

July 11, 1973

Mr. Anthony Fisher, Director
Mariculture, Ltd.
Newby's Farmfield
Sussex, England

Dear Mr. Fisher:

Thank you for your interesting letter of 4 June 1973. I hope you will excuse the delay in my reply, which was written shortly after your letter came and until now held up by an interlude at our turtle station in Costa Rica.

As to the prospect of Mariculture being given active "support" by the species-survival kind of conservationist, I can only repeat the opinion I have expressed to you before--that endorsement by such people could rationally be expected only when it could be clearly shown that Mariculture is improving the survival outlook of wild populations of sea turtles.

As a quondam lover of green turtle soup I would like to see it available in the market. Also, I share your concern over seeing Mariculture better fed. Moreover, as one who has valued friends in Mariculture, Ltd. I would, other things being equal, rejoice to see it work out its problems and prosper. But as Technical Director of the Caribbean Conservation Corporation and Chairman of the IUCN Marine Turtle Group, and as a chap who has more or less quit eating turtle as a gesture in recognition of its decline, it would be completely irrational of me to come forth in support of your enterprise so long as it (1) takes eggs from sanctuaries and natural nesting grounds and (2) falls to saturate markets, bring down prices, and so, demonstrably to reduce the amount of turtle that goes on in the world.

I should point out that I think the salient aspect of our relationship to date is not that I do not support Mariculture, but rather that I have not actively raised my voice in opposition. Both here and in Costa Rica I am questioned with increasing insistence by people who are puzzled to know what is going on down at Tortuguero--why the hard-won green turtle sanctuary there is being raided for eggs for exportation by a foreign commercial enterprise; and whether the Caribbean Conservation Corporation may not in some hidden way be involved with that enterprise. I anticipate more such questioning when during the coming turtle season we are visited by three trainees who are to be attached to the government turtle programs in the Bahamas, Ecuador, and the Galapagos Islands. The two young Bahamians and an Ecuadorian will spend tea days at our

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Station familiarizing themselves with turtle nesting ecology, with our tagging procedures, and with local turtle legislation and enforcement problems. I have been wondering how to explain to these people our seeming acquiescence in the exportation of turtle eggs from the sanctuary for international commerce.

Despite this spread of puzzlement among onlookers, and my own uneasiness over the egg barvests, I have made no move whatever to stir up San José against your operation. Perhaps I couldn't create serious obstacles if I tried; but the point is, I consider that all of us survival people have actually been leaning over backwards by refraining from generating the disagreeable struggle that our active political and diplomatic intervention would surely involve. To me that attitude practically constitutes "support" for you and is, as I said, becoming somewhat awkward to rationalize.

The most persuasive evidence that Mariculture deserves the support of conservationists would be a realistic prospectus showing (1) projected evolution to complete self-sufficiency with respect to egg needs within a short time; and (2) a predictable production schedule that will saturate markets for turtle products--meat as well as the various by-products of your enterprise--and depress prices to the point that both poaching and legal turtling are made unprofitable. Failure to meet these stipulations automatically makes Mariculture one of various adverse factors in the survival outlook of the green turtle.

So I still see no reason why an individual whose main concern with sea turtles is enhancing the chances of survival of the various wild species and subspecies should be expected to sing the praises of Mariculture, or to do anything other than deplore, and perhaps try to stamp out, international traffic in sea turtle products. That those of us in organized sea turtle conservation have not undertaken any such campaign ought to seem an extraordinary example of temperance and indulgence.

The tagging work that your eggging teams have done at Ascension, Surinam and Tortuguero has been an important contribution to the study of green turtle ecology. I am most grateful for the data you have furnished, and sincerely wish I could reciprocate with a strong endorsement of your whole operation. On the other hand, I honestly can't understand why Mariculture should expect to get the backing of species-survival people until it has been clearly shown that you are improving and not degrading the future of wild sea turtle stocks.

With best personal regards,

Archib Carr
Graduate Research Professor

AC/ta

December 4, 1973

Mr. Fernando R. Quirós, Economist
Corporación Costarricense de Desarrollo
Apartmento 10323
San José, Costa Rica

Dear Mr. Quirós:

Thank you for your letter of 14 November, telling of the interest of CODESA in the possibility of establishing in Costa Rica a large-scale turtle-farming project patterned after that of Mariculture, Ltd. of Grand Cayman.

The importance of the green turtle as a potential source of protein for man has always seemed to me to be its essential herbivorousness. Except for the seacow, it is the only edible animal that naturally harvests the vast expanses of underwater pasturage that occur throughout the tropical world. Mariculture, Ltd. shortcircuits this fundamental virtue of Chelonia, however, and feeds its turtles a factory product, keeping them in tanks on shore to which sea water is pumped at great cost, and getting its eggs from sanctuaries (Vorbogero, Ascension Island and Surinam). I am told that the Mariculture investment is now around five million dollars, that more is required, and that they are searching for a site for a second plant similar to the first.

As you suggest, Mariculture has had some success in producing fertile eggs from captive turtles, but they are still nowhere near the necessary goal of maintaining enough mature, egg-producing adult turtles to support a viable program of commercial production.

It seems to me that green turtle farming faces insurmountable obstacles. Certainly, any effective effort of this kind is bound to require large amounts of very patient capital. And because sea-turtles are a depleting resource that is being increasingly exploited, any venture that introduces them into international commerce is sure to receive the critical attention of conservationists everywhere.

I enclose a copy of a letter of mine that may give you additional background for your pondering of this complex matter. If other questions that you think I might answer occur to you, please let me know.

Sincerely yours,

Archie Carr
Archie Carr
Graduate Research Professor

AC/fh
Enclosure
cc: Guillermo Cruz B.

December 18, 1973

Mr. Irvin S. Maylor, President
Mariculture, Ltd.
R. D. 9
York, Pennsylvania 17402

Dear Mr. Maylor:

Thank you for your interesting letter giving your views on the potential role of Mariculture, Ltd. in conserving the green-turtle and explaining the developmental problems that Mariculture faces. Your letter makes some telling points in a case that has heretofore been somewhat fuzzily reasoned.

There is no doubt that green turtle farming, grounded on adequate pilot research, holds promise as one recourse in the campaign to save natural sea turtles. I have believed this for 25 years. However, my belief was based on the assumption that prospective culture projects would be non-profit, experimental exercises disciplined to refrain from commercial production until pilot studies had shown the feasibility of rearing young turtles to sizes at which they would in nature have become herbivorous. The two-year olds would then be pastured or pen-fed on marine spermatophyte vegetation. In this way the herbivorousness of the animal--which is the essential element in its potential as a protein source for man--would be exploited. Concurrently with the foregoing, pen-reared breeding stock would be developed, both to furnish all eggs needed to sustain a viable industry, and as material for the selection of an improved farm animal distinct from all wild stocks. While this technology was being worked out a realistic marketing prospectus would determine whether the profit necessary to keep the industry alive could be made without either expanding existing markets that could not be flooded, or creating new ones. It has seemed to me from the outset that the most crucial proof of the effectiveness of a farm in promoting green turtle survival would be its motivation and ability to lower the prices paid to poachers and legal hunters for turtles taken in the wild.

Those were my ideas about turtle farming back in the days when we were providing hatchlings for the Schroeders' Islanrada project, which was ancestral to your present enterprise. Your files will show that

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Mariculture grew out of the meeting between the Schroeders and Mr. Anthony Fisher. Thus, my thoughts about the relation of turtle farming to wild-species survival have been continuously known to your administration since Schroeder, at my suggestion, was first approached by Mr. Fisher.

I am reminding you of this because of my surprise at the suggestion in your present letter that I urge a California legislative committee to withdraw legislation prohibiting the importation of green turtle products. In effect, the request is that I support your effort to establish new markets for turtle products in the relatively virgin territory of California. I am sure that a man able to compose as forceful and articulate a letter as yours must see the lack of logic in that request.

Up to now my only knowledge of the California situation has been a request for my opinion on the turtle legislation sent by Mr. Roderic Tuttle on September 12. I was on the verge of leaving for Australia at the time and my reply was somewhat perfunctory, consisting essentially of a copy of a letter I had written Mr. Fisher, who had inquired why I had not supported the work of Mariculture. If you have not read that letter, I hope you will do so. Since it was written the only change I find in the situation is that 12,000 eggs have now been produced in your breeding pens, by turtles of varying origins, histories and periods of captivity. This is a solid achievement, although not, as you know, a final solution to your egg-production problems. Meanwhile, like good businessmen, you have gone steadily ahead with the improving, diversifying and advertising of your turtle by-products. Developing markets for by-products is sound business practice, but your innovations in that line are sure to generate increased pressure on natural turtles throughout their range. You point out that you have not stimulated a rise in the price of green turtle soup. This is really irrelevant, because I hear that your non-edible products--oil, leather, tortoiseshell, decorative whole shells, mounted turtles and the like--now bring you more profit than the meat and calipee you sell. Moreover, your production of remarkably good "tortoiseshell" from captive green turtles has exacerbated the problem of protecting another species, the hawksbill.

So during the past five years, while watching the amazing progress of Mariculture, Ltd., I have found it increasingly hard to ignore the evidence that sea-turtle conservationists really ought to be doing everything possible to discourage international commerce in sea turtle products.

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I have not done that. Instead, as I pointed out to Mr. Fisher in the letter referred to, I have, perhaps to a reprehensible degree, refrained from any effort to mount such a campaign. I am a zoologist and not an activist, and I dislike confrontation between objective scholarship and vested enterprise. I am somewhat surprised that Mariculture has not seemed to take due comfort out of my relative quiescence, amounting by now almost to acquiescence, and that of some of my colleagues in the world species-survival fraternity.

I sincerely regret the difference of views between us. If I could see solid evidence that your organization is making it a prime procedural requisite to avoid any move that could hinder stewardship of wild sea turtles, I would be delighted. You-all have accomplished an organizational *sour de force* at Grand Cayman. I wish I could take advantage of the research opportunities that your enterprise could provide. I believe, however, that if you will take another look at a recent advertising leaflet of yours urging people to hang your prepared green turtle shells on their walls you will see why Mariculture's expanding program makes me uneasy, and will perhaps agree that I would be dull-witted to encourage California to help the spread of a disastrous vogue by opening its borders to the importation of green turtle products.

Sincerely yours,

Archie Carr
Archie Carr
Graduate Research Professor

AC:dg

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granted by Dr. Carr-Graduate Research Professor,
University of Florida.*

G. Balazs

UNIVERSITY OF FLORIDA
GAINESVILLE, 32611



DEPARTMENT OF ZOOLOGY
223 BARTRAM HALL
904-392-1107

5 October 1982

Congressman John B. Breaux
Subcommittee on Fisheries and Wildlife Conservation
and the Environment
Committee on Merchant Marine and Fisheries
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Breaux:

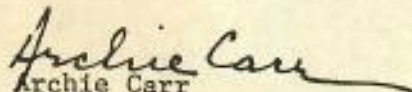
I am writing to urge that your Subcommittee on Fisheries and Wildlife Conservation and The Environment oppose current efforts to reverse the regulations excluding farm-raised green turtle products from entry into the U.S. The admission of farm products would inevitably extend and keep alive an international market that cannot be satisfied by farm production and which threatens the survival of remaining green turtle populations. The resulting poaching and smuggling of products from wild populations that this demand generates undermines the efforts of Caribbean countries to protect their dwindling stocks, and those of the Convention on International Trade in Endangered Species (CITES) to limit international commerce in these endangered species.

This is not mere theory. For 25 years I have monitored population levels of the largest green turtle colony remaining in the Caribbean--that at Tortuguero, Costa Rica. There we have watched the growing drain on the colony during the 1970's as turtle meat was introduced into U.S. super-markets and sea-food restaurants. The spreading demand stimulated a marked increase in the illegal exploitation of this colony throughout its range. When the U.S. closed its borders to all turtle products, including those from farms, the drain on the natural populations noticeably lessened.

There are various other reasons why farm-raised turtles should continue to be excluded, but I am sure these will have been pointed out by other correspondents. Your committee should be especially interested in the recent firm stand against relaxation of the ban by the Southeastern Shrimper's Association.

It was, thus, a constructive, realistic move that our government made when farmed products were excluded from the United States. I hope that you will agree that to nullify that advance would be an irrational and retrogressive act, and that your committee will oppose the overture.

Sincerely yours,


Archie Carr
Technical Director, Caribbean
Conservation Corporation

AFC/gmr