

### New Gastropod Listing Available

Forty-three species of snails and limpets are listed in the CDC's newest report on the conservation status ranks of the province's freshwater gastropods.

"These organisms are excellent indicators of aquatic health," said Jim Duncan, the CDC's zoologist who compiled the report. "They are widespread across the province and can indicate when water conditions have changed."

Gastropods can be affected by temperature differences that result when industrial effluent is injected into water. They also respond to the addition of organic materials, such as human or

livestock waste. They can even indicate if levels of inorganic materials have changed in the water. Each ring on the shell of a gastropod represents one year. The shell can be analyzed to identify if radioactive materials or heavy metals were present in the water.

Assisting the CDC with the ranking process of the gastropods were two of Manitoba's resident experts, Dr. Brian McKillop and Dr. Eva Pip.

McKillop, curator of invertebrates with the Manitoba Museum, has been studying gastropods for over 30 years.

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### Grassland Birds in Jeopardy

Bird monitoring programs in Manitoba and the rest of North America are indicating that the populations of certain grassland species are declining over the long-term. Ken De Smet, an endangered species biologist with Manitoba Natural Resources, has monitored and managed grassland species since 1987. He provides the Conservation Data Centre with the nesting locations of grassland bird species at risk in Manitoba. According to CDC information manager François Blouin, this information helps to identify important habitat within the province. "By incorporating these occurrences in the CDC database, we can assist with the protection of known nesting habitat," Blouin said.

The species in greatest peril in Manitoba is the burrowing owl (*Athene cunicularia*). In the mid-1970's as many as 500 pairs nested in the province. De Smet monitored Manitoba's burrowing owl population decline from 34 pairs in 1989 to one pair in 1996.

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### Call of the Frog

For the past six years, over 200 volunteers have been

tuning in to the sounds of the province's 12 frog species. The frog monitoring program encourages Manitobans to routinely record the presence or absence of frogs by noting the abundance of calls during spring and summer evenings.

"Manitoba was the first province to become involved in this survey which is part of a monitoring

program across North America," said Ron Larche, survey coordinator and nongame/protected species biologist with Manitoba Natural Resources.

"Volunteers monitor one pond repeatedly during May and June." Records of frog presence are compiled in a long-term database that the CDC zoologist references when identifying status ranks of certain amphibian species.

To become involved in the survey, contact Ron Larche at (204) 945-7740. ■

#### The Manitoba Conservation Data Centre was initiated by:

- Manitoba Museum
- The Nature Conservancy of Canada
- Manitoba Natural Resources
- The Nature Conservancy (United States)

Manitoba  
Natural Resources  
Hon. J. Glen Cummings  
Minister



## Gastropod Listing *contd.*

He identified six sites in southern Manitoba where the American ear snail (*Pseudosuccinea collumella*), previously considered extirpated, could be found. His extensive records are based on 1,000 sites across Manitoba that he has sampled two or three times.

Dr. Pip, a professor at the University of Winnipeg, has been studying gastropods in Manitoba for the last 38 years. She reported a new, rare species of *Physa* snail that is mentioned in the CDC publication.

The results from a new survey Pip undertook this year indicated a decrease in the populations of some of the more sensitive snail species, leading Pip to believe that water conditions have deteriorated across her sampling sites.

She cited occurrences of the rare showy pond snail (*Bulimnea megasoma*), Manitoba's largest snail, as an example. This snail has a low tolerance to habitat changes in the bogs and lakes that it is known to inhabit. "There has been a tremendous decrease in this species," Pip said. "We were able to locate it in less than 25 per cent of the places we found it 20 years ago."

The CDC's status ranks are instrumental in setting conservation priorities. To obtain a copy of the *Conservation Status Ranks of the Freshwater Gastropods of Manitoba*, contact the Conservation Data Centre at (204) 945-7743. ■



A common Manitoba gastropod, the great pond snail (*Lymnaea stagnalis jugularis*), illustrated by Dr. Eva Pip

## Marked for Conservation

*A number of animal species in Manitoba are being marked for monitoring purposes. Some of the monitoring programs are profiled in this issue of Bionet to describe why these species are being marked for conservation.*

### Bats

Jack Dubois, curator of mammals with the Manitoba Museum, has been banding bats since 1988. He has placed wrist bands on over 7,000 bats across the province. Of the six bat species that occur in Manitoba, three remain to overwinter.

"Bats are intensely loyal to the caves where they overwinter and raise their young," Dubois said. "We are trying to learn about their basic natural history in the province and identify which caves we need to protect." To date, 300 bat caves have been identified in the province, their locations are entered as element occurrences in the CDC database.

Information being collected will help to protect the habitat of these mammals that live as long as 35 years.

### Songbirds

Population monitoring studies of neotropical migrants have shown that certain species have been declining over the long-term. These birds breed in Canada and the United States and migrate to Mexico, South and Central America, and the Caribbean Basin.

The Delta Marsh Bird Observatory (DMBO) is Manitoba's only migration monitoring station. It contributes information on the status of songbird populations in the Prairie provinces. "The marsh is an excellent stopover site for migrating birds," said Heidi den Haan, executive director of the DMBO. The lake, marsh and narrow band of trees serve to funnel and attract birds. The huge quantity of birds moving through the migration monitoring station have earned the DMBO the distinction of being Canada's busiest monitoring station. The number of birds banded, to prevent double counting, over the past three years has ranged from 7,100 to over 8,800 per year.

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## Recent Publications

- Caners, R. and N. Kenkel. 1998. *Modelling landscape-level vegetation dynamics in Riding Mountain National Park*. Final Report prepared for Heritage Canada, Parks, Quantitative Plant Ecology Laboratory, Department of Botany, University of Manitoba, Winnipeg, MB. 156 pp.
- Davis, S.K. and S.G. Sealy. 1998. *Nesting biology of the Baird's Sparrow in southwestern Manitoba*. Wilson Bull. 110(2):262-270.
- Duncan, J.R. and A.E. Kearns. 1997. *Habitat associated with Barred Owl (Strix varia) locations in southeastern Manitoba: A review of a habitat model*. pp. 138-147 in Duncan, J.R., D.H. Johnson and T.H. Nicholls, eds. *Biology and conservation of owls in the Northern Hemisphere: 2<sup>nd</sup> International symposium*; 5-9 February 1997, Winnipeg, MB. Gen. Tech. Rep. NC-190. U.S.D.A. For. Ser., N.C. For. Exp. Stn., St. Paul, MN. 635 pp.
- Higgs, C.D. 1998. *A wildlife resource inventory of the Upper Assiniboine Wildlife Management Area and other designated and protected lands in western Manitoba*. Technical Report No. 98-02. Wildlife Branch, Manitoba Department of Natural Resources. Winnipeg, MB. 140 pp.
- McKillop, B. 1996. *Geographic and environmental distribution of freshwater gastropods in Manitoba, Canada*. Manitoba Museum of Man and Nature Occasional Series No. 1. Winnipeg, MB. 34 pp.

**Grassland Birds contd.**

Listed nationally in 1995 as Endangered (facing imminent extirpation), conservation efforts to benefit this owl in Manitoba have been ongoing since 1984 with little success. "By 1997, no nesting pairs were found in Manitoba and only single birds were reported," De Smet said. Conservation efforts have now shifted to Saskatchewan's burrowing owl population, estimated at hundreds of pairs. The number of nesting pairs in this population fluctuates from year to year.

Populations of the loggerhead shrike (*Lanius ludovicianus*) are also declining. Nationally, the western subspecies is Threatened (likely to become endangered if limiting factors are not reversed), and the eastern subspecies is Endangered. Both subspecies are thought

to occur in southern Manitoba but populations of the western subspecies are more common.

Although the Baird's sparrow (*Ammodramus bairdii*) was downlisted nationally in 1996 from Threatened to Not At Risk, it still remains Endangered (facing imminent extinction or extirpation) in Manitoba. "Extreme fluctuations in the numbers of Baird's sparrows across the Prairies make it difficult to determine the status of this bird," said De Smet. Declines in the numbers and distribution of this bird, coupled with a very small nesting distribution, increased predation and brown-headed cowbird parasitism have contributed to this bird's Endangered status in Manitoba. ■

**FOCUS ON. . .  
Managed Area  
Database**

The managed area database, maintained by the CDC, identifies and characterizes natural areas in Manitoba that are under protective or potentially protective management. A managed area has legal boundaries. It is an area defined by its management, not its ownership, so it can be composed of many land parcels owned by different individuals or agencies. Examples include parks (national, provincial, municipal), ecological reserves, wildlife refuges, wildlife management areas, community pastures, and private preserves.

The managed areas are mapped electronically in the CDC's Geographic Information System (GIS). Size, boundaries, legal descriptions, protection status, management plans, and special features are recorded for each managed area. A total of 419 records are currently found in the managed area database. All together, the managed areas mapped in the GIS represent a total of 6,559, 151 hectares or about 10 per cent of the province's area.

In order to further the conservation of Manitoba's biological diversity, new managed areas are currently being researched by CDC staff for inclusion in this dynamic database. The CDC's GIS can identify managed areas that may be impacted by proposed development. The managed area database also helps staff assess the extent to which known occurrences of rare species are found within protected habitats. ■

**SPECIES PROFILE: Western Spiderwort**

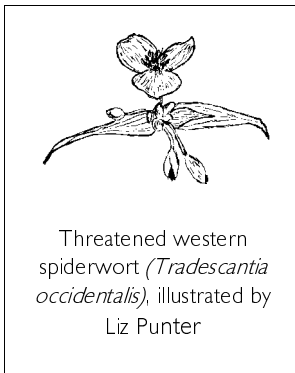
**The western spiderwort (*Tradescantia occidentalis*) has been designated nationally and provincially as Threatened (likely to become endangered if limiting factors are not reversed). As such, it is one of the priority species on which the Manitoba CDC maintains up to date information on status and distribution.**

The western spiderwort is restricted to the Lauder Sand Hills and Routledge Sand Hills in southwestern Manitoba. It prefers open, partially stabilized sand dunes, but it may also grow amongst low shrubs, or beneath sparse oak trees. The plant produces short-lived bluish-purple and occasionally pink flowers in July, each of which lasts for only one day.

Its preference for sand dunes makes it susceptible to extreme changes in its habitat.

Heavy grazing can destabilize sand dunes and eliminate the spiderwort. Conversely, an absence of grazing can allow vegetation to encroach onto dunes, stabilizing the sand and producing shade to the point that the

spiderwort cannot persist. Light grazing may be beneficial to the plant by preventing vegetation encroachment.



All-terrain vehicles, sand excavation, oil exploration and overgrazing are the principal human-induced threats to the species. Invasion of the exotic leafy spurge (*Euphorbia esula*) is occurring, and may also represent a threat to its survival.

This species was known to occur in only two sites in Manitoba, but a 1996 habitat survey of western

spiderwort documented a third occurrence of the species. Manitoba's known spiderwort population was estimated at 47,000 stems, but the plant occurs in a total area of less than four quarter sections of land. ■

## ■ Staff & Volunteer Updates

CDC Zoologist Dr. Jim Duncan has become an adjunct professor with the University of Manitoba's zoology department. Duncan will be supervising the work of graduate student Heather Hinam who is studying the effects of forest fragmentation on owls and hawks for her master's degree. "This position allows me to act as an additional liaison between the university and the CDC," Duncan said. "The work of graduate students is one of the main sources of new information to further the conservation of Manitoba's biological diversity." ■

Liz Punter, CDC special projects botanist, has also acquired a new role with the University of Manitoba. She is now assistant to the curator of the university's herbarium.

Punter works one day a week managing the herbarium, maintaining collections, overseeing loans and assisting students, staff and visitors. She is quite comfortable in the position that complements the four weekdays she spends at the CDC. ■

The staff at the CDC welcome new administrative assistant Cindy Little. Little works for Manitoba Natural Resources and will assist the CDC on a part-time basis. Her computer skills and personality are a wonderful addition to the CDC team. ■

This year in September, former CDC volunteer Rosemary Trachsel started working as the education specialist with Project Wild.

During the summer, she worked with Manitoba Natural Resources as a park interpreter at Spruce Woods Provincial Park. She said her volunteer work with the CDC helped her in the workplace. She has an increased understanding of the geography of Manitoba and she has developed her volunteer management skills. Good Luck in your new position Rosemary! ■

**Volunteer opportunities exist for people with biological training and/or experience with GIS and computer databases.**

### Marked for Conservation *contd.*

#### **Woodland Caribou**

Individuals from three woodland caribou herds in Manitoba have been fitted with radio collars. The collars allow biologists to monitor the caribou's movements, determine herd ranges and identify habitats selected at different times of the year.

"The information being gathered integrates caribou conservation with forest harvesting practices," said Ron Larche, nongame/protected species biologist with Manitoba Natural Resources. "By monitoring the caribou and understanding their requirements, we can minimize potential negative impacts." ■

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