

CONSERVATION OF MARINE BIRDS

YOUNG, L. & VANDERWERF, E. (Eds.) 2023. Academic Press, London. 624 pp., Numerous color and B&W photographs and illustrations throughout. Paperback: ISBN 978-0323885393, US\$150. eBook: 978-0323885409, US\$150.

I've been book reviews editor at *Marine Ornithology* for more than a year now, and one of the role's perks is that I get to ask for a lot of free—I mean review—copies of stuff. The way it works is I write to a publicist, explain who I am and what I want, and within a week or so a package arrives with the requested title. Sometimes a truly enterprising publicist will even add a couple of other books they think I might like. This is a special treat.

Such was the procedure I followed with *Conservation of Marine Birds*, a recently released volume edited by Lindsay Young and Eric VanderWerf, both of Pacific Rim Conservation. Given its page count and the pedigree of all the authors involved, I was looking forward to getting my hands on this title. (To review, of course.) You can imagine my dismay, then, when, rather than a hard copy, the good folks from Academic Press sent me a link to the eBook instead.

I have a complicated relationship with eBooks in that I hate them. I know not everyone does. But I am a creature of the analog, the tactile. I like the weight of a book, the graceful curve of a turned page. Still, *Conservation of Marine Birds* felt like an important work, so I settled in to do my duty. (In the interests of full disclosure, I assigned the review to myself to avoid conflicts of interest, since it seemed like most seabird biologists and their second cousins had authored or co-authored a chapter.) And whether in its digital or physical form, *Conservation of Marine Birds* promises to be a reference for seabird biologists, managers, conservationists, advocates, and enthusiasts of any stripe for years to come.

The book is divided into two sections: a first on Threats, and a second on Solutions. The Threats section begins gently, given its ominous overtones, with an introductory chapter on marine bird ecology (where marine birds are defined in admirably straightforward fashion as those that “breed on land” but “obtain their food from the sea”). A second chapter gives an overview on the conservation status of different seabird families, along with basic summaries of the challenges they all face.

Thereafter the dreary delving begins: into the many fatal interactions with fisheries, into the effects of invasive species, into wildlife disease, into pollution in its various forms (oil, microplastic, light), into hunting and exploitation, and, last but most certainly not least, into climate change. The treatment of each threat is thorough, building on earlier reviews while also providing necessary updates. Most chapters end with a section of knowledge gaps and future research directions, which give useful food for thought. But even as I waded into the issues topic by topic, there was always grim awareness that for most marine birds, these threats are hardly discrete. Climate change and disease, human disturbance and

invasive species—all of these things are entangled with one another. I ended the first section in a psychic trough, frankly astonished that there are any marine birds left in the world at all given the number of challenges they have to overcome.

Somewhat to my shock, the Solutions section is actually longer than the Threats one. I could not help wondering, pessimist that I am, whether this was due to an irrational optimism on the part of the editors or something else. It turned out to be “something else”: a kind of turn in the conceptual approach to the material, which in its way becomes a comment on the nature of solutioneering. After a shorter introductory chapter, the second chapter in Solutions is about legal mechanisms for helping marine birds, for instance. For me this was fascinating in a sort of extra-biological way, if a bit heavy on the acronyms, as I learned about the suite of laws that exist to be deployed on behalf of marine birds. (Whether those laws are enforced, however...) As for the conceptual approach, what I mean is that while it is possible to treat threats as basically monolithic entities, even if their ramifications are many and varied (like Climate Change), the applied solutions are often going to be more atomized or local. So, for example, a single chapter on fisheries interactions in the Threats section becomes two-and-a-half chapters in Solutions on fisheries regulation, bycatch reduction, and marine spatial planning. Also mood-lifting was a final chapter on restoring seabird populations, where all the human creativity devoted to convincing seabirds to forgive us and return to their former haunts was on display.

Do I have quibbles with *Conservation of Marine Birds*? Of course; no book is perfect. Even the most comprehensive of review chapters, for instance, will show the choices made on what to include and what to omit; and the editors are sensitive to this, noting early in the book that many of the chapters could be books in their own right. Other pauses I had were more abstract. There is the nature of a book itself. Information has an increasingly short half-life; and the dynamics of knowledge genesis and transfer being what they are these days, the moment anything is published in an immutable form it almost immediately starts to become obsolete. With this in mind, one considers the book's price, which is pretty steep. But that is a reflection more of the state of academic publishing than anything the authors did or did not do.

All in all these are fairly minor objections, though. *Conservation of Marine Birds* is a fantastic and useful book. In the end, I can think of no higher endorsement for it than this: Reader, midway through that dratted eBook, I went out and bought myself the real thing.

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SCIENCE, SECRECY AND THE SMITHSONIAN: THE STRANGE HISTORY OF THE PACIFIC OCEAN BIOLOGICAL SURVEY PROGRAM

REGIS, E. 2022. Oxford University Press. Oxford. 180 pp., 7 B&W illustrations. Hardcover: ISBN 9780197520338; Epub: ISBN 9780197520352

Ed Regis has done the marine science community a great service by revealing the secret history of chemical and biological weapons testing in the Central Pacific Ocean. His meticulous research into the unfolding of what was to become an embarrassment for the Smithsonian was a natural extension to his 1999 book, *The Biology of Doom*. Here, he has drilled down to expose the cover the Smithsonian provided so the military could conduct defensive preparation for ships to survive an aerial release of biological and chemical weapons.

Regis details the personal connections of the upper levels of the military to the Smithsonian leadership. The Army required safe grounds for open-air testing, and approached America's hallowed research institution with a proposal to biologically inventory the Equatorial Pacific region: first, to determine what germs were already there; and second, to see if seabirds could accidentally spread the diseases proposed to be tested to humans. The Smithsonian also saw the chance to "bio-blitz" a vast area and perhaps recapture past glories — indeed, the first of the Smithsonian specimens of what would become "America's Attic" were supplied by the United States Exploring Expedition in 1846, led by Charles Wilkes, with scientists whose names marked our birds until recently, such as the Cassin's Auklet (and Peale's Peregrine Falcon).

Between 1963 and 1970, the Smithsonian Institution held a grant from the US Army to observe migratory patterns of pelagic birds in the Central Pacific. For six years, the Pacific Ocean Biological Survey Program (POBSP) collected a vast amount of data from a quarter of the globe little known outside the people and animals that lived there. Some seventy scientists were involved, surveying four million square miles of ocean on 100 military cruises. They visited 174 islands, banded 1.8 million seabirds, and collected 2,482 bird specimens, to go with countless ectoparasites and 5,000 blood samples. They wrote more than 100 papers, including the classic Atoll Research Bulletins that covered all the Northwestern Hawaiian Islands and Johnston Island, where much of the research was centered. The key finding of the POBSP research delineated two distinct seabird populations, one in the Hawaiian Islands near the Tropic of Cancer and another in the Line and Phoenix islands, near the equator. However, the Army jumped the gun and already tested hazardous chemical and biologicals off Johnston Island in 1965, even as two POSBP biologists were banding birds there. What if some returning birds picked up Tularemia germs and returned to the colony? Luckily, Rabbit Fever is not terribly lethal to humans.

Regis revisits these islands where scientists and sailors would go about their respective tasks unaware of their true nature. Deniability was part of the military strategy, and so little was known to those of us following in their footsteps. So, for us seabird biologists, this

180-page book is a paean to our colleagues of the Cold War era who pioneered marine vertebrate work in the Pacific. Regis has interviewed those still alive, like Fred Sibley (father of famous birder David Sibley), Cameron Kepler, the late Roger B. Clapp, and Binion Amerson. He also interviews contemporary USFWS (U.S. Fish and Wildlife Service) biologists, like Steven Berendzen, Doug Forsell, and me—all of us having worked in the tropical Pacific.

My research into germ warfare began before 9/11; after that, government documents were hard to obtain. I published on it in *Isles of Amnesia*, in 2016. Regis followed up on some of my leads, and I have a bone of contention with his interpretation of one of my sources, Jim Sohns, a sailor from one of the testing ships in the SHAD Program. Shipboard Hazard and Detection—SHAD—was a subprogram along with POBSP under Project 112, or the Pacific Project. Sohns, a former Honolulu detective, was one of the very few to receive 100% disability coverage from his time onboard *Granville Hall*, where the laboratory was located, and where the dead animals would end up for transport off to military labs. Sohns claimed that exposures to a cocktail of simulant toxic chemicals, 'harmless' bacteria, and cancerous cleaning agents debilitated him. He was not alone, but of 562 claims, only 28 were granted service-connection for disabilities, and only his was 100% disability.

Regis posits there was other reasons for Sohns' disease, as the tests were highly controlled and not conducted on his ship, but on the *George Eastman*. The Institute of Medicine (IOM) decided that correlation is not causation, and after re-examining Sohns and 4,000 other veterans, concluded they were no sicker than the average Vietnam War vet. Regis' work can be interpreted as being in agreement with IOM that Sohns was a malingerer, but no one has taken into consideration the synergistic efforts of chemical, biological, and, a finding I've made, nuclear residues. The SHAD ships were used to conduct atom bomb testing in the early 1950s in the atolls of Micronesia. They were then cleaned up at Hunter's Point in San Francisco and sent out to support the Smithsonian's work a decade later. The POBSP scientists and SHAD sailors all were guinea pigs, and giving them the respect they have earned is more than justified. Witness the recent Iraq Burn Pit legislation that is basically the same idea—i.e., the synergistic effect of toxic smoke under a stressful situation.

But while I feel Regis has given a pass to the military for the use of human "guinea pigs" in this instance, I highly recommend this excellent history of a bizarre chapter in seabird science. We need to learn the historical details Regis sought to uncover and presented here in a short, well-written page turner.

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NEW(ISH) AND NOTEWORTHY

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Seabirds Count: A Census of Breeding Seabirds in Britain and Ireland (2015 – 2021)

BURNELL, D., PERKINS, A.J., NEWTON, S.F., BOLTON, M., TIERNEY, T.D., DUNN, T.E. 2023. Lynx Nature Books. Barcelona, Spain. 528 pp. Cloth, ISBN: 978-84-16728-60-2, 45€.

Most people might not think a book-length treatment of seabird surveys to be riveting reading, and perhaps they are not entirely wrong, but *Seabirds Count* will give them a run for their money nonetheless. Co-produced by a host of non-governmental organizations and government agencies, the book presents the results of the fourth grand census of seabirds in Britain and Ireland—a project spanning five decades, during which scads of biologists of various stripes (paid, volunteer) visited every single colony they could feasibly reach and counted what was there. An opening section describes the survey methods in depth. Each of twenty-five main species then gets its own chapter, detailing its dynamics, its prospects, and the drivers of those dynamics and prospects. The news in general is grim: nearly half of all species that breed in Britain and Ireland have declined, some quite severely, against five that increased. But *Seabirds Count* serves as a reminder that by counting seabirds exhaustively, and knowing what is where and in what abundances, managers are better equipped to try to help them.

Sea Change: An Atlas of Islands in a Rising Ocean

GERHARDT, C. 2023. University of California Press. Oakland, USA. 310 pp. Cloth, ISBN: 978-0-520-30482-6, US\$34.95. eBook, ISBN: 978-0-520-97321-3, US\$34.95.

In *Sea Change*, Gerhardt, an environmental humanities scholar at the University of Hawai‘i, shows us how a landmass can become a kind of endangered species, and a contested one at that. Weaving together elegantly layered maps, pungent essays, and poetry, she takes readers on a global tour of islands threatened in one way or another by climate change—whether that threat be to the island’s character (as at Kalaallit Nunaat [Greenland]) or its very existence (as, famously, at Tuvalu). “Sea level rise is not a line on a map,” Gerhardt writes at one point. “Neither the sea level nor the land is static.” But her interest isn’t merely climatological. She also explores the role islands have played in various colonial and imperial enterprises, whether by hosting military installations (the U.S. has at least fifty-two installations on islands, for example), or being used as a means to expand a country’s fishing or oil

exploration interests. The sum is a book that comes at the reader in many ways—visually, verbally, viscerally.

Bird Day: A Story of 24 Hours and 24 Avian Lives

HAUBER, M.E. 2023. University of Chicago Press. Chicago, USA. 151 pp. Cloth, ISBN: 978-0-226-81940-2, US\$18. eBook, ISBN: 978-0-226-81940-9, US\$17.

A short and sweet novelty book, *Bird Day* presents a Day in the Life of Birds through an hour in the lives of many birds. Ornithologist Hauber’s conceit is to assign an hour to a species, starting at midnight with the Barn Owl and ending at 11 p.m. with the European Robin, and then meditate on it in a little natural history vignette. Two seabirds make appearances at 2 p.m. (Emperor Penguin) and 10 p.m. (Cook’s Petrel), and speaking for myself, it is nice to see them situated within the larger avian menagerie, when usually I think of them as distinct. Each vignette is also illustrated with a pen-and-ink drawing by Tony Angell, and these are a treat.

Journeys with Emperors: Tracking the World’s Most Extreme Penguin

KOOYMAN, G.L. & MASTRO, J. 2023. University of Chicago Press. Chicago, USA. 184 pp. Cloth, ISBN: 978-0-226-82438-3, US\$32.50. eBook, ISBN: 978-0-226-82438-3, US\$31.99.

Gerald Kooyman has been traveling to the Ross Sea in Antarctica since the 1960s, first to study seals, and later Emperor Penguins. In *Journeys with Emperors*, written in partnership with Jim Mastro, the latter are Kooyman’s focus, as he shares stories from his years among them, and the lengths to which he had to go to learn a little about their lives. He describes designing for Weddell seals the first time / depth recorder (basically a kitchen timer, a Bourdon tube, and a small glass disk coated with grease and charcoal, all encased in a brass cylinder), and later adapting that device for Emperor Penguins, all so he could eventually learn that the birds are capable of diving more than five hundred meters deep. The book includes an inset of lovely color photos, as well as information on links to online content if the reader wants to put down the book for a spell and head over to their computer. Readers may not be so inclined, however, preferring instead to stay with Kooyman as he marvels at his study subjects and the remarkable land- and seascapes in which they live. The internet will always be there, but as Kooyman writes, the emperors might not be.

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