

Second Class

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AU SERVICE DES INVESTISSEURS À TRAVERS LE CANADA

Mr. Randal Chau,
1754 Bertram Street,
Honolulu,
Hawaii,
U.S.A. 96816

March 15, 74

- Corporate prospectus
- New hope.
- Mariculture
- NW Supplement

AIR MAIL



RICHARDSON SECURITIES OF CANADA

SENIOR PARTNER: GEORGE T. RICHARDSON

WEST WIND BUILDING, N. CHURCH & FORT ST., GRAND CAYMAN, B.W.I. TEL: 9-4066 TELEX CP241

P.O. BOX 1095 1095

15th March, 1974

EAW/DMH

Mr. Randal Chau,
1754 Bertram Street,
Honolulu,
Hawaii,
U.S.A.

Dear Mr. Chau,

Thank you for your enquiry regarding Mariculture Limited.

We are enclosing some recent literature on the company which we trust you will find of interest. The current price of the share is CI\$5.15 net (US\$6.25 net).

As of now there are no other green sea turtle farms in the world, although I understand one had been started in Honolulu. However, Mariculture Limited plan to open another farm within the year in Puerto Rico.

If we can be of any further assistance please write to us again.

Yours sincerely,

Elizabeth Wiechers

ELIZABETH WIECHERS (Mrs)
Registered Representative

Encs.



ELIZABETH WIECHERS

REGISTERED REPRESENTATIVE
RICHARDSON SECURITIES OF CANADA
WEST WIND BLDG. N. CHURCH ST. & FORT ST.
P.O. BOX 1095, GRAND CAYMAN, B.W.I.

BUS.: 9-4066

**New
hope
for the
Green
Sea Turtle.**



New hope for the green sea turtle

It may seem a paradox for a commercial firm which is building a business in the sale of green sea turtle meat, shells and varied by-products to claim that its activities represent "new hope for the green sea turtle." Yet, that is precisely the claim made by the businessmen and scientists of Mariculture, Ltd.

To support this claim, this brochure will consider economics, research, history and the background and philosophy of Mariculture, Ltd. The reader who approaches with an open mind will, we are confident, agree that what first seemed a challenging paradox is in truth no more than simple fact. And that there will be a direct correlation between the growth and success of Mariculture, Ltd. and the survival of *Chelonia Mydas*—the green sea turtle—as a species.

History in brief: the turtle

Compared with the turtle and tortoise species, man is a relative newcomer on the earth scene. Many turtle species thrived during the Eocene epoch, some 60 million years ago. By contrast, the *Hominidae*—man's early forbears—didn't appear until the Miocene, a mere 20 or 30

million years ago. And *Homo Sapiens* did not come on stage until something more than 100,000 years ago.

From the earliest times of which knowledge exists, turtles occupied an important place in man's world. Aborigines of North Australia honored the turtle as a totem. Some Burmese tribes considered turtles divine and housed them on the sacred grounds of pagodas, feeding specially prepared delicacies to their captive deities. However, the taste for turtle flesh also extends well back into history. The Roman historian Pliny wrote of a cave-dwelling tribe near the mouth of the Red Sea who were pragmatic enough to relish a dinner of turtle, even though they worshipped the beast as sacred.

The Caribbean, Gulf of Mexico and warmer waters of the Atlantic have long been favored habitats for turtles. Here, too, men honored the species in religious symbolism while enjoying the pleasures of turtle steak. Tenth Century Mayans, building their great Yucatan city of Uxmal, decorated a major structure with deftly carved stone turtles and called it the "House of Turtles."

Later still, Columbus came upon some islands south of Cuba where he saw so many turtles on shore and swimming in the shallows that both



land and sea appeared to be studded with little rocks. This led him to call these islands *Las Tortugas*. Today we know them as the Caymans.

The European explorers who followed Columbus quickly came to appreciate turtle meat as a welcome variation from the miserable, scurvy-causing shipboard diet of those years. Explained one 18th Century gourmet, "The meat was sweet and tender, some part of it eating like chicken, some like veal."

All this lip-smacking appreciation was highly flattering to the green sea turtle—most highly prized of the species encountered—but it was also the cause of the species' nearly becoming extinct. As the population of the Caribbean and other warm-water shores in the western Atlantic built up, hunting the turtle and its eggs became a major activity. By the middle of the Twentieth Century the green sea turtle was well on its way to disappearing. University of Florida marine biologist Dr. Archie Carr stated that "... now many of the beaches which used to swarm with nesting turtles never see one, and the toll of over-exploitation ... has been reflected in declining harvests of eggs."

It was during the middle years of this century, with the growth of

research in the marine sciences and the study of wildlife, that man began to relate the decline of the green sea turtle to his own uncontrolled hunting. He had toppled the delicate balance of nature, where often only one or two hatchlings in 500 survive to adulthood.

Early in the 1960's began a series of events which led to the fact that today one can justify some optimism about the future outlook for the green sea turtle. It started with some scientists who began studying the turtles in the upper Florida Keys. In time, this research extended to the Cayman Islands. Study and thought led the researchers to the paradoxical conclusion which began this brochure: the green sea turtle's survival as a species could be assured only if the animal were raised commercially for its meat and other valuable by-products. Thus was born the idea for Mariculture, Ltd.

**History in brief:
Mariculture, Ltd.**

In the late 1960's, the time was ripe for a new kind of venture—the world's first commercial sea turtle "farming" operation. World markets for turtle meat and by-products were large and growing. But the supply of turtles in the wild was diminishing. Leading



conservationists and scientists were openly stating what has been already proposed as the theme of this booklet:

"If the sea turtle is to survive, it must be farmed," (Dr. Jacques Yves-Costeau, in one of his famous sea-exploration films.)

"The green sea turtle is the world's most important reptile, and sea farms for turtles are a necessity." (Professor Harold F. Hirth, in a report to the U.N. Food and Agricultural Organization.)

"There seems no inherent reason why *Chelonia Mydas* should not become a semi-domesticated meat animal of great value . . . Successful evolution of such culture would not only extend the means of taking food from the sea, but would quickly take the pressure off the wild sea turtle populations, and thus help save the species for the distant future." (Dr. Archie Carr, quoted by the International Union for Conservation of Nature and Natural Resources.) Another indication that the time was ripe was the fact that, while detailed knowledge about the green sea turtle was still relatively scant, sufficient research had been done to indicate the possibility of success in a well-managed, soundly-based undertaking with a responsible scientific character.

Considerations such as these led, in August of 1968, to the incorporation of Mariculture, Ltd. Grand Cayman Island was chosen as the headquarters for this corporation for several reasons. Historically, the Caymans had been a favored habitat and feeding ground for wild green sea turtles, although the depletions of recent years had seriously changed that picture. The Caymans are a British Crown Colony which enjoys extremely stable government, a healthy economy and a population of capable, hard-working people. Jet air service makes the islands readily accessible from South and Central America, other parts of the Caribbean, and Miami, and through Miami from all of Europe. Like the Cayman people, all the climates—political, financial and meteorological—are friendly.

The company's Board of Directors and management incorporates a strong mix of businessmen and scientists from the United Kingdom and the United States, with representation of local Cayman interests too. From the first, the company's orientation has been heavily in the direction of practical research into the rearing, mating, nesting, hatching and life of the green sea turtle. This was because the existing body of knowledge was sparse and successful farming—be it of



land crops or marine "livestock"—depends on knowledge.

Mariculture, Ltd., has also engaged in major projects aimed at conservation of the green sea turtle species—projects which have resulted in the hatching and growth of turtles in percentages far above that achieved by nature. This is a clear example of how Mariculture's own commercial interest in preserving the species coincides with the conservationist's interest in the same goal.

During the years of its existence, Mariculture has invested enormous sums of money and a staggering number of man-hours in research and conservation. And it is in the very nature of Mariculture's business to continue along these lines. Indeed, it is envisioned that the company will be—as a result of its success—in a position to donate healthy hatchlings from its own breeding operations to help repopulate the beaches and seas.

It would be no more than candid to acknowledge that the company has strong commercial motivation for the extensive investment it has made and continues to make in turtle

research and conservation.

But whether the motivation is commercial or not, the end result—so far as the turtle is concerned—remains the same, the very beneficial end result that for the first time in centuries there is promise of reversing the downtrend in the number of green sea turtles in the world.

The simple fact is that Mariculture's headquarters on Grand Cayman, and all the research and conservation activities that reach out in some cases thousands of miles from Grand Cayman, represents a happy three-way alliance of interests between Mariculture, with its commercial objectives, the conservationists devoted to preserving and restoring *Chelonia Mydas*, and the scientists dedicated to learning more about the green sea turtle.

Fig. 1: Hatch results from Mariculture's first mating and nesting in captivity, May 19, 1973. Note the percentage of hatching achieved and of hatchlings to enter the water—an impressive 91% of the total eggs laid. This is far higher than the percentage achieved in nature, even when the eggs are laid in favorable environments.

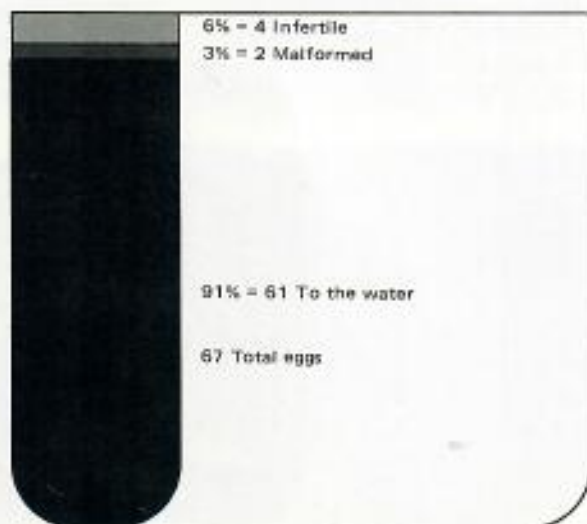


Fig. 1. Hatch results from Mariculture's first mating and nesting in captivity on May 19, 1973.

It is this alliance of interests which lies behind such Mariculture activities as the painstaking tagging projects carried out in several areas . . . the rescuing of "doomed" eggs from inhospitable shores for incubation and hatching . . . the experiments to determine the most beneficial diet . . . to touch briefly on only a few. (Further on, some Mariculture research and conservation activities will be discussed in some detail to document the value of the company's work in terms that will be meaningful to conservationists and scientists.)

Through its years of operation, Mariculture has established a pattern of close cooperation with and support of scientists pursuing turtle and marine biological research.

The company has retained a number of eminent scientists in the fields of physiology, microbiology and virology as full-time and part-time consultants to develop turtle technology and to maintaining and enhancing turtle health.

For many other researchers the company provides support in the form of supplying fertile eggs,

hatchlings and full-grown turtles, and by making available the use of its experimental pens and tanks at Turtleland on Grand Cayman.

And one of Mariculture's more significant projects is sponsorship of a non-profit making Division of Conservation and Research, headquartered at the farm on Grand Cayman. The company aids the Division with funds and practical assistance.

In short, while the initial motivation for Mariculture's extensive support of research and conservation activities is unquestionably commercial in nature, the end results are none the less beneficial. And a great deal of the research and conservation work leads

Fig. 2: Conservation release of hatchlings from eggs collected from inhospitable environment. Laid on beaches whose volcanic sand had previously been proved to render most eggs infertile, these eggs were collected and artificially incubated and hatched by Mariculture personnel. Hatchlings were deposited on the sand to crawl to the shallows for introduction to the water, then re-netted and conveyed offshore beyond the waiting predator fish.

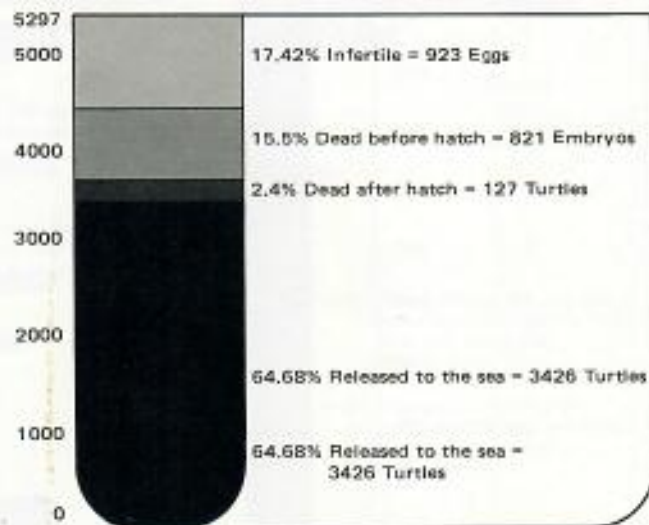


Fig. 2. Conservation Release, April 1973

to no direct benefit to Mariculture in a commercial sense, and thus might also be termed a useful by-product.

One further aspect of Mariculture merits mention at this point. By the very nature of the animals it deals with, this is one of the few enterprises which can be introduced into under-developed tropical islands. In the few years of its existence to date, Mariculture has already become Grand Cayman Island's biggest private employer. And the 1973 sales figures make turtle products the leading export commodity of this British colony.

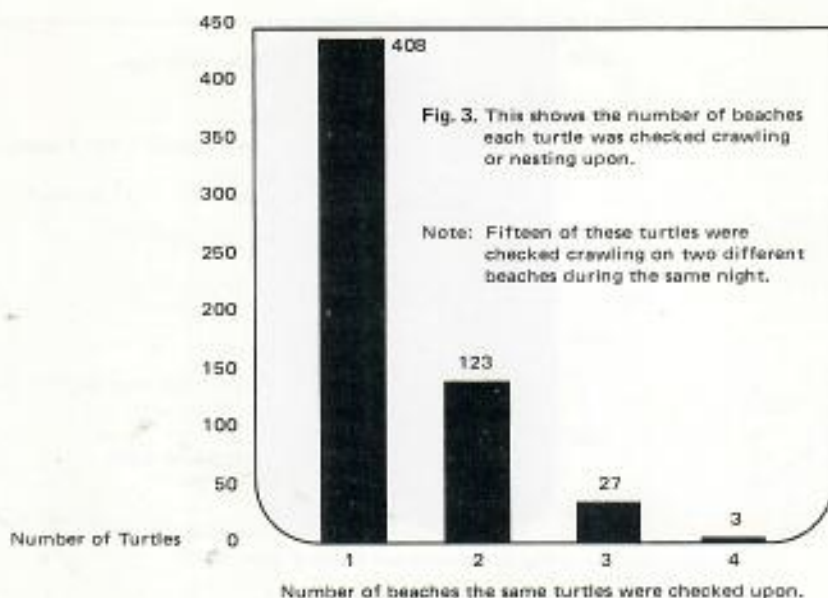
To arrive at this point, Mariculture has invested more than three million dollars. But there is one possible cloud on the horizon of this scene, which otherwise appears so favorable for science, the turtle and Grand Cayman as well as for Mariculture itself. The continued growth and success of Mariculture—and hence the continuation of the derived benefits mentioned above—depends on Mariculture's ability to continue collecting turtle eggs (mostly from inhospitable locales where

hatching would otherwise be most improbable) and on Mariculture's continued access to major world markets for its "farmed" turtle products.

But these Mariculture activities may be threatened by certain proposed international agreements and national legislation which makes no distinction between uncontrolled hunting in the wild and the marketing of "wild" turtle products, on one hand, and the controlled egg collecting and marketing of "farmed" turtle products, on the other.

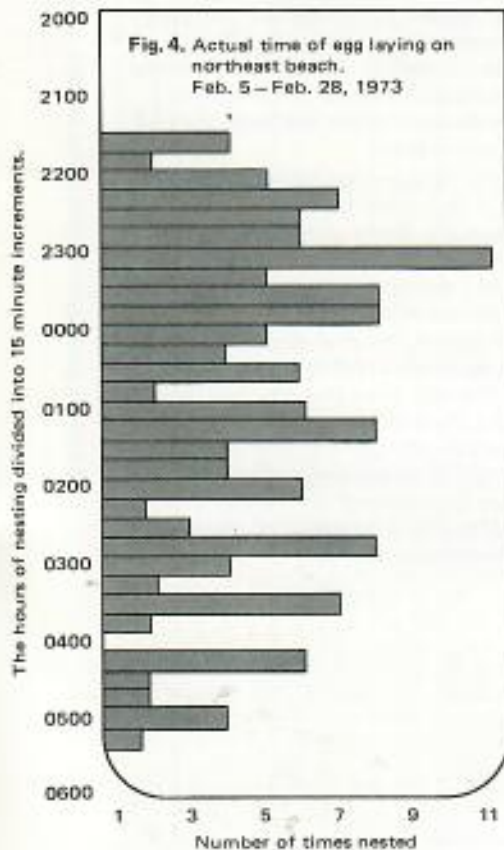
Unless these agreements and this legislation is structured to make this important distinction, the effects will be counter-productive to the objectives shared by Mariculture,

Fig. 3: With more than three-fourths of this group of turtles found only upon one beach during the nesting period, it can be assumed that previous belief that females return to nest on the beaches of their own hatching is for the most part valid. However, a surprisingly large percentage, though still quite a minority, were found in nesting activity on two or more beaches.



serious scientists and sincere conservationists. There will be increased incentive for uncontrolled hunting of the turtle and for distributing its products through a world "black market." There will be further depletion, and probable extinction, of the very species which all wish to preserve. The company will be completely unable to continue its own research and conservation activities and to lend its support to

Fig. 4: While egg laying took place during almost all quarter-hour periods between 2130 hours and 0530 the following morning, there is clearly a peak of activity just before midnight. However, Mariculture observers noted some surprising lesser peaks in the early morning hours too.

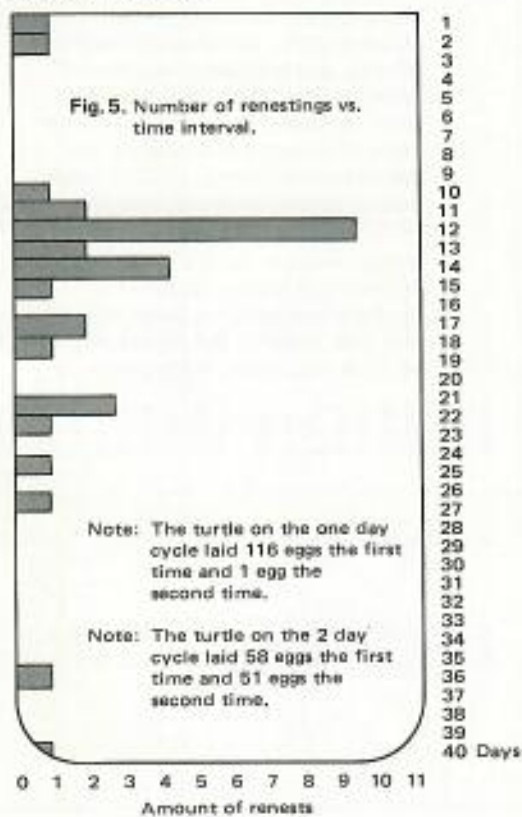


the research and conservation activities of others.

A major breakthrough by Mariculture and "new hope for the green sea turtle"

An historic event of major significance to all who are sincerely concerned for the survival of the green sea turtle species occurred on May 19, 1973. On that day, at Mariculture's Turtleland on Grand Cayman Island, female green sea turtles who had mated in captivity

Fig. 5: The cyclical nature of re-nesting patterns is clear from this chart. A semi-lunar cycle seems to be indicated for most of the turtles studied. As noted in the text, the females who nested in captivity at Mariculture's Grand Cayman facility followed the same cyclical pattern as turtles in the wild.



crawled out on Mariculture's man-made beach to nest and lay eggs which 60 days later successfully hatched. This was the first time in man's knowledge that *Chelonia Mydas* had achieved a complete breeding cycle in captivity.

Of interest to scientists and conservationists will be the following, excerpted from a report prepared by Mariculture observers.

Over three years ago (in 1969), male and female green sea turtles captured on the breeding beaches of Surinam, Guyana and Costa Rica were placed in an artificial breeding enclosure at Mariculture's Goat Rock headquarters—the start toward the long-term goal of becoming self-sufficient in terms of turtle egg production. Considerable thought, study and experimentation went into nutrition, environment, water characteristics, sex ratio and stocking density. But with prior experience totally non-existent, progress was slow. However, the reward for three years of investment and work and waiting came in April of 1973 when mating activity began to take place.

The mating activity seems to have been stimulated by the introduction of two male turtles captured on the breeding beach in Surinam earlier this year. Prior to the introduction of these two males, mating activity

had been observed on but one or two occasions in the three-year period. The new Surinam males were placed in the pond on April 12, 1973, and within 30 minutes one of these turtles was engaged in copulation. Matings occurred with increasing frequency after this, involving not only the new Surinam males but also males who had been in the breeding pond for two to three years. Females observed mating were from Surinam, Guyana and Costa Rica stocks. Mating continued on a regular basis through June 4, with occasional observations of mated pairs or mating attempts after this time.

During the period of peak mating activity as many as four pairs were observed mating at one time. Mating can be a protracted event for the green sea turtle, and one pair was observed copulating for 12 days in succession. The turtles exhibited normal courtship and breeding behavior in their artificial environment.

The first nesting attempt occurred 35 days after the onset of mating activity. Some turtles crawled onto the artificial beach during the night and dug body pits, but returned to the water without laying. On day 38, however, the first turtle nested and deposited a clutch of 68 eggs.

The eggs from this nest have now hatched, producing 61 healthy turtles which entered the water. These hatchlings are the first ever known to be produced in a captive situation. (See Fig. 1 for graph of these hatch results.)

Extracts from Mariculture turtle tagging for conservation purposes.

Date 1973	Time	Beach	Tag #	Lengths	Width	Type Measurement	Eggs Laid	Comments
Feb. 17	03.30	D	B1890	45"	43"	2	Not sure	
Feb. 18	22.25	D	B1891	45"	40 1/2"	2	136	Recorded egg sequence
"	22.50	D	B1892	44 1/2"	45"	2"	DWL	Chunk out of left rear flipper
"	23.10	D	B1893	42"	40"	2	74	
Feb. 17	23.40	F	B1894	44 1/2"	31 1/2"	1	DWL	
"	23.50	F	B1895	42 1/2"	33"	1	DWL	One barnacle on mid-dorsal
"	23.50	F	B1896	43"	33 1/2"	1	DWL	Right rear flipper missing a piece
"	00.10	F	B1897	40 1/2"	32 1/2"	1	DWL	Had been digging at least 2 hours
"	02.00	N	B1898	42 1/2"	32 1/2"	1		
"	02.05	N	B1899	43 1/2"	31 1/2"	1		Notch in left rear snout - scar from old tag in right front flipper.
"	02.10	N	B1900	43 1/2"	35"	1		Tagged digging
Feb. 12	06.20	B	B1928	45 1/2"	33 1/2"	1	DWL	Right front flipper split half-way in from end - 3 large barnacles on right side and left marginals
Feb. 13	21.12	N	B1929	40 1/2"	32 1/2"	1		Notch in left rear marginal
"	21.20	N	B1930	46 1/2"	35 1/2"	1		Notch in 2nd marginal from left rear
"	21.35	L	B1931	43 1/2"	33"	1		Big barnacles on rear dorsal scute
"	21.45	K	B1932	44 1/2"	34 1/2"	1		
"	22.30	J	B1933	44 1/2"	35"	1		Notch on right rear marginal
"	23.40	F	B1934	41 1/2"	30 1/2"	1		
"	23.45	F	B1935	43"	32 1/2"	1		Old tag of years before had torn out - well healed
"	23.50	F	B1936	45 1/2"	35"	1		
"	23.55	F	B1937	42"	32 1/2"	1		Notch in right rear marginal
"	01.30	A	B1938	45 1/2"	34 1/2"	1	DWL	1 nest try
"	01.35	B	B1939	45 1/2"	34 1/2"	1		Large chunk out of left side completely healed, also hole in right front flipper
"	01.45	B	B1940	44 1/2"	34"	1	145	
"	02.50	E	B1941	42 1/2"	34"	1		
"	02.55	E	B1942	41"	32 1/2"	1		
"	03.10	E	B1943	44 1/2"	35 1/2"	1		Notch in left rear marginal
Feb. 14	22.10	C	B1944	40 1/2"	34"	1	DWL	Dug 1 nest
"	22.35	B	B1945	46 1/2"	34 1/2"	1		
"	22.37	B	B1946	44 1/2"	36"	1		
"	22.45	B	B1947	41 1/2"	31"	1		
"	00.05	C	B1948	-	-	1	DWL	Dug 1 nest
"	00.40	E	B1949	41 1/2"	32 1/2"	1		Large bump on mid dorsal scute about 1/2 grapefruit size - part of left rear flipper missing

Nesting has continued at an ever increasing pace, with as many as nine nests produced in the eighth week of nesting activity. Sixteen different turtles have nested to date, nine from the Surinam/Guyana stock and seven from the Costa Rica stock.

The nesting behavior of these turtles appears to conform to that observed in wild populations despite the artificial environment. The re-nesting interval is a relatively constant ten days. Individual turtles have nested up to five times, with one particularly prolific individual producing 898 eggs at the time of this report. The average clutch size for the Surinam/Guyana females is 139.67 eggs with a mean egg size of 45.00 mm. The Costa Rican turtles average 83.78 eggs per clutch, with a mean egg size of 43.85 mm.

It is interesting to note that the nesting activity of these "imported" turtles in Mariculture's man-made facility is occurring during the normal nesting period for wild green sea turtles in the Cayman Islands.

Our turtles from the beaches of Surinam/Guyana and Costa Rica have evidently adapted their breeding activity to local Cayman conditions controlling nesting seasonality.

Total egg harvest to date is 8000+ eggs, with a predicted yield of over 10,000 eggs for the 1973 nesting season, and it is expected that over 90% in captivity will be successfully hatched.

The production of turtle hatchlings under captive conditions is indeed a significant advance in the field of turtle "farming." Large scale egg production is now a matter of refining our management techniques and increasing the size of our breeding herd.

Future implications of this breakthrough in captive reproduction are extremely important. Genetic selection for faster growing, healthier turtles is now a possibility. Turtle farming can look forward to becoming free from its dependence on wild nesting populations. A truly self-contained farming operation can supply turtle meat and by-products for the world market, making it uneconomical for anyone to hunt the dwindling stocks of wild animals for commercial purposes. And we can look to a future time when the depleted population of wild turtles can be replenished with some of the turtles bred and contributed by Mariculture.

The above report, already significant in the breakthrough it describes, draws even greater importance in the light of the quotations cited earlier in this brochure. The ideas of Dr. Jacques Yves-Costeau, Professor Harold F. Hirth and Dr. Archie Carr are indeed on the threshold of realization.



**Some other examples
of Mariculture research and
conservation activities**

Since the very establishment of a breeding herd large enough to form the foundation for commercial farming requires collecting eggs in the wild, Mariculture has developed guidelines and procedures to assure that this collecting activity also contributes to the preservation of the species and that healthy hatchlings are maximized.

All egg collecting is done, of course, with the complete approval of the government having jurisdiction over the nesting beach.

The majority of eggs collected for incubation and hatching by Mariculture are selected from inhospitable environments where, in the natural course of events, successful hatching would be most improbable. This may be because the nesting beach is made up of sand with a high lava content, which renders most of the eggs infertile. Or, in other cases, the eggs may have been deposited on a beach subject to severe erosion, so that most of the eggs end up being washed into the sea prematurely and thus would fail to hatch. (See accompanying photograph.)

By collecting eggs from such environments, Mariculture can increase by an enormous order of magnitude the percentage of successful, healthy hatchlings. The graph in Fig. 2 illustrates a project involving 5297 eggs collected in April of 1973 from a beach where a high proportion of volcanic ash or dust in the sand rendered most eggs infertile, as had been established in previous studies. The eggs collected were placed in a special type of styrofoam incubating box developed by Mariculture personnel, and artificially incubated and hatched. After hatching, the turtles were allowed to crawl down the beach into the in-shore waters. But, to give them the greatest possible chance for survival, they were there netted and transported offshore. Then these young hatchlings were released beyond the ring of predatory blackfish and groupers waiting hungrily just beyond the shallows. The number thus released, 3426 turtles, was far greater than could have been expected to hatch and make their way to sea if left to the vagaries of nature.

**New insights into
nesting and egg laying habits**

As another example of the contribution made to scientific



knowledge by Mariculture's studies of *Chelonia Mydas*, Figures 3 and 4 show some findings related to nesting and egg laying.

An area of great interest to researchers has been the instinctual pattern which appears to bring female green sea turtles back to the beach where they themselves hatched when nesting and laying time approaches, perhaps three or more years after their own birth. From the Mariculture studies, it appears that the female turtles do indeed tend to return to their own nesting beaches, but the instinct is not quite so unerring as had been thought.

Often a nesting female will "miss" by from several hundred yards up to several miles—still quite an impressive navigational feat considering the interval of years and the distances of thousands of sea miles she may have roamed before coming back to nest. The graph in Fig. 3 shows that, in a nesting session of several nights, more than 20% of a checked group of females were found crawling on more than one beach. However, romantic tradition is by no means completely destroyed. Well over 75% limited their activities to one beach, and in the absence of positive knowledge to the contrary we can hold fast to the conviction that this

great majority were crawling and nesting on the beaches of their own hatching.

Egg laying "by the clock" and (maybe) by the moon

By careful observations on Ascension Island beaches during the period February 5 to February 28, 1973, it was determined that there is a very clearcut time pattern to green sea turtle egg laying. Fig. 4 shows that the laying—all at night, as has long been known—is scattered through the period from 2115 hours to 0515, but there is a definite peak to the curve between 2200 and 2400 hours.

With the above studies helping to pinpoint the laying pattern as to hour of the night, there still remain interesting questions about the laying pattern as to longer-term cycles. Mariculture studies referred to above indicate a very definite tendency, on Ascension Island, to re-nest in periods of from 10 to 15 days, strongly suggesting a semi-lunar cycle (Fig. 5). But when Mariculture observations in other nesting areas are considered, the picture is seen to be not quite so simple. For example, the nightly nesting pattern of green sea turtles in Surinam follows an equally definite *tidal* cycle. And while there is a strong



relationship between moon cycles and tidal reactions, there are also inconsistencies which remain for the researcher to resolve.

The above-cited material represents but a small fraction of the careful research done by company personnel, and clearly indicates how closely related are Mariculture's commercial interests and the gathering of knowledge about these fascinating creatures. Mariculture's efforts have, indeed, served the scientist and the conservationist very well. And the continuation of such efforts, with the resulting accumulation of knowledge, can only continue and grow if Mariculture is permitted to continue and grow. In this sense too, then, the success of Mariculture represents "new hope for the green sea turtle."

The importance of developing food from the sea.

Thus far in this brochure, we have discussed several reasons why the serious researcher and sincere conservationist should consider the success of Mariculture important: the opinion of leading authorities that only commercial farming can assure the long-term preservation of *Chelonia Mydas*; the company's investment of over three million dollars and years of work in turtle

research and conservation; Mariculture's support of the work of independent researchers; the fact that availability of superior "farmed" turtle meat and by-products will eliminate the economic incentive for a "black market" in products of the wild turtle; Mariculture's significant contribution to scientific knowledge about the green sea turtle; and, perhaps most significant, Mariculture's achievement in bringing about the first mating-nesting-hatching cycle ever to take place in captivity. There is one more important consideration to be weighed.

The world's population is increasing at a rate alarmingly faster than the rate of increase in the world's food supplies. One-third of the world's people suffer from malnutrition right now. Scientists tell us that the world's food supply must *triple* by the year 2000. Yet, there is a limit to the land suitable for farming and stock-raising, and a limit to how much the productivity of that land can be increased.

On the other hand, it is estimated that one acre of salt water five feet deep can produce 200,000 pounds of green sea turtle per year. The same volume of water would produce only 4,000 pounds of catfish or 600 pounds of milkfish, two other species



under serious consideration for "sea farming." And for an illuminating contrast, one acre of land produces a mere 800 pounds of beef.

Given these facts, it is little wonder that thoughtful people—scientists, people in government, and many ordinary concerned men and women—ponder man's future on this globe that is almost three-fourths covered with salt water, and think in terms of food from the sea. And given the extraordinary protein value of turtle meat, Mariculture's development of commercial farming technology for the green sea turtle assumes major importance. Clearly, the successful realization of the idea behind Mariculture holds enormous promise not only for the preservation and restoration of the green sea turtle, but also for the feeding of man himself.

Summary

If the international convention and the national legislation based on it are changed to encourage the responsible type of commercial green sea turtle research and farming done by Mariculture, the prospect will improve immediately. For one thing, the meat and by-products of the farmed animal are far superior to those of the wild animal. For another, competitive operations like Mariculture can assure world markets an adequate supply of turtle meat and by-products, thus helping hold prices and supplies at a level which make illegal hunting of the wild

animals unprofitable. On the less commercial side, the research and conservation activities of Mariculture can not only be continued, but actually extended, as commercial success makes greater funds available. And finally, the day will be brought closer when Mariculture will be in a position to draw from its own then self-sustaining herds a percentage of hatchlings to be released in the wild rookeries, thus speeding up the return to the seas of the world of great numbers of this fascinating, strangely beautiful creature.

In short, Mariculture has already brought closer—by its research and conservation activities, especially by its success in achieving a complete breeding cycle in captivity, and by its development of commercial "farming" technology—the dawn of "new hope for the green sea turtle."

Now it remains for dedicated scientists and sincere conservationists to see that this dawn of new hope is realized, by exerting every effort to make proposed legislation distinguish between trade in products derived from uncontrolled hunting of turtles in the wild and trade in products derived from commercially farmed turtles. And by providing, in this legislation, for the carefully regulated collection of eggs by responsible interests, such as Mariculture.

There exists here a rare opportunity for businessmen, scientists and conservationists to work together toward a goal they all share: new hope for the green sea turtle.

MARICULTURE LIMITED

There are eleven directors,
with the following five serving as
the executive committee:



IRVIN S. NAYLOR

President and one of the founders
of Mariculture Limited.

Irvin Naylor, was born in Maryland
in 1935, and educated at McDonogh
School, Maryland and the University
of Miami where he spent a year as
a graduate instructor.

He went on to be production
supervisor at Stanley Building
Specialties Co., Florida, and then for
the next three years plant manager
at Penn Wood Box Supply Co.,
Pennsylvania.

Mr. Naylor founded a number of
his own companies which include
Lok-Box Inc. Pa., Ski Roundtop Inc.
Pa., Cor-Box Inc. Pa., Ski Yellowstone
Inc. Montana, and Mariculture Ltd.,
Cayman, B.W.I.

He also developed the Racquet Club
of York, Pa., is a director of the York
Water Co. Pa., and owns a tobacco
farm, several dairy farms and
substantial real estate.

Mr. Naylor was chairman of the
York County March of Dimes and a
director of the American Institute of
Industrial Engineers from 1963-1964.
His home is in York, Pennsylvania.



MICHAEL R. GOODIER

Managing Director —
Mariculture Limited.

Michael Goodier was born in 1937
and educated at Wallasey Grammar
School, Harris College and
Wellington House.

As a student at Leyland Motors
he completed courses in all practical
aspects of mechanical engineering,
including metallurgy, laboratory work,
engine vehicle testing and military
equipment testing. He was connected
with original test work on the PI
Lightning Fighter and Canberra Jet
bomber. He won the Sir Henry
Spurrier Award for student
apprentices.

After successfully studying thermo-
dynamics, workshop technology,
physics and business management,
Michael Goodier worked for two years
in Leyland's London head office,
with specific reference to European
technical sales for Middle East
countries, Holland, Germany, France
and Spain.

He left Leyland Motors to develop
a number of companies which covered
all aspects of commercial fleet
maintenance, pressure vessel

fabrication shop, private vehicle sales and repairs, and two retail motor shops. Eight years later he sold all these interests to a north-western commercial group.

A short-term assignment took Goodier to the West Indies to advise on heavy equipment maintenance and quarry work. After six months he joined Mariculture, and is now the resident Managing Director in Grand Cayman.



KEITH, J. NORMAN
Finance Director –
Mariculture Limited.

Keith Norman was born in London in 1927, and educated at High Wycombe Grammar and Quintin Schools. He served with the Indian Army in the Far East, and graduated in engineering from King's College, London in 1952.

After two years in professional practice, he spent five years in the U.S.A. in graduate studies, teaching and research at Cornell University, Harvard University and the Massachusetts Institute of Technology, mainly business administration and economics.

Mr. Norman returned to the U.K. in 1957, and spent 13 years with the U.K. Atomic Energy Authority; the last five as commercial director.

In 1970 he joined the Commonwealth Development Finance Company Ltd. as regional director responsible for investments in the Caribbean and Latin America.

Mr. Norman became a director of Mariculture Ltd. in 1971 and finance director in April this year.



MARK FISHER
Director – Mariculture Limited.

Mark Fisher, the son of Antony Fisher, was born in 1941, and educated at Eton and Harper Adams Agricultural College, Shropshire. After leaving Harper Adams, he spent six months in the U.S.A. studying modern methods of American agriculture. On his return to the U.K. he became involved in the agricultural side of the broiler chicken business, and with large-scale commercial egg production.

At present, Mark Fisher manages 1,000 dairy cows, on an intensive system. For the last four years he has

also been involved in building up a small earth-moving company, and he has been with Mariculture since its inception.

Mark Fisher is married, with four children. He "commutes" between the family farm at Framfield, Sussex, and the Cayman Islands.



HENRY M. HAMLIN

43 years old.

Educated at the Hotchkiss School, Lakeville, Conn., graduated B.A., Yale University 1951.

Graduate work at Texas A&M and Rochester Institute of Technology.

He lives near Rochester, New York, where he is an officer and director of the Morgan Machine Co., a manufacturer of heavy machinery.

He is a Vice President and director of Riverton Properties, Inc., the developer of the U.S. federally approved New Town of Riverton which will have an eventual population of over 30,000.

In addition, Mr. Hamlin founded and is President of International Raceway Parks which owns and operates four motor vehicle race tracks in Washington, Oregon and California.

The six non-executive directors are:

DR. SAMUEL AYRES, III

Leading U.S. dermatologist in

private practice in Beverly Hills, California, and associate professor of medicine at the University of South California.

MRS. VETA MERREN BODDEN

Managing Director of one of the Cayman Islands' oldest and largest businesses, and director of a local hotel company.

JOHN COLLINS

Manager and secretary of the Bank of Nova Scotia Trust Company (Cayman) Limited, and company secretary of Mariculture Limited.

EDGAR FAIN

Prominent U.S. industrialist.

ANTONY G. A. FISHER, A.F.C.

A founder of the company, aged 57 years old, British economist and author, and one of the pioneers of the broiler chicken industry in Europe. He founded the Buxted Chicken Company Limited, in England in 1954.

ROGER J. WEBSTER

Aged 35 years, regional director of the Commonwealth Development Finance Company Limited, for the Caribbean and Latin America.

DIVISION OF CONSERVATION AND RESEARCH

Head Office: P.O. Box 645, Grand Cayman, B.W.I.

CHAIRMAN

Professor Sir Alan Parkes, E.B.E., F.R.S., Ph.D., D.Sc., Sc.D., M.A.

ADVISORY COMMITTEE:

Professor Emanuel Ciprian Amoroso, C.B.E., F.R.S.

Dr. Samuel Ayres, III

Dr. Harold Haines

Mr. Gerbert Rebell

Dr. Marvin Ryberg

STAFF:

Mr. Michael R. Goodier, Managing Director

Mr. Marlin H. Simon, B.Sc.

Mr. Glenn Ulrich, M.Sc.



THE CORPORATE PROSPECTUS

MARICULTURE, Ltd.

P. O. Box 645, GRAND CAYMAN ISLAND, BRITISH WEST INDIES

(Incorporated under the Companies Law 1960)



INDEX

	Page
I TERMS OF ISSUE	3
II HISTORY AND BUSINESS	4
1. Brief History of the Company.....	4
2. Present situation at Goat Rock Farm	4
3. Insurance	5
4. Research and Development.....	5
(i) Nutritional Studies.....	5
(ii) Health Research	5
(iii) Captive Breeding Research	5
(iv) Future Research Goals	5
5. Marketing.....	6
6. Conservation	7
7. Purpose of this Issue.....	7
III MANAGEMENT AND STAFF	8
1. Executive Management	8
2. Consultants	8
(i) Captive Breeding Research.....	8
(ii) Health and Nutritional Research.....	9
3. Resident Research Staff	9
IV AUDITED RESULTS, FORECAST ACCOUNTS AND FUTURE PROSPECTS	9
1. Accounts.....	9
2. Feed Costs.....	9
3. Numbers of Turtles.....	10
4. Ancillary Programmes.....	10
5. Competition.....	10
6. Speculative Nature of the Business	10
V GENERAL INFORMATION ABOUT THE COMPANY	11
1. Share Capital	11
2. Corporate History	11
3. Franchise	12
4. Taxation	12
5. Share Quotation	12

INDEX (Continued)

	Page
VI CURRENT CORPORATE INFORMATION	13
1. Directors	13
2. Officers	14
3. Bankers	14
4. Lawyers	14
5. Public Relations Advisors	14
6. Auditors	14
7. Reporting Accountants	14
8. Resistered Office	14
9. Registrars	14
VII MISCELLANEOUS INFORMATION	15
1. Articles of Association	15
2. Major Shareholders	15
3. Directors Service Contracts	15
4. Options to Purchase Shares	15
5. Expenses of the Issue	16
6. Subsidiaries	16
7. Litigation	17
8. Consents	17
9. Inspection of Documents	17
10. Representations	18
APPENDIX A: ACCOUNTS — JULY 31, 1973	19
Balance Sheet	19
Profit and Loss Account	20
Notes to the Accounts	21
Report of the Auditors	23
APPENDIX B: FORECAST ACCOUNTS — OCTOBER 31, 1973	24
Forecast Balance Sheet	24
Forecast Profit and Loss Account	25
Notes to the Forecast Accounts	26
Report of the Accountants	27

PROSPECTUS

MARICULTURE LIMITED

(Incorporated under The Companies Law 1960 of The Cayman Islands)

Issue of 500,000 ordinary shares of CI\$2.00 each at a price of CI\$8.00 per share.

I TERMS OF ISSUE

The total issue of 500,000 shares is being made in two parts; a Rights Issue to existing shareholders of approximately 250,000 shares and an Additional Issue of approximately 250,000 shares being offered to non-shareholders at the same price.

Under the Rights Issue each shareholder has the right to subscribe for one ordinary share for each three ordinary shares of the Company of which he was registered as the holder on September 21st 1973. Any resultant fractions will be ignored.

The price of the new shares is CI\$8.00 per share and is payable in full on acceptance or application and in the case of the Rights Issue this price must be paid on or before November 1st 1973. The Company is not entering into any underwriting agreements in respect of this issue. By September 28th, 1973, the Company has received qualified commitments to subscribe to the issue from Commonwealth Development Finance Company Limited, various Directors and Sterling Bank and Trust Company Ltd., for a total amount in excess of CI\$1 million.

A Provisional Allotment Letter has been sent to each shareholder. Such provisional allotments may be accepted totally or partially, split or renounced in accordance with the instructions contained in the Provisional Allotment Letter. Any provisional allotment in respect of which payment has not been received in full by the close of business on November 1st 1973 will be cancelled. New shares provisionally allotted but not accepted are being offered for sale. Application for these shares may be made on the PINK application form.

Applications for shares under the Additional Issue must be for multiples of 50 shares and should be made on the BLUE application forms on or before November 1st 1973 provided that applications may be excepted at the discretion of the Directors until December 15th, 1973, provided that this part of the issue has not been previously fully subscribed. Share certificates will be available on or before January 1st 1974.

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II HISTORY AND BUSINESS

1. Brief History of The Company:

The Company was incorporated on October 8, 1968 and within a few months it had established a small-scale prototype farm for the raising of green sea turtles (*Chelonia mydas*). The first farm was located at Salt Creek, Grand Cayman, B.W.I., using floating fibreglass tanks as turtle rearing pens. At its peak at the end of 1970 the Salt Creek farm contained about 30,000 turtles with a livestock gross weight of approximately 200,000 lbs.

Based on the information obtained from the Salt Creek farm, the Company decided in early 1970 to build the first full-scale commercial turtle farm. The location selected was Goat Rock, West Bay, Grand Cayman, B.W.I., and the basic design was for a completely land-based farm, using concrete pens for livestock. The lay-out of the farm also included a large man-made pond and nesting beach for the growing stock of breeding turtles.

The original design of the Goat Rock farm provided a total volume of approximately 1,451,000 gallons of water for turtle raising and about 800,000 gallons of water for the breeding stock pond. A pumping capacity of some 1,320,000 gallons of water per hour was involved.

The initial construction phase of the Goat Rock farm was completed during 1971 and the Salt Creek facility was phased out as stock was moved to the new farm. Since then there has been a continuous process of expansion of the physical facilities of the Goat Rock farm to cope with the steadily increasing number and weight of livestock. By 1973 further expansion has involved capital expenditure in excess of CI\$500,000, this money being invested in an increase in pond capacity for raising stock, building a new egg hatchery, building an abattoir, and the acquisition of adjacent properties necessary for the additional facilities.

To maintain a steady input of livestock the company has organised (with the full approval of the Governments involved) the collection of turtle eggs from nesting beaches in Costa Rica, Surinam and Ascension Island. Collections have concentrated on nests endangered by predators or other natural hazards and the company has, in collaboration with local conservationists, arranged to make releases to the sea of turtles hatched from eggs which would otherwise almost certainly have been doomed.

Over the past few years the Company has also built up a stock of 250 turtles for breeding purposes; this breeding stock is made up of 70 mature turtles captured in the wild and carefully selected stock from turtles reared on the farm. Intensive efforts have been made by the Company and its scientific advisers to research and develop the breeding habits of the turtle, to enable the Company to establish the domesticated breeding of turtle stock, and thus further protect the species in the wild. A most important success in these efforts was achieved earlier this year when substantial mating took place in the breeding pond at Goat Rock; by August 31st a total of 11,512 eggs had been laid in 94 nests on the man-made nesting beach. The Company is currently achieving over 90% hatching from these eggs.

By October 1972, the first group of stock on the farm had grown to an average weight of 90 lbs. per turtle, a weight considered suitable for commercial slaughter. At that time this group were 48 months old, having been reared from the first egg collection made by the Company in August of 1968, in Costa Rica.

2. Present Situation at Goat Rock Farm

At August 31, 1973, the company had a total stock of more than 100,000 turtles on the farm at Goat Rock. These turtles, ranging from a few weeks to three years old, are housed in 123 production tanks: 40 circular concrete tanks, 6 rectangular concrete tanks, and 77 fibre glass tanks. In addition the Company maintains 58 fibre glass tanks and 61 concrete tanks for conducting experimental tests in support of the research and development programme.

The book value of the Fixed Assets of the Company at July 31st 1973 are shown in the Balance Sheet at C1\$494,512. The land and buildings at Goat Rock excluding all specialist turtle-rearing facilities (tanks, pumps, pipework, slaughterhouse hatchery, etc.) have been independently valued at C1\$315,000; this valuation is referred to later in this prospectus and may be inspected.

3. Insurance

All buildings, equipment, machinery, etc. and the stock of turtles are insured at Lloyds against all normal risks (including hurricanes and hurricane damage) for C1\$1,442,500. The Company also has products liability insurance cover, and adequate and sufficient cover for all normal business risks. The products liability insurance was under negotiation at the time of the interim accounts (July 31st, 1973), and is now in effect.

4. Research and Development

(i) Nutritional Studies

The Company, in conjunction with its feed suppliers, has developed satisfactory feeds using fish meal and soya bean meal as protein bases. Nutritional research is now being concentrated on the development of the most economic feed formulations. Numerous feeding trials have been and are presently being conducted to test various feed formulations for their potential to produce rapid growth and efficient food conversions. Reformulations of present feeds, using lower cost ingredients, are being tested to determine their acceptability. Completion of this research will provide the Company with a better understanding of the basic nutritional requirements of green turtles and make possible more efficient and less costly feed formulation.

(ii) Health Research

Health control research for green turtles was, until recently, an uncharted area. Almost nothing was known of the parasitic, bacterial and viral diseases of turtles until the Company's scientific consultants began their work.

In-depth research is being done in the fields of medical treatment, environmental conditions, drugs, the inclusion of preventive medications in feed formulations, etc., and the results of this research are applied in improving the health of the herd. Premature mortality, the greater part of which occurs within a few weeks of hatching, will never be entirely eliminated. However, as a result of better farming and health control techniques, there has been a continuous improvement in the performance of the Company in this area.

(iii) Captive Breeding Research

Other scientific consultants of the Company are conducting research into the reproductive physiology of the green turtle and the techniques necessary to manipulate reproduction. Successful control of the reproductive cycle would make possible a regular and adequate supply of eggs, releasing the Company from its current dependency on wild nesting stocks. The recent success of the Company in captive breeding and healthy hatchling production has proved that it is indeed feasible to produce substantial numbers of turtles in captivity.

Offspring from the captive breeding stock are being selected for use as future breeding stock. Genetic variability studies utilizing these farm-bred hatchlings are also being undertaken.

(vi) Future Research Goals

Nutritional research will concentrate on the cost effectiveness of various feed formulations. Research to determine optimum stocking densities and other commercially relevant environmental parameters will be continued to attain maximum cost benefit.

The scope of health research will be expanded to seek answers to existing problems and to deal with new problems as they arise.

Captive breeding research will continue to be oriented towards achieving control of the reproductive potential of the breeding stock for purposes of maximising egg production and hatching success and toward the development of a genetically superior strain of green sea turtle.

5. Marketing

In many respects the marketing of the products of farmed green turtles is a unique operation. Prior to October 1972 there had been no reliable source of quality turtle products available in the world. The challenge facing the Company was, therefore, to provide turtle products based on a reliable source, with assurance of continuity of quality standards.

Since its formation in 1968, and prior to the commencement of slaughter in October last year, the Company had received many unsolicited enquiries for turtle products from many parts of the world. These were followed up in the initial marketing programme, which consisted of an intensive drive to service outlets and channels of distribution for the wide range of products becoming available. The marketing campaign was originally concentrated in the United States, the United Kingdom, the Caribbean, and Europe, but the scope was quickly expanded to include prospective customers in Japan and elsewhere.

In the first six months of marketing, most of the Company's efforts involved trial shipments and sample supplies, resulting in very little net revenue to the Company. At the end of this period, however, firm outlets had been established for turtle meat, leather, calipee, calipash and shell, with growing assurance in each of these markets that the Company can sell its entire output at attractive prices. Potentially substantial markets for turtle shell jewellery and turtle oil are now developing. Oil from the green sea turtle has potential for steroid derivation and drug application. Technically, it can be fractionated into both heavy and light fractions; it is an easy oil to work with, having many of the same technical characteristics as whale oil. Oil sales have been affected both by conservation legislation in the U.S.A. (California and Illinois) and a major re-organisation of one of the main users of turtle oil. It is expected that both these problems will soon have been overcome.

An indication of the firmness of the markets available is the steady increase in prices which the Company has been able to obtain over the first nine months of commercial trading: these have ranged from a 25% to a 200% price increase for major turtle products over the period. The gross revenue now being obtained by the Company per pound of turtle (wet weight) is C1\$1.25. This figure is confidently expected to increase substantially.

The following tables gives an indication of the relative value to the Company of the main turtle products and of the geographic distribution of the markets of the Company over the first nine months of commercial trading:

<u>Product</u>	<u>% of value</u>
Meat Products	22.7
Fat/Oil	38.5
Offal.....	1.5
Soup Products (Calipee, Calipash and Flipper)	5.5
Leather Products.....	12.1
Shell Products.....	<u>19.7</u>
Total.....	<u>100.0</u>

<u>Market Area</u>	<u>% of sales</u>
North America	38
Europe (including U.K.)	23
Far East	31
Caribbean (including Cayman)	8
Total	<u>100</u>

6. Conservation

Worldwide interest in conservation affects the Company in that the green turtle is considered by the International Union for the Conservation of Nature to be a "threatened" species. The Company's activities help to perpetuate the species by providing a source of farmed products for the world's turtle product markets, thus reducing the demand for wild turtle products. In addition the Company is increasing the wild turtle population by its programme for recovering turtle eggs from endangered nests and releasing the hatchlings on natural beaches.

The most significant step towards the protection of endangered and threatened species is The Convention on International Trade in Endangered Species of Wild Flora and Fauna signed in Washington D.C. in March 1973 by the representatives of some eighty countries. The green turtle (*Chelonia mydas*) is included in the list of "threatened" species set out in Appendix II of the Convention, and the Convention will form the basis for legislation in each of the signatory States. This Convention permits the import and export of green turtles on conditions which the Company will be able to meet. International trade in wild turtle products between parties to the Convention will be barred, and it is expected therefore that the Company will have a unique advantage in the international supply of turtle products.

In a few places conservation legislation had been enacted before the signing of the Convention and in certain cases (specifically in the U.S. states of California and Illinois) trade in turtle products or their derivatives is totally prohibited. The Company is actively bringing to the attention of the relevant authorities the special case for exempting farmed products from such prohibitions.

The Company will continue to present its special case for farmed turtle products whenever it is aware of impending conservation legislation. The Company actively supports conservation of the green turtle. Its activities are consistent with good conservation practices, and are welcomed by qualified conservationists, many of whom actively support and endorse the efforts of the Company.

In June, 1973 the Company formed the Division of Conservation and Research (DCR), a non-profit organisation to consolidate, preserve and control all conservation and research work carried out on sea turtles, with the initial emphasis on the green sea turtle (*Chelonia mydas*). This organisation is currently being funded by the Company and has its headquarters at Goat Rock Farm. The Company is providing laboratory, photographic, statistical and reference library facilities.

The work of DCR, in which several eminent international scientists are participating, is expected to make a major contribution to the world conservation of turtles.

7. Purpose of this Issue

The Company is now standing on the threshold of a major expansion of its production facilities. The main purpose of the new issue is to provide funds for this expansion.

In physical terms, this expansion will involve the installation of additional facilities at Goat Rock (estimated at a further capital investment of CI\$400,000) and the design and construction of a new second farm complex (estimated at a capital investment of CI\$2.5 million). Initial technical and feasibility studies for these capital investment programmes are already under way; the

Company has commissioned a feasibility study for the second farm by Sir Robert McAlpine & Sons Ltd. (of London, England) which will incorporate design, engineering, construction and budgetary studies.

During the current year, the Company has collected more than 100,000 turtle eggs. Larger collections are planned for future years, and these numbers will be supplemented by the growing capability of the Company to provide a domestic turtle egg supply. This increasing input of hatchlings will form the basis for quadrupling the livestock and turnover of the Company within the next three years. This expansion will also involve further expenditure to meet the cost of the very large build-up of live-stock inventory.

In the first instance the funds raised from this issue will be applied to repay bank debts. The balance will be applied to meet the capital costs of the additional production facilities being installed at Goat Rock and to fund the initial phase of design and construction of the second farm. The cost for completion of the second farm, and the substantial build up of turtle stocks required for the expansion will be funded by bank term loans. The Directors are of the opinion that after taking into account the net proceeds of the issue and bank facilities which are assured, the Company will have sufficient working capital for its estimated requirements.

III MANAGEMENT AND STAFF

1. Executive Management

The Directors have appointed an Executive Committee with full delegated powers. This committee meets in Grand Cayman quarterly and presently consists of:

Irvin S. Naylor	(President)
Michael R. Goodier	(Managing Director)
Keith J. Norman	(Finance Director)
Henry M. Hamlin	
Antony Fisher	
Mark Fisher	

Day to day management of the Company's operations is in the hands of the Managing Director, Michael R. Goodier, who is assisted by a permanent staff of more than one hundred.

The Directors are of the opinion that the management of the Company is in capable and competent hands and that the Company is adequately staffed in all of its different aspects.

2. Consultants

On the scientific, research and development sides of the business, the Company retains a number of consultants in a variety of special fields.

(i) Captive Breeding Research

Professor Sir Alan Parkes, C.B.E., F.R.S., M.A., Ph.D., D.Sc., Sc.D.

Sir Alan Parkes, Fellow of Christ's College, Cambridge, Fellow of University College, London and a member of the Advisory Committee of the World Health Organisation, is acting as co-consultant with Professor Amoroso on the Company's captive breeding programme. He is directing the present research programme of the Company on reproductive behaviour and physiology. Additionally, he has been named as Chairman of the Company's recently formed Division of Conservation and Research.

Professor Emanuel Ciprian Amoroso, C.B.E., F.R.S., F.R.C.S., Ph.D., M.B., B.Ch., B.A.O.

Professor Amoroso, Emeritus Professor of Physiology at the Royal Veterinary College, London University, has extensive experience in inducing breeding behaviour in captive animals. Professor Amoroso is now directing his attention to the scientific study of the reproductive physiology of the green turtle.

(ii) Health and Nutritional Research

Harold G. Haines, Ph.D.

Dr. Haines, a Virologist at the University of Miami School of Medicine (Florida, U.S.A.) is directing research on the viral diseases of green turtles.

Gerbert Rebell, M.S. (Physiology)

Mr. Rebell, a Microbiologist at Mount Sinai Medical Center, Miami Beach (Florida, U.S.A.), is also Technical Adviser to the Company, focusing his investigations on the determination of the causative agents and treatments of health and mortality factors on the farm. He has enlisted the interest and help of Dr. Rywlin, Head Pathologist at Mount Sinai Hospital and the work of Rebell and Rywlin will provide a better understanding of pathological conditions and their treatment in farm reared green turtles.

Hal Yacowitz, Ph.D.

Dr. Yacowitz, an animal nutrition expert, is acting as a consultant to the Company in the area of computer formulation of experimental feed. Dr. Yacowitz heads his own company which is engaged in the nutritional testing of a variety of products. In addition to these duties, Dr. Yacowitz is also an associate professor at Fairleigh Dickinson University (New Jersey, U.S.A.).

3. Resident Research Staff

Glenn F. Ulrich, M.S. (Fisheries Science) — Resident Marine Biologist for the Company.

Mr. Ulrich is responsible for the design and analysis of nutritional studies and the administration of health research experiments set up by consultants.

IV AUDITED RESULTS, FORECAST ACCOUNTS AND FUTURE PROSPECTS

1. Accounts

The Audited Accounts of the Company for the nine month period ending July 31st, 1973 and the Report of the Auditors on the Accounts are attached as Appendix A to this Prospectus.

The Forecast Accounts of the Company for the year ending October 31st, 1973, together with the report of the Reporting Accountants, are attached as Appendix B to this Prospectus. These Forecast accounts are based on information provided by the Directors for which the Directors are solely responsible.

2. Feed Costs

The fiscal year ending on October 31st, 1973 is the Company's first trading year, during which the Company suffered from an unprecedented rise in the prices of fish meal and soya bean meal, which are the basic ingredients of the feeds used. Increases in these items from the budget forecast prepared in September, 1972 have ranged to over 100% and, as a direct result, the Company will have incurred additional rearing costs in the year of over C1\$450,000.

These feed price increases are part of a worldwide crisis in high protein animal feed supply, a situation which is now beginning to show signs of stabilisation. Fortunately the Company had

made advanced purchase contracts which have protected it from some of the peaks in the market. Contracts with feed companies ensure that the feed required by the Company will be available at stable and reasonable prices throughout the next fiscal year. Feed supply forecasters predict a reduction in high protein animal feed prices as supply accelerates on a world-wide basis, expected by mid 1974.

3. Numbers of Turtles

The number of turtles reaching slaughter weight will remain fairly steady until April 1974 when it will decline and will then stay steady until May 1965 at which time it will rise sharply and above present levels. The decline to be encountered next year is a result of limited collections of eggs in the Company's formative years, as a result of which production of mature turtles suitable for slaughter will temporarily drop to about 60% of the current rate (with a corresponding effect on gross revenue). The Directors have taken this temporary decline of production into account in the overall planning of the financing of the expansion programme of the Company.

The full benefit of the larger egg collections now being made and of the capital expansion of the Company into a second farm will not be felt on the revenue side until 1976 when larger volumes of turtles will be coming forward for slaughter and sale. In the intervening period, the Company will be working to ensure the successful marketing of the higher volume of turtle products: from preliminary information it is confidentially expected that it will be possible to sustain and improve on present prices for the products of the Company.

4. Ancillary Programmes

Two ancillary programmes of the Company will continue to attract additional income: the cropping of gorgonian coral for a major U.S. pharmaceutical company is expected to continue through the next fiscal year and probably thereafter; and the tourist shopping and tours facilities, which have recently been expanded, are expected to earn a modest but steadily rising income for the Company.

A third ancillary programme is being researched currently in which the Company is attempting to utilize the nutrients in the farm effluent system for the raising of other marine life of possible commercial value; specifically: conch; mullet; shrimp; lobster; and stone crab. The increasing cost and world shortage of protein, and growing interest in the commercial exploitation of the sea, make this research an area of possible future profitable activity.

5. Competition

To the best of the knowledge of the Directors, there is no other green sea turtle (*Chelonia mydas*) farm in existence in the world at this time, and the Directors are not aware of any such farms proposed or being organized.

6. Speculative Nature of the Business

The speculative nature of the business of the Company should be recognised. The Company is regularly breaking new ground in a totally new business involving not only the farming of the sea but also the unique domestication of a migratory wildlife species. In addition to the normal problems of animal husbandry (such as unforeseen epidemics) and the hurricanes which are a hazard of tropical climates (for which the Company is covered by insurance as detailed above) the Company is subject to the normal and inherent hazards of a new venture.

V GENERAL INFORMATION ABOUT THE COMPANY

1. Share Capital

The Authorized Capital of the Company is CI\$4,000,000 divided into 2,000,000 ordinary shares of CI\$2.00 each. After issue of the shares hereby offered 1,251,900 ordinary shares of the Company will be issued and fully paid.

There are no other classes of share capital and no partly paid ordinary shares have been issued. The Company has no loan capital.

There are various options outstanding for the purchase of shares, totalling 135,850, as detailed later in this prospectus.

2. Corporate History

The Company was incorporated on October 8, 1968 with an authorized share capital of 200,000 shares of £1 (CI\$2) each. This was increased on December 31, 1968 to 500,000 shares of £1 each.

On August 1, 1969 400,000 shares were offered and subscribed, 80,000 through public subscription, at par, and the remainder to founder shareholders and Directors at par. A total of 27,500 shares were issued for services.

On July 3, 1970 the authorized share capital was increased to 1,000,000 shares of J\$2 (£1) each, of which 150,000 shares were offered to and subscribed by Commonwealth Development Finance Company Limited (CDFC), at par. At the same time, CDFC guaranteed a loan to the Company of J\$500,000 (£250,000) from the Bank of Nova Scotia.

On February 18, 1972 J\$850,000 convertible loan stock was created and offered on a rights basis. This issue, made on March 31, 1972 offered J\$15 for every ten ordinary shares. The issue was underwritten by CDFC. On February 28, 1973 the redemption of the convertible loan stock on July 31, 1973 was approved. The stock was converted 100%, the redemption being underwritten by Hoblyn (Cayman) Ltd., and Richardson Securities of Canada.

In June 1973, the Company received and accepted an offer from the First National City Bank of New York (FNCB) of a loan of the US\$ equivalent of CI\$1.51 million. This loan, to be repaid in 1976-7, is secured severally on: the assets of the Company (CI\$0.51 million); the guarantee of CDFC (CI\$0.60 million); and the joint and several guarantees of five Directors of the Company (CI\$0.40 million).

In August 1973, the Company received and accepted an offer from Bank of Virginia (Grand Cayman) Ltd. of a bridging loan, repayable out of the proceeds of this issue, of the US\$ equivalent of CI\$450,000. This loan will be secured on the guarantee of five Directors of the Company (CI\$150,000), and the assignment of subscription commitments in respect of this issue.

In August, 1973 the Company received and accepted an offer from Central Soya Company, Inc., Fort Wayne, Indiana, of a 60-day credit facility of US\$300,000 for feed supplies. The security for 50% of this credit facility is to be provided by bank or other equivalent guarantees.

On August 27, 1973 the authorized share capital was increased to 2,000,000 shares of CI\$2.00 each.

Currently there are 280 shareholders of the Company, residents of 17 countries. Ownership is mainly concentrated in the United States (30%), the United Kingdom (40%) and the Cayman Islands (10%).

3. Franchise

The Company has been granted an exclusive franchise for 99 years by the Government of the Cayman Islands to breed and rear turtles in Cayman waters for the purpose of slaughtering, processing and marketing such turtles and their products, and to slaughter, market and export such turtles and their products.

Under the terms of the Franchise and the law the Company has the right to take a 99 year lease of Booby Cay and extensive rights over protected areas where turtles may be raised, including Salt Creek, Little Sound, the sea-pond at Barkers and Tarpon Pond in Little Cayman. Under the terms of the Franchise the Company is to pay a nominal license fee to the Government for the first 12 years and thereafter 5% p .a. of the net profits of its operations in the Cayman Islands. The Franchise also grants certain important tax exemptions described below.

The Franchise is dated May 29, 1969 and may be inspected at the Company's registered office.

4. Taxation

The Company is not liable to any taxes in the Cayman Islands and has been granted a guarantee of exemption from any future tax or duty computed on capital assets until 1994 and exemption from customs duties on all its imports until 1976 and on packaging and crating materials and turtle foodstuffs until 2068.

5. Share Quotation

Richardson Securities of Canada attempt to match purchase and sale orders for the Company's shares at their Grand Cayman office and did the same for the Convertible Loan Stock before its redemption. The volume of shares traded, and the high/low prices for stock in the 12 months to August 1, 1973 were:

	<u>Low/High(CIS)</u>	<u>Volume</u>
July — September 1972	4.00 — 5.00	5,000 shares
October — December 1972	5.00 — 6.00	9,000 shares
January — March 1973	6.00 — 11.00	16,000 shares
April — June 1973	11.00 — 13.00	12,000 shares
July 1973 onwards	12.00 — 13.00	

VI CURRENT CORPORATE INFORMATION

1. Directors

<u>Name</u>	<u>Address</u>	<u>Date Elected</u>	<u>Description</u>
*Irvin S. Naylor	Boxwood Lane RD 9, York, Pennsylvania, U.S.A.	Oct. 1968	Businessman
Dr. Samuel Ayres III	2251 Fern Dell Place, Los Angeles, Calif., U.S.A.	Jan. 1969	Physician
Mrs. Veta Bodden	George Town, Grand Cayman, B.W.I.	Jan. 1970	Businesswoman
John A. Collins	George Town, Grand Cayman, B.W.I.	Oct. 1968	Trust Company Manager
M. Edgar Fain	Cuernavaca, Mexico	Feb. 1973	Businessman
*Antony G. A. Fisher	Newplace, Framfield, Sussex, England	Nov. 1968	Businessman
*B. Mark Fisher	Newplace, Framfield, Sussex, England	Feb. 1972	Businessman
*Michael R. Goodier	West Bay, Grand Cayman, B.W.I.	July 1972	Managing Director
*Henry M. Hamlin	4357 9 Mile Point Rd., Fairport, New York N.Y. 14450, U.S.A.	Oct. 1968	Businessman
*Keith J. Norman	George Town, Grand Cayman, B.W.I.	Jan. 1971	Business and Financial Consultant
Roger J. Webster	60 Knutsford Blvd. Kingston, Jamaica	Feb. 1973	Regional Director of Commonwealth Development Finance Company Limited

* Indicates membership of the Executive Committee.

2. Officers

The officers of the company are as follows:

Irvin S. Naylor	President
Michael R. Goodier	Managing Director
Keith J. Norman	Finance Director
John A. Collins	Secretary

3. Bankers

First National City Bank of New York.
Bank of Virginia (Grand Cayman) Ltd.

4. Lawyers

Maples and Calder, Grand Cayman, British West Indies.

5. Public Relations Advisors

Neilson McCarthy, New York and London; Trans-Atlantic Marketing Partners Ltd., Grand Cayman, British West Indies; Diversified Services (Caribbean) Limited, Grand Cayman, British West Indies.

6. Auditors

Pannell Fitzpatrick and Company, Grand Cayman, British West Indies.

7. Reporting Accountants (for the Forecast Accounts to October 31, 1973)

Pannell Fitzpatrick and Company, Grand Cayman, British West Indies.

8. Registered Office

The registered office of the Company is situated at the offices of The Bank of Nova Scotia Trust Company (Cayman) Limited, The Bank of Nova Scotia Building, Grand Cayman, British West Indies.

9. Registrars

The Bank of Nova Scotia Trust Company (Cayman) Limited, Grand Cayman, British West Indies.

VII MISCELLANEOUS INFORMATION

1. Articles of Association

Inter alia the Articles of Association of its Company provide that:

- (i) The Company must hold an annual general meeting in each year at which all shareholders are entitled to attend and vote, and to do so by proxy.
- (ii) Subject to any rights or restrictions for the time being attached to any class or classes of shares, on a show of hands every member of record shall have one vote and on a poll every member of record shall have one vote for each share registered in his name in the register.
- (iii) The Directors resign by rotation but are eligible for re-election.
- (iv) A Director is not required to hold any shares in the Company.
- (v) The Directors may exercise all the powers of the Company to borrow money and to mortgage or charge its undertaking, property, and uncalled capital or any part thereof; and to issue debentures, debenture stock and other securities whether outright or as a security for any debt, liability or obligation of the company or of any third party.
- (vi) Audited accounts must be presented to every Annual General Meeting.

2. Major Shareholders

Other than Commonwealth Development Finance Company Limited (which own approximately 21% of the issued shares) the Directors are unaware of any shareholder who holds or is directly or indirectly beneficially interested in 12% or more of the issued shares of the Company.

3. Directors Service Contracts

The following Directors have service contracts with the Company:

- (i) Mr. Michael R. Goodier has a service agreement dated November 1, 1972 as Managing Director of the Company for a period of three years. The agreement includes an option to purchase up to 12,000 shares;
- (ii) Mr. Keith J. Norman has a service agreement dated April 1, 1973 as consultant to the Company for a period of three years. The agreement includes an option to purchase up to 12,000 shares;
- (iii) At present there are no service contracts with any of the other Directors, but in view of the expansion of the activities of the Company it is proposed to offer contracts to two of the Directors who regularly undertake substantial duties on behalf of the Company.

4. Options to Purchase Ordinary Shares

The following is a complete list of the options to subscribe for shares outstanding at August 31, 1973:

- (i) Options have been granted to each of five directors in consideration of their two joint and several guarantees of part of the Company's indebtedness to First National City Bank:
 - (a) In respect of the first guarantee for C1\$300,000 an option to each of the following to purchase 12,000 ordinary shares at C1\$6.00 per share on or before December 31st, 1977.

L.S. Naylor
S. Ayres III
A.G.A. Fisher

H.M. Hamlin
K.J. Norman

(b) In respect of the second guarantee for CI\$100,000 an option to each of the following to purchase 3,600 ordinary shares at CI\$8.00 per share on or before November 1st, 1976.

I.S. Naylor	H.M. Hamlin
S. Ayres III	K.J. Norman
A.G.A. Fisher	

(ii) An option has been granted to Commonwealth Development Finance Company Limited, in consideration of their second guarantee of part of the Company's indebtedness to First National City Bank for 100,000 to purchase 25,000 ordinary shares at CI\$8.00 per share on or before November 1st 1976;

(iii) An option has been granted to Zorba Corporation in consideration of loans and other services rendered to the Company to purchase 8,000 ordinary shares at CI\$8.00 per share on or before November 1st, 1976;

(iv) The following options are outstanding under service contracts:

M.R. Goodier	12,000 shares
K.J. Norman	12,000 shares
Another Employee	750 shares

(v) One person outside the Company has the right to take up 100 shares in January 1974 for services rendered to the Company.

The total number of shares optioned is 135,850

Save as disclosed above, no share of the Company is under option or agreed or to be issued or put under option.

5. Expenses of the Issue

The expenses of this issue including the commissions referred to below are estimated at no more than CI\$200,000 and are to be paid by the Company.

The Company will use the services of brokers and other institutions in placing the Additional Issue, and where appropriate commissions will be paid. The total amount of these commissions will not exceed CI\$100,000.

6. Subsidiaries

The Company has one wholly-owned subsidiary incorporated in the United Kingdom as MARICULTURE (G.B.) LTD. The Company has no other subsidiaries or shareholdings in other companies.

7. Litigation

So far as the Directors and the legal advisers of the Company are aware no litigation or claims are pending or threatened against the Company.

8. Consents

K-Man Engineering & Surveying Ltd. and Pannell Fitzpatrick & Co. have given and not withdrawn their respective written consents to the inclusion in this prospectus of their respective reports in the form and context in which they are included.

9. Inspection of Documents

Copies of the following documents may be inspected at the Registered Office of the Company on any week day (Saturdays and public holidays excepted) during usual business hours up to and including Wednesday, November 1st, 1973:

- (i) Memorandum and Articles of Association of the Company;
- (ii) Audited accounts of the Company for the financial years ended October 31, 1970; 1971; and 1972 and the written consent of the Auditors;
- (iii) the audited accounts for the Company for the nine month period ended July 31, 1973;
- (iv) the pro forma Profit and Loss account for the year ended October 31, 1973, the pro forma Balance Sheet as of October 31, 1973.
- (v) Franchise from Cayman Islands Government.
- (vi) Service agreements of Mr. Michael R. Goodier and Mr. Keith J. Norman;
- (vii) Valuers report of K-Man Engineering & Surveying Ltd. and the written consent of the valuers;
- (viii) Loan Agreement and Debenture with FNCB;
- (ix) Commitment Letter for Bridging Finance from Bank of Virginia (Grand Cayman) Ltd.

10. Representations

No person is authorized by the Company to make any representation in connection with this issue or the affairs of the Company except as contained in this prospectus.

September 28th, 1973

IRVIN S. NAYLOR

Irvin S. Naylor

SAMUEL AYRES III, M.D.

Dr. Samuel Ayres III

VETA BODDEN

Mrs. V. C. M. Bodden

J. COLLINS

John Collins

M. E. FAIN

M. Edgar Fain

ANTONY FISHER

Antony G.A. Fisher

MARK FISHER

Mark Fisher

M. R. GOODIER

Michael R. Goodier

HENRY HAMLIN

Henry M. Hamlin

KEITH J. NORMAN

Keith J. Norman

R. J. WEBSTER

Roger J. Webster

APPENDIX A

MARICULTURE LIMITED

ACCOUNTS — 31st July, 1973.

BALANCE SHEET 31 July 1973

	31.7.73 <u>CI\$</u>	31.10.72 <u>CI\$</u>
FIXED ASSETS (Notes 1c and 4).....	494,512	467,434
INVESTMENT IN SUBSIDIARY COMPANY (Note 5)	539	206
NET CURRENT ASSETS (Notes 1a, 6 and 7)	<u>1,190,552</u>	<u>962,615</u>
NET TANGIBLE ASSETS	1,685,603	1,430,255
DEFERRED EXPENDITURE (Note 1b)	<u>1,415,325</u>	<u>1,012,153</u>
	<u>CI\$3,100,928</u>	<u>CI\$2,442,408</u>
Financed by:		
SHARE CAPITAL (Note 2).....	1,461,800	1,099,600
SHARE PREMIUM ACCOUNT (Note 3).....	535,477	—
SHARE OPTION ADVANCES (Note 2b).....	105,000	—
ACCUMULATED LOSS (Note 1b)	<u>(308,469)</u>	<u>—</u>
SHAREHOLDERS' EQUITY.....	1,793,808	1,099,600
LOAN CAPITAL	—	842,808
BANK LOAN (Note 6).....	<u>1,307,120</u>	<u>500,000</u>
	<u>CI\$3,100,928</u>	<u>CI\$2,442,408</u>

 M. R. GOODIER Director

 KEITH J. NORMAN Director

The accompanying Notes form part of the Accounts.

MARICULTURE LIMITED
PROFIT AND LOSS ACCOUNT

For the nine months ended 31 July 1973

	<u>Nine months ended</u> <u>31 July 1973</u>	<u>Year ended</u> <u>31 October 1972</u>
SALES	<u>300,988</u>	<u>28,335</u>
TRADING LOSS BEFORE CHARGING THE FOLLOWING ITEMS:	429,056	30,819
Audit fee	1,500	1,500
Depreciation (Notes 1c and 4)	86,392	101,277
Directors' emoluments (Note 8)	28,072	37,164
Finance charges	99,443	51,674
Loan Stock interest (Note 3)	63,701	35,275
Loan Stock issue expenses	—	48,351
Underwriting commission on Loan Stock redemption (Note 3)	<u>5,000</u>	<u>284,108</u> — <u>275,241</u>
LOSS FOR THE PERIOD	713,164	306,060
ACCUMULATED LOSS brought forward 1 November 1972 (Note 1b)	<u>153,890</u>	<u>211,131</u>
ACCUMULATED LOSS at 31 July 1973	867,054	517,191
Less:		
Allocation to Deferred Expenditure (Note 1b)	(558,585)	(517,191)
ACCUMULATED LOSS carried forward 31 July 1973 (Note 1b)	<u>C1\$308,469</u>	<u>C1\$ —</u>

The accompanying Notes form part of the Accounts

MARICULTURE LIMITED

NOTES TO THE ACCOUNTS 31 July 1973

1. CHANGES IN THE BASIS OF ACCOUNTING:

a) INVENTORIES:

The basis of valuing livestock and coldstore products at the year ended on 31 October 1972 was a fixed value of CI\$0.60 and CI\$0.75 per lb, respectively. The basis of valuing livestock and coldstore products at 31 July 1973 has been to adopt these values as base weights to which has been added the costs attributable to rearing and slaughter.

The basis of valuing sets of leather skins and shells at the year ended on 31 October 1972 was a fixed value of CI\$0.66 and CI\$11.00 respectively for each individual item in stock. The basis of valuing sets and shells at 31 July 1973 has in addition assumed an average weight of 4 lbs and fifteen lbs respectively to which has been added the costs attributable to preparing the product for sale.

The effect of the changed basis of valuation has been to increase the value of Inventories by CI\$215,823 as compared with the previous basis.

b) DEFERRED EXPENDITURES — RESEARCH AND DEVELOPMENT

Transfers to Deferred Expenditure were to cease on 31 July 1972 and costs thereafter be charged to revenue. However, during the period 1 August 1972 to 30 April 1973 the revenue deficit which amounted to CI\$558,585 was deferred, of which CI\$153,890 represented the revenue deficit for the year ended on 31 October 1972.

At 31 July 1973 the Deferred Expenditure account was represented by:

Research development	493,439
Market development.....	244,030
Production development	363,301
Overhead expenses	314,555
	<u>CI\$1,415,325</u>

c) FIXED ASSETS:

Rates of depreciation have been revised with effect from 1 November 1972 on certain assets from 2½% per annum on cost to 10% per annum on cost. The depreciation charged for the nine months ended 31 July 1973 has increased by CI\$3,980 as a result of the revised rates.

2. SHARE CAPITAL:

a) Authorised: 1,000,000 ordinary shares of CI\$2 each CI\$2,000,000

Issued and Fully Paid:

730,900 ordinary shares of CI\$2 each CI\$1,461,800

b) The following share options were outstanding at 31 July 1973:

i) 21,000 shares at CI\$5.05 each to four directors, of which CI\$105,000 had been paid to the company by 31 July. The option is exercisable at any time after 31 July 1973.

ii) 127,850 shares as set out in paragraphs (i) (ii) (iv) and (v) on pages 15 and 16 of this Prospectus.

3. SHARE PREMIUM ACCOUNT:

At 31 July 1973 the balance on share premium account had arisen as follows:

Conversion of CI\$850,000 Loan Stock on 31 July 1973 to 170,000 ordinary shares of CI\$2.00 each on the basis of one ordinary share equivalent to CI\$5.00 Loan Stock	
Premium arising:	510,000
Premium arising on exercise of options.....	<u>27,000</u>
	537,000
Less: Company formation expenses written off.....	<u>(1,523)</u>
	<u>CI\$535,477</u>

4. FIXED ASSETS:

a)

	Cost CI\$	Accumulated Depreciation. CI\$	Book Value CI\$
Abattoir, equipment and freezers	68,668	12,833	55,835
Buildings, furniture & equipment	53,211	10,121	43,090
Freehold land and property	100,500	—	100,500
Hatchery and equipment	7,332	712	6,620
Land development and construction costs	189,979	68,464	121,515
Motor vehicles and boats	33,817	25,965	7,852
Pens and water supply system	262,753	123,985	138,768
Plant and machinery	97,713	82,482	15,231
Other	20,112	15,011	5,101
	<u>CI\$834,085</u>	<u>CI\$339,573</u>	<u>CI\$494,512</u>
Additions during the period.....	<u>CI\$118,286</u>		
Disposals during the period	<u>CI\$ 4,816</u>		

b) All assets are valued at cost and depreciated over their estimated useful lives on a straight line basis with the exception of Freehold land and buildings.

Rates of depreciation on certain assets have been revised as stated in 1c of the Notes.

Freehold land, property and seawall included in these accounts at book value of CI\$165,880 were independently valued in May 1973 at CI\$315,000.

5. SUBSIDIARY COMPANY:

Mariculture (G.B.) Limited is a wholly owned subsidiary. At 31 July 1973 the investment consisted of:

Loans	206
Cash.....	<u>333</u>
	<u>CI\$539</u>

The subsidiary company has an authorised share capital of £100 divided into 100 shares of £1 each. The subsidiary has not traded.

6. BANK LOAN AND OVERDRAFTS:

The bank loan and overdrafts are secured by a fixed and floating charge over all the assets of the company up to an amount of CI\$510,000. There are guarantees of five directors and the Commonwealth Development Finance Company securing additional amounts up to CI\$1,000,000.

7. NET CURRENT ASSETS:

At 31 July 1973 Net Current Assets were comprised of:

Inventories (Note 1a)	1,349,291
Trade and sundry debtors, debtors and prepayments (less general provision — CI\$5,000)	258,339
Bank and cash balances	6,194
	<u>CI\$1,613,824</u>
Less:	
Creditors and accrued charges	256,866
Bank overdrafts (Note 6)	166,406
	<u>CI\$ 423,272</u>
Net Current Assets:	<u>CI\$1,190,552</u>

8. DIRECTORS' EMOLUMENTS:

Salaries and Fees	17,250
Expenses, Other Directors	10,822
	<u>CI\$28,072</u>

9. INSURANCE:

At the date of the Accounts cover was not available for products liability or loss of profits insurance, although negotiations with the company's insurers were in progress

10. CURRENCY CONVERSIONS:

For the nine months ended on 31 July 1973, U.S. dollars have been converted at the rate of US\$1.00 = CI\$0.80.

11. COMPARATIVE FIGURES:

Comparative figures for the financial year ended on 31 October 1972 have been restated in accordance with Note 1b accompanying the Accounts.

MARICULTURE LIMITED

ACCOUNTS — 31 JULY 1973

REPORT OF THE AUDITORS

To the Members of Mariculture Limited

In our opinion the Accounts on Pages 19 and 20, and the accompanying Notes, give a true and fair view of the state of affairs as at 31 July 1973 and of the results for the period of nine months ended on that date.

PANNELL FITZPATRICK & CO.

Pannell Fitzpatrick & Co.
Chartered Accountants

PO Box 460
Grand Cayman
British West Indies
August 24th, 1973

APPENDIX B

MARICULTURE LIMITED

FORECAST BALANCE SHEET AND ACCOUNTS
For the year ended October 31st, 1973.

FORECAST BALANCE SHEET 31 October 1973

	31.10.73 CIS	31.7.73 CIS
FIXED ASSETS (Notes 1 and 4)	513,035	494,512
INVESTMENT IN SUBSIDIARY COMPANY (Note 5)	539	539
NET CURRENT ASSETS (Note 6)	<u>1,394,855</u>	<u>1,190,552</u>
NET TANGIBLE ASSETS	1,908,429	1,685,603
DEFERRED EXPENDITURE (Note 1)	<u>1,415,325</u>	<u>1,415,325</u>
	<u><u>CIS3,323,754</u></u>	<u><u>CIS3,100,928</u></u>
Financed by:		
SHARE CAPITAL (Note 2)	2,503,800	1,461,800
SHARE PREMIUM ACCOUNT (Note 3)	3,399,527	535,477
SHARE OPTION ADVANCES (Note 2)	—	105,000
ACCUMULATED LOSS	<u>(388,933)</u>	<u>(308,469)</u>
SHAREHOLDERS' EQUITY	5,514,394	1,793,808
LOANS (Note 7)	1,809,360	1,307,120
AMOUNT RECEIVABLE ON NEW ISSUE (Note 7)	<u>(4,000,000)</u>	<u>—</u>
	<u><u>CIS3,323,754</u></u>	<u><u>CIS3,100,928</u></u>

The accompanying Notes on Pages 26 — 27 form part of the Forecast

MARICULTURE LIMITED
FORECAST PROFIT AND LOSS ACCOUNT

For the year ended 31 October 1973

	Year ended 31 October 1973	Nine months ended 31 July 1973
SALES (Note 8).....	<u>727,188</u>	<u>300,988</u>
TRADING LOSS BEFORE CHARGING THE FOLLOWING ITEMS:	413,486	429,056
Audit fee.....	3,000	1,500
Depreciation (Note 4).....	117,869	86,392
Director's emoluments	40,572	28,072
Finance charges.....	150,000	99,443
Loan stock interest.....	63,701	63,701
Underwriting commission on Loan stock redemption.....	<u>5,000</u>	<u>5,000</u>
	<u>380,142</u>	<u>284,108</u>
LOSS FOR THE YEAR	793,628	713,164
ACCUMULATED LOSS brought forward 1 November 1972	<u>153,890</u>	<u>153,890</u>
ACCUMULATED LOSS at 31 October 1973	947,518	867,054
Less:		
Allocation to Deferred Expenditure (Note 1)	<u>(558,585)</u>	<u>(558,585)</u>
ACCUMULATED LOSS carried forward 31 October 1973	<u>C1\$388,933</u>	<u>C1\$308,469</u>

The accompanying Notes on Pages 26 and 27 form part of the Forecast

NOTES TO THE FORECAST ACCOUNTS

1. INVENTORIES, DEFERRED EXPENDITURE AND FIXED ASSETS:

The basis adopted is consistent with current accounting practice as set out in Note 1 annexed to the audited accounts for the nine months ended on 31 July 1973,

2. SHARE CAPITAL:

a) Authorised: 2,000,000 ordinary shares of CI\$2 each	<u>CI\$4,000,000</u>
Issued and Fully Paid:	
1,251,900 ordinary shares of CI\$2 each	<u>CI\$2,503,800</u>

b) Share Options:

The options detailed in paragraphs 4 (i) (ii) (iii) (iv) and (v) on pages 15 and 16 of this prospectus are outstanding.

3. SHARE PREMIUM ACCOUNT:

Balance at 31 July 1973 per audited accounts to 31 July 1973	535,477
Add:	
Premium arising on new issue of 500,000 shares	3,000,000
Premium arising on four directors exercising option to purchase 21,000 shares at CI\$5.05 each	<u>64,050</u>
	3,599,527
Less:	
Estimated expenses of new issue, including	<u>200,000</u>
	<u>CI\$3,399,527</u>

4. FIXED ASSETS:

Balance per Note 4 to the audited accounts at July 1973:

	Cost CI\$	Accum. Dep'n. CI\$	Book Value CI\$
At 31 July 1973	834,085	339,573	494,512
Additions	50,000	—	50,000
Depreciation		<u>31,477</u>	<u>(31,477)</u>
	<u>CI\$884,085</u>	<u>CI\$371,050</u>	<u>CI\$513,035</u>

5. SUBSIDIARY COMPANY:

Note 5 annexed to the audited accounts for the nine months ended on 31 July 1973 applies.

6. NET CURRENT ASSETS:

Forecast:

Inventories (Note 1)	1,417,808
Trade and sundry debtors, debtors and prepayments (less general provision CI\$5,000)	180,776
Bank and cash balances	6,194
	<u>CI\$1,604,778</u>
Less:	
Creditors and accrued charges	43,517
Bank overdrafts	<u>166,406</u>
	CI\$ 209,923
NET CURRENT ASSETS	<u>CI\$1,394,855</u>

7. Loans:

On receipt of the proceeds of the rights issue it is the intention of the directors to repay bank debt.

8. Sales

Since July 31st, 1973, the Company has, for the purpose of raising short term finance, entered into an agreement to sell up to CI\$225,000 worth of oil to a company owned by six directors of Mariculture Limited, and accordingly projected sales for the year ended 31 October 1973 include this amount which has been paid to Mariculture Limited. Any profits arising to the other company from the resale of this oil must be repaid to Mariculture Limited after the deduction of reasonable expenses, including interest. It is the intention of the six Directors to liquidate this company as soon as possible and to distribute Mariculture's oil in the future through normal channels.

MARICULTURE LIMITED
FORECAST BALANCE SHEET AND ACCOUNTS
For the year ended October 31st, 1973
REPORT OF THE ACCOUNTANTS

To the Directors of Mariculture Limited

We have reviewed the accounting bases and calculations for the forecast of Mariculture Limited (for which the directors are solely responsible) for the year ended on 31 October 1973. The forecast includes results shown by audited interim accounts for the nine months ended on 31 July 1973.

In our opinion the accounting forecast, so far as the accounting bases and calculations are concerned, has been properly compiled on the footing of the assumptions made by the Board as set out in this prospectus and is presented on a basis consistent with the accounting practices normally adopted by the Company.

PANNELL FITZPATRICK & CO.

Pannell Fitzpatrick & Co.
Chartered Accountants

PO Box 460
Grand Cayman
British West Indies
September 15th, 1973

10 6039 0.1



Hoblyn

- corporate pros
- Northwesten suppl.
- Mariculture
- Stock transfer forms



MRS. L.R. EVANS
P.O. BOX 8195
HONOLULU
HAWAII 96815
USA

Hoblyn (Cayman) Limited

Directors: P.C.W. Hoblyn, M.O. Norton, R.S.B. Cassidy
William L. Shaw Jnr. (Managing)

representing in Grand Cayman

Hoblyn and Company

P.O. BOX 275
GRAND CAYMAN
CAYMAN ISLANDS
BRITISH WEST INDIES

TELEPHONE: 9-4014
CABLES: HOBWAY GRANDCAYMAN
TELEX: DIRECT LINE TO LONDON OFFICE (855546)
OFFICE: THOMPSON BUILDING

MRS. L.R. EVANS
P.O. BOX 8195
HONOLULU
HAWAII 96815
USA

25 February 1974

WLS/CS

Dear Mr. Evans

With reference to your letter of 15 February I now take pleasure in enclosing some explanatory booklets and a Corporate Prospectus on Mariculture Ltd., in the hope that they may be of interest to you.

As of today's date the stock is quoted at CI \$5 per one ordinary share.

I trust the enclosed will be of help to you and request that you contact us should you require any further assistance.

Yours sincerely
Hoblyn (Cayman) Ltd.



W.L. Shaw Jnr.
Managing Director

a MARICULTURE, Ltd.
supplement to —

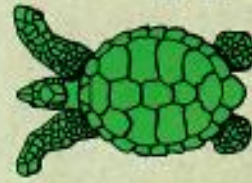
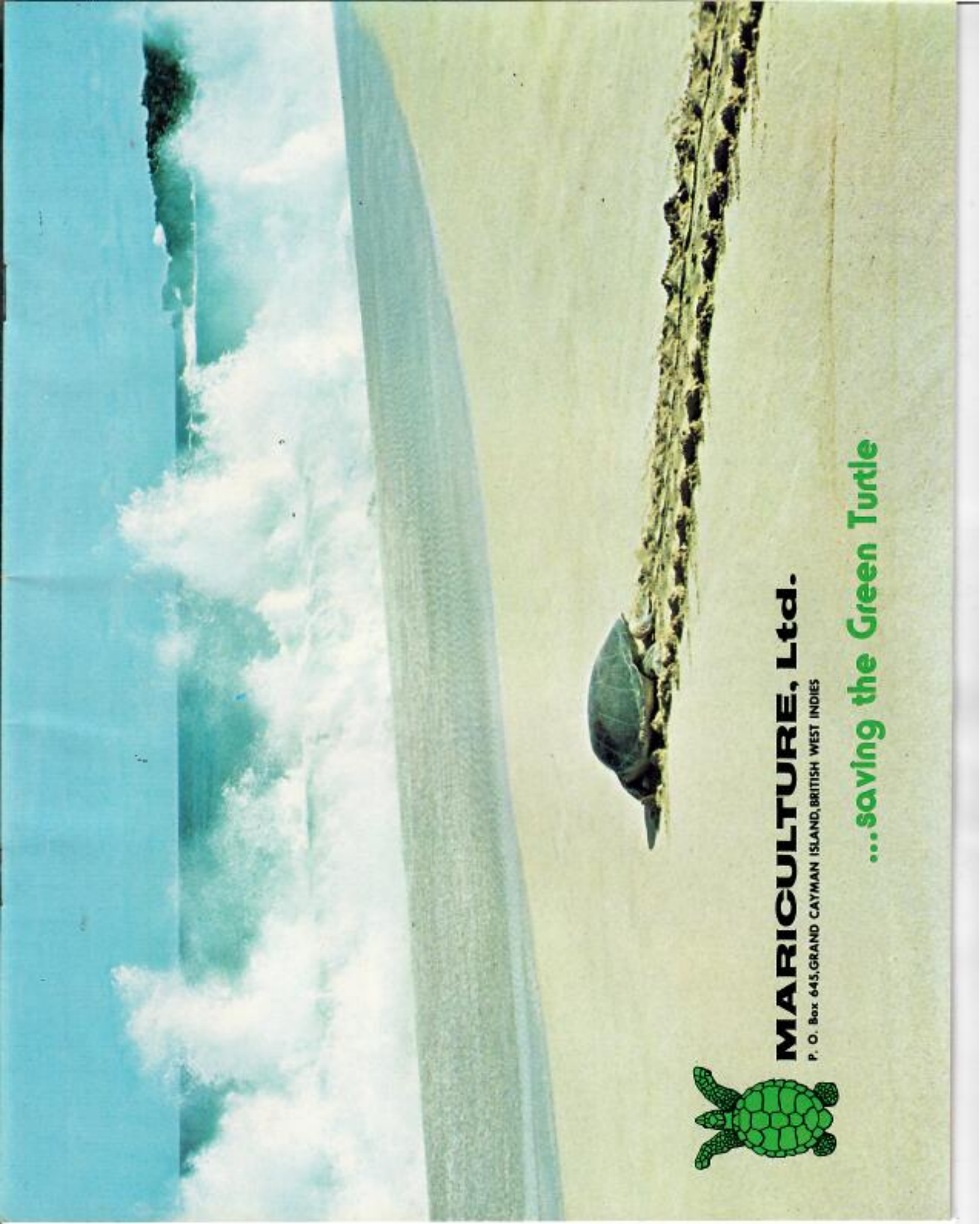
The Cayman Islands

Northwester

OCTOBER, 1973



CI\$4million expansion plan	2	World eager for turtle products	10	Captive breeding a landmark	16
The investor's viewpoint	5	Aerial view of the farm	12-13	Great place for tourists	18
The world's first	6	Proud record in conservation	14	The people of Mariculture	20
How to raise turtles	7	Extensive research programme	15	Staff picture	23



MARICULTURE, Ltd.

P. O. Box 645, GRAND CAYMAN ISLAND, BRITISH WEST INDIES

...saving the Green Turtle

Mariculture

the world's first commercial green sea turtle "farm"



TURTLELAND
MARICULTURE, LTD
Box 645
Grand Cayman Island
British West Indies



MARICULTURE, Ltd.

P. O. Box 645, GRAND CAYMAN ISLAND, BRITISH WEST INDIES

Nov 25, 26



73 74
45% - 60% Hatch

10,000

Field

MR. GEORGE BALFES

70 million gallons
per day sea water pumping

1207

730

Programme for Meeting at Mariculture Limited 25th
and 26th November 1974.

Monday 25th

A. Fisher, S. Ayreslll and D. King meet guests at
Airport.

Cars/Taxis to Beach Club.

10.30 to 11.00 Immediate tour of the farm

11.00 Introduction by A.G.A. Fisher. Explain re-arrangement
of programme.

11.15 Hand over to Sir Alan Parkes discussing scientific
problems.

Flexible lunch arrangements.

2.30 Carr/King to Airport

Continue Marlin Simon : Field research and conservation.

Tuesday 26th

9.15 Collect from Beach Club

9.30 Research topics - Nutrition - Disease - Dr J. Wood

10.30 Sir Alan Parkes & Professor Amoroso - Reproductive
Biology.

12.30 Lunch

1.30 General Discussion opened by member of meeting

8.00 Dinner.

MONDAY - TOUR of farm - Photos 12/25

11:30 AM Introduction by MR. FISHER

$$\begin{array}{r} 4/5 \\ 2 \\ \hline 120 \end{array} \text{ sq ft } 200$$

$$\begin{array}{r} 35 \\ \hline 1000 \\ 600 \\ \hline 7000 \text{ sq ft} \end{array}$$

Headstart

what is information ^{data} that it is working?

concerning Publicity and affidavits = "not really my concern" Sir Alan Parkes

- DR. Johnny Johnson
- MRS. Dee King
- Mr. Martin Simon
- Dr. Sam Ayres
- Professor Amoroso
- Sir Alan Parkes
- Jim Woods

Wayne

Do they intend to become self-sufficient in production ^{of captive eggs} and when?

100,000 egg need = 850 nests

Two nests
172 nests

92 - 1973 $\bar{x} = 122$
80 - 1974 $\bar{x} = 122$

Therefore

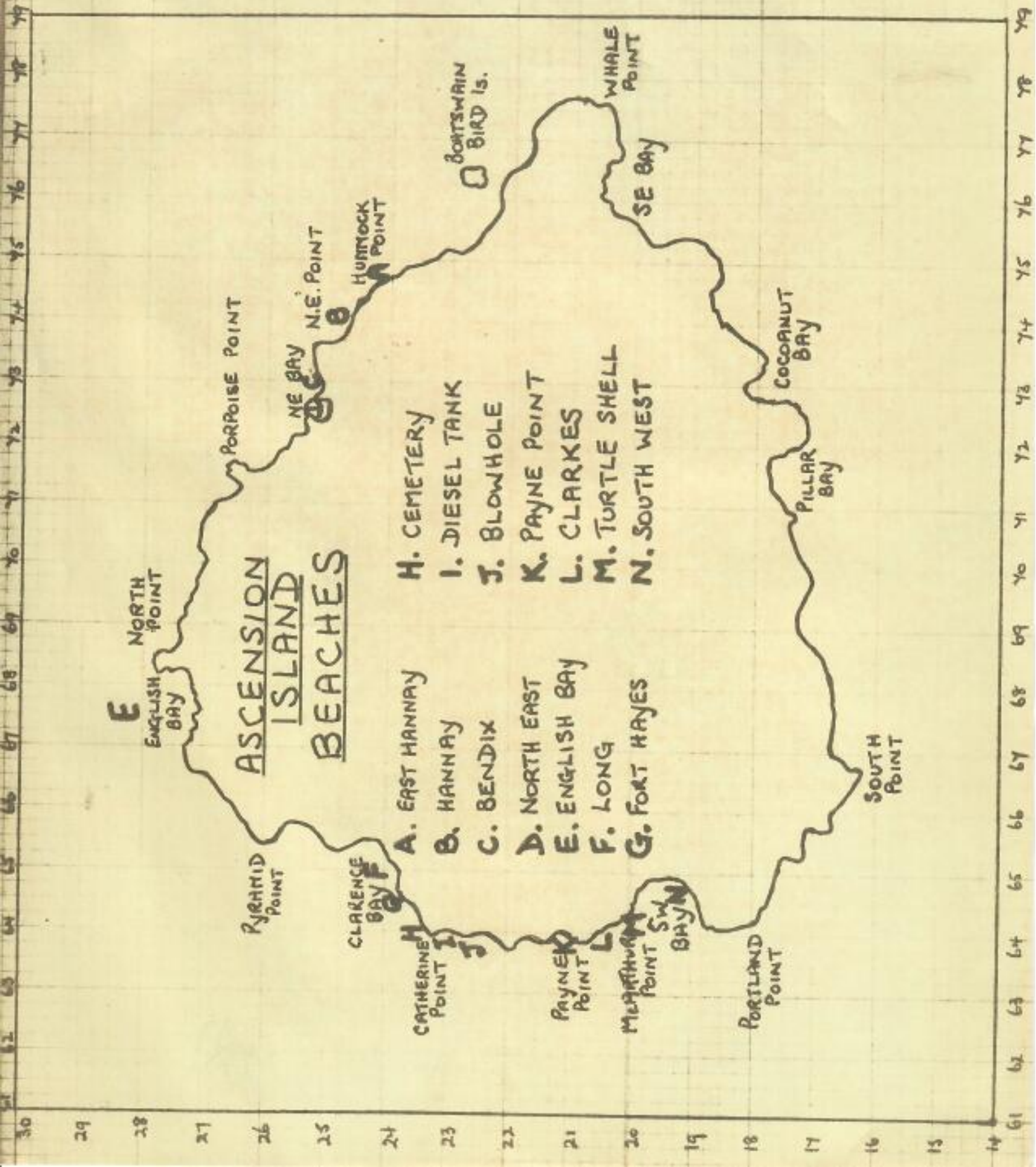
6 nests per year 150 laying per year

350 breeding ♀

at present 70 ♀ wild

29 layed this year - last year

4 - both years



ASCENSION ISLAND BEACHES

- A. EAST HANNAY
- B. HANNAY
- C. BENDIX
- D. NORTH EAST
- E. ENGLISH BAY
- F. LONG
- G. FORT HAYES
- H. CEMETERY
- I. DIESEL TANK
- J. BLOWHOLE
- K. PAYNE POINT
- L. CLARKES
- M. TURTLE SHELL
- N. SOUTH WEST

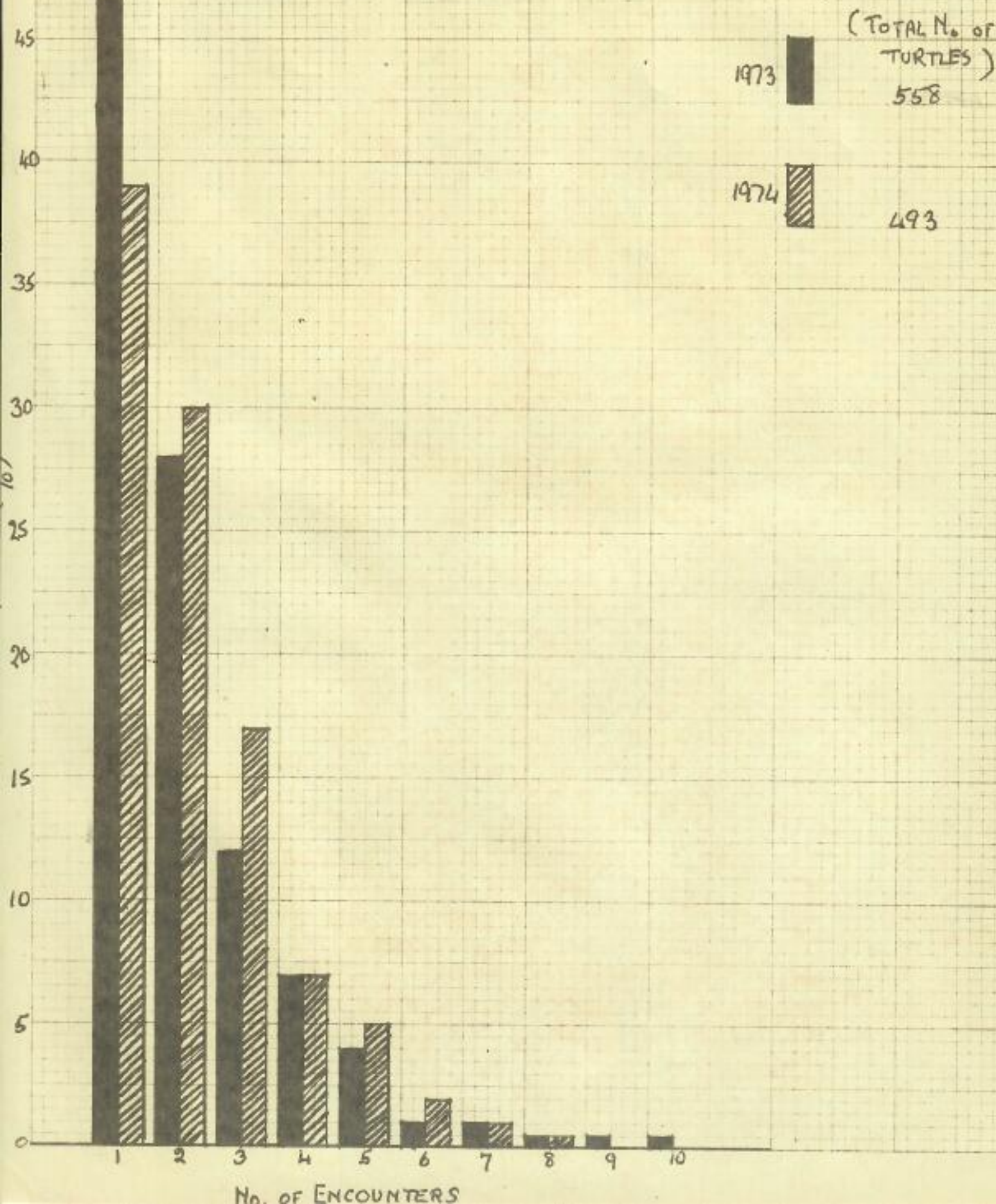
NORTH POINT
 ENGLISH BAY
 PORPOISE POINT
 NE BAY
 N.E. POINT
 HUNMOCK POINT
 BOATSWAIN BIRD IS.
 WHALE POINT
 SE BAY
 COCONUT BAY
 PILLAR BAY
 SOUTH POINT
 PORTLAND POINT
 MEATHAM POINT SW BAY
 PAYNE POINT
 CATHERINE POINT
 CLARENCE BAY
 PYRAMID POINT



ASCENSION ISLAND STUDY

Percentage no. of turtles at each no. of encounters
1973 + 1974

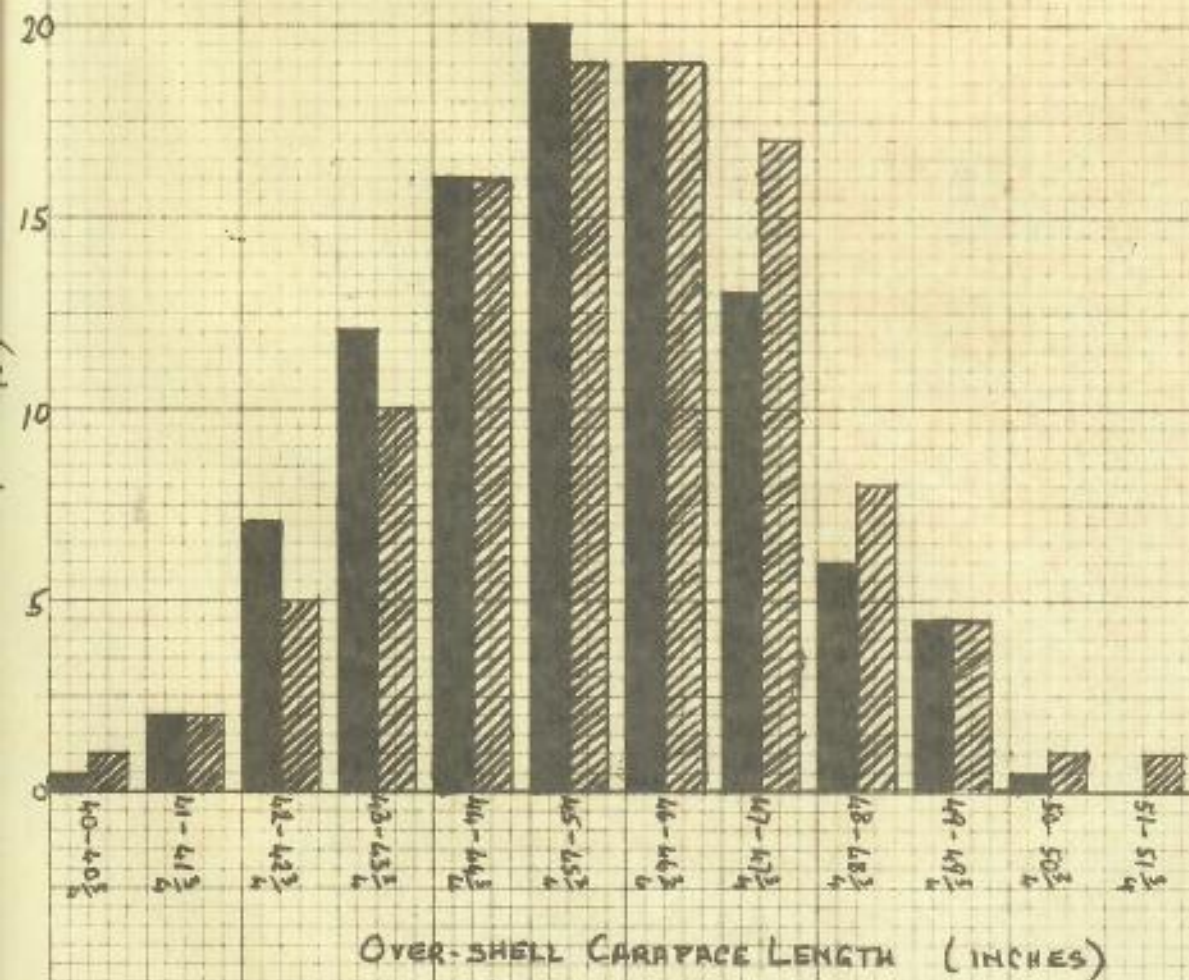
2



FREQUENCY OF TURTLES OF VARIOUS SIZES
 ASCENSION ISLAND STUDY
 1973 & 1974



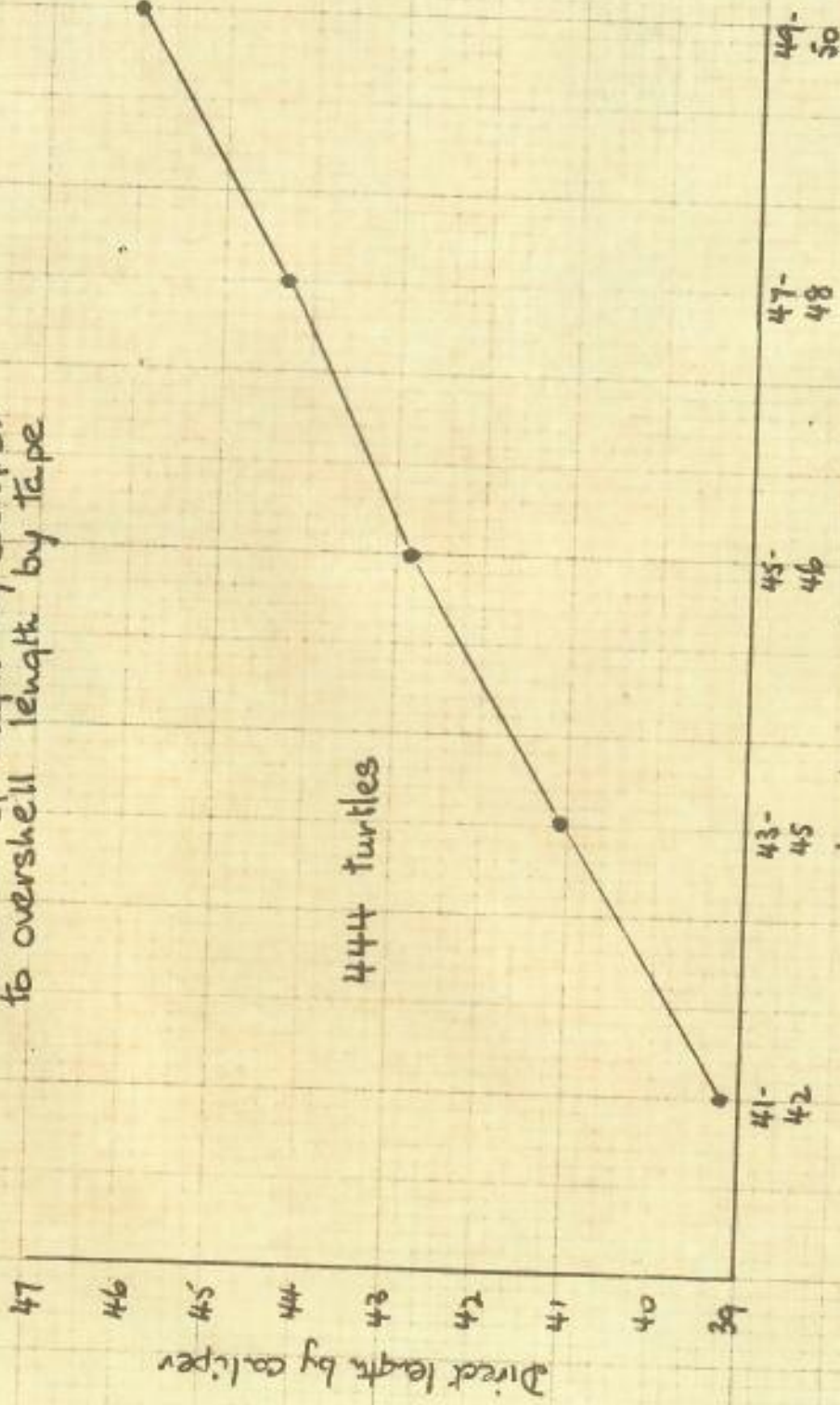
TOTAL No.
 1973 260
 1974 478



ASCENSION ISLAND STUDY 1974

Relation of length by caliper to overshell length by tape

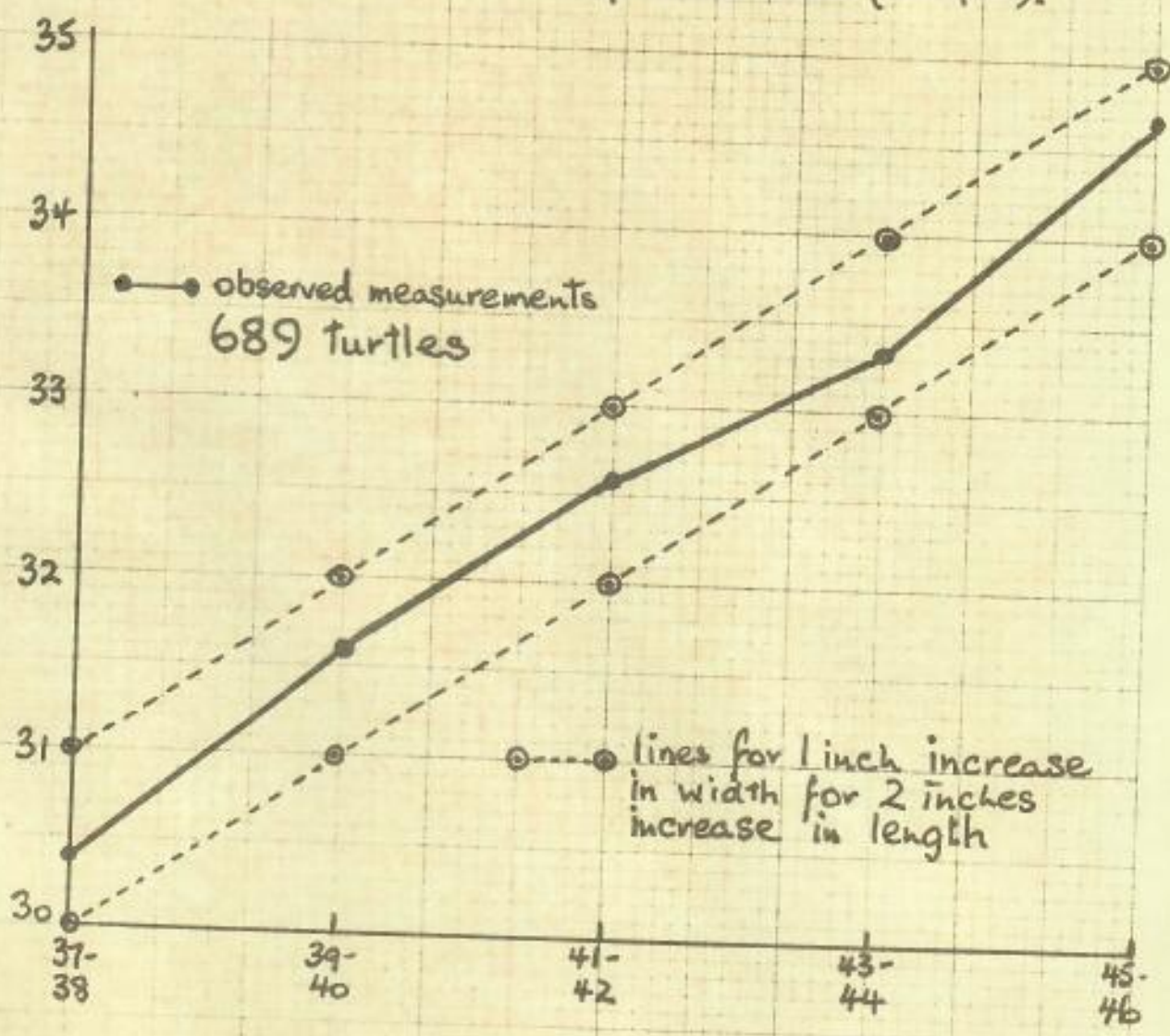
444 turtles



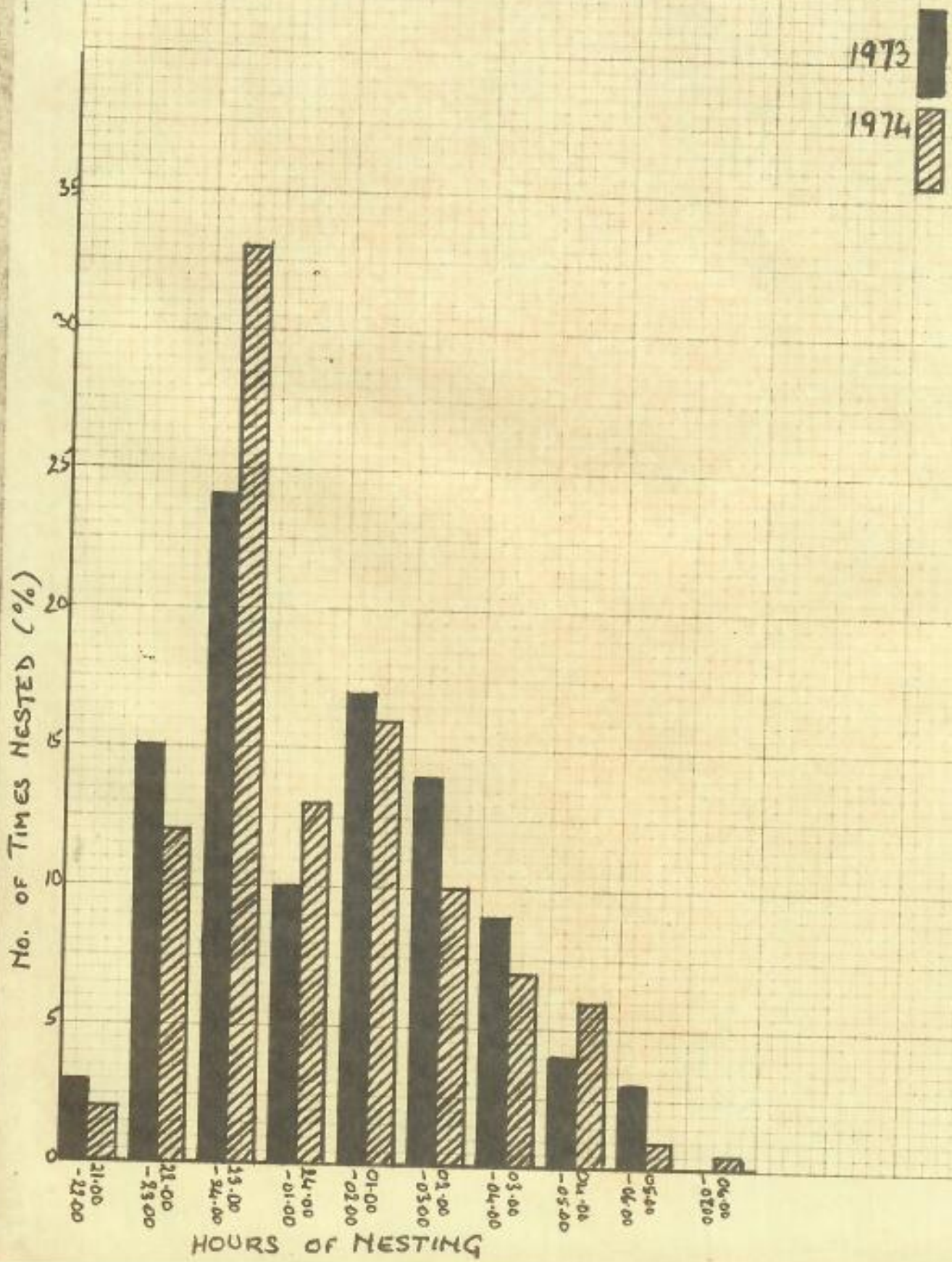
Length overshell by tape
Over this range, caliper length increases by 6.7 ins. for 8 ins. increase in tape measurement. Thus caliper length = 0.84 of tape length

Ascension Island Study 1973-4

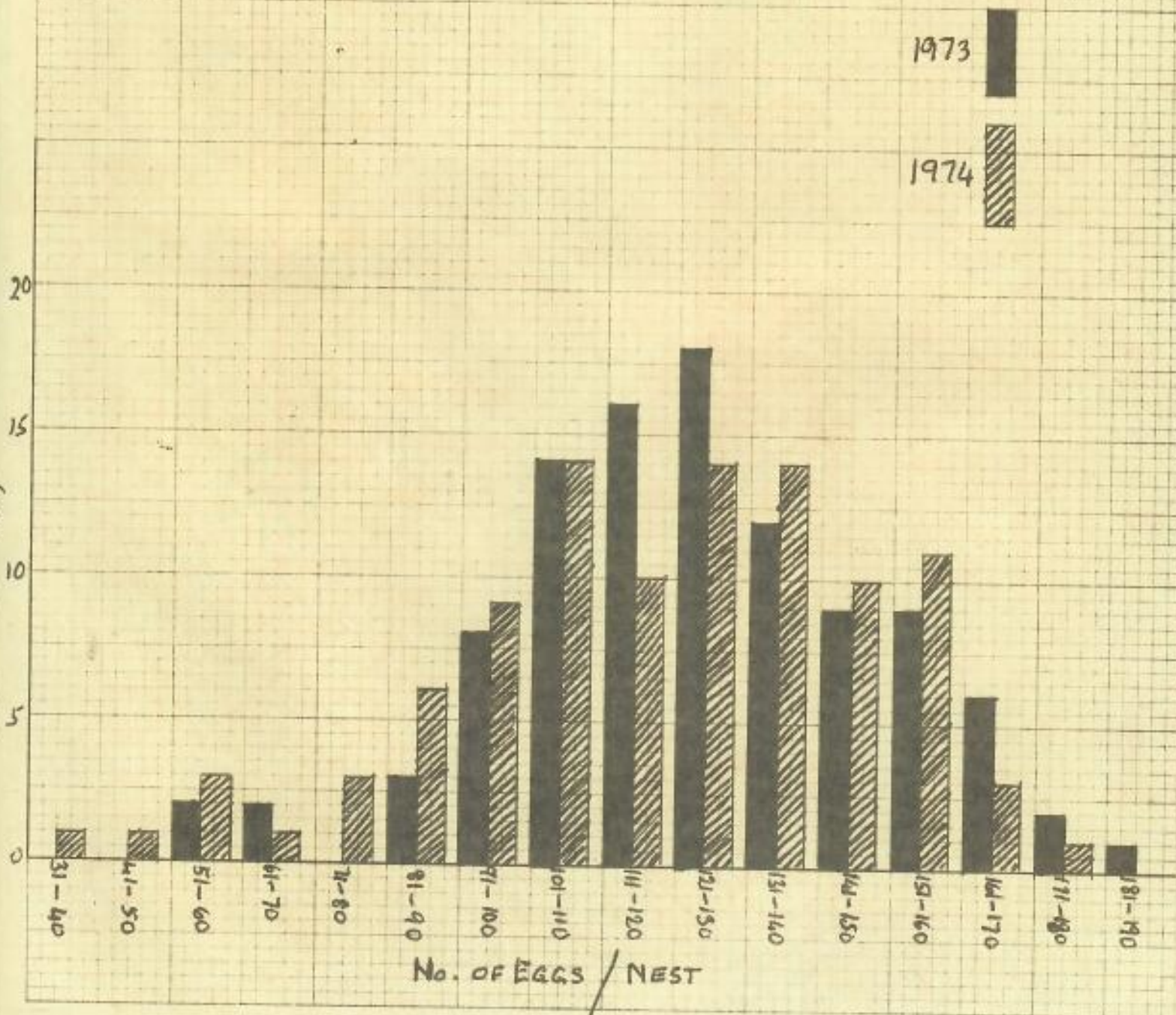
Relation between length and width (caliper).



ASCENSION ISLAND STUDY, 1973-1974
TIMES OF NESTING

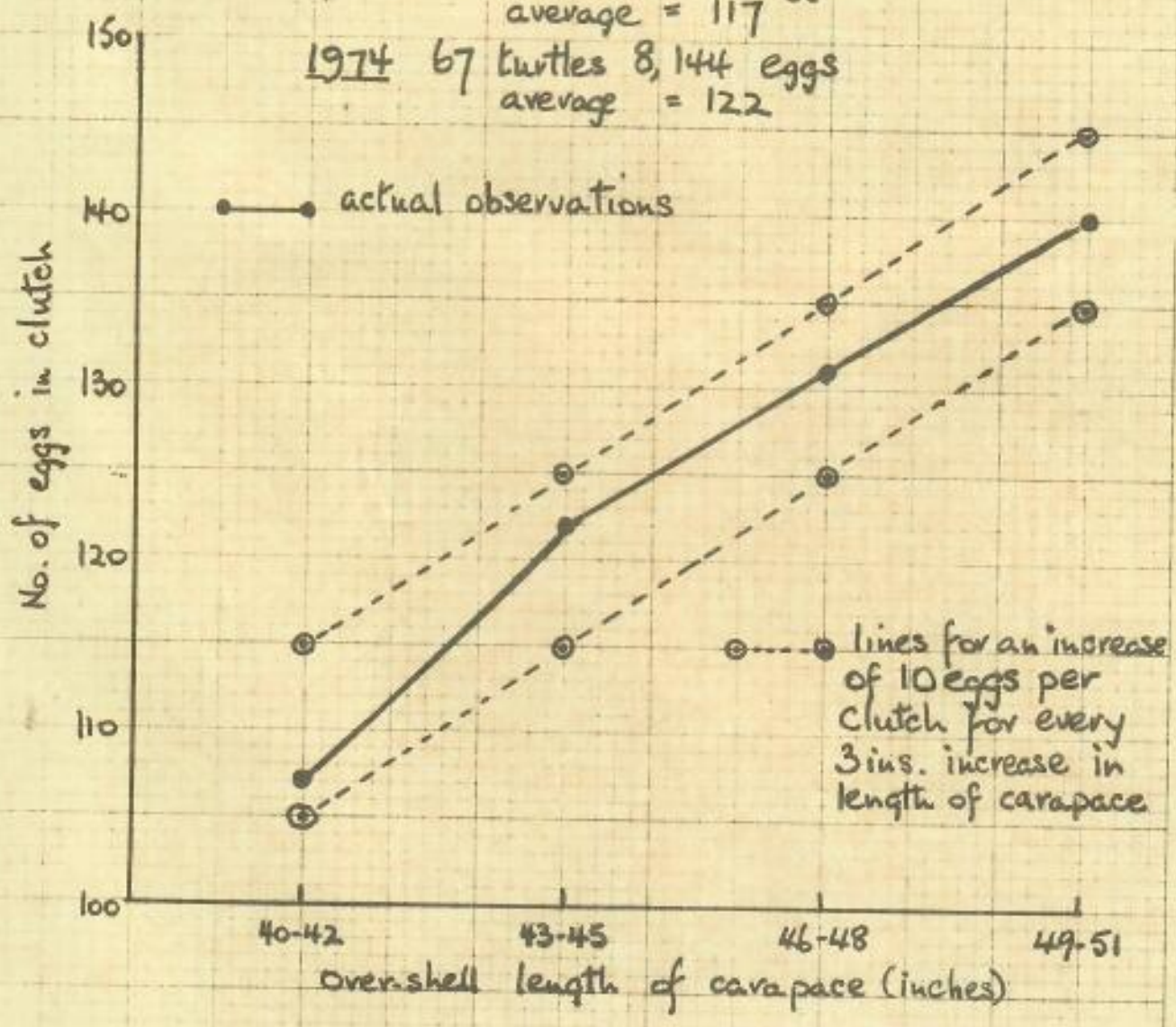


ASCENSION ISLAND STUDY
No. OF EGGS IN CLUTCH, 1973 & 1974



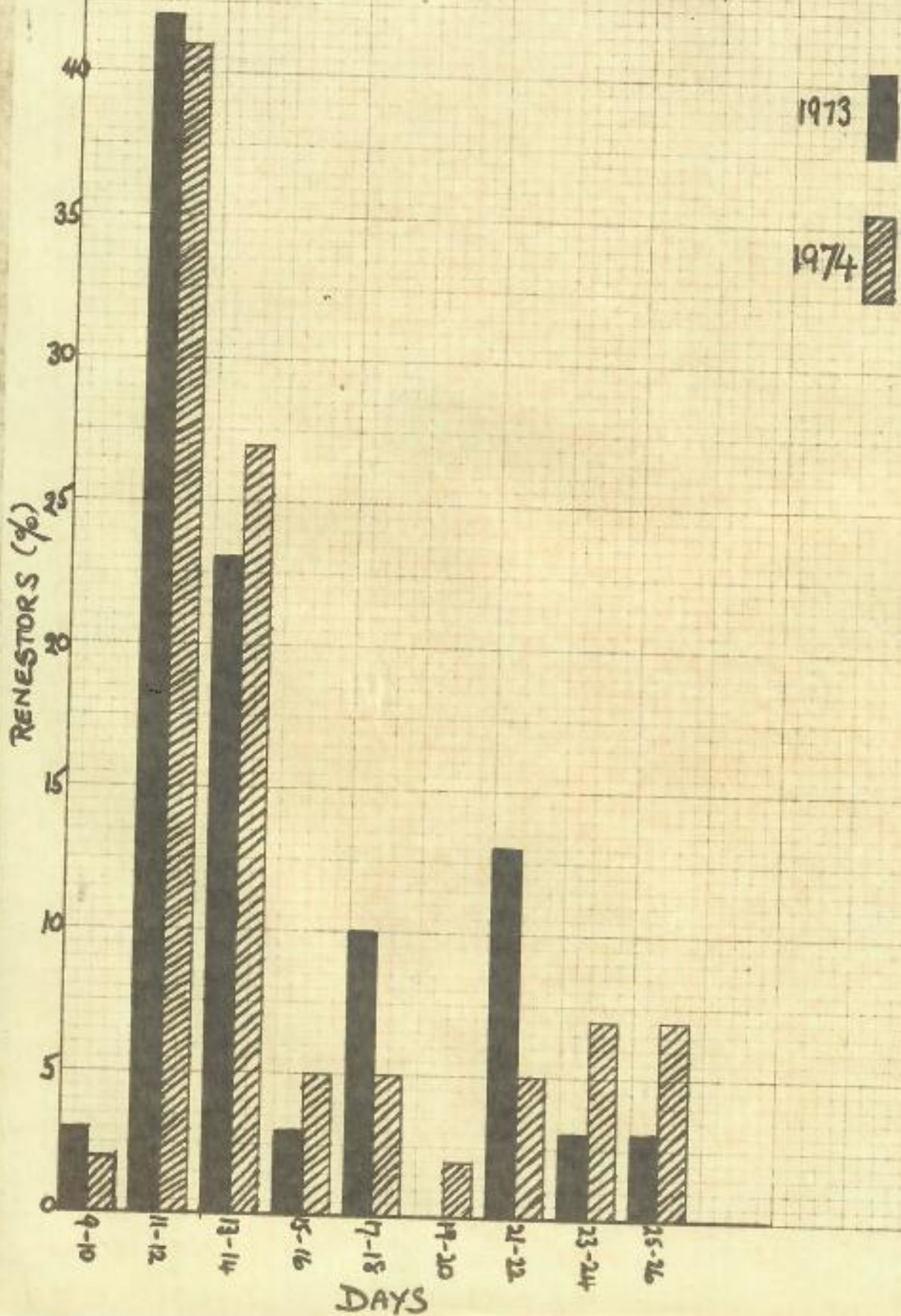
Relation between size of female and number of eggs in clutch
Ascension Island Study 1973-4

1973 60 turtles 7,025 eggs
average = 117
1974 67 turtles 8,144 eggs
average = 122



ASCENSION ISLAND STUDY
INTER-NESTING INTERVAL 1973 & 1974

9



Batch	Year	Place	No. of eggs	INF. EED	MBA	Hatchlings to water	
						No.	%
007	1971	SURINAM	30,000	7,487	8,167	14,346	47.8
008	1972	ASCENSION	16,746	2,952	4,762	9,032	53.9
009	1972	SURINAM	29,582	6,605	8,742	14,235	48.1
010	1972	COSTA RICA	14,928	3,100	568	11,260	75.4
011	1973	ASCENSION	19,105	3,806	481	14,818	77.6
012	1973	SURINAM	63,404	11,325	2,737	49,342	77.8
013	1973	COSTA RICA	14,803	2,352	587	11,864	80.1
007-	1971-						
013	1973		188,568	37,627	26,044	124,897	66.2

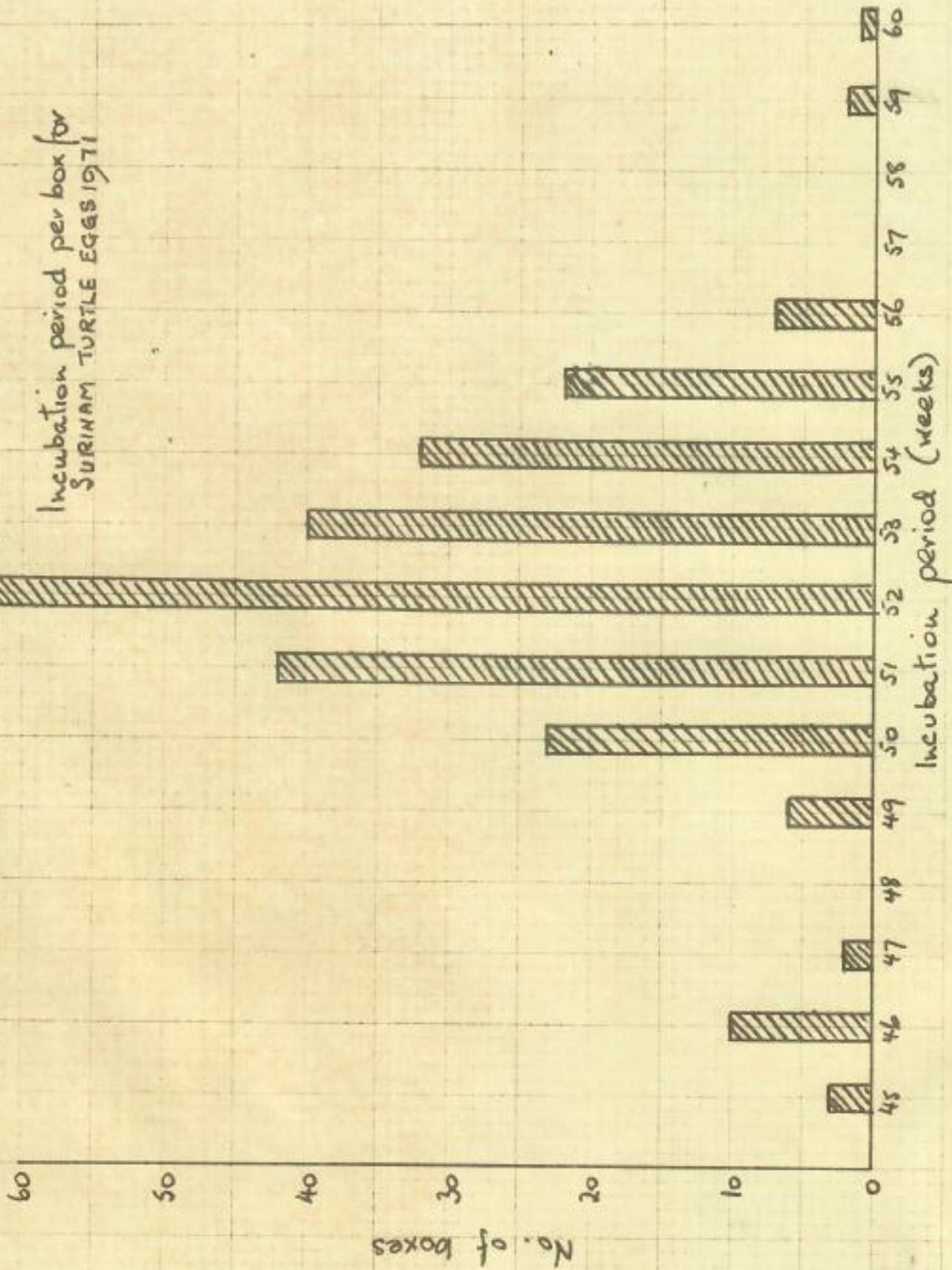
INF = INFERTILE

EED = EARLY EMBRYONIC DEATH

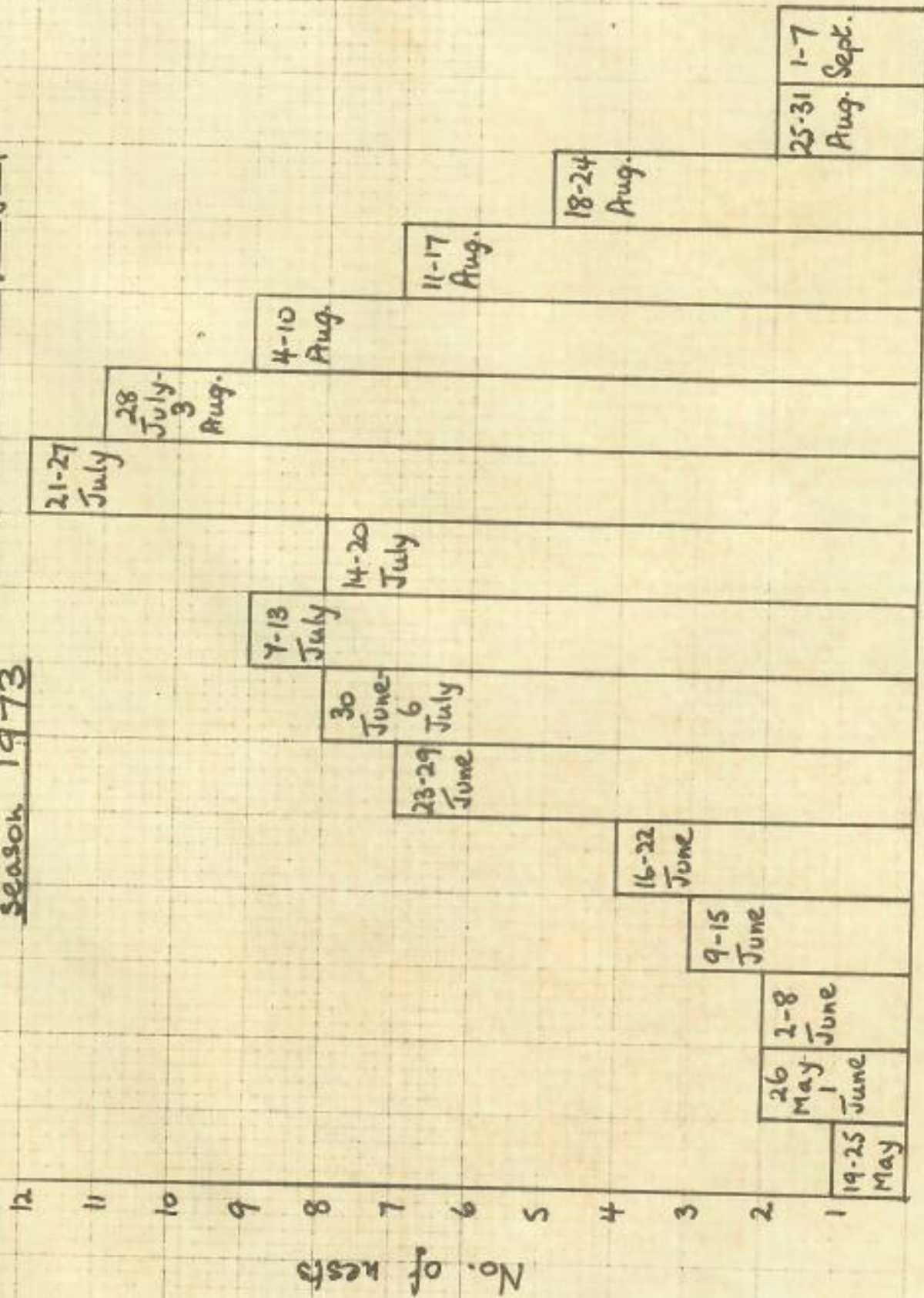
MBA = MALFORMED OR DEAD BEFORE HATCH
OR SHORTLY AFTER HATCH

Maviculture Ltd. Grand Cayman beach

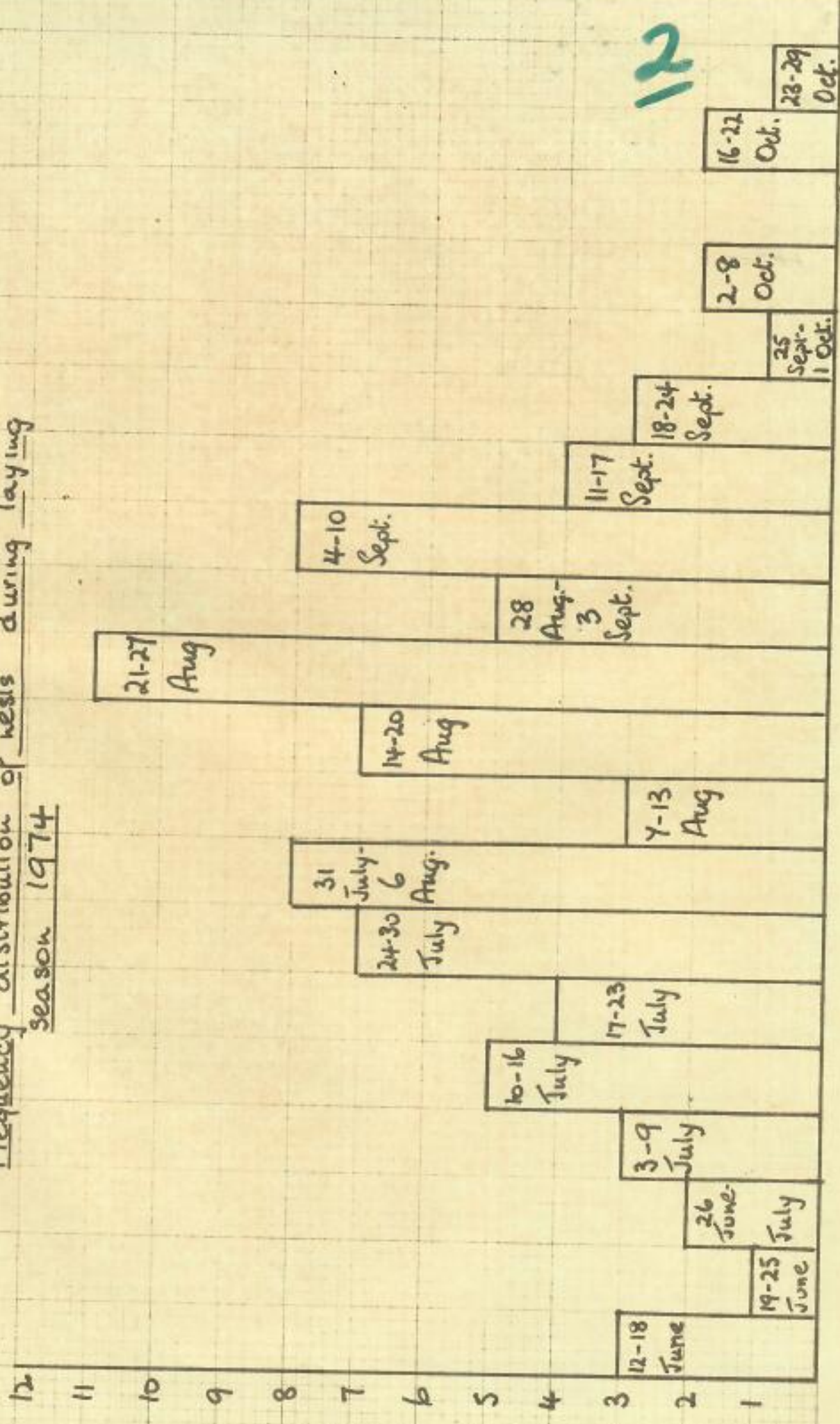
Incubation period per box for
SURINAM TURTLE EGGS 1971



Mariculture Ltd. Grand Cayman, beach
Frequency distribution of nests during laying
season 1973



Mariculture Ltd. Grand Cayman, beach
Frequency distribution of nests during laying
season 1974



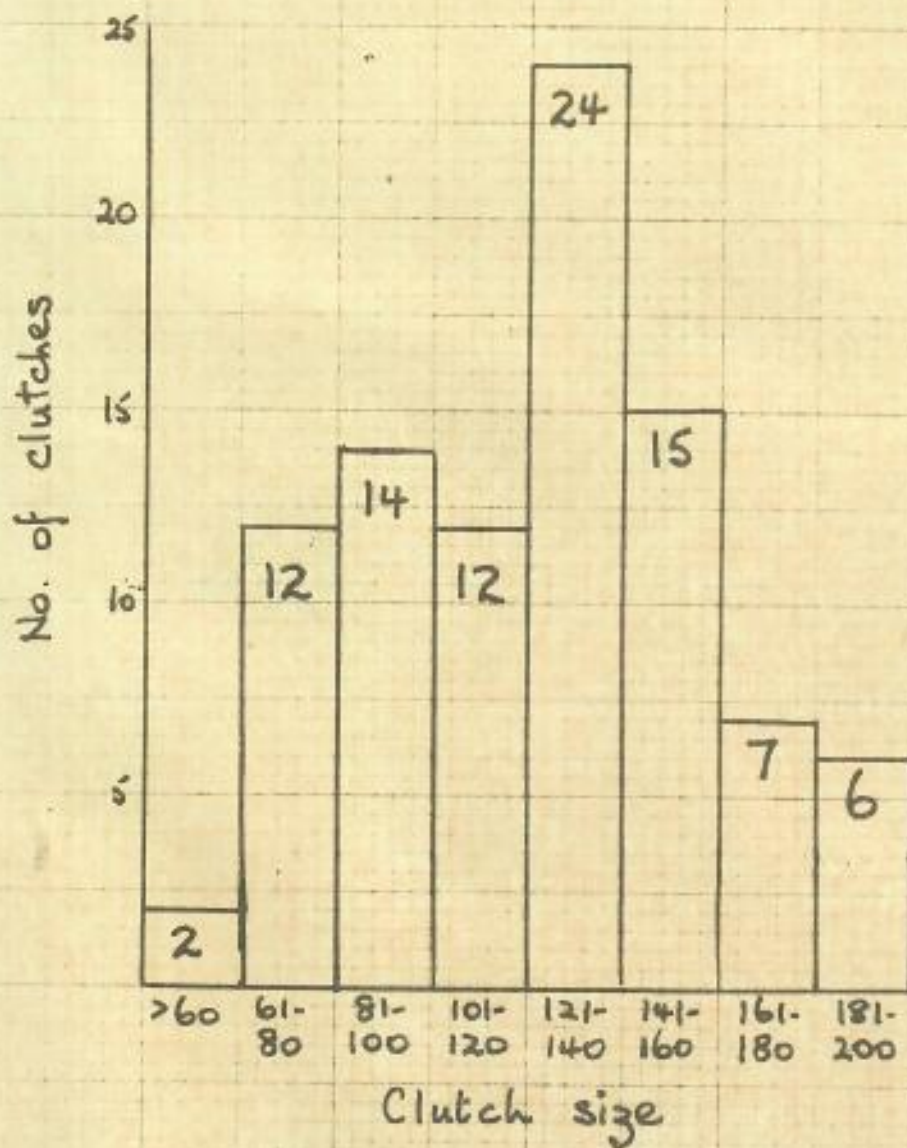
12

9-15

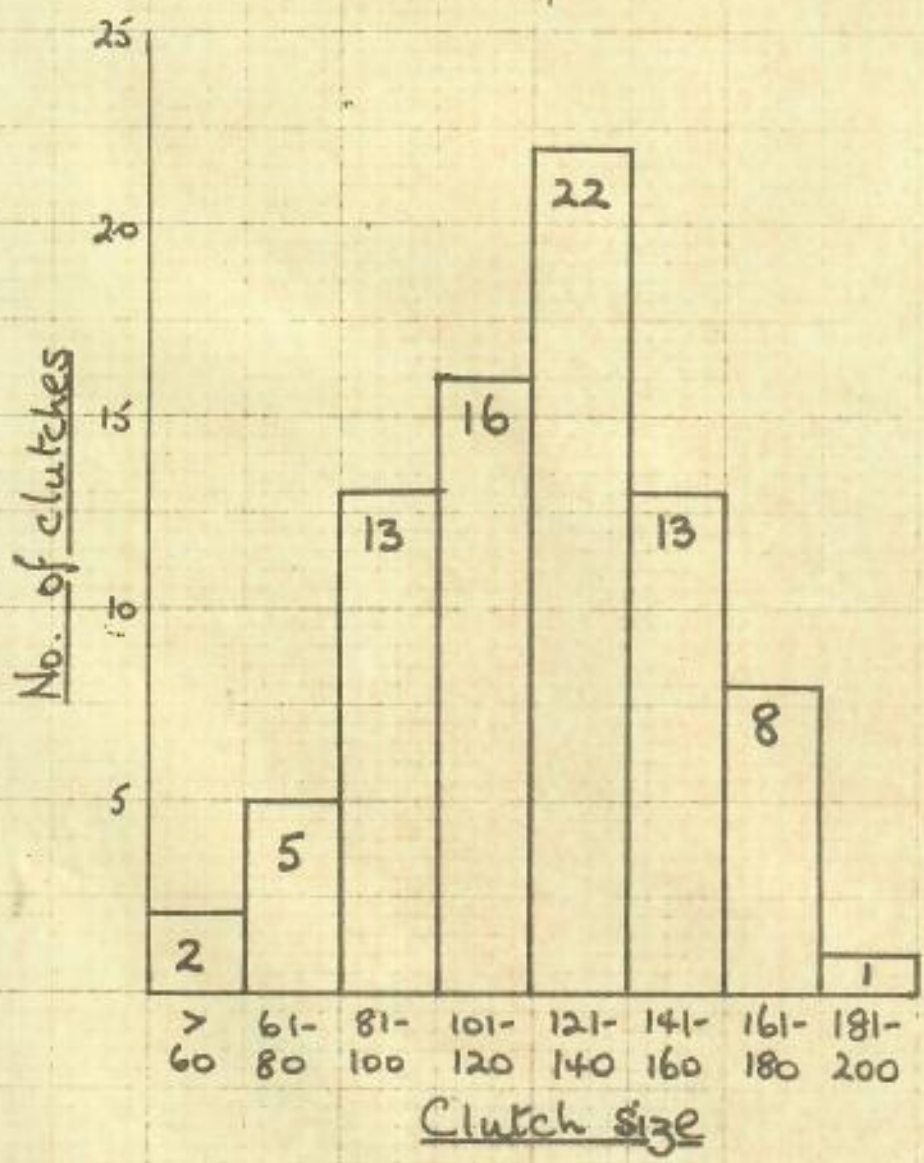
110517

Nests

Mariculture Ltd, Grand Cayman, beach
Frequency distribution
of clutch size, 92 nests
1973

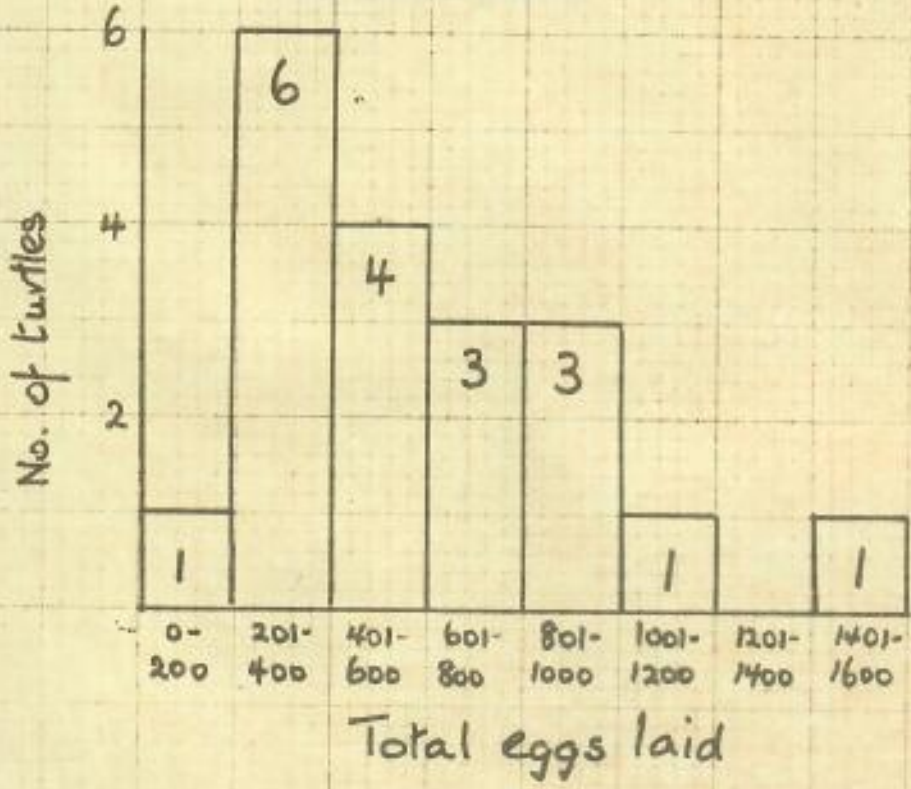


Mariculture Ltd, Grand Cayman beach
Frequency distribution of
clutch size, 80 nests 1974



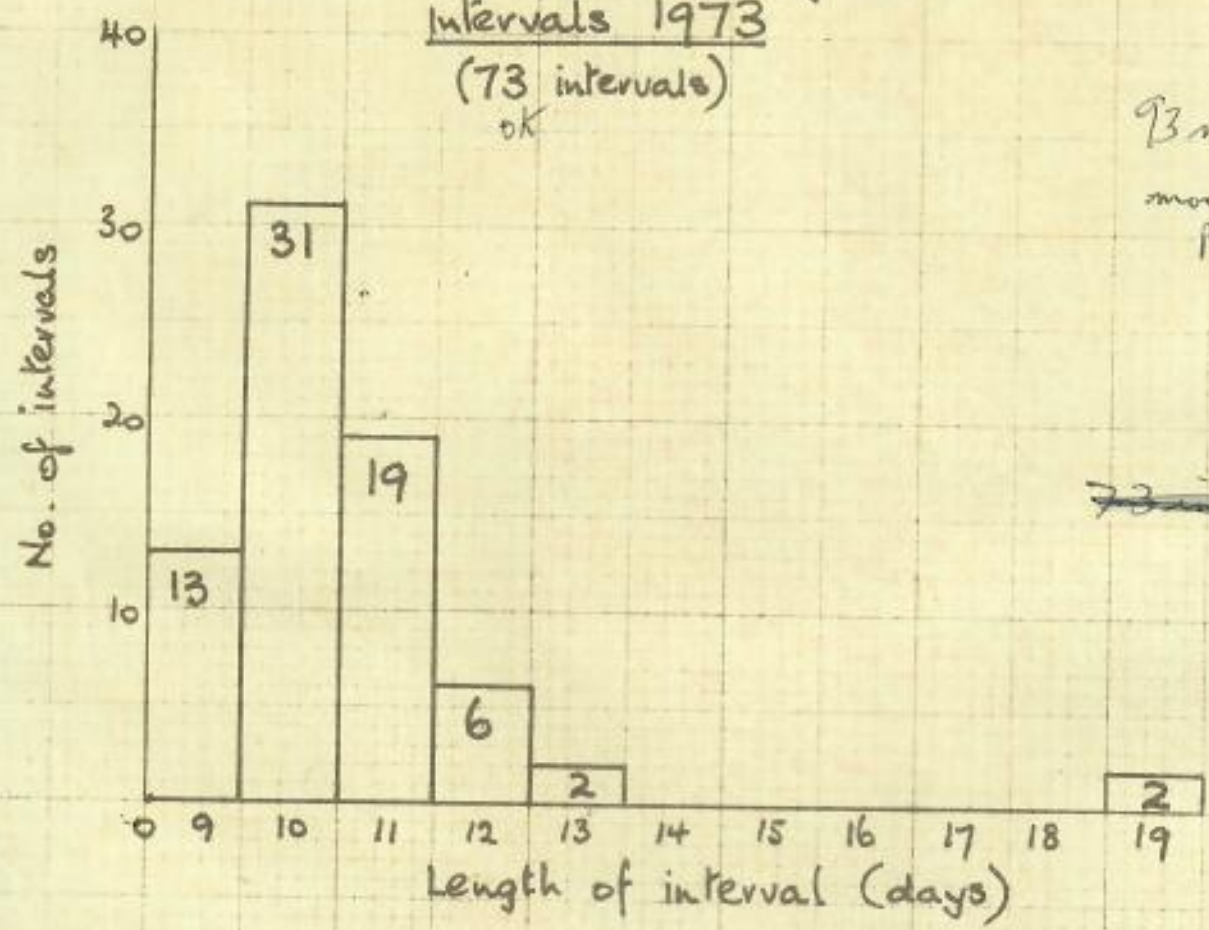
Mariculture Ltd, Grand Cayman, beach

Frequency distribution of
total eggs laid
19 turtles 1973



Mariculture Ltd. Grand Cayman, beach
Distribution of inter-nesting
intervals 1973

(73 intervals)
ok



93 nests
most possible -
47 intervals

~~73 intervals~~

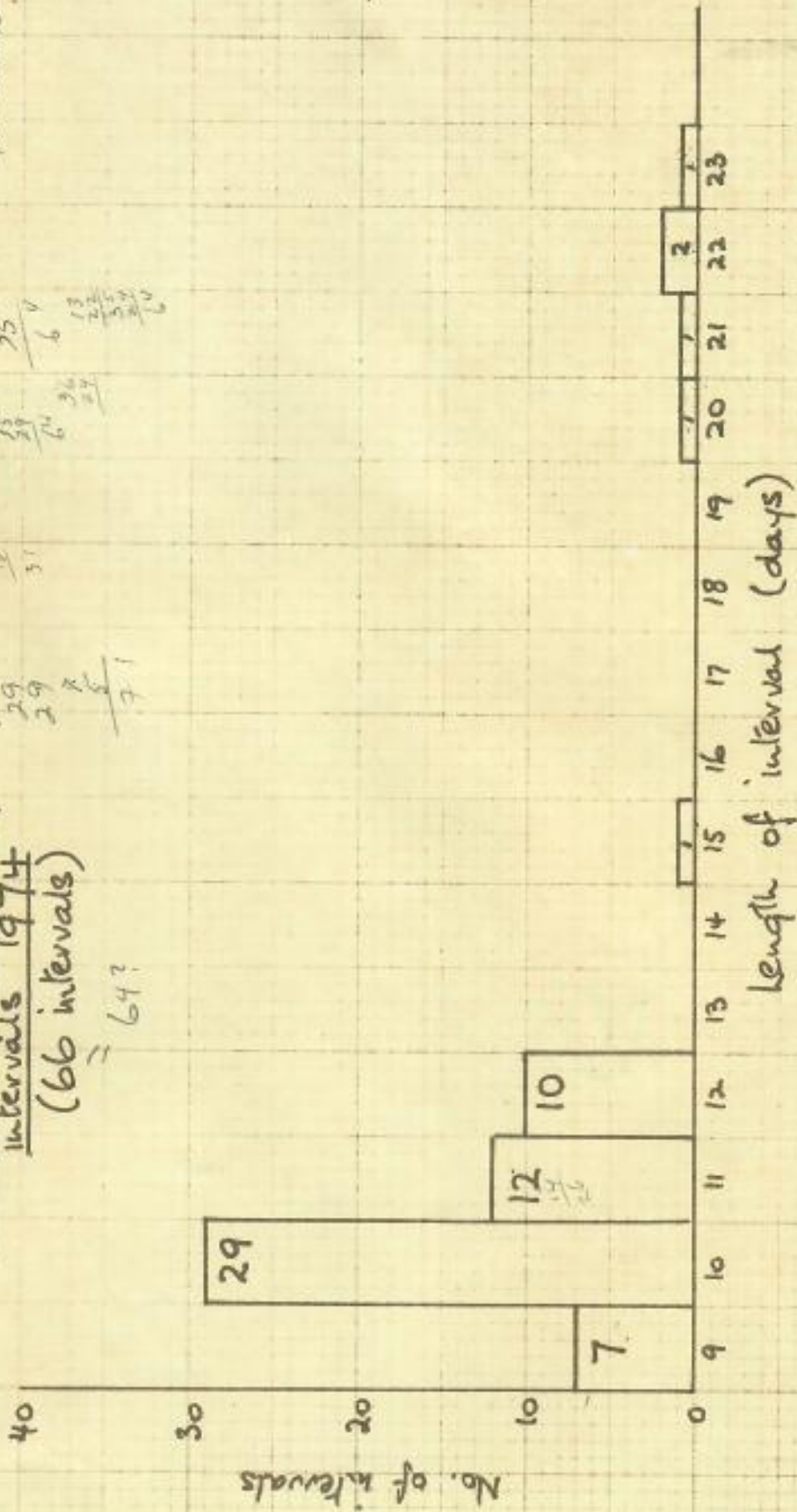
10
50
13
—
73

Mariculture Ltd. Grand Cayman beach

Distribution of inter-nesting intervals 1974
 (66 intervals)
 = 64?

$\frac{29}{29} = 1$
 $\frac{12}{12} = 1$
 $\frac{10}{10} = 1$
 $\frac{7}{7} = 1$
 $\frac{1}{1} = 1$

possible = most obtainable
 40 intervals
 $\frac{24}{35} = \frac{4}{6}$
 $\frac{25}{21} = \frac{5}{3}$
 $\frac{13}{2} = 6.5$
 $\frac{2}{3} = 0.67$
 $\frac{2}{3} = 0.67$
 $\frac{2}{3} = 0.67$
 $\frac{2}{3} = 0.67$

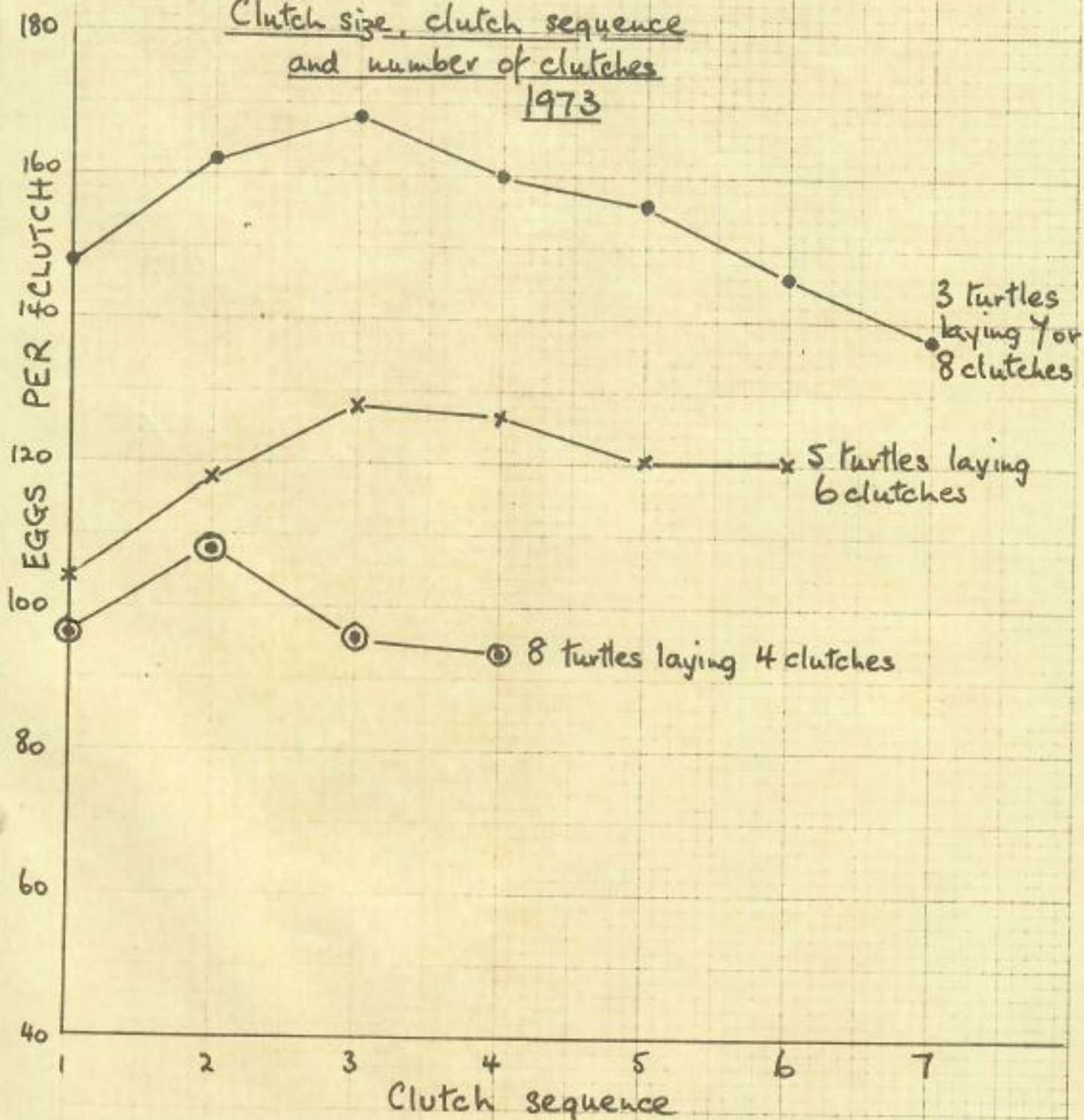


1 : 35 days
 1 : 40 days

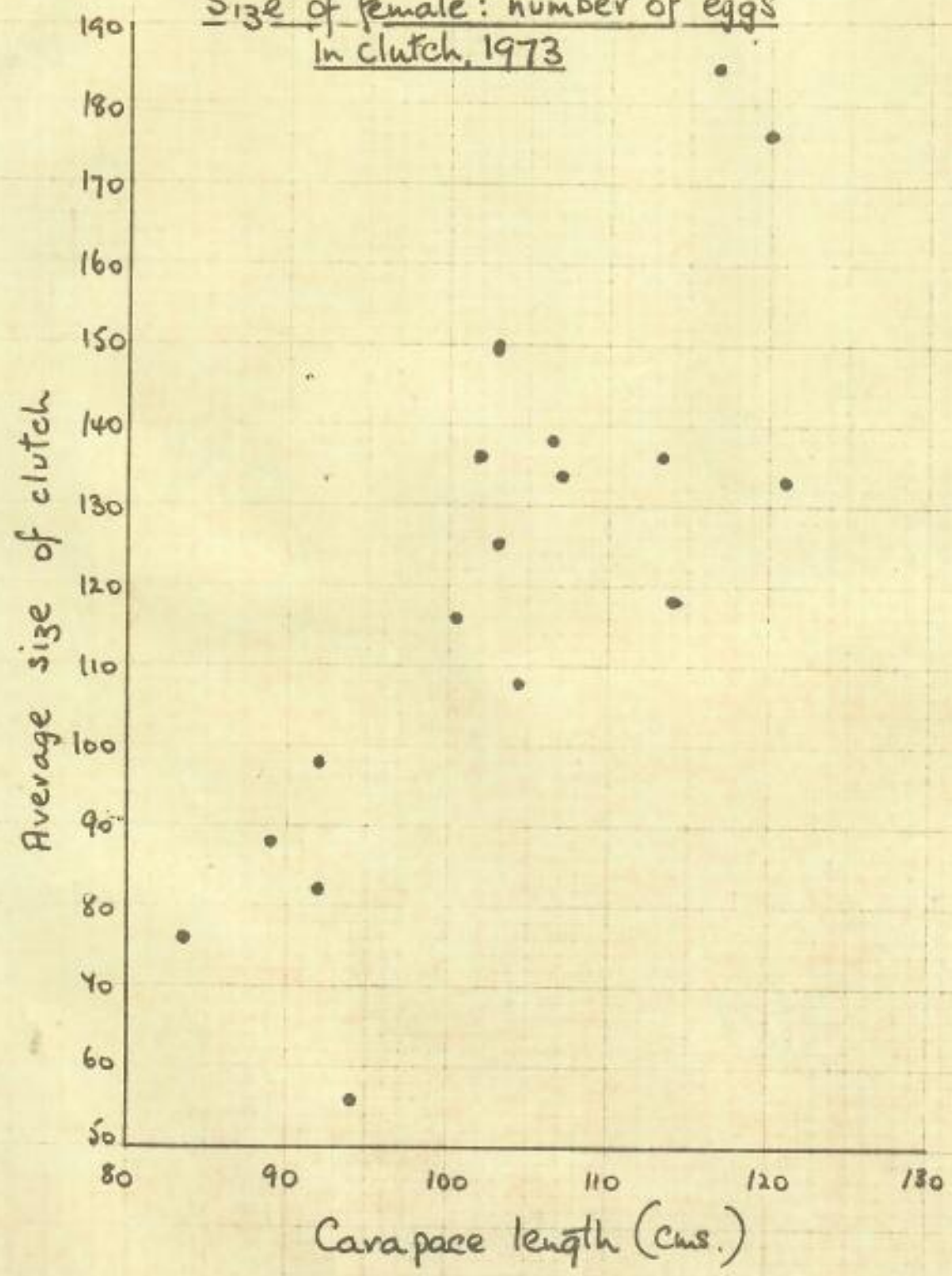
17

Mariculture Ltd, Grand Cayman, beach

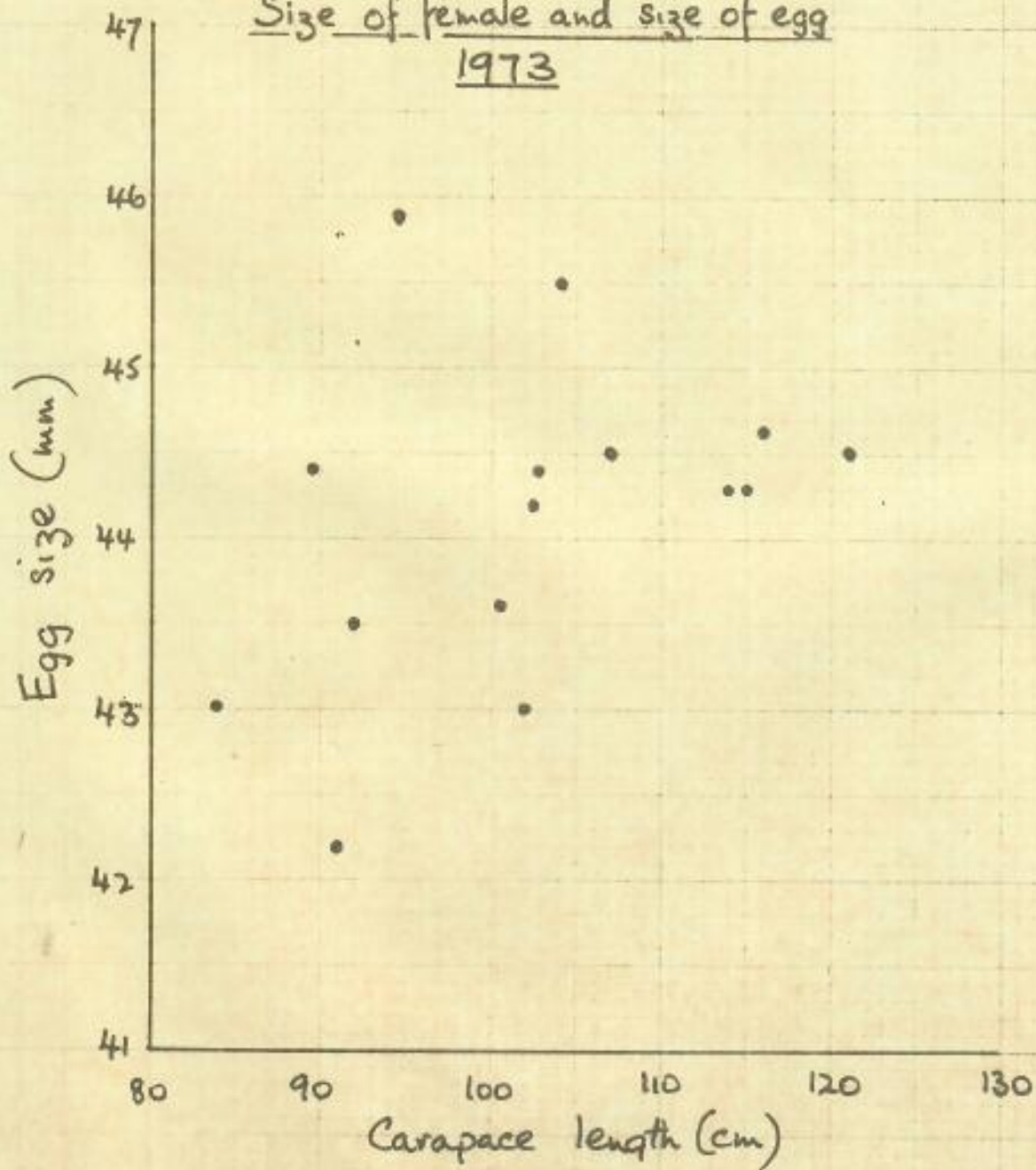
Clutch size, clutch sequence
and number of clutches
1973



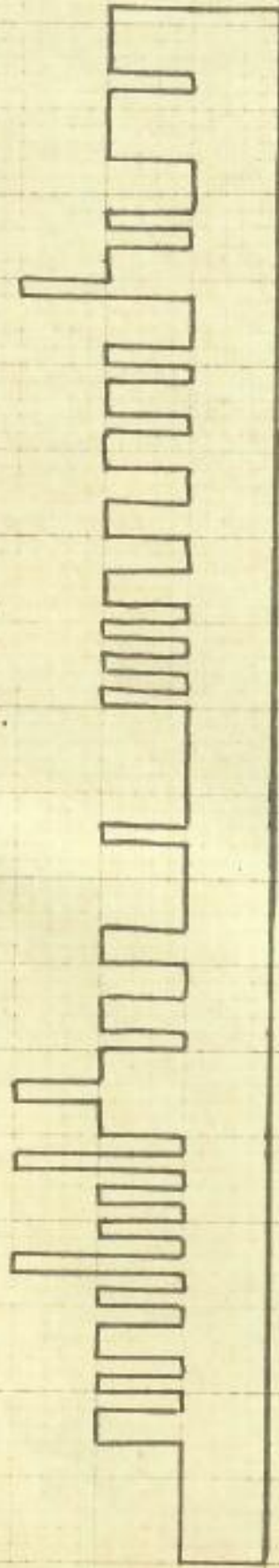
Mariculture Ltd, Grand Cayman, beach
Size of female: number of eggs
in clutch, 1973



Mariculture Ltd, Grand Cayman, beach
Size of female and size of egg
1973



Mariculture Ltd. Grand Cayman, beach
Sequence of egg laying ♀ 1188 June 12 1973



Eggs
laid
at
one
time

3
2
1

91 contractions : 47 singles
80 in pairs
12 in trios

1/3

year?

Note
 10 clutches nests
 92-1974
 80-1973
 10 nests
 3290

Clutch No.	Hatchability and clutch sequence	
	% viable hatchlings 8 ♀ laying 4 clutches	% viable hatchlings 5 ♀ laying 6 clutches
1	44.2	41.2
2	57.2	23.4
3	41.7	22.4
4	38.8	26.6
5	182.9	13.5
6		10.0
		137.1
		182.9
		320.0

10 | 320.0

LIBRARY OF
GEORGE W. BALAZS

B 3

New hope for the Green Sea Turtle.



THE CORPORATE PROSPECTUS

MARICULTURE, Ltd.

P. O. Box 645, GRAND CAYMAN ISLAND, BRITISH WEST INDIES



(Incorporated under the Companies Law 1960)

RECIPES

RECOMMENDED FOR

MARICULTURE

FARMED

TURTLE STEAK



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GEORGE H. BALAZS

Phone 9-3313

MARICULTURE LTD.
Box 645
Grand Cayman Island
British West Indies

B9

MARICULTURE LTD.

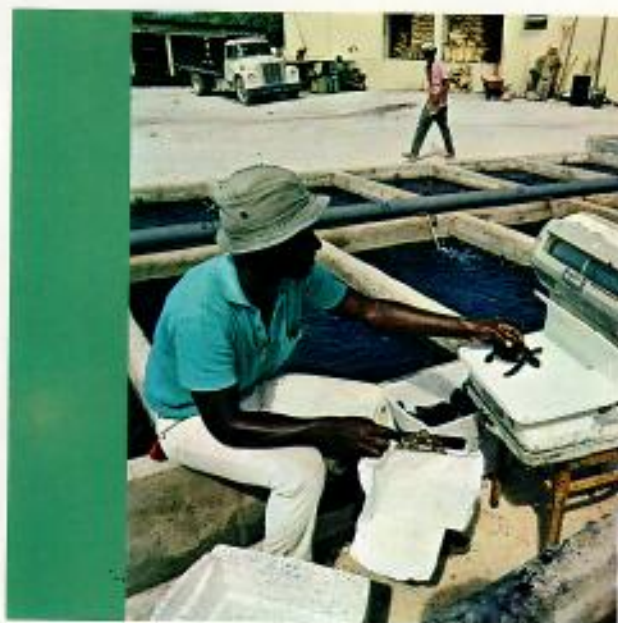
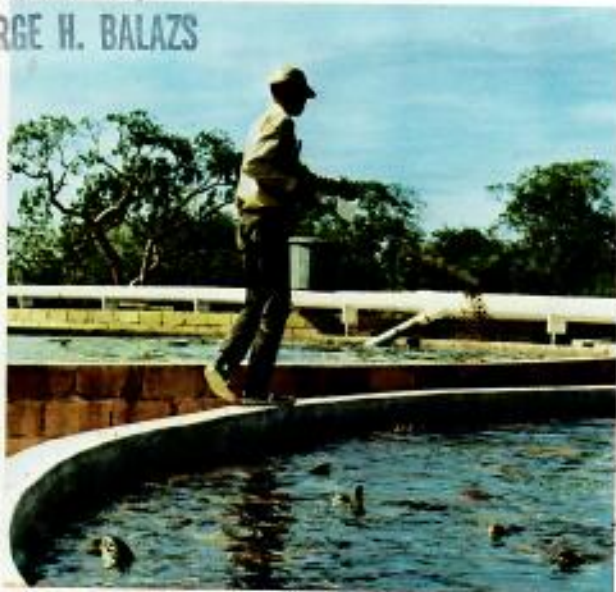
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GEORGE H. P. [unclear]



the world's
only sea
turtle farm

Daily tours





breeding

Green turtles are almost exclusively animals of the sea. Only the female ever returns to the shore, and only to lay her eggs. She breeds every second or third year. In the breeding season, she nests three to ten times, laying three hundred to a thousand eggs. Nests may contain as few as fifty and as many as two hundred eggs, but usually contain between one hundred and one hundred and twenty. The male accompanies her to the rookery beach, a migration hundreds of miles long, but does not leave the water.

hatching

The mother turtle lays about 120 eggs in a nest hole she digs in the sandy rookery beach. In about two months the eggs hatch tiny turtles that weigh less than one ounce. The hatchling uses a sharp "egg tooth" on his nose to cut through the leathery shell of the egg, which resembles a largish ping-pong ball. When he hatches, he is not yet ready to enter the sea. His soft shell must straighten and harden, and he must absorb the large ball of egg yolk that protrudes from his belly. Only then, in cooperation with his brothers and sisters, does he work his way up through the sand. The nestlings emerge almost simultaneously, hurry desperately to the sea they have never seen, and swim directly offshore. Because no one has seen the baby turtles at sea, exactly where they go still is a mystery. In captivity the hatchlings swim steadily for as long as ten days, not even stopping to eat. Wild hatchlings may not stop until they are several hundred miles from land. They have good reason to hurry! In nature, probably no more than two hatchlings per thousand live to nest on their native rookery beaches.

feeding

Wild green turtle hatchlings prey on the tiny animals of the plankton, far out in the open sea. Until old enough to eat the adult turtle's staple diet of turtle grass, Mariculture hatchlings are fed chopped fish. Green turtles begin life as predators, but become increasingly vegetarian as they grow larger. A wild turtle spends its first year of life far from land. If it survives, it moves into the shallows when it weighs about five pounds. Mariculture turtles are fed a changing diet to approximate the natural food.

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feeding

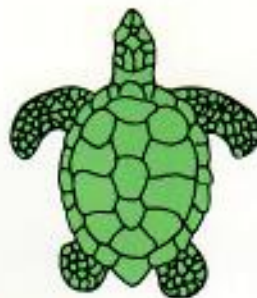
Wild green turtle hatchlings prey on the tiny animals of the plankton, far out in the open sea. Until old enough to eat the adult turtle's staple diet of turtle grass, Mariculture hatchlings are fed chopped fish. Green turtles begin life as predators, but become increasingly vegetarian as they grow larger. A wild turtle spends its first year of life far from land. If it survives, it moves into the shallows when it weighs about five pounds. Mariculture turtles are fed a changing diet to approximate the natural food.

weighing

The growth rates of Mariculture turtles are followed closely. Samples of turtles from each tank are weighed every month. When they are large enough, the turtles are tagged, so individuals may be followed more closely.

conservation

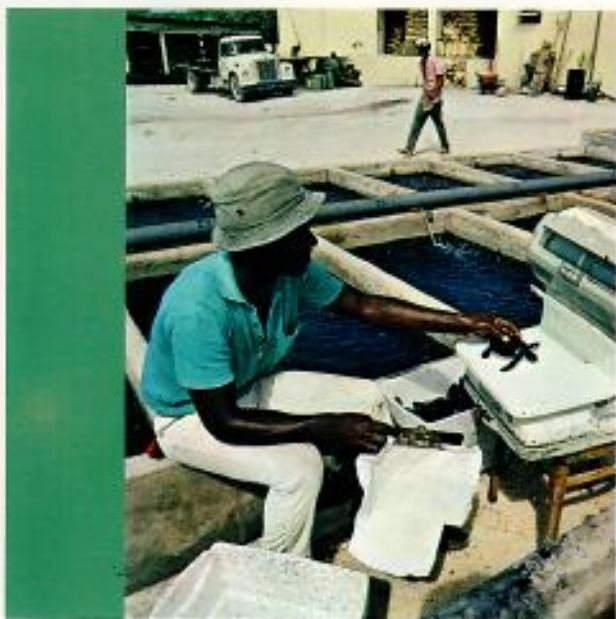
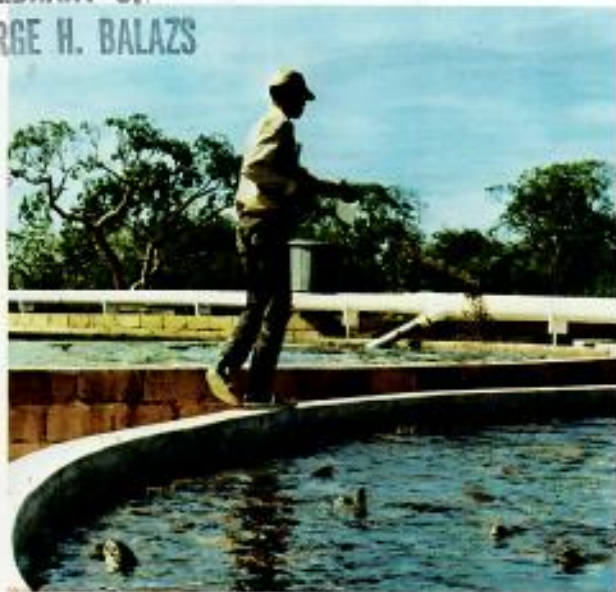
Green turtles are important to mankind because they are about the only animals that eat sea grass and turn it into good red meat. All over the world, green turtle populations are declining because the demand for green turtle products is greater than the supply. Unless something is done, the green turtle could become extinct. By turning the green turtle into a domestic animal, Mariculture Ltd. hopes to supply the demand without decimating the last of the wild turtles. "Mariculture" literally means "Farming the sea." We believe our fast-growing herd of green turtles represent the pioneer livestock of what will become an important new domestic animal, utilizing the sea's vast, green pastures to produce protein for mankind.



MARICULTURE LTD.

Grand Cayman, British West Indies

Box 645 - Phone 9-3313



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

LIBRARY OF
GEORGE H. BALAZS

Phone 9-3313



MARICULTURE LTD.
Box 645
Grand Cayman Island
British West Indies

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 Mari-culture 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.



Dillon 87

Mariculture's Turtleland

the world's first commercial green sea turtle "farm"



Come to Mariculture's TURTLELAND:



Over 100,000 green sea turtles . . .
and growing fast!

There's nothing like Turtleland
anywhere. And there's no animal like
this wonderful – and oddly beautiful
– creature of the sea. Learn about some
of the mysteries that still surround
the green sea turtle. And learn how
Mariculture's success may be the key
factor in preserving the green sea
turtle from extinction.

Turtleland.



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1987

See where the green sea turtle swims, mates and nests — at Turtleland

Discover what researchers have learned—and are still learning—about this marvelous creature of the sea. And discover it the way they do: by watching the green sea turtle with your own eyes. You'll see thousands of turtles in Turtleland's specially designed pens and tanks. You'll see turtles swimming and mating in the man-made breeding pond, and crawling onto the nesting beach. And you can spend fascinated hours watching these great animals, in all their majesty and beauty. (Yes, turtles are beautiful . . . as your visit to Turtleland will prove!)

Learn how Mariculture workers harvest turtle eggs and incubate them under carefully controlled conditions at Turtleland. See how the tiny hatchling pecks his way out of the leathery shell.

Learn why delicious turtle meat is better nutritionally than beef or chicken.

Learn why scientists look to the sea for the future of man's food supply on our crowded planet . . . why Mariculture is a glimpse into the 21st Century!

See hundreds of hatchlings, reared in a protected environment where about 85% survive, versus less than one or two in 500 which might survive in the wild. Watch as young turtles are weighed and measured—part of Mariculture's careful program to achieve maximum health and growth.

Fully mature green sea turtles swim placidly in their sea-water pens at Turtleland. Unlike wild turtles, these "farmed" animals develop better-patterned shells, free from barnacles or the scars usually acquired from life in the sea.





**LOW
TURTLE
LOSING**



Come to Mariculture's **TURTLELAND:**



Over 100,000 green sea turtles . . .
and growing fast!

There's nothing like Turtleland
anywhere. And there's no animal like
this wonderful – and oddly beautiful
– creature of the sea. Learn about some
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Turtleland



See where the green sea turtle swims, mates and nests – at Turtleland

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Learn why delicious turtle meat is better nutritionally than beef or chicken.

Learn why scientists look to the sea for the future of man's food supply on our crowded planet . . . why Mariculture is a glimpse into the 21st Century!

See hundreds of hatchlings, reared in a protected environment where about 85% survive, versus less than one or two in 500 which might survive in the wild. Watch as young turtles are weighed and measured – part of Mariculture's careful program to achieve maximum health and growth.

Fully mature green sea turtles swim placidly in their sea-water pens at Turtleland. Unlike wild turtles, these "farmed" animals develop better-patterned shells, free from barnacles or the scars usually acquired from life in the sea.



**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



LIBRARY OF
GEORGE H. BALAZS

Batch	Year	Place	No. of eggs	INF EED	MBA	Hatchlings to water	
						No.	%
007	1971	SURINAM	30,000	7,487	8,167	14,346	47.8
008	1972	ASCENSION	16,746	2,952	4,762	9,032	53.9
009	1972	SURINAM	29,582	6,605	8,742	14,235	48.1
010	1972	COSTA RICA	14,928	3,100	568	11,260	75.4
011	1973	ASCENSION	19,105	3,806	481	14,818	77.6
012	1973	SURINAM	63,404	11,325	2,737	49,342	77.8
013	1973	COSTA RICA	14,803	2,352	587	11,864	80.1
007-	1971-						
013	1973		188,568	37,627	26,044	124,897	66.2

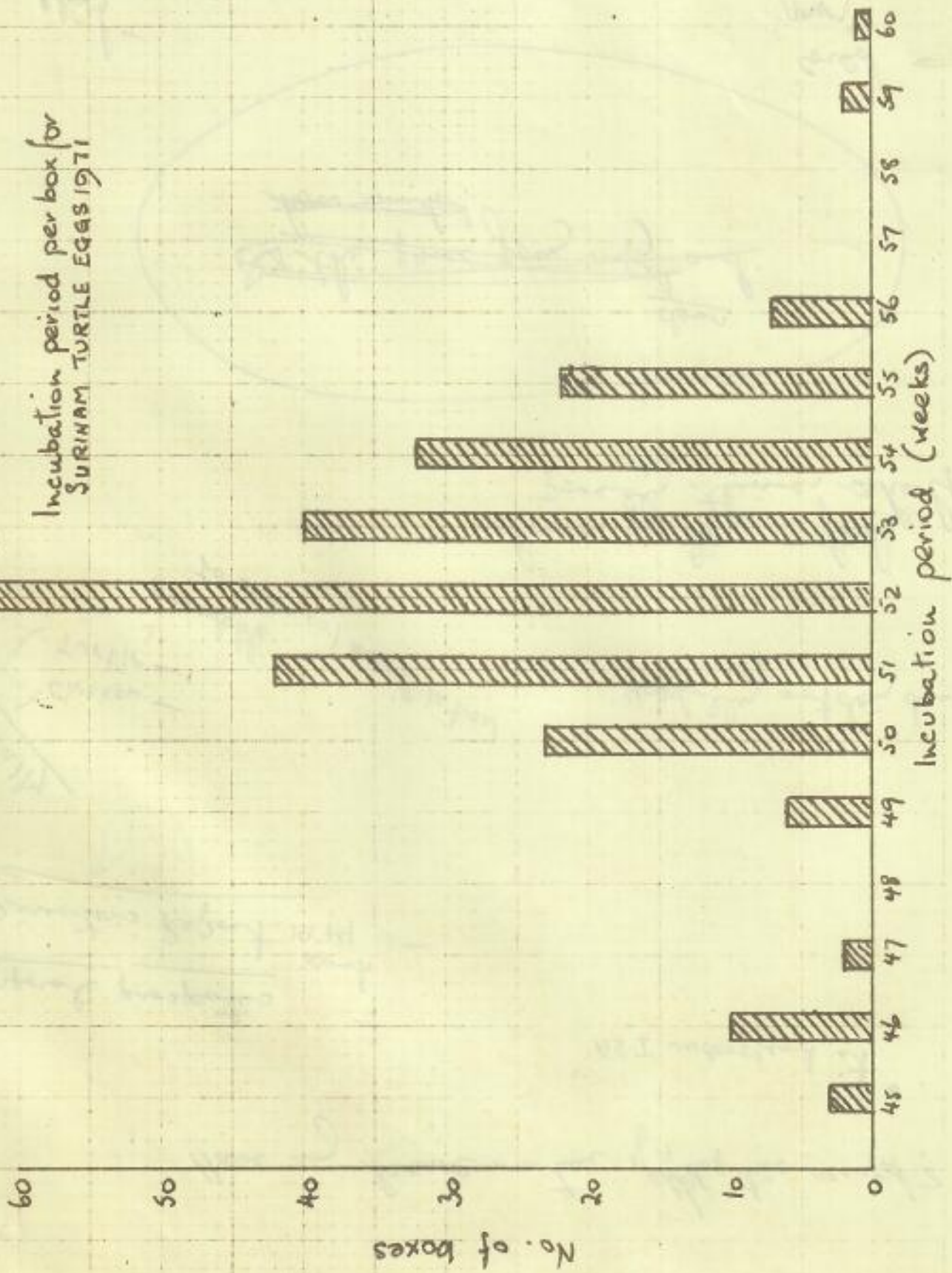
INF = INFERTILE

EED = EARLY EMBRYONIC DEATH

MBA = MALFORMED OR DEAD BEFORE HATCH
OR SHORTLY AFTER HATCH

Mariculture Ltd. Grand Cayman beach

Incubation period per box for
SURINAM TURTLE EGGS 1971



Have any become mature of ^{the} captive reared?

"AS I understand it"

Corporate prospectus

Director's Report ^{March} 1974

Biologically

- Chicken -
- Turtle -

Amenable to biological manipulation

Hopefully not doing damage

lower protein in feed
possibly thinner shell.

~~Is the price going up and~~
~~how much?~~
 down

"could"
"may"

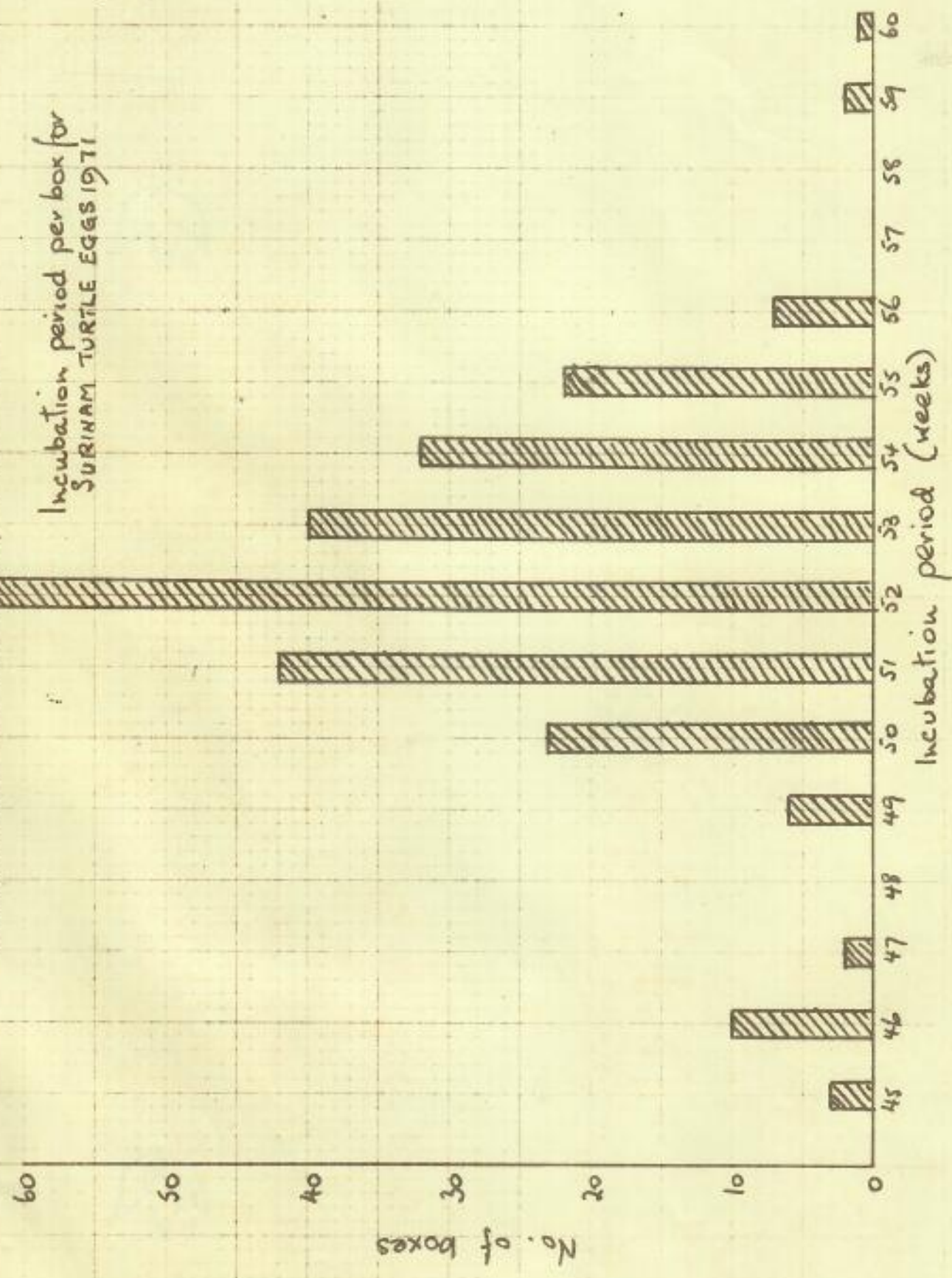
reddish dust -

1969 -
1970 -

25% of eggs

Mariculture Ltd. Grand Cayman beach

Incubation period per box for
SURINAM TURTLE EGGS 1971



Batch	Year	Place	No. of eggs	INF EED	MBA	Hatchlings to water	
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OR SHORTLY AFTER HATCH

a MARICULTURE, Ltd.
supplement to —

The Cayman Islands

Northwester

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GEORGE H. BALAZS

OCTOBER, 1973



CI\$4million expansion plan	2	World eager for turtle products	10	Captive breeding a landmark	16
The investor's viewpoint	5	Aerial view of the farm	12-13	Great place for tourists	18
The world's first	6	Proud record in conservation	14	The people of Mariculture	20
How to raise turtles	7	Extensive research programme	15	Staff picture	23

Monday 12/25/74
2:00 PM SIR ALAN PARKES.

George Hughes
Thesis

short term aspect -

long term aspect - ^{people population expansion}
- food for people.
- farm to save species from extinction.

European Atlantic Turtles - L.D. Brogersma

DR. CARR

- operate in vacuum ^{complete wild protection - all stages}
- use only own eggs, or "doomed" eggs

A. Fiskee

" Those of you concerned with it "

30,000 lbs meat from Mexico ^{confiscated by Calif. Fish and Game}
name - ?
address - ?

Does it have a good or bad influence on the wild sea turtle populations?

2:40 - Marlin Siman
can't honestly support doomed eggs in Costa Rica

Condition ^{Those w/ 1975} of returns

(90% hatch in styrofoam boxes)

NO Date

MISC. Notes

1% of those that survive to one year.

Is the price of your little steak going up or down in the next 2 years?

Caribbean Jewelers

12/26

Dennis

Green laminal - standard grade \$30 lb
from farm.

Centrals are thicker, but smaller,
therefore can't do so much with it.
Laterals are thinner but larger.

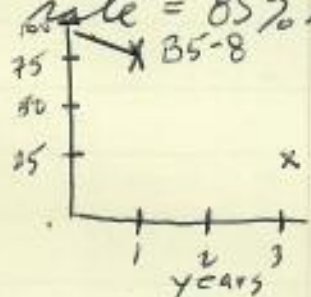
Hawk shell - Nicaragua - \$6 lb

approx wt - Hawk -
Green -

11/30/1974
Misc. Notes

G.H. BALAZS

- Capitalize on conservation value of organization.
- define - "Complete breeding cycle"
- 1968-73 (5 years) 50,000 eggs per year = (95% hatch) ~ 250,000 - presently 100,000 in stock
(includes 10,000 that have been marketed, however, unknown NO. of these must be < market size),
Relation rate = 85% to 1 year



95% hatch
227,000 hatchling - 85% year 1 = 193,000 animals
greater mortality year 2 and 3.?

How many Infertile (or what appears to be infertile i.e., very early embryo mortality?)

- avoid paying taxes
- problems with SEC (Industrial Revenue Bond - Puerto Rico \$210,000,000)
- accuse others of spreading misinformation
- "farm to save" - if not endangered, save from what?
- Project an image of the company being founded on a sound biological basis - to little, to late.

- IVCN meeting - inventing wheel over again?
- Misuse statements of others to enhance image.
- effects, actions of many other similar farms?
- Deceive by insinuation.
- "Outdated" (which/when do we believe?)
- Plan for massive release/study using vessel. IVCN buys animals in stock.
- Ease peoples conscience, put conservation fears to rest, assume that it is all right to ^{buy} turtle products without damaging the species, in fact, make people believe that they are actually helping the species by purchasing items. By who or what logic?
- Air freight costs Miami - Honolulu "Freezer" 500 lbs loads - where stored Honolulu (cost) - Dillon Records
lbs brought in? ^{12/82} Does not have - possibly DOA
- Claims have changed?
- 1973 FFS egg production = 3 nest types each
(X) 143♀ = ~ 49,335 eggs
- Urge placement of green on Endangered Species List - formal IVCN Recommendation

- Much can be argued and speculated upon - but does that justify presenting it as fact?
- Both Henderson and Parkes have "copped-out" on economic endorsement.

11/20 Arrived 11:30 - cab to Hotel 7⁰⁰ + 1⁰⁰ - Met participants, had drinks ~ 5-7, Dinner at Cuban restaurant.

- Deceptive information pervaded many areas.

- State speculated conclusions of experiment as being fact before experiment has been completed.

CARLTON RAY

11/72 Agenda - ^{previous IUCN 1969, 1971} Request for hawk description - Vin. family farmers
 Mr. Mence - ^{confusion Hawaii} Farming interest
 - Threat of Commercial Disturbance
 - SAVE Social (assessment)
 Executive Board IUCN

Prof. Harrison - Alert Group - of SSC
 SEASIA - look at Thailand (Gulf of Thailand) little information
 SA - ~~rank~~ all eggs detected since 1964 S. DES. IVA
 1927 2M
 1948-1954 1.5M
 Tom 1947 - hatching program started
 1955-60 1M
 1961-66 402T
 1967-72 321T
 Down
 Nothing disturbing Turtles
 Sabah

Thailand - Nest since 1955 yield 171 to 50 eggs
 Kok RMM

EpORMAS ~~Indonesia~~
 Serious trading - high growth Korean ~~JAPANESE~~ Mexican largest fleets Trawlers
 Bauxite Mining
 3000 trawlers Malaysia
 Thai fleet up
 S. Phil - No law P. Navy will not go to Islands
 Mrs. Marcos - Conservation Minded
 Singapore - shops \$5-600 pay by inch

A. Complicated
 B. World Problem
 loose SE POP (Total) in 10 years or less

Turtles couldn't have it better than they have had it in S.E. Asia.

Several small ~~the~~ bathing population in Indonesia -
Tourist problem in Trenggema (3-4 miles beach)
advertisement to see, ride on Turtles.
2 motels on beach -
could drive to in easily - 300 people watching -
fireworks under it.

Turtles - under every sort of disadvantage -
shallow water dependency -

dead coral on beach - blasting
japanese - high coal trade -

Amills - possession.

1969 - 7 points of meeting - The turtle tragedy

Mariculture - haven't found ^(IUCN) we stand on.

Financial Times - Policy as conservation
(Date?)

Re-education

Research - vs - Conservation

Can not generalize between turtle populations.

debatable about
1960-63 largest ^{in world} bill of whales
sea grass eco-system project
I.D. critical marine habitats - RM

S. China Sea -
Trawling fleet

Research is not the goal - purpose of group - CONSERVE
Friends of the Earth - London Foreign Exotica - company
Address?

NEW FLORIDA TRAWL
20-30 min to 60-60 min

Sabah - Toy for 3 years ~~be good~~

KAY's Turtles
Robert Bustard
Collins London & Sydney
128pp 1973

- age of children (12)

Photograph stuffed turtles

1, 2, 2 replicas

Replicas - make from plastic?

sea turtles

Do not dangerously
reinforce one another

Small 73
#76 lb tortoise

42 Tuttle Islands - Jones Street
with APUA

Confidential

Meg imports - handling hides

Holly LAND foods Salt Lake City,
Utah
(S.D. Lauder → ~~cosmetics~~ Cosmetics
Polly Bergen

9:00 David - Nic → support

organized degree of public relations

Saturday - Dev; tactics; fairness; 1969 meeting Oryx, published in (The Turtle Tragedy)

Other interests much more motivated to succeed - economic interests

As Europe sees it - look at Europe picture w/ reference to Mariculture etc. Points that need covering

- ① Statement about status of Marine Turtles in the world - ^{endangerment}
- ② What do we accept about exploitation -
- ③ Status of Turtle group -
- ④ Tactics at Cayman

- Illusion of abundance - operate on nesting beaches

Er life birth rate is lower than death rate.

- problems
- Time ①
 - Potential ②

ascension Island
Chelonia mydas
mydas

Ascension Colony and Survival of the Green Turtle [Complex]

Complex nature of Chelonia

protecting one population does not help
another - do not mix genetically

green turtles breed where they nest -
∴ no gene flow.

behavioral differences -
species and sub-species

genetically unique nature of isolated
colonies.

- Commercial exploitation
- Trawlers

(algae areas)

— Marine Biology 16, 297-309 (1972)
— 24, 97-107 (1974)

Funnel nets - Brazil greens

69
~~180~~
180 ft.

1955 - 10

60

69

72

~~97~~

2327

4056

Saturday
afternoon

Numbers
of Trawlers

Just THAILAND

sabah - fleets are mostly Chinese

Money for promotional literature needed.

- diversion and expansion

4:08

- Torres Straits pub.
by car

Mail George Hughes complete file on Mariculture.

Miscellaneous a negative effect -
Nicholls Letter
Reprints from Carr - [Tranl
Forests]

Korn Harold: Photos B/K & WT

Hawkshills

Sunday - integrity - dishonesty
wrongly motivated wrongly thoughtout
don't bargain with us, bargain with SSC

research → tranls

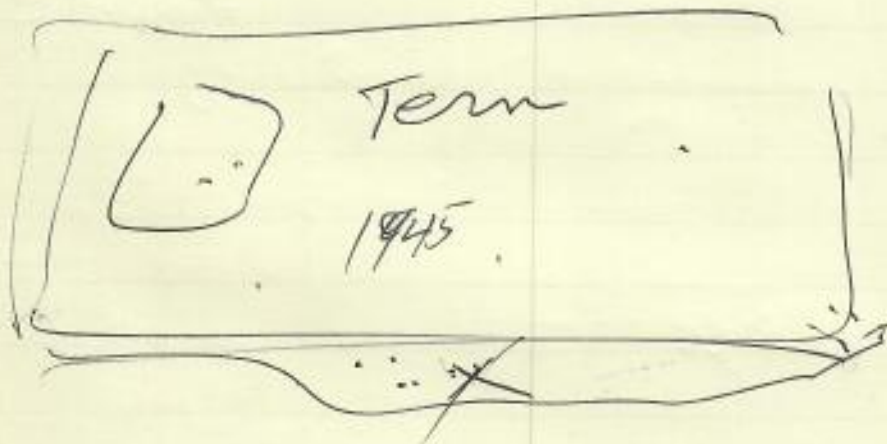
- what
about use!

" ~
egg or (turtles)"

"longstanding"

1. Cost - 1000 ^{animals.} maintenance
can you economically.

conservation claims



Naylor not there
VOTE

Eastern Delta
TWA

NO WAY

First National City Bank

2-2.5 Million dollars credit extended
to Mariculture

THURS Sept 12, 71

Banks LOAN Mariculture \$500,000

~~to~~ the termination of
the contracts of 6 professional
consultants by the company.

accepted a short-term loan of C1500000
from a group of financial institutions
and individuals led by CDFC
~~the Commonwealth Development~~ to allow
the company to meet certain commitments
prior to financing agreements for
long-term financing which the
company is in the process
of negotiating.

0.50 per egg

~~WED~~ TUESDAY - 12/26/74
MR. Fisher - Introduction

Jim Woods -

2 feeds 45% to hatchlings
 35% after 10 months

INGREDIENTS 100% chicken litter ^{hatchlings} sponge
 75% - 25% - others
 Timothy grass

size of pellet

2% body weight feed per day

(wastage!) conv. ratio better
 when fed every other day

[qualitative

quantitative]

101 reasons

< Oregon Moist Pellet

12/26

10 mortality between 1 and 5 month of age

- Disease, T.

Hatchlings

90

- Grey Patch

Virus get it and clear up.

90

Throat ^{vaccine} lesions

- in a tracheal plug

90

enteritis
waste away

Yearlings 8-12 month

hard nodules

lesions

○

lung eye throat
over inflated lung
- tilts

- 12/26/74
- Skin lesions -
 - gentian violet
 - silver nitrate
 - Potassium permanganate

floppy flippers
~~stare at eye lids~~
works back through limbs
(often attacks oldest just before slaughter (500 die in one day))

during summer -
transmitted by feeding
carcass of sick animal -
lesions on intestinal wall -
Disease caused by **STRESS**
Etio by not all that important!
Virus - Clostridium (Botulism)

could some have ^{12/26/73} had time
(60)(90) days to hatch before
washed over?

slide
(Take low eggs on Ascentin)

68 ex-wild
10 ex-wild

all in pool 23 years
except 2 male
sunfish

April 12, 1973 ←

Sivertsen -
Food engineering
article

2:00 PM —

12/26

150,000 ^{hatchlings} from 200,000 eggs

3 years shortest to
self-sufficiency

MAY NIGHT

PROJECTION

ESTIMATED

ASSUME

panel of a task force
of a group.

L.D. Brongersma
Rijksmuseum van Natuurlijke
Historie,
Raamsteeg 2
LEIDEN
The Netherlands

GEORGE HUGHES
NATAL PARKS BOARD,
P.O. BOX 662,
PIETERMARITZBURG,
3200,
SOUTH AFRICA.

Prof E C AMOROSO, CBE
FRS
ARE INSTITUTE OF ANIMAL
PHYSIOLOGY

BARBARAHAM.

CAMBRIDGE

MARICULTURE, Ltd.

P. O. Box 645, GRAND CAYMAN ISLAND, BRITISH WEST INDIES



From the office of the President

IRVIN S. NAYLOR
R. D. 9 York, Pa.,
17402, U.S.A.



AIR MAIL

Dr. George H. Balazs
Hawaii Institute of Marine Biology
P. O. Box 1346, Coconut Island
Kaneohe, Hawaii 96744

*Naylor packets - Exhibits
Response to Carr's letter
NW suggestion*

- from other packets*
- 1. - Directors Report (1974 corporate prospectus to be out Dec 31, 1974)*
 - 2. - 1973 Corporate prospectus*
 - 3. - New Hope for Green turtle
- Appendix*

The Cayman Islands

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Northwester

50¢
Insurance Survey

GRAND CAYMAN, CAYMAN BRAC, and LITTLE CAYMAN

SEPTEMBER, 1973



Big strides at
Mariculture

THE TOURIST Weekly

VOL. 3. NO 16.

JUNE 19 - JUNE 26

CAYMAN ISLANDS, BRITISH WEST INDIES



C & W FOR THE GIRLS...

All this week the Do's and Don'ts of Dixieland have been blurring out sweet sounds to packed audiences at the Royal Palms Hotel. Along with them is a special Country and Western group, a special favourite with local music lovers. In addition, such local artists as Ed Oliver and his band, Pat King, Evelyn Andresen and Ed Solomon have been filling in those necessary gaps. The group's final performances are tonight and tomorrow (see Leisure page inside) and it's all to support the Frances Bodden Girls Home Fund.

The Cayman Islands

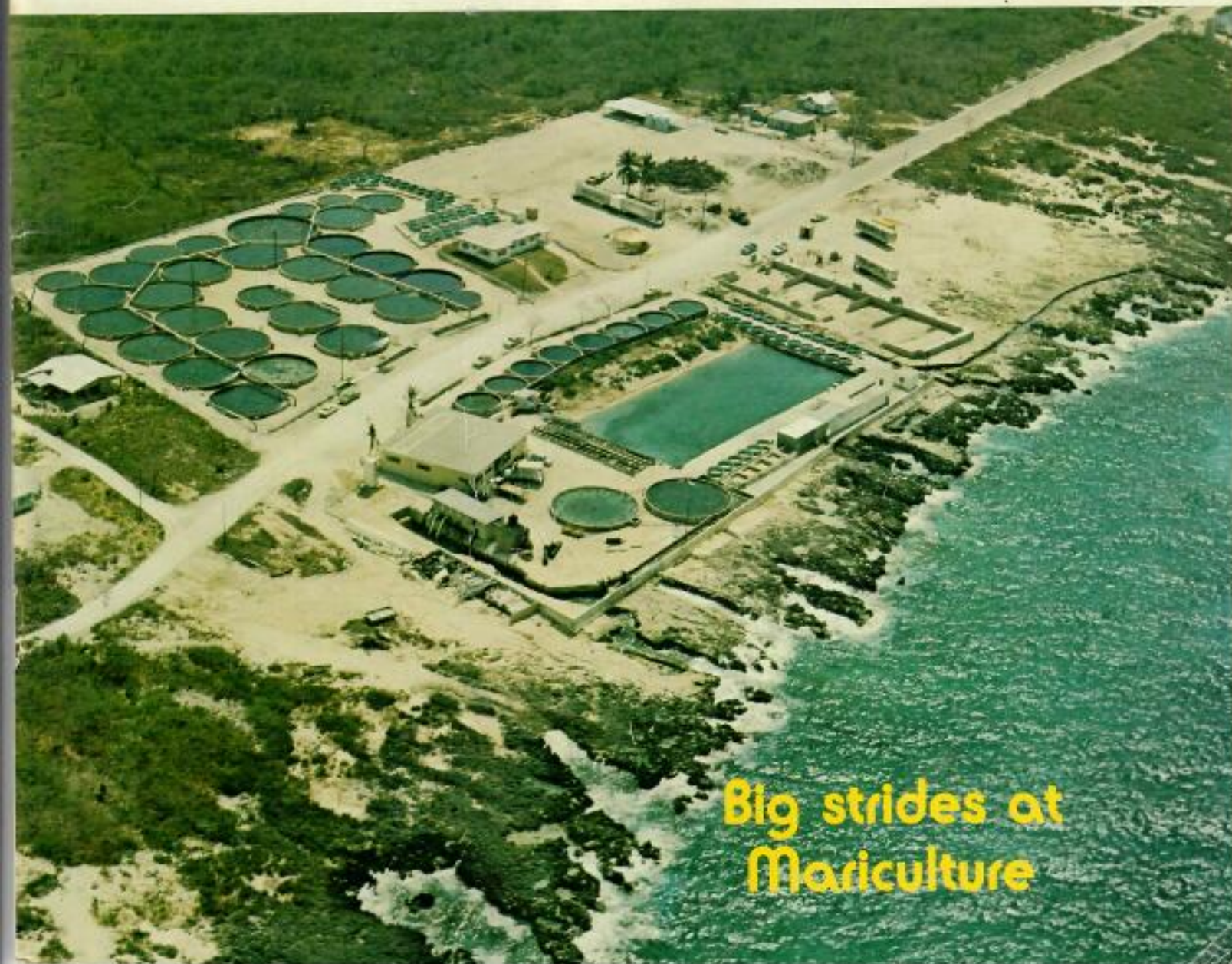
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Northwester

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Insurance Survey

GRAND CAYMAN, CAYMAN BRAC, and LITTLE CAYMAN

SEPTEMBER, 1973



Big strides at
Mariculture

CAL: For the first time, a modest profit

CAYMAN AIRWAYS' operating revenues exceeded operating expenses by C\$18,233 in the year to September, 1972, covering the first five months of the airline's operation of the Grand Cayman-Miami route. This is shown by the airline's audited accounts for 1971-72 and the accompanying directors' report says: "The services to Miami were inaugurated in May, 1972, and the operation has gone very well. It is considered a financially successful venture because for the first time CAL was able to show a modest profit in its operation."

Referring to considerable growth since the period of the report, the directors acknowledge that the success of the operation has been due to the absence of competition, especially on the Miami route, which carries the biggest volume of traffic. "The board is aware that competition is inevitable as there are foreign operators with reciprocal route rights to the Cayman Islands. Already interest has been shown by these operators to serve the Territory and for this reason steps must be taken to strengthen Cayman Airways to give it more identity, so that it may firmly establish itself as the national flag carrier of the Cayman Islands.

"This is important if the airline is to survive against competitive carriers," says the report, which with the accounts was tabled in the Legislative Assembly on October 23 by Financial Secretary **Vassel Johnson**, who is chairman of the board and one of three Cayman representatives on the board.

The statement of earnings shows that operating revenue totalled \$1,122,083 in the year ended September 30. Major items were \$879,135 from passengers, \$124,697 from cargo,

\$60,331 from handling charges and \$11,372 from excess baggage, while there was a government subsidy of \$8,000.

On the expenses side, flying operations cost \$635,771 and direct maintenance \$41,138, while ground expenses, including traffic, sales and general administration, totalled \$436,391. Operating expenses totalled \$1,116,940, leaving a \$5,143 excess of income over expenses, which with miscellaneous income made a net earnings figure of \$18,233. To this was added an extraordinary credit of \$40,000 being the value attributed to the unexpired portion of the company's licence to operate the Miami route.

The auditors, Peat, Marwick, Mitchell & Co., comment that they have been unable to satisfy themselves on the value of \$50,000 placed by the directors on the establishment of the route. Answering this, the board's report says the directors felt the licence must carry a book value in case an assessment of the value of CAL was needed for any reason, and the value was arrived at by taking into account the time and personnel involved in the licence negotiations.

Including the \$40,000 credit for the licence value the net earnings figure was \$58,233, against which was set an accumulated deficit of \$27,126 from previous years' operations, to leave a retained earnings figure of \$31,107. "Now that all past debts have been settled the shareholders should enjoy all benefits which accrue commencing in the year 1972-73," says the board's report.

Thanking the directors, Mr. Johnson says that CAL's success could not have been achieved without dedicated effort on their part. He also pays tribute to the airline's general manager **Norman Bodden** and his staff for their "devotion and noble effort". □

Mariculture look at BVI

THE possibility of setting up the planned second turtle farm on Anegada, in the British Virgin Islands, is being explored by a team from Mariculture Ltd. Their study is being made on the initiative of Sterling Bank and Trust president **Jean Doucet**, whose Interbank House group subsidiary, Anegada Corporation Ltd., is conducting a comprehensive study into the feasibility of large-scale development of the BVI's second largest island.

Mariculture's team, led by special projects manager **Marlin Simon**, went to Anegada in November with a team from the University of Miami commissioned by the Anegada Corporation to conduct a study into other possible forms of mariculture, or "sea-farming", which could usefully contribute to a balanced development of the island. The university team, drawn from their Institute of Marine Sciences, one of the world's leading marine research institutions, is led by **Dr. Edwin S. Iversen**, an associate professor at the institute for over ten years, and **Dr. George E. Krantz**, director of

mariculture research and fish pathologist at the Marine Protein Corporation, at Tavernier, Fla.

Under their direction a study is being made of the possibilities of farming such fin fish as pompano, snapper and dolphin for local consumption and export, also the prospects for developing sport fishing in the sea around Anegada as well as in the island's two land-locked ponds. Among the aspects being studied are the water quality of the ponds and sea, local fish species and yields, and the practicability of a land-based plant with processing or freezing facilities.

With the intention of researching another aspect of possible development of Anegada another team left Grand Cayman in November, a trio of diving experts — **Ron and Nancy Sefton**, from the Spanish Bay Reef diving resort, and **Jack Andresen**, who has dived around the world and is now spending an active "retirement" in Cayman, where his wife is partner in the Almond Tree restaurant. The trio were commissioned to study the prospects of setting up a diving and watersport resort as part of the planned development of Anegada. □

Doucet blames world situation for closure

JEAN DOUCET, founder and president of the Interbank House group now in liquidation, told *The Northwester* that for seven weeks before the September 16 closure of the banks he and his partners had been negotiating with a Middle East source for backing to withstand a "run" on the group's cash reserves. Speaking by telephone from London, Mr. Doucet said that on the two weekends before the closure he had flown from Cayman to London for further talks on terms for sale of the group to the Middle East interests.

"We had been assured by their financial consultants that they had recommended the deal and that any moment the money would be moved. Unfortunately, it never did," said Mr. Doucet, "and in fact we have never had a definite decision—either a refusal or the positive action of putting up the cash. Now I've very little faith that it is going to come true, though in such a situation people sometimes see the advantage of waiting around to pick up the pieces cheaply."

The former Montreal banker, who flew out of Cayman — his home for seven years — three days before the bank closure, said that he and his partners, **Marcel Dion** and **Daniel van Dreunen**, took the decision to seek voluntary liquidation in Montreal on Sept. 15. This, they felt, was the only way to stop the drain on the group's cash reserves. They had also felt that the best thing they could do was to keep on trying to talk with the potential buyers they had been negotiating with over the previous weeks. This was why he and Mr. van Dreunen had flown on to London. "It would have served no purpose in my returning to Cayman at that time," Mr. Doucet said. "It was more important to be negotiating in London than to be in Cayman explaining a sad affair."

WORLD CONDITIONS BLAMED

He was quite adamant that the whole cause of the bank's closure was the condition of world finance. "It goes back to July when the drain on our cash started, and it was obvious that as a small bank we would need the support of someone wealthy enough to face a financial crisis. During the negotiations we reduced our price to the point where we as shareholders would have received very little but the group would be saved."

The "run" of withdrawals was "something completely outside our control," he said. "We thought we were in a very secure position in Cayman, with depositors from 50 countries; we never thought that a run could develop to hurt us, but we never anticipated a world banking crisis with people rushing to get their money into big banks. Had we been liquid we could have prevented it, but the recession has resulted in a depressed real estate situation, also."

"We could have come through if the banking situation had

remained healthy. We had a substantial inflow of cash from people who more and more were using Cayman. We saw no reason why this should stop unless something went bad with Cayman — and this was why we were investing so heavily in Cayman."

SITUATION 'RATHER GLOOMY'

Asked what he felt were the prospects for the creditors, Mr. Doucet described the situation as "rather gloomy", with world conditions not conducive to realising assets. He and Mr. van Dreunen had been talking to potential investors, trying to interest them in the group's assets, especially the real estate, including Mitchell's Creek Gardens and Governor's Harbour. "We managed to find a good offer for Interbank premises in London and it has been turned over to the liquidators. They should make a profit out of that situation." Otherwise, the result of the liquidation would depend on how it was conducted.

"You can have an orderly liquidation, or a fire sale, in which case there will be a shortage, and that always is unfortunate." Asked about an Associated Press report in the London Times and the Wall Street Journal which quoted one of the liquidators, **Keith Norman**, as saying that there might be "a gap of tens of millions of dollars", Mr. Doucet said he understood that Mr. Norman had since denied saying this.

"He tells me that he said that the assets could run into tens of millions . . . As an on-going company, and if the creditors will be patient to give time for the liquidation they could receive all or most of their money. But if the assets are sold quickly in a very depressed market there will be losses."

The formation of the group into an investments company capable of developing the assets over a period would enable everyone to be paid.

WILL WELCOME LETTERS

Mr. Doucet said also that there was no justification for the assertion in the AP report that his whereabouts were unknown. "My whereabouts are well-known, because I talk to the liquidators regularly to see what is happening. I can always be reached through the London office, and I have a temporary address in Monaco." He said that anyone who wished to write to him was welcome to do so at this address: Residence Mirabeau, Apt. 1907, No. 2 Avenue des Citroniers, Monte Carlo, Monaco.

Asked what were his plans, Mr. Doucet replied: "I don't have any, right now. We will keep on trying to help the liquidators, but I feel a little bit more powerless every day. I wish I could do something to help the Cayman Islands to offset the effect I realise it must be suffering. We are going to miss Cayman an awful lot, but unless we find a solution there is nothing for us to come back to." □

'MISS JOYCE'

**Mrs. Joyce Hylton,
Probation Officer**

By Mary Lawrence

"WHY WRITE a Profile on me?" she queried. "I am just an ordinary person." It does not take one long however to find out that to dozens of Caymanians **Mrs. Joyce Sybil Hylton** — affectionately known as "Miss Joyce" — is not an ordinary person at all. The tall gentle lady with the quick smile and soft lilt in her voice is the founder and head of the islands' probation and welfare services, as well as friend, confidant, counsellor and problem-solver to the community at large.

Whatever the problem they know they can call on "Miss Joyce" any hour of the day or night and she'll lend assistance. "Like a fireman, they think I'm on duty 24 hours a day," she says with a rueful smile. "But then they've got to have someone to take their troubles to, and I don't mind."

Most remarkable perhaps is her tremendous memory for names, faces and facts concerning people from all walks of life in the community. To Miss Joyce no-one is ever a number, and it is this personal touch that probably contributes most to making her work effective, for people can sense her very real interest and desire to help.

Born in 1913, the only daughter of **Edward Bonner Russell** and his wife, **Jane** (nee Bernard), she grew up in a comfortable home surrounded by all the love and affection that parents shower on an only child. It is this latter fact more than anything else that gives her such a deep insight into the problems of youth, and prompts her to lend a hand so willingly.

"My mother and I were very close," she says. "I was one of the fortunate ones and I count it a privilege now to share the benefits of that relationship with others. Growing up can be an extremely painful process if there isn't someone you can talk



"Problem solver to the community at large."

to, someone you can be sure will listen and care. Most of the time that is the biggest problem our youth have. I wish I could get this across to people. It makes me mad to hear grown-ups who should know better righteously declare, 'He (or she) was bad from the beginning and is not going to change now', when I ask them to show a personal interest in some child that is giving problems in the community."

PATIENCE UNLIMITED

I was to hear a lot of this during the time I took to cover this subject, for while "Miss Joyce" has patience unlimited for the child and will keep trying long after others have given up, she finds adults who set themselves up as "judges" tiresome indeed. I am suspicious, too (though she was too polite to say so) that the latter adjective was applied to me as well as I pried and prodded to discover the facets of this "ordinary" personality, whose dedication and tireless efforts in her job have been instrumental in giving the islands a strong and effective probation department as well as organising and carrying out government's limited welfare services.

Though born in George Town, she spent the early years of her life in Jamaica for her father, a seaman with the Webster shipping lines, wanted his family to be as near to him as possible. When she was ten years old, he decided to give up the sea life and moved them back to Grand Cayman, setting up a small store on Shedden Road (now the site of Barclays Bank parking lot entrance) which sold a little bit of everything. Later, with the help of his brother, he built what was probably one of the island's most picturesque homes, on the corner lot of North Church and Mary Street. "We got accustomed to the sudden appearance of a visitor to the island in our yard with a camera," she said.

Mother was "a home-body", sewing, taking care of the home

EDITORIAL

Shock, fears and faith

IN THESE EARLY DAYS after the shock announcement of the closure of the doors of Interbank House it has been easy to be fearful about the future of the Cayman economy. It has always been recognised to be delicately poised, drawing strength from the traditional stability of the Cayman people and government but necessarily vulnerable to the shifts and turns of the world financial situation. This at the moment is the subject of forebodings and dire predictions and these undoubtedly were a factor in the downfall of Sterling Bank & Trust and International Bank.

The effect upon the local economy is bound to be severe but there is no reason why it should be mortal. The factors which have created and built up the Cayman financial industry are still valid and there is every reason to believe that it can ride out the shock waves from the collapse of the group which has played such a lively and vital role in its growth. But there will be no easy or quick resolution of the problems created. The ramifications are widespread because Interbank House and its creator, Jean Doucet, had a policy of involving themselves deeply in the life of the community. That some of the aspects of this involvement caused doubts, criticism and resentment in certain quarters is no secret. Perhaps it was the way in which this involvement was pursued, reflecting the ebullient character of the Interbank chief.

But anyone among these critics who feels any sense of satisfaction at the demise of Interbank is being obtuse and woefully shortsighted. All in Cayman's financial industry might ponder and paraphrase John Donne to the effect that any bank's death diminishes us all. The first effects of the shock have been bad enough, shattering the lives of the families of the employees of the group and of the enterprises in which it was involved. It could not be otherwise with the closure of the bank with the largest staff on the island and whose investments include its two largest real estate developments. Some of these employees have not only lost their jobs but are among the investors and depositors whose prospects may not be established by the Liquidator for many months.

We hardly reveal a secret when we say that *The Northwester* is one of the concerns whose future has been imperilled by the closure of Interbank House. From our start nearly three years ago we have had generous support from the bank, both in the placing of advertisements and in the extension of the credit facilities which are essential to any young publishing venture. We believe Mr. Doucet gave this support because he recognised that our magazine offered an appropriate medium of promotion not only for his own banking group but for the Cayman Islands' new financial industry around the world. We believe we have played a significant part in doing this and won a position of respect and regard in

Cayman and abroad.

We are doing and shall continue to do everything in our power to ensure that *The Northwester* continues to appear each month. It may entail painful decisions in the matter of staff economy; most vitally we must seek new capital, and in this we are in the same need as a number of other businesses. It is in this aspect that the island's other banks can take decisive action to cushion the shock to the Cayman economy. They must surely recognise the danger of a "domino effect" upon the economy if a number of other concerns are allowed to become part of the Interbank wreckage.

Meeting the people

WITH NO WISH to sound presumptuous we feel it is useful to note that the early auguries are good for the just-commenced term of Mr. Thomas Russell as Governor. The comments we have heard from a number of leading Caymanians support this view. The speech with which Mr. Russell made his entry on to the local scene at his swearing-in ceremony was a most admirable one, obviously the result of deep thought and wide study of the circumstances of modern Cayman. It said the right things and it said them in the right way and with the ring of sincerity not calculation.

Before arriving here Mr. Russell had learned enough about Cayman to identify five sectors of the society which play important roles here—the people, their representatives, the civil service, the private sector and the churches. Most warmly received, it seemed, was his stated intention to seek the views of people of all walks of life—together with his firm assertion: "I am used to hard work and enjoy it."

The Governor lost no time in putting his words into effect, launching into a full programme of visits to government departments, meeting staff members in company with the responsible Executive Council member, and a "Meet the People" tour of the various districts. He and his wife have also been introduced to the round of evening engagements which is a familiar part of Cayman life, though less demanding at this time of the year.

Cayman, in its traditional as well as its modern pattern, is a workmanlike place, the creation of the industry of the people living here. So it is fitting that it should have as Governor one who has a workmanlike approach to his task. After three years in which there were obvious signs of strain between Government House and the Legislature it is a welcome sign and a solid basis for a successful working together on the many tasks which lie ahead—and can only be solved by joint endeavour.

Out for a record crossing in a 32-ft. sloop

Two girl sailors the Atlantic

THE HORIZON takes on a crazy angle as True-Roo hits a mid-Atlantic swell. A gale, about half-way through the 40-day crossing, was the worst weather that Jill Baty and Stephanie Merry encountered.

By
Stephanie Merry,
now teaching at
the Cayman
Islands High
School



THE SIX-THIRTY hovercraft from Southampton, England, to Cowes on the Isle of Wight is normally used by London commuters, returning from the city to their island haven. So I must have looked a strange sight, arriving at the terminal one evening last April laden with five four-pound blocks of dry ice and two large cartons of vegetables.

"Do you like cabbage or something?" asked the man behind the desk, eyeing the cartons. When I explained that these were last-minute purchases for a rather long sea-voyage, realisation dawned on him. He produced the local paper, which bore the headlines: "Skipper Jill is boss on this trip," followed by the story of two girls who intended to start an Atlantic crossing the next day, non-stop from Cowes to Oyster Bay on Long Island, in a 32-foot sloop called "True Roo."

The object of the crossing was to set up a record time for other all-girl crews to beat, if they could. The man had got the right boat, but the wrong person—I was the "other girl".

Seeing the story in print made me realise for the first time the significance of what I was about to do. The whole thing had been arranged very rapidly. **Jill Baty** had conceived this idea about two months previously, bought a boat, and started looking for a female navigator. When I heard about her, my first reaction was that I didn't want to die in the middle of the Atlantic with another foolhardy woman. But on thinking things over, it occurred to me that this was probably the only chance I would ever have to navigate across to America. So, on learning of Jill's reputation as a competent sailor, I decided to make the most of the opportunity, and contacted her. We met a week later, and we felt that we could stand each other's



Interbank House closure shock

—but liquidators are hopeful

A LEGAL NOTICE pinned to the big front door — above the sign which had previously given the typically cheerful welcome: "Walk in, as you are" — announced the closure of Interbank House on Monday, September 16. In the most severe setback suffered by the Cayman Islands financial industry, the two principal banks in the Interbank House Group — Sterling Bank and Trust Company and The International Bank — announced that because of liquidity problems they had decided to seek voluntary liquidation.

The blow to the bounding Cayman economy was obviously connected to the straitened money situation around the world, which had previously seen a number of larger banks in trouble in Europe and the United States. In a last-minute attempt to avoid a step which has shattered the group he created over a period of seven years, Jean Doucet, Sterling Bank president and Interbank House Group chairman, had flown by private jet to Montreal on Friday the 13th, then on to London, on an unsuccessful mission to secure new backing from an Arab bank.

It was the sad task of the group's senior vice-president, Alan Turner, to inform the staff of over 90 that the banks could not continue to operate because of a lack of liquid assets to meet a heavy and continuing demand for repayment of deposits. Later came the formalities of seeking Grand Court approval for the appointment of three liquidators — local accountant Richard Graham-Taylor, financial consultant Keith Norman and Montreal accountant Robert Landori-Hoffman.

WIDESPREAD INTERESTS

Early fears were expressed about the implications for Cayman's all-important financial industry, and it is still too early to calculate the full effects, though it is bound to be considerable. The group's interests were widespread, involving many facets of activity in Cayman, including the two biggest real estate developments — Mitchell's Creek Gardens [\$10 million] and Governor's Harbour [\$50 million].

In their first statement after appointment, the liquidators quickly stressed that although two of the three banks in the group were in liquidation the remaining 32 companies in the group were "still viable, on-going operations" and these included Mitchell's Creek — where about 120 men, mostly Caymanian, are engaged in building this luxury, townhouse development.

The third bank is the Cayman Mortgage Bank, which received its licence only three months ago, and was launched with a lavish party at Holiday Inn with champagne and entertainment for about 1,000 guests. Previously it was the Cayman Mortgage Corporation, formed in 1971 to take over the local mortgage portfolio of a Bahamas-based savings and loan association which foundered. It was later claimed that the corporation was the largest holder of residential mortgages in the Cayman Islands, and it was certainly the first to make an attempt to provide the much-needed long-term financing for the local home-builder. Major creditor of Cayman Mortgage

Bank is the Cayman subsidiary of the Bank of Virginia Company, a U.S. banking group whose assets exceed US\$1.6 billion. It was announced that to safeguard the interests of all creditors, Bank of Virginia [Grand Cayman] Ltd. had appointed a receiver who would assess the financial situation of the mortgage bank.

Though there was no shortage of foreboding as to the effect of the closure of the two banks, the liquidators' statement expressed notable optimism. It said they had already met with the managers of a number of the larger commercial banks on the island "who indicated their sympathy, support and co-operation with the effort to alleviate the local distress and hardship caused by the closing of the two banks." The statement went on: "Funds are available to the liquidators in their efforts toward profitably restructuring the group and they will attempt to provide those companies which merit support the financial backing they require to continue operating.

"The stated goal of the liquidators is to reorganise the assets of the two banks in the form of an investment company. The creditors of the two banks, which includes all depositors, will be advised in due course of the effect of the attempted reorganisation on their claims against the banks. The liquidators are hopeful that an equitable solution can eventually be found, perhaps through reorganisation as an investment company, to provide for a form of payment to creditors in either cash or kind.

"Due to the extent of Interbank House's involvement in almost every aspect of business activity in the Cayman Islands, the liquidators are keeping Government closely informed of the developments and are working toward minimising the impact on the economy of the closing of the two banks."

The Government issued a guarded statement outlining the situation and announcing that the appointment of the liquidators had been provisionally confirmed by the Grand Court "and the winding-up will be subject to the supervision of the court." The Government would be watching the proceedings carefully.

Financial Secretary Vassal Johnson was quoted in a Miami newspaper as saying that Government had conducted an investigation and found no irregularities in the banks' operations. "There was no reason for us to suspend their operations," he said. "Substantial sums were withdrawn and they couldn't sustain their cash position."

Mr. Johnson was also quoted as saying that some creditors were not happy with the liquidators appointed, and they might be replaced or complemented.

One forceful impact which the bank closures could have is upon the employment market, with most of the bank staff — the largest in Cayman — losing their jobs. The final payment of C\$100 made to each employee was a small cushion to the future. In many cases they were also among the depositors whose money is frozen. □

The *Northwester*

THE WIND IN THE SAIL

MONTHLY NEWS MAGAZINE OF THE CAYMAN ISLANDS

Third Year, No. 11

CONTENTS

Special articles

Atlantic adventure

Would you sail from England to the U.S. if you had the chance? **Stephanie Merry** did — as just one half of the crew of a 32-foot sloop. Now she's teaching at the Cayman Island High School. She begins her story of the trip 6

Our private health services

Profile personality of the month is **Dr. Edlin Merren** who serves his fellow-Caymanians when they're in his dental chair and when they're not 23

Having surveyed our public health services we turn to the private sector this month 29

Inflation: What's to be done?

Dame Elizabeth Ackroyd is going to report to Government on ways of curbing our rising cost of living. Her month's visit is reviewed by **John Redman** 40

Agricultural Straight Talk

Our own produce could help cut living costs. Director of Agriculture **Joseph Jackman** begins a series on the possibilities 69

'Festival soon come': Five months to go, and lots to be done to make the Cayman Arts Festival, 1975, a success. What's planned? See 65

Other articles

New Governor welcomed 15

New port project: First contracts let 37

The new school year. A smoother, though delayed, start at the High School 12

Power company ban on new connections under fire 18

The Wall, relic of Cayman's slave and pirate days 80

Homes of Cayman — 'The Blowhole', North West Point 60

A way-out place to relax — the Tortuga Club 52

Fourth Caymanian pilot joins CAL 51

'Keep Cayman Clean' campaign launched 34

Regular features

Around and About 74

News in Camera 88

Government News 58

Letters 91

WITH THIS ISSUE: 32-page, full-colour supplement, "Motoring in Cayman".

COVER PHOTO (by Keith Ball) shows Dr. Edlin Merren, this month's *Northwester* Profile personality, in his surgery.

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Associate Art Director	Paul Jacques
Photographic Director	John Warren
Chief Photographer	Keith Ball
Editorial writers	Mary Lawrence John Redman

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NETMAKERS OF CAYMAN

THE AUTHOR of this article on an old Cayman craft is a young Caymanian, CURTIS BARNETT, who is now studying for a master's degree in Spanish language and literature at the Brooklyn College of the City University of New York. In addition to writing the article he also took the pictures.

By Curtis Barnett

NETMAKING is one of the oldest and most universal of arts. Man has employed nets for such things as hammocks, snowshoe lacings, tennis and goal nets, various industrial uses and so forth. In the Cayman Islands, the principal use of nets has been for fishing (as is true of the rest of the world generally) and of course, turtling. The making of nets here has traditionally been an integral and necessary aspect of the very art of survival of Caymanians, since the people have depended to such a great degree on fishing and turtling for food and as a means of livelihood.

Nowadays, however, the situation is not the same. The islands' present economy depends primarily on the tourist trade. More and more men are finding employment on the homeland and need not go to sea, neither on the large foreign merchant ships nor on the turtling vessels, as was done rather extensively just a couple decades ago. Too, there's that novelty of a "turtle farm" we have here on our shores, where the green turtle that was fished off the Central American coast until recently are now bred domestically. The fishing industry, and consequently netmaking, have suffered somewhat of a decline in the recent past.

Making nets is truly an art. Although machines for constructing nets were invented and came into use in the large industrial countries during the past century, such a thing never happened here, due, no doubt, to the very limited demand for

nets. (There is no contradiction here, for even though nets were quite needful, the very small population here necessarily demanded a relatively small supply of nets.) The Caymanian craftsmen continued to build nets basically the same way ancient artisans did, that is, by knitting the net with their hands.

The netmaker makes use of two basic tools. With the **net needle**, he knits the net. Actually, he knits the net by tying knots and forming meshes. To assure that the meshes are kept uniform, he uses a **former**. This instrument measures the dimensions of the mesh (pronounced by Caymanian seamen MASH, rhyming with RASH) and keeps all meshes the same size. Although some needles and formers are purchased abroad, particularly from the United States, most netmakers here carve their own instruments, for which various types of material may be used. Wood is suitable, but most artisans now make use of plastic or turtle shell.

The number of netmakers now living in the Cayman Islands is rather small. Whereas the turtle and fishing trades necessitated the construction of many more nets a few years ago, because these trades are in decline, the number of netmakers are dying off or occupying themselves elsewhere and the youth of the islands are taking no interest in the art, neither for occupational nor artistic purposes. One who still practices the art regularly, **Bernel Dixon** of East End, believes that the young people of today are "too damn lazy" to want to

make nets. He himself began to make nets in 1919. On many an occasion he had watched his father, but was never intentionally tutored by him in the art.

Bernel used to sail to Colon, Panama, on the **Convert**, a schooner owned by **Capt. Robert Conolly** of East End. Once he got sick and had to stay home from the trip. During this time he desired to have a cast net. He went to **Evans McLaughlin** and ordered one. Twelve shillings. "Too much," said Bernel, so he asked Evans to begin one for him. Evans commenced the net and Bernel finished it. At first, he made two feet of meshes by sticking the needle twice; in other words, he made two knots to form one mesh. Then his brother-in-law, **Selvon Rankine**, came over and asked Bernel why he was making two stitches or knots to form one mesh. Selvon then took the needle and with ten stitches made ten meshes.

From that day on, says Bernel, "nobody has shown me how to make a cast net." He has been making them and other types of nets ever since and at one time he even knitted them in the dark with ease. Why does Bernel use one knot instead of two, the way his father used to do? One knot holds fast while two slips, and when the artisan sticks the needle only once, he can make the net much faster. It takes about twelve full days work to get an entire cast net made.

With Bernel (who usually doesn't make nets any longer to sell, but would charge about \$30 for one if he did), netmaking is a family affair. His father made nets. His sons, **Stanford** and **Alvern**, make nets. His four daughters know how to make nets, all sorts, and his wife has practised the art, too. Other makers in East End are Bernel's brother-in-law, Selvon Rankine, and the latter's grandson, **Cardinal Rankine**. But the fastest on Grand Cayman, says Bernel, are himself and his sons, "guaranteed".

One of the most active of netmakers in North Side is **Ashton Smith**, and he only considers his activity in this field as a mere pastime. Since learning the art from **Wesley Ebanks** in 1941, Mr. Smith has knitted nets mostly while sailing the seas. Using size 3 or 4 cotton, linen or nylon net twine, he knits his cast net on this wise. He first knits 38 head scantlings (initial meshes) which, when joined together form a "round". In the third round, 12 extra half-meshes are included. This is called a "widening round", because the extra half-meshes are known as "widenings". The net thus increases by 12 meshes every third round and when completed, consists of over 800 meshes, and measures seven feet from top to bottom.

It takes Ashton about seven days, working as much as nine hours a day, to complete the knitting. He uses two needles full of thread and while resting, he refills the needle just used. For the two last rounds, the twine is doubled for reinforcement. After this, the "footrope" is fastened to the net with double thread. This is a line onto which 150 to 175 one-ounce lead balls are placed. Twelve seven-foot-long stringers or hangers are fastened to the footrope at equal distances from each other. These are in turn tied to a drawline which passes through an opening, usually made of cow's horn, at the top of the net. A little buoy is sometimes placed at the end of the drawline to float it in case it slips from the hand when the net is cast.

The cast net would not be a cast net if it had no lead balls. These enable the fisherman to manoeuvre the net in preparation for the cast and cause the quick sinkage of the net once it is thrown. The lead balls sometimes have to be imported, as well as the twine, for not all netmakers have their own mould with which to shape the ball. The mould is an instrument into which hot, molten lead is poured. A nail placed through a hole in the mould causes a hole to form in

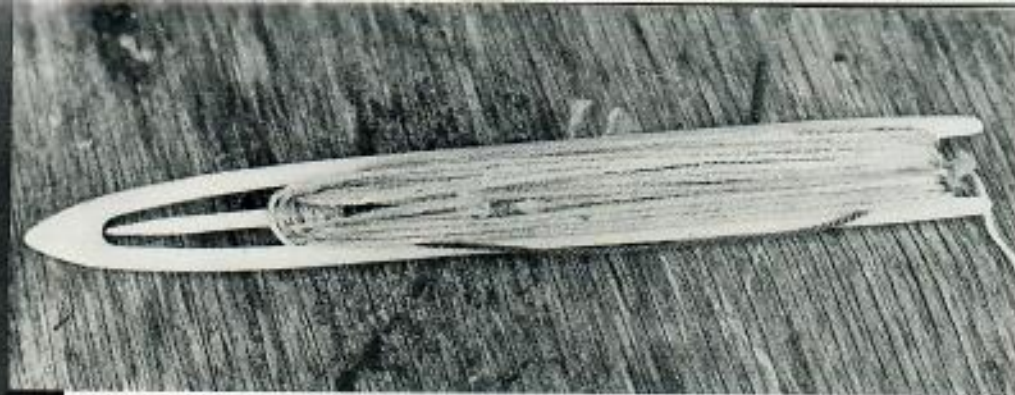


Zacarias Christian, popularly known as "Zacky", displays the cast net, with its line of lead weights around the circumference. He prefers a seine net, which he uses to go fishing for jacks.

the ball. The lead is immediately shaped and hardened. It is held in the mould for only about three or four seconds. It is then dropped into water where it soon becomes quite hard and ready for use. **William Chisholm** of North Side makes lead balls as well as Bernel Dixon. In West Bay, the one who provided lead balls was the late **William Osborne Barnett, Sr.** He was also one of the principal cast net knitters until his death in 1969. His last net is owned by **Frederick Strombeck** of Orlando, Florida.

As in Bernel Dixon's family, so was the art of netmaking among the **Barnetts** a family affair. The mould used by **William Osborne Barnett, Sr.**, locally known as "Uncle Usbon", once belonged to his father, **John Barnett**, and was therefore in use since the Nineteenth Century. A brother of "Uncle Usbon", **Simeon Barnett**, is also a netmaker, and is reputed to have been in his younger days the best cast net thrower in Cayman.

Besides **Simeon Barnett**, West Bay still has a few more, albeit a very few, cast net makers. (The number of those who have knowledge of turtle net making is larger. Although there are similarities between turtle nets and cast nets, the latter are somewhat more involved and more tedious to make.) **Zacarias Christian** is one who is still occupied in the netmaking art.



LEFT: Zacarias Christian uses a former, which he made out of plexiglass, to ensure that all meshes of a net are the same size. **ABOVE:** A "needle" loaded with the twine from which nets are made. This needle was made by Bernel Dixon.

Known by most people as "Zacky", Mr. Christian came to Cayman as a baby from his birthplace, Honduras. He learned the art of making nets from his father-in-law, **William Manderson**.

Interestingly, Mr. Christian does not own his own cast net. "Too many people bother you about lending a net," he explains. Nevertheless, he possesses a seine and uses it quite often. A seine is a rectangular-shaped net, probably similar to the nets used by Jesus' disciples and people in even earlier times. When the net is placed in the water, floats at the top keep one side up and lead balls sink the other side. Two or three people are needed to "circle" the seine. Mr. Christian expresses great pleasure "to see the fish swimming around in the net after they're surrounded." The net, which usually measures about 80 fathoms long and three fathoms deep, is then pulled into a hammock-like shape by lines attached to the top and the bottom. Some fish are caught in the meshes or "gilled" while others are enclosed completely by the net. These are said to be "pulsed". The catch with a seine may range from fifty to five hundred fish.

Each different type of net has its distinctive use. A cast net is most often used to catch very small fish, especially sprats, used primarily as bait for other, larger fish. The seine is used in somewhat deeper water to catch schools of larger fish (Mr. Christian fishes mostly for jacks). The turtle net, of course, is used to entrap turtle. This type of net is similar to the seine, but has no lead balls. The line from which it is made sinks the net. The head of the turtle is moored to a "kelleck" or anchor and a standing buoy when the net is set. The tail end is connected to a free buoy and left to swing freely.

Originally the turtle net, just like the cast net and the seine, was made from cotton line. Besides, the thatch rope hand-

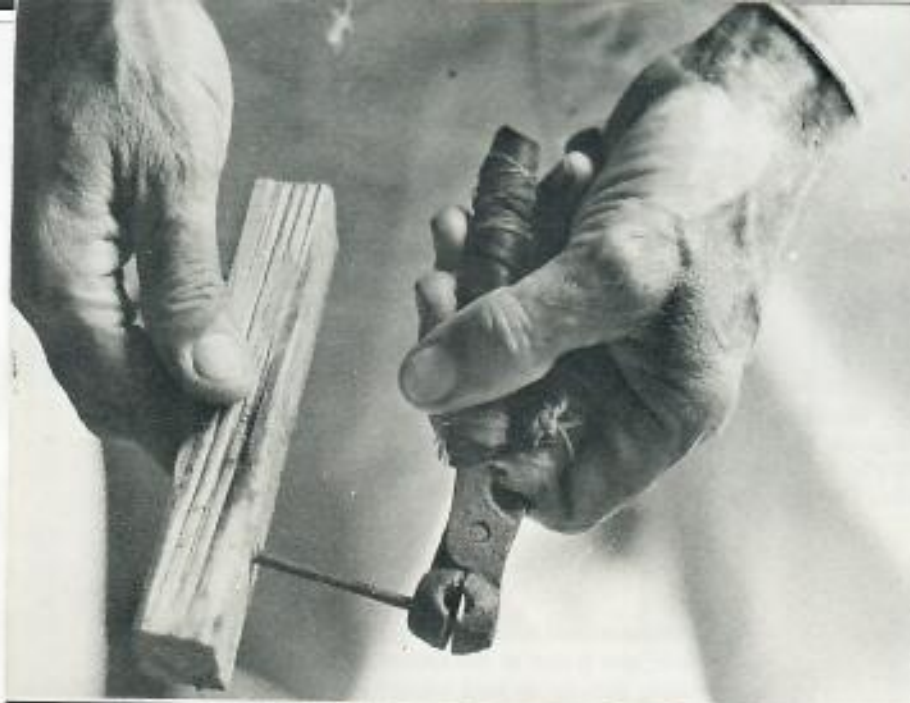
crafted here was used in the making of the turtle net. This is no longer true, and is one of the causes for the decrease in the rope-making activity so long carried on here.

Mention could be made of other netmakers in Cayman, such as **Bradley Hines**, but space does not permit our describing the various peculiarities of each one. Peculiarities there are. Take the case of Bernel and Ashton. The former has analysed the latter's technique and found that Ashton's cast net (over 800 meshes) is usually larger than the one Bernel makes (about 420 meshes) and therefore requires more lead balls. The placement of widenings is also different. Ashton, according to Bernel, puts 12 or 14 widenings in a circular placement, every other round. Anyhow, Ashton's widening meshes are placed more closely together and more systematically than Bernel's, and because of this, Bernel confesses, Ashton's nets are easier to repair.

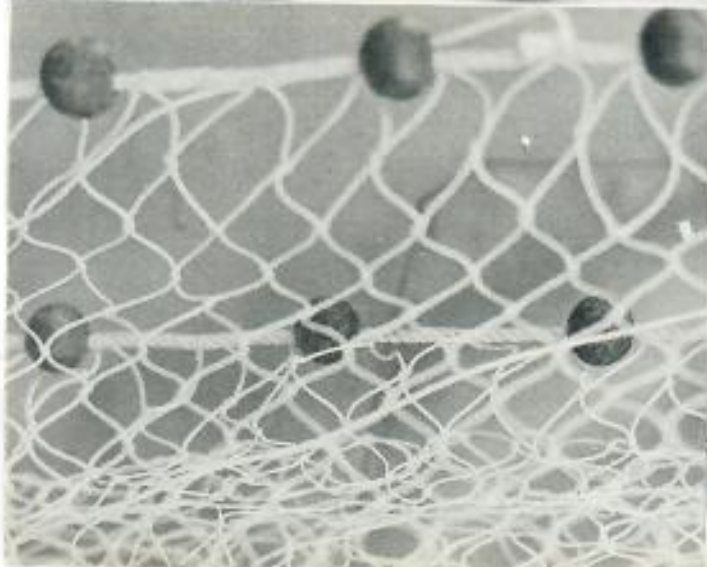
It is obvious that the art of netmaking is an intricate and at the same time interesting one. It fascinates the one who studies it with a sympathetic and aesthetic eye. In Cayman, the art is in some danger of demise. After the present generation of netmakers is gone, who will carry on the art? The trade of making nets still has some commercial value, but the pleasant reward of the finished work of art may be just as valuable. For this reason, if for no other, let the art be carried on for its own sake. **N**

A line of seine nets, which have floats on one side and are weighted on the other so that fish are caught by swimming into it.





LEFT (TOP AND MIDDLE): Ellsworth Ebanks demonstrates the making of lead ball weights. A nail is pushed through the mould, then molten lead poured in, held for a few seconds then dropped into cold water to harden. This mould has been used by several generations of the Barnett family. **TOP RIGHT:** Bernel Dixon displays lead weights threaded on to a line. **BOTTOM LEFT:** Closeup of a cast net shows how the lead balls are placed at equal distances along the footrope. **BELOW:** Bernel demonstrates on the sand how to make a needle.



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what country has 100,000 turtles, 100 banks 12,000 people and no taxes?

- COUNTRY?** The Cayman Islands.
- TURTLES?** The Green Sea Turtle was nearly extinct five years ago. Today, Mariculture Ltd. on Grand Cayman is home for more than 100,000 captive-bred turtles. It is the world's first and only commercial green sea turtle farm.
- BANKS?** At last count, 118 from every corner of the globe, including New York, Montreal, Tokyo, London, Zurich, and Frankfurt. What attracted them? Stable government, sound legislation and... no taxes.
- PEOPLE?** About 12,000 of the friendliest in all the world. No racial strife, no politics (it's a British Crown Colony), no poverty, no unemployment... just happy hard-working people.
- TAXES?** Very simply, there are none of the following taxes in the Cayman Islands: Income Tax, Capital Gains Tax, Property Tax, Sales Tax, Corporate Tax, Estate Tax, Inheritance Tax, Death Duty.
- THE CAYMAN ISLANDS?** One hour by jet south of Miami and 178 miles northwest of Jamaica. An island that lives up to virtually every definition of a "tropical paradise"... with one remarkable additional benefit: it's an investor's paradise as well.
- INVESTMENT OPPORTUNITIES?** In Grand Cayman, many things change hands — money, gold, property, corporations, securities, to name a few. With its network of banks and satellite communications, the Cayman Islands have become the foremost offshore financial center in the Western hemisphere.
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Turtle Festival 1973

To celebrate the return of 'Turtle'
to the menus of leading hotels and restaurants
and its availability to consumer markets,
we offer you this opportunity of sampling a range of
exciting turtle dishes. In addition,
we offer you a selection of recipes to prepare
in your own kitchen.

Turtle Farmed in Grand Cayman by Mariculture Ltd.
Turtle meat distributed in Jamaica by Brandon Hotel Supply Company Ltd.
Turtle dishes for home and export markets by Jamaica Frozen Foods Ltd.

Turtle Festival Selection

A selection specially prepared by
the executive Chef of the
Sheraton Kingston Hotel

SOUP - TURTLE & BEEF

PASTENTTAUS

TURTLESATE

TURTLE ASPIC

TURTLE WELLINGTON

TURTLE BURGER

TURTLE PATE

TURTLE FRITTERS

TURTLE GALANTINE

TURTLE PAPRICA

KESHI YENA OF TURTLE

TURTLE JAMAICAN WAY

PATTI SHELLS

WEISSWEIN

Recipes recommended for Mariculture farmed Turtle Steak.

TURTLE PARMESAN

- 4 large turtle steaks cut 1/2 inch thick and pounded
- 2 eggs
- 1/4 teaspoon salt
- 1/8 teaspoon pepper
- 1 cup bread crumbs
- 4 tablespoons grated Parmesan cheese
- 1/4 teaspoon oregano
- 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 NO. 2 (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
- 1/2 pint dry white wine
- dash brandy

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 1/4 hours in a 350° oven. Before removing from oven, stir in Brandy. Serves 4-6. From: **COOKING THE CARIBBEAN WAY.**

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.

TURTLE BIRDS

- 2 pounds turtle steak
- pepper
- 1/2 package stuffing mix
- made up according to directions on package.
- 2 tablespoons minced parsley
- 4 tablespoons butter
- 1 cup chicken broth
- 1 cup dry white wine

- 3 tablespoons minced onion
- 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 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 barbecue grill basting with your favourite sauce until done. (About 1/2 hour.)

TURTLE STEAK GRAND CAYMAN

Rub six individual steaks with a damp cloth dipped in vinegar. Dip each steak in to seasoned bread crumbs, flour, beaten egg, and finally in sieved bread crumbs. Heat 1/2 cup butter and stir in one tablespoon finely chopped shallots. Cook 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 $\frac{1}{2}$ cup rich beef stock, $\frac{1}{2}$ 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. From: The Merren's Family.

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. From: Pat Spencer-Barnes.

SAVOURY TURTLE AND ONION STEW

2 large, sliced onions
1 oz. flour
 $\frac{1}{2}$ lb. prime chopped steak
Pickapepper sauce
1 pint of meat stock

3 bay leaves
5 cloves
1 tsp. vinegar
salt and pepper
1 $\frac{1}{2}$ 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. From: Pat Spencer-Barnes.

TURTLE STEAK a la LOBSTER POT

$\frac{1}{2}$ pint rich brown gravy 1 tsp. pickapepper sauce

3 oz. chopped mushrooms 2 oz. butter
2 oz. chopped onions 1 sliced sweet pepper
4 prime turtle steaks (6oz.) 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.

From: Pat Spencer-Barnes.

PAPRICA TURTLE GOULASH

1 lb. turtle meat onions
garlic salt and pepper
paprika 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. From: Regency Room, Royal Palms Hotel.

TURTLE ROULADE (Serves 4)

1 lb. turtle meat salt, pepper, paprika
4 slices bacon butter
1 onion 1 cup wine
1 spiced pickle 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 $\frac{1}{2}$ 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 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. From: The Regency Room, Royal Palms.

TURTLE SCHNITZEL

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

From: Regency Room, Royal Palms.

TURTLE RAGOUTFAIM

1 lb. cubed turtle meat dill pickles
salt and pepper flour
onions vinegar or lime
garlic 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 SCALLOPINI (for 2 persons)

½ 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.
From: Regency Room, Royal Palms.

TURTLE RAGOUT "PRINTANIERE"

2 lbs. turtle meat
1 turtle flipper
1 onion
¼ lb. carrots
¼ lb. potatoes
¼ lb. celery
2 tomatoes
salt, pepper, paprika
2 bay leaves
2 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 1½ hours. Serve on a bed of noodles.

From: The Regency Room, Royal Palms.

FOR FURTHER INFORMATION

CONTACT:

Mariculture Ltd.
Box 645
Grand Cayman Island
British West Indies
Tel. 9-3313

3 Good reasons for buying Farmed Turtle Steak from Mariculture Ltd.

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 and feeding 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 regularly throughout 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.

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

