

Canadian Science Writers' Association for the best general work. It is an informative, attractive, extremely well-organized book.

The Cannings brothers (identical twins), their brother, Robert, and their late father, Steve, have each contributed masterful photographs. All four are well-known naturalists who have done much to encourage and further the study of natural history through print, radio, and television in western Canada.

The Cannings' book succeeds at a number of levels. Visually it is a delight, with superb, eye-catching maps and photographs, enhanced by informative captions. On initial browse, one is stimulated by the pithy, informative, boxed vignettes, such as "when is a seagull not a seagull?" and "Western Sandpipers." These vig-

nettes will please even the most jaded of naturalists. Finally, the main text provides a wealth of well-organized and thoughtfully developed information. Topics such as geology, the ice age, forests, mountains, grasslands, and water are clearly and incisively presented, as the Cannings' knowledge and enthusiasm shine through. British Columbia is most fortunate to have such masterful and able presenters; nature lovers everywhere will benefit from this book. Only superlatives apply. I cannot think of a single word of criticism.

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Field Guide to Bird Nests and Eggs of Alaska's Coastal Tundra

By T. D. Bowman, 2004. U.S. Fish and Wildlife Service Anchorage, Alaska. Published by Alaska Sea Grant College Program. 81 pages, U.S. \$25.00 Paper

This little publication is an interesting add-on for the field practitioner in Alaska and the arctic. This region includes some of the most productive bird nesting areas in North America, and probably in the world. It shows in detail nest and egg features of 70 bird species (loons, waterfowl and crane, jaegers, gulls and terns, owls, ptarmigan, alcids, shorebirds and passerines). Taverner's Canada Goose and Cackling Canada Goose receive separate chapters. The species included in this guide were selected based on their occurrence in Alaska and by their "relative abundance". Some rare species like Sanderling, Surf-bird and Yellow-rumped Warbler are unfortunately not included, which will not really help to bring us any closer to their nest discoveries.

This is a convenient book designed to be used in the field. Bird species in this book are ordered by egg size, which makes an interesting presentation. The book design and the photo arrangements are done nicely, but sometimes I find the egg photos a little overdone and repetitive; sometimes wing photos are hard to differentiate. For each species, the photos show the bird (often male and female), bird on the nest, the actual nest, eggs and (down) feathers; but this format is not always strictly followed. Personally, I find it somewhat a shortcoming that chicks are rarely presented in this

guide. Of interest is the concept of a "Sizing Chart", which "provides a quick reference to help reduce the number of prospective species to which an egg could belong". Further, the book offers for geese "Parting Shots..." in order to identify escaping birds. A quick reference guide is provided for "Dark Goose Nests."

Six short introduction text pages provide basic background about the species and the book concept. I admire the challenges and amount of field work involved in compiling the specific nest and egg colour photos (over 450). A great photo collection is presented which includes not only, those done by the author but also contributions from over 70 other contributors. As I tend to be creative while in the field, I miss some free pages to write on during field work.

The competent author has over 15 years of experience working in the arctic, and is inspired by the "...dedication to improving the reliability and accuracy of scientific data...". Therefore, it can be hoped that these photos eventually might occur on the internet /www for a free use by the general and interested public.

Overall, I think this interesting book serves its purpose well as a quick field reference and fills a vacant niche. I am sure it will also prove useful for Arctic regions of Canada as well as Russia.

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Guide to Hawk Watching in North America

By Donald S. Heintzelman. 2004. Globe Pequot Press, Guilford, Connecticut. 425 pages, U.S. \$16.95 Paper.

The *Guide to Hawk Watching in North America*, written by ornithologist Donald Heintzelman, is an updated version of his *A Guide to Hawk Watching in North America*, published in 1979. The new edition includes updated information about "hawk" (including vultures, eagles, harriers and falcons) biology, identification and seasonal migration movements, as well

as numerous additional sites to watch raptors. The new edition adds a separate section on where to view Bald Eagles.

The book is divided into two main parts. The first concentrates on general information, including species accounts for a wide variety of raptors other than owls, tips on how to identify and study hawks, a description of the migration seasons, an overview of different types of hawk watching, an introduction to field equipment for the activity, and an explanation of the mechanics of

hawk flight. The second part of the book focuses on hawk watching sites, including U.S. hawk migration watch sites, Canadian hawk migration watch sites, Bald Eagle viewing areas, and places to view raptors outside the migration season.

The species accounts provide excellent identification information on new world vultures, ospreys, kites, hawks, eagles, harriers, caracaras and falcons. Each species is described in terms of wingspread, total length, field recognition features, flight style, voice, nest, eggs, maximum recorded longevity, food, habitat, and North American range. It makes for an excellent species summary, even if it lacks references to the bird's conservation status.

I found the chapter on mechanics of hawk flights particularly interesting. Although my general understanding of hawk migration was fairly good when I started reading this book, I had never looked into it in great detail. So I was fascinated to read about the influence of general weather conditions, and the use migrating raptors make of deflective updrafts, lee waves, thermals, thermal streets, squall lines, and leading lines.

I was also interested to read about hawk migration watch sites throughout Canada, including Alberta's Canmore Collegiate High School, Nova Scotia's Brier Island near Digby, Ontario's Holiday Beach Migration observatory near Windsor, and Quebec's Morgan

Arboretum at the west end of Montreal – a sampling of Canadian migration watch sites with high ratings. Canadian entries in the Bald Eagle watch sites section include British Columbia's Active Pass in the Gulf Islands, Pacific Rim National Park on Vancouver Island, the Fraser Valley Bald Eagle Festival near Mission, the Squamish Valley, the Greater Vancouver Area, and Prince Rupert.

The section on other raptor viewing areas also offers sites in Canada, including Amherst Island and Wolfe Island in Eastern Ontario, both featuring Rough-Legged Hawks and various owls during the winter season. The other Canadian sites for concentrations of raptors outside the migration season are the Yukon's North Klondike Highway and South Klondike Highway. Both areas offer year-round opportunities to see a wide variety of eagles, hawks, falcons and owls.

The *Guide to Hawk Watching in North America* is an extensive and practical information source for anyone interested in raptor watching on this continent. My only objection about the book is its title, which I feel should be changed to *Guide to Hawk Watching in the United States and Canada*, since it lacks any reference to sites outside those two countries.

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Locust: The Devastating Rise and Mysterious Disappearance of the Insect that Shaped the American Frontier

Jeffrey A. Lockwood. Basic Books, New York. Hardcover. 294 pages, Can. \$39.00 Paper.

Locust is much more than an account of a single species of insect. In fact, it is everything the dust cover promises: "A fascinating detective story" that delves into "history, culture, religion, and especially ecology, interwoven by the life story of a common insect. ... with vivid prose, epic thoroughness and scientific precision." I would add geography and science to that list. Lockwood writes engagingly. He shares his years of detective work, providing details that only a professional entomologist could. His historical delvings put most historians to shame, and his writing skills exceed those of almost any living science writer.

The book opens in Dodge County, Nebraska, in July 1875, a drought year, with clouds of locusts obscuring the sky, their wings crackling like a horrific blaze. Limbs of willows bent to the ground under the weight of the insects, as adjacent cornstalks were stripped bare. When a sheet of insects six inches thick passed over a perpendicular ledge of rock, they caused a roaring noise similar to a cataract of water. In Utah, locust eggs were counted at 743 million eggs per acre. The voracious insects literally ate the clothing off human limbs, then entered homes to eat objects such as window blinds. When domestic chickens gorged on the locusts, their eggs and flesh became inedible. Farmers and their families lost their gardens and crops, and

were on the brink of starvation.

The U.S. Army under General Ord saved many farm family lives by far exceeding normal army routine. Ord issued thousands of infantry coats, shoes and military blankets, as well as large amounts of army rations. Lawmakers apportioned money to distribute wheat seed for planting the following spring. Without Ord, thousands would have died.

North America was blessed with hundreds of species of grasshoppers, but only a single species of locust, the Rocky Mountain locust, *Melanoplus spretus*, named by Benjamin Dann Walsh back in 1866, caused such vast destruction. Ingenious but rather ineffective machines such as suction machines and flame throwers were invented to combat the locust; two men and a team of horses could incinerate ten acres of locust-infested fields in a day. One Minnesota community alone had a thousand coal-tar hopperdozers that could harvest 150 000 locusts per hour.

On the scientific front, three entomologists did their best to help combat the locust. Charles Valentine Riley was the state entomologist for Missouri. Cyrus Thomas and Alphaeus Spring Packard, Jr., held similar posts in Illinois and Massachusetts. Riley was able to show that the locust had the potential to increase its population 100-fold from one generation to the next; he argued that for every bushel of locust eggs destroyed, 100 acres of crop could be saved. He founded the Na-