

4, 1970) the water at the outflow from Gardiner Dam was 10°C colder than the normal river temperature. This low temperature is apparently due to the fact that water forming the outflow is taken from 100+ feet below the surface of the reservoir. The reservoir stratifies in typical lake fashion (cold waters form the bottom layers, warmer water forms the top as a result of the relationship between density and temperature), and the resulting low temperature of the outflow could be sufficient to inhibit proper development and reproduction of many species.

At point E, the water is again of normal temperature, and this corresponds to the reappearance of several species. Zone E-F represents a region of partial, but by no means complete, recovery of the original fauna. Conspicuous because of their absence are the new genus *Isonychia*, *Lachlania*, *Epeorus*, *Anepeorus*, *Choroterpes*, *Traverella*, and *Baetisca*. In other words the most highly specialized and unusual genera are absent in this zone of partial recovery.

At point F, sewage, mercury, etc., are dumped into the river. Most species are eliminated and the fauna downstream from Saskatoon consists mostly

of sewage bacteria and sewage worms (Chironomidae and Tubifex). Some insects drift into the area from upstream and their fate is illustrated in Figures 2 a-c.

Information is not available at present to indicate when or if the river recovers downstream from Saskatoon. Although some species undoubtedly return, it is almost certain that the specialists are eliminated. Pulp mill effluent originating from near Prince Albert enters the system at point G (Tones, 1970).

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## Letters and Notes

### JOHN MACOUN

Reading the article by C. D. Bird in the September *Blue Jay* on John Macoun and his travels on the prairies reminded me that in addition to being a botanist Macoun was also something of a politician.

Macoun was the man commissioned by the Canadian government to suggest a route for the proposed trans-canada railway line that would cover the most fertile areas of the west. This was in the years 1879 and 1880.

The prairie country at that time was not altogether unknown, as 20 years earlier it had been explored by Palliser's party, which made two topographical designations: the "arid belt" and the "fertile belt", the former,

roughly speaking, being the region south of the confluence of the Red Deer River and the South Saskatchewan. Macoun had also reported on the country between Fort Garry and Edmonton in 1872, and his report confirmed the findings of Palliser as to the richness of the northern section of the country. In the light of this previous knowledge of the country, a justifiable criticism can be made of Macoun's support of the southern railway route. This point is clearly made in an article by Dr. F. G. Roe in the *Canadian Historical Review* (Vol. 27, June, 1946): "Up to 1881 Macoun might have passed for an unbridled enthusiast who, starting with the Peace River country in the north and working farther southward in successive explora-

tions, had applied uniformly to every portion of Western Canada from Red River to the Rockies, and without any regard to known or potential climatic or topographical variations, the same sweeping generalizations of unqualified praise. In the year 1881, however, this had become scarcely sufficient. It was now necessary to show that a certain type of country was practically the only one really suitable for settlement; and Macoun, with a hardihood which leaves one breathless, entered upon the task. He distorted in a double sense. He damned with faint praise the region which every man who saw it—a category which includes Macoun himself, previous to 1879-80—could scarcely find words to extol, and he “proved” what later history has signally and lamentably failed to endorse, the superiority of the Missouri Coteau and the southern arid or semi-arid “baldheaded prairie” territory in general.”

Dr. Roe sums up as follows: “Macoun was no arm-chair publicist. He had journeyed over the territories which he unjustly traduced or baselessly extolled; and he offended in the light of knowledge, history and experience. Among propagandists his utterances were trumpeted as science; I doubt whether they were ever anything more than propaganda among scientists.”

There was no doubt that it was more economical to build the railway through the flat, treeless southern prairies, arid though they were known to be, than through the truly fertile belt to the north; and that Macoun lent himself, excellent botanist though he was, to the deception.—A. R. Davidson, Victoria, B.C.

## MERCURY POLLUTION

Mercury can remain in the environment for as much as 100 years where it will continue to poison aquatic life and anything that feeds on it. Less toxic forms may change to highly toxic methyl mercury.

Dentists and medical laboratory technicians are often cited as liable to

mercury poisoning. Doubts have also been raised about the practice of filling teeth with amalgam—a mixture of mercury and silver. Wastes from dental laboratories and from hospitals, where mercury may be used in many techniques, eventually is flushed down the drains.

In the *New York Times* for September 10, 1970, a chart shows that 17 per cent of the uses of mercury in the United States are for hospital, laboratory, and dental purposes. How much of the mercury contamination of our Saskatchewan and Manitoba waterways can be traced to such usage.

A news release from *Rachael Carson Trust for the Living Environment Inc.*, 8940 Jones Mill Road, Washington, D.C. 20015, alerts conservationists of this source of environment pollution and urges them to try to reduce unnecessary pollution from these sources because no one knows how long it will take to clean up our waterways even if no more mercury enters the water.

## LARGE OWLS MIGRATING IN DAYTIME

On April 13, 1970, my wife and I, both teachers in Birch Hills, had just returned home from a short after-school car ride into the country. I glanced at the sky and spotted what appeared to be four buteos soaring high in the sky. The winds at that time were breezy from the ESE, but the sky was relatively clear.

Since the birds were *very high*, even with the binoculars (7x35) I couldn't positively identify the one buteo I eventually got into view. The bird was very dark, however, both ventrally and on the under wing surface. As I was mentally engaged in attempting to make an identification, another one of the birds soared into view. I was somewhat astonished to see that it was an owl. While I watched, it approached and attempted to grapple with the buteo. I watched these two for some time, and each time the owl approached the buteo it would attempt to close

with it. When I focused on the other two of the four, I found these to be an owl and a buteo, and that owl was also pestering the buteo.

As I mentioned before, these birds were too high to permit positive identification. With the sun somewhat behind them, but lower on the horizon, only the general dark color of the buteos and the grey coloration of the owls was distinguishable. Both species appeared to be of the same size.

I might stress that the aerial dog-fights were only brief encounters, and that the birds were definitely sailing (soaring) with very little wing action. The owls seemed to be as efficient in finding the updrafts as the buteos.—*M. Mareschal*, Birch Hills, Sask.

### BIRDS AT GARBAGE DUMPS

When you are out on a birding trip, do not overlook your local garbage dump. Although the stench of rotting garbage and the acrid smell of burnt remains may offend our human nostrils, birds, with little sense of smell, flock to these unsightly accumulations of man-made debris.

When we lived in Prince Albert we often made birding trips to the garbage dumps there. Prince Albert has two dumps—one located on the north-east of the city in the industrial park; the other at the Saskatchewan Penitentiary. When visiting the dump at the Penitentiary, it is a wise move to inform the gate office of your activities. Although you can get a good view of the dump from the public road, people in parked cars scanning the area with binoculars are open to suspicion.

Gulls particularly like the dumps, and arrive punctually with each new disposal of garbage. Ring-billed, California, and Franklin's gulls are regular visitors; the Herring Gull is an irregular visitor, but it is easily distinguishable by its larger size and pink legs. If you are very fortunate you may see a Glaucous gull (See *Blue Jay*, March 1970). In winter ravens are in abundance, being replaced in the spring by noisy flocks of crows. Mag-

pies find the dump a good place for food all year round. A few wintering Starlings are joined by others in the spring. Sharp-tailed grouse find their own territory undisturbed by large flocks of redpolls in the weeds surrounding the dump, while rats and mice provide good hunting for Pigeon Hawks, Red-tailed Hawks and Swainson's Hawks. Great Horned and Short-eared owls also find the dump rewarding. What to the human eye is unsightly is a bird "Shangri-la" in the city, safe from cats and marauding boys with air rifles or beebie guns.—*Elizabeth Beacham*, Sorrento, B.C.

### OBSERVATION OF A BEAR CUB FEEDING

In the spring of 1970, when I was on duty at the Dube Lake Fire Tower about 40 miles north of Green Lake, Saskatchewan, I had an opportunity to observe a bear cub feeding in what appeared to me an unusual manner. Watching from the tower with seven-power binoculars, I could see the cub plainly as it fed in the top branches of a medium-sized aspen poplar about 500 yards away. I first noticed the cub (apparently a yearling) on the morning of May 17, 1970. A larger black bear (perhaps its mother) was standing at the foot of the tree in which the cub was feeding, but it soon walked away and did not return.

As I climbed up the tower again after lunch, the cub climbed down the tree, but about 2:00 p.m. I noticed it again in a tree farther from the tower, where I watched it most of the afternoon. The tree was coming in leaf and had fully developed seed tassels. The cub appeared to be eating the new leaves and seed tassels and stripping and eating the bark off the smaller branches. It continued until the tree top was completely stripped of leaves, and the bark appeared to be peeled from the outer ends of the remaining branches.

There was a strong wind up to 40 m.p.h. in gusts, and the tree tops were swaying, so that the cub was obliged to perform some amazing climbing and

## PARKS IN SASKATCHEWAN

In a recent speech in Prince Albert, Resources Minister Barrie stated that this province has "practically reached its limit in the number of parks and recreation areas that it can properly support." This reflects the low value our present government places on the natural attractiveness and recreation potential of our province. At present, Saskatchewan has one national and 14 provincial parks. Alberta has five national, 44 provincial parks and two large wilderness areas. Saskatchewan does not have a single wilderness area. True, Alberta has the advantage of mountain scenery, but it is also important that most of Alberta's park lands are set aside exclusively for public recreation use. Saskatchewan is now second-last among provinces in the number of tourists visiting, and spends less per capita on tourism than any other province.

Why do people visit parks? Not to encounter hordes of people or to see cattle or oil wells! Yet our government persists in the notion that so-called "multiple use" is compatible with tourism. This has led to seismic exploration and oil pollution in Moose Mountain Provincial Park and the park land destroyed there has not been replaced by new parks. An independent public opinion survey conducted recently in the Cypress Hills by Robert Scace showed that 69% of park visitors disapproved of cattle grazing in the parks, 75% disapproved of sport hunting, 86% disapproved of timber cutting, and 95% disapproved of mining (including oil well drilling). All of these activities are conducted in Saskatchewan provincial parks.

Contrary to Mr. Barrie's opinion, I believe that we must set aside park lands now to cover our future needs, even though we do not have the money for immediate development. After the best lands have been sold or leased to commercial interests we cannot expect to get them back again in a state of pollution-free natural beauty with high tourist potential.—*David H. Sheppard*, Envac, Box 1043, Fort Qu'Appelle.

balancing feats, at a minimum of 40 feet from the ground. Once it slipped, but it held on. It would climb out on all the larger limbs and would break off and hold smaller branches and the ends of larger branches, and eat from them until they were stripped, or dropped. Eventually, I had to stop watching the cub to attend to my duties, and when I looked for it again, it had disappeared.

Since the tree was easily accessible from the tower, I went out to it two days later. Broken branches were scattered about the foot of the tree. They had been chewed and the leaves and seed tassels eaten. There were some branches with the leaves and tassels still on them, so the cub had apparently not touched those on the ground. A bed had apparently been made beside a log close to the foot of the tree. There was a quantity of bear stool near it, which seemed to have been left fairly recently. The droppings appeared to contain the remains of poplar.

Some days later, I saw other tree tops that appeared to be partly stripped and broken, and on May 30, I went to look at these. Four trees close together had been damaged in the same way as the tree in which I had seen the cub, but these were not so extensively stripped. None of the four trees had seed tassels. Under the trees, however, there were smaller branches and bear scat, and the droppings again appeared to be made up of leaves and bark. The branches and scat appeared slightly dried up, which suggested that the cub had fed here earlier.

It would appear that the cub made a practice of tree top grazing, at least for a limited time, but the evidence is too sketchy to make any positive conclusions as to the extent to which poplar makes up the regular diet of bears. Could it be that dietary or regulatory need causes a cub to eat poplar at the start of the season? Or could it be that a cub feeds for safely high up in the trees? These are only speculations on my part, and I would be interested if anyone could confirm or comment on these observations.—*E. Dimond*, Loon Lake, Saskatchewan.



Great Horned Owl

Photo by Harold Hosford

### **COMPLETE PROTECTION IN SASKATCHEWAN**

A long-standing goal of the SNHS was realized when the government revised the Game Act at the last session of the legislature to give complete protection to birds of prey. It is now illegal to shoot any hawk or owl at any time of year in Saskatchewan (Game Act, Section 13, subsection (1), page 7 of 1970 Office Consolidation of the Game Act). The Saskatchewan Natural History Society first proposed such legislation in 1954 (*Blue Jay*, 12:19) and has, through the years, submitted briefs and resolutions urging the government to take this step.

# SNHS ANNUAL AWARDS

## SNHS CONSERVATION AWARD 1970

The 1970 Conservation Award was made to Ruth and David Chandler. The citation was given by Lorne Scott, winner of the award in 1969. The text of the citation follows:

"The short-grass prairie region in the southwestern portion of Saskatchewan is unique in many ways in respect to wildlife. One of the more colourful creatures native to this area is the Black-tailed Prairie Dog. Since the coming of the white man to North America the Prairie Dog has been steadily losing the battle against man with his guns, traps, poisons and other destructive forces.

Fortunately there were a few people who saw that complete destruction of this playful little mammal would come about if protective measures were not taken. In Saskatchewan, Ruth and David Chandler, who grew up on their father's ranch in the Val Marie area and who have been long-time members of this society, could see that over the years the Prairie Dog was losing the battle against man.

One of their first steps to inform the public of their concern for the future of the Prairie Dog was an article in the December 1962 issue of the *Blue Jay*. Through their continued efforts, which involved meetings with the local M.L.A., three years later at an executive meeting on April 10, 1965 the president of the Saskatchewan Natural History Society signed a 33-year lease for the N.E.  $\frac{1}{4}$  of Sec. 23 Tp. 2 R. 13 west of the 3rd meridian; thereby giving the Society legal means to provide protection to a colony of Prairie Dogs. It was a proud day when the cairn, constructed by the Chandlers, was unveiled at the Summer Meet in 1969.

This area was given further protection this fall when it was declared the Frenchman River Wildlife Refuge under the Provincial Game Act.

On behalf of the S.N.H.S., I would like to present the annual Conservation Award to Ruth and David Chandler for their efforts in obtaining the Prairie Dog Sanctuary."

## CLIFF SHAW AWARD 1970

The Cliff Shaw Memorial Award for 1970 was presented to Kees Vermeer of the Canadian Wildlife Service, who submitted a total of eight contributions to the *Blue Jay* in the four issues since the 1969 annual meeting.

In presenting the award, the Editor reviewed briefly the history of the *Blue Jay*, which was first published in Yorkton in 1942 with Mrs. Priestly as editor. Upon the premature death of Mrs. Priestly, the work of editing the journal was taken on by Cliff Shaw, at first under the auspices of the Yorkton Natural History Society and subsequently of the provincial society which was formed to support the publication. At the present time there are a number of local societies, including the recently revived Yorkton society, which promote the same aims as those of the Saskatchewan Natural History Society, and the Editor expressed the hope that, in the environmental crisis we are facing, that movement would continue to grow.

When Cliff Shaw died, the Society established the annual Cliff Shaw award in recognition of the tradition established by him and Mrs. Priestly of encouraging all interested readers of the journal to contribute to it. Last year's generous financial contribution from the Yorkton society will make it possible to continue the award for a number of years.

Kees Vermeer is an active biologist and writer whose articles have made a valuable contribution to the *Blue Jay*. The award recognized his contribution throughout the past year, with special mention going to an article on the nesting of Double-crested Cormorants at Cypress Lake. It is gratifying to note that Hegland Island for which Vermeer recommended protection in his article has now been established as a wildlife refuge by the Department of Natural Resources.

In recognizing the work of Kees Vermeer, the Society is also recognizing the work of the Canadian Wildlife Service, with its increasing attention to the ecosystem.