

## NEWS AND NOTES:

BOOK REVIEW:

CONSERVING SEA TURTLES. By Nicholas Mrosovsky. 1983. London, 176 pp., 15 fig., 3 tables, 17 pp. ref. Softbound. The British Herpetological Society of London, Regent's Park, London NW 1 4RY. \$11.50, postpaid.

In the majority of books, papers and journal articles published on the subject of sea turtle conservation, the focus seems to be more on pragmatics, and less on the evaluation of competing methods and their respective advantages. The problem of trying to conserve the world's sea turtles runs much deeper than many conservationists suggest.

Nicholas Mrosovsky has confronted us with the enormous complexity of this issue, with numerous graphic examples of a challenge yet to be mastered. He provides us with a critical evaluation of the past and present attempts to save and maintain one of the world's most appealing, intriguing, and mysterious creatures. Quoting Peter Pritchard (1980) of the Florida Audubon Society, we are told "...lest we get completely carried away by the conviction that our efforts are indeed saving sea turtles, and fail to maintain a constant critical appraisal of our efforts, it is worth reviewing the different things that people do to try to save sea turtles in order to judge whether these techniques are indeed as purely beneficial as we might think...."

Since "turtles are big," Mrosovsky believes that efforts to save them are becoming increasingly popular, but, alas, of questionable effectiveness. Using this argument, Mrosovsky continually beats the drum that popularity of a technique rarely insures its effectiveness.

Tagging is exemplified as a means of attempting to assist in the conservation effort. Yet Mrosovsky correctly points out that "though widely used, the method has received little scientific evaluation." In essence, this procedure employs the insertion of a metal tag through the skin of the front flipper, with the intention of tracing the migratory paths, geographical range, breeding frequencies, nesting patterns, growth rates, population size, and other useful knowledge necessary to protect species survival.

Robert Bustard, for example, has uncritically accepted the tagging procedure, extolling the tagging programs as having "...provided a wealth of new information and above all there is a good awareness of the plight of the world's sea turtles." Such sanguine remarks are common in the literature, with Mrosovsky wondering how many tags actually stay put, and why such a minimal effort has been expended in designing a tag that will hold up year after year half submerged in sea water, and half buried in flesh.

The virtues and vices of double tagging are explored, with a warning not to view double tagging as an invariably useful device; all too often it ends up in being a mindless, duplicating exercise.

Mrosovsky discusses head-starting, a procedure named by Archie Carr, involving raising hatchlings in captivity, then releasing them, with the unproven belief they will then be larger and less vulnerable to predators, a belief held by Bustard. Even Bustard, however, is forced to admit they often behave more like domesticated animals than wild ones, although they weren't necessarily more vulnerable to predators.

Mrosovsky frowns on the emotional appeal of head-starting, complaining that the moving force behind it ignores the internal logic of the procedure--and not, as he would wish, on external validation.

In point of fact, Mrosovsky finds it extraordinary so many people have embarked on head-starting with such little attention to critical evaluation and to whether such a procedure lends itself to validation at all. The time lag to maturity complicated by tag loss simply multiplies the problem, and, of course, lowers the chances of demonstrating even a modestly successful outcome, Mrosovsky rhetorically asks "...suppose... that even despite tag loss more head-started turtles hauled ashore to nest than would be expected from the number of eggs taken earlier, would that validate the procedure?" Of course he would view such an outcome with pleasure, but he admits that this would not necessarily prove it to be more effective than another procedure, and might obviate looking for more effective procedures that ultimately were cheaper and easier to manage. Still Mrosovsky feels head-starting is a worthy long-term gamble, albeit one the outcome of which this generation may never know.

In reviewing Operation Green Turtle, a much celebrated translocation effort, Mrosovsky acknowledges that it, too, is a large gamble. Translocation involves the taking of hatchlings from their native beach and then releasing them on another unpopulated beach with the fond hope and desire they will return to lay there. A program of the 50's, it is still too recent to evaluate; perhaps we might know something by the end of this decade--but preliminary evidence is discouraging.

Mrosovsky, the iconoclast, cynic, rabid empiricist, and at times cautious optimist, views Green Turtle as a probable failure as a conservation measure, a modestly successful offbeat venture in public relations, and an heroic experimental effort. As Mrosovsky puts it, "Disconfirming a hypothesis is not a failure in science. On the contrary, it is sometimes considered the most instructive of outcomes." Unfortunately Operation Green Turtle was also lousy science--not because the results were negative, but because of the lack of adequate use of controls and poor attention to detail. Mrosovsky argues that as much attention was given to the public relations side of Operation Green Turtle as to the procedural details--O.K. for P.R., but bad as an experiment, and unlikely to lead to useful information that will help to save the sea turtles.

One of Mrosovsky's chapters is titled "The Anathema of Farming," a bit cutesie, but to the point. Mrosovsky informs us that Archie Carr has made light of those who, in the name of conservation, dump cans of turtle soup on the supermarket floor, while applauding their good intentions, and has commented, "If the species does not become extinct, I do not believe the motives of the people who save it will make very much difference an eon or two hence." Mrosovsky, too, defends the turtle farmer, seeing his role, ecologically, as of at least small significance--even possibly beneficial to some degree. Ironically, Mrosovsky, the careful scientist, briefly sounds like Mrosovsky, the entrepreneur, defending the transfer of a few eggs from the beach to the farm while chiding the naive environmentalists who, like Nero, focus on the fiddle (the farm) while Rome (the overall environment with its accompanying filth) burns. An extreme example is the sad case of the Cayman Turtle Farms, where 4,000 surplus hatchlings had to be sacrificed to satisfy a "proper" ecological balance of the Western Atlantic green turtle populations.

The ever-pessimistic Mrosovsky shocks our conscience, and keeps the reader absorbed by his analysis of the lurching attempts to save Kemp's ridley, the only turtle truly endangered. Although he discusses six other species that invite some concern, Kemp's ridley should clearly be the focus. Mrosovsky derides the many endangered species lists that frequently "cry wolf" too often, and frequently serve to obscure the reality of which species are of the greatest concern not only in numbers, but in relation to the quality of life and the very existence of some peoples.

Perhaps Mrosovsky is creating a bit of a straw man for himself, since the funding of various conservation projects have been so heavily dependent on public appeal. Nonetheless, his scientific caution reminds the practicing herpetologist and conservationist not to climb on the emotional bandwagon, but to stick to his/her scientific ideals by observing, recording, comparing, and evaluating each and every thing he does. Mrosovsky ultimately acknowledges that commerce and conservation are not necessarily antagonistic, and can become partners in a harmonious relationship benefitting all--but the reader is left with an uneasy feeling that our collective breaths should not be held until this harmony is achieved.

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