winter probably includes both invertebrates and fish. In captivity, they do not appear to thrive on a diet of fish alone. About half of the wild-caught shrews examined by the author (not from Wagner!) contained fish remains (usually sticklebacks), but often with invertebrate remains as well. Water shrews were found to eat an average of 1.4 times their body weight per day in sticklebacks, which would require 10 or more fishing trips. While the water shrew is not specialized as a piscivore, it is nonetheless an excellent "fisherman".

This article is based on a predator/prey study by the author.