

MARICULTURE, LTD. - CAYMAN ISLANDS

GH BALAZS FILE

NOTHING FOR MARICULTURE SHAREHOLDERS, BUT—

Turtle farm saved by

\$4m. takeover

AT LONG LAST the troubles of Mariculture, Grand Cayman's pioneering project in "farming" the turtle, seem to have reached a happy conclusion.

It was announced on Tuesday, March 9, by Robert Moyle of Price Waterhouse and Co., receiver and manager of Mariculture, that a German-British consortium, Cayman Turtle Farm Ltd. had bought the turtle farm as a going concern for C152,162,000.

Cayman Turtle Farm Ltd. intend to put \$2 million into the farm, and the secured creditors, Commonwealth Development Finance Company Ltd., the First National City Bank, and the Business Mahon Cayman Trust Ltd., are to lead back the money they receive from the sale to the new company.

In all, Cayman Turtle Farm Ltd. should have credit of approximately \$4.3 million to set it on its way.

Cayman Turtle Farm Ltd. is owned 75 per cent by the Mittag family of Dusseldorf, Germany, headed by Dr. Heinz Mittag, and 25 per cent by the Commonwealth Development Finance Company Ltd., represented by the company's Regional Director, Roger Webster.

Although things look happy for the farm, things do not look so bright for the unsecured creditors or shareholders. They will get nothing.

It is understood that there was about \$176,000 in unsecured credit together with a further \$100,000 in miscellaneous items, fees and the like, which might or might not have been due. As far as shareholders are concerned it is understood that about C153,350,000 was paid for shares in Mariculture, all of which is lost. At one time the 52 shares were changing hands at over \$10.

"With hindsight, it is possible to see now that the company was allowed to

progress for far too long", Mr. Moyle said in an interview. "They should have had a receiver in or a reorganisation 12 months before I was called in".

He suggested that if at that time the situation had been explained to shareholders and they had been approached for further funding something might have been done. "A lot of old shareholders who found out there was a deal going, asked to come back in", he said.

Mr. Moyle said that when he was appointed Receiver some ten months ago there was much speculation about the farm's chances of survival. An analysis of the company's financial position revealed liabilities of over C152.7 million. Bearing in mind the impact the farm's closing would have on the economy of the Cayman Islands, they took the decision to save the farm.

His belief in the farm's viability had been strengthened by the support of C.D.F.C. and F.N.C.B., who had loaned a further \$550,000 to keep the farm going until it would be sold.

"However, four months ago we reached a decision to terminate the company's operations, slaughter the remaining stocks of turtles and close the farm. We had almost totally exhausted the resources when, out of the blue the Financial Secretary, Mr. Vassel Johnson, brought Dr. Mittag to us."

'TWELFTH HOUR'

Mr. Moyle said that Dr. Mittag's intervention "at the twelfth hour" had resulted in the receivership ending positively, and not as most did, in liquidation.

Mr. Moyle was full of praise for the assistance he had from Government: for Warren Conolly, ExCom member who had flown to Washington, D.C., to plead the case of the turtle farm in the Congressional hearings on a law

GOVERNMENT TO TAKE 50,000 SHARES

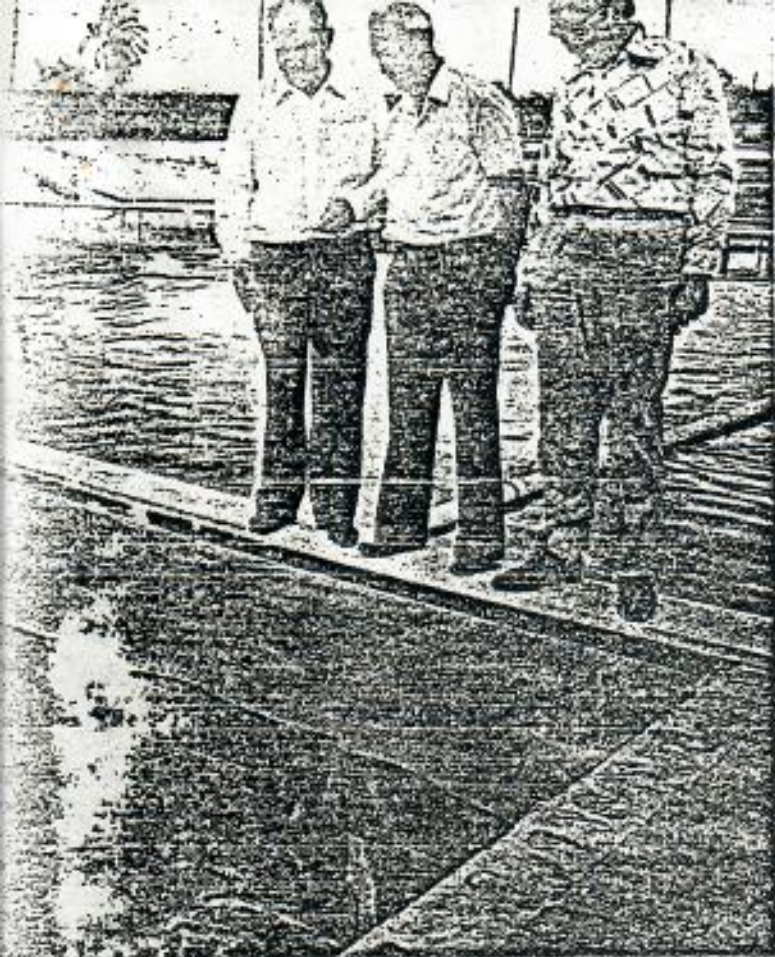
THE Governor called the Mariculture takeover "a significant sign of faith in the Cayman Islands" when he referred to it in his speech opening the new session of the Legislature.

Later the takeover agreement came formally before the House when Financial Secretary Vassel Johnson proposed that Government take up a \$50,000 stake in the new company, acquiring this amount of shares in lieu of stamp and other duties on the transfer documents.

In his tabled resolution, Mr. Johnson recalled that because of its 18 months of difficulties Mariculture had had to cut its staff by half and said it would have gone into liquidation had it not been for the strong emphasis put on the value of its operation to the economy, both as an industry and as an amenity to tourism".

The new owners, the resolution said, has insisted that to achieve successful operation there were hurdles to be cleared in the field of marketing, such as the better identity of the promoters and the acceptability by conservationists of the farmed product in certain countries which had rules on threatened and endangered species. It was thought that Government's participation in the new company would greatly influence the clearing of those hurdles.

Mr. Johnson submitted that the benefits to the Cayman economy, especially in employment, were substantial. The present financial position of the business was such that the cost of Government duty on the transaction would impose additional strain. Because of this and because Government participation would give greater impetus to the business, Government had been asked to take an equity interest by the purchase of \$50,000 shares of \$1, to be off-set by the tax and duties on the transfer transactions.



One of the residents at Cayman Turtle Farm comes up to take a look at the new owners Dr. Heinz Mittag, [chairman], Dr. William Johnson [chief executive], and Roger J. Webster [vice-chairman].

family's partner in the venture. He applauded C.D.F.C. for their past efforts to support the farm.

In the new company, Cayman Turtle Farm Ltd., Dr. Mittag is the chairman, Mr. Webster, deputy chairman and Dr. William Johnson, chief executive. Other members of the board are Dr. Med. Judith Mittag. (Dr. Mittag's wife) and Marshall Langer, Miami attorney well-known in Cayman. Company secretary is Dr. Wilhelm Esser, a Dusseldorf attorney, with Cayman attorney W.S. Walker as assistant secretary.

It is early days yet for the new company to have firmed up future plans, but Dr. Johnson in an interview told *The Nor'wester* that they would be investigating the possibility of producing feed stuff for the turtles on the island.

He pointed out that they had been spending about \$750,000 a year on feed, with an additional \$250,000 for transporting it. He stressed, however, that producing the turtle feed was a complex process, requiring complex equipment, and would therefore require considerable investigation.

He also said that they hoped to get the turtle-shell jewellery side of the business going again in a big way. "We are not just a meat-producing operation", he said.

**C M
&
S
LTD.**

DISPOSABLE TABLEWARE

Paper and Plastic plates, cups and glasses.

PAPER

Napkins, Tissues, Towels and Wipes.

CANDIES

Lanhamans in ten assorted flavours.

CHEMICALS

Dishwash, Polishes, Detergents and Disinfectants.

GARBAGE

Plastic containers, 'Hefty' brand

MOPS

Brooms etc.

TOYS

Complete range of 'Matchbox' Toys.

GROCERY TRADE

Paper bags.

**You need it —
we supply it . . .**

**Commodity Marketing & Supply Ltd.
North Sound Road, Grand Cayman
Telephone 92850**

banning turtle product imports, for the Governor's interest, for Mr. Johnson's introduction of Dr. Mittag, and for the continuing assistance they had from the Government's Agricultural Director, Dr. Joe Jackman.

In a statement issued on Tuesday, March 9, Dr. Mittag, chairman of the new company, announced that he and his family together with C.D.F.C. intended to develop turtle farming in Grand Cayman into a successful industry based on the concept that the world's food supplies would ultimately have to be supplemented from the food resources of the sea. Such an industry would provide dollar earnings for the country as well as jobs for its inhabitants, he said.

VAST KNOWLEDGE

The research and development activities of the scientists working at the Goat Rock farm during the past five years had yielded vast reservoirs of data, knowledge and information about this fascinating species, to the point that the problems of successfully farming turtles could be solved, said Dr. Mittag.

Possibly some years might be needed to confirm all the findings to support his beliefs, he thought, but at this time he was convinced that the basic concept of farming sea creatures for future food supplies was sound.

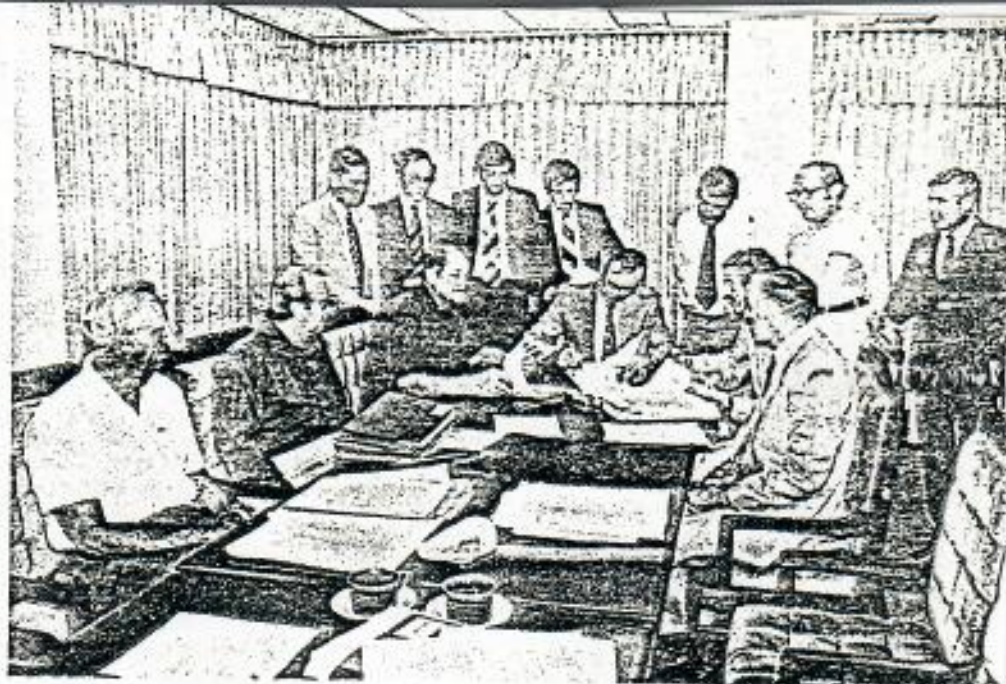
"When we arrived in Grand Cayman a few months ago", Dr. Mittag recalled, "we were seeking opportunities for investments in areas which would enable us to use our resources for the benefit of as many people as possible. All our lives we have been in the business of providing consumer goods to women and children—all over the world, mostly in the personal hygiene field. We believe this is the only way we can achieve satisfaction from our endeavours.

"When we communicated our aims to the Financial Secretary Mr. Vassel Johnson, he told us about the turtle farm, and after a few months considering all the implications we came to the conclusion that this investment met all our criteria.

MARKETING

"We are also confident that our experience and expertise in the marketing of consumer products internationally will stand us in good stead in this new venture, and wherever we sell our products in the world in the future, we shall generate goodwill for the Cayman Islands", said Dr. Mittag.

He said that he was very happy to have C.D.F.C., represented by its Regional Director, Mr. Webster, as his



Robert Moyle, Receiver for Mariculture, signs one of the documents selling the turtle farm to Cayman Turtle Farm Ltd. Also seated are, from left, Dr. William Johnson, CTF's chief executive, Roger Webster, of C.D.F.C., 25 per cent shareholder, Dr. Heinz Mittag, chairman, Dr. Wilhelm Esser, secretary, and Chris Bain, manager of F.N.C.B. Behind them are, from left, W.S. Walker, CTF's assistant secretary, Brian Dyer, [Price Waterhouse & Co.], Stuart Howie [of W.S. Walker and Co., representing the Mittag family], Haydn Rutter [Bruce Campbell & Co.], Patrick Doyle, C.D.F.C. attorney from London, Marshall Langer, a director of CTF, and Bruce Campbell.

Bio-chemist is new turtle farm chief

DR. WILLIAM A. JOHNSON, chief executive and a director of the new company, Cayman Turtle Farm Ltd., was recruited 18 months ago by the Commonwealth Development Finance Company Ltd. to restructure and operate the turtle farm when Mariculture was in receivership.

A native of Middlesbrough, in northeast England, he was educated at Sheffield University, where he graduated in bio-chemistry. He later gained Master of Science and Doctor of Philosophy degrees, and he is also a chartered chemist and a Fellow of the Royal Institute of Chemistry.

After graduation, Dr. Johnson worked for four years at Sheffield University as biochemist and research assistant to Sir Hans Krebs, winner of the 1953 Nobel Prize in physiology and medicine.

Dr. Johnson joined British Drug Houses Ltd. in 1939, and with the exception of four years' service in the Royal Air Force during the second

world war as a navigator in light bombers, stayed with this company for 13 years rising to the position of works manager in charge of 1,500 employees.

After nine years as managing director of Pure Chemicals Ltd., Dr. Johnson was appointed managing director, of Imperial Smelting Corporation, the largest U.K. subsidiary of Rio Tinto Zinc, with annual revenue in excess of 40 million pounds and a labour force of over 3,000 workers.

Commenting on his appointment, Dr. Johnson said it was a great opportunity for him to see the new company through to ultimate successful operations and profits. "Up to now it has been hard work, but I like Grand Cayman and welcome this challenge."

Assisting Dr. Johnson in the new company will be Research Director Dr. James Wood, and his wife, Dr. Fern Wood, with a sales and accountancy staff, and a farm force of 54 men and women.

Capt. ERTIS FISHING TOURS

**AND Real Estate Agent
SUPER TAXI SERVICE,
and Cayman Islands Souvenirs.**

Interesting Informative Sight-Seeing.

North Sound and Rum Point Excursions

Snorkling, Skin-Diving, Conch-Diving, Lobster-
Propping, Spear-Fishing, Reef-Fishing Bone-
Fishing, Tarpon-Fishing and Deep-Sea Fishing.

See Cayman Marine Life Through Glass Box
as Boat Cruises Slowly Along. Enjoy Three
Course Sea-Food Beach Lunch-- Including--
Hot lobster, and Capt. Ertis Conch ACTION!

Fishing Tackle & Bait Furnished free of Charge.

RATES REASONABLE!

Courteous Prompt Dependable!

Contact Cayman's Champion Spear-fisherman
First in the business Phone 9-3230 West Bay,
Box 254, Grand Cayman. Cayman Islands B.W.I.



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

7/18/95

To: George

From: Larry

I'll be looking forward to
seeing you in Galveston —
I arrive Sept 30 @ 6 PM
Staying at Guido's Motor
Inn: (409) 762-9625; \$28/night
+ tax

Enclosed missing page 2
Xeroxed from 1st printing
(as you suspected, 2nd
printing is missing these
pages). Madraisan's (Palau)
bank bill "culture - headstart"
project appears to be a
CTF operation all over
again; at least they have
similar beginnings —



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

- 2 -

To : Robert Schroeder,
Conservationist-business
From: man, started the
same way on Cayman
Island, remember!

Got to finish getting
my talk together for
Galveston. Wanted to
get one more trip in to
Cedar Key to evaluate a
new capture method for
smaller - "dinner plates".
It's called "striking".
10-12" stretch mesh, 350
yds long set quickly around
turtles in relatively shallow
water from a fast, center-well



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

Aug 85

To: George

From: Larry

Enclosed photos are of
a 6 lb, 12" CL Headstarted
Cayman Turtle Farm turtle
(I believe - have not
contacted Jim Woods yet).

It arrived in Panama City
in mid-June, and departed
our waters ca. July 6th.

I received no less than
4 sighting reports from 3
different Marinas during
this period! Someone

finally held on to it for
me to confirm / measure /
double tag (w/ Nat'l Band #4's)
it / and release it at sea.

It was last seen heading
east - swam up to fisher-
men offshore in boat !!

No return address on CTF
Blue plastic tag! Turtle
appeared to be attracted
to people; unafraid,
easy to capture. Turtle
was not ailing; good
shape; flapped vigorously
when picked up.

Similar to your observations of
a head started Kemp's ridley
observed in Ocklawaha Bay Florida,
right?



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
SEFC, Panamá City Laboratory
3500 Delwood Beach Road
Panama City, FL 32407-7499

August 29, 1985

F/SEC5:LH0:rb

Dr. James Wood
Cayman Turtle Farm Ltd.
P. O. Box 645
Grand Cayman, Cayman Islands BWI

Dear Jim:

I am certain turtle No. 208 is one of yours. Your description of the "V" notch confirmed it. Although it went unnoticed by me at the time, I can discern an irregular 5th marginal in one of the photographs I had taken. My attention had been directed to the anomalous scutes on the carapace (six laterals on the left side and one extra central acute). The turtle had been observed swimming around several marinas in St. Andrew Bay for about a month before I was able to get my hands on it--people had actually picked it up, read the tag numbers and then released it before calling me.

Outside of its unusual behavior and attraction to people, it appeared to be in good health. When I released it outside the bay system, it swam rapidly through the surf. However, three days later it was caught again when it swam up to the stern of a fishing vessel about 10 miles east of the last release point. This may not be the last we hear about this turtle.

The recapture date was July 2, 1985; St. Andrew Bay, Florida (Panama City); straight carapace length along midline, 11.8 inches; weight, 2.83 kg. Two additional monel tags, numbers 4451 and 4452, were placed on the front flippers for reporting purposes (no return address on plastic tags).

If you find out when the turtle was released in Little Cayman, please let me know. The last turtle we recovered that you had released had been at large about a year, I believe.

Sincerely yours,

Larry H. Ogren
Fishery Biologist (Research)





CAYMAN TURTLE FARM (1983) LTD.


19 August 1985

Mr. Larry Ogren
National Marine Fisheries Service
SEFC, Panama City Laboratory
3500 Delwood Beach Road
Panama City
Florida
32407 U.S.A.

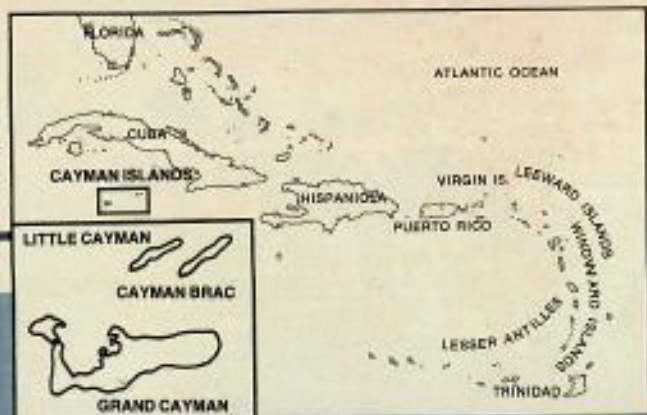
Dear Larry,

The turtle could be one of ours. In June 1983 we released a number of yearling turtles in Tarpon Lake in Little Cayman. This pond was becoming overgrown with algae and the local residents asked for some turtles to control growth. All turtles were double tagged with the Dalton tag (blue) of the size shown in the photo you sent. Early this year it was reported to us that all the algae was gone and the turtles in the lake were starving. In February my wife went over and caught and released 12 of these turtles but this particular turtle wasn't one of the tag numbers released. The local residents were going to continue to catch and release the turtles and I would guess that this turtle had been released in that way. Did you notice if it had a notch or a scar of a notch in the 5th marginal scute up from the tail on the right side. All our turtles had a fairly deep "V" cut in this marginal. Tag # 208 weighed 2.6 lbs when released in June '83.

Sincerely yours,
CAYMAN TURTLE FARM (1983) LTD.


Jim Wood, Ph.D.
General Manager

*On Seven Mile Beach, a dive
boat picks up its customers
(lower left); others are
content to loll on the shore (below)*





J.R. O'Brien



Pat Carrozza

The airport on Little Cayman is unassuming (left); green sea turtles are raised on Grand Cayman (lower left); the Cayman's are a sportfishing paradise (right)

gan, Sir Frances Drake, Edward Teach (better known as Blackbeard) and others put ashore to hide out or, some say, bury treasure. Though the Cayman Islands are now a sedate British Crown Colony, they celebrate the swash-buckling era with a national festival. Pirate's Week, a carnival of music and dance, parades, treasure hunts, island foods and costumed lunacy, takes place every year in late October (the 20-27 this year).

Grand Cayman is the center of most of this activity, just as it is the major island in the group and the one most likely to turn up on a visitor's itinerary. You don't have to look any farther than Seven Mile Beach to understand why. The sweeping crescent of talcum-powder sand divides West Bay's calm, turquoise waters from the palm, ironwood and sea grape of the island's leeward shore. Peering out from the foliage are dozens of hotels, villas, cottages and guesthouses; yet even the largest of these is low and unobtrusive. Trees not roofs dominate the skyline.

Though obviously not a place to escape from the world and find seclusion, the beach is long enough to ensure everyone an ample place in the sun. And equally

important in the eyes of many, it is a staging area for snorkeling, dive tours to the reefs and water sports of all kinds.

I didn't dive out of Seven Mile Beach, however, but away from the flurry of activity at a small, secluded luxury hotel called *Spanish Cove* on Grand Cayman's northwest tip. Nowhere on the island is there readier access to the famous North Wall, an astonishingly beautiful eight-mile-long underwater cliff that plummets to depths of over a mile.

Adding to the Cayman Islands' diving allure are wrecks, over 300 in all. One of the most popular, because it is shallow and accessible, is the *Oro Verde*. When the 180-foot Panamanian cargo vessel went aground in 1979, local dive operators bought it, removed the hatch covers, welded open the doors and then sank it in 50 feet of water in West Bay.

Thanks to the clear waters, the ship is also an attraction for snorkelers, who can see it resting on its side as they swim along the surface. Fish congregate here in huge numbers, partly for the protection the vessel affords and partly because they've learned to associate visiting boats with free handouts.

Behind the ship the shallow waters over the coral reef are more serene and aquarium-like and harbor still more species of colorful fish.

THE CAYMAN'S CAPITAL

Just how George Town, the small but bustling capital city, fits into this schedule of activities is very much a matter of personal preference. Situated a little below West Bay, the sunny downtown begins along the harbor where cruise ships anchor and continue inland for only a few blocks before dissolving into the trees and flowers of residential neighborhoods. Here and there the architecture suggests an earlier era, though mixed in among the wooden storefronts, painted stucco walls and covered sidewalks are the modern four-and-five-story buildings of a thriving banking business.

Duty-free shopping and curiosity bring most visitors to town. Determined bargain hunters who know mainland prices well can ferret out good buys in such things as china, perfume, and, of course, liquor. Prices in duty-free shops are in U.S. dollars, a currency willingly accepted, and are not taxed. Double-check to make sure any bills received in change are U.S. and not C.I.

Wandering the streets you will come across a few examples of old-style architecture worth lingering over briefly. Perhaps the best example is the Land and Surveys Department on the waterfront. The white two-story structure in stucco and wood has covered verandas on

Sunday Travel

The Caymans

The good
things remain
the same



GRAND CAYMAN, Cayman Islands — You don't have to go diving to vacation in these islands, any more than you need to eat hot chili to enjoy Mexico.

Though the Caymans now are rated by many scuba experts as one of the world's best diving destinations, the clear waters, the reefs, the fish and the wrecks are just one facet of a Caribbean jewel that glitters brilliantly and tax-free in peace.

If you are attracted by breeze-cooled, warm sunshine; clean, uncrowded unspoiled beaches; integrated, non-race-conscious, friendly residents who smile easily and eschew politics; a lack of grinding poverty; informal accommodations; good food and water with no problems; a modicum of duty-free shopping, and a booming "tax haven" with opportunities for investment, then this very stable little British crown colony is for you.

If it all seems a bit too perfect to believe, I will admit that there is one fiscal fly in the turtle stew, though so far not one mosquito has dive-bombed me.

Visitors, whether on business or pleasure, must bring lots of money. As the TV commentator says, that's the way it is, especially in the Caribbean.

At the Grand Caymanian where I'm staying (a franchised Holiday Inn but, like most "offshore" members of that chain, not cut from the standard plastic motel cookie cutter), an ocean-front double with balcony will run you \$168 U.S. (\$104 single) until May. Without meals.

That's \$86.40 in "CI" or Cayman Islands currency. There's also a 5 percent government tax on rooms plus a daily \$2.40 CI energy surcharge per room. And a 15-percent service charge is added automatically to all meals.

U.S. dollars are exchanged at a fixed parity of \$1 CI for \$1.20 U.S. (though when using a credit card to pay a hotel bill, which by law must be rendered in CI, a rate of 1.25 will be used to allow for re-conversion).

A personable, frank and knowledgeable Cayman official had tried to explain to me why I really wasn't at a disadvantage on his islands with my sagging dollars (of course, to be fair, the dollar still is drowning in Europe and elsewhere, hotel and restaurant prices still are rising in the United States, and at least the exchange rate in Cayman is "fixed" and does not fluctuate from day to day).

But, somehow, this tourist doesn't expect to cash a \$50 U.S. traveler's check in the Caribbean and get only \$40 CI in return. Not with those Cayman prices!

Then again, true Paradise has never come cheap. The government candidly states that Cayman is "not for everyone," — though the reference is to the lack of "swinging night life" and the kind of low-keyed vacation experience these islands represent, not to prices.

As the financier J. P. Morgan once observed when asked how much it cost to run his yacht, "Anyone who asks that question can't afford it."

More and more tourists (albeit still a small minority) are discovering what Cayman has to offer and apparently are able to afford it.

The government's projected visitor total for 1979 was 150,000, but for the first 11 months tourism officials recorded more than 90,000 visitors by air (a 29 percent increase over the same period in 1978), and more than 52,000 arrivals by cruise ship (a 30 percent increase). About 78 percent are Americans.

Officials were confident that the strong

It is 9 a.m. I am reclining in front of the Grand Caymanian on the midsection of Seven Mile Beach, one of the loveliest strands of sand anywhere in the Caribbean.

Naturally, there have been some changes since my last visit four years ago. Prices have increased condos are rising, and the financial business is gold-plated.

But the good things I prized about the Caymans have remained the same: peace, environmental concern, controlled growth, and the beach.

How do I rate beaches? Let me count the ways, using a scale of 1 to 5 with the high number representing top rating:

First, the sand must be clean and soft — soft enough to cushion bare feet but not so soft that the feet sink in enough to make beachcombing and hiking or jogging too much of an effort. I give Seven Mile Beach a "5."

Second, the sand should kiss the ocean gradually, with a non-rocky shoreline entering the water for a distance of about 10 to 15 feet while maintaining a depth of perhaps 2 to 3 feet without a sudden dropoff or strong currents, thus making bathing safe for children and the non-swimmer or poor swimmer.

The nature of Seven Mile Beach changes slightly, depending upon which sector is considered, but along the center portion I think it rates a "3" (depth goes to 5 feet too quickly).

Third, there should be unimpeded access for sunbathers, strollers and naturalists along the full length of shoreline, with no artificial barriers, and without a cheek-by-jowl assortment of high-rise hotels that block out the sun.

Structures along Cayman beaches can be erected no taller than about the height of a royal palm, and the center ocean-front section of the main building of my hotel rises only four stories. Score "5."

Fourth, there must be no pollution, either in the water, in the form of oil blobs or untreated or partially treated sewage, or on the sand in the form of tar, trash or other "people pollution" (too many bodies, loud conversation, blaring transistor radios, etc). Another "5."

The beach lover receives an additional bonus in the Caymans, which are composed of three islands, Grand Cayman, Cayman Brae and Little Cayman, situated about 480 miles south of Miami.

The water is so clear that even the inexperienced, close-to-shore snorkeler can enjoy the underwater view. Of course, there are some other lovely tropical beaches in the Caribbean, and every traveler has his or her special favorite. But you need not take just my word for it.

Margaret Zellers, author of "Fielding's Caribbean, Including Cuba," has obviously also considered the total picture and comments in her book: "This island has no peer for offering quality accommodations on what I believe is the most attractive commercial beach in the Caribbean. I say commercial because the hotels are here, but in a quiet, unobtrusive way — and there's nothing else that mars the scenery."

With the mild, early-morning sun on my face, I see Bob Soto's dive boat glide past on a smooth blue and green sea and pull up on the beach in front of Soto's dive shop at one edge of the hotel property.

Diving is big business here, although not as big as banking (Cayman has perhaps 250

The great corridors of Washington's Kennedy Center — Kennedy's sculpted head is at right — are a venue for theatergoers. Ford's Theater is now playing, ironically, "Mr. Lincoln."

CENTRAL PACIFIC TRAVEL SEI
1111 Bishop Street, Sui
Honolulu, Hawaii 968
TOURS FOR 1980

ONE PUKA PUKA SPRING TOUR

ESC: Walter Moriguchi/Kazu Hiranaka

ICHI NAKAMURA'S SPRING TOUR

DEP: April 5

ESC: Ichi Nakamura

CPTS AUTUMN TOUR

Japan/Taiwan

DEP: October 4

DELUXE AUTUMN JAPAN TOUR

Honshu/Hokkaido/Shikoku/Kyushu

DEP: October 4

ESC: Shige Warashina

SOUTH PACIFIC TOUR

Fiji/New Zealand/Australia

DEP: October 7

ESC: Dan Wong

MOMIJI JAPAN TOUR

banks and trust companies — a few more and it may sink.

All scuba categories from beginner to advanced are attracted by the shallow reefs, some within swimming distance of a beach; the wrecks, walls, caves and the excellent visibility.

Wearing swim suits and lugging their equipment, the eager divers hurry aboard the vessel for the short trip to whichever of numerous sites the divemaster has selected for the two-tank morning adventure.

I roll over on the sand and feel the cooling breeze that each day softens the heat of the mild, soothing early-morning winter sun.

Temperatures will no doubt again reach into the low 80s, as they have on most of the four days I have been roaming Grand Cayman.

However, the humidity is not high and is scarcely noticeable on the beach, and while I have noted some roaches in my hotel I have not been bitten by a single mosquito.

The pesky bloodsuckers do exist, of course — some 28 varieties — but there is a Mosquito Control Program. Summer, of course, is hotter, as on most Caribbean islands (the "Cayman Islands Handbook" speaks of some "really sticky days . . ."), which is one reason prices drop in the "off-season."

Rainfall is heaviest from May to October, the period when one would expect to find mosquitoes on the prowl, but I have never visited these islands in summer.

There is always a breeze, tourism officials aver, though I would count on that only when close to the ocean, which is where sensible tourists congregate in any case. During the visit, even on a trip into town (the islands' capital, Georgetown) with its concrete and rows of buildings, the breeze vanished and that "mild" sun quickly re-

nian, which remains the biggest hotel with 183 rooms and one of the best (certainly the liveliest) despite a few drawbacks I'll discuss.

First, about those cabs. If all cab drivers — in the Caribbean and elsewhere — were as pleasant as Caymanian hackers, the life of the tourist would certainly be less of a hassle. I did have trouble understanding their English in a few cases, due to the dialect.

According to "The Tourist Weekly," their speech is "a mixture of American Southern drawl and the English slur, with a Scottish lilt to end a statement." That's not to say you won't hear excellent English spoken by the hotel personnel, shopkeepers and most other Caymanians you deal with.

What annoyed me was the fact that though cab rates are supposed to be posted, I could not find a written copy even in my hotel (I discovered late in my visit that the free "Cayman Islands Guide 1979" carried an outdated listing).

I do not imply dishonesty on the part of the drivers; far from it. I have not been flim-flammed with my two currencies. Yet one should not have to repeatedly ask the rate. Fares are not only not cheap (around \$8.75 CI, without tip, for the short ride from the airport to Seven Mile Beach hotels like the Galleon Beach and its neighbor, the Grand Caymanian, and \$3 CI for the brief trip to downtown shopping), but an independent cabbie who does not belong to the hackers' association may charge a slightly different rate.

If you have time to spare, there's a bus serving the Seven Mile Beach area that will take you into town with the Caymanians for only 50 cents CI. If you head into town frequently, the bus can save you a lot of cab fares.

Don't leave home without us!

AMERICAN EXPRESS

Validated Parking at Both Locations

2222 Kalanianaʻone Hwy. 210..... 92

BANK OF HAWAII BLDG.

1600 Kapahulu Blvd. 94

PAN AM BLDG.

VENTURES, INC. XTMA0 00201

DIVISION OF ASSOCIATED SUN LAND

PHONE: (808) 524-8366

HONOLULU, HAWAII 96814

610 WARD AVE., SUITE 204

WORLD TRAVEL

LAND

H's Barry Form

4 to 28

Major, Self-Love

Formerly Market

Value let us design

Postages and

the Beach, Del Monte

banks and trust companies — a few more and it may sink).

All scuba categories from beginner to advanced are attracted by the shallow reefs, some within swimming distance of a beach; the wrecks, walls, caves and the excellent visibility.

Wearing swim suits and lugging their equipment, the eager divers hurry aboard the vessel for the short trip to whichever of numerous sites the divemaster has selected for the two-tank morning adventure.

I roll over on the sand and feel the cooling breeze that each day softens the heat of the mild, soothing early-morning winter sun.

Temperatures will no doubt again reach into the low 80s, as they have on most of the four days I have been roaming Grand Cayman.

However, the humidity is not high and is scarcely noticeable on the beach, and while I have noted some roaches in my hotel I have not been bitten by a single mosquito.

The pesky bloodsuckers do exist, of course — some 28 varieties — but there is a Mosquito Control Program. Summer, of course, is hotter, as on most Caribbean islands (the "Cayman Islands Handbook" speaks of some "really sticky days" which is one reason prices drop in the "off-season."

Rainfall is heaviest from May to October, the period when one would expect to find mosquitoes on the prowl, but I have never visited these islands in summer.

There is always a breeze, tourism officials aver, though I would count on that only when close to the ocean, which is where

nian, which remains the biggest hotel with 183 rooms and one of the best (certainly the liveliest) despite a few drawbacks I'll discuss.

First, about those cabs. If all cab drivers — in the Caribbean and elsewhere — were as pleasant as Caymanian hackers, the life of the tourist would certainly be less of a hassle. I did have trouble understanding their English in a few cases, due to the dialect.

According to "The Tourist Weekly," their speech is "a mixture of American Southern drawl and the English slur, with a Scottish lilt to end a statement." That's not to say you won't hear excellent English spoken by the hotel personnel, shopkeepers and most other Caymanians you deal with.

What annoyed me was the fact that though cab rates are supposed to be posted, I could not find a written copy even in my hotel (I discovered late in my visit that the free "Cayman Islands Guide 1979" carried an outdated listing).

I do not imply dishonesty on the part of the drivers; far from it. I have not been flim-flammed with my two currencies. Yet one should not have to repeatedly ask the rate. Fares are not only not cheap (around \$6.75 CI, without tip, for the short ride from the airport to Seven Mile Beach hotels like the Galleon Beach and its neighbor, the Grand Caymanian, and \$3 CI for the brief trip to downtown shopping), but an independent cabbie who does not belong to the hackers' association may charge a slightly different rate.

as if they had not been vacuumed in a week. Both elevators conked out as the holidays began, though one was later put back in service.

But the staff seemed uniformly pleasant and helpful, doors didn't slam, as most hotel doors do, plumbing was relatively silent (a minor miracle), and a security guard patrolled the property and walked through the corridors at night (though this is not an island where one need feel the slightest tremor since tension is the stranger in this paradise).

Later, I learned from tourism officials that the Health Department keeps a tight rein on hotel properties and, after a series of inspections disclosed numerous housekeeping infractions, had ordered the Holiday Inn to shape up, thus confirming my own observations.

As I was preparing to depart, the Holiday Inn had apparently complied with requirements following an extension. The Beach Club, another hotel, was forced to close to rectify deficiencies, officials told me, but has since reopened.

The Cayman Islands Reservations Service, which confirms bookings for U.S. travel agents, lists 39, mainly small properties with a total of nearly 2,000 beds, which accounts for 98 percent of the accommodations for tourists on the three islands, the vast majority of rooms in hotels, condominiums, clubs and villas being on Grand Cayman. Many offer cooking facilities and/or dining rooms.

There is no question that it is cheaper for a family to rent a beach-front villa or apartment for one or two weeks, and stock up with food at least for breakfast and lunches.

Despite the high cost of imported fruits, vegetables and canned goods in the supermarket, you will chalk up substantial savings over restaurant prices, not to mention having the luxury of two bedrooms, two baths and other facilities at about the same daily rate charged for an oceanfront double in a top hotel with twin beds and no family privacy.

While the Grand Caymanian is apparently the most expensive hotel — and no one can fault its very attractive, spacious poolside and beach setting — other properties are not too far behind in price.

The Galleon Beach, for example, with 33 rooms, charges \$75 U.S. in high season for its "deluxe" double with a less charming hotel layout. And next door are rising new Galleon Beach Villas.

However, there is no such thing as a bad setting on Seven Mile Beach, and you can go diving from any of its hotels with pickup by bus or directly by dive boat operated by various firms.

Also, bear in mind that since Cayman is so popular with divers, there are a number of "diving resorts" that specialize in all-inclusive dive packages.

One that I visited, Spanish Bay Reef, is well booked because of its location a short boat trip from the North Wall, and divers can even walk off the beach and swim to a nearby reef when the sea is calm. But the resort sits on a point facing wide open ocean, and the beach is small, rocky and unappetizing. I don't think this is a place for the non-diver.

Rental cars and mopeds are available. Knowing my motoring habits, I do not trust myself to drive on the lefthand side of Cayman roads after seeing some blind corners and tail-gaters.

An ideal, money-saving compromise would be to rent a villa or condo near a hotel with good dining facilities and thus be able to walk to supper.



IUCN

LUFPOST
PAR AVION VIA AEREA



International Union for Conservation
of Nature and Natural Resources
Union Internationale pour la Conservati
de la Nature et de ses Ressources

1110 MORGES-Suisse/Switzerland



659
Union internationale
pour la conservation de la nature
et de ses ressources

International Union
for Conservation of Nature
and Natural Resources

1110 MORGES (Suisse)

Mr. George H. Balazs
Hawaii Institute of Marine Biology
P. O. Box 1346
Kaneohe, Hawaii 96744
USA

Commonwealth
Development
Finance
Company Limited

CDFC

Colechurch House, 1 London Bridge Walk, London SE1 2SS. Telephone 01-407 9711
Cables Codefico London SE1 Telex. Telex no, 883725. Answerback Codefico London

22nd July, 1975

Mr. Frank G. Nicholls,
International Union for the Conservation of Nature
and Natural Resources,
1110 MORGES
Switzerland

Dear Mr. Nicholls,

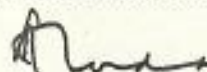
As promised during our telephone conversation today, I am sending with this letter a copy of an article written by Mr. Rene Lacroix and published in Germany, which makes reference to Mariculture, notwithstanding the expressed wish of Dr. Johnson, the Chief Executive, in a letter dated 12th June that no reference should be made to the Company.

As we said to you during our meeting, prior to the appointment of a Receiver, the Company was controlled by the Debenture Holders Committee, of which Mr. Lacroix was not a member. Mr. Lacroix himself is not a shareholder but a substantial shareholding is owned by his Mother.

I also enclose a copy of a letter dated 10th July 1975 addressed to Mr. Rene Lacroix by Dr. Johnson in which he points out misleading statements in the article and asks for a statement to be published disassociating Mariculture Ltd. from the article.

We are grateful for your offer to circulate copies of the article and of Dr. Johnson's letter to the members of the Turtle Group in order that they should know that Mariculture was in no way associated with the article; we attach importance to this because in the past other persons associated with Mariculture have published misleading statements which we have regarded as most regrettable. We are further alarmed by receiving a copy of a letter dated 11th July from Mr. Naylor, a former Director of Mariculture, to Mr. Lacroix, in which out dated and faulty information is included. A copy of Mr. Naylor's letter is enclosed for your information. We hope that Mr. Lacroix will not use this as a basis for further publicity, but we have no means of stopping him from doing so. This is a problem for the Receiver to whom we are sending copies of all our correspondence on this matter.

Yours sincerely,



F.A. Judd

Enc:

FAJ/rvd



IN RECEIVERSHIP

12th June 1975

Mr Rene Lacroix
6078 Niu-Isenburg II
Stieglizstrasse 21
WESTERN GERMANY

Dear Mr Lacroix

When we were speaking yesterday you were convinced that you must write an article defending our position against the attack made on us by Professor Grzimek. From the translation that you read out it would appear that his references to Mariculture Limited are that we have made misleading statements and that the possibility of the closed cycle on the hatching of eggs from turtles raised on the farm is not yet proven.

We have said when the I U C N delegates visited us that certain of the statements in our literature at this time were misleading and it is true that we have not yet proved the case for completing the cycle on turtle raising in captivity.

Although you feel strongly that you must answer the article in regard to its reference to turtle soup, I would not wish any reference to Mariculture Limited to be made for as you have explained Professor Grzimek is a most biased person and is not likely to be persuaded by your arguments and could probably use quotations out of context. The present time is critical for Mariculture until we get our Permit granted by the California Legislature and I would not wish I U C N, on whose goodwill we depend, to be upset at this critical juncture.

Yours sincerely

W.A. Johnson
W A JOHNSON
Chief Executive

cc. ~~Mark Fisher~~ Peter Dohrn ✓



IN RECEIVERSHIP

10th July 1975

Mr E Rene Lacroix
6028 Neu-Isenburg II
Stieglizstrasse 21
WESTERN GERMANY

Dear Mr Lacroix

Under your covering letter of 18th June you sent me a copy of a reply by ARNE VERLAG dated 10th June on "New Possibilities for Breeding Sea Turtles". My assumption is that this has been prepared for publication in some journal, perhaps "Zoologische Gesellschaft" but it may be that ARNE VERLAG is a medium for bringing views to public attention. If this is so, I had not understood when we discussed that you wished to reply to Professor Grzimek that in fact an article had already been sent and that therefore my wishes not to have Mariculture Limited mentioned in the article could not be observed. As I feared, there are many statements in your article which could be construed as misleading and I would point to the following:-

Page 1 - opening paragraph. Mariculture Limited was surely founded as a commercial undertaking guided by conservation ethics, but although this paragraph may have suffered in the translation the implication is that it was founded for conservation purposes; I am sure that certain people in I U C N would object strongly if they felt this was the implication.

Paragraph 2. To be precise Mariculture was the first Company to succeed in mating and hatching from captive animals, although there had been previous examples of successful matings elsewhere. Unfortunately the figures do not quite bear out the increase of 3% in 1973-1974 though of course it is true that 1975 will show a much better result for as no wild eggs have been collected the proportion of eggs hatched on the farm to those collected from the wild will be 100%.

Page 2 - paragraph 1. The use of the phrase "domestic animal" implies complete control over the reproductive cycle and as you know we are not yet at this stage. Furthermore, there is no good evidence to substantiate the statement that our turtles grow twice as fast as those in the wild. Although it is probably true there is little statistical basis for the growth rate of wild animals. Incidentally you do us an injustice in saying it takes us 5 years to grow to 90 lbs when our projections are assuming we will be there in 3½ years.

Page 3 - Turtles are released by Mariculture to the sea as you well know as an effort to serve conservation but it should be noted that such "head start" programmes even though utilized by conservationists have not been proved effective.

Paragraph 2. Overstates the number of turtles we are holding at the moment - actually Mariculture has at present about 65,000 - but more particularly I would stress that certain conservationists would argue that even taking 40,000 wild eggs a year may endanger the species. Although we are convinced that eggs we collect from Surinam are "doomed", the effect of lava sand on hatchability has still to be demonstrated. Mariculture releases 1% of all eggs taken as yearling turtles, not 15% of the turtles hatched.

I am sending you these comments because I know how much stress is laid by certain members on the I U C N on what they call our misleading statements and would be grateful if you could publish in ARNE VERLAG the following short statement:

"Although we are always grateful for the help and attention given to the efforts of Mariculture Limited we wish to point out that the article entitled "New Possibilities for Breeding Sea Turtles" was written without the knowledge of or correction by Mariculture Ltd staff. We wish to make this clear as Mariculture Limited has in the past received severe criticism for making misleading and scientifically unsound statements in its literature."

Many thanks indeed.

Yours sincerely

W A JOHNSON
Chief Executive

cc Chris Bain FNCE
P O. Doyle Receiver/Mariculture
Mr Fullerton, California

E. RENÉ LACROIX

RECEIVED JUN 30 1975

SEKRETARIAT

June 18th, 1975

Dear Mr. Johnson,

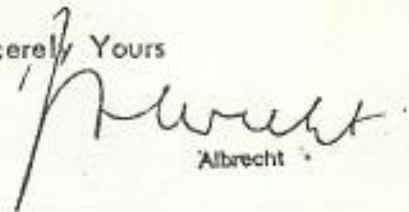
Note to him

As you are aware, Prof. Grzimek has again published recently several articles in different newspapers, imploring the public not to consume turtle soup any longer, for the sea turtles are already on the point of extinction.

We are forwarding to you herewith enclosed copy of the reply of "Arne-Verlag" in answer to the assertions made by Prof. Grzimek, for your information.

With very best regards, we remain

Sincerely Yours



Albrecht

Encl.

Dr. JOHNSON Esq.
c/o Mariculture Ltd.

P.O. Box 645
GRAND CAYMAN ISLAND
British West Indies

Arne-Verlag



Arne-Verlag, 8071 Götzenheim, Schloß Philippseich

ARNE-VERLAG

ARNE KRÖGER GmbH & Co KG

Schloß Philippseich, 8071 Götzenheim

Telefon (Langen 06103) 8 50 00

Telex 41 853 34 arne d

Geschäftsführer: Arne Kröger

Registergericht: Langen Nr.: HRA 930

Konten: BHF-Bank, Flm., Nr. 26-03185-6

Postscheck: Frankfurt Nr. 279671

Handelsbank in Zürich

Österreich, Länderb. Wien, Nr. 9-308-900-01

Mitglied des Börsenvereins des
deutschen Buchhandels Frankfurt

Ihr Zeichen

Ihre Nachricht vom

Unser Zeichen: ak/ss Datum: June 10th, 1975

NEW POSSIBILITIES FOR BREEDING SEA TURTLES

Approximately 7 years ago, the firm Mariculture Ltd, was founded in Grand Cayman (British West Indies, Gulf of Mexico) by laymen interested in the protection of nature with support by prominent scientists, in order to breed sea turtles.

In their efforts lasting many years, the firm Mariculture Ltd. succeeded in breeding the green turtle (*Chelonia Mydas*) in captivity for the first time in the world.

In 1973, a considerable percentage (approx. 12 per cent) of the sea turtles raised on the farm came already from mother animals which had laid and hatched their eggs there. This is a great success after the farm had existed for such a short time.

In 1974, the share of turtles born and hatched by own mother animals on the farm had again increased by 3 per cent; and for 1975, a better result is even expected.



Arne-Verlag, 6071 Götzenhain, Schloß Philippseich

ARNE-VERLAG

ARNE KRÜGER GmbH & Co KG
Schloß Philippseich, 6071 Götzenhain
Telefon (Langen (06103) 8 60 69
Telex 41 853 34 arne d
Geschäftsführer: Arne Krüger
Registriergericht: Langen Nr.: HRA 930
Konten: BHF-Bank, Flm., Nr. 26-03185-6
Postcheck: Frankfurt Nr. 270871
Handelsbank in Zürich
Osterrath, Landarb. Wien, Nr. 9-308-909 01
Mitglied des Börsenvereins des
deutschen Buchhandels Frankfurt

- 2 -

Mr Zeichen

Wird Nachricht vom:

Unser Zeichen:

Datum:

Thus, it must be stated that Mariculture Ltd. has succeeded for the first time to breed the green sea turtle as a domestic animal. It is an astonishing result of the purposeful, scientifically controlled feeding that, furthermore, the bred animals grow up twice as fast as the wild ones. At Mariculture Ltd. It takes a sea turtle only some 5 years to grow from a minute organism that comes out of the egg to a weight of approx. 90 pounds. Sea turtles are very fertile and lay several hundred eggs. In wild life, only a maximum of 2 per cent of all of these eggs grow up to be adult animals, since frigate birds, barracudas and sharks kill most of the minute animals. As compared to this, approximately 40 per cent of the sea turtles hatched at Mariculture Ltd. grow up healthily and without dangers to be adult animals.

The possibility existing now to breed sea turtles like domestic animals offers tremendous chances for the future. We are hoping that the example of Mariculture Ltd. will be repeated on many subtropical beaches in the world. Also at Mariculture Ltd. a part of the animals already grown up is safely dismissed into freedom, thus, the number of turtles living at liberty is being multiplied in this way.

This means that in the future the extraordinarily tasty, tender meat of the sea turtle



Arne-Verlag, 6071 Götzenhain, Schloß Philippseich

ARNE-VERLAG
ARNE KRÜGER GmbH & Co KG
Schloß Philippseich, 6071 Götzenhain
Telefon (Langen (03103) 85069
Telex 4185334 arne d
Geschäftsführer: Arne Krüger
Registergericht: Langen Nr.: HRA 930
Konten: DHF-Bank, Ffm., Nr. 20-03185-0
Postscheck: Frankfurt Nr. 270671
Handelsbank in Zürich
Österreich, Länderb. Wien, Nr. 0-300-000, 01
Mitglied des Börsenvereins des
deutschen Buchhandels Frankfurt

- 3 -

Ihre Zeichen:

Ihre Nachricht vom:

Unser Zeichen:

Datum:

will offer a very important new possibility for nourishment of humanity, particularly for the inhabitants often suffering from lack of albumen of subtropical and tropical coast areas where there is often lack of fish. Due to the protected breeding, an average of 50 animals grows up to full size of each turtle-clutch of eggs while in nature only 2, at the most 3 animals from one nest survive.

All manufacturers of "Turtle Soup" in the world together need approximately 15.000 animals per 90 pounds each per year. This means that a single flock of 100 to 150 mother animals is capable of producing anew every year the total world-wide demand for turtles for turtle soup. But Mariculture Ltd, alone is raising 100.000 turtles at the moment. This means that the requirements by producers of genuine turtle soup can certainly not endanger in the least the species of the green sea turtle.

In addition to that, Mariculture Ltd, contributes to the preservation and multiplication of the green sea turtle by collecting turtle eggs on three especially by nature endangered beach sections in three countries in Latin and South America with explicit permission by the Governments concerned, by then hatching them under control and by releasing a considerable portion of the grown animals to the free ocean. If these eggs were not collected, the brood would there only have a



Arne-Verlag, 6071 Götzenheim, Schloß Philippseich

ARNE-VERLAG
ARNE KRÜGER GmbH & Co KG
Schloß Philippseich, 6071 Götzenheim
Telefon (Langen (06103) 85069
Telex 41 83334 arne d
Geschäftsführer: Arne Krüger
Registergericht: Langen Nr.: HRA 830
Konten: BHF-Bank, Flm., Nr. 20-03185-8
Postscheck: Frankfurt Nr. 278871
Handelsbank in Zürich
Österreich, Länderb. Wien, Nr. 9-300-909 01
Mitglied des Börsenvereins der
deutschen Buchhändler Frankfurt

- 4 -

Ihr Zeichen

Ihre Nachricht vom

Unser Zeichen

Datum

chance of survival of less than 1 per cent due to the specific structure of these beaches (lava, storms, frigate birds and others).

Due to the efforts of Mariculture Ltd, approximately 15 per cent of the animals hatched from these collected eggs grow up even today in the free ocean, whereby Mariculture Ltd. has performed a valuable contribution to the preservation and multiplication of this magnificent animal for many years.

This would mean that also all friends of animals can continue to enjoy without qualms a splendidly invigorating cup of genuine turtle soup.


Arne - Verlag

NEW YORK ZOOLOGICAL SOCIETY
New York Zoological Park (Bronx Zoo)
185th St. & Southern Boulevard
Bronx, New York 10460

FIRST

You perhaps can control what
the form says -
But experience is showing
that you can't control what
distributors, etc. say
and they are saying all of the old
stuff from old brochures.
It is all water under the bridge
the same old operation!

the same
possibly
"original form"

From

King
NEW YORK ZOO
THE ZOOLOGICAL SOCIETY
185th Street and Southern Boulevard

Mr. George B. G. ...
Hawaii Institute
P.O. Box 1346
Kaneohe, Hawaii

→ ADP

S

see Naylor
sent from time

How many laid -
How many from
form raised -
hatched -
Survived to one year -

YORK ZOOLOGICAL SOCIETY
 ork Zoological Park (Bronx Zoo)
 5th St. & Southern Boulevard
 Bronx, New York 10460

FIRST CLASS MAIL



Content copied
 letter and
 material
 to Hughes
 Sierra
 Club

etc. more for (copy of notes)
 you by both
 all placed in
 (copy of notes)
 following
 several
 material

From
 King
 NEW YORK ZOOLOGICAL SOCIETY
 THE ZOOLOGICAL PARK
 185th Street and Southern Boulevard, Bronx, N. Y. 10460

Mr. George Balazs
 Hawaii Institute of Marine Biology
 P.O. Box 1346
 Kaneohe, Hawaii 96744

find you sent central
 distribution, etc
 and they are again all right
 with the material
 It might be better to make
 the name of the operation!

see Naylor
 see reference

many birds
 new from
 in record
 of
 for one year



given

" urged to recommend Marinette to be given a 5 year period in which to become self-sufficient "

Asking for 5 years passes worth

economically bankrupt -
ethically bankrupt - moral

If their husband's account was said 1979 - why do they need 5 years?

5 years plea makes me realize that there is a line of false promises and innocent projects will never end.

ignore

Tom Harkin

there poster plan was on a scrap of yellow paper

In all seriousness,

Has anyone yet offered to make a large financial contribution to NYZS?

I mean, really, this is the same

old plan view, been here for years.

body of work in mind

the be of
the
the
the

NEW YORK ZOOLOGICAL SOCIETY
New York Zoological Park (Bronx Zoo)
185th St. & Southern Boulevard
Bronx, New York 10460

*I may never
enjoy write anything
no time to
paint pictures*



*Copied letter
to Corry
w/ self
info*

George Balazs
University of Hawaii at Manoa
Hawaii Inst. Marine Biology
P.O. Box 1346
Coconut Island
Kaneohe, Hawaii 96744

*Do you best to
enclose me and
for all - just satisfy
the rest of it*

FIRST CLASS



CENTRAL SOYA 1200 North 2nd Street, Decatur, Indiana 46733

May 28, 1975

*Sawyer
Bill
Bwona*

URI Marine Advisory Service
University of Rhode Island
Narragansett, Rhode Island 02882

Gentlemen:

Please send us a copy of P-406 Ammonia Removal by Selective Ion Exchange.

Thanking you for this courtesy, we are

Sincerely yours,

CENTRAL SOYA COMPANY, INC.

W. L. Soldner

W. L. Soldner
Research Specialist

P.S. For information on commercial farming of chelonia mydas please contact:

Mariculture, Ltd.
P. O. Box 645
Grand Cayman Island,
British West Indies

These people are presently rearing the green sea turtle on a commercial basis.

WLS:ljf

Hold this letter for Bill Bwona

1-P406

FROM:

UNIVERSITY OF RHODE ISLAND
MARINE ADVISORY SERVICE
NARRAGANSETT BAY CAMPUS

University of Rhode Island Narragansett, R. I. 02882

TO:

George H. Balázs
University of Hawaii at Manoa
Hawaii Institute of Marine Biology
Coconut Island
POB 1346
Kaneohe, HI 96744



LIBRARY OF
GEORGE H. BALAZS

THE FINANCIAL BAROMETER
 Price of GOLD in London
 US\$137.00
 Price of SILVER in London
 US\$3.92
WALL STREET
 DOW JONES AVERAGE
 863.47
 ANOTHER SERVICE OF
INTERBANK HOUSE
 DATE January 22, 1974.

PRICE 15¢

THE CAYMAN
COMPASS
 STEERING A TRUE COURSE

Member of Inter American Press Association



WEDNESDAY, JANUARY 23, 1974

SWISS FRANCS GERMAN MARKS
BANK WHERE IT PAYS
 Today's rates min. \$5,000.
 6 months 8 3/8%
 1 year 9%
 2 years 9 1/2%
 5 years 10%
 Rates fluctuate daily.
STERLING BANK
 AND TRUST COMPANY LTD.
 Interbank House
 Grand Cayman,
 British West Indies
 JAMAICAN DOLLARS CAYMAN DOLLARS
 JAPANESE YEN U.S. DOLLARS

VOL. 3, NO. 4.

Mariculture Makes Improvements In Turtle Production

Mariculture has introduced new and improved methods of preparing and exporting its turtles. Production is now back to normal after a suspension of two months when modifications were being carried out at the turtle farm in order to attain standards in accordance with United States regulations.

Commenting on this, the Managing Director Mr. Michael Goodier pointed out that Mariculture had introduced better methods of slaughtering, packaging, and other preparations for export to satisfy those who import turtles from Cayman and market them in the respective countries.

He said that the were conforming to U. S. standards because that country was the major importer.

The Managing Director explained that with reference to packaging this was now being done in a more specialised way, as some people preferred certain parts of the turtle and so different types of the meat were being made available under its particular category

when packaged.

Deep freeze facilities are also being improved and the farm is in the process of installing a huge freezer to take care of this aspect of the production.

With regards to the new slaughtering methods these would completely eliminate the possibility of any contamination, the Managing Director said.



Grand Cayman's seven-mile white sand beach and clear blue water have made it one of the Caribbean's most desirable resort areas.



Turtle eggs gathered from the beaches of Central America are flown to Grand Cayman in insulated cartons and hatched under carefully controlled conditions of temperature and humidity.



Careful weight records are kept to determine growth rate and feeding efficiency. Both have been remarkably improved through the use of specially formulated rations.

It's feeding time at Mariculture, and the activity leaves little doubt about the palatability of the new rations.



All this and turtles too!



By any reckoning, Grand Cayman Island has some of the most beautiful beaches in all the world. To say that it is also a skin diver's paradise would be the grossest of understatements. Its coral reefs teem with sea life, and for the more adventuresome diver, more than 400 sunken ships lie on the jagged reefs or white sand bottom within a two-mile distance from shore.

Now, Grand Cayman has another tourist attraction . . . the world's first and only sea turtle farm. The species involved is Chelonia Mydas, the Atlantic Green Turtle, one of perhaps eight major families of sea turtles.

Mariculture, Ltd. is dedicated to preventing the loss of Chelonia Mydas, and was established on the premise that not only could the species be preserved, but that sufficient numbers of the turtles could be raised to permit their continued use for food.

CHRISTOPHER COLUMBUS

The Green Turtles of the Caribbean have formed a staple in the diets of the native Indians since long before the arrival of the Europeans. Perhaps the first mention of the turtles of Grand Cayman was in the log of Christopher Columbus.

At that time, thousands—perhaps millions of the Green Sea Turtles came to the Caymans to lay their eggs in the same warm sands where

the guests of luxury resorts now sun themselves. So plentiful were these huge but gentle creatures, that for hundreds of years, sailing ships came to the Caymans to replenish their supplies of fresh meat . . . a commodity hard to come by in the Caribbean.

By the 1800's, the number of Green Turtles in the islands of the Caribbean had been so depleted, that even the commercial fishermen were having difficulty finding enough to continue operation.

CAPTIVITY

In 1968, the founders of Mariculture, Ltd. decided to test the feasibility of hatching and rearing Green Sea Turtles in captivity, thus avoiding the tremendous losses which normally occur within the first few days or weeks of the turtle's life.

A major factor in the depletion of sea turtle numbers is their unerring return at breeding time, to the same beach on which they were hatched. Mariculture secures turtle eggs from the beaches of Central and South America through agreements under which a percentage of the turtles are returned to those same beaches at approximately one year of age, with a vastly improved chance for survival.

The green turtle hatching weighs less than an ounce at birth, and en-

ters the world after an incubation period of about nine weeks. Green turtle eggs resemble large ping pong balls, and have a leathery shell. The yolk sack remains attached to the under shell of the baby turtles for several days. Until it has been absorbed and its shell hardened, the baby turtle remains under the sand. Then, as if by some unseen signal, the baby turtles break out of the nest and head directly for the sea where they begin swimming furiously. Where they go from there, no one knows. Baby sea turtles are never found at sea, and little is known about their natural diet.

GRAND CAYMAN

The Mariculture farm itself is located on about nine acres of land near the Western Tip of Grand Cayman Island. Sea water tanks of various sizes hold turtles ranging from three to four inches in length to thirty-six inches or more. A fully mature Green Turtle can attain a weight of 600-800 lbs.

Marketable size is considered to be 125 lbs. At the present time, this weight is being reached in about 3 years. There are some 60,000 turtles of all sizes on the farm at the present time, with the oldest just about market size.

One of the major problems to be solved in the rearing of sea turtles was diet. Central Soya's Caribbean Sales Manager, Lew Guthrie, felt that

the problem could be solved by analysis and experimentation. Mariculture's General Manager, Michael Goodier, agreed to cooperate in every way possible.

SUCCESSFUL

First, Central Soya researchers came to Grand Cayman to see the operation for themselves. Fresh samples of the turtle's natural food were obtained and taken back to the laboratory for analysis. Then, substitute foods were formulated to provide the same nutritional balance using more readily obtainable ingredients. First shipments proved that the turtles would eat the new food, but several problems remained to be solved. The food must be pelleted to enable the turtles to eat it, the pellets must not disintegrate on contact with water... and they must be made in various sizes for the different ages of turtles. To prevent wastage, the pellets were manufactured with a process which caused them to float, but turtles are normally bottom feeders, so this, too, required an adaptation.

Today, the people at Mariculture are convinced that they have proven their original premise. Sea turtles can be successfully raised in captivity, and they have 60,000 of them to prove it. Central Soya has a new and unusual customer, and Grand Cayman Island has a new tourist attraction.

Farm Manager, Michael Goodier, right, and Lew Guthrie, Central Soya's Caribbean Sales Manager, inspect one of the larger turtles.



Master Mix **Select-A-Ration**[®] "tuned" to your feedlot!

Master Mix beef nutritionists have done their homework... well... accurately... completely. Which makes it much easier for you to do yours. You see, the new **Select-A-Ration** program includes 960 computer calculated rations (526 for calves, 432 for yearlings) based on your use of any of 6 grains in silage systems, dry roughage systems... even no-roughage systems.

We aren't trying to be "all things to all beef people" with this concept. We are trying to make your ration building job easier, and a lot more efficient... whether you feed 100 head or 10,000. See your Master Mix Dealer or Sales Representative for a computer-backed recommendation.

Select-A-Ration makes sense!



Master Mix FEEDER'S DIGESTIVE is published by Central Soya, Fort Wayne, Indiana 46802

EDITORIAL BOARD

H. W. Arthur
 D. G. Fleming, Executive Vice President
 W. W. Wilkinson, General Sales Manager
 M. J. Altshuler, Eastern Region Sales Manager
 J. H. Bause, Western Region Sales Manager
 H. D. Guthrie, Southern Region Sales Manager
 Dr. G. R. Childs, Director of Food Research
 J. E. Palmesheim
 ASSISTANT EDITOR
 G. F. Chlevera



CENTRAL SOYA, FEED DIVISION • 1330 FORT WAYNE NATIONAL BANK BUILDING • FORT WAYNE, INDIANA 46802

Bulk Rate
U. S. Postage
PAID
Permit No. 123
Indianapolis, Ind.

Buy One...Get One FREE!



This Feeder's Digest page is worth a lot more than its weight in money and comfort. All you have to do is tear it off, and take it to your participating Master Mix Dealer. Then, when you purchase an aerosol can of Master Mix LAWN AND PATIO SPRAY at the regular price, he'll give you absolutely FREE one can of Master Mix FLY AND MOSQUITO INSECT KILLER. This introductory offer ends July 21, 1972. Cash in on big savings right now. Cash in on big comfort this summer.

Tear off entire page now. Take it to your Master Mix Dealer before July 21. Buy Master Mix LAWN AND PATIO SPRAY. Get FLY AND MOSQUITO INSECT KILLER. FREE!

Offer limited to participating dealers. Void where taxed or prohibited by law.



ESTABLISHED BY MURGE H. BALAZS Master Mix Feeder's Digest[®]

July/August 1972 Volume 7, No. 7



**EXCEPTIONAL
VIVID COLOURS
AND PATTERN RANGE ●
ALL SHELLS
CLEANED CURED
AND HAND POLISHED ●
NATURAL FINISH ●
NO LACQUER USED ●
NO 'AFTER SALE'
MAINTENANCE ●
COMPLETE WITH
HANGING FIXTURE ●**

**IDEAL FOR:
WALL DECOR ●
INCORPORATING IN
WALL LIGHTS ●
FURNITURE SUPPORTS ●
USE IN
FOOD CONTAINERS ●**

**FARMED
PRODUCTS
FROM**



**AVERAGE DIMENSIONS: LENGTH 26"; WIDTH 20";
AVERAGE WEIGHT 8½ LBS.**

MARICULTURE, LTD.

GREEN SEA TURTLE POLISHED SHELLS

- ALL SHELLS ARE FROM OUR FARMED THREE YEAR OLD GREEN SEA TURTLES (CHELONIA MYDAS)
- FOR EXPORT ALL SHELLS ARE INDIVIDUALLY WRAPPED, PADDED AND PACKED, FIVE PER SPECIALLY DESIGNED AND STRENGTHENED CARTON 30"x23"x12".
- ALSO AVAILABLE: Smaller Polished Shells: Dimensions from 12"x18" and White Shells, Scutes Removed—Cured and Polished — Standard Size.
- MARICULTURE IS ACTIVELY CONCERNED WITH THE CONSERVATION OF THE WILD GREEN TURTLE. PURCHASE OUR FARMED PRODUCTS AND SO ASSIST MARICULTURE'S CONTRIBUTION TO ENSURING THE SURVIVAL OF THE WILD SPECIES.

MARICULTURE, Ltd.
BOX 645, GRAND CAYMAN ISLAND, B.W.I.
TEL: 9-3313



Guided Tours

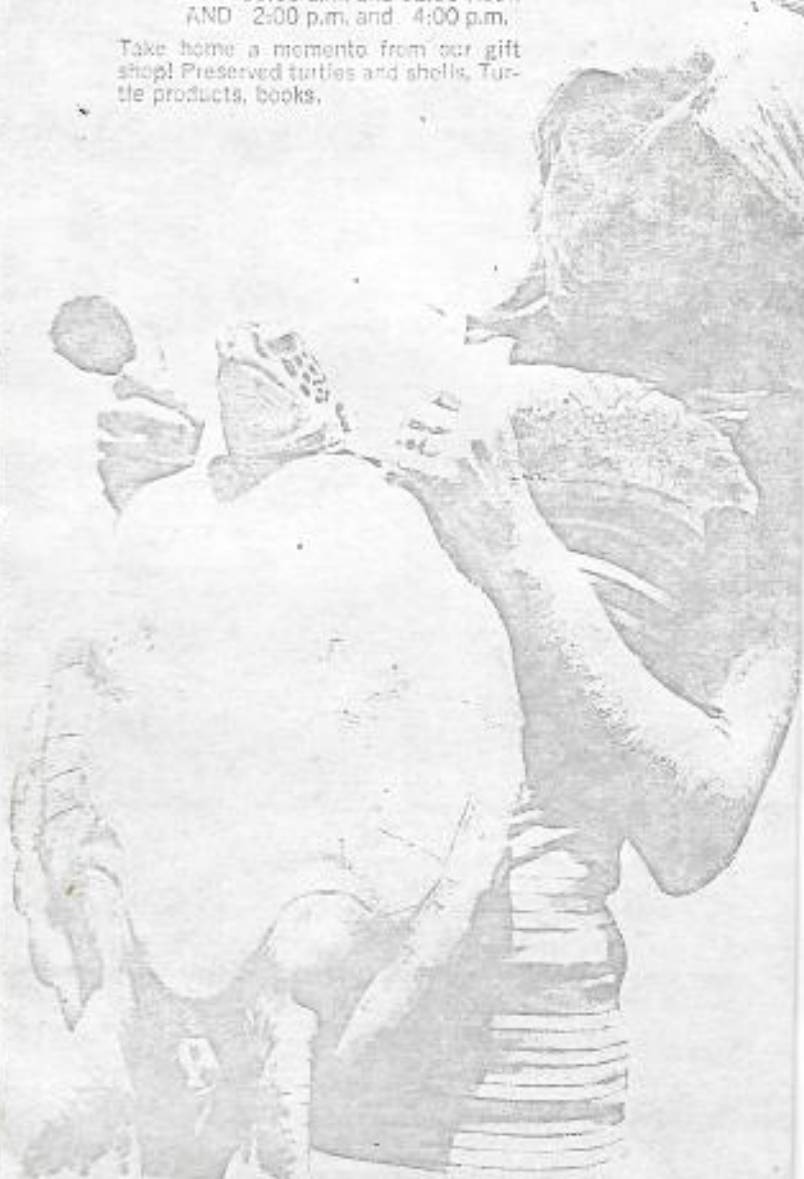
LIBRARY OF
GEORGE W. BALAZS

Fun and fascination for the whole family.
Bring your camera!

SALT CREEK SITE

Open Daily, Tours between the hours of
10:00 a.m. and 12:00 Noon
AND 2:00 p.m. and 4:00 p.m.

Take home a memento from our gift
shop! Preserved turtles and shells, Tur-
tle products, books.





From eggs to hatchlings ...

The green turtle (*Chelonia Mydas*) hatchling weighs less than one ounce at birth and it is hard to believe that he can grow to be a gentle, harmless sea turtle of six hundred pounds. He enters the world after an incubation period of eight or nine weeks, pecking his way out of an egg which resembles a large white ping pong ball, and then has to work his way up to the surface of his nest in the sand. During this period his shell is losing its initial softness and he lives off a yolk sack that protrudes from his belly, gradually absorbing it. When his belly is quite flat, and after a short period of rest under the surface layer of sand, he breaks out of the nest and makes his way directly down the beach to a sea he has never seen before and begins swimming furiously. Where he goes is a mystery as no-one has ever seen a baby green turtle at sea. They are carnivorous at this stage and probably swim out into the deep ocean and get amongst weed and feed off plankton.

Before he is a year old the green turtle begins to move inshore, changing his diet to sponges and thence to his adult diet of turtle grass (*Thalassia*), thus becoming entirely herbivorous.

The breeders ...

The green turtle reaches maturity at six or seven years old, weighing about two hundred and fifty pounds, and from that age will begin breeding every two or three years. The female lays her eggs in a deep nest dug in a sandy rookery beach and each breeding season will nest several times laying about 120 eggs at each nesting. This is the only time the female green turtle leaves the sea; the male green turtle never leaves the water. Green turtles are about the only animals which eat sea grass and turn it into good red meat. Since it is cold blooded, the green turtle uses no energy to make body heat which enables it to devote a larger percentage of the food it eats to growth than other domestic animals. Its relatively slow growth is more than compensated for by its indifference to crowding and high feeding efficiency. In captivity green turtles are hardy and fast growing, and in properly constructed tanks they are resistant to crowding, and so mild tempered that they become hand tame.

MARICULTURE LTD.



Why Mariculture?

By
GEOFFREY
MORRIS

1962



GRAND CAYMAN, B.W.I.

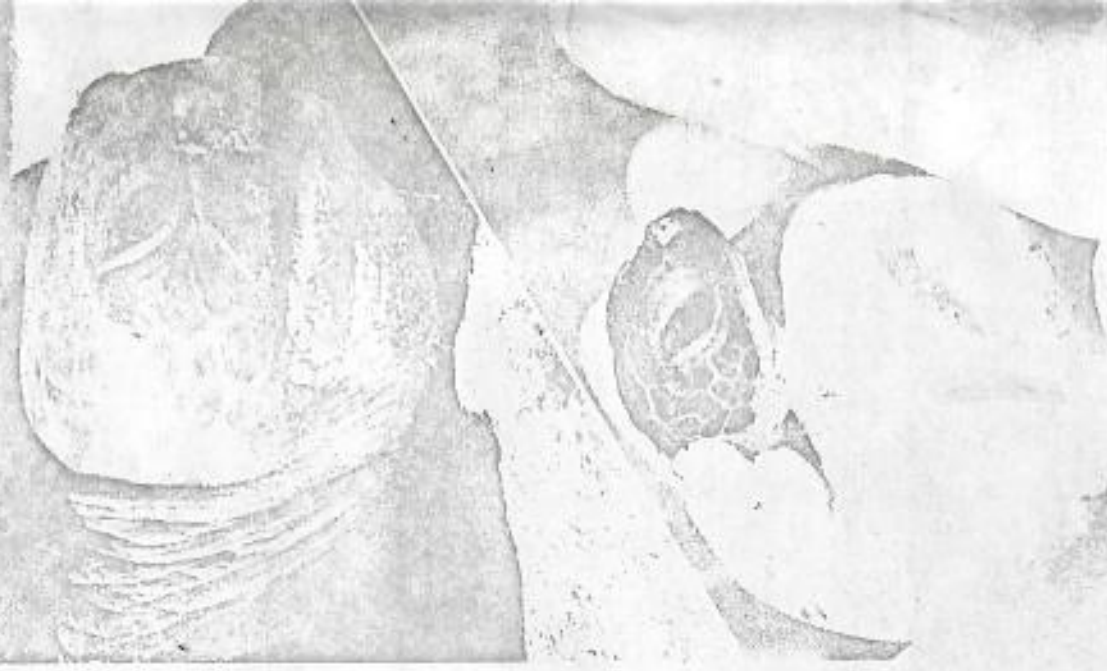
DON'T MISS THE

Sea Turtle Farm!



MARICULTURE, Ltd.

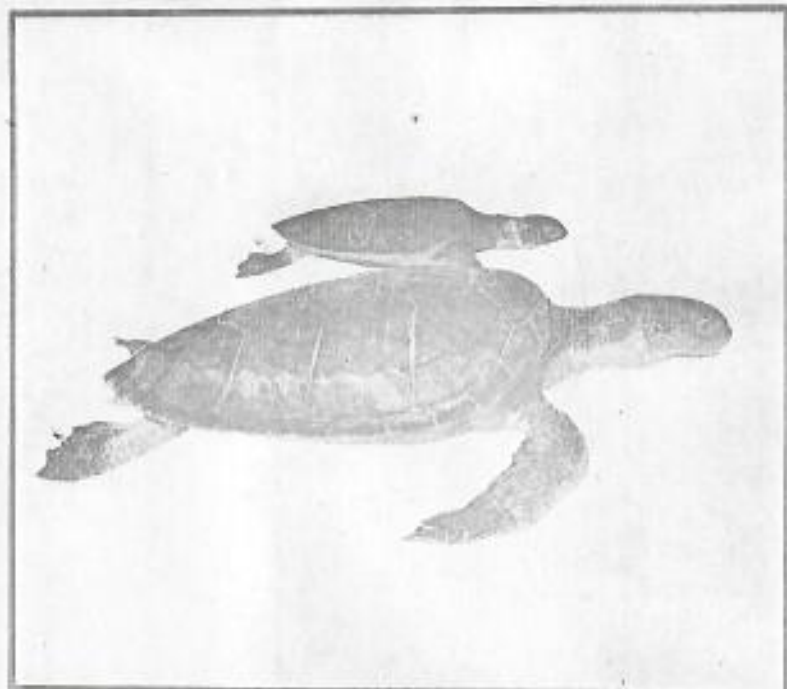
THE WORLD'S ONLY
SEA TURTLE FARM



TURTLE
EXPERTLY PREPARED
BY MASTER CRAFTSMEN ●
NO MAINTENANCE
NECESSARY ●

IDEAL FOR:
ALL TYPES OF DECOR ●
EDUCATIONAL
PURPOSES ●

FARMED
PRODUCTS
FROM



AVERAGE DIMENSIONS: LENGTH 30" DOWN TO 5"
WEIGHT: FROM 35 LBS. DOWN TO 4 OZS.

MARICULTURE, LTD.

**STUFFED GREEN
SEA TURTLES**

- ALL TURTLES (CHELONIA MYDAS) ARE REARED FROM DAY OLD ON OUR FARM ON GRAND CAYMAN. NONE ARE SLAUGHTERED PURELY FOR THE TAXIDERMY TRADE.
- FOR EXPORT ALL TURTLES ARE INDIVIDUALLY WRAPPED, PADDED AND PACKED IN SPECIALLY DESIGNED AND STRENGTHENED CARTONS.
- MARICULTURE IS ACTIVELY CONCERNED WITH THE CONSERVATION OF THE WILD GREEN SEA TURTLE. PURCHASE OUR FARMED PRODUCTS AND SO ASSIST MARICULTURE'S CONTRIBUTION TO ENSURING THE SURVIVAL OF THE WILD SPECIES.

MARICULTURE, Ltd.
BOX 645, GRAND CAYMAN ISLAND, B.W.I.
TEL: 6-3313



3 GOOD REASONS
FOR BUYING
FARMED TURTLE STEAK
from
MARICULTURE LTD.



MARICULTURE LTD.
Box 645
Grand Cayman Island
British West Indies

Phone 9-3313

3 GOOD REASONS
FOR BUYING
FARMED TURTLE STEAK
from
MARICULTURE LTD.



MARICULTURE LTD.
Box 645
Grand Cayman Island
British West Indies

Phone 9-3313

FOOD VALUE

These average food compositions need little comment.

	Protein	Fat	Calories
	%	%	per 100 grams
Beef Sirloin	19.0	19.0	247
Chicken	21.0	2.0	109
TURTLE STEAK	23.0	0.2	102

AS A HEALTH OR DIETARY FOOD, HIGH PROTEIN TURTLE STEAK IS THE OBVIOUS ANSWER. It has all the qualities of the other top class meats, but has the absolute minimum fat/calorie levels.

OPTIMUM MEAT QUALITY INCLUDING FLAVOUR, TENDERNESS, TEXTURE, AND COLOUR IS OBTAINED BY ADHERING TO A STRICTLY CONTROLLED REARING PROGRAM.

ALL MARICULTURE FOOD PRODUCTS ARE PREPARED, PACKAGED, FROZEN, AND TRANSPORTED UNDER THE MOST STRINGENT HYGIENE CONDITIONS.

PRICE and AVAILABILITY

Due to efficient management and the natural feed requirements of the green turtle, we are able to keep production costs to a minimum.

SO, WE CAN OFFER YOU A TOP QUALITY STEAK AT A SENSIBLE PRICE.

A BEEF FILLET QUALITY, BUT NOT THE PRICE:

Remember our turtle steak is 100% top quality lean meat. There is no bone or surplus fat.

YOU CAN ENJOY ALL YOU BUY.

Mariculture is a sound farming enterprise, SO WE CAN DELIVER THE GOODS EVERY DAY OF THE YEAR.

CONSERVATION

MARICULTURE IS ACTIVELY CONCERNED WITH THE CONSERVATION OF THE WILD GREEN TURTLE (CHELONIA MYDAS). Due to ruthless slaughtering and poaching the wild species has been in real danger of total extinction.

We are replenishing wild stock with Mariculture reared turtles in several locations throughout the world. We are also co-operating with research organizations in order to fully understand the life cycle of the green turtle.

SO, BY PURCHASING OUR FARMED PRODUCTS YOU ARE EASING THE PRESSURE ON THE WILD POPULATION AND ASSISTING MARICULTURE'S CONTRIBUTION TO THE CONSERVATION OF THE GREEN TURTLE THROUGHOUT THE WORLD.



RECIPES

RECOMMENDED FOR

MARICULTURE

FARMED

TURTLE STEAK



MARICULTURE LTD.
Box 645
Grand Cayman Island
British West Indies

Phone 9-3313

TURTLE PARMESAN

- 4 large turtle steaks cut $\frac{1}{2}$ inch thick and pounded
- 2 eggs
- $\frac{1}{4}$ teaspoon salt
- $\frac{1}{8}$ teaspoon pepper
- 1 cup bread crumbs
- 4 tablespoons grated Parmesan cheese
- $\frac{1}{4}$ teaspoon oregano
- $\frac{1}{4}$ cup olive oil
- 2 cups tomato sauce
- 4 slices mozzarella cheese

Beat eggs well. Add salt and pepper to taste. Mix bread crumbs with the grated parmesan cheese and oregano. Dip turtle steaks into the beaten eggs. Then roll in bread crumbs mixture. Fry the dipped and crumbed steaks in olive oil until golden brown on both sides. Remove browned cutlets from pan and place them into a greased baking dish. Pour the tomato sauce over the steaks. Place a thin slice of mozzarella cheese on top of each steak. Bake meat in a 375° oven for 30 minutes. Serves 4.

TURTLE STEAK ST. THOMAS

- 2 sticks celery, chopped
- 1 onion minced
- 1 tomato minced
- 3 large mushrooms, chopped
- 1 clove garlic minced
- 1 small can tomato puree
- 2 sprigs parsley
- $\frac{1}{2}$ pint dry white wine
- dash brandy
- 1 tablespoon flour
- 1 teaspoon salt
- pinch sweet basil
- pinch thyme
- pinch marjoram
- 2 pounds turtle steak, cut into $1\frac{1}{2}$ in. by $\frac{1}{2}$ in. strips

Put first eight ingredients into a pan and blend well. Mix flour, salt, and herbs; stir into mixture and bring to a boil stirring from time to time. Add turtle strips, blend and transfer all to a casserole. Bake for $1\frac{1}{4}$ hours in a 350° oven. Before removing from oven, stir in Brandy. Serves 4 - 6.

TURTLE BIRDS

- 2 pounds turtle steak
- salt
- pepper
- $\frac{1}{2}$ package stuffing mix made up according to directions on package.
- 3 tablespoons minced onion
- 2 tablespoons minced parsley
- 4 tablespoons butter
- 1 cup chicken broth
- 1 cup dry white wine
- $\frac{1}{2}$ pound mushrooms

Pound the turtle steak thinly as possible. Then cut into six pieces. Salt and pepper each piece lightly. Spread the stuffing mixture on the turtle pieces and roll them up. Tie securely with thread or fasten with toothpicks. Melt the butter in a deep skillet; brown the turtle rolls in it. Add the wine, onion, parsley, broth, and mushrooms. Cover and bake at 375° for 45 minutes or until tender. Serves 6.

TURTLE RAGOUT "PRINTAINERE"

- 2 lbs. turtle meat
- 1 turtle flipper
- 1 onion
- $\frac{1}{2}$ lb. carrots
- $\frac{1}{2}$ lb. potatoes
- $\frac{1}{4}$ lb. celery
- 2 tomatoes
- salt, pepper, paprika
- 2 bay leaves
- 2 ham cloves
- thyme
- garlic

Dice the turtle meat, onions, carrots, celery and potatoes; season the meat and brown in a skillet with hot butter. (In the meantime you set up your turtle flipper with some hot water and let it boil for stock.) When the meat is properly browned, add the diced onions, carrots, potatoes and tomatoes and brown with the meat. Then add the turtle stock and simmer for $1\frac{1}{2}$ hours. Serve on a bed of noodles.

TURTLE STEAK HOLSTEIN (Turtle Steak with Fried Eggs)

Combine 1 lb. of freshly ground prime turtle steak with two eggs, salt and pepper. Form into four balls, flatten slightly. Fry in hot butter until lightly browned on the outside, serve with a fried egg on the top and garnish with lettuce and tomato.

SAVOURY TURTLE AND ONION STEW

2 large, sliced onions
1 oz. flour
1/2 lb. prime chopped steak
Pickapepper sauce
1 pint of meat stock
3 bay leaves
5 cloves
1 tbsp. vinegar
salt and pepper
1 1/2 oz. shortening

Brown the onions and flour in the shortening and gradually blend in the stock. Add the bay leaves and cloves and simmer for 7 min. with saucepan lid on. Take the diced turtle steak and vinegar and simmer for a further 30 min. Thicken if desired and garnish with sweet green and red peppers.

TURTLE STEAK a la LOBSTER POT

1/2 pint Rich brown gravy
3 oz. chopped mushrooms
2 oz. chopped onions
4 prime turtle steaks (6oz.)
1 tsp. pickapepper sauce
2 oz. butter
1 sliced sweet pepper
1 tbsp. brandy

Heat the butter in a frying pan and seal the steaks, both sides, for one minute, remove from pan and place to one side. Brown the onions in the pan and add the gravy and other ingredients excepting the brandy. Gently heat for five minutes, return the steaks to the pan, simmer gently for a further five minutes, pour over the brandy and flambe. Serve at once on hot plates with choice of vegetables.

TURTLE STEAK WITH SOUR CREAM

2 pounds turtle steak
1 clove garlic
3 anchovies, mashed
1/2 teaspoon thyme
3 tablespoons butter
1 cup dry white wine
1/2 teaspoon pepper
1 tablespoon flour
1/3 cup sherry
1/2 cup sour cream
1 tablespoon capers
1 teaspoon salt

Slice the turtle steaks thin and pound with a meat hammer. Cream together the garlic, anchovies, thyme and one half the butter. Spread over the meat, roll and tie in several places. Place the turtle in a glass or pottery bowl, pour the wine over it, and marinate for 3 hours or more, turning and basting occasionally. Drain and dry the meat, reserving the marinade. Rub the meat with salt and pepper. Heat the remaining butter in a dutch oven; brown the meat in it on all sides. Slip a rack under the meat and add the marinade. Cover and cook over low heat two hours. Transfer the meat to a hot serving platter. Blend the flour with the sherry, and stir into gravy until thickened. Then cook two minutes longer. Blend the sour cream and capers in, taste for seasoning, and heat, but do not boil. Slice the meat, pour some of the gravy over it, and serve the rest separately. Serves 6.

PAPRICA TURTLE GOULASH

1 lb. turtle meat
garlic
paprika
onions
salt and pepper
flour

Cut the turtle meat, add chopped onions, salt, a little garlic, and pepper. Place everything in a roast pan with butter and roast it for several hours. Add water to keep meat moist; later add white wine to taste.

TURTLE RAGOUT/FAIM

1 lb cubed turtle meat
salt and pepper
onions
garlic
dill pickles
flour
vinegar or lime
white wine

Boil cubed turtle in salt and pepper, onions, garlic until tender. Saute in butter with diced onions; thicken with flour and use turtle stock for the sauce. Add dill pickles, vinegar or lime-white wine to sauce. Simmer cubed turtle meat and sauce for about 15 minutes. Serve on a bed of noodles.

TURTLE ROULADE (Serves 4)

1 lb. turtle meat
4 slices bacon
1 onion
1 spiced pickle
salt, pepper, paprika
butter
1 cup wine
2 cups water

Cut the turtle against the grain in 8 equal slices; pound the meat slightly, then cut the sliced bacon in half and lay 1/2 slice on each piece of turtle meat. Split the pickle in 8 wedges and put on the upper end of each slice of meat; cut the onion in half and slice, then lay one slice by each piece of pickle. Then roll everything into one tight roll and fasten with a toothpick.

Now you season the roulade with salt, pepper, paprika. Then roll in flour and brown in a skillet with hot butter. In the meantime, chop the remaining half onion and add to the meat. If you wish, you can now add 2 ham cloves and one bay leaf and some thyme. After the meat and the onions are well browned add one cup red wine and 2 cups water. Then cover the skillet and simmer everything for one hour and let the sauce reduce to a thick gravy, Serve hot.

TURTLE SCALLOPINI (for 2 persons)

1/2 lb. turtle meat
onions
white wine
red and green peppers
garlic
flour

Slice turtle meat very thin. Salt and pepper each slice. Flour, then saute meat in butter with diced red and green peppers, onions and garlic. When ready to serve, add white wine.

TURTLE SCHNITZEL

1 lb turtle meat
egg
bread crumbs
salt and pepper
flour
garnish

Cut turtle meat against the grain, salt and pepper, beat two eggs; flour each piece of meat, dip in eggs and then bread crumbs. Fry slowly in butter until cooked. Garnish with lemon and anchovies.

TURTLE STEAK FLORIDA KEYS

Turtle steak
lime juice
garlic powder
beaten egg
seasoned bread crumbs
cooking oil

Slice the turtle into thin slices. Put a layer in a flat pan and pour lime over and sprinkle a little garlic powder on top of the lime juice. Keep adding layers until all turtle is used up. Let marinate 4 to 6 hours. Drain and dip in beaten egg and then into seasoned bread crumbs. Fry in hot cooking oil until just light brown.

BARBEQUED TURTLE STEAK

Pound the desired amount of turtle steak until fairly thin to break the muscle tissue. Sprinkle garlic salt on both sides. Cook over a barbeque grill basting with your favorite sauce until done. (About ½ hour.)

TURTLE STEAK GRAND CAYMAN

Rub six individual steaks with a damp cloth dipped in vinegar. Dip each steak into seasoned bread crumbs, in beaten egg, and finally in sieved bread crumbs. Heat ¼ cup butter and stir in one tablespoon finely chopped shallots. Cook the steaks in this to a delicate brown on both sides. Pour over the browned steaks one cup Bordeaux and season with salt, pepper and a dash of nutmeg. Cover the pan and simmer gently for 15 to 20 minutes. Dress steaks and keep in hot platter. Reduce sauce in pan over a hot flame to almost nothing. Stir in ½ cup rich beef stock, ½ cup sherry and one cup thinly sliced mushrooms, which have been cooked in a little butter. Taste for seasoning. Pour a little sauce over each steak and serve the rest in a sauceboat. Garnish with watercress.

CAYMAN TURTLE STEAK MIRZA

2 lbs. prime turtle meat
1/2 lb. fresh cleaned white grapes
1/2 lb. fresh cleaned red grapes
2 peeled bananas
Butter - 1/2 lb.
Flour - 1/2 cup
Salt
4 halves peaches
4 halves pears

Cut turtle meat into thin escalopes. Season with salt and flour lightly. Melt part of butter in frying pan and saute steaks. In another frying pan melt remaining butter. Add white grapes and red grapes, with bananas cut in half, and saute in frying pan. In a small saucepan warm peaches and pears. When steaks are cooked add bananas and grapes over, and garnish with parsley. Serve on a hot plate. From Holiday Inn of Grand Cayman. Serves 4.

TURTLE WITH CREAM SAUCE

4 turtle escalopes
flour
salt pepper
2 oz. butter
4 tbsps water
1 tbsp. capers
1/2 tsp. paprika
1 tsp. made mustard
1/4 pint cream
juice of one lime.

Beat the escalopes of turtle, season and dip each one in the flour, fry the turtle in a pan in the butter until lightly brown, place to the side and keep hot. Chop the capers then pour the water into the pan together with the paprika capers and other seasoning and simmer. When hot remove from the fire and add the cream. Stir in gradually return to the fire and lastly add the lime juice. When hot pour over the turtle, garnish and serve immediately.

TURTLE MARENGO

two pounds of cubed turtle steak
1/4 lb. of button mushrooms
1/4 pint dry white wine
flour, salt and pepper
4 tbsp. of butter
2 sliced onions
1 chopped garlic clove
1/4 pint water
4 oz. tomato paste
Parsley, bouquet garni and fried croutons.

Toss the meat in the seasoned flour, heat the butter in a pan add the turtle and cook to seal the meat. Add the garlic and onions and cook until tender, add one tbsp of flour cook until it browns. Gradually stir in the liquid and bring to the boil. Add the tomato paste seasoning and herbs cover the pan and simmer gently for one hour add the mushrooms and cook for a further ten minutes. Serve in a deep dish cover with the sauce and garnish with chopped parsley and fried croutons.

TURTLE KEBAB

Marinate small pieces of turtle steak in well seasoned red wine, olive oil and a few sherry peppers, one clove of garlic. Place the turtle on a skewer alternately with slices of blanched onion, green peppers and tomato. Grill for about ten minutes turning to cook all sides, serve flambéed with rum on a bed of rice.

SAVOURY TURTLE STUFFED BREADFRUIT

Two cups of ground turtle steak
one firm whole breadfruit
one onion
one tomato
gravy to moisten
seasoning

Peel the breadfruit remove the stalk and core, par-boil in salted water, remove a little more of the fruit from the cavity. Mix together the remaining ingredients to a firm mixture and fill the fruit, brush with a little oil and bake in a preheated oven for about 45 minutes, garnish and serve hot.

STUFFED SWEET PEPPERS

6-8 large firm green peppers
2 cups of cooked ground turtle steak
1 1/2 cups of fresh bread crumbs
1 small chopped onion
seasoning

Remove the stalk and seeds from each pepper and parboil for two minutes, combine the remaining ingredients and fill the pepper shells. Shake a few breadcrumbs that have been soaked in a little butter on the top of each and bake in a moderate oven for ten to fifteen minutes. Before serving brown tops under the grill. Goes well with rice and a hot tomato gravy.

TURTLE SOUP WITH MEAT BALLS

two cans of turtle soup
1/4 lb. ground turtle steak
salt, pepper, grated nutmeg
flour
2 oz. fine vermicelli

Season the meat well with salt pepper and nutmeg, shape into balls about the size of marbles and roll them in flour adding them to the previously heated soup, break in the vermicelli cover the pan and simmer for twenty minutes, serve at once.

Government information



service...

COMPANIES LAW NOW AVAILABLE.

Now available at the Office of the Clerk of the Legislative Assembly, Legislative Assembly Building, are copies of the re-print of the Companies Law, Chapter 22. This includes all amendments - Law 9 of 1966, Law 1 of 1971 and Law 7 of 1973.

The cost to local customers is CI\$5.00. Overseas customers are requested to remit the sum of US\$8.00 to cover cost of the law, exchange and postage by air mail.

AIRPORT FIRE AND RESCUE SERVICE - VACANCIES FOR FIREMEN

Men seeking an interesting and responsible career are invited to apply for the Fire Service. Candidates must be 18 years or over, have a reasonable standard of education and be physically fit.

On successful completion of the training and probationary period of two years, firemen will be offered appointment to the Permanent Pensionable

Island Resources Inc. have a contract from the UNDP to take an overall look at what is happening in the way of development in nine areas all of which were or are British territories. From these observations they will assess what obvious environmental problems are emerging from the existing activities and what projected problems might be derived from the direction being taken.

Dr. Towle commended the Cayman Islands Government on its foresight and initiative in embarking on a Natural Resources Study. "This makes Cayman a special place", Dr. Towle told the Information Officer. "In no other territory have there been any locally generated move to undertake internally a systematic survey of the natural resources of the country".

Dr. Towle's team are not only interested in natural resources as such but they are looking at historical sites, a natural resource which is not always acknowledged by people at this point of time archaeological

GOVERNMENT ADMINISTRATION BUILDING

Now that the major contracts have been awarded in respect of the Government Administration Building, the following is released for public information.

The main contract was awarded to McAlpine Limited in the sum of CI\$1,572,624.73. There were four tenders for this contract as follows: Cayman Construction & Engineering Ltd. \$1,527,236.38; McAlpine Ltd. \$1,372,624.73, Hadsphaltic International Ltd. \$1,625,629.76 and Island Contractors Ltd. \$1,632,584.92.

Sub-contracts for the electrical installations and the air-conditioning have now been awarded to DeMercado & Associates Co. Ltd. and Conditionedair & Associated Contractors. The bids for these were as follows:

Electrical Installation.
Cranbrook Electrical Ltd.
\$202,404.00
Conditionedair & Assoc. Contractors \$195,719.00
Y.P. Seaton & Assoc. Ltd.
\$189,132.00
Kirk Elect. & Eng. Services
\$177,629.00
DeMercado & Assoc. Co. Ltd.
\$174,891.00
Phillips Elect. & Mech. Services
\$153,575.00

Air Conditioning.
Cayman Refrig. & Air-conditioning Co. Ltd.
\$109,306.00

deal with the selling of tourism to the Cayman Islands e.g. hoteliers, wholesale tour operators, airline representatives etc.

At this meeting the Department of Tourism presented its programmes for the current year, 1974, informing the private sector as to advertising schedules proposed, public relations plans for the year and the scheduled dates for Mr. Richardson's sales promotion trips and the areas to be visited.

In this way all concerned with the promotion of travel to the Cayman Islands can work together and in conjunction with each other.

Opportunity was taken to explain the setting up of the Department of Tourism and to detail Government's recently announced Nine Point Policy on Tourism. Wholesale tour operators and others received enthusiastically and expressed approval of the general points announced by the Hon. W.W. Conolly as policy for the future development of tourism in the Cayman Islands.

The Department in turn was appreciative of the reports given by people like tour operators as to how their business to the Islands is growing. All showed substantial increases ranging from 30-100 percent in 1973 over 1972.

It now appears that the total arrivals for the year 1973 will top 44,000 as compared with 30,000 in 1972. Predictions for

Establishment and will be entitled to free medical treatment for himself and family, and assisted dental treatment.

Free uniforms are provided and 4 weeks paid leave each year is granted. Salary for firemen is in the Scale M 48-39, \$3264 to \$4788 per annum (\$272 to \$399 per month). Opportunities will exist for promotion to higher ranks.

Application stating age, qualifications and experience, if any, should be made to the Director of Civil Aviation at Owen Roberts Airport.

BRIEF CONSERVATION EVALUATION.

Dr. Edward Towle, President of Island Resources Foundation Inc. and of the Caribbean Conservation Association, with two assistants, was in the islands from the 18th to 23rd January.

The Team, whose visit was under the auspices of the United Nations Development Programme, visited to make a quick evaluation of the level of concern about environmental matters. The team were not engaged in a survey but is visiting certain territories who are participating in the UNDP Physical Planning Programme. From their observations they will offer guidelines to the UNDP, and in turn to Governments, as to areas where special caution or special study is needed from a conservation point of view.

sites, museums and other aspects of conservation.

So far as the Cayman Islands are concerned, two aspects seemed to deserve particular mention. First the urgent need for revised legislation to protect the beach ridge from complete destruction "or you'd wish you had passed it in the next hurricane", Dr. Towle averred. Second, the hope that the rookery and tarpon pond in Little Cayman, be formally constituted and properly managed as a wild life sanctuary. Dr. Towle enthused at this wonderful area, the home of 40 species of birds and one of the two surviving large rookeries in the whole of the Caribbean where the Booby birds and the Frigate birds nest, the other being in Barbuda. Dr. Towle emphasized that it does little good to pass legislation to declare an area and a sanctuary and then leave it alone. Management of such areas is especially critical, which means the appointment of Wardens and visitation by properly trained personnel is required.

Dr. Towle and his assistants visited all three islands and had discussions with the Hon. W.W. Conolly, Ex.Co. Member for Natural Resources and Mr. W.L. Bodden, Principal Secretary in this Division, as well as Dr. M.E.C. Giglioli, O.B.E. Director of the M.R.-C.U. and Mrs. Nancy Sefton of the Cayman Conservation Group.

Geddes Refrigeration
\$109,239.00

Y.P. Seaton & Assoc.
\$108,876.00

Conditionedair & Assoc.
Contractors \$104,028.00

Completion date for this building is sixty weeks from the date of commencement i.e. 3rd. December 1973.

In respect of the tenders that have been accepted, it will be noted that there were lower tenders, both for the main contract and for the electrical installation. It should be noted, however, that in considering tenders, the Government is not bound to accept the lowest or any tender.

DEPARTMENT OF TOURISM - ANNUAL SALES MEETING

The annual sales meeting of the Department of Tourism for the Cayman Islands was held at the Miami Marriott Hotel on Friday the 18th January. Attending from Cayman were the Hon. W.W. Conolly, Ex Co. Member responsible for Tourism, Mr. W.L. Bodden, Principal Secretary in this Division and Mr. Eric Bergstrom, M.B.E. Director of Tourism. Other staff members present were Mr. David Richardson, Miss Georgine Somin and Mrs. Harbican of our North American Sales Offices.

Other than departmental officers, those attending this meeting included many people from the private sector who

1974 are 50-51,000.

PRICE OF PROPANE GAS

With regard to the recent increase in the price of propane gas, Government was very concerned about this matter and as a result discussions were held with the suppliers, Home Gas Ltd. The co-operation received from them was much appreciated.

While the final checking has not been completed, it does at present appear that the increase was justified following the high increase in cost of propane gas from the manufacturers. A spokesman for Home Gas Ltd, has told Government that there is no immediate indication of any further increase in price.

CLERK OF HOUSE OF COMMONS RETIRES.

Sir Barnett Cocks, K.C.M., O.B.E., Clerk of the House of Commons London, retired on the 31st December, 1973 on which date he would have completed 43 years in the service of the Commons, including 12 years as the Clerk.

Throughout the years, his work has been made lighter by the help of many colleagues and especially by the kind tolerance of the Chair and of Members of all parties. "For that help and kindness, I shall always be deeply grateful," Sir

See GIS Insert Sheet Side B

GIS From Insert Sheet Side A
Barnett wrote.

H.M. the Queen has approved the Prime Minister's recommendation, made after consultation with the Speaker of the House of Commons, Rt. Hon. Selwyn Lloyd, that Mr. D.W.S. Lidderdale, C.B., Clerk Assistant, should succeed Sir Barnett Cocks as Clerk.

Sir Barnett describes his last twelve years of Clerkship as being in the "hot seat."

ATTENDING MEETINGS

The Hon. B.O. Ebanks Jr. Members of Executive Council left the island on the 25th to attend a special meeting of the Board of Governors of the Caribbean Development Bank to be held in Barbados at 2 p.m. on Saturday (26th). This meeting is for the purpose of electing a successor to Sir Arthur Lewis as President of the Bank.

On the 28th, Mr. Ebanks will be travelling to Guyana to be present at a Commonwealth Caribbean Education Minister's Conference which is being held preparatory to the Commonwealth Education Minister's Meeting to be held in Jamaica later this year.

Accompanying Mr. Ebanks on his journey to Barbados will

be Mrs. I. Conolly, Chief Education Officer, who will be attending the Caribbean Examinations Council Meeting. While in Barbados, Mr. Ebanks and Mrs. Conolly expect to have discussions with the British Development Division regarding the future development of the Cayman Islands High School.

On the 2nd. February, on his way back home, Mr. Ebanks will be attending the University of the West Indies Grants Committee meeting in Jamaica.

TOURISM REPRESENTATIVE APPOINTED FOR CHICAGO OFFICE.

Miss Georgine Somin has been appointed by the Department of Tourism as their representative for the Mid-West of the U.S.A. From the office in Chicago at Room 1401, 6 North Michigan Avenue, Chicago, Illinois 60602 (Tel. No. 312.368-1787) Miss Somin will call on airline representatives and travel agents in seven Mid-West States - Ohio, Missouri, Illinois, Wisconsin, Minnesota, Michigan, and Indiana, see map, as the Sales Representative for the Cayman Islands Department of Tourism. The new Chicago Office will be in

operation as from the 28th January 1974 and Miss Somin spent a few days in Grand Cayman on a familiarisation

tour with Mr. David Richardson, our Sales Representative for North America, leaving on the 24th.



Red Cross Successes

In an examination, which was held at the George Town Hospital on January 23, the following members of the second course in the current series of Cayman Island Red Cross Society first-aid lectures were successful in qualifying for First Aid Certificates:-

- Mrs. M. Cavers
- Mrs. V. Dustin
- Miss D.A. Ebanks
- Miss C. Johnson
- Mr. S.R. Pantan
- Mrs. F. Stewart
- Miss L. Walton

Examinations for First Aid

Certificates are conducted by a panel of two medical officers. The Society is extremely grateful to these medical officers who readily give of their own free time to conduct the examination and, also., to give the final lecture of the course, which is a talk on various aspects of first-aid.

Courses are continuing to be held at the George Town hospital on Wednesday evenings from 8 P.M. to 10 P.M. and the Society hopes that, at least by June of this year, it will be possible for courses to be held at West Bay.

Cayman Divers Win Heinke Trophy

Months of hard work have nearest chambers at Key West

paid off for the Cayman Islands Divers with the recent announcement from London that they have won the Heinke Trophy for their activities during the year 1972. This trophy is awarded annually by the British Sub-Aqua Club to a branch club which is adjudged the most outstanding in its general activities. Since the BS-AC is the largest diving organisation in the world this is a considerable achievement for a small branch such as Cayman.

Cayman's entry for the trophy consisted of a comprehensive illustrated account of their 1972 activities. A letter from the Heinke Trophy Adjudicator states: "The Cayman Islands' Branches achievement during the year ending 1972 was certainly outstanding. I was most impressed by the quality of the presentation, the clarity of the script and the scattering of colour photos throughout the entry".

The main activities reported in the entry were the acquisition of a recompression chamber and an underwater survey of Georgetown harbour. Almost from its beginnings in 1969 the C.I. Divers recognised the need for a recompression chamber as Cayman became more and more well known to the diving world. The increasing numbers of visiting divers, often with minimal training, meant that the risk of an embolism or decompression accident became ever more likely and it was a very long way to the

and Guantánamo Bay.

The arrival of the CI\$6000, two-man chamber on January 18th, 1973 was the culmination of years of work and fund-raising by the club.

The underwater survey of Georgetown harbour was completed in 11 weekends and involved about 100 man hours underwater by club members. Depth measurements were relayed to a boat from which sextant sightings were taken to fixed points on the shore.

A chart was produced showing contours of the sea bed and positions of the main coral heads.

Other activities include photography and studies of coral growth rates, under water visibilities and inshore current patterns. In addition to these special projects a large number of new divers was trained according to the strict standards laid down by the BS-AC, and many diving sites around the shores of Cayman were explored.

The Trophy will be presented at the Annual Dinner of the BS-AC at Brighton, England in March and the Cayman branch plans to send a representative to receive it in person.

The acquisition of the Trophy will lead to increased publicity about diving in Cayman and focus the attention of the diving world to an even greater extent on our clear waters.



IT'S OPEN HOUSE AT THE NEW CAYMAN BANK AND TRUST CO. LTD. Here guests are enjoying themselves while viewing the interior of the bank's offices in the West Wind Building.

Lost

A school bag lost in the vicinity of Truth For Youth School containing books with the name George Nicoletta. Contact the Caymanian Weekly.

CORRECTION

The headline on Page 12 should read Port Facilities George Town instead of Cayman Divers Win Heinke Trophy.

BANK OF NOVA SCOTIA

Requires Clerical Staff experience essential but not necessary.
Good salary for right person.
Apply to the Manager in person or writing.
P.O.Box 689
George Town, Grand Cayman.

NOV 23, 24 Miami

Half of Chicago Vault Loot Found Buried in Apartment

CHICAGO — (UPI) — Federal agents have recovered \$2.2 million of the \$4.3 million stolen last Oct. 20 from the Armored Express Co. in the country's largest

theft of cash, the FBI said Thursday night.

FBI Director Clarence Kelley said in Washington that the money was found buried under concrete in an apartment house on the city's Northwest Side by FBI agents, Chicago police and agents of the Illinois Bureau of Investigation.

Six men have been arrested and charged in the burglary of the security company's vault, where about \$25 million had been stored for the weekend.

Only about \$39,000 of the money had been recovered before Thursday night. About \$29,000 of it came from two suspects, Pasquale Charles Marzano and Luigi DiFonzo — the alleged mastermind of the heist — when the two were arrested by British authorities on Grand Cayman Island in the British West Indies on Oct. 30.

The two flew to the island a few days after the burglary, reportedly carrying cash-laden suitcases past custom officials.

The FBI has said it believes that about \$1.5 million of the loot is stored in the island's stronghold

banks, but a judge on the island's supreme court has ruled that U.S. authorities can not look into five bank accounts where the money is believed to be stashed.

The four others indicted in the crime have been identified as Marzano's cousin, William Anthony Marzano; Peter Gushi, a self-styled master criminal; Ralph Marrero; and James Maniatis.

LIBRARY OF
GEORGE H. BALAZSLIBRARY OF
GEORGE H. BALAZS

CAYMAN ISLANDS: BRITAIN'S BOOMING OUTPOST

Free enterprise blossoms in this sunny colonial paradise where there's a chicken in every pot and a bank on every corner.

by John Phillips

Tucked between Cuba and Central America lies an anachronism in a developing world gripped by shrill independence groups and ironclad socialism. The Grand Cayman Islands not only revel in their colonial status but stridently proclaim a primitive form of free enterprise.

By rational standards, the small islands should not exist. The population stands at perhaps no more than 14,000, and hard exports are few. There is no income, corporation, or capital gains tax, and the final \$1 million loan from England ends in 1980. But colonial status likely will continue.

Caymanians first tasted freedom 20 years ago when London's Colonial Office midwived an independent British West Indies. Their

After discovering the islands in 1503, Columbus dubbed them Las Tortugas because of their abundant turtles.

three islands, Grand Cayman, Little Cayman, and Cayman Brac, were viewed as part of Jamaica, 160 miles to the southwest; 300 years of tradition, having its genesis in Caribbean buccaneering, were ignored by officials.

As Jamaican mandarins issued their decrees, freedom assumed the characteristics of Orwell's *Animal Farm*. There was to be a welfare state, a concept still viewed with horror by ruggedly independent islanders, and the new lords brought with them an ill-concealed racism.

Caymanians seethed, a natural reaction for descendants of deserters from Oliver Cromwell's army which took Jamaica from the Spanish in 1655. And for those who boast of no Roundhead forebears, there are the claimed descendants of Sir Henry Morgan's plunderers and Edward ("Blackbeard") Teach's freebooters.

Such a genetic mixture leaves little fertile ground for womb-to-the-tomb paternalism and state autocracy! The detestation reached the point where Britain was prodded into sponsoring a plebiscite. So in 1962 the Grand Caymans severed links with Jamaica.

"We weren't going to put up with any more bloody nonsense," reflects James Bodden, 47, a hazel-eyed, burly businessman turned top politician. With three other Caymanians, Bodden is elected to a seven-man Executive Council or Cabinet by the Georgetown-based Legislature. A fierce nationalist, Bodden says his people have escaped "the curse of racism found in other Caribbean countries."

Around 30 percent of the popu-

Colorful birds and lizards flourish on the low, coral terrain. Lobsters are trapped daily to delight gourmands.



lation is white, 30 percent "colored" or mixed blood, and 40 percent Negro—a potentially explosive mixture almost anywhere. But there has been no spontaneous combustion. Why? Cayman Islands Governor Thomas Russell, a British government appointee, gives one reason: "There's never been a plantocracy—no sugar or pineapple plantations. So a master-servant relationship has never really existed."

And in this polyglot society, free enterprise has blossomed. Part of this is due to Cayman isolation: Circumstances have forced people to do everything for themselves. And Governor Russell feels there is another ingredient. "They're dynamic people, but they also blame all the troubles in the other Caribbean islands on too much political 'freedom' and socialism. So there's a natural reaction because of previous experiences and some healthy bloody-mindedness."

Whites, as in Cuba and other Latin American countries, have tended to surface near the top of Cayman business and economic life. At the same time, there are hundreds of coloreds and blacks running fishing boats, small stores, hotels, and other family enterprises. And the government sees its main role as buttressing the small business.

Visiting Australian businessman

John McKenna notes, "It's family, family, and family. They all seem to know each other. They all help each other, and blood is much thicker than politics." Cayman leader Bodden is even more explicit: "Look, I like businesses employing not more than 10 to 15 people. A company is human and understanding up to that point."

Large corporations are viewed suspiciously, as is Big Government. "They're big and so powerful," says Bodden, "that you have difficulty in controlling them." However, invariably there is the exception that proves the rule, and with Cayman Islanders it is the world's banking fraternity.

In Georgetown, the capital city of 2,000, can be found 237 banks from across North America and Western Europe. Here they offer numbered accounts plus the rigid secrecy usually associated with the Swiss system. Most alluring for bankers themselves is the freedom from taxation on their profits, other than a yearly fee ranging between \$5,000 and \$15,000, depending on a bank's capitalization—peanuts compared with penal corporate taxes paid in most countries.

Turning the Caymans into a tax haven goes back to meetings of

Spectacular underwater reefs and numerous sunken ships lure skin divers to the rocky coasts of the Caymans.

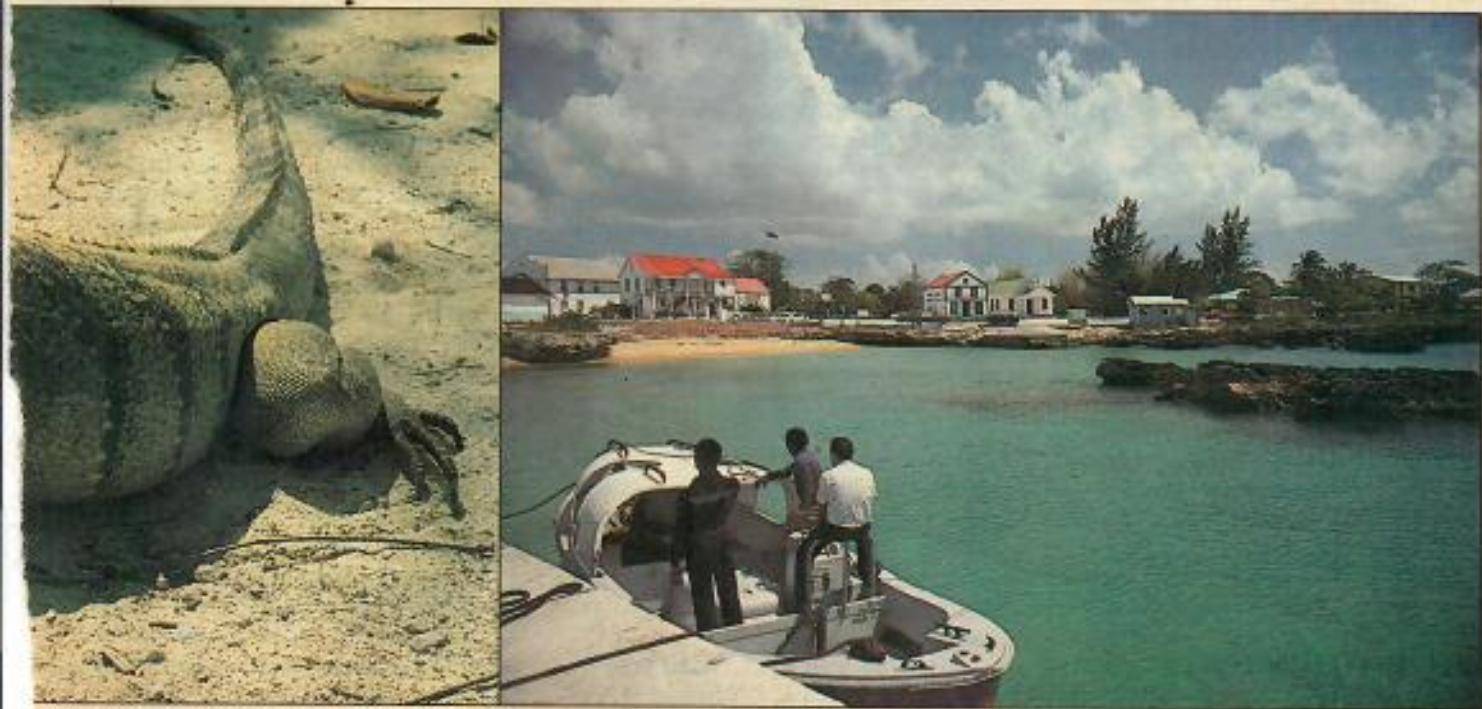
local businessmen during the early 1960s. "We had little going for us in those days," comments Bodden, who now heads the government's Commerce, Tourism, and Natural Resources portfolio. "So we felt a completely private enterprise society would be a magnet for world businessmen and finance our growth at the same time."

The resulting 1966 Banking Act triggered an overnight boom. Not only did world bankers flock to the three specks of coral glittering in a bright blue tropical sea, but corporation legal-eagles perceived immediate tax advantages for other forms of business.

Today more than 7,500 companies have registered offices there, each paying up to \$250 a year in registration fees. But the executive suite, despite an exotic address, usually is little more than a brass plate on a lawyer's wall. The real business still goes on in Paris, Frankfurt, Johannesburg, New York, or Toronto.

And 207 of the 237 licensed banks function in the same way as the tax-shy corporations. Known as "B" banks, they handle only their own business or funnel offshore money by way of paper transactions. On the other hand, Georgetown's 30 "A" banks operate in spacious concrete-and-glass, air-conditioned buildings. Citibank of New York, Barclays of

Continued on page 124



Grand Cayman

continued from page 81

London, and Royal of Canada epitomize island respectability.

Well-manicured managers shrank in collective horror when former British Prime Minister Edward Heath described their island operations as an "unacceptable face of capitalism." Mr. Heath and many Western political leaders now believe it is the quintessence of virtue for businesses and individuals to pay the maximum amount of taxes.

Apart from Heath, U.S. Treasury Department officials have voiced concern about possible financial irregularities. Cayman businessmen like Holiday Inn manager Richard Murphy feel the outside waspishness may be due more to missed taxing opportunities than anything else.

Governor Russell stresses that reputable companies do not seek out Georgetown for tax evasion or illicit activities. He notes that should a would-be Cayman company exude the slightest whiff of suspicion, as, for instance, a Mafia laundering front, it is denied registration. His island police force, headed by a British CID (Criminal Investigation Department) inspector, acts quickly on tips from the FBI, Royal Canadian Mounted Police, and Scotland Yard.

"We can't afford scandals," Russell adds in a clipped Scottish burr. This is the voice of official Britain speaking. After all, the Caymans have become one of the world's largest offshore tax havens, now ahead of the Bahamas and Bermuda. Last year banks there handled more than \$1 billion in Eurodollar issues, and played conduit for an estimated \$10 to \$15 billion in other financial transactions.

Cayman banking activities are part of a sickly Britain's reserves, Bodden says. "So we're a hell of a good asset... I can't see any change in our constitutional status quo for a long time to come. We like being a colony."

He is talking of Third World pressure for the end of colonial status. A United Nations team

traveled around the three islands, but found little desire for independence. Yet the team went ahead, vaguely recommended full freedom, and, naturally, a U.N. seat.

The Caymanians responded with raw fury. While the islanders harbor a residual affection for Mother England and Queen Elizabeth, the realities of cash flow play a larger and more expedient role. With full independence, too much revenue would be swallowed in defense against possible intrusions from Cuba and Jamaica. The British now pay the full shot.

Bottom-line islanders wallow in their raw capitalism. There are no welfare programs and work is revered as a fundamental ethic. "We've probably got 200 unemployed, and 75 of these would never work. They're lazy and just bum around," Commerce Minister Bodden says. But what of the 125 unfortunate job seekers? "Their families look after them. Our blood's very thick here."

Along with banking, tourism is a money-spinner and a major employer. By the end of this year more than

100,000 visitors (60,000 by air) will have flocked to these tiny specks of calcareous rock and sand. Three airlines use the single concrete strip and modest wooden building which pass for Grand Cayman International Airport, and ultrapolite taxi drivers whisk American, Canadian, and West German tourists to sedate low-rise hotels along Seven Mile Beach—a beach kept immaculate even during the hurricane season.

Most tourists are middle-class and spend well. Pinball machines, gambling, racing, clubs for swingers, and high-class prostitution for both sexes are viewed with genuine abhorrence. Legislated morality pays dividends: Tourism officials look smugly toward Jamaica and note that most of its once-lucrative tourist business was lost as a result of pandering to human nature's baser instincts.

With virtually all segments of the Cayman economy flourishing, the population has a per capita income of \$3,300, an incredibly high figure and perhaps four times higher than Cuba's, estimates Deputy Financial Secretary

Thomas Jefferson. New to the job, Jefferson was hired to develop what is now little more than a skeletal statistics division. Caymanian thinking traditionally holds that statistics are needed only to explain away the faults and mistakes of politicians.

Jefferson, 37, an M.Sc. graduate of George Washington University, insists that a more complex business growth calls for clear projections. While rough birth statistics point to a constantly rising school enrollment for the three islands, there are few other half-accurate figures except on antimosquito warfare: It absorbs one-third of the government's budget.

Even the GNP (Gross National Product) is unknown, but top leaders guess at \$40 million. More certain is the fact that the government's 1978 balanced budget runs at \$14 million. Bodden terms this, "probably too much." He laments that expansion-minded civil servants have problems understanding that governments are unproductive.

Continued on page 132



Rand McNally

Where Do You Think You Are?

East or West, North or South, each of the distinctive areas above appears on the road map of a single state. In terms of routes, state parks, mountains and memorials, there is, as the saying goes, "no place like it." Can you identify the states? If you or a friend find the game too easy (but you won't) add the requirement that you place the area north, south, east, west, or central in the designated state.

(Answers on page 132)

Grand Cayman

continued from page 124

Bodden's thinking on a politician's role is perhaps rather startling: "It's to cut government spending and to keep the bureaucracy in check."

Bodden and his Cabinet colleagues have few problems hewing to this political maxim. There are no political parties, just a loose coalescence of individuals who try to "out-conservative" each other. Shortly after the Caymans regained colonial status, there was a brief spell of party government. However, most islanders say this proved a disastrous experiment since each party would make extravagant promises in its bid for public office.

Canny voters were quick to grasp that this road led to bankruptcy, and by a process of political osmosis the party hacks were booted out in favor of government by independent individuals. But Britain is a little uncomfortable. Several Third World nations clamor for a political opposition, preferably of the left, so it becomes embarrassing in a world of the double standard trying to explain that Caymanians distrust the party system.

"Look, we've seen what politics has done to all other Caribbean countries," Bodden says. "We operate like a board of directors, and it makes sense."

There has been only one murder in eight years, the one rape case brought to court last year was thrown out, and there is little petty crime. Most tourists flocking to Georgetown's duty-free stores are astounded to find that cars can be left unlocked and windows open. And when the weekly cruise ships land up to 1,000 passengers at a time, the main chore facing the 120-man constabulary is answering questions on island history. Pickpockets and bait-and-switch artists are unknown.

But visitors, who fork over 30 percent of the national income, do get an unexpected awakening. The U.S. dollar is worth only 80 cents against the Caymanian dollar, while the Canadian dollar is hit with a 30-cent discount. The initial pique vanishes quickly, however, once customers spot the unbelievably low price tags of gold Rolex watches, Nikon camera equipment, chic Parisian dresses, and London-fashioned jewelry.

Richard Murphy, who heads the Cay-

man Islands Tourist Association, expects tourist traffic to reach 120,000 a year by 1980. And while tourism is a key component in the Cayman economy, islanders plan to diversify. The latest major venture is a massive \$100 million oil storage complex based on Little Cayman. Here supertankers will unload their crude oil for eventual transfer to United States ports.

First Minister Truman Bodden (no relation to James Bodden) predicts that apart from adding an anticipated \$15 million a year to the government's treasury, the project will create high-paying jobs for many young Caymanians coming through the free high school system.

And to give them specialized knowledge, he has set his sights on opening a technical school by the end of this year. He asserts this is the key to Cayman development. Moreover, on the planning

his own people never cease to amaze him. "We've certainly benefited from the mistakes of others," he says, referring to the crisis festering on nearby Jamaica.

Across the placid blue-green water, Kingston harbor's dockside is strewn with mini-mountains of machinery, equipment, and badly needed spare parts. But suppliers won't sign a release unless they get hard cash on the barrelhead since local credit there is now almost worthless.

And Jamaican Prime Minister Michael Manley finds it increasingly difficult to keep his inflation-drunk economy solvent, even though he imposes more and more nationalization to bridge a lacuna between credibility and disaster. As it is, he spends much of his time begging standby credit from the International Monetary Fund—a tough task when his Central Bank has exhausted all foreign exchange

and reserves had dropped to minus \$201 million net at the end of December 1977.

White, a graduate of Columbia School of Journalism and a former reporter with the now defunct New York *Herald Tribune*, insists that Jamaica's woes will vanish only when Manley quits his anticapitalism rhetoric—an unlikely event. Over the past year he has been involved in a passionate affair with Castro, and all signs point to full-bodied socialism rather than a return to the free market.

The Grand Cayman Islands' experiment has been successful because there are no extremes of wealth and poverty, White says. "Trouble

usually starts anywhere with a pocketbook, or rather a lack of one," he adds, "and Jamaica's got real trouble."

Caymanians do not exude plump satisfaction, even if they do resort to the frequent I-told-you-so when commenting on nearby socialist regimes. White leans back in his simple wooden editorial chair and etches complex patterns with a ballpoint pen: "Sure, some people feel that things here are too good to be true. Well, they are too good, but they are also true." ☼



"Looks like the hideout of the notorious cat burglar."

board is a mercantile marine academy, paralleled by a ship registration scheme similar to those operated by Panama and Liberia.

Caymanians are renowned sailors, and during the 19th century they were in great demand by the world's merchant fleets. The advent of steam power retired them to island backwaters, and a flourishing schooner-building industry went into steady decline.

Naturally, many islanders are enthralled with the notion that once again their minuscule lands will play a vital role on the sea-lanes. "We're just born sailors," smiles James Bodden, perhaps the epitome of Caymanian machismo.

Caymanians do have machismo. A person must live on the islands to really experience the ever-emanating vibes. Anthony White, black editor of *The Compass*, the area's only newspaper, says

Where Do You Think You Are?

Answers from page 124.

- | | |
|----------------|-----------------|
| 1. S. Carolina | 5. Idaho |
| 2. Minnesota | 6. Rhode Island |
| 3. Tennessee | 7. Louisiana |
| 4. Iowa | 8. Arizona |
| | 9. New York |



IN CAYMAN

**PENALTIES FOR
THE MISUSE OF DRUGS**



DANGER

**10 YEARS IMPRISONMENT &
\$ 20,000 FINE
FOR POSSESSION OR USE**

G. Salaya

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:

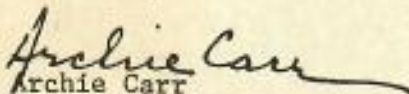
I am writing to urge that your Subcommittee on Fisheries and Wildlife Conservation and The Environment oppose current efforts to reverse the regulations excluding farm-raised green turtle products from entry into the U.S. The admission of farm products would inevitably extend and keep alive an international 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

UNIVERSITY OF FLORIDA

GAINESVILLE, 32611



DEPARTMENT OF ZOOLOGY
223 BARTRAM HALL
304-392-1107

4 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 express my opposition to any change in the law prohibiting the importation of Cayman Turtle Farm products into the United States. The decision to prohibit the farm's products came after long and careful deliberation by the responsible government agencies, and there has been no change in the fundamental issues during subsequent years. If anything, the survival outlook of wild populations of marine turtles, which are inadvertently threatened by farm-supported trade, has deteriorated. The heart of the issue is still that the commerce in farm-raised products not only leads to, but depends on market extension. That market extension, in turn, puts pressure on wild populations that simply cannot withstand it.

There are many negative ramifications of the farm trade that could be raised, but I'm sure these are well documented in the records of previous hearings on the subject. I would like to briefly mention two points, however. One is the likelihood that opening trade to Cayman Turtle Farm will encourage the proliferation of a number of additional farms that are certain not to be as conscientiously operated; and two, is the inevitable multiplication of difficulties already facing wildlife inspection officers in preventing the illegal entry of endangered species into the United States.

An issue that may not have received adequate emphasis is the negative impact of Cayman Turtle Farm's growing tortoiseshell industry on another marine turtle species, the hawksbill (*Eretmochelys imbricata*). Although Cayman Turtle Farm's tortoiseshell products are actually produced from farmed green turtles, the manufacture of very attractive artifacts and jewelry resembling true tortoiseshell is increasing demand for the genuine product. Trade in tortoiseshell is already the primary factor in the worldwide decline of this species. One of the recommendations of the World Conference on Sea Turtle Conservation held in Washington, D.C., in November 1979, was that tortoiseshell be depopularized, and the trade ended. Cayman Turtle Farm's shell industry works in direct opposition to this goal.

For the above and a variety of other reasons, I urge that the subcommittee rule to uphold the existing prohibition. I also ask that this letter be included in the record of the hearing on 7 October.

Sincerely,

Anne Meylan

Anne Meylan
Member, IUCN Marine Turtle Specialist
Group



Sea Turtle
Rescue
Fund

9 December 1982

George Balazs
Hawaii Institute of Marine Biology
P.O. Box 1346
Kaneohe, HI 96744

Dear George:

Thank you for all of the articles which you have sent recently. I thought that your article was particularly good. I like very much your acknowledgement of those people who go the extra step to help sea turtles out in their own way. It is always a boost for me to see their stories told.

I shall be sending along a copy of our response to the enclosed letter from the Merchant Marine and Fisheries Committee. I believe we are going to have some surprises for the farmers very soon.

Sincerely,

Michael Weber
Sea Turtle Rescue Fund Director

WALTER E. JONES, N.C., CHAIRMAN

MARIO BLASSI, N.Y.
GLENN M. ANDERSON, CALIF.
JOHN E. BREAUX, LA.
BERRY E. STUBBS, MASS.
DAVID R. BOWEN, MISS.
CARROLL HUBBARD, JR., KY.
DON BONKER, WASH.
NORMAN E. D'AMOURE, N.H.
JAMES L. ORENTAR, MINN.
WILLIAM J. HUGHES, N.J.
BARBARA A. MIKULSKI, MD.
EARL HUTTO, FLA.
BRIAN DONNELLY, MASS.
W. J. (BILLY) TAYLOR, LA.
THOMAS M. FOSLIETTA, PA.
WILLIAM M. PATMAN, TEX.
FORD L. F. BUNN, AR.
DENNIS M. HERTZEL, MICH.
ROY DYSON, MD.
JOSEPH P. SMITH, PA.

BOBE BRYDER, KY.
PAUL H. MC CLOSKEY, JR., CALIF.
EDWIN S. FOREYTHE, N.J.
JOEL PRITCHARD, WASH.
DON YOUNG, ALASKA
NORMAN F. LEHT, N.Y.
DAVID F. EMERY, MAINE
THOMAS S. EVANS, JR., DEL.
ROBERT W. DAVIS, MICH.
WILLIAM CARNEY, N.Y.
CHARLES P. DOUGHERTY, PA.
NORMAN D. BRUNWAY, CALIF.
JACK FIELDS, TEX.
CLAUDINE SCHNEIDER, S.C.
E. CLAY SHAW, JR., FLA.

MAJORITY COUNSEL
EDMUND S. WELSH
MINORITY STAFF DIRECTOR
MICHAEL J. TOOLEY

U.S. House of Representatives

Committee on

Merchant Marine and Fisheries

Room 1334, Longworth House Office Building

Washington, D.C. 20515

November 12, 1982

Honorable James G. Watt
Secretary
Department of the Interior
Washington, D. C. 20240

Dear Mr. Secretary:

This letter is in reference to the U.S. policy relating to the importation of the products of endangered and threatened species that have been raised in captivity or in closed environments.

In the past year, the Committee on Merchant Marine and Fisheries has been engaged in a thorough review of the Endangered Species Act and U.S. policy regarding the protection of endangered and threatened species. From that review we developed legislation, recently signed by President Reagan, that will maintain the strong protective measures for endangered and threatened species while correcting a number of problems that have developed through implementation of the Act.

Following Congressional action on the Endangered Species Act Amendments of 1982, we continued our oversight of the Act with a hearing on the U.S. policy regarding the importation of products of endangered and threatened species that are raised in captivity. Because it provided an effective example of this issue, the importation of turtle products from the Cayman Islands was the focus of the October 4 hearing.

At the hearing, we heard from witnesses from the Administration, the Government of the Cayman Islands, the environmental community, and other individuals and resource specialists concerned with the issue. In general, much of the testimony suggests that the U.S. policy banning importation of products from captive-bred endangered or threatened species may be

overly restrictive. The testimony of the Cayman Island Government and the Cayman Turtle Farm is illustrative in this regard.

The Cayman Turtle Farm began operation in 1968, prior to any U.S. or international restrictions on trade in turtle products. Its representatives testified that all of the turtles that the farm acquired to develop its breeding program were captured or purchased in conformity with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Since 1978, the turtle farm has not taken turtles or eggs from the wild nor purchased them from other countries; it has maintained a self-supporting system. Several species of turtles, including those raised at the Cayman Turtle Farm, are listed on Appendix I of CITES. Although this designation would normally ban trade in species so listed, Article VII of CITES permits Appendix I species which are bred in captivity for commercial purposes to be treated as Appendix II species and allows commercial trade if there is an export permit from the country of origin.

In 1978, the green, ridley and loggerhead sea turtles were all listed as threatened by the U.S. Fish and Wildlife Service. Although an exemption for mariculture activities was considered when the regulations to list the species were proposed, it was not approved. The basis for the decision not to grant a mariculture exemption was a belief on the part of the administrators that: (1) little or no scientific benefit would be received from the research conducted with mariculture activities; (2) the mariculture activities could not be monitored adequately, resulting in law enforcement problems; (3) trade in maricultured sea turtle products would result in increased world-wide demand for sea turtles and sea turtle products; and (4) the Cayman Turtle Farm had not demonstrated a true closed-cycle system. Based on the hearing record, we believe that enough questions have been raised to warrant a re-examination of the decision not to grant an exemption for such maricultured sea turtle products.

First, with regard to the scientific benefits to be derived from the research, testimony submitted not only by the Cayman Government, but also a number of other scientists in the field of mariculture, describe the value of the Cayman operation as providing valuable data regarding turtle propagation methods. In addition, the farm is studying turtles released in Cayman waters to determine if artificially propagated turtles will reproduce in the wild. Finally, the turtles produced on the Cayman Islands have been used for a

number of other projects of medical and scientific interest, including cystic fibrosis research and research into the common evolutionary origin of reptiles and birds.

With regard to the monitoring of the trade in Cayman sea turtle products, Departmental representatives testified that it is possible to develop a system to regulate their importation, transportation, and sale. They could be shipped through one port of entry and all the products marked or tagged in a manner that would distinguish them from smuggled products. Any importation or sale of products not appropriately documented could subject the person involved to substantial Endangered Species and Lacey Act penalties.

With regard to whether the importation of turtle products would stimulate the trade in illegally taken or imported products, a persuasive argument is made that farm-reared turtles will satisfy the demand for turtle products and thus relieve the pressure on wild stocks. We strongly recommend that importation, transportation, and marking requirements be vigorously enforced and that unmarked or improperly marked products identified and those involved in illegal activities prosecuted.

Finally, it is argued that the Cayman Turtle Farm does not meet the requirements for a captive-bred exemption under CITES. While we realize that this issue is a technical one about which scientists and some CITES Parties may disagree, we believe that the United Kingdom, which acts as the CITES wildlife management authority for the Cayman Islands, has made a persuasive argument in their Diplomatic Note (No. 163) which was presented to the Subcommittee for the hearing record, that the Cayman Turtle Farm meets the captive-bred requirements under CITES. Since the Cayman Turtle Farm has not taken turtles from the wild since 1978, and because we have been assured by Cayman Island officials that no further turtles need be taken from the wild for the operation of the turtle farm, we believe that allowing such an exemption would have no effect on wild stocks and therefore, would be appropriate in this instance. It is also clear to us that if another generation of turtles are not successfully bred, the turtle farm will never achieve economic viability and will render "pressure on species" arguments moot.

Any regulations to exempt the Cayman Turtle Farm from prohibitions on trade should include stringent requirements for record-keeping, marking, tagging and other documentation to minimize law enforcement and other monitoring problems. If, in the future, any turtles are taken from the wild by the Cayman Turtle Farm, the importation of their turtle products into the U.S. should be prohibited. Finally, we

believe that the regulations should provide that the cost of marking and tagging should be borne by the Cayman Turtle Farm and the importers of their products. We would hope that your department could immediately commence the development of such regulations for early publication.

We believe a revision in the regulations with regard to the Cayman Turtle Farm is particularly appropriate in light of this Administration's policies toward the nations of the Caribbean Basin. The success of this operation, which at this point is totally dependent on favorable U.S. action, would be of great benefit to a friendly, democratic nation of the basin.

Finally, based on the testimony received by the Committee, it is obvious that there is not a consensus among some of the parties to CITES relating to the definition of "captive-bred". Because of this, we urge that the U.S. Delegation to the next meeting of the parties seek a clarification of this definition to insure consistent implementation of this provision by all parties. This endeavor to clarify the CITES definition should not, however, delay the development of regulations relating to the Cayman Turtle Farm.

In short, we feel that our government should encourage the artificial propagation of endangered and threatened species whenever it can be determined that it is being done in a manner which is proper and does no harm to such species' wild populations. The Cayman operation, in our view, meets this criteria and should be allowed to import its products into the United States.

We appreciate your immediate consideration of these matters.

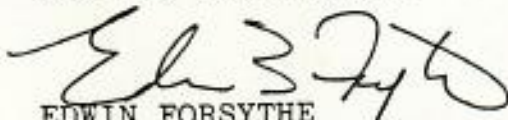
Sincerely,



JOHN B. BREAUX
Chairman
Subcommittee on Fisheries
and Wildlife Conservation
and the Environment



WALTER B. JONES
Chairman
Committee on Merchant
Marine and Fisheries



EDWIN FORSYTHE
Ranking Minority Member
Subcommittee on Fisheries
and Wildlife Conservation
and the Environment

FEDERAL WILDLIFE PERMIT OFFICE
U.S. FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240
Telephone 703-235-1937

January 3, 1983

To: FW
AFA
LE
CSA
OES
WFO (MOB)
WFO (Permit Branch)

From: WFO (Richard Parsons)

Subj: Sea Turtle Issue Paper (RESTRICTED - DRAFT)

Please review and provide any comments ASAP.

SEA TURTLE ISSUE PAPER

- Issue:** What are the alternative combinations of U.S. regulatory action and action at the CITES Conference in Botswana for amendment of the present Sea Turtle Regulations?
- Legal Status:** U.S. Endangered Species Act (ESA) - populations of green, loggerhead and olive ridley sea turtles are listed as threatened species; present regulations prohibit commercial importations into the U.S. and interstate commerce.
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) - these sea turtles are also on Appendix I of CITES and may not be traded internationally for commercial purposes; items purchased by U.S. tourists overseas may not be imported without prior issuance of permits from the United States and the country of origin; populations which meet CITES criteria as captive bred or ranched may be traded under the rules applying to Appendix II--this will require the country in which the captive breeding or ranching operation is carried out to issue certificates for commercial shipments; personal items could be brought back into the United States by U.S. tourists without permits or certificates.
- Background:** An exception to the current restrictions on commercial trade was sought by the Cayman Turtle Farm (CTF) during the original rulemaking, but was not allowed. In September 1978, CTF sought to enjoin enforcement of the commercial import prohibition in U.S. District Court. In December 1978, FWS and the National Marine Fisheries Service (NMFS) published a decision document which upheld the current regulations and again denied exception for commercial importations. In May 1979, the Court upheld the agencies decision not to change the regulations.
- Since that time, there has been a continuing dialogue with representatives of CTF and the Cayman Government. Representatives of CTF and the Cayman Government have sought an exception to the U.S. rules based on their belief that they have achieved a closed-cycle farming system, and on their need to have the United States as a market and a point of transshipment for their products. They have pointed out the role of the turtle farm in the economy of the Cayman Islands, and the impossibility for them to continue to fund the sea turtle farming operations without the ability to sell their products. They have also pointed out their need to be able to continue to market personal items to U.S. tourists.

DRAFT

Restricted

2

In 1979, the Parties to the CITES treaty agreed on a definition of the captive-breeding exemption which is found in Article VII of CITES. This definition requires a proven ability to breed the animal in question to the second generation in captivity before any of the specimens can be traded commercially. In 1981, the Parties to CITES established a procedure which would allow the commercial sale of "ranchered" specimens. The difference between a farm and a ranch is that a farm is supposed to be a closed-cycle breeding system, whereas a ranch is allowed to have input of wild specimens, and is to offset this by protection and augmentation of the wild populations.

From an early point in discussions with the CTF, U.S. Government staff have urged the CTF and the Cayman Government to consider going through the procedures for approval as a ranching enterprise. Both the CTF and the Cayman Government have not been willing to take this step, because they consider that the CTF is in fact a closed-cycle farming operation.

In an effort to gain further information, trips were made to the Cayman Islands in September and October 1982 by both policy and staff level members of the Departments of Interior and Commerce. These visits addressed the four issues which were the basis of the decision document issued in 1978 by both agencies. The following is a summary of each of the issues ^{and} ~~the informal findings made as a result~~ of the two trips: ✓

(1) Is the farm engaged in a closed-cycle (farming) operation within the meaning of the interpretation made by the CITES Parties in 1979?

--After reviewing the records of introduction of wild ^{two words} stock into the breeding operation and the records of the breeding operation itself, the Departmental policy and staff people came to the following conclusions: ✓

--The farm has apparently stopped introducing wild specimens into its breeding operation and satisfactory assurances by both the farm and the Cayman Government were given that no further wild specimens would be introduced. A review of the success of the breeding operations indicated a declining rate of productivity for those sea turtles born and raised on the farm from sea turtles which mated on the farm. DOI and DOC staff were impressed with ~~the clear intentions and~~ the high-quality professional work which the CTF has put into its development of animal husbandry techniques to achieve a closed-cycle farming system. The setbacks in productivity could be traced, at least in part, to such problems as a change in the feed, a die-off due to pneumonia, and ~~changes in~~ sex ratios of mating animals. ✓
These could be considered normal types of problems in the

↳ lack of proper

DRAFT

DRAFT

development of animal husbandry techniques for a species which has not previously been bred successfully in captivity. It was clear that a closed-cycle, captive-breeding system was the goal of the CTF. However, the staff of the DOI was not convinced that the CTF had, at this point, achieved captive-breeding within the terms arrived at by the Parties to CITES in 1979. There was some question as to whether the declining productivity indicated a low chance of eventual success, or could be overcome by the changes in technique that had been developed by the farm.

(2) Will an exemption for commercial trade in sea turtles stimulate market demand for wild sea turtles?

--DOI and DOC staff and policy members considered that this issue was one which could not be answered satisfactorily either pro or con. It is at this point a hypothetical issue. While it is possible that allowing trade in captive-bred sea turtles will stimulate market demand, there is no way to know whether this would in fact happen. It was also taken into account that at least two proposals for sea turtle ranches will ~~probably~~ be considered at the next Conference of the CITES Parties. This would mean that, if the market for sea turtles was to be stimulated, it would happen regardless of whether CTF is a part of that market or not. The DOI and DOC decided to focus their efforts on the development of an enforcement system for products coming from CTF, or from any other approved ranching or farming operation, which would offset any possible market stimulation.

(3) Will the exemption be enforceable?

--Detailed discussions were held in the Cayman Islands in regard to an enforcement system which would at least reasonably guarantee that illegal entries of sea turtles into the United States' market could be distinguished from turtles from an approved operation. This would lead to the possibility of enforcement actions against the illegal entries, which would discourage, if not prevent, any market stimulation effect which might occur. The system which was discussed related to commercial shipments of meat, shell, jewelry and other turtle products. It was based on the assignment of unique numbers to each box in each shipment of turtle products. This number would be assigned by the Cayman Government and would be printed on labels which would seal each box. This number would then be made part of the shipping records of the turtle farm, and would be transmitted to the United States' enforcement authorities. The United States would require each importer and wholesale dealer in turtle products to obtain a permit. One of the conditions of such a permit would be that the permittee keep records showing a unique number for each box containing a legal turtle shipment. Accompanying rules would also

DRAFT

provide that retailers of turtle products would be required to keep records showing their receipts of turtle products from wholesalers and the unique number, had accompanied the boxes of turtle products. It would be necessary for the United States to use computerized matching of these numbers as reported by permittees, and to be able to inspect books and records of permittees and retailers, on at least a random basis, in order to make the system enforceable. While it is recognized that no such system is perfect, and that the costs of enforcement of this system might pose a problem, the existence of the system should deter illegal shipments.

NO ANSWER GIVEN

(4) Will the exemption promote the development of practical techniques or encourage scientific research that would contribute to the conservation of the sea turtle in the wild?

—While at the farm, we discussed existing research and potential future research relating to green turtle. It was clear to DOI and DOC personnel that the CTF has made serious attempts to solve the numerous problems of animal husbandry with the green sea turtle. It was also clear that a number of research projects are already underway. One such project, release of sea turtles of mixed origin in waters off the Cayman Islands, is the subject of some controversy among scientists. There is a concern about mixing the gene pools between these released specimens of mixed origin and wild breeding populations of sea turtles. CTF was asked to consider various experiments that would be possible with released turtles to answer some of the questions about genetic mixing. The manager of the CTF showed enthusiasm for the possibilities of research with the farm turtles.

Current Situation: Both the DOI and DOC have made it clear in their testimony at Congressional Hearings on October 4, 1982, that they are ready to consider amendments to the existing rules on sea turtles. Both departments have been impressed with the seriousness of the CTF and the Cayman Government in preventing any further introduction of wild specimens to the CTF, and working to overcome the animal husbandry problems to fully achieve a closed-cycle farming operation, and feel that the proposed enforcement system should alleviate concerns about stimulation of trade in wild green sea turtles. In fact, both the DOI and DOC are concerned about developing effective enforcement methods for products which might be coming from ranching operations approved at the upcoming CITES Conference.

The most significant remaining question relates to the legality of trade under CITES. Since these sea turtles are on Appendix I of CITES, no commercial trade is possible unless they fall within one of two possible exceptions. The first is for specimens coming from a captive-breeding operation. As indicated above, Parties, in 1979, expressed their interpretation of the captive-bred exemption in Article VII of CITES. While CTF and the Cayman and U.K. Governments argue that they already meet these criteria, their arguments are based primarily on interpretations of the language of the resolution agreed to by the CITES Parties in 1979. The DOI and DOC have offered to sidestep this issue, and have indicated a willingness to see the matter discussed at the next CITES Conference in terms of a revision of the 1979 resolution to deal with species which have long-generation periods. This is based partially on staff recommendations that the clear reading of the 1979 resolution does not result in a finding of captive breeding for the CTF operation, and partially on the feeling that this is a significant issue which could affect other species and our relations with other CITES Parties, and therefore should be discussed by the CITES Parties at the next Conference. In fact, this approach was suggested by the representative of the U.K., who also offered to bring the matter forward in his role as Chairman of the Technical Expert Committee of CITES. The DOI and DOC, in their Congressional testimony, indicated that this issue would be brought before the CITES Parties. It is primarily a matter of finding an avenue for commercial trade that is clearly legal under the CITES treaty.

The CTF and the Cayman Government have indicated that their present objectives are to receive some immediate indication from the U.S. of willingness to change our regulations, in order to stimulate investor interest in CTF operations, and to gain exemptions for tourist trade with the United States and the ability to transship through the United States as soon as possible. The Director of the CTF indicated that it would be approximately 3-1/2 years before production at the farm would allow them to enter the commercial market for meat and other ~~table~~ products. ✓

~~The DOI and DOC have already indicated their willingness to reconsider the U.S. threatened species rules on turtles, and to address the issue of a legal avenue under CITES at the next Conference of the Parties.~~ ✓

NOT
"FARMED"
TURTLES

Both DOI and DOC have prepared a Notice of Intent for publication in the Federal Register. ~~This document is now awaiting final signature in DOI.~~ In addition, DOI has sent a letter to the Chairman of the CITES Technical Expert Committee proposing that the issue of the application of the captive-bred exemption to species which have a long-generation period be addressed at the next CITES Conference. ✓

DOI staff has come up with the following elements for ^athe new CITES resolution on species of long-generation periods: ✓

- (a) The breeding operation should provide some benefit to the survival of the species.
- (b) The products of the operation should be adequately identified and documented to ensure that they can be readily distinguished from products of wild populations.
- (c) Parental breeding stocks should be established in a manner not detrimental to the survival of the species in the wild.
- (d) There should be no augmentation from the wild except for the occasional addition of animals, eggs, or gametes in wild populations to prevent deleterious inbreeding.
- (e) The meeting of the Conference of the Parties should approve the progress of the operation towards achieving the biological requirements for a closed-cycle, captive-breeding operation as described in Conference Resolution 2.12, and ~~that~~ this progress ~~is~~ documented, at regular intervals, to the Technical Expert Committee. *→ should be* ✓
- (f) There should be assurance that the operation is carried out at all stages in a humane manner.

These elements, along with an acceptable determination as to what is a "long-generation species" should meet the concerns of all interested parties in the Cayman Turtle situation. The elements would guard against the danger of unwisely opening the CITES exemption to such species as lemurs, chimpanzee, orangutans and cheetahs. These elements would put the applying nation, such as the Cayman Government in this case, to the task of demonstrating that their breeding operation was making sufficient progress toward the goal of captive breeding. As to the question of the definition of "long-term," we believe that a period of at least 5 years between production of generations should be the minimum period considered. There are many animal species which reach sexual maturity within the period of 5 years.

DRAFT

The remaining issue, the combination of proceedings which would offer the best chance for a successful resolution of the Cayman turtle issue. The balance of the paper will present various alternatives and the pros and cons associated with each one.

Alternatives:

A. The United States should take a "low-key approach" to both the negotiation of a CITES resolution and the change in U.S. regulations.

PROS:

(1) Since the Cayman Islands are a crown colony of the U.K., it would make sense for the U.K. to take an active role in trying to achieve an appropriate CITES resolution. If the United States took an active role in pushing this proposition, it would likely generate a lot of suspicion among other countries. Since the United States stands little to gain, especially in view of the unfavorable balance of trade situation which would be created, other countries would probably suspect that there was some kind of trade-off that had been made between the U.S. and the U.K. This suspicion would work to the detriment of achieving a proper resolution. We should especially consider that a number of NGO's and several Parties may very well oppose any change to the captive-breeding resolution as it presently stands.

(2) The United States would have the benefit of whatever action the CITES Parties took in preparing its final rulemaking, if it had gone no farther than publication of a Notice of Intent by the time that the CITES Conference occurred in April.

(3) Since the Cayman Government could have used the "ranching" solution which was adopted at the last Conference of the Parties, and which was suggested to them shortly after the New Delhi Conference, strong U.S. support for a new resolution on captive-breeding could be perceived as an attack on the two present legal avenues, merely for the sake of some bilateral advantage between the U.S. and the U.K.

(4) The United States has a number of other important goals at the upcoming Conference, especially the delisting of bobcat and resisting the overuse of "look-alike" listings; the U.K. has been a major opponent of the United States in both of these areas. At the very least, the U.S. should exact some price from the U.K. in return for any support for this issue.

DRAFT

Alternatives:

A. (continued)

CONS:

(1) The internal timetable for a U.S. rulemaking, taking into account the requirements for an environmental assessment and a Determination of Effects, would allow us to put out a proposed rulemaking by mid-March. This would put us farther along in the resolution of the Cayman turtle issue, and would indicate a more serious attempt on our part than if we would simply stopped our proceedings with a Notice of Intent before the CITES Conference in April.

(2) By withholding an act of effort in the CITES context, we could lose control over the text of any resolution itself. If we feel that is important to have certain elements in a resolution in order to find it satisfactory for our other CITES goals and our concerns about other species, than we should take a more active role in its negotiation.

(3) If we are seeking some kind of trade-off with the U.K., we will probably be required to take a more active role in the negotiation of a proper resolution at the CITES Conference. ✓

(4) It is possible that the CITES Parties will reject any attempt to modify the resolution already adopted in regard to captive-breeding. This could put the United States in an awkward situation if it elected to go ahead with the proposed change in the threatened species rules. We could find ourselves with a regulation that would allow trade but having to honor a CITES Party's indication that the CTF did not meet the captive-breeding definition, and therefore not be able to allow trade with CTF. We could also find ourselves in the position of accepting a U.K. and Cayman Government determination that, despite any discussion by the Parties, the CTF met the definition of captive-breeding as determined in the 1979 resolution. This would mean that, having accepted a determination by the U.K. in a situation which is questionable in the minds of many Parties, we might be obliged to accept a similar U.K. determination in a situation that we were less happy about. For example, the U.K. has stated that since incoming shipments in most countries are cleared on the basis of attached documentation, rather than a physical inspection of the shipment itself, the bobcat should remain on Appendix II as look-alikes. This same logic could be spread to quite a few other species to be retained or added to the treaty as look-alikes. ✓

a
1

Alternatives:

B. Proceed as quickly as possible to final rulemaking amending the threatened species rules with little or no regard to the outcome of this issue at the CITES Conference. This alternative could also involve a refusal to either raise or participate in the issue should it come up at the CITES Conference.

PROS:

(1) This alternative would have the advantage of resolving the Cayman turtle situation more rapidly than any other alternative. It is feasible, considering such things as the environmental assessment and the Determination of Effects, to have a proposed rulemaking on the surname route by mid-March. If a 30-day comment period were part of that proposed rulemaking, a final rule could be issued at about the time that the CITES Conference is taking place.

(2) This alternative would tend to detach the U.S. determination from any action which the CITES Parties might take on the question. It is difficult to predict what kind of reaction there would be from the CITES Parties to this issue once it is raised. This alternative would allow the U.S. the freedom of deciding how it would react to an unfavorable determination by the CITES Parties in regard to whether or not the Cayman Turtle Farm could be considered a captive-breeding operation.

CONS:

(1) This alternative could appear to fly in the face of an already announced U.S. position to take into account the views of the other CITES Parties before making a final determination on the CTF. This might very well stimulate a law suit which, even if it were not successful, would certainly delay the implementation of any rules favoring the CTF.

(2) It is unlikely that this issue, which has received significant public attention in the United States, will fail to be brought up at the CITES Conference. If the U.S. hastens to a rulemaking conclusion, it could put us completely at odds with the other CITES Parties. In fact, it might stimulate the CITES Parties to come to a conclusion that is unfavorable for the CTF. If we were viewed as ignoring the views of the other Parties through this action, we may suffer in regard to other positions that are important to us at the Conference, such as the delisting of bobcats.

Alternatives:

C. Carry U.S. rulemaking no farther than a Notice of Intent, but take a more active role in the negotiation of a CITES resolution and seek some kind of trade-off from the U.K.

PROS:

(1) This alternative would carry us no farther internally than we have already indicated we were ready to go. The Notice of Intent will be ready to be published very shortly. We could choose to take an active role behind the scenes at the CITES Conference or to take an active role on the floor. This active role would give us more control over the elements of a final resolution.

(2) By taking an active role, we could allay the suspicions of a number of Parties as to our interest in this issue by indicating that we felt it was simply a question of fairness to an operation which was seriously trying to achieve captive-breeding. This would be played off against the probability that several ranching operations would be approved at the CITES Conference. The CIF operation offers more protection to wild populations than the ranching operations, since it would involve no input of wild stock. It would also allow us to address the question of the marking of products and a control system for such products at the point of importation. This issue needs to be addressed for the ranches as well as for the CIF.

(3) By taking a more active role, we would be in a position to demand a trade-off from the U.K. Although the U.K. party that we have to be concerned with in regard to the delisting of the bobcat ~~may~~ slow-down on the look-alike listings of other species, they could be of major assistance in achieving these goals. In fact, this situation offers us one of the few opportunities we have had in recent years for some leverage with the U.K., which should not be wasted.

is not the only

CONS:

→ and a

(1) Any active role taken by the U.S. at the CITES Conference would have to be done very carefully to avoid suspicions that there was some unseen ~~game~~ gain for the U.S. This might be handled by keeping our participation to the level of corridor discussions.

gain

(2) Since the U.K. is not the only Party that has opposed us on the bobcat delisting and has suggested many other look-alike listings, we cannot be sure that by exacting a price from them for our support on this issue, we would gain anything on the other issues about which we are concerned.

DRAFT

Alternatives:

D. Go farther in U.S. rulemaking procedures by publishing a proposed rulemaking prior to the CITES Conference, and take a moderately active role in the negotiation of a CITES resolution for the captive-bred issue.

PROS:

(1) This option would allow us to show greater faith to the Cayman Islands and the U.K. Government and our seriousness about resolving the sea turtle issue. It could give us better bargaining leverage with the U.K. if we wanted to exact a price from them for our support.

(2) This would put us further along the rulemaking route, so that when we returned from the CITES Conference we would be able to move fairly quickly to a final rulemaking, working in the results of the CITES Conference.

CONS:

(1) The publication of a proposed rulemaking before we know the results of the CITES Conference could lead to the necessity of publishing a second proposal if the outcome of the CITES Conference was significantly different than we had forecast.

(2) The suspicions of opponents of U.S. action, both within the United States and abroad, would probably be aroused by going to a proposed rulemaking before the CITES Conference. This would raise the risk ~~to file~~ a lawsuit which would prevent or delay the implementation of whatever final rule we determined. ✓

DRAFT

December 4, 1973

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

Dear Mr. Quirós:

Thank you for your letter of 14 November, telling of the interest of CONESA 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. short-circuits 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 (Tortugero, 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 imposing obstacles. Certainly, any effective effort of this kind is bound to require large amounts of very patient capital. And because sea-turtles are a diminishing 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,

Archib Carr
Archib Carr
Graduate Research Professor

AC/fo
EnLoeure
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' Islanorada project, which was ancestral to your present enterprise. Your files will show that

Mr. Irvin S. Naylor
Page 2
December 18, 1973

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.

Mr. Irvin S. Naylor
Page 3
December 18, 1973

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 *tour 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

*Permission to reproduce this correspondence
granted by Dr. Carr-Graduate Research Professor,
University of Florida.*

July 11, 1973

Mr. Anthony Fisher, Director
Mariculture, Ltd.,
Newplace 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 quoniam lover of green turtle soup I would like to see it available in the market. Also, I share your concern over seeing mankind 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 turtling 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 program in the Bahamas, Ecuador, and the Galapagos Islands. The two young Bahamians and an Ecuadorian will spend ten days at our

Page 2

Mr. Anthony Fisher

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 harvests, I have made no move whatever to stir up Don 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--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 egging 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



North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Joseph W. Grimsley, Secretary

December 7, 1982

Representative Walter B. Jones
Chairman, Merchant Marine
& Fisheries Committee
241-CHOB
Washington, D. C. 20515

Dear Congressman Jones:

It has come to our attention that the Chairman of the Subcommittee on Fisheries, Wildlife and Conservation is recommending to you that the United Kingdom of Great Britain standards of definition for "captive bred" be accepted by the United States so that the Cayman Island Turtle Farm, Grand Cayman may be approved to take wild sea turtle eggs, hatch those eggs, rear the young and then count that young as a 1st generation captive bred animal. Such action would then permit the Turtle Farm to count the offspring from the next hatching as 2nd generation captive bred thus making them available for commercial purposes.

Based on our understanding of the Convention on International Trade in Endangered Species (CITES), the Endangered Species Act and present USDI policy this re-labeling of wild laid eggs to consider the offspring captive bred once they are hatched is deliberately circumventing the spirit and intent of present regulations to protect the offspring of wild endangered species from exploitation for commercial gain.

It is our opinion that approval of this request would set a new precedent with far reaching implications adversely affecting protection of all endangered species. Modifying the rules protecting the offspring of wild endangered animals by eliminating a whole generation will further aggravate our efforts in North Carolina towards protection of the sea turtles and other endangered animals.

It is requested that the above proposed change be denied because of its precedent setting implications and adverse affect on the protection of wild sea turtles and other endangered animals.

Very truly yours,

Joseph W. Grimsley, Secretary
Natural Resources & Community
Development

Help!!

JWG:drl



**Sea Turtle
Rescue
Fund**

24 December 1982

Honorable Walter B. Jones
241 Cannon House Office Building
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Jones:

I am writing to you today regarding an issue of utmost concern to the Sea Turtle Rescue Fund (STRF). As you know, the House Subcommittee on Fisheries and Wildlife Conservation and the Environment recently held an oversight hearing regarding the relation of the Endangered Species Act to programs that involve the ranching and farming or other forms of captive propagation of wildlife. The immediate concern of the hearing was whether or not allegedly farmed sea turtle products from the Cayman Turtle Farm (the Farm) should be allowed into the United States.

We have enjoyed working with the Merchant Marine and Fisheries Committee in the past regarding a number of issues and look forward to continued cooperation. We were pleased therefore that the Subcommittee requested that we present testimony at the October 4 hearing.

The hearing itself was handled quite well and did elicit an examination of several of the crucial issues. However, some of these issues could not be fully reviewed because of the composition of the witnesses, eight of whom presented arguments in favor of allowing importation and two of whom presented arguments to the contrary. The scheduling of the hearing discouraged expert testimony by others who are opposed to the importation of the Farm's products at this time.

The STRF has been involved in sea turtle conservation efforts over the last several years. We have worked closely with the fishing industry to reduce the number of sea turtles incidentally drowned in nets. We have informed tens of thousands of beach visitors in the southeastern U.S. as to how they can enjoy the beaches without harming nesting sea turtles or sea turtle nests. We have also sponsored a number of hatchery and headstarting projects in the U.S. and abroad. In all cases, we have sought to approach sea turtle conservation from a practical perspective. We have approached the controversial issue of the Farm from the same perspective. I believe that our written testimony of October 4 and our supplemental testimony of November 10 presents a thorough and balanced analysis of the issues under consideration.

We may therefore be forgiven our feelings of surprise and deep disappointment in the Committee's decision to direct the Departments of Commerce and the Interior, by a letter of November 12 (Attachment 2), to allow the importation of the Farm's products. After an exhaustive review of available information by federal agencies and U.S. district and appellate courts in 1978, sea turtle products from the Farm were not exempted from the prohibition on importation of sea turtle products into the U.S. The recent hearing produced no new evidence for the record which might justify the re-examination of the ban which the Committee is proposing. The Committee's decision is of even greater concern to us because it sets the stage for a serious and permanent undermining of efforts to control international trade in endangered and threatened species.

For all of these reasons we wish to respond to the arguments presented in the letter to the Secretaries and to the Diplomatic Note from the United Kingdom (Attachment 3) which the Committee found so persuasive. We do not take up a number of points raised in the Diplomatic Note, which are not germane to the consideration of this important issue. We recognize that this is an unusual step. However, the importance of the Committee's decision demands a full airing of the issues.

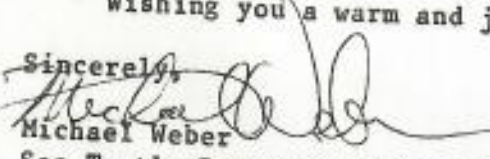
Attachment 1 sets out our concerns regarding the Committee's letter to Secretaries Watt and Baldrige regarding importation of sea turtle products from the Cayman Turtle Farm.

We respectfully request that the Committee reconsider its recommendation and allow this issue to be addressed by the Parties to the Convention on International Trade in Endangered Species at their next meeting early next year. If the Committee intends to press for a change in domestic regulations before the next CITES meeting, we request that another hearing be held where opponents of the exemption for the Farm's products who did not have the opportunity to testify at the recent hearing can provide you with their views.

Once again, we wish to thank you for the opportunity to set forth our views on this important matter. We want to emphasize that any differing with the Committee on this issue is only done reluctantly after careful analysis and reflection on the facts and in light of the importance of the Committee's decision. We would welcome the opportunity to discuss this matter further with the Committee. We look forward to working with the Committee in the future regarding other matters of mutual concern.

Wishing you a warm and joyous holiday season, I am

Sincerely,


Michael Weber

Sea Turtle Rescue Fund Director

ATTACHMENT 1

REMARKS ON THE NOVEMBER 12 LETTER FROM
THE HOUSE COMMITTEE ON MERCHANT MARINE AND FISHERIES
TO THE SECRETARIES OF THE INTERIOR AND COMMERCE
REGARDING IMPORTATION OF SEA TURTLE PRODUCTS

Page two of the Committee's letter sets out the four bases upon which the Departments of the Interior and Commerce decided against allowing the importation of maricultured sea turtle products from the Farm in 1978. Although the Farm's apologists did not present any new, substantive evidence, we wish to examine the arguments presented in the Committee's letter.

The Cayman Turtle Farm Is Not a Closed-Cycle Operation

Due to confusion among the Parties to the Convention on International Trade in Endangered Species (CITES), a resolution regarding the definition of "captive bred," as used in the text of the CITES, was drafted, discussed and approved by the Parties at their 1979 meeting. Operations which met the criteria set out in this document, Conf. 2.12, were to be considered as in compliance with CITES and trade in products from these operations could be allowed. The basic criterion against which such operations were to be measured is whether or not such an operation would likely have to take additional animals or plants from the wild in order to support its continued operation. The Parties agreed that operations which could reliably and indefinitely produce second-generation offspring should be considered to be meeting this criterion.

The Farm's promoters have sought to undermine this standard in a variety of ways. First of all, they have injected confusion into interpretation of the standard by ignoring the technical nature of Conf. 2.12. Secondly, they have argued that the Farm should be judged self-sustaining by standards other than those in Conf. 2.12. Finally, they have maintained that the Farm satisfies the criteria of Conf. 2.12 because the United Kingdom's CITES Management Authority says that the Farm does. We take up each of these points now.

1) The confusion regarding the meaning of the CITES standard to which the Committee's letter refers on page 3 had not arisen, to our knowledge, regarding any farming operation until the Pacific Legal Foundation and the Cayman Islands Government, with the help of the United Kingdom, petitioned the U.S. government to lift the ban on sea turtle products from the Farm. As we note in our November 10 supplemental testimony, these parties suffer confusion among themselves as to the meaning of Conf. 2.12 because they attempt to force upon the resolution a meaning other than that which was intended. It would be a relief to us all, no doubt, if such resolutions could be written in plain English. However, this resolution, like so many others, was written using technical concepts and language. There is little cause for surprise if confusion reigns when one insists on reading such a resolution as if it were the daily newspaper. And this is quite simply what the Farm's proponents have done themselves and have apparently succeeded in convincing the Committee to do.

Thus, if the Committee insists that there is confusion regarding Conf. 2.12, there need not be. A careful reading of the resolution by individuals familiar with the biological terms used and the principles involved will dispel the doubts and questions with which the Farm's proponents have surrounded it. We have attached a copy of the resolution.

As we demonstrated in our testimony of October 4 and in our supplemental testimony, the Farm has not met the criteria established by the resolution. We believe that the Diplomatic Note implicitly recognizes this: "It is reasonably anticipated that in the near future when the turtles bred in captivity on the Farm reach sexual maturity, CTF will also be producing captive-bred offspring of turtles conceived, born and reared on the farm." In light of this, it is very difficult for us to understand the Committee's acceptance of the Farm's arguments that it has met the criteria of Conf. 2.12.

There is no doubt that the domestication of any animal is a very difficult task. The small number of animals which have been successfully domesticated in the course of human history is a testament to that. Some threatened species, such as the American alligator, have been successfully farmed. Sea turtles have not. The STRF is not opposed to the farming or ranching of sea turtles. We are worried for good reason, however, about the effects of trade in sea turtle products on sea turtle conservation and we are opposed to trade in those products which derive from operations failing to meet sound and commonly accepted standards of propagation of endangered and threatened wildlife. We are also opposed to such importation since there is no clear and significant benefit to the species against which to balance the rejuvenation of a dormant commercial market, such as the United States.

2) When the Committee argues on page 3 that the Farm's operations comply with the CITES standards because the Farm has not taken animals from the wild since 1978 and promises not to do so in the future, the Committee is quite simply throwing out Conf. 2.12 as a standard and writing a standard of its own at the suggestion of the United Kingdom's Management Authority. According to this standard, one could take several hundred mature animals from the wild, house and feed them, hatch and raise the eggs from these adults and after four years expect to be ruled a farm under CITES. We hope that this is not what the Committee intends but it does follow from the principle which the Committee is setting. If the Committee is not setting a standard, but is simply resolving a special case, it should be acknowledged that the benefits from doing this are of a primarily commercial rather than a conservation nature. We do not believe that this reflects the purposes of the Endangered Species Act or CITES.

3) Furthermore, as the Diplomatic Note from the United Kingdom makes clear, exempting the Farm's products from the current ban will condone another important, but very damaging principle. This principle is quite simply that CITES parties should defer to the judgment of the Management Authority of a country exporting products from Appendix I species regarding compliance with Conf. 2.12. The implications of such a principle with regard to the effective implementation of CITES are staggering. Only through open peer review have the Parties ensured that they will comply with the provisions of the treaty. An agreement to defer to exporting nations will make the international controls worthless.

Under this principle, promoted by the U.K. Management Authority and endorsed by the Committee, a country can ignore Conf. 2.12 with impunity and

require that other parties accept its allegedly farmed products. Indeed, this has already occurred.

As noted in our supplemental testimony of November 12, Indonesia, like the United Kingdom, is also unilaterally declaring products, which do not meet the standards of Conf. 2.12, to be captive bred. Just before 1980, sea turtle operations in Indonesia began collecting the eggs of hawksbill sea turtles and hatching then rearing the hatchlings to two years. These animals are stuffed, certified as "captive bred" by the Indonesian government and exported to Japan and Singapore. The collection of eggs for such "farming" operations has depleted several hawksbill nesting beaches in Indonesia. We emphasize that if accepted, the principle promoted by the United Kingdom would legitimize such damaging operations.

The Committee tacitly recognizes that the Farm has yet to meet the captive bred definition of CITES since the Committee equates the compliance with Conf 2.12 with the economic viability of the Farm. While we are sympathetic to the economic viability of any operation which may have some conservation benefit to wildlife, this consideration has to be balanced with other considerations. Indeed, our analysis of the success of the Farm in breeding sea turtles indicates that it will eventually have to take more turtles from the wild in order to remain economically viable and expand its markets at the same time. Expectations that the Farm will become closed-cycle, such as those mentioned by the U.K. in the Diplomatic Note, provide no reasonable basis for assuming otherwise. We do not doubt the promises of the current managers of the Farm that they will not go back to the wild for additional stock. However, promises do not make for compliance with Conf. 2.12. Also, the Farm is to be sold. The current managers of the Farm cannot speak for future owners and managers.

Regardless of whether the Farm itself goes back to the wild, the Committee is suggesting a standard which will place the burden of the failure of a commercial operation to achieve true independence from the wild upon endangered and threatened species of wildlife. In suggesting this standard for the Farm, the Committee is quite simply shifting the emphasis of the Endangered Species Act from conservation to economic viability. While such a shift is provided for in the Act, it is only in very, very special circumstances, where the national good is in question.

Farm Products Cannot Compete With Products Obtained From the Wild and Trade in Farm Products May Stimulate Demand For Wild Sea Turtle Products

The Farm's representatives have often pointed to the seizure of large amounts of contraband turtle products at U.S. borders in recent years as evidence that there is a large demand for such products. We do not find it compelling that because demand for illegal products exists legal sources of the products should be supplied. A favorable argument might be made for such an approach if such trade would displace wild markets. But in this case it is just as likely that legal sources will not displace illegal products and may stimulate demand. Moreover, there are many things for which there is a demand but which our society has determined should not be traded in.

The Farm may well close due to a failure to become truly independent of the wild after having marketed its products in the U.S. The disappearance of the Farm's products from a U.S. market will hardly lead to the disappearance of

the demand provided by the introduction of their products into the U.S., as the Committee seems to argue. Having at one time been able to acquire sea turtle products, people will have to be educated to forego these products. Will the Farm pay for this re-education?

Regarding stimulation of trade in wild products arising from the introduction of farmed products to the U.S., the Committee's letter totally ignores the information presented at the hearing by the STRF and the Environmental Defense Fund regarding the effect of the introduction of the Farm's products into several markets, including the United States itself. Not only did this evidence conflict with the arguments of the Farm's proponents but it also suggested that the introduction of Farm products stimulated trade. Indeed, the representatives of the Farm themselves did not dispute these data, nor did they offer any data whatsoever which might support their theories.

What is more, the Farm cannot supply several markets which present the greatest threat to sea turtles. For instance, there is a substantial trade in stuffed hawksbill sea turtles in a number of areas of the world. Obviously the Farm cannot supply this market. Also, although the Farm has been able to improve the quality of green shell so that it can be worked in some instances, at least 88 percent of the materials upon which the tortoiseshell carving industry in Japan depends, for instance, is material from adult hawksbills. Japan is the major importer of hawksbill tortoiseshell for carving. The techniques used in carving tortoiseshell are very different from those used in working with green sea turtle shell, which is used primarily as a veneer. Thus, supplying green sea turtle shell will not reduce the materials needs of the tortoiseshell carving industry in Japan, and will therefore not reduce the pressures upon critically endangered hawksbill sea turtle populations.

As we have pointed out repeatedly, importation of the Farm's products into the U.S. will only rejuvenate a demand which is now largely dormant. As a result, the world market for sea turtle products will be expanded at least to the extent that there is a legitimized market in the U.S. Even if the Farm could supply this new market completely, it would only be supplying that part of the expanded world market which the Farm itself had created. Thus, there would be at the very least no net decrease in trade in wild sea turtle products attributable to the Farm.

Allowing the Importation of Farm Products Will Jeopardize Efforts
To Control Illegal Trade in Wildlife and To Reduce Pressures on
U.S. Sea Turtle Populations

Assertions by political appointees from the Departments of the Interior and Commerce at the hearing that trade can be monitored effectively were substantiated by no evidence. No testimony was solicited from law enforcement officials. Indeed, Joe Hopkins, retired Deputy Chief of Law Enforcement at the FSW, noted to the STRF that: "Such an exemption is clearly not enforceable, and would virtually destroy the FWS ability to protect all sea turtles, particularly as to meat, shell jewelry, and leather products."

While there is little doubt that the Departments are quite capable of erecting a complex scheme of paperwork in order to monitor Farm importations, this addresses only one of the problems of enforcement. We have no doubt that the Cayman Islands Government would take all possible steps to insure that exports of sea turtle products from the Farm carried appropriate documentation.

There is currently a presumption that sea turtle products found in the U.S. are contraband. Having Farm products sold in the U.S. would remove this presumption. This will present difficulties not only at ports of entry, but also at the retail level. This is particularly true of meat or soup sold in restaurants. Since such products cannot be marked, one will not be able to distinguish Farm from wild products.

Also, there is a significant question as to whether the Departments and the Customs Service have the manpower to interdict most of the illegal shipments of wildlife into the U.S. We hasten to add that we are not questioning the dedication or the talents of current enforcement personnel. The volume of legal wildlife trade entering through U.S. ports is truly staggering. In 1978, for instance, there were over 13.1 million wildlife hides and skins imported, along with 368,000 live birds, 2.5 million live reptiles and amphibians, 152,000 game trophies, 260 million tropical fish and over 187 million individual products manufactured from wildlife. These figures do not include traffic which entered through the 292 ports of entry which are not designated as ports of entry for wildlife. These figures also do not include wildlife brought in as personal effects by tourists. Lastly, since 1978 the number of FWS enforcement agents in the field has decreased from 209 to 177.

While returning from the Cayman Islands and the Farm just before the hearing, I passed through customs with Dr. Jack Frazier who had been working at the Farm. Dr. Frazier had a large boxes containing sea turtle bones and skulls. It was only upon Dr. Frazier's own insistence that the Customs officer, who had cleared the boxes, reviewed the documentation which is required for importing such materials for scientific purposes. The Custom's area was not crowded, and but if it were, one could perhaps understand some reluctance to properly examine such shipments. Nonetheless, I believe that the opportunity for exploiting this problem for personal gain are quite obvious. Equally obvious are the practical limitations of paperwork.

We must ask what will be gained by ignoring such limitations. In this present case, it seems quite clear that the financial prospects of the Farm will be improved, while the prospects for sea turtles are likely to be jeopardized. Likewise, the U.S. government will be asked to bear additional costs, whether budget costs or opportunity costs, in order to subsidize the operations of a private foreign concern. Exempting Farm products from the ban on the importation of sea turtle products into the U.S. will quite obviously not aid in enforcement of trade controls.

Furthermore, when the Fish and Wildlife Service (FWS) listed green, ridley and loggerhead sea turtles under the Endangered Species Act in 1978, it listed green sea turtles as threatened except for the Florida and Mexican populations of greens, which were listed as endangered. The Committee's letter states that green sea turtles were only listed as threatened. The Farm's representatives have stated that the bulk of their sales of green sea turtle products would be in Florida and therefore close to one of the two populations of green sea turtles which the FWS saw fit to list as endangered. Legalizing traffic in green sea turtle products where an endangered wild green sea turtle population is recovering will certainly not benefit the wild population.

The importation of Farm products into the U.S. will also raise problems in the continuing efforts of the shrimp industry, the federal government and the

conservation community in reducing the incidental drowning of sea turtles in the shrimp fishery. This effort at cooperation has relied upon goodwill and a consistent effort of education of shrimp fishermen regarding means of reducing this incidental taking. We will now be faced with having to explain why shrimp fishermen should continue their efforts, which require changing fishing methods, in order to save a species which is being commercially traded in. This will quite simply jeopardize the expenditure of resources in the past and will require greater expenditure in the future.

Traffic in legitimized sea turtle products in Florida or anywhere in the U.S. will provide an additional cover for illegal traffic. Whether this cover will be exploited is, of course, a matter of speculation, but no more so than arguing that the cover will not be exploited. In Florida, there is a more obvious opportunity for the unscrupulous to take endangered green sea turtles than elsewhere in the U.S. and to use the cover provided by traffic in legitimized products. This will add yet another enforcement burden. We also note that to our knowledge enforcement personnel of the State of Florida were not asked for their assessment of the enforcement burden created by importation of Farm products.

The Endangered Species Act places an affirmative responsibility upon federal agencies to conserve endangered and threatened species. Possibly jeopardizing a wild endangered population to allow trade in an allegedly farmed population does not, in our view, reflect this responsibility.

The Benefits of Farm Research Do Not Outweigh the Problems Generated
By Trade in the Farm's Products

The Committee also dismisses the last of the four bases upon which the FWS based its decision not to exempt Farm products. While we agree that the Farm has provided valuable data regarding turtle propagation methods, much data regarding this topic has been generated by other non-commercial research projects. The STRF alone has sponsored several such projects, whose results will be directly applicable to the field. Such research as the Farm is conducting might well be funded by sources other than an expanded commercial operation of the Farm. As we noted in our testimony, we are willing to consider providing such funding ourselves. As should be clear, however, we cannot at this time condone international trade in the Farm's products.

Research by commercial operations is most often directed to improving those operations. As a result, such research may well not provide the information required to conserve wild populations of animals or plants. The history of commercial whaling provides just such an example. For years it has been argued that without commercial whaling one would not be able to estimate the size and reproductive capabilities of a population. The catastrophic declines of whale populations around the world shows that the data gathered by commercial whalers did not lead to good management. Other forms of whale research have been developed in recent years, which do not depend upon sacrificing the objects of the research. For example, much more is known now about the size, dynamics, behavior and habitat needs of one of the North Atlantic's humpback whale stocks as a result of such benign research. Commercial research may be neither the quickest nor the most reliable means of acquiring data on wild marine populations.

Other Considerations

The farming of endangered and threatened species of wildlife has enjoyed support because of its potential for aiding in the recovery of these species. The STRF not only supports in theory but in practice a variety of means of aiding the recovery of sea turtle populations. There are other means of improving the prospects for recovery of sea turtle populations than by attempting to displace market demand with allegedly farmed sea turtle products. These means do not pose the problems which trade does.

For several years, the World Wildlife Fund, the U.S. Fish and Wildlife Service, and more recently the STRF have supported a hatchery for green sea turtles in the state of Michoacan, Mexico. During the first several years of the project, hundreds of thousands of eggs were rescued from poachers or protected in their nests. Hundreds of thousands of hatchlings were released, where none would have reached the Gulf of California before. As a result of constant encouragement and support, this hatchery project is now enjoying the increasing support of the people of Michoacan, the state government and the University. Within the next couple of years, the project will be completely administered by Mexican organizations. Not only has this private initiative protected thousands of sea turtle eggs, but it has also led to the adoption of a conservation ethic by those who would most benefit in the short run from taking as many turtles and eggs as possible. We believe that in comparison with this achievement of the people of Michoacan and private and governmental conservation organizations the argument that the importation of the Farm's products into the U.S. will relieve pressure on wild populations must be judged obscure and undocumented.

On page four of the Committee's letter, it is stated that the success of the Farm is totally dependent upon favorable U.S. action. We do not see that the U.S. has an obligation under the Endangered Species Act or CITES to insure the financial success of a business in another nation, however friendly and democratic that nation may be. There are certainly other forms of assistance available to our government, which do not pose a threat to endangered species. Also, as we pointed out in our written testimony, the Farm is not expected to go under in the next year; according to press reports in the Caymans, the Farm is expected to turn a profit next year and have a positive cash flow. We believe that this indicates the Farm will be able to survive until it demonstrates an ability to reliably produce second generation offspring, as the CITES Conf. 2.12 requires.

Conclusions

While we agree with the Committee that there is a need for a number of CITES parties to clarify in their own minds the meaning of Conf. 2.12, we believe that this can be accomplished by simply reading the resolution carefully. If the U.S. seeks to accomplish anything regarding Conf. 2.12, it should seek observance of the terms of the resolution by all party nations. The standard is clear, as it stands. However, in light of the misinterpretation of the resolution by several parties, we suggest that if Conf. 2.12 is changed, operations claiming to be engaged in captive breeding of Appendix I species should have to be approved by the parties, as is the case for ranching operations. It may be that only this action will insure that this aspect of CITES will be properly implemented and not abused.

We agree with the Committee that artificial propagation may be a valuable tool in conserving endangered and threatened species. We see no basis, however, for the Committee's conclusion that the Farm meets the relevant criteria.

Indeed, our conclusion is that the United States is about to subsidize a foreign based and operated business, that cannot compete in its own market, to prove the merits of private farms for conservation. Ironically, it is likely that this support will actually undermine conservation of endangered and threatened sea turtles and strain existing U.S. efforts to control illegal trade in wildlife. This trade will also have to be accomplished by accepting a principle for CITES implementation that may destroy the effectiveness of CITES. For these reasons, we cannot agree with the Committee's recommendations to the Departments of the Interior and Commerce.

-Michael Weber
Sea Turtle Rescue Fund Director
24 December 1982

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

SECOND MEETING OF THE CONFERENCE OF THE PARTIES

San Jose (Costa Rica), 19 to 30 March 1979

RESOLUTION OF THE CONFERENCE OF THE PARTIES

Specimens Bred in Captivity or Artificially Propagated

CONSIDERING that the Convention provides for special treatment of wildlife that are bred in captivity and plant specimens that are artificially propagated;

RECOGNIZING the need for the Parties to agree on a standard interpretation of those provisions;

RECOGNIZING also the need to apply these provisions in a way that will not be detrimental to the survival of wild populations;

RECALLING that in the case of wildlife these provisions were intended to apply only to captive populations sustained without augmentation from the wild;

THE CONFERENCE OF THE PARTIES TO THE CONVENTION

RECOMMENDS

- a) that the provisions of Article VII, paragraph 4, of the Convention be applied separately from those of Article VII, paragraph 5. Specimens of animal species in Appendix I bred in captivity for commercial purposes or plant species in Appendix I artificially propagated for commercial purposes shall not be exempted from the provisions of Article IV by the granting of certificates to the effect that they were bred in captivity or artificially propagated;
- b) that the term "bred in captivity" be interpreted to refer only to offspring, including eggs, born or otherwise produced in a controlled environment, either of parents that mated or otherwise transferred gametes in a controlled environment, if reproduction is sexual, or of

* This document was prepared after the meeting from document Com. 2.5 adopted after being amended. This text is that approved by the Parties.

parents that were in a controlled environment when development of the offspring began, if reproduction is asexual. The parental breeding stock must be to the satisfaction of the competent government authorities of the relevant country:

- i) established in a manner not detrimental to the survival of the species in the wild;
- ii) maintained without augmentation from the wild, except for the occasional addition of animals, eggs or gametes from wild populations to prevent deleterious inbreeding, with the magnitude of such addition determined by the need for new genetic material and not by other factors, and
- iii) managed in a manner designed to maintain the breeding stock indefinitely.

A controlled environment for animals is an environment that is intensively manipulated by man for the purpose of producing the species in question, and that has boundaries designed to prevent animals, eggs or gametes of the selected species from entering or leaving the controlled environment. General characteristics of a controlled environment may include but are not limited to artificial housing, waste removal, health care, protection from predators, and artificially supplied food. A parental breeding stock shall be considered to be "managed in a manner designed to maintain the breeding stock indefinitely" only if it is managed in a manner which has been demonstrated to be capable of reliably producing second-generation offspring in a controlled environment;

- c) that the term "artificially propagated" be interpreted to refer only to plants grown by man from seeds, cuttings, callus tissue, spores or other propagules under controlled conditions. The artificially propagated stock must be:
 - i) established and maintained in a manner not detrimental to the survival of the species in the wild, and
 - ii) managed in a manner designed to maintain the artificially propagated stock indefinitely.

Controlled conditions for plants is under an environment that is intensively manipulated by man for the purpose of producing selected species. General characteristics of controlled conditions may include but are not limited to tillage, fertilization, weed control, irrigation, or nursery operations such as potting, bedding, or protection from weather; and

- d) that the competent government authorities of the countries exporting live animals, parts and derivatives of specimens bred in captivity of species listed in Appendix I endeavour, where possible, to ensure that these be made identifiable by means other than documentation alone.

U.S. House of Representatives
Committee on
Merchant Marine and Fisheries
Room 1334, Longworth House Office Building
Washington, D.C. 20515

November 12, 1982

WALTER B. JONES, R-NC, CHAIRMAN
FRANK BRADY, N.Y.
NORMAN M. ANDERSON, CALIF.
JOHN W. DREYER, ILL.
DEBBY F. STUBBS, MASS.
DAVID R. OWEN, ALASKA
CARROLL HUBBARD, JR., NY.
DON BONNER, WASH.
NORMAN E. DIAMONTS, N.H.
JAMES L. CHERSTIN, MINN.
WILLIAM J. HUGHES, I.J.
BARBARA A. HIFILSKI, MD.
EARL HUFFO, ILL.
BRIAN DONNELLY, MASS.
W. J. (BILLY) TAUZIN, LA.
THOMAS M. FOSLUETTA, PA.
WILLIAM H. PATMAN, TEX.
PETER I. F. SMITH, AM, SAMOA
DENNIS M. HERTZEL, MICH.
ROY DYSON, MD.
JOSEPH P. SMITH, PA.
GENE SNYDER, KY.
PAUL H. MC CLOSKEY, JR., CALIF.
EDWIN S. FORSYTHE, N.J.
JOEL PRITCHARD, WASH.
DON YOUNG, ALASKA
NORMAN F. LENT, N.Y.
DAVID F. EMERY, MAINE
THOMAS B. EVANS, JR., DEL.
ROBERT W. DAVIS, MICH.
WILLIAM CARMY, N.Y.
CHARLES F. DOUGHERTY, PA.
NORMAN D. DRUMWAT, CALIF.
JACK FIELDS, TEX.
CLAUDE SCHNEIDER, R-I.
E. CLAY SHAW, JR., FLA.

Honorable James G. Watt
Secretary
Department of the Interior
Washington, D. C. 20240

Dear Mr. Secretary:

This letter is in reference to the U.S. policy relating to the importation of the products of endangered and threatened species that have been raised in captivity or in closed environments.

In the past year, the Committee on Merchant Marine and Fisheries has been engaged in a thorough review of the Endangered Species Act and U.S. policy regarding the protection of endangered and threatened species. From that review we developed legislation, recently signed by President Reagan, that will maintain the strong protective measures for endangered and threatened species while correcting a number of problems that have developed through implementation of the Act.

Following Congressional action on the Endangered Species Act Amendments of 1982, we continued our oversight of the Act with a hearing on the U.S. policy regarding the importation of products of endangered and threatened species that are raised in captivity. Because it provided an effective example of this issue, the importation of turtle products from the Cayman Islands was the focus of the October 4 hearing.

At the hearing, we heard from witnesses from the Administration, the Government of the Cayman Islands, the environmental community, and other individuals and resource specialists concerned with the issue. In general, much of the testimony suggests that the U.S. policy banning importation of products from captive-bred endangered or threatened species may be

overly restrictive. The testimony of the Cayman Island Government and the Cayman Turtle Farm is illustrative in this regard.

The Cayman Turtle Farm began operation in 1968, prior to any U.S. or international restrictions on trade in turtle products. Its representatives testified that all of the turtles that the farm acquired to develop its breeding program were captured or purchased in conformity with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Since 1978, the turtle farm has not taken turtles or eggs from the wild nor purchased them from other countries; it has maintained a self-supporting system. Several species of turtles, including those raised at the Cayman Turtle Farm, are listed on Appendix I of CITES. Although this designation would normally ban trade in species so listed, Article VII of CITES permits Appendix I species which are bred in captivity for commercial purposes to be treated as Appendix II species and allows commercial trade if there is an export permit from the country of origin.

In 1978, the green, ridley and loggerhead sea turtles were all listed as threatened by the U.S. Fish and Wildlife Service. Although an exemption for mariculture activities was considered when the regulations to list the species were proposed, it was not approved. The basis for the decision not to grant a mariculture exemption was a belief on the part of the administrators that: (1) little or no scientific benefit would be received from the research conducted with mariculture activities; (2) the mariculture activities could not be monitored adequately, resulting in law enforcement problems; (3) trade in maricultured sea turtle products would result in increased world-wide demand for sea turtles and sea turtle products; and (4) the Cayman Turtle Farm had not demonstrated a true closed-cycle system. Based on the hearing record, we believe that enough questions have been raised to warrant a re-examination of the decision not to grant an exemption for such maricultured sea turtle products.

First, with regard to the scientific benefits to be derived from the research, testimony submitted not only by the Cayman Government, but also a number of other scientists in the field of mariculture, describe the value of the Cayman operation as providing valuable data regarding turtle propagation methods. In addition, the farm is studying turtles released in Cayman waters to determine if artificially propagated turtles will reproduce in the wild. Finally, the turtles produced on the Cayman Islands have been used for a

3-

number of other projects of medical and scientific interest, including cystic fibrosis research and research into the common evolutionary origin of reptiles and birds.

With regard to the monitoring of the trade in Cayman sea turtle products, Departmental representatives testified that it is possible to develop a system to regulate their importation, transportation, and sale. They could be shipped through one port of entry and all the products marked or tagged in a manner that would distinguish them from smuggled products. Any importation or sale of products not appropriately documented could subject the person involved to substantial Endangered Species and Lacey Act penalties.

With regard to whether the importation of turtle products would stimulate the trade in illegally taken or imported products, a persuasive argument is made that farm-reared turtles will satisfy the demand for turtle products and thus relieve the pressure on wild stocks. We strongly recommend that importation, transportation, and marking requirements be vigorously enforced and that unmarked or improperly marked products identified and those involved in illegal activities prosecuted.

Finally, it is argued that the Cayman Turtle Farm does not meet the requirements for a captive-bred exemption under CITES. While we realize that this issue is a technical one about which scientists and some CITES Parties may disagree, we believe that the United Kingdom, which acts as the CITES wildlife management authority for the Cayman Islands, has made a persuasive argument in their Diplomatic Note (No. 163) which was presented to the Subcommittee for the hearing record, that the Cayman Turtle Farm meets the captive-bred requirements under CITES. Since the Cayman Turtle Farm has not taken turtles from the wild since 1978, and because we have been assured by Cayman Island officials that no further turtles need be taken from the wild for the operation of the turtle farm, we believe that allowing such an exemption would have no effect on wild stocks and therefore, would be appropriate in this instance. It is also clear to us that if another generation of turtles are not successfully bred, the turtle farm will never achieve economic viability and will render "pressure on species" arguments moot.

Any regulations to exempt the Cayman Turtle Farm from prohibitions on trade should include stringent requirements for record-keeping, marking, tagging and other documentation to minimize law enforcement and other monitoring problems. If, in the future, any turtles are taken from the wild by the Cayman Turtle Farm, the importation of their turtle products into the U.S. should be prohibited. Finally, we

believe that the regulations should provide that the cost of marking and tagging should be borne by the Cayman Turtle Farm and the importers of their products. We would hope that your department could immediately commence the development of such regulations for early publication.

We believe a revision in the regulations with regard to the Cayman Turtle Farm is particularly appropriate in light of this Administration's policies toward the nations of the Caribbean Basin. The success of this operation, which at this point is totally dependent on favorable U.S. action, would be of great benefit to a friendly, democratic nation of the basin.

Finally, based on the testimony received by the Committee, it is obvious that there is not a consensus among some of the parties to CITES relating to the definition of "captive-bred". Because of this, we urge that the U.S. Delegation to the next meeting of the parties seek a clarification of this definition to insure consistent implementation of this provision by all parties. This endeavor to clarify the CITES definition should not, however, delay the development of regulations relating to the Cayman Turtle Farm.

In short, we feel that our government should encourage the artificial propagation of endangered and threatened species whenever it can be determined that it is being done in a manner which is proper and does no harm to such species' wild populations. The Cayman operation, in our view, meets this criteria and should be allowed to import its products into the United States.

We appreciate your immediate consideration of these matters.

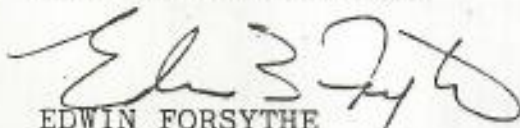
Sincerely,



JOHN B. BREAUX
Chairman
Subcommittee on Fisheries
and Wildlife Conservation
and the Environment



WALTER B. JONES
Chairman
Committee on Merchant
Marine and Fisheries



EDWIN FORSYTHE
Ranking Minority Member
Subcommittee on Fisheries
and Wildlife Conservation
and the Environment



DEPARTMENT OF STATE

Washington, D.C. 20520

SEPTEMBER 30 1982

Dear Mr. Forsythe

We have received from the Government of the United Kingdom a Diplomatic Note dated September 24, 1982, requesting modification of existing U.S. regulations to permit importation of products from the Cayman Turtle Farm, Ltd. A memorandum attached to it discusses the relationship of CITES to the Cayman Turtle Farm.

The British Embassy, which transmitted the Note, specifically asked us to forward a copy to the Subcommittee on Fisheries, Wildlife Conservation and the Environment for inclusion in the record of the hearing scheduled on this issue for next Monday, October 4. A copy of the Diplomatic Note and the memorandum is therefore enclosed.

With cordial regards,

Sincerely,

Powell A. Moore
Assistant Secretary for
Congressional Relations

Enclosures:

1. Diplomatic Note
2. Attached memorandum

The Honorable,
Edwin B. Forsythe
Subcommittee on Fisheries
and Wildlife Conservation and
the Environment,
House of Representatives.

Her Britannic Majesty's Embassy present their compliments to the United States Department of State and have the honour to refer to the forthcoming hearings in the Fisheries and Wildlife Conservation and the Environment Sub-committee of the Merchant Marine and Fisheries Committee on the captive breeding of threatened and endangered species. These hearings are of particular relevance to the current US ban on exports of turtles and turtle products from the Cayman Turtle Farm Ltd (CTF). As the Cayman Islands are a dependent territory of the United Kingdom and the operations of the Farm are of considerable economic, social and political importance to the Island, Her Majesty's Government would like to draw attention to the following points.

One of the reasons which has been put forward to justify the ban is that the operations of CTF do not comply with the definition of "captive bred" agreed by the Parties to the Convention of International Trade in Endangered Species of Wild Fauna and Flora (CITES) which regulates trade in endangered species. (Under the Convention "captive bred" stock may be traded so long as the Management Authority of the exporting country is satisfied that they meet the definition.) In the case of the CTF the designated UK Management Authority was directly responsible for making this assessment until the Cayman Islands acceded to CITES in 1978 and still retains ultimate authority. It is of the view that the operations of the CTF satisfy the requirements of CITES and, in particular, that its exports should be accorded "captive bred" status. (The technical considerations are complex. They are set out in more detail in the Memorandum associated with this Note).

The UK Management Authority's view has been accepted by all parties to CITES apart from the US. No grounds for challenging the Authority's view have ever been formally advanced by the US. Whilst HMG accepts that CITES parties have the right to adopt stricter domestic measures than those in the Convention, it is concerned that one of the main reasons put forward as justifying the US ban on CTF

.../exports

exports, that the Farm's stock are not "captive bred", challenges the competence of the UK Management Authority to determine this question. It also appears to be contrary to Article VII, 5 of the Convention which deals with acceptance of certificates issued by the Management Authority of the State of Export.

HMG would also like to draw to the attention of the Department of State the practical consequences which the US prohibition on imports or transshipment of CTF products, introduced in 1979, has had on the Cayman Islands. Before the ban two thirds of CTF's exports came to the US and most of the rest of its trade was transhipped via the US. Since the ban, CTF's operations have been scaled down to little more than research and stock conservation. As farmed turtle products have been and still are the only major export commodity in the Islands' tourist and financial services-oriented economy, the economic effect has been severe. Before 1979 the Farm was the Island's second largest employer. Now it has a work-force of only 17 people.

The import prohibition has also led to incomprehension on the Island. Not surprisingly, the Islanders have difficulty in understanding why the products of an operation internationally recognised as serving important conservationist aims should be barred from the US market. The green sea turtle occupies a special place in the Island's culture. The activities of the Farm are not only crucial to the Island's conservation strategy for restocking Cayman waters, in which there has been no wild population for decades, but a visible link with the Islanders' turtling heritage.

Nor does the prohibition seem to accord with the aims of the US Caribbean Basin Initiative (CBI) with its emphasis on the importance of access to the US market for small countries of the Caribbean region and the link between economic progress and the maintenance of security and democracy.

The Cayman Islands are strategically located 90 miles west of Cuba and adjacent to major world shipping lanes. Its people are

.../strongly

strongly committed to democratic values and determined to pursue free enterprise commercial activities. The ban on CTF imports is seen as a contradiction of the aims of the CBI and has caused hardship and avoidable friction in the friendly relations between the Cayman Islands and the US.

HMG considers that it is timely for the ban to be lifted. It is satisfied that CTF's operations are in full conformity with CITES requirements and concerned at the apparent refusal of the US to accept the view of the competent UK authorities in this matter. It also considers that the effect of the ban should be examined by the US in the context of declared US policy to assist the Caribbean region.

Her Britannic Majesty's Embassy avail themselves of this opportunity to renew to the Department of State the assurance of their highest consideration.

British Embassy
Washington DC

24 September 1982



MEMORANDUM BY THE UNITED KINGDOM

International trade in endangered species is regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) signed in 1973 and implemented in United States law by the Endangered Species Act (ESA) of the same year. Until 1977, the green sea turtle (Chelonia mydas) was listed in Appendix II of CITES and could be traded subject to the issue of the appropriate export permit. From 1977, however, Chelonia Mydas has been listed in Appendix I of the Convention. While commercial trade in Appendix I species is generally prohibited, article VII (4,5) of the Convention allows an exception for animal species "bred in captivity for commercial purposes" where a certificate from the Management Authority of the exporting country is issued. The term "bred in captivity" is not defined in CITES, although it is interpreted in a Resolution adopted by the Parties to the Convention in March 1979 in Costa Rica as: "offspring, including eggs, born, or otherwise produced in a controlled environment of parents that mated or otherwise transferred gametes in a controlled environment if reproduction is sexual..." In addition, the Resolution says that: "The parental breeding stock must be to the satisfaction of the competent government authorities of the relevant country

- i) established in a manner not detrimental to the survival of the species in the wild;
- ii) maintained without augmentation from the wild, except for the occasional addition of animals, eggs or gametes from wild populations to prevent deleterious inbreeding, with the magnitude of such addition determined by the need for new genetic material and not by other factors; and
- iii) managed in a manner designed to maintain the breeding stock indefinitely."

The third criterion was further defined as being met if the breeding stock were managed in a way which has been "demonstrated to be capable of reliably producing second-generation offspring in a controlled environment." A move to make the application of Resolutions retro-active was defeated in Costa Rica.

.../ESA

ESA did not include a mariculture exemption. In 1975, however, the Fish and Wildlife Service (FWS) and the National Marine Fishers Service (NMFS) published proposed regulations which would have created such an exemption for green sea turtles provided that they derived from closed-cycle, self-sustaining farming operations independent of wild stocks. These regulations were subsequently withdrawn and in 1978 FWS and NMFS determined that the green sea turtle was a threatened species under ESA except for the Florida and Pacific Mexico populations which were listed as endangered. No exemption for mariculture operations was allowed. Both the import into and transshipment through the United States of turtles and turtle products of the CTF has in consequence, been prevented since 1979 notwithstanding the provision in the Convention which exempts transshipments. As about two thirds of the CTF's exports had traditionally come to the US and most of the rest of its trade was transhipped via the southern United States, the consequences for the Farm have been severe.

Turtle farming began in the Cayman Islands in 1968. While initially dependent on wild stocks for the establishment of its parental breeding stock, CTF, following a recommendation of the International Union for Nature Conservation, ceased taking turtles from the wild in September 1977 and eggs in March 1978. All stocks acquired before that time were, however, legally acquired under the laws of the Cayman Islands and of the areas from which they were taken. (The Cayman Islands did not accede to CITES until September 1978 and have been bound by the Convention since that date. Local effect to the Convention was given on the Islands through the Endangered Species Protection and Propagation Law made on 12 September 1978).

CTF has been producing captive-bred offspring of turtles conceived in the wild but born and reared to sexual maturity on the farm since 1975. It is reasonably anticipated that in the near future when the turtles bred in captivity on the Farm reach sexual maturity, CTF will also be producing captive-bred offspring of turtles conceived, born and reared on the farm.

.../The

The United Kingdom has been closely involved in monitoring CTF's operations. The designated UK Management Authority under the Convention has supervised the compliance of the Cayman Islands with the Convention first as the direct authority, and, since the accession of the Islands to CITES as a UK Dependent Territory, as the Party State with ultimate responsibility. It is satisfied that CTF's operations conform with the provisions of CITES and that its exports should be accorded "captive bred" status. To its knowledge, all countries which are parties to CITES, apart from the US, accept the view of the UK Management Authority.

The US import ban involves an important point of principle which is of considerable concern to the UK. Under article VII, 4 of the Convention the decision on whether an animal species has been bred in captivity is left to the Management Authority of the State of Export whose certificate to that effect must be accepted. Whilst the UK recognises the right of parties to the Convention to adopt stricter domestic measures it is concerned by the apparent refusal of the US to accept the recognised Scientific and Management Authorities' judgement in this matter, particularly when no grounds for doing so have been formally offered.

The UK Management Authority's view is based on the principle that disposal of a turtle or its products should depend on its status under the Convention, when the turtle is hatched. Thus for stocks held in captivity before 1977 (when Chelonia Mydas was moved to Appendix I) until the interpretative resolution on "captive bred" stock was adopted in Costa Rica in 1979, Article VII, 4 of the Convention applied. In the Management Authority's view this allowed for a build up of stock hatched from legitimate wild sources in parallel with a progressive increase in captive breeding stock in conformity with IUCN criteria. CTF complied with those criteria by returning a proportion of hatchlings from wild eggs to the wild and by ceasing to take turtles or eggs from the wild in 1977 and 1978 when the criteria were altered. Thus, all stocks held before the 1979 Resolution were taken and held in conformity with CITES and

.../trade

trade in them and their products was and is permissible under the Convention

The UK Management Authority, acting on the advice of its Scientific Authority, is also satisfied that CTF's operations comply with the definition of "bred in captivity" in the Costa Rica Resolution, and, indeed, that they did so before that Resolution was adopted. No eggs or turtles have been taken from the wild since before 1979 when the Cayman Islands acceded to the Convention and since 1975 CTF has demonstrated that it is capable of reliably producing captive-bred offspring of turtles which were hatched and reared on the farm. Nor are its operations "detrimental to the survival of the species in the wild". Indeed, the reverse is true since CTF's operations have been aimed at meeting demand for turtle products in existing traditional markets and without seeking to stimulate demand in non-traditional markets. The result is to relieve pressure on wild stocks.

In addition, CTF is a very important pilot scheme for the reconciliation of the conflict between the demand by producing countries for a return from living resources if these are to be preserved and the need for the proper conservation of species for which there is strong commercial demand. As such it is in line with the principles of the world conservation strategy which underlines man's special responsibility to safeguard and wisely manage the wild life heritage.

At their meeting in New Delhi in 1981, the parties to CITES agreed to allow regulated trade in ranched populations of Appendix I species. (Ranching was defined as "the rearing in a controlled environment of specimens taken from the wild"). Proposals for the recognition of a number of ranching populations will be considered at the forthcoming meeting of the Parties in Botswana in April 1983. Since ranching involves the taking of specimens from the wild, their rearing in captivity and subsequent commercial sale, it is anomalous that CTF's closed-cycle, self-sustaining population should receive less favourable treatment. Ranching is also far less easy to monitor

.../and

and control than a farming operation particularly, as with CTF, in an area where there is no wild population.

CTF has contributed materially to scientific research on the propagation and maintenance of sea turtles both through its own research and the research it has stimulated internationally through the provision of its biological data to scientists. If, as a result of the ban on imports from CTF into the US, the Farm (whose operations are now much reduced), is closed down, the consequent loss of research and propagation effort will be contrary to the conservationist aims of the Convention, and, we assume, the ESA.

Unless ways can be found of encouraging developing countries to utilise natural resources in ways of benefit to the local people and under controlled conservation-based conditions the tragic and inevitable result will be the gradual and unnecessary extinction of those resources. The UK believes that CTF is a valuable conservationist project in its own right and that its activities are more acceptable from a conservationist point of view than others such as ranching which are gaining increasing international recognition. A lifting of the US import restriction would cause great satisfaction on the Island and further, rather than undermine, the objectives of CITES which the UK fully supports.

British Embassy
Washington DC

24 September 1982



BEFORE THE
SUBCOMMITTEE ON FISHERIES AND
WILDLIFE CONSERVATION AND THE ENVIRONMENT
OF THE
HOUSE COMMITTEES ON MERCHANT MARINE
AND FISHERIES

STATEMENT OF MICHAEL J. BEAN
ON BEHALF OF
ENVIRONMENTAL DEFENSE FUND, WORLD
WILDLIFE FUND-U.S., AND NATIONAL
AUDUBON SOCIETY
IN OPPOSITION TO
THE REOPENING OF THE UNITED STATES
MARKET TO COMMERCIAL TRADE
IN GREEN SEA TURTLE PRODUCTS

October 4, 1982

The Environmental Defense Fund, World Wildlife Fund-U.S., and the National Audubon Society submit this statement in opposition to the reopening of the United States market to commercial trade in green sea turtle products, including so-called "farmed" products from Cayman Turtle Farm, Ltd. or other similar enterprises. The basis for our opposition is that the reopening of the United States market is neither necessary nor advisable for the survival and recovery of the green sea turtle, a species that is endangered in parts of its range and threatened throughout the remainder of its range. Indeed, such action is likely to be detrimental to those purposes.

The very conclusions stated above were reached jointly by the Departments of the Interior and Commerce in 1978 on the basis of a comprehensive administrative record developed during the course of a nearly four-year long rulemaking. These conclusions were correct when made; they were correct when upheld by the United States District Court for the District of Columbia against the challenge of Cayman Turtle Farm; and they remain correct today. Indeed, the information that has become available since the promulgation of the 1978 regulations provides an even firmer foundation for them.

To its credit, this subcommittee has this year successfully defended the principle that the determination of whether a

species is threatened or endangered under the Endangered Species Act must be based solely upon an objective and scientific assessment of its conservation status. Similarly, we believe, the tailoring of regulations for threatened species must be based upon an objective and scientific assessment of the conservation needs of that species. At bottom, the arguments put forward by Cayman Turtle Farm in support of its appeal for a reopening of the United States market rest not upon any demonstrable factual basis, but rather upon a superficially attractive series of "common sense" propositions, such as that the availability of "farmed" turtle products will reduce demand for wild turtle products, that by placing young, captive-reared turtles in the ocean, wild turtle populations will be increased and benefitted, and that simple market forces will eliminate opportunities for poachers to tap the markets created and nurtured by Cayman Turtle Farm. Unfortunately, however, what is taken to be "common sense" and obvious often proves to be nonsense and fallacious, as evidenced by the once "obvious" fact that the sun moves daily across a motionless and flat earth. So too the arguments of Cayman Turtle Farm, when subjected to careful scrutiny, can be shown to be either unsupported, or directly contradicted, by available information.

1. Cayman Turtle Farm is Neither Independent of Wild Stocks Nor Self-Sustaining.

Cayman Turtle Farm has argued that because it has taken no

eggs or adult turtles from the wild since 1978, it is now independent of the wild and self-sustaining. The facts are, however, that all the turtles ever produced at Cayman Turtle Farm have been produced by turtles taken from the wild. Cayman Turtle Farm has never produced a turtle from any other source.

Unless and until Cayman Turtle Farm can demonstrate its capability to produce significant numbers of viable turtles from a source other than wild-taken turtles, it will have to go back to the wild continuously to secure additional breeding stock as its current stock expires or as the reproductive capacity of that stock diminishes. Cayman Turtle Farm itself essentially acknowledged this fact when it included in its September 20, 1978, submission to the government a September 8, 1978, letter from Dr. J.R. Hendrickson equating "self-sufficiency" with "absolute independence from all natural stocks including eggs, hatchlings, immatures, and breeding adults." Rather than being "absolutely independent" of such natural stocks, Cayman Turtle Farm is, and has always been, absolutely dependent upon them.

Cayman Turtle Farm's dependence upon wild turtles is even more dramatic than the preceding paragraph suggests. The Farm separates its breeding females into two distinct categories. Those taken from the wild as sexually mature adults the Farm calls its "Captive-Wild Stock." Those taken from the wild as

eggs it calls its "Farm-Reared Stock". In 1975, representatives of the Farm met with sea turtle scientists affiliated with the International Union for the Conservation of Nature and Natural Resources ("IUCN") in an effort to secure their endorsement of the new ownership's management plans. The central element of those plans was to have the Farm-Reared females producing all of the Farm's slaughter needs within a very few years. Indeed, the Farm representatives projected that by 1979 Farm-Reared females would produce nearly 14,000 offspring that would survive to slaughter age of three or four years. That would more than meet the Farm's then-anticipated annual slaughter requirements of 13,200 turtles. Later in 1975, the Farm representatives met again with the IUCN affiliated scientists and revised downward their earlier projections. Even the revised projections, however, called for producing nearly 12,000 slaughterable offspring from Farm-Reared females in 1980. In actual fact, however, the Farm-Reared females in 1979 produced only 218 offspring that survived even to one year of age. In 1980, only 97 of their offspring survived a full year. In 1981, the number of first year survivors produced by Farm-Reared females was no greater than 25, and in 1982 it will be no greater than 31.

A comparison of the 1975 projections and the actual results of turtle production by Farm-Reared females during the period

TABLE I

FARM-REARED STOCK PRODUCTION

Year	Eggs			Hatchlings			Survival to Slaughter (3-4 Years)			
	9/75 Projection to IUCN	Actual	9/75 Projection to IUCN	11/75 Projection to IUCN (30%)	Actual	8/75 Projection to IUCN	11/75 Projection to IUCN	8/75 Projection to IUCN	11/75 Projection to IUCN	Actual Survival to 1 Yr.
1975	600	600	300 (50%)	---	199 (33%)	144 (48%)	---	---	---	136 (68%)
1976	1,200	617	600 (50%)	360	51 (8%)	360 (60%)	216 (60%)	360 (60%)	216 (60%)	30 (5%)
1977	3,000	739	1,650 (55%)	900	24 (3%)	1,072 (65%)	585 (65%)	1,072 (65%)	585 (65%)	6 (2%)
1978	9,600	4,322	5,760 (60%)	2,880	1,115 (26%)	4,608 (80%)	2,304 (80%)	4,608 (80%)	2,304 (80%)	190 (17%)
1979	28,000	8,300	17,280 (60%)	8,640	601 (7%)	13,824 (80%)	6,912 (80%)	13,824 (80%)	6,912 (80%)	218 (36%)
1980	48,000	9,336	28,800 (60%)	14,400	372 (4%)	23,040 (80%)	11,520 (80%)	23,040 (80%)	11,520 (80%)	97 (26%)
1981	N.A.	8,725	N.A.	N.A.	26 (.3%)	N.A.	N.A.	N.A.	N.A.	3* (10%)
1982	N.A.	10,185	N.A.	N.A.	31 (.3%) (est.)	N.A.	N.A.	N.A.	N.A.	-

*Based on a 10% survivorship for hatchlings produced by both farm-reared and captive-wild females. Actual survivorship may have been as low as zero or as high as 26.

1975-82 is presented in Table 1. It shows vividly that the Farm has never even approached the level of production from Farm-Reared females that it forecast in 1975. Thus, the Farm remains overwhelmingly dependent upon turtles taken from the wild as sexually mature adults for its production. As of a year ago, there were only 185 of these in the Farm's breeding stock, down from 220 three years earlier. Moreover, the fertility of eggs laid by these wild caught adults has declined steadily and precipitously from 60% in 1977, to 50% in 1978, to 31% in 1979, to 26% in 1980, and to 20% in 1981. As the remaining wild-caught breeders die or suffer further diminishment of their reproductive capacity, the Farm will be forced to choose, unless it can solve the problem of insignificant production from Farm-Reared females, between going out of business or going back to the wild for more turtles. Thus, the Farm's own production data fails to demonstrate any capacity to continue on a self-sustaining basis.

2. There is No Demonstrable Basis for Cayman Turtle Farm's Claim that Trade in its Products Will Displace Existing Demand for Wild Turtle Products.

Cayman Turtle Farm's most seductive conservation claim is that trade in its turtle products will displace an existing consumer demand now being met by wild turtle products. Buyers will actually prefer the Farm's products, it has argued,

because those products are superior in quality to wild products and because the Farm can offer a sure and continuous source of supply.

Despite the superficial appeal of the Farm's argument, none of the premises upon which it is based can be demonstrated to be true and neither can the conclusion. First, as an example of the alleged superiority of its products, the Farm has consistently argued that consumers will prefer the taste of farmed turtle meat because it lacks the "gamey" flavor of wild meat. Apart from the Farm's own self-serving statements in this regard, all of the evidence on this point accumulated during the course of the 1974-78 rulemaking is contrary to the Farm's contentions. Indeed, at the 1976 hearing conducted by the National Marine Fisheries Service, a turtle meat importer testified that the best meat comes from turtles far larger than those the Farm could economically raise. His testimony was as follows:

Turtles must weigh 200 or 300 pounds to be practical and the cost is prohibitive. Material from the approximately 80 pound turtle is lacking in flavor. It is like the difference between meat from a 1,000 pound fat steer and the bob veal calf.

The conclusion that those accustomed to the taste of wild turtle are unlikely to switch to the farmed product is reinforced by the fact that, despite the Farm's nearly two

decades of existence, Caymanian residents still engage in an active turtle fishery that includes the taking of turtles in Nicaraguan waters. Exhibit 1 attached hereto is an affidavit from Dr. Archie Carr III describing his 1981 conversation with the official representative of the Nicaraguan government to the 1981 meeting of the CITES parties. Dr. Carr's affidavit states that the Nicaraguan delegate said:

that Nicaraguan fishermen have reported that boats from the Cayman Islands, equipped with large numbers of turtle nets, have been observed catching turtles in Nicaraguan waters. She also said that the Caymanians have approached the Nicaraguan fishermen in an effort to purchase turtles caught by the latter, but when the Nicaraguans refused, the Caymanians took their turtles by force. In at least one case, she said, the Nicaraguan fishermen reported that the Caymanian boats were being assisted by a helicopter which was being used to spot Nicaraguan fishing boats and to direct the Caymanian "pirates" to them.

Dr. Carr's affidavit also contains information describing the September 27, 1981, capture by Nicaraguan patrol boats of a Caymanian vessel with 22 turtles aboard. It should be emphasized that the least damaging inference one can draw from this information is that the Caymanians prefer wild to farmed turtles. The Nicaraguans infer from the scale of the activity that its purpose is to supply commercial markets.

From the foregoing it is reasonable to conclude that trade in "farmed" turtle meat is more likely to create new turtle fanciers than to supply those with an established taste for the

wild product. Wild turtle has, after all, been both a traditional food for coastal peoples and a gourmet delicacy for others since long before Cayman Turtle Farm set about to "improve" its taste.

What then of the Farm's other argument, that buyers will prefer to buy from the Farm, because it can guarantee long-term supply contracts, rather than from others whose supply may be only seasonal or otherwise irregular?

The unfortunate truth is that the Farm has not demonstrated the capability to guarantee a steady supply of its products. Wide fluctuations in hatch rate (60% in 1977; 20% in 1981) and in first year mortality (45% in 1979 and 1980; 90% in 1978 and 1981) have guaranteed only unpredictability in the Farm's output. For example, in 1980, the 44,000 eggs laid on the Farm produced over 5,000 surviving yearlings. In the very next year, 34,000 eggs produced only 500 surviving yearlings. If the Farm enters into long-term supply contracts with wholesalers who in turn negotiate similar contracts with retailers, from where will the turtles called for by those contracts come when the Farm's production falls short of its projections? The incentive to make up the shortfall with wild caught turtles is obvious and applies equally to every supplier in the chain of distribution.

Rather than displace an existing consumer demand, there is evidence that the marketing of "farmed" products is likely to

stimulate added demand, as many turtle scientists and conservationists have long contended. At the time of the 1978 rulemaking there was some limited empirical information to support this contention and none to support the Farm's contrary view. Since then, new information gives greater force to the 1978 conclusion. For example, statistics from the government of Japan indicate that in the eight year period after Cayman Turtle Farm began marketing its shell products in Japan, the total Japanese shell market increased by more than 16,000 kilograms annually compared to the similar period immediately preceding the Farm's entry into the market. The Farm's average annual contribution to the Japanese market, however, was less than 4,000 kilograms, less than a fourth of the amount by which the total market increased. Similarly, average annual imports of turtle products into the United States during the period 1973-77, when Cayman Turtle Farm was active in that market, were more than 350,000 pounds greater than during the period 1966-72, prior to the Farm's activity in the U.S. market. The Farm's average annual contribution to the U.S. market in the later period was just over 100,000 pounds, again about a quarter of the total increase in the size of the market. While these figures do not prove that the marketing of the Farm's products stimulated additional demand for turtles in Japan and the United States, they are at least clearly inconsistent with

the Farm's oft-repeated contention that the effect of trade in their products is simply to displace existing demand for wild products.

3. The Opening of the United States Market to Turtle Products from Cayman Turtle Farm or Other Similar Enterprises Will Vastly Increase Law Enforcement Difficulties.

At the present time, because no sea turtle products may be lawfully imported or sold in the United States, law enforcement agents have an opportunity to intercept illegal activities at the U.S. border and at every subsequent point in the chain of distribution. Indeed, because the ban is total, any can of soup on a grocery shelf, any item of shell jewelry in a boutique, and any other turtle product in commerce is illegal and can be readily seized by law enforcement agents. Despite that opportunity, an illegal trade in sea turtle products continues. Some of the participants are caught; how many are not is unknown.

Once trade is permitted for some individuals, the task of law enforcement becomes vastly more difficult. The presumption that any can of soup on the grocer's shelf or shell bracelet in a boutique is illegal can no longer be indulged. The law enforcement agent must now prove that the product, did not come from a legal source. He may also have to prove that the labelling of the product, if any, or the documentation

accompanying it, is fraudulent.

The Farm has long argued that increased enforcement difficulties can be mitigated by placing a U.S. inspector at the Farm itself, by limiting permissible ports of entry, and by imposing strict documentation and labelling requirements. These measures are unlikely to prevent significant illegal trade. A Farm-based inspector will be of little avail in countering the efforts of countless others who might seek to tap the markets supplied by the Farm. Illegal turtle products can enter the United States at any point on our coasts and borders. Moreover, labelling requirements will not prevent the expansion of an existing trade in sea turtle products claimed to be Central American river turtles or other unprotected species. There is, for example, a growing trade in fresh water snapping turtles from Louisiana, Mississippi, and other southern states to supply products for turtle soup that is now often sold in place of sea turtle soup. Illegally imported or landed sea turtles can be traded as any of these other species and thus escape the labelling requirements.

In short, it would be foolish to underestimate the resourcefulness of the would-be poacher or smuggler. It is also important to emphasize the fundamental difference between the nature of the incentives that operate upon a would-be turtle poacher and those that operate upon a would-be alligator

poacher. Under the regulations currently applicable to alligators, a would-be poacher has available a legal alternative that offers him some promise of remuneration. The opportunity to participate in the legal harvest of alligators and subsequently market the hides of the lawfully taken alligators serves as a disincentive to engage in illegal poaching. If the monopoly privilege sought by Cayman Turtle Farm is granted, however, a would-be poacher of sea turtles has no similar disincentive. Lacking the enormous financial resources necessary to start his own mariculture enterprise, and observing the active turtle market served and stimulated by Cayman Turtle Farm, poaching remains the only avenue available to him to share in that market.

4. There is No Demonstrable Basis for Concluding that Cayman Turtle Farm's Release of Young Captive-Reared Turtles into the Ocean Benefits Wild Turtle Populations.

The Cayman Turtle Farm has long included as part of its operation the periodic release of young, captive-reared turtles in waters off the Cayman Islands and elsewhere. In part, this activity has been used to generate revenue for the Farm by charging tourists a few dollars for the privilege of personally releasing a young turtle. However, the principal claim made by the Farm for its release program is that these releases will "restock" the wild and thus benefit wild turtle populations.

Whether the Farm's releases will have any impact on wild turtle populations -- either beneficial or detrimental -- cannot be ascertained as yet. Principally, that is because it is as yet unknown whether the released turtles will become a functional reproductive part of the wild population. If they do not, but instead merely live out the rest of their lives effectively as sexual neuters, then no benefit will have resulted from these releases. Even if they do reproduce, some scientists have expressed concern about the consequence of releasing genetically mixed stock into areas now inhabited by turtles of a recognizably distinctive genetic stock.

The point of the foregoing is not to assert that the Farm's release program will not contribute to the conservation of turtles in the wild. Rather, it is merely to point out that the "common sense" view that such releases must necessarily benefit wild populations may be utterly wrong.

5. Recent Data Supplied by the Farm Indicates that the Farm Previously Misrepresented the Number of Turtle Eggs It Has Taken from the Wild.

In a number of respects, data recently supplied by the Farm to the federal government about the activities of the Farm from its beginning through 1978 is at odds with data previously supplied by the Farm to the government. Most significant, perhaps, is the disparity concerning the number of eggs taken

from the wild by the Farm in 1976 and 1978. In prior submissions to the Interior and Commerce Departments -- and, indeed, in submissions to the United States District Court in 1979 -- the Farm represented that it had taken 25,5000 and 16,000 eggs, respectively, from the wild in those two years. In a submission to the federal government earlier this year, however, the Farm now acknowledges that it took 42,830 and 28,173 eggs, respectively, in those two years. These and other lesser disparities between recent and prior data compound the difficulty of making a trustworthy appraisal of the Farm's activities.

Conclusion

In every significant respect, the information newly available since the dosing of the U.S. market to "farmed" sea turtle products confirms the appropriateness of that decision. To reverse the well considered decision of 1978 in the face of such information would represent a gross dereliction of duty.

EXHIBIT I

State of New York : County of Bronx) ss.:

AFFIDAVIT OF DR. ARCHIE
CARR, III

I, Archie Carr, III, being duly sworn, hereby depose and state:

1. I am the Assistant Director of Conservation of the Animal Research and Conservation Center of the New York Zoological Society, which has its offices at 185th Street and Southern Boulevard, Bronx, New York 10460.

2. In February and March, 1981, I represented the New York Zoological Society as a non-governmental observer at the third meeting of the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES") in New Delhi, India.

3. At the aforesaid CITES meeting, the government of Nicaragua, a party nation, was represented by Silvia Estrado^A Osorio from the Nicaraguan Institute of Natural Resources and the Environment.

4. On March 5, 1981, during the eighth plenary session of the aforesaid meeting, the delegate from Nicaragua expressed the view that a pending resolution to encourage ranching might provide a front for illegal wildlife traffic and charged that there was illegal traffic of sea turtles captured in Nicaragua to Grand Cayman Island. The Nicaraguan delegate's remarks are summarized in the official "Summary Report of the Plenary Session (Plen. 3.8)".

5. During the first break in the plenary session following the aforesaid remarks of the Nicaraguan delegate, I approached her and asked her for more details concerning her allegations. Our conversation was in Spanish, a language in which I am fluent. She said that Nicaraguan fishermen have reported that boats from the Cayman Islands, equipped with large numbers of turtle nets, have been observed catching

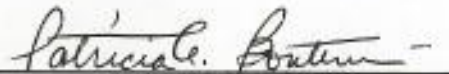
turtles in Nicaraguan waters. She also said that the Caymanians have approached the Nicaraguan fishermen in an effort to purchase turtles caught by the latter, but when the Nicaraguans refused, the Caymanians took their turtles by force. In at least one case, she said, the Nicaraguan fishermen reported that the Caymanian boats were being assisted by a helicopter which was being used to spot Nicaraguan fishing boats and to direct the Caymanian "pirates" to them. She expressed the opinion that although Caymanian fishermen have apparently caught some turtles in Nicaraguan waters for many years, the substantial scale of the current poaching indicated that its purpose was to supply a major commercial enterprise.

6. Recently I received a copy of a letter dated January 19, 1982, from Ms. Estrada to Dr. Jens Priewe of Germany. In the letter, a copy of which is attached hereto, she reports that her agency continues to receive complaints from Nicaraguan fisherman about Caymanians attempting to purchase or catch turtles in Nicaraguan waters. To corroborate those reports, she cites as an example the capture by Nicaraguan patrol boats on September 27, 1981, of the Caymanian boat "Vulcan" with twenty-two turtles aboard.



Archie Carr III

Subscribed and sworn to before me this 22 day of September, 1982.



Notary Public

PATRICIA A. BONTINEN
NOTARY PUBLIC, State of New York
No. 24-0351950
Qualified in Kings County
Certificate filed in Bronx County
Commission Expires March 30, 1983



GOBIERNO DE RECONSTRUCCION NACIONAL

INSTITUTO NICARAGUENSE DE RECURSOS NATURALES Y DEL AMBIENTE

Managua, 19 de Enero 1982

Dr. Jens Priewe
Postfach 701529
Albert - Rohhaupter - Str. 73
D - 8000 München 70

Estimado Señor:

Lamento no poder brindarle mayores detalles sobre el tráfico ilegal de tortugas marinas existentes entre Nicaragua y la Isla del Gran Caimán, en vista de que el control de ese recurso pasó a ser manejado por otra Institución del Estado que en este caso es el Instituto Nicaragüense de la Pesca (INPESCA). Por otro lado, en ningún momento hice referencia de que las tortugas eran transportadas directamente al establecimiento de crías en el Gran Caimán (Plen 3.8 CITES); pero sí expresé dudas de que podría dar lugar a tráfico ilícito ya que siempre nos hemos preguntado que: Si en el Gran Caimán son autosuficientes para exportar carne de tortuga de dicho establecimiento ¿Cómo se explica que aún se continúe el tráfico ilegal de tortugas por Barcos Caimaneros?.

Hemos estado recibiendo continuamente denuncias por habitantes de las Comunidades costeras del Atlántico Norte en el sentido de que barcos procedentes del Gran Caimán llegan a la Zona de los Cayos Miskitos a comprarles tortugas a pescadores artesanales Nicaragüenses y aún más se dedican a pescar en dicha zona. Claro está que esto ocurre principalmente debido a que en la actualidad estamos escasos de patrulleros guarda costas para efectuar vigilancia; pero si puedo afirmar que el 27 de septiembre de 1981 lograron capturar un barco que al parecer estaba iniciando operaciones. (Ver detalle):

Procedencia:	Gran Caimán.
Nombre del Barco:	Vulcán.
Matrícula:	BITRUM del Gran Caimán
Capitán:	Dooster Ebanks
Nº de tortugas a bordo:	22



GOBIERNO DE RECONSTRUCCION NACIONAL

INSTITUTO NICARAGUENSE DE RECURSOS NATURALES Y DEL AMBIENTE

-2-

Por ahora existe una propuesta de anteproyecto para desarrollar un Parque Marino que cubriría la zona de los Cayos Miskitos el cual está siendo analizado. Nosotros creemos que el desarrollo de este Parque vendría a solucionar el problema en cuestión debido a que se tendría una mayor vigilancia.

Fraternalmente,

Sylvia Estrada Osorio
Sylvia Estrada Osorio
Responsable Sección
Regulación y Control
Depto. Fauna - IRENA

cc: Archivo

SEO/ark.





ENVIRONMENTAL DEFENSE FUND

MEMORANDUM

TO: Sea Turtle Scientists Interested in Cayman Turtle Farm
FROM: Michael J. Bean *Michael J. Bean*
RE: Cayman Turtle Farm
DATE: January 17, 1983

Attached is a recent notice from the U.S. Fish and Wildlife Service and the National Marine Fisheries Service concerning Cayman Turtle Farm and related sea turtle matters. The notice was published in the Federal Register on January 3, 1983, and comments in response to it are due February 2, 1983.

Not revealed in the attached notice is the actual strategy of the two Services. That strategy is to persuade the CITES parties (with the close cooperation of the United Kingdom) to adopt a resolution redefining the term "bred in captivity" at the Botswana CITES meeting in April. The definition previously adopted by the CITES parties in 1979 requires the production of second generation captive offspring. The failure of Cayman Turtle Farm to meet that requirement is the major legal barrier that prevents the United States from reopening its market to Cayman Turtle Farm products. Once that barrier is removed, however, the Services are likely to move quickly. Assuming success in Botswana, they will publish a notice of proposed rulemaking to amend the current sea turtle regulations under the Endangered Species Act. After reviewing public comments in response to that notice, the Services will issue a final rulemaking reopening the U.S. market to Cayman Turtle Farm products (and to the products of any turtle "ranches" that may be sanctioned by the CITES parties, such as those in Surinam and Reunion).

Those of you inclined to submit written comments in response to this proposal are encouraged to do so. More important, however, would be your assistance in supporting the

current CITES definition of "bred in captivity" against U.S. efforts to weaken it. Your help can take the form of letters or other communications to persons who will attend the next CITES meeting as representatives of other governments. One such letter I recently wrote is enclosed as a model. Also enclosed for additional background is a copy of the testimony I recently gave before Congressman Breaux on this subject.

Thanks for your help.



ENVIRONMENTAL DEFENSE FUND

January 5, 1983

Mr. Peter Schei
Rugstien 15
2006 Lovenstad
NORWAY

Dear Peter:

It is not often that I have occasion to write you an "official" letter. However, this time, in addition to the usual good wishes and warm recollections, I have some important CITES information to convey.

Though it does not appear on the provisional agenda circulated by the Secretariat, there is a very strong likelihood that the United States and Great Britain will seek to have the parties in Botswana relax the definition of "bred in captivity" previously adopted in San Jose (1979). The meaning of "bred in captivity" is important because, under Article VII, paragraph 4 of CITES, specimens of an Appendix I animal species that have been bred in captivity are to be treated as though they were specimens of an Appendix II species. Thus, they may be traded for commercial purposes, unlike any other Appendix I specimens.

As you will recall, in San Jose in 1979 the parties adopted a resolution defining the term "bred in captivity" (Conf. 2.12, attached hereto). The purpose of the definition was to insure uniformity among parties in their implementation of CITES and to prevent the bred in captivity exemption from becoming a loophole for trade in specimens not truly independent of wild stocks. The key to preventing the exemption from becoming such a loophole was the San Jose definition's requirement that "the parental breeding stock must be ... managed in a manner designed to maintain the breeding stock indefinitely," a requirement that could be met only if the parental breeding stock "is managed in a manner which has been demonstrated to be capable of reliably producing second generation offspring in a controlled environment."

The requirement that a breeding technique be shown to be reliably capable of producing at least two generations in captivity before permitting commercial trade in an Appendix I species makes very good sense. Unless a second captive generation can be produced, parents taken from the wild will be the only source of reproduction. If their offspring are unable to reproduce effectively, then the wild-taken parents must be replaced by new animals taken from the wild in order to assure continued reproduction. Thus, a breeding program unable to produce a second generation in captivity will remain forever dependent upon the wild population if it is to stay in business.

Despite the sound scientific basis for the San Jose definition, the United Kingdom wants to change it because Cayman Turtle Farm, an enterprise in its former colony, the Cayman Islands, has been unable to produce a second generation of green sea turtles in captivity. The only turtles which have produced viable offspring at Cayman Turtle Farm are turtles which were originally taken from the wild, either as sexually mature adults or as eggs. Indeed, the experience of Cayman Turtle Farm suggests a marked adverse impact of captivity on reproductive success of green sea turtles. Graph 3, attached hereto, illustrates this well. The first bar shows the hatch and one-year survival rates of eggs taken from the wild by the Farm. The hatch rate for such eggs is just under 70%; the survival rate is just over 37%. The next bar shows the hatch and one-year survival rates for eggs laid on the Farm by turtles taken from the wild as breeding age adults (i.e., turtles which have spent at least a portion of their adult lives in captivity). For these eggs, the foregoing rates decline to 38% and 12%, respectively. The third bar shows the hatch and one-year survival rates for eggs produced on the Farm by parent turtles, at least one of which was originally hatched on the Farm from a wild-taken egg (i.e., turtles which have spent all of their adult lives in captivity). For these eggs, the hatch rate drops again to 26% and the survival rate falls to 2.6%. The final bar shows the hatch and one-year survival rates of eggs laid by turtles that have spent their entire lives -- from the initial egg laying to adulthood -- on the Farm. Thus far, none of these has produced any true, second-generation offspring.

The poor results of turtle farming stand in stark contrast to the results obtained for farming of other reptiles. Graph 4 shows comparable statistics for American alligators. In this graph, the third bar represents true, second-generation offspring. Thus, for alligators at least, the adverse effects of captivity on reproductive success are not nearly as dramatic

as they appear to be at Cayman Turtle Farm. (Graphs 3 and 4 were prepared by Dr. Peter Escherich of the Center for Environmental Education. He was formerly on the staff of the United States Endangered Species Scientific Authority.)

So long as the CITES definition of bred in captivity requires reliable production of second-generation offspring, Cayman Turtle Farm products may not be lawfully traded. Notwithstanding that, however, the United Kingdom permits importation of the Farm's products and the government of the Cayman Islands issues bred in captivity certificates for them. To open up other markets for the Farm (principally that of the United States) the United Kingdom now wants the CITES parties to reconsider the San Jose resolution and to eliminate the second-generation requirement so as to allow trade in Cayman Turtle Farm products. The United States, which in 1978 banned the importation of all green sea turtle products, is now cooperating with the British in this effort because the Reagan Administration views the CITES definition of bred in captivity as an impediment to free enterprise.

Recently, the United States formally requested Great Britain, as chairman of the Technical Expert Committee, to consider placing this matter on the Botswana agenda. Great Britain and the United States are likely soon to develop jointly a resolution to achieve their aims. I and other non-governmental organization observers intend to defend the San Jose resolution as a proper and scientifically second definition of bred in captivity. I hope you will consider this matter carefully and come to the same conclusion.

On a more personal note, please let me know what you are thinking about doing before or after Botswana. My plans are not set yet, although it now appears that Sandy will stay home. I have a friend who supervises a new national park in Sierra Leone, and I am thinking about visiting him after the meeting. The park is newly established as Sierra Leone's first national park and it is very primitive. The wildlife is abundant. How does that sound to you?

With warm affection,



Michael J. Bean

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

SECOND MEETING OF THE CONFERENCE OF THE PARTIES

San José (Costa Rica), 19 to 30 March 1979

RESOLUTION OF THE CONFERENCE OF THE PARTIES

Specimens Bred in Captivity or Artificially Propagated

CONSIDERING that the Convention provides for special treatment of wildlife that are bred in captivity and plant specimens that are artificially propagated;

RECOGNIZING the need for the Parties to agree on a standard interpretation of these provisions;

RECOGNIZING also the need to apply these provisions in a way that will not be detrimental to the survival of wild populations;

RECALLING that in the case of wildlife these provisions were intended to apply only to captive populations sustained without augmentation from the wild;

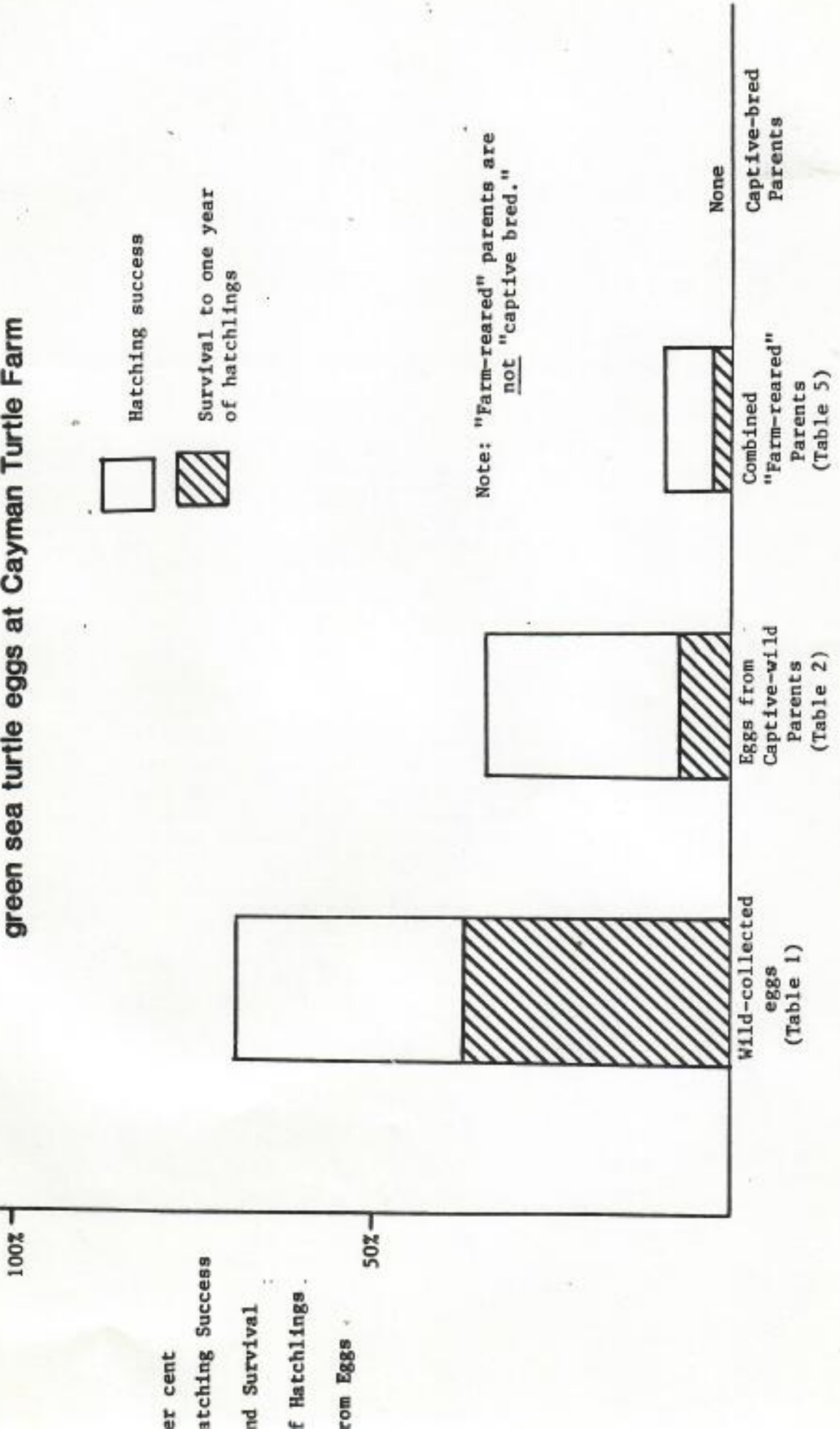
THE CONFERENCE OF THE PARTIES TO THE CONVENTION

RECOMMENDS

- a) that the provisions of Article VII, paragraph 4, of the Convention be applied separately from those of Article VII, paragraph 5. Specimens of animal species in Appendix I bred in captivity for commercial purposes or plant species in Appendix I artificially propagated for commercial purposes shall be treated as if they were in Appendix II, and shall not be exempted from the provisions of Article IV by the granting of certificates to the effect that they were bred in captivity or artificially propagated;
- b) that the term "bred in captivity" be interpreted to refer only to offspring, including eggs, born or otherwise produced in a controlled environment, either of parents that mated or otherwise transferred gametes in a controlled environment, if reproduction is sexual, or of parents that were in a controlled environment when development of the offspring began, if reproduction is asexual. The parental breeding stock must be to the satisfaction of the competent government authorities of the relevant country:
 - i) established in a manner not detrimental to the survival of the species in the wild;

* This document was prepared after the meeting from document Con. 2.5 adopted after being amended. (Note from the Secretariat).

GRAPH 3. Hatching success and survival to one year of green sea turtle eggs at Cayman Turtle Farm



ii) Maintained without augmentation from the wild, except for the occasional addition of animals, eggs or gametes from wild populations to prevent deleterious inbreeding, with the magnitude of such addition determined by the need for new genetic material and not by other factors, and

iii) managed in a manner designed to maintain the breeding stock indefinitely.

A controlled environment for animals is an environment that is intensively manipulated by man for the purpose of producing the species in question, and that has boundaries designed to prevent animals, eggs or gametes of the selected species from entering or leaving the controlled environment. General characteristics of a controlled environment may include but are not limited to artificial housing, waste removal, health care, protection from predators, and artificially supplied food. A parental breeding stock shall be considered to be "managed in a manner designed to maintain the breeding stock indefinitely" only if it is managed in a manner which has been demonstrated to be capable of reliably producing second-generation offspring in a controlled environment;

c) that the term "artificially propagated" be interpreted to refer only to plants grown by man from seeds, cuttings, callus tissue, spores or other propagules under controlled conditions. The artificially propagated stock must be:

i) established and maintained in a manner not detrimental to the survival of the species in the wild, and

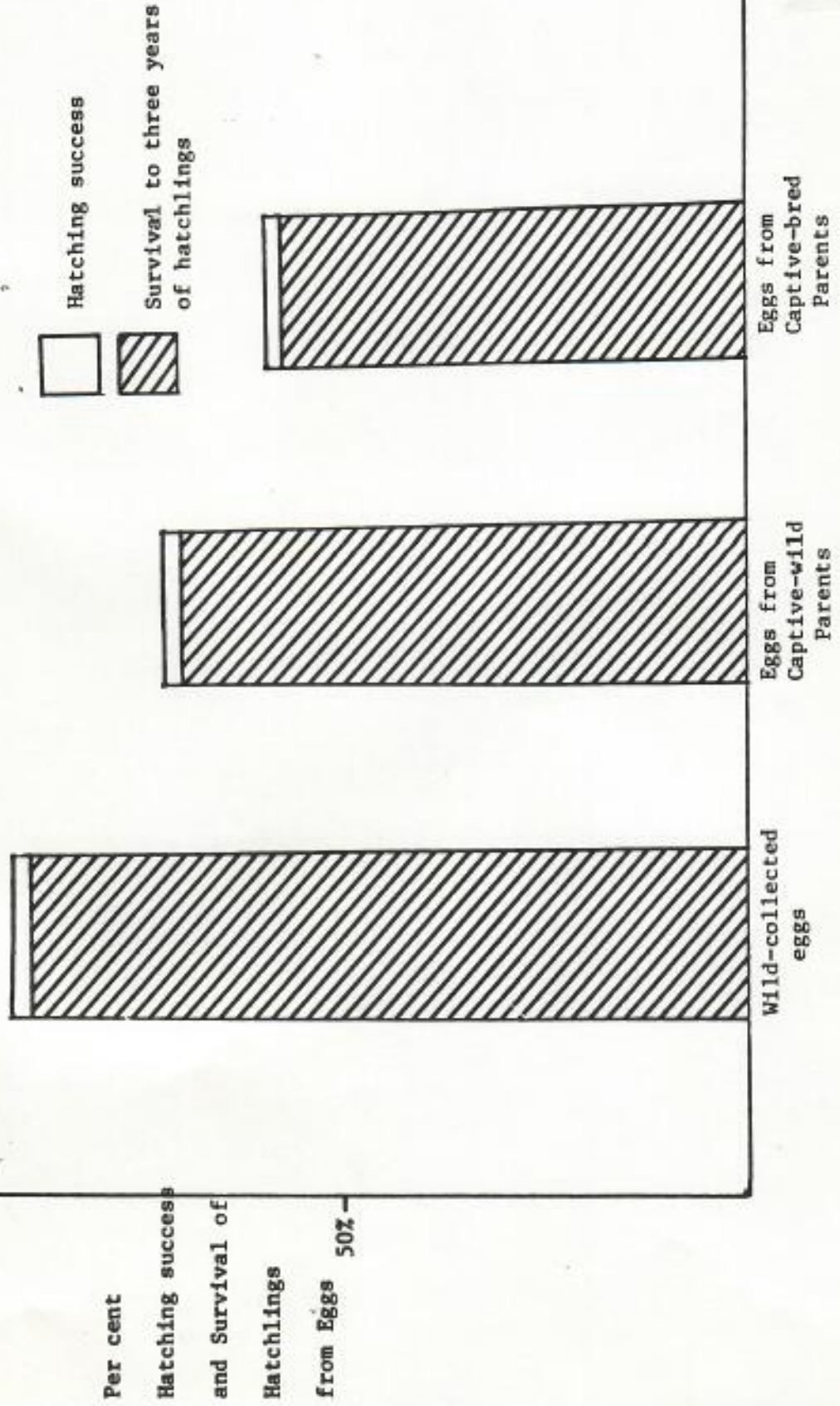
ii) managed in a manner designed to maintain the artificially propagated stock indefinitely.

Controlled conditions for plants is under an environment that is intensively manipulated by man for the purpose of producing selected species. General characteristics of controlled conditions may include but are not limited to tillage, fertilization, weed control, irrigation, or nursery operations such as potting, bedding, or protection from weather; and

d) that the competent government authorities of countries exporting live animals, parts and derivatives of specimens bred in captivity of species listed in Appendix I endeavour, where possible, to ensure that these be made identifiable by means other than documentation alone.

GRAPH 4. Hatching success and survival to three years of

American alligator eggs at Rockefeller Refuge, Louisiana



TROPIC SEAS FOODS
Division of Tropic Seas Enterprises
677 Ahua Street
Honolulu, Hawaii 96819
Tel. (808) 833-2228

Customer information regarding farmed Turtle Products;

The incredible taste of turtle expertly prepared by your chef makes an excellent meal! In addition to its superb taste, Turtle is extremely high in protein, yet lower in calories than beef and fowl, plus there is virtually no cholesterol.

Turtle is one of the most highly demanded of the delicacy sea foods. Our Turtle comes from the Cayman Islands in the Caribbean Sea where it is Farm fed, Farm raised, and Farm prepared. As you may know, the Green Sea Turtle was nearing the endangered species list. Now, through the efforts of the Cayman Farm, the species is finally on an upswing. After maturity, a certain percentage of Turtles are returned to the sea. This percentage is far greater than those that could have lived in the wild. More important, the Green Sea Turtle of Hawaii has been benefiting by the Farm as well. Now that there is a continuous quality supply of Turtle products, from the Farm, and a strict licensing program by the State Department of Fish and Game, poaching has nearly been eliminated.

Any further questions regarding Turtle products sold in Hawaii, please feel free to call me.

Enjoy your meal

Mahalo,

(signed) Lee Mench

Transcribed from display sheet at
Fisherman's Wharf Restaurant
Honolulu, Hawaii

by G. H. Balazs
April 1978



February 25, 1976

copy
Mr. Sidney R. Galler,
Deputy Assistant Secretary
for Environmental Affairs
Department of Commerce
Washington, D.C. 20230,
U.S.A.

Dear Mr. Galler,

In reply to your request for comments on the impact statement concerning marine turtles, as this admirable summary of viewpoints and facts makes clear, it is indeed a complicated issue. In deciding what should be done perhaps one has to stick to the main facts and thread through the rest. As I see it the main points are these:

If we look at the two largest green turtle rookeries in the Caribbean, in Tortuguero (Costa Rica) and in Surinam, we can see steep declines. Your report documents this for the Tortuguero colony (p 43-44), but you do not seem to have the latest figures for Surinam (enclosed here) which show a drastic drop in 1975. The tables also document the decline in the Pacific ridley down to a few hundred in Surinam (and the increase in leatherbacks which is attributed only to beach erosion in French Guiana).

We also know that once a turtle colony has been wiped out it is certainly very difficult, though not yet proven impossible, to reestablish nesting. This is the sad outcome of Dr. Carr's many years of intensive efforts to reseed former beaches.

In these circumstances surely the maximum protection possible should be given. Endangered status would be more appropriate than threatened. It is also noted in your report (p 44) that many turtles from Costa Rica are exported to the United States. It would be shameful if the United States, having already drastically damaged their own marine turtle population (Lund's letter in the report), were not to be responsible through its consumption for decimating, and perhaps wiping out, populations in other parts of the world.

Now on the controversial mariculture issue, the impact statement gives all sorts of arguments on both sides, and I don't think anyone is in a position to assess the critical one of whether a viable mariculture is going to saturate markets or stimulate them (p 27, 28). One thing is certain. Mariculture have thousands (some 76,000, or perhaps 100,000 turtles according to p 25 of the report) in their keeping already. With so many turtles already available to them, surely there is no real case for any further exceptions to be made; even a two years period is unnecessary. It seems unjustified to take any more eggs from the wild (which otherwise, whether they are the so-called doomed eggs or not, could be transplanted and contribute toward rebuilding populations) when they have already have some 76,000 turtles with which to establish a breeding herd.

Mr. Sidney R. Galler

-2-

February 25, 1976

In view of the latest alarming figures from Surinam coinciding with the drop in Tortuguero this is hardly the time to make exceptions for a firm that already has had many years to establish itself, and already has such huge numbers of turtles in its keeping. I hope your department can act quickly to promote effective legislation rather than half-measures.

Yours sincerely,

NM/cl

N. Mrosovsky
Professor of Zoology.

soning may explain why females hatched on Bigisanti beach (that moves westward with a speed of 1.7 km/year) come to nest on G Galibi beach!

Allowance should be made for a third possibility: the unexplained fluctuation in annual numbers of nests as happens on turtle islands off the Sarawak coast, where they speak of 'good' and 'bad' seasons (Harrison, 1951, 1952; Hendrickson, 1958). Banks (1937) was of the opinion that possibly a correlation existed between the intensity of the monsoon and the number of nesting turtles in the next season. Changes in nesting cycles might also contribute to increases and decreases in nesting numbers. Although such shifts from one reproductive cycle to another have been demonstrated for the green turtles nesting in Surinam (see Table 6), I doubt whether they are responsible for the steady increase in nesting. There is no explanation for the sudden drop in the number of nests laid in 1975.

It is hoped that our limited budget will allow continued counting during the coming years to make it possible to follow future annual changes in the numbers of nests in Surinam.

For *Lepidochelys* the situation on the Galibi beaches is far less satisfactory. The figures in Table 17B demonstrate the alarming drop in the number of nests since 1968, both on Baboensanti and on Eilanti beach, where

TABLE XVII

Numbers of nests laid on Surinam beaches, 1967-1975.

(1): Estimated numbers were based, in 1967, on countings on 6½ km of beach (virtually the whole nesting area); in 1968, the large number of nests that were laid W of the counting stretch was estimated from samples; the numbers for 1969-73 include the few nests laid W of Krofajaposi (estimated from samples); figures between brackets were estimated by extrapolation for months when counting was not carried out.

(2): Eilanti to Dap-eland inclusive, but exclusive of the few nests laid to the W of Eilanti (see Map 3).

(3): 1968-1969: counting done only on the two Tijerbank beaches (Pruijnsboon + Baboensanti); from 1970 onward counting done also at Galibi and, in 1972-73, on the whole stretch including the beach sections between Pruijnsboon and Galibi and between Baboensanti and Dap (see Map 3).

(4): Estimated numbers include those based on extrapolation for beach sections where no counting took place (see 3).

(5): (1) + (2) + (4); plus estimated numbers of the few nests laid W of Eilanti and on the beaches W of Matajica.

(6): The counting sections were the same as those for the green turtle; see (1) and (2).

(7): It is known that ridleys only came ashore sporadically at the Tijerbank beaches in 1967, so that for that year the estimated total is virtually the same as the number counted at Bigisanti + Eilanti.

(8): Virtually all leatherback nests laid in Surinam could be counted; on the Galibi beaches less than 5 nests were laid per year during the 1964-67 seasons.

Table XVII

	A. <i>Chelonia mydas</i>											
	FEB	MAR	APR	MAY	JUN	JUL	AUG	TOTAL				
Bigisanti	1967 (60)	(200)	320	310	110	20	5	1025				
	1968 (60)	(200)	225	170	75	18	2	750				
	1969 60	210	270	160	60	12	8	780				
	1970 70	175	270	230	75	19	1	849				
	1971 60	235	300	235	90	25	5	950				
	1972 65	255	315	275	135	40	5	1080				
	1973 77	165	365	287	119	18	2	1033				
	1974 78	271	379	551	200	59	10	1438				
	1975 24	136	221	222	105	52	12	772				
Eilanti	1967 (20)	(100)	270	310	135	25	1	861				
	1968 (20)	(110)	250	290	105	5	0	780				
	1969 (30)	90	130	140	25	5	0	420				
	1970 30	90	170	150	30	2	0	472				
	1971 55	185	240	210	85	15	0	790				
	1972 35	160	210	235	75	15	0	730				
	1973 43	176	274	255	56	4	0	802				
	1974 27	157	197	178	56	4	0	619				
	1975 2	43	30	7	16	12	1	105				
Galibi	1968 "	"	453	922	702	253	0	-				
	1969 91	441	229	122	46	1	0	930				
	1970 117	471	619	427	103	17	0	1754				
	1971 311	863	873	737	257	26	0	3117				
	1972 250	1172	1396	1228	408	69	0	4583				
	1973 243	1143	1376	1023	300	45	0	4335				
	1974 352	1227	1593	1447	514	82	10	5245				
	1975 20	650	810	679	202	54	8	2463				
Pruijnsboon	1968 125	360	609	1000	800	378	0	3450				
	1969 100	550	390	175	73	10	0	1290				
	1970 120	475	625	450	110	20	0	1800				
	1971 390	1175	1375	875	525	75	0	4015				
	1972 315	1350	1570	1400	445	70	0	5150				
	1973 275	1120	1390	1450	310	45	5	4625				
	1974 360	1235	1610	1480	520	83	10	5300				
	1975 90	715	875	695	220	65	15	2675				
Baboensanti	1968 215	630	1075	1675	985	398	1	5000				
	1969 175	835	775	475	175	27	13	2495				
	1970 220	740	1065	830	213	44	1	3115				
	1971 305	1595	2715	1320	500	115	5	5755				
	1972 415	1655	2310	1520	655	125	5	6885				
	1973 409	1515	2050	2065	490	70	38	6660				
	1974 501	1600	2215	2100	795	175	25	7465				
	1975 127	910	1300	990	150	135	20	3610				

Table XVII (continued)

B. Lepidochelone olivacea

Year	B. Lepidochelone olivacea												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
1964	-	-	-	15	15	43	29	8	95				
1967	-	2	15	38	22	3	80						
1968	0	3	13	28	26	5	75						
1969	1	4	30	56	15	7	113						
1970	3	11	27	38	8	2	89						
1971	0	2	22	66	25	3	118						
1972	2	3	14	43	22	5	89						
1973	1	4	35	52	29	2	143						
1974	3	3	53	143	81	1	284						
1975	1	2	33	80	85	35	236						
1967	-	5	141	1384	922	3	2455						
1968	0	6	194	940	1438	0	2598						
1969	0	4	185	690	195	0	1074						
1970	0	5	522	511	198	0	1266						
1971	0	1	198	530	510	10	1249						
1972	0	2	93	621	330	5	1051						
1973	0	2	127	416	345	0	690						
1974	0	2	207	297	130	2	636						
1975	0	0	29	229	53	220	531						
1968	0	0	78	186	201	0	465						
1969	0	3	30	305	75	0	413						
1970	0	2	126	168	61	0	357						
1971	0	2	65	68	66	0	201						
1972	2	0	24	38	23	0	87						
1973	1	4	31	8	4	0	48						
1974	0	1	43	45	30	0	119						
1975	0	1	26	66	68	40	201						
1967	0	10	175	1650	1025	15	2875						
1968	0	15	300	1200	1700	75	3290						
1969	1	14	260	1080	300	10	1665						
1970	3	22	685	760	276	2	1750						
1971	0	5	290	675	610	15	1595						
1972	5	5	140	725	365	10	1270						
1973	2	10	215	480	180	3	890						
1974	3	6	315	500	250	6	1080						
1975	1	3	90	415	240	330	1070						

Table XVII (continued)

C. Dermochelone olivacea

Year	C. Dermochelone olivacea											
	Jan/Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
1964	1	1	4	28	25	7	3	67				
1967	1	1	9	20	13	17	0	59				
1968	1	1	40	71	10	21	0	142				
1969	0	6	47	95	83	35	3	269				
1970	0	8	47	79	56	26	4	230				
1971	0	4	48	82	64	32	1	231				
1972	6	9	82	114	88	27	10	336				
1973	5	14	149	210	166	58	5	607				
1974	4	33	144	222	155	51	5	624				
1975	3	35	189	343	256	110	12	948				
1968	0	0	0	5	30	10	5	95				
1969	0	0	4	4	1	0	0	9				
1970	1	1	4	5	2	0	0	13				
1971	0	0	9	14	16	4	0	43				
1972	0	2	8	19	8	2	0	39				
1973	2	4	48	103	93	24	0	274				
1974	0	4	17	52	50	19	0	142				
1975	0	7	59	273	199	77	21	635				
1964	0	5	10	35	30	10	5	95				
1967	0	5	15	25	20	25	0	90				
1968	0	10	45	85	25	30	5	200				
1969	0	10	35	105	90	40	5	305				
1970	1	10	55	90	45	30	4	235				
1971	0	5	60	100	80	39	1	285				
1972	10	15	90	125	100	30	10	380				
1973	10	20	205	320	255	75	5	900				
1974	5	40	165	280	220	70	5	785				
1975	5	45	235	425	465	195	35	1825				
1967	1	1	0	3	2	4	1	10				
1968	1	0	1	1	0	2	1	4				
1969	0	0	1	1	2	4	2	10				
1970	0	1	1	1	0	0	0	3				
1971	0	2	3	0	2	7	0	14				
1972	2	0	1	2	4	1	2	12				
1973	0	1	1	2	2	1	0	7				
1974	0	0	6	5	6	8	4	29				
1975	0	0	1	3	2	5	3	14				
1970	0	0	0	1	0	2	2	1				
1975	0	0	1	0	2	2	1	6				

D. Dermochelone olivacea

this common sense, based on the scalding embarrassment that Fleet Street still feels about ignoring the love affair between Edward VIII and Wallis Simpson, which resulted in the King's abdication. The *Star's* Arthur Edwards says that "never again" will the British press keep silent as they did in 1936. When Wallis Simpson waited for her divorce in Ipswich, the American papers ran the story. Fleet Street wasn't running it because the press barons had made a gentlemen's agreement with the King. "That was in fact censorship," says Edwards. But he also admits: "This is not a personal war against the palace press office. It is a question of what makes money. It's about circulation of papers. It's business."

Yes, indeed. At week's end business had taken Mauro Carraro and much of the rest of Fleet Street's merry band to Mayport, Fla. Why had they crowded into this unlikely outpost? It seemed that Prince Andrew's ship, the aircraft carrier *Invincible*, was tying up at the naval station there so that the crew could rest up a bit, maybe get a look at U.S. military procedure. Tell us another, the press was thinking. Was it coincidence that Saturday would be his 23rd birthday, and that—aha!—Koo's mother had a house in Venice, across the state? Hadn't Koo been spotted in New York City a few days before? Andrew fenced warily at a two-minute press conference the day before. No, he didn't have plans for the weekend, "and I wouldn't tell all of you if I did." And, no, he wouldn't buy the reporter drinks on his birthday.

Like most of the press capering, this was part of a strange, wistful, almost innocent quest for glimpses of beings about whose private selves, despite all of the lenses that have been trained on them, very little is known. Andrew and his royal relatives are well-subsidized, and perhaps should not complain about occasional aggro. Snatched photos and nonsensical stories do very little serious harm. Until, of course, they cross some unmarked line of intrusiveness and cruelty. It is not unreasonable to worry about the pressure of incessant press coverage on Diana, whose lack of the lifelong experience with public exposure that a born and bred royal would have made her a special case. It is not foolish to point out that the monarchy would be damaged if Diana were hurt. "Yes, but what is she really like?" is a question that should not take precedence over all humane considerations of privacy. How to protect royal privacy is not at all certain. What is clear is that to Britons, the palace is no house of cards. Their Queen of Diamonds, Jack of Diamonds, and future King and Queen of Hearts are as solidly in place in public affection as were their forebears of a century ago, when Fleet Street minded its manners a little better. —By John Skow. Reported by Bonnie Angelo and Mary Cronin/London with other bureaus



At the National Stadium, thousands of Jamaicans snap to attention for the Queen

The Royal Road Show Begins

In high style, H.R.H. pays a visit to the New World

The children's lilting voices rose in unison: "Dis long time gal me nevah see yah." Gilbert and Sullivan it was not, and the Gal the children were seeing and serenading was no ordinary dame but Elizabeth the Second, by the Grace of God of the United Kingdom of Great Britain and Northern Ireland and of Her Other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith. At the crowded National Stadium in Kingston, Jamaica, a children's chorus a thousand strong was singing a Jamaican folk song that the Queen had requested. The occasion was a gala celebration of Jamaica's 21st birthday and of the arrival of the Queen on the first leg of her month-long royal gallivant.

The most traveled monarch in history (she has logged and sometimes slogged more than 750,000 miles since her coronation in 1953) is making her most extensive tour ever in the Northern Hemisphere. She is also taking up President Reagan's offer to come-on-over-and-see-us-some-time. It will be her first foray to the brave new world of California, where for weeks the glitterati have been jockeying for gilded invitations. Yes, she is pleased to get out of dreary, drizzly London and into the sunshine, but the royal purpose remains the same: to strengthen ties among friends and show her subjects that the Crown is not merely an abstract symbol, but a kind, imperturbable and tireless Gal whose role is to serve rather than rule.

First stop: Jamaica. Al-

though this commonwealth nation is flirting with the idea of becoming a republic, the Queen showed that monarchy is still magical to its citizens. In the square of Montego Bay, the Cage, a historic brick structure that once held slaves, was covered with cheering Jamaicans, some twirling dazzlingly bright umbrellas for protection from the midday sun. Her days were spent, as they always are on these royal progresses, in walking about, smiling, shaking hands (Elizabeth offers only a demure three fingers) and murmuring pleasantries to all. As Queen of Jamaica, she also addressed Parliament. The speech, composed by Foreign Office gnomes, was hardly great oratory, but it was met with an awkward silence only because the assembled Members thought it might be bad form to applaud.

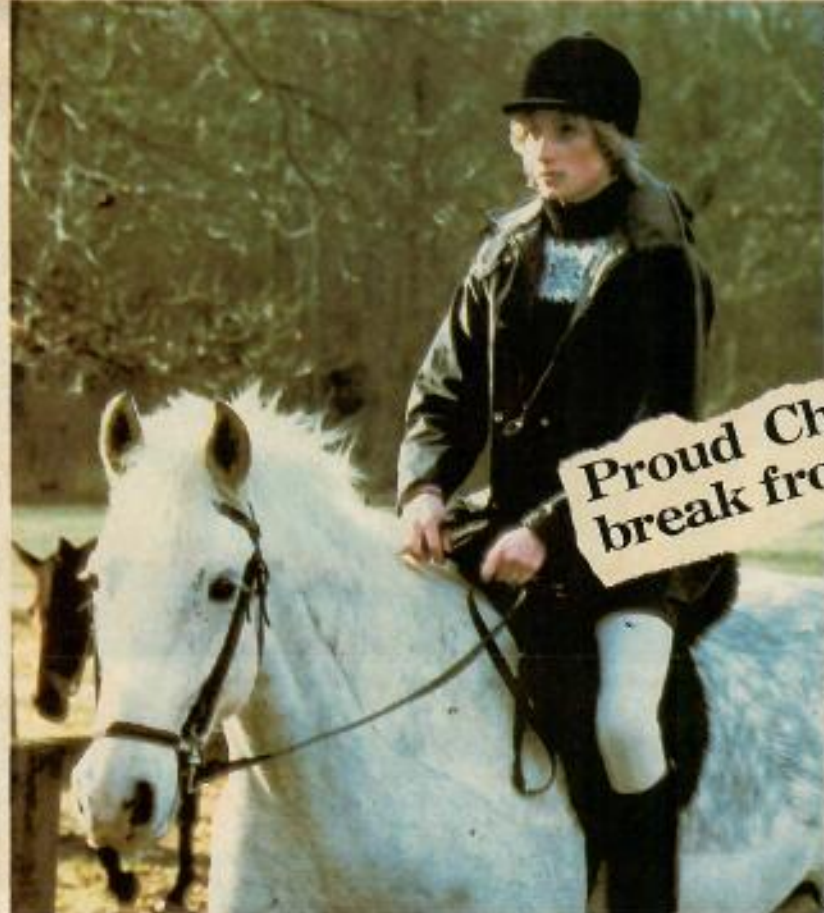
No slip-ups at the next stop, the Cayman Islands, the self-styled "world's No. 1 tax haven," with some 420 banks. Nearly a third of the island's 17,000 inhabitants, who pride themselves on their links to

Mother England, came out to wave Union Jacks at the royal couple. But the Duke of Edinburgh, whose pet cause is the World Wild Life Fund, stole the show. On the windswept coast, he looked in on the world's first farm to breed the rare green turtle. Sporting a black tie festooned with tiny pandas, he left no doubt where he stood. "I'm on the side of the turtle," he said with a smile.

The Anglophiles who lined the route of the Queen's motorcade after she arrived in Mexico did



Clicking away in Jamaica



Proud Charles has break from nappies



Sandringham; Prince Charles carries young Prince William in a basket; cameramen on the stalk at Balmoral

is called its "tits-and-bums" page, in giddy proximity to the precariously cantilevered breasts and shyly undraped buttocks of naked models.

"I can reveal that . . . Andrew would dearly love to settle down with Koo, 26, and raise a family," wrote Harry Arnold in the *Sun*. This was for public consumption; privately, Arthur Edwards, the veteran *Sun* photographer, said, "We can't have Princess Koo as an example to the nation's youth."

In any case, the lady was proving royally elusive. Photographer Steve Wood, who had spotted Koo and Randy Andy, as the press took to calling the Prince, on their flight to Mustique last fall, never got a shot of the pair. He tried from a chartered yacht, tried heroically while water-skiing behind a motorboat, and tried in jungle stakeouts, where, he admitted dolefully, "the police always found me." Some two dozen other journalists in expensively chartered watercraft also flopped.

Back in London this winter, things have not been much better. Fast-moving Freelance Photographer Mauro Carraro, 23, who quit hunting crime shots 18 months ago to concentrate on the much more profitable ambushing of royals, finally got a picture of Andrew that was good enough for the *Mirror's* front page. Carraro hustles hard for his art and the \$25,000 or so a year it brings him. During one brief period this winter he broke off the chase for Koo at the Queen's retreat at Sandringham and flew to Switzerland,

where Koo was rumored to be skiing. Then it was back to London, and off on a fast rumble to Sandringham again, in the sort of automotive projectile that is essential for royal-chasing, a Golf GTI that Carraro says will go more than 100 m.p.h. Diana was supposed to be there taking riding lessons (family tradition suggests that a Windsor Queen should be able to ride, but the Princess, who fell from a horse when she was small, has no love for the sport). Carraro's information was accurate. After dodging hordes of amateur cameramen and the police, and being scared silly by the Queen's pack of search dogs as he hid with two other cameramen in bushes near the Sandringham riding fields, he clicked off \$1,500 worth of shots of Diana, the Queen and Charles on horseback. "Charles saw us, and he was fuming," Carraro recalled happily. "We ran like hell. There are a lot of fast moves in this business."

The \$1,500 smudge paid expenses and kept Carraro in motion. After a day at home he flew back to Switzerland to stalk Charles and Diana on their ski trip. But for Carraro and several dozen other English Continental photographers, the assignment paid off only in vast Alps of aggro (British slang for aggravation). The Princess of Wales by now had reached her choking point. She refused to play her role as royal photo model. After a week of confusion and rancor, the London tabs had little to

show for their efforts except a few murmurs from Prince Charles ("Please darling, please darling"), some shots made immediately after he said, "Now I'm going to blow my nose for everyone to photograph," and huffily written stories of scary auto chases and photographers being roughed up by bodyguards.

The hunters and, presumably, the hunted went home in sour moods, in time to read *News of the World* headlines about Diana's supposed onrushing emotional breakdown. The story quoted University of Washington Psychiatrist Dr. Thomas Holmes as saying that Diana had an 80% chance of becoming ill. On his Holmes-Rahe scale, which rates such stressful occurrences as marriage (50), trouble with in-laws (29) and change of financial state (38), Diana scored "an alarming 417." This put her in peril, the doctor was quoted as saying, of ailments ranging from "a prolonged cold to an obsessive-compulsive disorder such as the need to see your shoes precisely arranged."

It was, perhaps, time to reflect on a comment by Lacey, one of the calmest and most benign of the journalists who write about the monarchy: "One must not reveal too much of the mystery because the royals have faults, dishonesties, nastinesses like anyone else. A lot of us happen to think that the illusions and idealization which surround this family is quite a healthy thing. Everyone needs vehicles for their social dreams."

The tabloids have a ready rebuttal to

History of Cayman Turtle Farm

- 1964: Graham Ebanks set up ranch in Governor's Creek, North Sound, Grand Cayman Island.
- 1968: British and United States investors establish Mariculture Ltd.
 Import: 15,000 eggs from Costa Rica (no hatch data).
- 1969: Import: 15,000 eggs from Ascension, hatch 10,393; 15,000 eggs from Costa Rica (no hatch data); 17 adult turtles from Costa Rica.
 Release: 250 10-month turtles in Costa Rica.
- 1970: Import: 14,946 eggs from Ascension, hatch 12,355; 25,000 eggs from Suriname (no hatch data); 15,000 eggs from Costa Rica, hatch 10,000; 7 adults from Suriname; 14 adults from Guyana; 31 adults from Nicaragua.
 Release: 100 10-month turtles in Costa Rica; 56 10-month turtles in Ascension.
- 1971: Import: 30,000 eggs from Suriname, hatch 14,346; 3 adults from Suriname.
- 1972: Import: 16,746 eggs from Ascension, hatch 11,805; 29,582 eggs from Suriname, hatch 14,235; 14,928 eggs from Costa Rica, hatch 11,260; 2 adults from Ascension.
 Release: 52 10-month turtles in Ascension; 250 22-month turtles in Suriname; 300 10-month turtles in Suriname; 100 22-month turtles in Costa Rica; 755 24-month turtles in Grand Cayman.
- 1973: Import: 19,105 eggs from Ascension, hatch 14,818; 63,404 eggs from Suriname, hatch 49,342; 14,803 eggs from Costa Rica, hatch 11,864; 2 adults from Suriname; 1 adult from Nicaragua; 18 adults from Costa Rica.
 Release: 100 10-month turtles in Ascension; 29 24-month turtles in Grand Cayman.
 Produce: 11,385 eggs from wild turtles, hatch 4,905 (first known nestings in captivity, producing first generation in controlled environment).
- 1974: Dr. James R. Wood joins company as Research Manager.
 Import: 19,814 eggs from Ascension, hatch 15,866; 60,650 eggs from Suriname, hatch 44,936;
 Produce: 9,636 eggs from wild turtles, hatch 4,374.

- 1975: Mariculture Ltd. goes into receivership because of financial problems. Built in tidal inlet that did not adequately flush out turtle wastes.
- CITES enters into force on July 1 with green turtle on Appendix II. Farm began to operate under plan submitted to IUCN, which would make it closed-cycle by 1980. U.S. Fish and Wildlife Service and National Marine Fisheries Service issued joint proposed regulation listing green sea turtle as Threatened species.
- Import: No eggs or adults from wild this year.
- Produce: 16,827 eggs from wild turtles, hatch 3,348; 600 eggs from turtle(s) raised from wild eggs, hatch 199 (first instance of laying by captive-raised turtle).
- Release: 150 10-month turtles in Costa Rica.
- 1976: Farm purchased by Mittags. Government of Cayman Islands also bought into it. Moved to series of land-based concrete and glass fiber tanks.
- United Kingdom and some of its dependencies become party to CITES (excluding Cayman Islands).
- Public hearings on Draft EIS and proposed rule held in Washington, D.C. USFWS and NMFS issued proposed regulation listing green sea turtle as Threatened (S/A).
- Import: 42,830 eggs from Suriname, hatch 26,158; 25 adults from Mexico.
- Release: 150 24-month turtles in Suriname.
- Produce: 14,569 eggs from wild turtles, hatch 5,230; 617 eggs from turtles raised from wild eggs, hatch 51.
- 1977: Import: 21,000 eggs from Suriname, hatch 12,762; 92 adults from Mexico (last group of adults to be imported).
- Release: 150 12-month and 30 36-month turtles in Suriname.
- Produce: 32,569 eggs from wild turtles, hatch 19,541; 739 eggs from turtles raised from wild eggs, hatch 24.
- 1978: USFWS and NMFS issued final regulations listing green sea turtles as Threatened in all areas except Florida and Mexican Pacific coasts, where it was listed as Endangered, no mariculture exemption.

District Court (Judge Pratt) heard arguments for temporary restraining order; agencies voluntarily agreed to stay of enforcement pending reconsideration.

USFWS and NMFS issued Decision Memorandum on December 5, denying farm's request.

Current population in August is approximately 63,000 turtles (Wood, affidavit).

Import: 28,173 eggs from Suriname (last group of eggs to be imported), hatch 21,368.

Produce: 29,671 eggs from wild turtles, hatch 14,719; 2,707 eggs from turtles raised from wild eggs, hatch 737; 1,615 eggs from wild turtles x wild eggs, hatch 422.

1979: CITES Parties adopt definition of captive breeding and transfer green sea turtle (except Australian population) to Appendix I.

District Court (Judge Pratt) issued decision upholding regulations that prohibit mariculture imports under U.S. Endangered Species Act.

U.S. market closed (2/3 of the farm's market per Wall Street Journal).

Farm reduced breeding stock from 1,100 to 500 when U.S. import ban was imposed (Wood, pers. comm.). Total of 50,888 turtles at farm, average 37 pounds each, on June 1.

Produce: 37,944 eggs from 61 wild turtles, hatch 11,798; 7,048 eggs from turtles raised from wild eggs, hatch 406; 1,414 eggs from wild turtles x wild eggs, hatch 195. A total of 27 farm-reared females laid the latter two groups of eggs (Wood, letter to Barber).

1980: Produce: 34,740 eggs from wild turtles, hatch 9,202; 6,935 eggs from turtles raised from wild eggs, hatch 131; 1,918 eggs from wild turtles x wild eggs, hatch 241.

Release: 1,244 16-month turtles in Cayman Island (October 1980-February 1981).

Stuck with 300,000 pounds of excess turtle meat (Wall Street Journal).

1981: Cayman Islands included under United Kingdom as a party to CITES.

Produce: 24,900 eggs from wild turtles, hatch 4,981; 8,323 eggs from turtles raised from wild eggs, hatch 25; 605 eggs from wild turtles x wild eggs, hatch 0.

Release: 1,625 10-month turtles and 79 2-month turtles in Cayman Islands.

Holding 8,600 turtles at farm (Wall, Street Journal, July 16).

1982: Pacific Legal Foundation and Center for Rational Environmental Alternatives petition for change in regulations to allow mariculture imports (January 22).

Farm submits data to OSA; Dr. Wood meets with OSA and NMFS to discuss data (June 2 and 4). Breeding stock of 483 adult turtles at the farm (March 15).

We lack information on the output of the farm on a yearly basis. However, we do have data on the number of turtles slaughtered in each year-class. Turtles usually are processed at 3 to 5-1/2 years of age. Age at slaughter varies with feeding regime and market (leather market demands larger turtles). Since 1979, the farm has slaughtered around 1,500 3-1/2 year-old turtles per year at average weight of 52 pounds (Woods, per. comm.). A 52-pound turtle should yield roughly 27 pounds of meat, 6 pounds of fat (rendered into oil for cosmetics), 1 pound of leather, and an 8-pound shell.

Data from Dr. Wood show that 111,975 turtles produced on the farm have been slaughtered over the past 10-11 years, including 101,106 turtles raised from wild eggs and 10,869 turtles raised from eggs laid at the farm. Using the yield figures given above, total output would be: 3,023,325 pounds of meat (1,512 tons); 671,850 pounds of fat; 111,975 pounds of leather, and 895,800 pounds of shell.

Dr. Wood provided some data on actual yield to the United Kingdom's. CITES Management Authority on March 15, 1982: between June 1979 and March 1981, 47,270 turtles were slaughtered, totalling 2.3 million pounds live weight (average 49 pounds each) and 450,000 pounds of processed meat. Wood stated that they would require 3,000 hatchlings per year to be able to meet a goal of 1,500 for slaughter at age 3-1/2 years, which would yield 79,500 pounds live weight (53 pounds per turtle).

Turtle farm saved by \$4m. takeover

GOVERNMENT TO TAKE 50,000 SHARES

AT LONG LAST the troubles of Mariculture, Grand Cayman's pioneering project in "farming" the turtle, seem to have reached a happy conclusion.

It was announced on Tuesday, March 9, by Robert Moyle of Price Waterhouse and Co., receiver and manager of Mariculture, that a German-British consortium—Cayman Turtle Farm Ltd. had bought the turtle farm as a going concern for C\$2,162,000.

Cayman Turtle Farm Ltd. intend to put \$2 million into the farm, and the secured creditors, Commonwealth Development Finance Company Ltd., the First National City Bank, and Guinness Mahon Cayman Trust Ltd., are to lend back the money they receive from the sale to the new company.

In all, Cayman Turtle Farm Ltd. should have credit of approximately \$4.3 million to set it on its way.

Cayman Turtle Farm Ltd. is owned 75 per cent by the Mittag family of Dusseldorf, Germany, headed by Dr. Heinz Mittag, and 25 per cent by the Commonwealth Development Finance Company Ltd., represented by the company's Regional Director, Roger Webster.

Although things look happy for the farm, things do not look so bright for the unsecured creditors or shareholders. They will get nothing.

It is understood that there was about \$176,000 in unsecured credit together with a further \$100,000 in miscellaneous items, fees and the like, which might or might not have been due. As far as shareholders are concerned it is understood that about C\$3,350,000 was paid for shares in Mariculture, all of which is lost. At one time the 52 shares were changing hands at over \$10.

"With hindsight, it is possible to see now that the company was allowed to

progress for far too long", Mr. Moyle said in an interview. "They should have had a receiver in or a reorganisation 12 months before I was called in".

He suggested that if at that time the situation had been explained to shareholders and they had been approached for further funding something might have been done. "A lot of old shareholders who found out there was a deal going, asked to come back in", he said.

Mr. Moyle said that when he was appointed Receiver some ten months ago there was much speculation about the farm's chances of survival. An analysis of the company's financial position revealed liabilities of over C\$2.7 million. Bearing in mind the impact the farm's closing would have on the economy of the Cayman Islands, they took the decision to save the farm.

His belief in the farm's viability had been strengthened by the support of C.D.F.C. and F.N.C.B., who had loaned a further \$550,000 to keep the farm going until it would be sold.

"However, four months ago we reached a decision to terminate the company's operations, slaughter the remaining stocks of turtles and close the farm. We had almost totally exhausted the resources when, out of the blue the Financial Secretary, Mr. Vassel Johnson, brought Dr. Mittag to us."

'TWELFTH HOUR'

Mr. Moyle said that Dr. Mittag's intervention "at the twelfth hour" had resulted in the receivership ending positively, and not as most did, in liquidation.

Mr. Moyle was full of praise for the assistance he had from Government: for Warren Conolly, Ex-Coroner who had flown to Washington, D.C., to plead the case of the turtle farm in the Congressional hearings on a law

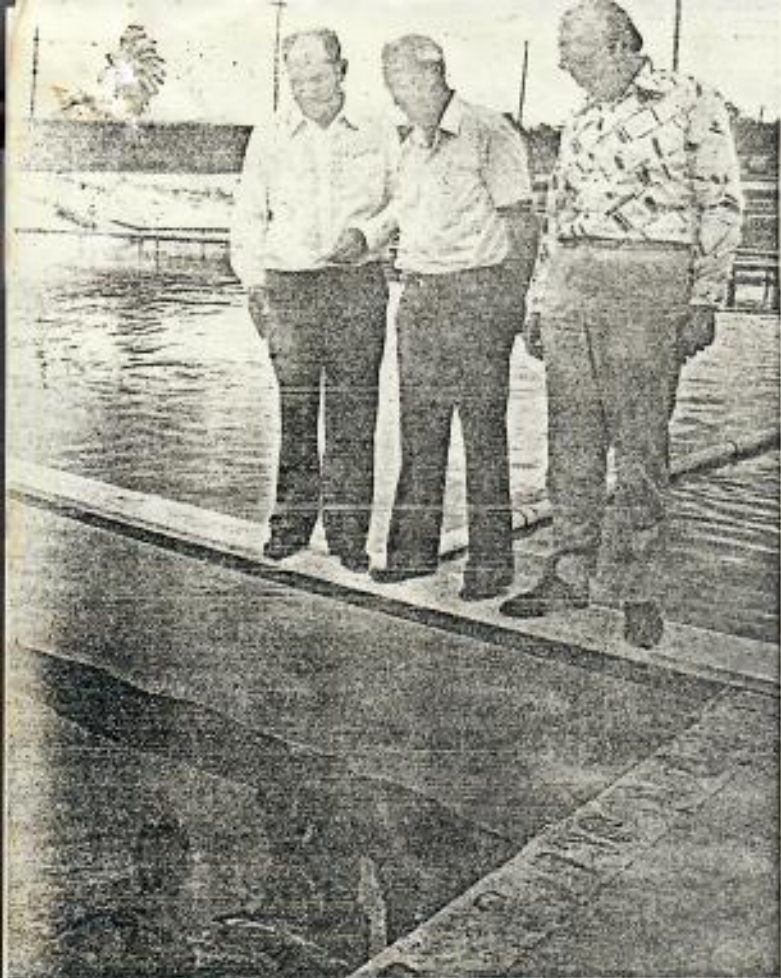
THE Governor called the Mariculture takeover "a significant sign of faith in the Cayman Islands" when he referred to it in his speech opening the new session of the Legislature.

Later the takeover agreement came formally before the House when Financial Secretary Vassel Johnson proposed that Government take up a \$50,000 stake in the new company, acquiring this amount of shares in lieu of stamp and other duties on the transfer documents.

In his tabled resolution, Mr. Johnson recalled that because of its 18 months of difficulties Mariculture had had to cut its staff by half and said it would have gone into liquidation had it not been for the strong emphasis put on the value of its operation to the economy, both as an industry and as an amenity to tourism.

The new owners, the resolution said, has insisted that to achieve successful operation there were hurdles to be cleared in the field of marketing, such as the better identity of the promoters and the acceptability by conservationists of the farmed product in certain countries which had rules on threatened and endangered species. It was thought that Government's participation in the new company would greatly influence the clearing of those hurdles.

Mr. Johnson submitted that the benefits to the Cayman economy, especially in employment, were substantial. The present financial position of the business was such that the cost of Government duty on the transaction would impose additional strain. Because of this and because Government participation would give greater impetus to the business, Government had been asked to take an equity interest by the purchase of 50,000 shares of \$1, to be off-set by the tax and duties on the transfer transactions.



One of the residents at Cayman Turtle Farm comes up to take a look at the new owners Dr. Heinz Mittag, [chairman], Dr. William Johnson [chief executive], and Roger J. Webster [vice-chairman].

family's partner in the venture. He applauded C.D.F.C. for their past efforts to support the farm.

In the new company, Cayman Turtle Farm Ltd., Dr. Mittag is the chairman, Mr. Webster, deputy chairman and Dr. William Johnson, chief executive.

Other members of the board are Dr. Med. Judith Mittag. (Dr. Mittag's wife) and Marshall Langer, Miami attorney well-known in Cayman. Company secretary is Dr. Wilhelm Esser, a Dusseldorf attorney, with Cayman attorney W.S. Walker as assistant secretary.

It is early days yet for the new company to have firmed up future plans, but Dr. Johnson in an interview told *The Nor'wester* that they would be investigating the possibility of producing feed stuff for the turtles on the island.

He pointed out that they had been spending about \$750,000 a year on feed, with an additional \$250,000 for transporting it. He stressed, however, that producing the turtle feed was a complex process, requiring complex equipment, and would therefore require considerable investigation.

He also said that they hoped to get the turtle-shell jewellery side of the business going again in a big way. "We are not just a meat-producing operation", he said.

**C M
&
S
LTD.**

DISPOSABLE TABLE WARE

Paper and Plastic plates, cups and glasses.

PAPER

Napkins, Tissues, Towels and Wipes

CANDIES

Launamans in ten assorted flavours.

CHEMICALS

Dishwash, Polishes, Detergents and Disinfectants.

**You need it —
we supply it . . .**

GARBAGE

Plastic containers, 'Hefty' brand

MOPS

Brooms etc.

TOYS

Complete range of 'Matchbox' Toys

GROCERY TRADE

Paper bags.

**Commodity Marketing & Supply Ltd
North Sound Road, Grand Cayman
Telephone 92850**

banning turtle product imports, for the Governor's interest, for Mr. Johnson's introduction of Dr. Mittag, and for the continuing assistance they had from the Government's Agricultural Director, Dr. Joe Jackman.

In a statement issued on Tuesday, March 9, Dr. Mittag, chairman of the new company, announced that he and his family together with C.D.F.C. intended to develop turtle farming in Grand Cayman into a successful industry based on the concept that the world's food supplies would ultimately have to be supplemented from the food resources of the sea. Such an industry would provide dollar earnings for the country as well as jobs for its inhabitants, he said.

VAST KNOWLEDGE

The research and development activities of the scientists working at the Goat Rock farm during the past five years had yielded vast reservoirs of data, knowledge and information about this fascinating species, to the point that the problems of successfully farming turtles could be solved, said Dr. Mittag.

Possibly some years might be needed to confirm all the findings to support his beliefs, he thought, but at this time he was convinced that the basic concept of farming sea creatures for future food supplies was sound.

"When we arrived in Grand Cayman a few months ago", Dr. Mittag recalled, "we were seeking opportunities for investments in areas which would enable us to use our resources for the benefit of as many people as possible. All our lives we have been in the business of providing consumer goods to women and children all over the world, mostly in the personal hygiene field. We believe this is the only way we can achieve satisfaction from our endeavours.

"When we communicated our aims to the Financial Secretary Mr. Vassel Johnson, he told us about the turtle farm, and after a few months considering all the implications we came to the conclusion that this investment met all our criteria.

MARKETING

"We are also confident that our experience and expertise in the marketing of consumer products internationally will stand us in good stead in this new venture, and wherever we sell our products in the world in the future, we shall generate goodwill for the Cayman Islands", said Dr. Mittag.

He said that he was very happy to have C.D.F.C., represented by its Regional Director, Mr. Webster, as his



Robert Moyle, Receiver for Mariculture, signs one of the documents selling the turtle farm to Cayman Turtle Farm Ltd. Also seated are, from left, Dr. William Johnson, CTF's chief executive, Roger Webster, of C.D.F.C., 25 per cent shareholder, Dr. Heinz Mittag, chairman, Dr. Wilhelm Esser, secretary, and Chris Bain, manager of F.N.C.B. Behind them are, from left, W.S. Walker, CTF's assistant secretary, Brian Dyer, [Price Waterhouse & Co.], Stuart Howie [of W.S. Walker and Co., representing the Mittag family], Haydn Rutter [Bruce Campbell & Co.], Patrick Doyle, C.D.F.C. attorney from London, Marshall Langer, a director of CTF, and Bruce Campbell.

Bio-chemist is new turtle farm chief

DR. WILLIAM A. JOHNSON, chief executive and a director of the new company, Cayman Turtle Farm Ltd., was recruited 18 months ago by the Commonwealth Development Finance Company Ltd. to restructure and operate the turtle farm when Mariculture was in receivership.

A native of Middlesbrough, in northeast England, he was educated at Sheffield University, where he graduated in bio-chemistry. He later gained Master of Science and Doctor of Philosophy degrees, and he is also a chartered chemist and a Fellow of the Royal Institute of Chemistry.

After graduation, Dr. Johnson worked for four years at Sheffield University as biochemist and research assistant to Sir Hans Krebs, winner of the 1953 Nobel Prize in physiology and medicine.

Dr. Johnson joined British Drug Houses Ltd. in 1939, and with the exception of four years' service in the Royal Air Force during the second

world war as a navigator in light bombers, stayed with this company for 13 years rising to the position of works manager in charge of 1,500 employees.

After nine years as managing director of Pure Chemicals Ltd., Dr. Johnson was appointed managing director, of Imperial Smelting Corporation, the largest U.K. subsidiary of Rio Tinto Zinc, with annual revenue in excess of 40 million pounds and a labour force of over 3,000 workers.

Commenting on his appointment, Dr. Johnson said it was a great opportunity for him to see the new company through to ultimate successful operations and profits. "Up to now it has been hard work, but I like Grand Cayman and welcome this challenge."

Assisting Dr. Johnson in the new company will be Research Director Dr. James Wood, and his wife, Dr. Fern Wood, with a sales and accountancy staff, and a farm force of 54 men and women.

B. Scott



H. M. YACHT BRITANNIA
at Sea

19th February, 1983

Dear Mark,

Your brief on the Cayman Turtle Farm was most helpful. I have just paid a visit to the farm and I thought you might like to have some news and comments.

Enclosed you will find some material provided by the farm together with a certificate recording the release of a turtle to the sea. Visitors to the farm normally pay \$5 to release a turtle but this one got away free! You will also find a collection of reprints of articles about the islands which give a useful background to the relationship between the islanders and the turtles.

The farm operates on a fairly simple system but it is obvious that it incorporates a great deal of experience. The breeding stock still consists of a majority of wild caught adults, all captured before 1977. As the green turtle only becomes sexually mature at about 15 and the farm has only been operating since 1968, the reason for the absence of mature farm bred adults is obvious. I cannot remember the exact figures but my impression is that there are about 30 males and 30 females in the breeding stock but, as you will see, the average production of eggs per female per year is over 400, of which 18 - 50% hatch and survive compared to less than 1% in the wild. The breeding stock, therefore, does not have to be very big. It is also worth bearing in mind that the wild caught adults are used for breeding and not killed. Furthermore, as they can live to up to 90 years it would be quite feasible to release the wild caught adults as soon as sufficient captive bred turtles reach maturity.

I know there has been some doubt about the claim by the farm that they have not taken any eggs or adults from the wild since 1977. I suspect this has arisen because some Cayman Islander turtle fishermen continued to catch turtles in the traditional way after that year. The leading conservationists on the island assured me that this practice had stopped both for economic reasons - there are more profitable things to do - and also because the farm produces all the turtle meat required by the islanders. The end of fishing has meant that green turtles are now reappearing round the Cayman coasts and in the sounds.



The farm is operating at a very low level and the present - German - owners are trying to sell it. An American company which owns a hotel on the island is interested in taking it over but the owner's price is too high at the moment.

I spoke to a representative of the United States Department of Commerce and he seemed to think that the United States Government was now prepared to lift the ban on imports of green turtle and he was satisfied that an effective system of identification of meat and shell has been worked out with the farm and can be made to work.

It is also worth mentioning that the farm is rearing a number of other species of turtles which should provide useful information for breeding and releasing those species which are in far greater danger than the greens. Its experience in farming green turtles would, of course, be very valuable for similar projects in much less prosperous island communities. Opposition to such farming by affluent western animal welfare groups could well generate resentment among the 'third world'.

One other point. It so happens that it was the shells of the hawksbill that used to provide 'tortoise-shell' for the market as the shell of the wild green turtle is not thick enough. As a consequence of a better diet, the captive greens are growing much thicker shells suitable for 'tortoise-shell'. As a result, there is now less reason to capture the wild hawksbill which is in considerable danger of extinction.

Yours sincerely
Philip

Cayman Turtle Farm

No 1405

Turtle Release
Certificate

This is to certify that

H. R. H. The Prince Philip, Duke of Edinburgh

Has sponsored the release
at Goat Rock
of

one shell-grafted green sea turtle, Chelonia mydas

Age: 31 months Wt: 10 lbs 3 oz. Length: 14"
Tag No. 177 yellow Notch: 1-6 Graft: RC 2/3

from

Cayman Turtle Farm

on

16 February 1983

into the waters of the
Cayman Islands, British West Indies

Signed

Jim Wood, Ph.D.
General Manager

Sun, turtles and tax breaks



Dick Campbell

It was just the sort of place I like for a vacation: No phone, no TV, no radio and two daily newspapers. Warm water, hot sun and cold beer.

It was one of those laundromats of the Caribbean, where money can be washed and leaves no tracks. It was the Cayman Islands.

The Caymans, in case your geography is as feeble as mine was until two weeks ago, are three little dots on the map just south of Cuba. Flying time from Miami is "about 80 minutes.

The pilot told us not to take pictures from the plane as we flew over Cuba. I am not sure what amateur photos at 500 mph from six miles up would do to Castro that U-2 and satellite photos have not done already, but it seems the two governments have worked out the no-photo arrangement. The alternative to the eight-minute cross-Cuba flight presumably would be flying clear around it.

The Caymans are a British colony, at most 17,000 souls, and you drive on the left. The capital is George Town, a hot little, squat little city on the island called Grand Cayman. Cruise liners put in almost every day and the downtown shops are briefly flooded with pink-kneed bargain seekers from the States.

As far as I could tell, they find no bargains. Almost every single item on the islands is imported and thereby taxed. Exceptions I found included bananas and papayas and you wouldn't want to take those home to the kids.

Why do people go to the Caymans by the hundreds of thousands? Well, there are two reasons.

One is that the little colony is one of the world's great tax havens. The other is that it calls itself the "Super Bowl of Diving" and has the water to prove it.

About those tax deals. Here is what one publication says: "In the Cayman Islands there are no taxes on personal income, corporate profits, capital gains, no gift taxes, no estate duty, or death taxes.

"In fact, there are no income or profit taxes at all, nor are there likely to be in the future. Companies incorporated in the Caymans enjoy the same tax-free status as indi-

viduals regardless of nationality of ownership."

That may explain why this tiny colony has, at last count, 420 registered banks. That makes it the world's leading international banking and trust center, they say. There are about 25 buildings in George Town of more than one story — they are the banks. Most of the 420 — which include some Columbus banks — are merely mailing addresses, I gather.

There also are more than 400 insurance companies registered in the Caymans, according to an official guide. Two-thirds of them have come to George Town in the last two years, so you can assume that some lawyer discovered a good thing about the address. I will leave you to speculate on what it was.

At any rate, the Caymans realize what they have and they flaunt it. Billboards at the little airport boast of sheltered taxes and so do the official publications.

Since I am not in the banking or insurance business and editors are not known for needing tax shelters, the vacation aspects of the islands were what appealed to me.

They are blessed with a lovely strip of sandy beach that runs for seven miles along Grand Cayman, the main island. Coral reefs abound. The Caribbean water is warm and clear.

It is a place for scuba divers and their chicken cousins, the snorkelers. The difference between the two is that the scuba folks go down deep to look at fish and the snorkelers paddle around on the surface doing the same thing.

Diving boats pull up to the various beach hotels and apartments, much like buses, and take the divers out to where the water drops off to a quarter-mile in depth. On the other hand, I used some borrowed snorkel gear and simply walked into the water and peered at pretty fish until thirst got the better of me.

A vacation companion went on a half-day fishing excursion and brought up 30 (fisherman's estimate) from the bottom. They were pan-sized and made an excellent dinner. Brochures also advertise deep-sea trips for marlin and the like.

The government lives off import taxes,

so nothing is inexpensive, in my estimate. A supermarket may be stocked with the same items you see in Columbus, except for butter and milk from Costa Rica, beer from Jamaica and plantains from Colombia.

Our dollar is worth 80 cents against the Cayman dollar. It apparently is a very stable relationship, since the rate is printed in all sorts of publications. Prices are variously quoted in C.I. dollars or U.S. dollars and the tourist should be aware of the difference.

Accordingly, when a dinner I bought the other evening was listed as \$15, it was \$18 in our money. High, but it was the only chance I had to sample a local delicacy — turtle.

The Caymans once were overrun with giant sea turtles and sailing ships put in to gather them for fresh meat. People also stole their eggs and by the 1950s the turtles had nearly vanished. Now they are being bred in huge tanks in the world's only turtle farm. There, for \$5 U.S., you can see new hatches the size of your hand and adult monsters who weigh up to 300 pounds.

The farm is attempting to re-establish the turtles in the sea; it also sells some to the island restaurants for meat. But I asked at four restaurants before I found one with a supply. It was done in garlic and butter and tasted a lot like veal.

Another Cayman staple is conch, pronounced konk. Conch is a large spiral-shelled marine gastropod mollusk. (I got that out of Webster's.) Its shell is the one Grandmother used to have in the parlor and you held up to your ear to listen to the ocean roar.

In restaurants, conch comes as steaks, fritters, soup and schnitzel. Most of the conch I ate was touched up so much with hot sauce that I really couldn't describe the taste. Except that it was good.

Oh, yes. You may wonder how Cayman people live without television. Well, some of them don't. According to the paper, 64 have taken out licenses to buy earth dishes and catch someone's TV signal from a satellite.

Others get TV sets and videotapes of U.S. programs. They form clubs to buy the tapes and pass them around like books from a library.

Conchs me out.



Sea Turtle
Rescue
Fund

September 14, 1983

Richard R. Campbell
Editor
The Columbus Citizen-Journal
34 South Third Street
Columbus, Ohio 43216

Dear Mr. Campbell:

Some of our supporters sent us your article "Sun, turtles and tax breaks" which appeared in the July 23, 1983 issue of Columbus Citizen-Journal. I realize from your article that you are unfamiliar with the status of the green sea turtle and the Cayman Turtle Farm operation.

It would be a great service to the conservation of endangered and threatened species in general, and to sea turtles specifically, if you could publish the enclosed letter in response to your article.

I have also sent you two of our recent brochures, "Sea Turtles: A Guide for Survival", which highlights what people can do to help stop illegal trade in sea turtle products, and a brochure on captive breeding of sea turtles which highlights the Cayman Turtle Farm operation.

If I can be of any assistance please let me know. I would be happy to supply you with any additional materials. Thank you for your time and effort.

Sincerely,

Emily C. Roet
Research Coordinator



Sea Turtle
Rescue
Fund

September 14, 1983

Richard R. Campbell
Editor
The Columbus Citizen-Journal
34 South Third Street
Columbus, Ohio 43216

Dear Mr. Campbell:

Unfortunately, the article "Sun, turtles and tax breaks" which appeared in the July 23, 1983 issue of Columbus Citizen-Journal was extremely disappointing to those of us who are concerned with the conservation of endangered and threatened species.

This article which describes the eating of sea turtle meat ignores the legal and biological status of green sea turtles. In addition, the observations about the Cayman Turtle Farm misintrepret both the status and priorities of the "worlds only turtle farm".

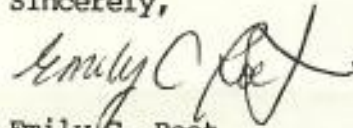
All populations of six of the seven species of sea turtles including green sea turtles are either endangered or threatened with extinction. Sea turtles are protected under both the United States Endangered Species Act and the Convention in International Trade in Endangered Species (CITES), to which 81 nations including the United States belong.

Sea turtles have inhabited earth for over 75 million years. In the past, sea turtles were hunted and utilized in many coastal areas of the world. In more recent times sea turtle hunts have expanded to supply sea turtle products such as meat, soup, shell jewelry, and leather articles to both tourists and international markets. This has led to the virtual disappearance of some sea turtle populations, such as the green population which once inhabited Cayman Island waters in very large numbers. Many other populations have been reduced to very low levels.

Your observation about the green turtle as a "local delicacy" which "tasted alot like veal" may confuse the Amercian public about the precarious biological status of these animals and may encourage American tourists to purchase sea turtle products. Bringing sea turtle products back into the U.S. is illegal. People can personally help sea turtles by refraining from buying sea turtle products abroad.

Your observation that the Cayman Turtle Farm is "the world's only turtle farm" is misleading. According to international standards for the captive breeding of endangered and threatened species there are no turtle "farms". Products from turtles slaughtered at the Cayman Turtle Farm cannot in general be legally traded in international markets. Also, the Cayman Turtle Farm's foremost concern is selling green sea turtle meat, calipee, oil, shell, shell jewelry, skins, and freeze dried hatchlings (baby turtles) to tourists on Grand Cayman Island and to international markets. It's main purpose is not as your article implies "attempting to reestablish the turtles to the sea."

Sincerely,



Emily C. Roet
Research Coordinator

From Professor N. Mrosovsky

Sir Michael Frenchman's article "Oven-ready steaks from the turtle farm?" (The Times, July 1) gives the impression that turtle farming ventures such as Mariculture may be helping the endangered green sea turtle (Chelonia mydas) by returning some 1 per cent of the turtles they raise to natural nesting areas. The article states that the survival rate of hatchlings in nature is only about two per 1,000. In fact there are no good data on survival rates.

Not only are there no good data but the methods for obtaining such data do not even exist since no satisfactory long-lasting tag for hatchlings has been devised for this purpose. Therefore the figure of 1 per cent of turtles returned is meaningless, even if it were assumed that they would become part of the breeding population.

One thing is certain about the mysterious green turtle: there has been a drastic decline in population and breeding areas in historical times. How is it then that the authorities concerned permit eggs to be taken from protected areas like Ascension Island? Methods for breeding turtles in captivity need to be proven. The idea of turtle farming is good, but for the present the scale should be small and experimental.

Yours faithfully,

NICHOLAS MROSOVSKY
Department of Zoology
University of Toronto

From Dr. K. E. L. Simmons

Sir, I would like to endorse Professor Mrosovsky's strictures on turtle-farming (The Times, August 28), especially as they apply to the commercial removal by Mariculture Ltd of eggs of the Green Turtle (Chelone mydas) from Ascension Island--a practice which seems to me singularly ill-advised.

Green Turtles visit Ascension only to breed, making a return trip of some 2,800 miles from the feeding areas in the coastal waters of eastern South America where they are still exposed to extensive culling. Breeding females were formerly subjected to heavy and prolonged exploitation for food on the nesting beaches, while hatchlings suffer a severe mortality from predators as they first take to the water.

The annual recruitment of this vulnerable, isolated, and slow-breeding population--which may still not have recovered from the depredations of the past--must be very low, and recent developments at Ascension give serious cause for concern about its future welfare. These include in particular the unprecedented "predation" of eggs by Mariculture Ltd (16,000 were reported taken this season), the increased human pressure on the nesting beaches arising from the marked growth of the island's population in recent years, and the new threat of oil pollution on the beaches.

The exportation of Ascension turtle eggs for rearing as food or for restocking other, even more endangered turtle populations elsewhere is of no value to the Ascension turtles themselves. It is unlikely if the latter practice, or the exportation of

small numbers of adults for breeding purposes, is of real value to any other turtle populations either--for the peculiar migratory facility of the Ascension Green Turtles is probably a genetically determined, population-specific character. Thus the suitability of these animals for transference outside their normal range is open to considerable doubt.

The conservation of the unique Green Turtle population at Ascension should stem from measures undertaken locally, not from elsewhere. Mr. Naylor's reassurances notwithstanding (The Times, September 22), "there is nothing that Mariculture Ltd can do for the Ascension turtles that cannot be better done on the island itself, and it is heartening to learn that a hatching release programme has recently been initiated privately there."

Yours faithfully,

K. E. L. SIMMONS
Department of Psychology
University of Leicester
September 23

TURTLE SOUP

November 28, 1972

From Mr. Nigel Sitwell

Sir, May I reply briefly to Brian Lusty's letter (November 22) on turtle soup at the Lord Mayor's Banquet? The World Wildlife Fund is in principle in favour of attempts to farm turtles as this seems to us a rational activity which fits in well with modern concepts of conservation.

However, while agreeing that this particular operation is very promising, we do believe it is premature to suggest to the public that the green turtle is now off the danger list and that turtle soup can be drunk "with a clear conscience". At the moment, Mariculture take turtle eggs from the wild. They are hopeful of breeding turtles in captivity which would be fine--but they have not done this yet. They return hatchlings to their home beaches, which is also excellent--but no one has yet proved whether these hatchlings do indeed eventually breed. Thus, the operation is still a net drain on wild turtle resources and it is too early to jump to conclusions.

Yours faithfully,

NIGEL SITWELL
World Wildlife Fund
7-8 Plumptree Court, EC4
November 22

The green sea turtle, which is listed as an endangered species, provides the Cayman Islands' only real export industry. But since 1978 the British colony's largest customer, the United States, has banned imports.

FEB 84

Russ Kinn-Photo Researchers Inc

U.S. ban on sea turtles hurting Cayman Islands' top business

By Steven K. Beckner
WASHINGTON TIMES STAFF

Turtle meat is not one of the more burning trade issues for the Reagan administration, burdened as it is with disputes over imports of steel, shoes, textiles and countless other things.

But for the government of the Cayman Islands, turtles top the trade agenda.

The green sea turtle, which is listed as an endangered species, provides the Cayman Islands' only real export industry. But since 1978 the British colony's largest customer, the United States, has banned imports of all green sea turtle products — including those raised in captivity on the Cayman Turtle Farm.

The pungent meat of the green sea turtle has long been a delicacy in soup. Its skin is also prized for purses and wallets.

The Cayman Islands, best known as a Swiss-style tax and tourist haven, is trying to get the turtle ban lifted. American environmentalists are doing their best to keep it in place.

In the middle is an administration committed to boosting Caribbean prosperity but loathe to incite the vocal environmental movement.

In Washington last week to lobby the Commerce and Interior Departments to lift the ban, John McLean, the Cayman Islands' Minister of Agriculture, Lands and Natural Resources, said in an interview, "We feel badly about it, especially for the United States to put a ban on our only industry when we buy 95 percent of our imports from the United States.

"If the Caribbean Basin Initiative is to have any meaning in the Caymans, it must be possible for us to export our turtles to the United States," said Mr. McLean, a member of the Cayman Islands' executive council.

An appeal based on the Caribbean Basin Initiative could strike a responsive chord with the administration. Proposed amid great hoopla in late 1982 and approved by Congress last July, this 12-year program of trade concessions, investment incentives and aid is an integral part of U.S. foreign policy in that region.

The Cayman Islands, which Christopher Columbus originally named Las Tortugas after the turtles that provided nourishment for his crew,

PROFILE

still has a turtle on its official seal. The islands have the highest standard of living and the lowest unemployment rate in the Caribbean.

Mr. McLean said they are being punished for doing the kinds of things the U.S. program is supposed to encourage.

The turtle farm was founded in 1968 by a group of American and British investors. It was taken over in 1975 by a German-Swiss consortium after the original company filed for bankruptcy.

The turtle farm pumps up to 3 million gallons of sea water per hour through a complex of tanks and ponds. At its peak, the farm had 2 million pounds of live turtles. Its exports, two-thirds of which went to the United States, were worth \$1.4 million — compared with a national budget of \$15 million.

Even at its peak, the farm was never profitable. Since the ban the farm has shrunk to 250,000 pounds of live turtles. Last year, after losing a series of court battles to overturn the U.S. ban, the farm was bought out by the Cayman authorities.

The same array of environmental organizations that got the ban imposed

during the Carter administration continues to keep turtle farm products out of the United States, even though many other signatories to the Convention on International Trade in Endangered Species import them.

Environmentalists are unmoved by the fact the turtle farm last year returned 4,405 baby turtles to the wild or by the farm's contention it is filling a demand that would otherwise be met through poaching.

"We have collected no more eggs in the wild since 1978," said farm manager James Wood. "We're self-sufficient."

In fact, by incubating and hatching eggs, then releasing baby turtles, "we're trying to re-establish the sea turtle population in the Caymans," said Mr. Wood, who has a doctorate in zoology from the University of Arizona.

But environmentalists remain critical.

Michael Weber, director of the Center for Environmental Education's Sea Turtle Rescue Fund, said that far from substituting for wild turtle, farm products stimulate demand for it. He said it would be too difficult for customs agents to enforce a ban only on wild turtle.

Mr. Weber called the turtle farm's release program "laudable" but said "we do not think that outweighs the risk to the wild population."

Besides, he said, "There has never been a turtle that has been [released] and later been found to lay eggs on a beach."

He is echoed by Michael Bean, chairman of the Environmental Defense Fund's Wildlife Program, who said "it's totally speculative whether they are capable of breeding in the wild or whether they're just eunuchs out there living out their natural lives."

see TURTLE, page 6B

TURTLE

From page 5B

Both Mr. Weber and Mr. Bean said the farm has been unsuccessful in producing second-generation turtles in captivity — grandchildren of the turtles first taken from the wild — as the international convention and U.S. regulations require for an exemption from the trade ban.

"They haven't produced a single second-generation offspring," said Mr. Weber. "Their products are entirely dependent on animals from the wild." Mr. Weber said he is not alleging the farm is still taking turtles from the wild.

Mr. Bean said the farm "has gotten some of those farm-hatched turtles to produce eggs and have those eggs hatch into turtles that are viable," but said the farm has only produced "a few hundred" such offspring in its best years.

Part of the problem is that sea turtles, which have been known to live for hundreds of years and grow to 600 pounds or more, may not even reach sexual maturity for 30 years — far longer than the farm has been in existence. The Cayman farm turtles become soup at age 1½, when they weigh about 52 pounds.

Archie Carr, a graduate research professor at the University of Florida at Gainesville, another leader in the fight to ban turtle imports, says he is against the release of farm turtles to the wild, because their different geographic origin could cause cross-breeding that would "destroy diversity."

He said when he learned of a previous release of turtles by the farm, he told the owners, "I wish the heck you'd kill every one of those thousands of little turtles and send the meat to the Hindus."

He said he once spread several hundred thousand sea turtles around the Caribbean in an effort to repopulate it, but his turtles were all from Costa Rica

while the Cayman turtles come from as far away as the Ascension Islands, a British-owned group in the mid-Atlantic Ocean.

Mr. Wood says the farm is being unfairly treated because the United States allows the sale of farmed alligators.

But Megan Durham, a spokesman for the Interior Department's Fish and Wildlife Service, said, "The situation with alligators is different because the population is clearly becoming more numerous since it was protected."

The Commerce Department seems more amenable to lifting the ban than the Interior Department.

"From our point of view we have no problem lifting the ban," said James Winchester, associate administrator of the National Oceanic and Atmospheric Administration (NOAA).

"I don't understand how [the ban] has anything to do with protecting endangered species," said Mr. Winchester. "You have to stretch your imagination to see how it will have any effect on the wild population. It sounds pretty far fetched to me."

"We have a pretty good way of keeping things under surveillance to make sure [turtle products] are coming from the turtle farm." As for the environmentalists' objection that the farm can't produce second-generation turtles, he said

"if that happens they simply go out of business, but why put them out of business now on something so uncertain."

For the moment, the Cayman Islands would be content merely to get permission to transport its turtle products — soup, steaks and shell and leather goods — through the United States. The government-owned turtle farm cannot even bring its goods to American ports en route to other countries. Much of its produce is consumed on the islands, therefore, where turtle is both a staple and a delicacy.

Last April the Fish and Wildlife Service and NOAA published a proposed rule that would allow transshipment. But Ms. Durham said, "We haven't made a decision and we don't have a timetable for making a decision."

At a meeting with Fish and Wildlife officials last week, the transshipment rule was not discussed. Instead, the Cayman Islands proposed redefining the farm as a "ranch," which would make it easier for it to qualify under the international convention.

Ms. Durham said the islands "would have to show their operation benefits the survival of the species in the wild," but wouldn't have to prove that it has produced a second generation and could supplement its population with wild stock.

The Cayman Island turtle farm that's in hot soup

Steven Beckner's Feb. 21 turtle tale, "U.S. ban on sea turtles hurting Cayman Islands' top business," is a strange one. The Cayman Turtle Farm has bred more specimens of this endangered species than any other organization in history, yet many environmentalists would like nothing better than to see the farm go belly up.

Mankind's centuries-old demand for turtle products has led to the species' current precarious state. But the environmentalists worry that the farm's operations will somehow "stimulate demand" for wild turtles. Certainly wild turtle stocks are on the verge of extinction, but there are calls for the farm to slaughter thousands of hatchlings rather than release them into the ocean. With friends like that, what species needs enemies?

The environmentalists' strategy for protecting the sea turtle involves suppressing an age-old human appetite through government action on an international scale.



Huss/Kenne Photo Researchers, Inc.

However, if the species can be raised in captivity, then its continued existence might be assured through private incentives with minimal government involvement, while at the same time commercial pressure on wild stocks would be reduced.

The magnitude of the current illegal traffic in wildlife suggests the likely failure of the first strategy. The attractiveness of the second strategy is what led the Pacific Le-

gal Foundation and The Association for Rational Environmental Alternatives to propose it in a rulemaking petition to the Department of the Interior. That was over two years ago, but then turtles aren't the only things that move slowly.

SAM KAZMAN
Managing Attorney
Pacific Legal Foundation
Washington

The Washington Times 3/21/84

Private initiatives for sea turtles

I read with interest Sam Kazman's March 2 letter, "The Cayman Island turtle farm that's in hot soup," regarding the Cayman Turtle Farm. Mr. Kazman is factually wrong on a number of points.

Like the Pacific Legal Foundation, conservation organizations support private initiatives to save endangered species. If Mr. Kazman knew about sea turtle conservation efforts at all, he would be aware of the millions of hatching sea turtles that have been released as part of conservation programs supported by our organization and many others around the world. These efforts are the product of the very type of private initiative which Mr. Kazman extolls and which are performed at a fraction of the cost of those at the farm.

Second, the industrialized world's demand for sea turtle products is not the result of an "age-old human appetite," unless Mr. Kazman means something so general as an appetite to consume anything that moves.

While the ban on the sale of sea turtle products in the U.S. has not totally stopped illegal trade — what ban has? — the ban has substantially reduced sea turtle trade. There is virtually no demand in the U.S. for sea turtle products. It is difficult to accept Mr. Kazman's argument therefore that importation of Cayman sea turtle products into the U.S. would stem worldwide trade in sea turtle products.

The facts are that the Cayman Turtle Farm does not meet international standards for trading in green sea turtle products. If Mr. Kazman disagrees with the international criteria, he should attempt to change the criteria instead of ignoring them.

It is truly ironic to us that Mr. Kazman chooses to use the Cayman farm as an example of private initiative "with minimal government involvement," as it is owned and its unprofitable operation is subsidized by the Cayman Islands government.

MICHAEL WEBER
Director, Sea Turtle Rescue Fund.
Center for Environmental Education
Washington

Grace fund-raiser

In reference to *The Washington Times'* Feb. 20 story, "Tears and accolades for Princess Grace," I am sure that the Princess Grace Foundation could acquire many more dollars if it would offer for sale the cassette tapes of the "impromptu duet between Julio Iglesias and [Plácido] Domingo" as well as the "short concert by Julio Iglesias" on the night of Feb. 18.

I know that I, at least, would gladly purchase them.

S.P. NIEMAN
El Paso, Texas

We welcome your opinions on any topic. Please send them to:

Letters to the Editor
The Washington Times
3600 New York Ave., N.E.
Washington, D.C. 20002

Letters should be signed originals. Every letter will be considered for publication, but we prefer those of less than 250 words, typed double-spaced. All letters may be edited for clarity and length. Please include your name, address, and daytime telephone number.

The Washington Times 3/8/84

Table 2.

Results of 1976 Hatching Season. The abbreviation EED stands for early embryonic death; LED for late embryonic death.

Female No.	Minutes Mounted	% Infertile	% E E D	% L E D	% Hatch
25	4,450	46.4	13.1	9.4	31.1
41	3,110	8.8	9.2	1.8	80.2
35	1,658	17.2	3.9	3.8	75.0
9	1,499	62.0	12.3	9.9	15.7
89	1,155	20.2	29.2	7.4	43.2
61	1,139	7.2	4.3	5.4	83.1
86	890	1.9	0.8	3.3	93.9
56	880	3.2	1.9	2.4	92.5
90	870	32.6	10.1	5.8	51.5
31	459	45.1	16.2	0.9	37.7
91	362	5.2	5.3	8.8	80.7
73	327	13.0	18.7	5.6	62.6
26	295	27.6	31.1	5.7	35.6
6	244	100.0	0.0	0.0	0
46	216	82.2	8.5	3.4	5.9
48	41	82.6	17.3	0	0
70	20	89.3	10.7	0	0
77	20	74.4	25.6	0	0
57	10	95.6	4.4	0	0
44	10	82.0	18.0	0	0
47	10	90.2	9.8	0	0
75	10	97.7	2.3	0	0
80	9	94.0	6.0	0	0
81	8	98.2	1.8	0	0
34	7	98.6	1.4	0	0
79	0	93.3	6.7	0	0
67	0	89.8	10.1	0	0
54	0	83.7	16.3	0	0
38	0	55.8	3.9	1.3	39.0

January 31, 1977

We are pleased to forward you the enclosed material

CALIFORNIA LEGISLATURE
 SENATE COMMITTEE ON
 NATURAL RESOURCES
 AND WILDLIFE



SENATOR JOHN A. NEJEDLY, CHAIRMAN
 SEVENTH DISTRICT

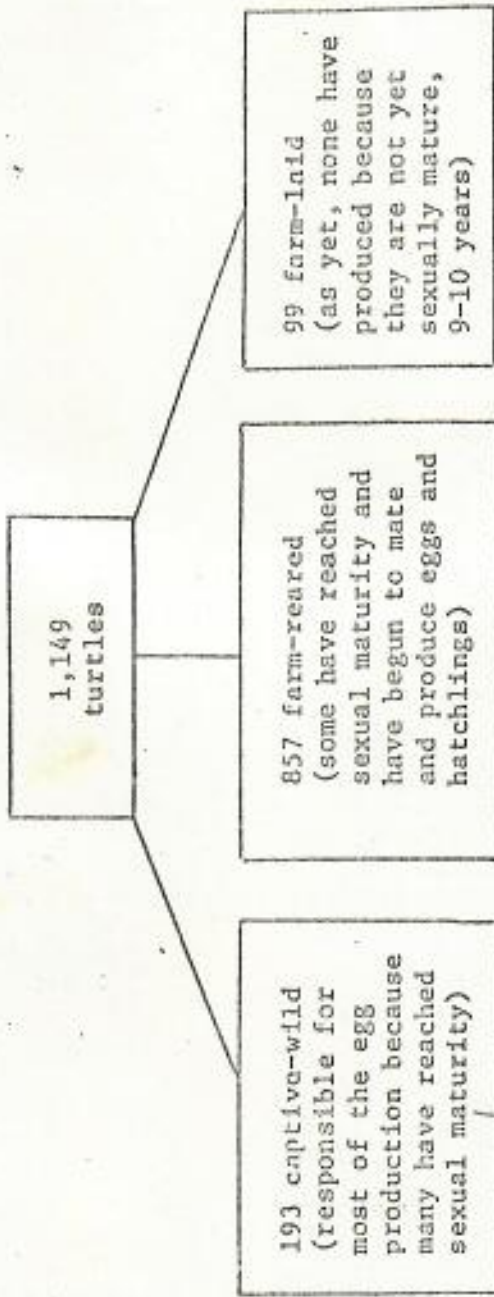
ROBERT D. TESTA
 CONSULTANT

SENATE, STATE CAPITOL
 SACRAMENTO, CALIFORNIA 95814

1470-005 1-77 248 05P

CAYMAN TURTLE FARM, LTD.

Composition of Farm Breeding Herd as of October 1, 1979



or
Mature at
time of capture (?)

Maximum Number of Survivors Born to
Farm-Reared Females by Year

* <u>1975</u>	* <u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
199	51	?	175 (?)	?

confirmed
at conference

To one year - or ?
of age - or ?

cross check
↓

* Source: Wood & Wood, Captive breeding of the Green Sea Turtle
(Chelonia Mydas) "8 Proceedings of the 8th Annual World
Mariculture Society 533, 537, 539.

1978 Statistics

	Captive-wild Parents	Farm-Reared Parents	TOTAL
Total Eggs	29,671	4,322	33,993
Total Hatch	14,763	1,115	15,878
Percentage Hatch	49.8%	25.8%	46.7%
* Survival Percentage of Hatchlings	?	?	15.7%
Survival Percentage of Total Eggs	?	** (4.0% or 175 survivors)	7.3%

* major survival problem attributed to microtic (fungal) pneumonia

** assuming that survival percentage of total hatchlings is equal to survival percentage of hatchlings of farm reared parents (i.e., 15.7%)

CAYMAN TURTLE FARM, LTD.

Captive Reproduction by Sexually
Mature Members of Farm Breeding Herd

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979 to Oct. 28</u>
Turtles Laying							
Captive-wild Stock	19	14	20	27	44	43	61
Farm-reared Stock	--	--	1	2	4	18	25
Total	19	14	21	29	48	61	86
Total Eggs	11,680	9,717	17,629	15,186	33,300	33,993	45,324
Total Hatch	4,905	4,374	3,563	5,283	19,500	15,878	9,892*
Percentage Hatch	42.0%	45.0%	20.2%	34.8%	58.6%	46.7%	34.1%**

* As of October 28, 1979, 28,952 of the 45,324 eggs laid through that date had completed incubation and of these 28,952 eggs, 9,892 had hatched. There remained in incubation an additional 16,372 eggs.

** This figure represents the percentage hatch of the 28,952 eggs that had completed incubation as of October 28, 1979.

CAYMAN TURTLE FARM LTD

Report to I U C N

In August 1975 at the London meeting with members of I U C N's Turtle Specialist groups, as well as with other turtle biologists, a program was agreed which would result in reproductive self-sufficiency for Cayman Turtle Farm Ltd within 5 years. At a later meeting held in Dusseldorf in December 1975, the predictions were modified slightly but still showed self-sufficiency by 1980. The purpose of this report is to show that results of the 1976 reproductive season have followed predicted levels.

Comparison between predicted and actual values for 1976 are given in Table 1.

Table 1. Predicted and Actual Values for
1976 Reproductive Season

	<u>No. of Females Laying</u>		<u>No. of Eggs</u>		<u>No. of Hatchlings</u>	
	<u>Predicted</u>	<u>Actual</u>	<u>Predicted</u>	<u>Actual</u>	<u>Predicted</u>	<u>Actual</u>
CWS	18	27	12,600	14,569	2,520	5,232
FRS	2	2	1,200	617	360	51
Total	20	29	13,800	15,186	2,880	5,283

(CWS = captive wild stock FRS = farm reared stock)

The overall percent hatch rate for the CWS females was 35.9 compared to a predicted 20%. The hatch rate for the 2 FRS females was 8.3% compared to a predicted level of 30%. One of the 2 FRS females which laid produced 293 eggs, all of which were infertile. She laid six months after mating and this perhaps affected proper fertilization.

Table 2 gives additional information on the results of 1976. This table indicates that matings in excess of 200 minutes generally produced hatchlings, whereas mating of 41 minutes or less are generally unsuccessful. The first 14 females on this table were mounted in the mating pens and then transferred to the female-only section of the pond. These results tend to confirm the value of isolated mating. Many of the females laying this year had little or no mating activity. The CWS females were held in the presence of FRS males. The physical size of many of these CWS females prevented mating with the relatively small FRS males. It was hoped that the FRS males would point out females in "heat", allowing transfer of these females into mating pens to be mounted with larger CWS males. This did occur for some but not all of the females which laid.

During the season all eggs which failed to hatch were opened. Non-developing eggs were removed within 10 - 15 days whenever possible. The results of the examination of eggs show that infertility was the major cause of low hatch rate.

In an attempt to overcome this problem of laying without proper mating, the breeding pond has been divided into three equal sections for the 1977 season. Pond A holds the CWS females and CWS males. Pond B will receive mated females from the mating pens and will contain no males. Pond C contains the FRS females and males. In this manner we are able to maintain separation of the FRS females from the CWS males and at the same time provide CWS males for the CWS females.

The other aspect of achieving self-sufficiency is survival of hatchlings to slaughter age. While hatchlings produced on the farm during the 1975 and 1976 seasons are not of slaughter age, Table 3 gives information on current survivability.

Table 3. Survivability of Hatchlings from 1975 & 1976 Seasons as of January 1st 1977

<u>Origin</u>	<u>Age</u>	<u>% Surviving</u>	<u>Predicted Survivability</u>
CWS 1975	15 months	46.5	48%
FRS 1975	14 months	67.3	48%
CWS 1976	3 months	70.2	60%
FRS 1976	3 months	90.2	60%

Mortality of the 1975 CWS and FRS animals has virtually ceased with mortality being less than 2% during the last 8 months. It therefore appears that the predicted survivability rates are generally feasible.

The other aspect which should be discussed is Dr King's theory that the females on the farm are not successfully mating and that the hatchlings produced during the 1973, 1974, 1975 and 1976 nesting seasons are the result of wild sperm storage. He suggests that depletion of stored sperm results in a declining hatch rate which will eventually result in a zero hatch rate. Results of the 1976 season indicate that such a theory is incorrect. Of the 15 animals re-nesting in 1976, five had increased hatch rates, seven decreased and three remained the same. Of those that decreased only two had sustained mounts; female 6 which, as has already been explained, did not nest for six months after mating, and female 89 which mated solely with an FRS male.

In conclusion we feel that the 1976 reproductive season was very successful. We are confident that with the increased knowledge and insights gained during each reproductive season, the predicted program of becoming self-sufficient can be realised.

January 31, 1977

Table 2.

Results of 1976 Hatching Season. The abbreviation EED stands for early embryonic death; LED for late embryonic death.

Female No.	Minutes Mounted	% Infertile	% E E D	% L E D	% Hatch
25	4,450	46.4	13.1	9.4	31.1
41	3,110	8.8	9.2	1.8	80.2
35	1,658	17.2	3.9	3.8	75.0
9	1,499	62.0	12.3	9.9	15.7
89	1,155	20.2	29.2	7.4	43.2
61	1,139	7.2	4.3	5.4	83.1
86	890	1.9	0.8	3.3	93.9
56	880	3.2	1.9	2.4	92.5
90	870	32.6	10.1	5.8	51.5
31	459	45.1	16.2	0.9	37.7
91	362	5.2	5.3	8.8	80.7
73	327	13.0	18.7	5.6	62.6
26	295	27.6	31.1	5.7	35.6
6	244	100.0	0.0	0.0	0
46	216	82.2	8.5	3.4	5.9
48	41	82.6	17.3	0	0
70	20	89.3	10.7	0	0
77	20	74.4	25.6	0	0
57	10	95.6	4.4	0	0
44	10	82.0	18.0	0	0
47	10	90.2	9.8	0	0
75	10	97.7	2.3	0	0
80	9	94.0	6.0	0	0
81	8	98.2	1.8	0	0
34	7	98.6	1.4	0	0
79	0	93.3	6.7	0	0
67	0	89.8	10.1	0	0
54	0	83.7	16.3	0	0
38	0	55.8	3.9	1.3	39.0

January 31, 1977

from the testimony submitted by the New York Zoological
Society (Dr. F. Wayne King) to the Secretary of the
Interior concerning proposed listing of sea turtles
- dated July 16, 1975

Reproduced by G.H. Balazs

The "Background" section of the Proposed Listing (on page 21975) states that Mariculture Ltd. petitioned the Secretaries of Interior and Commerce to exempt from the regulations green sea turtles bred or raised in captivity. While we have not seen that petition, we believe that it might contain inaccurate statements which place that enterprise in an unjustifiably favorable light. For that reason, we are here relating information on the operations of that company which should bear on the final rule-making.

Despite corporate predictions to the contrary, it seems highly unlikely that sea turtle mariculture will be an economically viable enterprise. The economic problems are summarized in a paper by Dr. Ehrenfeld (Conserving the Edible Sea Turtle: Can Mariculture Help? AMERICAN SCIENTIST, 1974, vol. 62:23-32). Further evidence of the economic problems facing commercial viability of sea turtle farming can be found in the April 1975 issue of Aquaculture, which states, "From an assessment of corporate investment in aquaculture, several conclusions can be drawn. First, the species that are attracting the most attention . . . are . . . oysters, saltwater shrimp, freshwater trout and salmon." The issue goes on to state that corporations have not invested in those

species whose culture techniques are not advanced (see enclosed copy), as is the case with sea turtles. Because of the speculative nature of the venture, Mariculture Ltd. had difficulty in generating both sufficient financial backing to underwrite their operations and adequate sales to sustain operations. In 1974, operating costs were reported to be as much as \$125,000 a month. Sales did not support these costs. Mariculture Ltd. went into receivership on or about 15 May 1975 (see enclosed copy of Mariculture news release).

The following information on the company was provided by Mike Goodier, former manager of Mariculture Ltd., P.O. Box 645, Grand Cayman, British West Indies, in an interview with Dr. David Ehrenfeld (Department of Horticulture and Forestry, Cook College, Rutgers University, New Brunswick, New Jersey 08903), John McKew (New York Zoological Society, 185th Street and Southern Boulevard, Bronx, New York 10460) and me in New York City on 21 May 1975:

Many of the statements made by Mariculture Ltd. which might suggest their operation is a positive factor in the conservation of sea turtles are inaccurate or false. For example, Mariculture has frequently claimed that their use of wild eggs as a source for their captive stock involves only doomed eggs. Doomed eggs are defined as those eggs which would be lost to high storm tides or other natural factors. Use of doomed eggs in place of viable eggs is touted as not contributing to the further impoverishment of wild populations. Mariculture originally claimed to obtain doomed eggs from Ascension Island, Surinam and Costa Rica. Under prodding from the New York Zoological Society and other knowledgeable turtle ecologists, Mariculture dropped their citation of Costa Rica as a source of doomed eggs, for while some eggs from that country are lost to natural meteorological catastrophes and to predators, it is not possible to predict which will be doomed and which will survive. In published and oral statements Mariculture continued to claim that eggs taken from Ascension and Surinam were from doomed nests. Specific reference was made to the toxic sands of northeast beach on Ascension, which reputedly prevented successful hatching of green turtle eggs laid on that beach. Despite repeated efforts by sea turtle ecologists to obtain Mariculture's data which indicated the "toxic" properties of the sand, none was provided. Data from other, independent researchers working on Ascension indicated no such toxicity. Mike Goodier states that no data exists in the Mariculture Ltd. files which will support the claim of toxicity. The claim is completely without basis.

Further, while some beaches in Surinam are regularly and predictably eroded by high tides with the result that many green turtle nests are lost, the Mariculture employees who are responsible for gathering the eggs are reported not to always limit their efforts to the eroding beaches. Taking eggs from other beaches results in using eggs from viable nests. This practice seems to be largely limited to nights when inclement weather makes the trip to the distant eroding beaches an unsavory prospect. But it also refutes the Mariculture claim to use only doomed eggs in their reliance on wild populations of green turtles for eggs. It destroys their credibility, and their arguments that their use of wild eggs does not affect wild populations of green turtles.

Mariculture Ltd., has repeatedly claimed to return 1% of the hatchlings from wild eggs back to their country of origin for release into the wild. In fact this is not true. Inquiries by the New York Zoological Society revealed that at most Mariculture used to release 1% of the surviving yearlings (see copy of contract with Costa Rica). Since approximately 40% of the hatchlings are reported to be lost in the first year, release of 1% of the survivors would be .6%, not the 1% claimed. Goodier reports that even the .6% is in doubt, since no yearlings have been returned to their country of origin in recent years. The actual numbers of releases are far less than 1% if all years of operation are combined. In addition, the best stock is kept for later slaughter. Weaker stock is released. Again their credibility is weakened.

Mariculture claims to be intent on establishing a captive-breeding colony of adult green turtles which will supply all the eggs it needs for its operations. These captive-produced eggs will free it from any need to use wild eggs. Further claims have been made that captive-raised adults in the Mariculture "breeding lagoon" have already produced eggs in captivity. This claim is used as evidence of the success of the Mariculture operation. Yet, in spite of this claim of success Mariculture has been unable or unwilling to supply the New York Zoological Society with a projected date when they will be independent of wild eggs. Mike Goodier reported that the claim of captive-laid eggs was based on eggs being produced by a mixed group of wild-caught Ascension, Surinam and Costa Rican adult turtles and Mariculture captive-raised turtles. In 1975 the breeding lagoon at Mariculture was divided for the first time, and the wild-caught adults segregated from the captive-raised adults. Breeding and egg-laying reportedly took place this year only among the wild-caught specimens. This suggests that either the captive-raised specimens are not yet sexually

mature, or that captive-raised specimens will not breed and may indicate that Mariculture will never be independent of wild-caught turtles. Again the credibility of Mariculture is called into question.

Further while some eggs were produced by the captive group of wild-caught adult turtles, Mike Goodier reports the viability of the hatchlings from those captive-produced eggs is far lower than the viability of hatchlings from wild eggs. As mentioned above, the reported viability of hatchlings from wild eggs is 60% at the end of the first year (= 40% loss). In 1972 approximately 12,000 eggs were laid by the captive wild adults. At the end of April 1975, only 802 specimens remained alive from those eggs. Similarly in 1974 approximately 10,500 eggs were laid by the captive wild adults. By the end of April 1975, only 1,199 specimens of that group remained alive, and they were still dying. These two captive-produced groups represent an 11% survival rate at best, and greatly reinforce the argument advanced by Ehrenfeld in his publication cited above (Conserving the Edible Sea Turtle: Can Mariculture Help?) that the number of adult green turtles needed to produce sufficient eggs to support a turtle farm independent of wild stocks is so great that it would cripple the farm economically. This again weakens Mariculture's credibility.

Mortality rates of young captive wild turtles fall off dramatically after the first year. Yet unexpected increases in mortality can occur. For example, Goodier reports that in a 2 1/2 month period in early 1975, 15.5% of all of Mariculture's captive stocks were lost. This loss seems to have been associated with a switch in the artificial diet fed the animals. During early 1975, Mariculture reportedly switched from a 45% protein formula to a 33-35% protein formula in the period of one week. In addition, where in the past the turtles were fed to satiation, they are reportedly fed less than that now. The sudden switch seems to have stressed the animals.

One of the husbandry problems that Mariculture has encountered in its captive stocks is a malady they have termed "Floppy-flipper." Reportedly it frequently strikes specimens 2 years old or older and 35 or over in weight. Mike Goodier stated that tissue from a turtle that died of "floppy-flipper" will kill other turtles if fed to them. Cultures of the tissue suggest that the cause of the disease is a Clostridium-like organism, possibly Clostridium 21. In addition, several shipments of meat from Mariculture Ltd. have been denied entry into England because of the presence of Salmonella. Presence of Salmonella in pet turtles was the justification used by the U.S. Public Health Service for banning their interstate shipment. Yet despite the possible existence of a pathogen or a botulism-like toxin in the tissue of captive-reared turtles, the U.S. Department of Agriculture applies "fish" standards to the Mariculture abattoir, rather than one of the more appropriate higher standards for meat or poultry.

Finally, there is a serious question concerning the accuracy and authenticity of Mariculture's documentation of its operations. Under the proposed regulations (e)(3)(ii)(D)(1) and (2) the applicant for a permit must supply information from a complete and accurate system of records. Yet, according to Goodier, Mariculture is already using misleading or falsified documents. For example, the enclosed copy of a "Certificate of Origin" from the Cayman Islands Chamber of Commerce gives the impression that it is signed by an official of the Chamber of Commerce, but Goodier indicated that the signature scrawled in the lower righthand corner is that of just another Mariculture employee. Similarly, Dr. Joseph Jackman, the Cayman Island veterinarian, is reported to sign letters typed out by Mariculture certifying legal export of their products without his actually knowing anything about the source of the specimens or products (see enclosed copy of sample). How will the FWS or NMFS determine whether or not the documentation supplied with permit applications is real or not, whether the products are captive-produced or wild-caught?

There is another more serious problem associated with the aquaculture and marketing of sea turtle products, and that is the effect such sales may have on wild populations. Specifically, the misleading promotional materials produced by Mariculture have stimulated the market for sea turtle products, meat, soup, oil, calipee, shell and leather. The result is a demand for turtle products where no demand existed a few years ago (see enclosed advertising materials). This increased demand, which cannot be satisfied from the limited captive-raised stock, will result in more wild turtles being killed to meet the demand. While the proposed regulations would ban the import and export of wild turtles in the United States, they do not prohibit Mariculture from selling turtle products in Europe or elsewhere (see enclosed advertising materials). Even if Mariculture did not itself kill more wild turtles, other foreign companies would seek to fill the market demands with wild turtle products. In either event, more wild turtles would be slaughtered, and the species will be that much closer to extinction.

the Caymans Missed



Photo by Thomas R. Danielsen

s to the reefs that fringe the north and south coasts of all three islands.



Newday / Tom Redmond

A total of 566 billfish, mostly marlin, were caught in Cayman waters in 1984, attesting to the growing popularity of charter boat fishing. June is Million Dollar Month, with anglers vying for the big prize offered for a new international-record marlin.

If you really want to get away from it all, drive or take the ferry from George Town to the Cayman Kai resort community on the north side of the island. If there are any amenities missing here, I didn't notice.

On the other hand, if it's distance you crave, there are the other two islands. I didn't get to either, but some visitors who have say that there are nice accommodations on Brac and that Little Cayman is so lovely it should be made into a national park.

Golf came to the islands early in 1985 with the opening of the Britannia Course, designed by Jack Nicklaus. The course has nine holes in a conventional layout but tucked into the side of each fairway is another small green. This one is played with a special new Cayman ball, also de-

signed by Nicklaus. It travels only half as far as a regular ball.

As befits an island nation, the most plentiful foods are from the sea. Conch is made into burgers, fritters, stew and chowder. Cayman lobster is smaller and sweeter than the Maine variety. Try lobster mousse. Turtle is served as a steak in soup and turtle burgers.

You'll find these specialties and more conventional fare at spots like the Cracked Conch and the Lobster Pot. For more formal surroundings, try the Caribbean Club or Le Diplomat or the new Grand Pavilion Hotel, adjacent to that quirky golf course.

Probably the best-known and most controversial enterprise on Grand Cayman is the Turtle Farm, the only place in the world where the endangered green sea turtle is bred.

You'll see all ages, from hatchlings to giant adults. A large number of the turtles are released into the wild each year. The controversy arises over the number slaughtered for meat and souvenir products such as turtle-shell jewelry. Since 1978 the U.S. has banned the importation of all turtle products.

Shopping is good but not sensational. There are modest free-port bargains. The most identifiable Caymanian jewelry is black coral, locally crafted but no longer of local material. In a move to protect the reefs, the government banned the harvesting of coral, so now it, too, must be imported.

There's a Pirate Week festival each fall, but most Caymanians would rather you love their islands for their serene beauty, miles of uncrowded beaches and the gifts of wonder that lie beneath the sea.

If Columbus could see human divers swimming with stingrays and moray eels 100 feet down the sponge-covered wall, he'd be amazed at what his little pact with Isabella had nurtured. ■