



ANNUAL REPORT
CAYMAN TURTLE FARM (1983) Ltd
for the year ended 30th June 2016
Full Public edition

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Note:

"APPENDIX 3. Audited Financial Statements of the Company" is attached as a separate PDF bearing the signatures of the auditors.

So as to conserve paper "APPENDIX 4. Research and Conservation at Cayman Turtle Centre" and "APPENDIX 5. CTC's Aviary Captive Breeding & Release Programs" are in the *Full Public edition*, in the electronic format of the document. The statutory reporting requirements are fulfilled in the main body of the Report plus the first three Appendices and together those form the *Statutory edition*.

FOREWORD FROM MANAGING DIRECTOR

This report summarises the performance of Cayman Turtle Farm (1983) Ltd., a Cayman Islands Government Company (hereinafter referred to as “the Company” or “CTF”), for the financial year ended 30th June 2016.

Cayman Turtle Farm (1983) Ltd. is the official registered name of a Government Company that is 100% owned by the Governor in Cabinet of the Cayman Islands. For the year under review it traded under the brand-name ***Cayman Turtle Farm: Island Wildlife Encounter*** (CTF)¹. Its current Articles of Association were adopted by Special Resolution dated 23rd August 2005.

This Company is comprised of several major functions:

- Conservation, research and education: It remains the only institution in the world where scientists and students can have access up-close and in person, to sea turtles of the full range of ages and life-cycle stages.
- Tourist attraction: The Company’s conservation and education missions have the opportunity for very broad reach and impact because the Company’s site is the most-visited single land-based attraction in the Cayman Islands. With over a quarter million visitors each year, it remains consistently popular with tourists arriving both by air and by cruise.
- Sea turtle meat production: The Company’s turtle husbandry provides a reliable source of high-quality turtle meat products, sold at affordable prices, to satisfy the continuing strong culinary traditions. This availability of farmed meat is proving to be a major contributor to keeping sea turtles in the wild around the Cayman Islands because of its impact in greatly reducing incentives to poach turtles.
- Landlord: The Company is the landlord to a dolphinarium which is another major tourist attraction on the island.

As an employer the Company has been particularly exemplary in its success in hiring and developing local people. Of an authorized headcount of 90 Full-Time Equivalents (FTE’s), as at the financial year-end 30th June 2016 there were only three (3) employees on Work Permits.

Highlighting the high ratings of the guest experience that the Company provides, this year the Company was awarded the TripAdvisor Certificate of Excellence 2016, repeating an achievement from the previous year 2015. The Company has also been awarded the distinction of Experts’ Choice by TripExpert.

The Company’s determined efforts for the past several years in progressively improving its governance, business controls and financial records has resulted in the Company achieving for its 30th June 2016 Financial Statements audit an excellent outcome: an unqualified audit opinion, with no “Management Letter” points.

¹ See update below: The Company now does business under two different brands: **Cayman Turtle Centre: Island Wildlife Encounter**, and **Cayman Turtle Products**. The brand Cayman Turtle Farm is no longer used in its business dealings.

Update 30th September 2016: The Company has a strong strategic focus emphasizing further development of its activities in conservation, research and education. From 12th September 2016 the Company does business under two new and separate brand-names:

- **Cayman Turtle Centre: Island Wildlife Encounter** (“CTC” – see p.39) for its conservation, research, and tourist attraction lines of business; and
- **Cayman Turtle Products** (“CTP” – see p.39) for its turtle aquaculture production lines of business including turtle meat products and polished turtle shells.

ABOUT US

- **Nature and Scope of Activities**

The major portion of the company’s revenues is derived from the tourist attraction components of the business, as the site remains the most-visited land-based tourist attraction on the island. Over 67% of the Company’s admissions (“Tours”) revenues are derived from cruise passengers, who comprise over 70% of the guests visiting the facility. For several of the cruise lines that come to Cayman, typically more than one-third of all Grand Cayman shore excursions they sell to their passengers feature the Cayman Turtle Centre as a prime stop on the excursion. Despite its popularity however, the revenues of the expanded facility have not ever come up to the expectations of what was projected² in the planning stages of the project, to some extent due to factors such as lack of a cruise terminal in the West Bay area. As a result the Company remains dependent on subsidies in the form of equity injections from the Government of the Cayman Islands to assist in meeting its debt obligations and running costs.

The farming activities continue, involving the husbandry of marine turtles both for conservation and display purposes, as well as for the supply of farmed turtle meat to the resident population. **The Company remains the only such enterprise anywhere in the world to have achieved the second generation and beyond of sea turtles bred, laid, hatched and raised entirely in captivity.** The research activities also continue, with over 150 scientific papers having been published or presented over the years from 1971 shortly after the inception of our predecessor Mariculture Ltd., with two more papers submitted for peer review and publication during 2016; a number of research projects have been on-going during the financial year.

- **Customers and Location of Activities**

The services of the Company are mainly provided to tourists, as well as residents and “visiting friends and relatives” (“VFR”). All services are provided in Grand Cayman.

The Company’s operations are based in North West Point, West Bay, on some 23 acres of land. The address of the main centre of operations is: 786 North West Point Road, West Bay.

The sales outlet for Cayman Turtle Products (“CTP”) is co-located with the Company’s seaside pumping station across the street from the main site on North West Point Road, West Bay.

² One very significant assumption of the projections was that cruise berthing was going to be built in George Town, and a cruise pier in West Bay, neither of which have so far materialized.

In addition, CTC operates a retail souvenir and gift shop in combination with its shore excursion dispatch functions, in a rented kiosk at the Royal Watler Cruise Terminal in George Town.

It is a multi-function company comprising four main areas of activities.

Under the Cayman Turtle Centre (“the Centre”) brand it operates:

- a conservation, education, and research facility for sea turtles;
- a land-based tourism attraction, with over 300 thousand visitors per year.

Under the Cayman Turtle Products brand it operates:

- a commercial green sea turtle captive breeding and turtle meat production facility.

The Company also functions as:

- a landlord: to a dolphinarium branded Dolphin Discovery, and (until September 2016) to retail tenants offering products in various aspects of the tourism industry.

- **Activity: Conservation, Education and Research**

Our sea turtles at the Centre range in size from 6 ounces to over 500 pounds, apportioned among specifically designated tanks. Visitors are able to observe turtles in various stages of growth and development. The Company also exhibits indigenous and regional birds, fish, sharks, a crocodile, butterflies; the National Bird, the National Tree, the National Flower; and several other types of flora and fauna.

Guided tours, informational signage and park maps, and an informational video educate visitors on the life-cycle of sea turtles and various related conservation topics. In addition CTC hosts over two thousand students per year on various programs educating them about sea turtles and other conservation topics, while giving them the opportunity to interact in person with turtles and other wildlife.

The Company’s major strategic thrust during the past year and continuing into the 2016-2017 fiscal period is developing, expanding and enhancing its activities in the fields of conservation, research, and education. Details of the Company’s activities and achievements in these key functions are contained in

- “APPENDIX 4. Research and Conservation at Cayman Turtle Centre” which covers a broad range of activities and achievements in conservation, education and research, and
- “APPENDIX 5. CTC’s Aviary Captive Breeding & Release Programs” which focuses on the CTC Aviary’s captive breeding and release programs.

The conservation of sea turtles has been an overarching objective from the initial creation of the Company’s predecessors in 1968, and turtle conservation remains the central focus at the heart of the Company’s mission. The Company’s other functions are vital means of supporting the aims and outcomes of that central objective and are best understood in that context.

- **Activity: Tourist Attraction**

Another key national role that the Company plays is providing a world-class tourist attraction. Cayman Turtle Centre: Island Wildlife Encounter remains the country’s most-visited land-based

attraction site. By far the greatest portion of the Company's revenues comes from its "tourist attraction" lines of business:

- Admissions: 56.1%
- Food & Beverage: 10.4%
- Retail (Gift Shop): 18.5%

for a combined total of 85% of our revenue.

During the financial year 2015-2016, total visitors numbered 311,221 12.7% up from the previous financial year (276,049). Of these³:

- 70% were cruise visitors on a package purchased on-board a cruise line or as part of an itinerary on an island tour with an independent tour operator,
- 18% were "stay-over" visitors,
- 5% were residents.

This shows a decrease (from 22% to 18%) in the proportion of "stay-over" visitors compared to the proportions of admissions in the previous year.

The number of stay-over visitors to CTC increased by 11.2%. The number of stay-over arrivals to the island for the 12 month period ended 30th June 2016 was **down** by 0.9% compared to the same period in 2014-2015. Therefore this was an excellent achievement.

The number of cruise visitors to CTC increased by 12%. This number reflects some effects of increasing competition from newer shore excursions, and was largely impacted by the increase in cruise calls during the year. The number of cruise visitor arrivals to the island for the 12 month period ended 30th June 2016 was up by 7.5% compared to the 12 month period ended 30th June 2015. Therefore this was an excellent achievement.

As a tourist attraction, Cayman Turtle Centre offers two different types of admissions:

- Turtle Centre Exploration Tour - turtle exhibits zone only (excluding Turtle Lagoon)
- Turtle Adventure Tour - entire park

- **Turtle Centre Exploration Tour (turtle exhibits only)**

The "Turtle Centre Exploration Tour (turtle exhibits only)" admission gives visitors access to the following features and exhibits:

- The Green's Breeding Pond - The Breeding Pond is home to our green sea turtles which have matured and are at the age to start reproducing, which is usually at about 16 years of age. Green Sea turtles are the largest of the sea turtles and here guests will find a few weighing in at more than 500 pounds.
- Turtle Touch Tanks - Here guests will find yearling turtles swimming and playing. This zone includes the Turtle Touch Wading Pool where guests are allowed into the shallow pool where the young turtles are swimming. The interactive exhibit pools in this zone are supervised by a Lifeguard and/or a Security Guard, and under supervised instructions guests are allowed to touch or pick a juvenile turtle up for a photo or video.

³ These percentages assume the known percentages of cruise, stay-over, and residents also applied respectively to "Website" and "Upgrade" admissions (allocated between cruise and stay-over) and to "Complimentary" admissions (allocated between cruise, stay-over, and residents). "Complimentary" admissions totaled 9,060 in 2015-2016 financial year. The great majority of "Complimentary" admissions are infants 4 years old and under, who are given free admission at CTC when accompanied by paying guests.

- Smiley’s Saltwater Lagoon – “Smiley” is a 9 foot hybrid (saltwater + freshwater) crocodile of the same species that in the mid to late 1500’s gave our country the transliterated name “Caimanes”.⁴ “Smiley” has been trained to jump and put on a show during enrichment exercises and health observations at her feeding times.
- The Education Centre & Hatchery – Guests visiting the Education Centre can learn more about the turtles, in a short continuous-loop video playing in a mini theatre, in various static displays, on a computer provided for the purpose, and in various literatures in a library in the public access area. Guests can also view our turtle Hatchery where during breeding season (May – October) guests can witness new hatchlings making their way up through the sand of our incubation boxes specially designed and purpose-built to enable our scientific team to monitor selected clutches of eggs as they incubate, hatch, and make their way up through the sand column to the surface as they would do at the normal depth of a nest in the wild.⁵
- Schooner’s Bar and Grill - an open-air bar and grill where diners can relax on a covered screened deck overlooking Turtle Lagoon. The menu boasts a selected range of Caribbean and international items to tease and please every palate. Guests can enjoy a tropical drink or select from the brands of the island’s very own brewery - Caybrew.
- Toddler’s Playground, a partially shaded safe dry play area for children 1 to 5 years old with swings, slides and playhouses. It is conveniently located between Schooner’s Bar & Grill and our fresh-water Breakers Lagoon.
- Local artisans’ booth, where we host local craftspeople from the community, offering local handcrafted items made mainly from silver thatch and jewellery made primarily from various local shells and seeds.
- Splash Gift Shop – Our retail store has an attractive range of gifts and souvenirs, and also functions as the exit for both types of admissions. The product selection protocols emphasize locally-sourced products as much as possible, featuring a range of made-in-Cayman products including pepper jelly and other condiments, locally roasted coffees, soaps and lotions, jewellery using local materials such as black coral and the semiprecious stone Caymanite, artwork, Christmas ornaments and other types of giftware.

○ **Turtle Adventure Tour (Entire Park)**

The “Turtle Adventure Tour (Entire Park)” admission gives guests access to all of the “Exploration Tour” features and in addition a unique opportunity to interact with island wildlife in aquatic and other features and exhibits:

- Turtle Lagoon - Swim in the lagoon with juvenile green sea turtles up to two years old, and enjoy this wonderful experience of observing them “up close and personal”. It is supervised by a team of trained Lifeguards. There are also hundreds of colourful reef fish and little islands where our breeding peacocks and their offspring live. One of the islands houses our model lighthouse display.
- Predator Reef - Watch sharks, Great Barracuda, tarpons and other predators through the underwater or dry view panels, or from the bridge. On weekdays (Monday to Friday) at the

⁴ Transliterated from the Taino language word meaning “crocodile”, and pluralized by early Spanish explorers and cartographers.

⁵ Our scientific team also uses these boxes to monitor the progress of the “control group” of siblings of the eggs assigned to our egg translocation program which places half of a selected clutch in a created nest on a wild beach to hatch and emerge into the sea, in our program of education and tourism outreach to selected tourist accommodation properties with suitable beaches.

11:00 AM feeding time guests can view our marine animal programs team as they give a narration while hand-feeding our sharks and doing their health observations.

- Caribbean Free Flight Aviary - Caribbean birds, including our islands' **National Bird the Cayman Parrot** fly freely in this large aviary. The several different species include colourful nectar feeders, seed eaters, and pellet feeders especially the impressive Scarlet Ibis native to Trinidad and the White Ibis native to the Cayman Islands and other Caribbean islands. There are 10:00 AM to 3:00 PM daily bird hand-feeding opportunities for guests. Our experts are on-site during the feedings, to assist guests with the various types of feeding and to answer guests' questions about the various species in the sanctuary. This facility also incorporates our White Crowned Pigeon captive breeding and release program that has helped to replenish Cayman's population of this species (locally called "Bald Pate") that had been somewhat depleted over the years as a target for sport shooting. There is also a breeding pair of the indigenous parrots, the offspring of which are released annually after habituation to transition to wild food sources.
- Other exhibits showcase other wildlife such as the Agouti or "Cayman Rabbit", the Sister Islands Rock Iguana, and our Shoreline Nursery habitat complete with young mangroves, conch, juvenile fish, tube worms and other shallow-water flora and fauna.
- Butterfly Garden, a free-flight open-air habitat, hosts indigenous and migratory butterflies in the various stages of their life-cycle.
- Breaker's Lagoon is the largest fresh-water swimming pool in Cayman with two waterfalls and an underwater view of the predator tank. It is supervised by a team of trained Lifeguards.
- Turtle Twister Waterslide at the Breaker's Lagoon accommodates guests of a wide range of ages and features two loops for over 100 feet of sliding thrills and having a pumping capacity of some 600 gallons of rushing water per minute.
- Blue Hole Nature Trail - Stroll along this trail and view the beautiful nature that Cayman has to offer, including the **National Flower the Wild Banana Orchid**. The Wild Fig trees growing out of the Blue Hole cavern host the rare endemic Ghost Orchid, rescued by the National Trust from other locations and planted there for safety. The trail also hosts both native and migratory butterflies, and various birds also frequently visit. This zone incorporates an original forest where several of Cayman's indigenous species of trees and bushes have been growing for hundreds of years. The Blue Hole itself is the name given to a cave that contains a natural pool in which scientists have discovered a rare endemic subspecies of the tiny aquatic Blind Cave Isopod⁶ (a white crustacean related to shrimps). Cayman Turtle Centre's Blue Hole site has been found to be the only known habitat for this particular subspecies remaining anywhere on the planet.
- Cayman Street - Walk down this gravel street to view old Cayman architecture, featuring sand gardens and a variety of local garden trees, shrubs, and herbs such as "Fever Grass" (Lemon Grass) and "Cayman Mint". The various species of flora on display include the **National Tree the Silver Thatch**, which also grows in the landscaping of various other parts of the park. This tree was vital to the island's economy up to a generation or two ago, used in the local production and export of Cayman thatch rope that earned the reputation of being "the strongest natural fibre" that was in demand by mariners in Cayman and in other countries as it was much more resistant to usage in seawater than its counterparts back in

⁶ Bass, D. "The Status of Four Aquatic Crustaceans from Grand Cayman, West Indies." *Living World*, Journal of The Trinidad and Tobago Field Naturalists' Club (2012): 77-78.

the day before nylon and other synthetic fibres were invented to manufacture rot-resistant ropes. Silver Thatch is still important in the creation of various crafts by local artisans. The Cayman Mahogany, a hardwood that was used in past years in the islands' shipbuilding industry, is also featured in various areas of the park.

- **Sales Channels for Tours**

The admissions are sold as “tours” or “shore excursions” through various sales channels:

- The majority of visitors comprise “turtle farm” admissions sold as a key feature of island tours offered to cruise visitors by Independent Tour Operators (ITOs) whose customers are primarily cruise tourists. Both of the dolphinariums on the island also offer their “dolphin swim” guests a visit to CTC included in their price. CTC provides these admissions to ITOs and dolphinariums at a wholesale price.
- The Company sells tours directly to customers at full price at its Ticket Counter in the Reception building at the park entrance. The “*Turtle Adventure Tour (Entire Park)*” admission is available for online purchase through the Company’s website www.turtle.ky at discount prices. There are also admission discounts available by association with various “partners” such as *Explore* magazine, Cayman Airways (upon presentation of a boarding pass), car rental companies (Andy’s and Budget), concierge coupons, and certain taxis.
- During the year the Company introduced a second minibus providing free shuttle service for stay-over visitors, with pick-up and drop-off at various resorts in the Seven Mile Beach area. The colourful “wrap” branding of these vehicles also serve as mobile advertisements for the park.
- The Company sells wholesale to some cruise lines the equivalent of “*Turtle Adventure Tour (Entire Park)*” admissions including a guided tour. Those cruise lines in turn market them to their cruise passengers as shore excursions. These tours include ground transportation from and to the cruise terminal. In some cases these tours include a buffet lunch at the Company’s on-site Schooner’s Bar & Grill. In addition, the Company provides to the cruise lines “combo” shore excursion packages which also include visits to other attractions. There are various combinations such as Pedro St. James National Historic Site, Hell tourist attraction, and stingray sandbar in the North Sound. The Company also is a channel for wholesaling to cruise lines the shore excursion to the Queen Elizabeth II Botanic Park.

- **Activity: Sea Turtle Captive Breeding and Turtle Meat Production**

- **Product lines**

The Company is still the only farm in the world that has achieved the second generation and beyond, of sea turtles bred, laid, hatched and raised in captivity in a closed cycle that takes no eggs or animals from the wild. Several decades ago the farm assisted the US and Mexican authorities in captive breeding the very endangered Kemp’s ridley sea turtles which replenished the wild population especially in the Gulf of Mexico. However the Company’s primary breeding focus has been and remains on the Green sea turtle, having been the first aquaculture establishment anywhere to have succeeded in breeding sea turtles in captivity.

After the Company’s predecessor had established the farm and its operations commencing in 1969, exports of sea turtle products of the families *Cheloniidae* and *Dermochelyidae* were added to Appendix I of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) in 1977, which therefore banned commercial trade in such products

between member nations. In light of that, the Company's predecessor ceased production of turtle oil, turtle shell jewellery and turtle leather products which together had been a significant source of revenue.

Since that time, product lines have been limited to meat products and polished whole turtle shells, all of which are sold strictly for consumption and use within the Cayman Islands, thereby remaining in strict compliance with the CITES convention. Meat products are each sold in 5-pound "lots":

- *Steak*: Only lean meat. Because this is typically only used by fine-dining restaurants and priced as a premium product so as to keep demand low, most of the lean meat is sold as part of either the *Stew* or *Menavelins* lots which are the most popular ingredients for turtle dishes that feature in strong and enduring local culinary traditions.
- *Stew*: a mixture of cuts of lean meat, fin, neck-bone, various organs, boiled calipee, and a small quantity of fat.
- *Menavelins*: a mixture of skin, various other organs (different from "Stew" contents), a small quantity of fat, and some small cuts of lean meat.
- *Bone*: mostly bone, with a very small quantity of meat attached. This is typically only used to make Turtle Soup. (There is very little demand for this product, as in the processing there is typically almost no meat left on the bone because as much as possible of the meat is taken to make the other products.)
- *Scrap Bone*: all bone, using smaller bones, used by local restaurants and individuals only to make the stock of Turtle Soup.
- *Boiled and Un-boiled Calipee*: This is used as a key constituent of turtle stew meals. Produced from the plastron (the cream-coloured exterior "belly") it is boiled to become a very tender gelatinous consistency with a mild meaty flavour.

During the fiscal year ended 30th June 2016 total turtle meat products sold was 71,735 pounds, an increase of 13.1% against the prior year. Income from turtle meat products comprised 8.7% of the Company's revenues.

In its Splash Gift Shop the Company sells polished cured whole turtle shells (carapaces) taken from turtles harvested for meat production, on strict documented condition that they must not be taken out of the Cayman Islands.

- **Activity: Landlord**

During the financial year ended 30th June 2016, this segment of the Company's business comprised a property lease to a dolphinarium: Dolphin Discovery Ltd., and individual leases to tenants of four retail kiosks⁷ in the courtyard area at the entrance to the park.

These rental incomes totalled 3.1% of the Company's revenues.

⁷ The leases of those four retail kiosks in the courtyard area have subsequently ended, and the Company is in the process of converting and equipping them to become additional outlets for its retail gift shop and its food and beverage operations respectively.

- **Governance**

- **Laws governing major activities**

As it is a Government Company, Cayman Turtle Farm (1983) Ltd. operates under several laws that pertain to the public sector as well as the legislation that pertains to the private sector. Legislation that governs our major activities includes:

- Public Management and Finance Law (PMFL)
 - Financial Regulations
- Public Service Management Law (PSML)
- Labour Law
 - Labour (National Basic Minimum Wage) Order
- Health Insurance Law
- Public Service Pensions Law
 - *Note: The Company's employees are not Civil Servants, however they are Public Servants coming under the category of "Other Public Service" as defined in the Law to mean "Service with a statutory authority or Government company that has opted to join the Plan with the approval of the Board"*
- Immigration Law
 - Immigration Regulations
- Freedom of Information Law
- Complaints Commissioner Law
- Animals Law
- National Conservation Law (NCL)
- Water Authority Law
- Endangered Species (Trade and Transport) Law (ESTTL)
 - *International treaty: Convention in International Trade in Endangered Species of Flora and Fauna (CITES)*
- **Ministry Policy and Directives**

The Ministry of District Administration, Tourism & Transport (DATT) issued the following policy documents:

- Policies and Procedures for the Procurement of Goods and Services (July 2014)
- DATT - Procurement Requirements – Checklist (July 2014)

Those documents, which also incorporate the rules established by the PMFL and Financial Regulations, guide the Company's procurement processes.

- **Board of Directors**

The Company is governed by a Board of Directors appointed by the sole shareholder, the Governor in Cabinet of the Cayman Islands. The Board meets monthly. The Board of Directors for this financial year, comprised in accordance with the Articles of Association, were:

- Ex-officio Directors:
 - Chief Officer of Tourism or his or her nominee: **Mr. Stran Bodden, or alternatively Dr Dalton Watler or Mr. Jonathan Jackson for this period**
 - Chief Officer for Agriculture or his or her nominee: **Mr. Tristan Hydes for this period**
 - Financial Secretary or his or her nominee: **Mr. Michael Nixon for this period**

- Managing Director of the Company (in a non-voting capacity) who also serves as official Secretary of the Company: **Mr. Timothy Adam**
- One Director who is a member of the Cayman Islands Chamber of Commerce: **Mr. Wil Pineau** for this period.
- Other Directors (in alphabetical order):
 - **Mr. Dale Bodden** (bank officer).
 - **Mr. Joseph “Joe” Parsons** (private citizen, retired – former Chief Scientific Officer of the Company) served as **Deputy Chairman** for this period.
 - **Mr. Naceto Welds** (businessman) served for this period.
 - **Mr. Brain Wight** (businessman) served as **Chairman** for this period.
- In addition, **Ms Katherine Jackson** (Office Manager of CTC) functioned as Recording Secretary for the proceedings of the Board.

- **Scientific Advisory Committee**

In the latter part of 2012, the Company commissioned an independent inspection comprising four world-renowned experts on sea turtles and other wildlife. The inspection was conducted in December 2012 and the inspection report dated 17th December 2012 included among its recommendations, the establishment of an advisory board.

On 18th February 2013 the Company’s Board of Directors proceeded with the appointment of a Scientific Advisory Committee consisting of not less than six (6) and no more than eight (8) committee Members. The initial composition was:

- Ex-Officio: The Director of the Department of Environment (or designate): **Ms Gina Ebanks-Petrie**
- Ex-Officio: The Director of the Department of Environmental Health (or designate): **Mr. Roydell Carter**
- Ex-Officio: The Director of the Department of Agriculture (or designate): **Mr. Adrian Estwick**
- Ex-Officio: CTC Chief Scientific Officer: **Dr. Walter Mustin**
- Independent Member: (A senior faculty member of St Matthew's University School of Veterinary Medicine): **Dr Karen Rosenthal** (Dean of St Matthew's University School of Veterinary Medicine)
- Independent Member: (An internationally recognized turtle scientist): **Professor Brendan Godley** (Professor of Conservation Science, University of Exeter; one of the authors of the inspection report of 17th December 2012)
- The Company’s Board Representative: (The CTF Board of Directors reserved the right to appoint one of its members to serve on the CTF Advisory Committee.): **Mr. Joseph Parsons**, Deputy Chairman served during this period as the Board representative on the Scientific Advisory Committee.

Those were the Scientific Advisory Committee Members serving during the fiscal year. The Committee selected **Dr Rosenthal** to be its **Chairman**, and **Dr Mustin** to be its **Secretary**. In January 2016, Dr Rosenthal resigned from the Committee citing the demands of her other responsibilities.

This Committee was responsible to the Board of Directors for the oversight and monitoring of the pursuit of the recommendations contained in the independent inspection report dated 17th December 2012, especially from scientific, conservation and animal welfare perspectives.

○ **Senior Management Team**

During the period, the Company's senior executives comprised:

- **Mr. Timothy Adam**, Managing Director (Board/Company Secretary)
- **Mr. Phillip Fourie**, Chief Financial Officer
- **Mr. Raymond Hydes**, Chief Sales Officer
- **Ms India Narcisse-Elliott**, Chief Marketing Officer
- **Mr. Christopher Jackson**, Chief Infrastructure Officer
- **Dr Walter Mustin**, Chief Research Officer
- **Mr. Joelle McCrae**, Chief Human Resource Officer

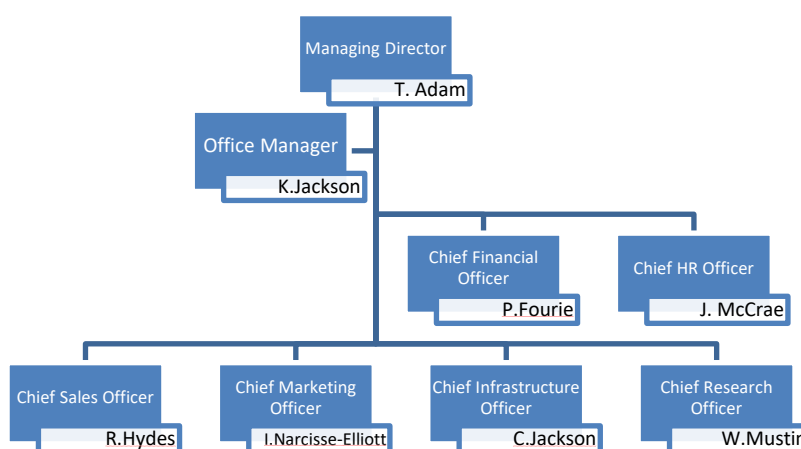


Figure 1 Executive Level Organization Chart up to 30th June 2016

Ms Katherine Jackson is the **Office Manager** (also **Recording Secretary** to the Board of Directors and support to the Executive Management Team). She also has the responsibilities of **FOI Manager** and is our primary liaison for various official contacts as well as corporate travel arrangements.

The Managing Director is

- responsible as the Company's "chief executive officer", reporting to the Chairman of the Board of Directors,
- the Company's primary liaison with the Board of Directors, also with the Ministry of District Administration, Tourism and Transport to which the Company reports, and jointly with the Chief Marketing Officer functions as the primary spokesperson to the news media.
- the **Company Secretary as appointed by the Board of Directors.**

During the period, the **Chief Financial Officer** had responsibility for

- financial and management accounting,
- payroll, payables and receivables,

- business controls and revenue assurance,
- insurance and risk management,
- IT infrastructure, telecommunication and park Wi-Fi facilities,
- procurement oversight,
- selection, procurement and support of software applications for financial, accounting and administrative functions, Point of Sale and inventory control functions, and Human Resources functions,
- financial reporting to the executives, Board of Directors and Government,
- liaison with auditors.

During the period the **Chief Sales Officer** had responsibility for

- the main revenue centres: Admissions, Tours and “Shore Excursions”, Retail (Splash Gift Shop), Food & Beverage;
- liaison with cruise lines, tour operators and transportation providers;
- liaison with secondary liability insurers to meet cruise line requirements;
- tour scripts and tour quality control;
- CTC’s Courtesy Shuttle service.
- He shares in various functions with the Chief Marketing Officer (see below).

During the period the **Chief Marketing Officer** had responsibility for

- advertising and promotions;
- marketing collateral design, procurement and distribution;
- media and public relations;
- website and customer communications;
- several social media channels;
- CTC App procurement and development;
- on-site and external signage;
- branding, and re-branding;
- special events marketing and management, and park communications.
- With the Chief Sales Officer she shared responsibilities in product development and pricing, and liaison with concierges, condominium front desks, and car rental agencies as promotional channels for attracting visitors.
- With the Managing Director she shared responsibilities as primary Company spokesperson to news media.

During the period the **Chief Infrastructure Officer** had responsibility for

- buildings and grounds, maintenance and landscaping, and janitorial functions;
- site security, disaster preparedness plans and drills, safety, incident reporting, lifeguards and lagoon cleaning;
- upkeep of exhibit enclosures and infrastructure;
- oversight of capital projects;
- vehicles and heavy equipment;
- mechanical, electrical, and plumbing equipment and infrastructure, also including the Aquatic Life Support System (ALSS) and other lagoon filtration and sanitization systems,
- utilities costs and usage monitoring.

During the period the **Chief Research Officer** had responsibility for

- all animal care and welfare, animal programs and displays including marine, aviary and terrestrial;
- in-house and external collaborative research and scientific testing;
- internships for research and animal programs;
- regular liaison with the Department of the Environment, Department of Agriculture and its Animal Welfare Unit, and St. Matthew's University School of Veterinary Medicine;
- water quality testing and other regulatory relations with the Water Authority.
- Cayman Turtle Products: the turtle farming operation, turtle herd management and husbandry;
- The **Scientific Advisory Board** had appointed him as its **Secretary** from its inception, and he served in that capacity throughout the fiscal year.

During the period, the **Chief Human Resources (HR) Officer** had responsibility for

- staff records;
- payroll and timekeeping record checks;
- management of recruitment, retention, training, and termination processes;
- on-boarding and orientation of new staff members;
- immigration processes for staff on Work Permits and other immigration-related controls;
- medical insurance and pension enrolments, terminations, and liaison with scheme providers;
- progressive discipline oversight and advice to supervisors;
- maintenance of HR processes and Standard Operating Procedures, especially related to human resources;
- management of random drug testing and related protocols;
- maintenance of the "Crew Member Handbook" and related policies;
- maintenance of the pay and salary structures.

○ ***Table of Delegated Authorities***

In keeping with generally accepted good corporate governance, the Governor in Cabinet of the Cayman Islands functioning as the sole Shareholder of the Company has vested its authority in the Board of Directors of the Company. The Board of Directors in turn has exercised its authority to delegate certain matters to the management of the Company. Some of those delegated authorities are vested in certain management positions, and some are vested in the corporation's business case review board and its Tenders Assessment Committee comprised of the appropriate senior management.

There is a document entitled "*Table of Delegated Authorities*" and comprised of tables and narrative that summarises the delegated authorities. This is a "living document" as these powers can be amended or augmented by subsequent Resolution of the Board of Directors, so the document contains an Issue and Amendment Record listing the version number and date of that version. The current edition is Version I, issued 27th May 2015⁸.

⁸ The previous Version H had been issued 21st May 2014.

This document is of course subject to the Public Management & Finance Law (PMFL) and its Financial Regulations, which may require additional approvals and/or controls. For example some transactions may require public tendering and other processes involving Central Tenders Committee, and/or approval of Cabinet.

- **Our People**

- **Personnel**

Being majority (100%) owned by the Governor in Cabinet, the Cayman Turtle Farm (1983) Ltd is classified as a Government Company and for HR matters we fall under relevant sections of:

- the Public Service Management Law (PSML) and its relevant Personnel Regulations;
- the Public Management and Finance Law (PMFL) and its relevant Financial Regulations;
- however although all our employees are Public Servants they are not Civil Servants, and therefore we also come under the Labour Law, and other related legislation which include the Immigration Law, the Health Insurance Law, and the National Pensions Law.

Consistent with the Company's marine-related themes in its cultural portrayals and tourist attraction functions, within the Company and in corporate communications its employees are typically referred to as "Crew Members".

- **Pension**

The Company participates in the scheme administered under the Public Service Pension Board (PSPB), in keeping with the Public Service Pensions Law. All employees are entitled and required to join the Company's defined contribution pension plan with the **Public Service Pension Plan** in compliance with the Public Service Pensions Law. Under this scheme, the employees and employer participation is mandatory. Currently, employees are required to contribute **6%** of their salaries to the pension fund and CTC matches this contribution. For further details of this plan, please contact the PSPB. Their website URL is: <http://www.pspb.gov.ky>

- **Medical Insurance Coverage**

Medical insurance is currently provided by a private company – **Cayman First Insurance**. The broker is **Aon Risk Solutions (Cayman) Ltd**. All employees are entitled to join the Company's medical insurance scheme, unless they present documented proof of health insurance coverage by some other means such as a spouse working for a different employer in a different health insurance scheme.

If an employee elects not to join the company's medical scheme, the Company requires proof of their existing medical coverage should they choose to remain on their current plan. The Company would otherwise contribute towards their premium the same amount as we do for other Company employees on the standard group medical insurance plan. Otherwise, each of our employees covered under our scheme the Company will pay **50%** of the monthly premium applicable to the employee in the specific medical insurance scheme, and the remainder of the premium is deducted from the employee's payroll to be consolidated into the monthly premium payment to the medical insurance provider. If the employee applies to add a spouse or child they are responsible for full payment of the premiums relevant to the dependent(s).

- **Headcount**

As at 30th June 2016, the Company employs 92 persons some of which are part time. Together they comprise of 90 Full Time Equivalents (FTE).

- **Demographics of Immigration Status**

Of all these 92 employees, as at 30th June 2016 we have only 3 (three) employees on Work Permits. **This ratio of 97% (of locals) : 3% (of expatriates requiring Work Permits) is exemplary and particularly outstanding in our nation where consistently approximately half of the workforce on a national basis is non-Caymanian.** It demonstrates the results of years of dedicated efforts in our deliberate, determined strategy to hire and develop local people wherever possible, consistent with the *2015-2016 Strategic Policy Statement Broad Outcome 2: A Work-Ready and Globally Competitive Workforce*.

- **Strategic Management Framework**

“Connecting for Excellence” is the theme our Human Resources and Training (HR&T) leadership has adopted for the 2015-2016 financial year’s HR&T initiatives representing Cayman Turtle Centre’s pursuit toward making better connections with those we serve as we strive for excellence. Towards the end of the fiscal year, a sizeable reorganization within CTC occurred, involving *ACT2 Business Consultants* facilitating creation of a Strategic Management Framework (SMF) for the next 3½ years, concentrating efforts on the key strategic initiatives to support the SMF of CTC and identifying specific areas of action and implementation to deliver it. As a result from this exercise, we identified the following **4 Strategic Pillars** and “provocative propositions” (i.e. statements of what success will look like in the future state), helping the Company and its employees project how it should be performing in each area by the end of 2019, and how these strategic imperatives are inter-connected:

Pillar 1: ‘People’

Champion – Ms Katherine Jackson, alongside the responsible **Executive Mr. Joelle McCrae, Chief Human Resources Officer**

- **Success Statement:** Our team, energized through training and empowerment, is achieving our Company’s 3½ years strategic plan, and is providing an exciting, educational experience for our guests.

Pillar 2: ‘Infrastructure’

Champion – Mr. Jerris Miller, alongside the responsible **Executive Mr. Christopher Jackson, Chief Infrastructure Officer**

- **Success Statement:** Our infrastructure is fit for purpose, efficient, and productive - to ensure growth, deliver a positive guest experience and interaction with various venues and entities while being cost effective and responsive.

Pillar 3: ‘Partnerships’

Champion – Ms India Narcisse Elliott, alongside the responsible **Executive Mr. Raymond Hydes, Chief Sales Officer**

- **Success Statement:** Our partner institutions are educated, engaged and motivated to support our Company. We have designed and continue to provide our guests with a variety of unique world class experiences, showcasing

Cayman's rich cultural heritage and amazing wildlife that is consistent and profitable for all involved.

Pillar 4: 'Research & Conservation'

Champion – Dr. Ana Malabia, alongside the responsible **Executive Dr. Walter Mustin, Chief Research Officer**

- **Success Statement:** We are recognized as the premier centre for research of Sea Turtles. Through education, collaboration, and marketing, we raise awareness of our conservation mission where we enable the conservation of sea turtles through sustainable production of farmed turtle products to continue local culinary traditions, while making continuous significant releases to the wild.

- **Strategic developments in Human Resource ("People") management & leadership**

- This year also marked the following highlights:
 - Various Recruitments, Departures, Promotions, and Staffing Structure development
 - Various Training & Development
 - Various Internships & Work Experience

- **Resettlement Day-Release Program - collaboration with HM Prison Service (HMPS)**

CTC entered into a Memorandum of Understanding with HMPS, for Unpaid External Placement. In this program, we accepted one male prisoner under the Release on Temporary License (ROTL) Programme, which operates on a day-release arrangement for work experience and pre-release re-integration of prisoners to help with their resettlement back into the community.

- **"Crew Members" of the Month**

As part of our Recognition & Reward strategies in motivating our people and exemplifying good performers, following are the employees who were awarded the "Crew Member of the Month" title for each of the months of the fiscal year ended 30th June 2016:

<u>Crew Members of the Month July 2015 - June 2016</u>		
<u>Month / Year</u>	<u>Name</u>	<u>Job Title</u>
July-15	Rachel Ebanks	Accounts Officer
August-15	Josyane Ward	Tour Coordinator
September-15	Odielys Perdomo	Janitor
October-15	Erin Miller	Life Guard Supervisor / Safety Officer
November-15	Sean Glidden	Finance Manager
December-15	Leider Viamonte	Life Guard Foreman
January-16	Nella Jane Bodden	Sales Coordinator (Part Time)
February-16	Nichole Blackwell	Retail Manager
March-16	Geddes Hislop	Curator – Terrestrial Animal Programs & Education
April-16	Kevin Martinez	Tour Guide
May-16	Craig Tennyson	Life Guard Foreman
June-16	Lara Taylor	Dishwasher

MANAGEMENT DISCUSSION AND ANALYSIS

- **Highlight of Achievements**

- **Huge Strides in Conservation**

In October 2015 the results of a Darwin Plus study conducted by the Department of Environment were published, revealing that by providing affordable captive-bred sea turtle meat, the Company has a huge positive conservation impact in the reduction of the likelihood of turtles being poached. In Grand Cayman, Green turtle nest totals for 2011-2015 were 410% higher than the corresponding total for the 5-year period ten years earlier.

In May 2016 after two years of painstaking sample collection, independent laboratory testing and assessment of the health of the Company's herd of turtles in comparison with the wild population, the Company resumed periodic turtle releases; and in June 2016 the Company commenced an exciting new programme of translocating captive-bred eggs to hatch out and be released on beaches around the island. This program has huge potential for enhancing our tourism product by developing "turtle tourism", while also directly contributing additional numbers to the wild population of sea turtles.

- **Retail revenue growth**

The largest growth in any of our lines of business for the full financial year ended 30th June 2016, is in our Retail Merchandise Sales which totalled over CI\$1.45 million, showing approximately a 27% growth in revenue over last year.

On 13th March 2016 the Company created a gift shop in its kiosk at Royal Watler Terminal which has proven very popular and commercially successful, yielding significant contributions to the bottom line. The kiosk has been successful in the short time it has been open with sales totalling for the financial year (only 3.5 months) of \$67,132. The kiosk is only open when cruise ships are in port. It has proven in the short time that it has been open to be a vital part in increasing our revenue through selling of merchandise and a beacon in helping to bring guests to visit CTC.

In this Department, changes were made to our staff during the financial year 2015-2016. Returning to our team were Mr. Joseph Bailey as Inventory Control Clerk, and Ms Nichole Blackwell as Retail Manager. Changes were made in the buying of our retail goods, pricing of goods sold, and also in our inventory control processes, which contributed to our growth this year.

In early 2017 the Company will be expanding its Retail footprint into two of the kiosks facing the courtyard at the entrance to the park. This will create an additional retail store, which will be branded *Splish Splash Swim Store*. This store will carry swimwear for women, men, and children along with other accessories and items. This store will continue our success in developing additional outlets so as to increase our Retail revenues and improve our bottom line.

- **Management Recruitment**

Several important senior management appointments during the year strengthened the leadership team, in addition to the Retail Team appointments mentioned above:

- a full-time Veterinarian (who replaced the previous Veterinarian);
- a Farm Manager who is Caymanian with a successful track record in senior management and a passion for preservation of our maritime heritage;
- and promotion of a Caymanian HR graduate to become the Company's Chief Human Resources Officer.

In all of this the Company remains exemplary in its recruitment and development of Caymanians in its workforce. As at the end of the fiscal year on 30th June 2016, of the Company's 92 staff there are only three employees on Work Permits.

- **TripAdvisor Certificate of Excellence**

Long recognised as the country's most-visited land-based tourist attraction site, during the previous financial year for the first time ever the Company won the (2015) TripAdvisor Certificate of Excellence. The Company achieved that same accolade in the 2016 TripAdvisor Certificate of Excellence, which is awarded solely upon unsolicited customer reviews and the ratings they attach to those reviews.

- **Summary Results of Key Ownership Agreement Strategic Goals & Objectives**

The full set of Strategic Goals and Objectives of the Company from an ownership perspective for the three financial years 2015/16 to 2017/18 are contained in the official document entitled "*BUDGET 2015/16 Ownership Agreement Between The Cabinet of the Cayman Islands Government and Cayman Turtle Farm (1983) Ltd*"⁹. The following analysis summarises achievements against key strategic objectives for the financial year ended 30th June 2016.

Tourist Attraction

- Provide a high-quality attraction for visitors to Grand Cayman offering display and interaction with sea turtles and other island wildlife.
 - Sustain CTC admission market shares of stay-over and cruise visitors above 10% of visitors per annum in each category. – Achieved.
 - *Stay-Over visitors: approx. 13.4% market share*
 - *Cruise visitors: approx. 12.4% market share.*
- Collaborate with other entities and entrepreneurs in the tourism industry to offer visitors "packages" incorporating a visit to Cayman Turtle Centre together with other products and services (e.g. transportation, visits to other attractions) thereby producing additional positive impact on the islands' economy and employment.

⁹ Cayman Islands Government, comp. *Cayman Islands Government: Ownership Agreements: 2015/16*. (2015): 241-80. Legislative Assembly of the Cayman Islands. Web. 1 Jan. 2017. <<http://www.legislativeassembly.ky/portal/pls/portal/docs/1/11946109.PDF>>.

- Maintain and develop relations with tour bus companies, water-sports companies, other attractions and other tourism service providers to offer “combination” packages for cruise shore excursions. – *Achieved:*
 - A “Combination” shore excursion has been successfully launched with a bus and boat operator combining a visit to Stingray Sandbar plus full park access at CTC.
 - A “Combination” shore excursion has been successfully launched with a bus transport provider and the TAB, combining a visit to Pedro St. James plus full park access at CTC. That site is also Government-owned.
 - A “Combination” shore excursion has been successfully launched with a bus transport provider and the TAB, combining a visit to Pedro St. James plus a visit to Queen Elizabeth II Botanic Park. Both of those sites are also Government-owned.
- Maintain and develop relations with independent car rental companies, hotels and tourist condos to promote CTC visitation by stay-over visitors, through admission discount offers.
 - One car rental company is actively offering the discount and there are voucher programs with some accommodation properties.
- See footnote¹⁰.
- **Government Strategic Policy Statement¹¹ (SPS) alignment:** By providing a high-quality attraction for visitors and collaborative efforts with other local entrepreneurs, businesses, Statutory Authorities and Government Companies in the ways outlined above, CTC contributes to achievement of 2015/16 SPS Outcome 1 (d): Encourage collaboration between the Cayman Turtle Farm and other local attractions, with entities and entrepreneurs in the tourism industry (such as tour bus companies, watersports companies, hotels) to offer visitors “packages” thereby producing additional positive impact on the island’s economy and employment
- Revenue goals:
 - Tours:
 - Increase admissions sold to “stay-over” guests by at least 50% of the percentage increase in air arrivals per annum (Year-on-Year for the fiscal period).
 - The number of stay-over arrivals to the island for the 12 month period ended 30th June 2016 was down by 0.9% compared to the same period in

¹⁰ Note: There are a few other key strategic goals and objectives in the “BUDGET 2015/16 Ownership Agreement Between The Cabinet of the Cayman Islands Government and Cayman Turtle Farm (1983) Ltd” which are intended to be completed during the three-year period 2015/16 to 2017/18. Those other goals and objectives are not included in this section in this report.

¹¹ Government of the Cayman Islands. “2015/16 Strategic Policy Statement.” (n.d.): n. pag. [LegislativeAssembly.ky](http://www.legislativeassembly.ky/portal/pls/portal/docs/1/11294693.PDF). Government of the Cayman Islands. Web. 1 Jan. 2017. <<http://www.legislativeassembly.ky/portal/pls/portal/docs/1/11294693.PDF>>

2014-2015. That would have yielded a target of 0.45% **decrease** in stay-over visitor admissions to CTC.

- The **number of stay-over visitors to CTC increased by 11.2%**, which was therefore an **outstanding achievement**.

- Gift Shop:

- *Increase Retail Contribution per annum by at least 50% of the same percentage as annual increase in cruise tourist arrivals (Year-on-Year for the fiscal period).*
- Met and far exceeded:
- Cruise tourist arrivals increased 7.5% for fiscal year 2015-2016 vs 2014-2015. That would have yielded a target Retail Contribution increase of 3.8%.
- The **Retail Contribution increased by 24%** which was therefore an **outstanding achievement**.

- Food & Beverage (“F&B”):

- *Increase F&B Contribution per annum by at least 50% of the same percentage as annual increase in cruise tourist arrivals (Year-on-Year for the fiscal period).*
- Not achieved. This line of business was adversely impacted by a number of factors, especially that the “meal-inclusive” shore excursion was removed from Carnival’s “featured” list and replaced on that list by the “Stingray Encounter and Turtle Swim” shore excursion. That replacement shore excursion yields higher revenues-per-guest to CTC (and the cruise line) but it does not include the meal.

- **SPS alignment¹¹:** By growing its various lines of business and collaborating with other entities as well as several local vendors and suppliers, CTC contributes to achievement of the overarching theme of *2015/16 SPS Broad Outcome 1: A strong, thriving and increasingly diverse economy*

Turtle Conservation & Culture

- *Contribute to the conservation of sea turtles in the wild around the Cayman Islands, and to sustaining local culinary traditions, by making available from self-sustaining closed-cycle farming a stock of green sea turtle meat for local consumption thus avoiding turtles being taken from the wild legally or illegally.*
 - *Production Rate: Maintain turtle meat products production capacity of at least 40,000 pounds per annum (equivalent to at least approx. 900 turtles per annum).*
 - Achieved.

- Meat production total: 62,198 lbs
- 1182 turtles processed.
- *Resume annual releases of turtles into the wild as soon as the following have been done:*
 - *Pre-release quarantine tests completed to confirm no significant risk of released turtles introducing diseases to the wild, and*
 - Achieved. Turtle releases re-commenced in 2016-May.
 - *Data and sample collections completed on the Darwin Plus study on contribution of CTC-released turtles to the wild population around Grand Cayman.*
 - Achieved. This study³⁴ awaits completion by the authors (Project Leader Dr Janice Blumenthal of the DoE, et al) and subsequent publication.
- **SPS alignment¹¹:** These initiatives contribute to achievement of *2015/16 SPS Broad Outcome 10: Conservation of our biological diversity and ecologically sustainable development:* and more specifically *Outcome 10(b): Contribute to the conservation of sea turtles in the wild around the Cayman Islands, by resuming annual releases of turtles as soon as the appropriate tests and sample collections are completed.*

Research & Education

- *Continue participation in research on sea turtles in-house and in collaboration with overseas researchers.*
 - Achieved.
 - In addition there have been many months of detailed discussions and communications with the University of Georgia exploring the potential for several future collaborative projects. That educational institution was founded in 1785, also referred to as UGA or simply Georgia, is “an American public Land-grant, Regional Sun Grant, National Sea Grant, and National Space Grant research university” whose primary location is Athens, Georgia, USA. It is “a flagship university that is ranked tied for 18th overall among all public national universities in the 2017 U.S. News & World Report rankings.” The university is “classified in the highest ranking, ‘R-1: Doctoral Universities – Highest Research Activity’”, with “the Carnegie Classification of Institutions of Higher Education classifying the student body as ‘More Selective,’ its most selective admissions category. The university has been labelled one of the ‘Public Ivies,’ a publicly funded university considered to provide a quality of education comparable to those of the Ivy League.”¹²
- *Host students from local and overseas schools, educating them on sea turtles and other island wildlife.*

¹² "University of Georgia." *Wikipedia*. Wikimedia Foundation, n.d. Web. 01 Jan. 2017. <https://en.wikipedia.org/wiki/University_of_Georgia>.

- *Host at least 2,000 students and chaperones per year.*
 - Achieved and exceeded.
 - Total 2,765 students for the fiscal year.
- *Host interns where possible.*
 - Achieved: two graduate interns were hosted during the year: one Caymanian, and one US national.
- *Continue collaboration with St. Matthew's University School of Veterinary Medicine in hosting international veterinary students on the annual MARVET (Marine Veterinary Medicine)¹³ workshops*
<http://www.marvet.org/workshops/focus/30>
 - Achieved. The MARVET 2015 workshop took place 13th - 24th July 2015.
 - 30th September 2016 update: The MARVET 2016 workshop took place 1st – 16th August 2016.
- See footnote¹⁰.
- **SPS alignment¹¹:** These initiatives help overall to contribute to achievement of *2015/16 SPS Broad Outcome 7: A centre of excellence in education*

Events Hosting

- *Offer the park as a venue for various corporate, social and community events, including catering of food and beverages.*
 - Achieved. Several different corporate, social and community events were hosted at the park during the year. Most weekends the park – especially Schooner's Bar & Grill, the Toddler's Playground, Breakers Lagoon, and the Turtle Twister Water Slide - is also a popular venue for birthday parties.

Debt reduction

- *Continue reducing and extinguishing debt in accordance with the debt repayment schedule:*
 - Achieved.
 - The principal amount of remaining debt decreased \$3.521 Million. The remaining debt from the bond and bank loans totals \$14.486 Million.

¹³ MARVET (Marine Veterinary Medicine) is an educational program, hosted by St. Matthew's University (SMU) School of Veterinary Medicine on Grand Cayman, which offers courses in marine animal medicine for veterinary students and veterinarians who would like to become more acquainted with the expanding field of marine animal health and conservation medicine. Instructors include internationally recognized experts from the frontlines of marine animal health, welfare and conservation in a global context; they represent a diverse range of facilities and organizations, including oceanaria, aquaria, zoological parks, rehabilitation units, wildlife organizations and SMU and other universities.

- See footnote¹⁰.
- **SPS alignment¹¹:** Compliant with the ***“Public Sector Debt Profile and Debt Management Strategy” of the 2015/16 SPS*** and with the ***“Framework for Fiscal Responsibility” (FFR)***, CTC plans no new borrowings over the forecast period.

Employment

- *Recruitment practices to continue to prefer Caymanians or those with Permanent Residency with the Right to Work, minimizing the number of Work Permits required for the CTC workforce.*
 - *Target is to maintain less than 10% of employees on Work Permits.*
 - **Achieved and target exceeded. Only 3% of employees are on Work Permits.**
- See footnote¹⁰.
- **SPS alignment¹¹:** This contributes to developing local talent toward achievement of ***2015/16 SPS Broad Outcome 2: A work-ready and globally competitive workforce.***

AUDITED FINANCIAL STATEMENTS

The audited financial statements for the year ended 30th June 2016 are attached as **APPENDIX 3. Audited Financial Statements of the Company**

Following is the wording of the Independent Auditors’ Report to the Directors:

In accordance with section 61(1)(a)(i) of the Public Management and Finance Law (2013 Revision) we have audited the accompanying financial statements of Cayman Turtle Farm (1983) Limited (the “Company”), which comprise the statement of financial position as at June 30, 2016 and the statements of comprehensive loss, changes in shareholder’s equity and cash flows for the year then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

This report is prepared for the Directors of the Company in accordance with the terms of an engagement letter dated September 7, 2016 and for no other purpose. We do not accept or assume any liability or duty of care for any other purpose or to any other person to whom this report is shown or into whose hands it may come.

Management’s Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with relevant ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

In our opinion, the financial statements present fairly, in all material the financial position of the Company as at June 30, 2016, and of its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards.

Emphasis of Matter

We draw attention to note 12 of the financial statements which discloses that the Company is dependent upon the continued financial support of the Government of the Cayman Islands to enable it to meet its obligations as they fall due. Without this ongoing support a material uncertainty exists that casts significant doubt about the Company's ability to continue as a going concern. Our opinion is not qualified in respect of this matter.

Following are management comment on the "emphasis of matter":

The "Emphasis of Matter" item reflects the position that the Company is dependent on continued financial support of central Government without which it is doubtful that the Company could continue as a "going concern" i.e. it is doubtful that the Company could continue operating. This support is provided in the form of equity injections, the majority of which go toward servicing long-term debt obligations in the form of a bond and bank loans that are government-guaranteed. During the year, as a result of the payments on the debt the principal amount of remaining debt decreased by CI\$3.521 Million. As shown below on p.33 the remaining debt from the bond and bank loans totals CI\$14.486 Million.

- **Breakdown of Income Sources**

Table 1 Income Analysis

	2016 FY		
Revenues	CI\$	%	
Admissions ("Retail Tours")	4,404,285	56.1%	CTC
Retail merchandise sales	1,455,089	18.5%	CTC
Food and beverage	818,445	10.4%	CTC
Turtle meat sales ("Wholesale Sales")	658,481	8.4%	CTP
Rental and other income	511,751	6.5%	corporate
	7,848,051		

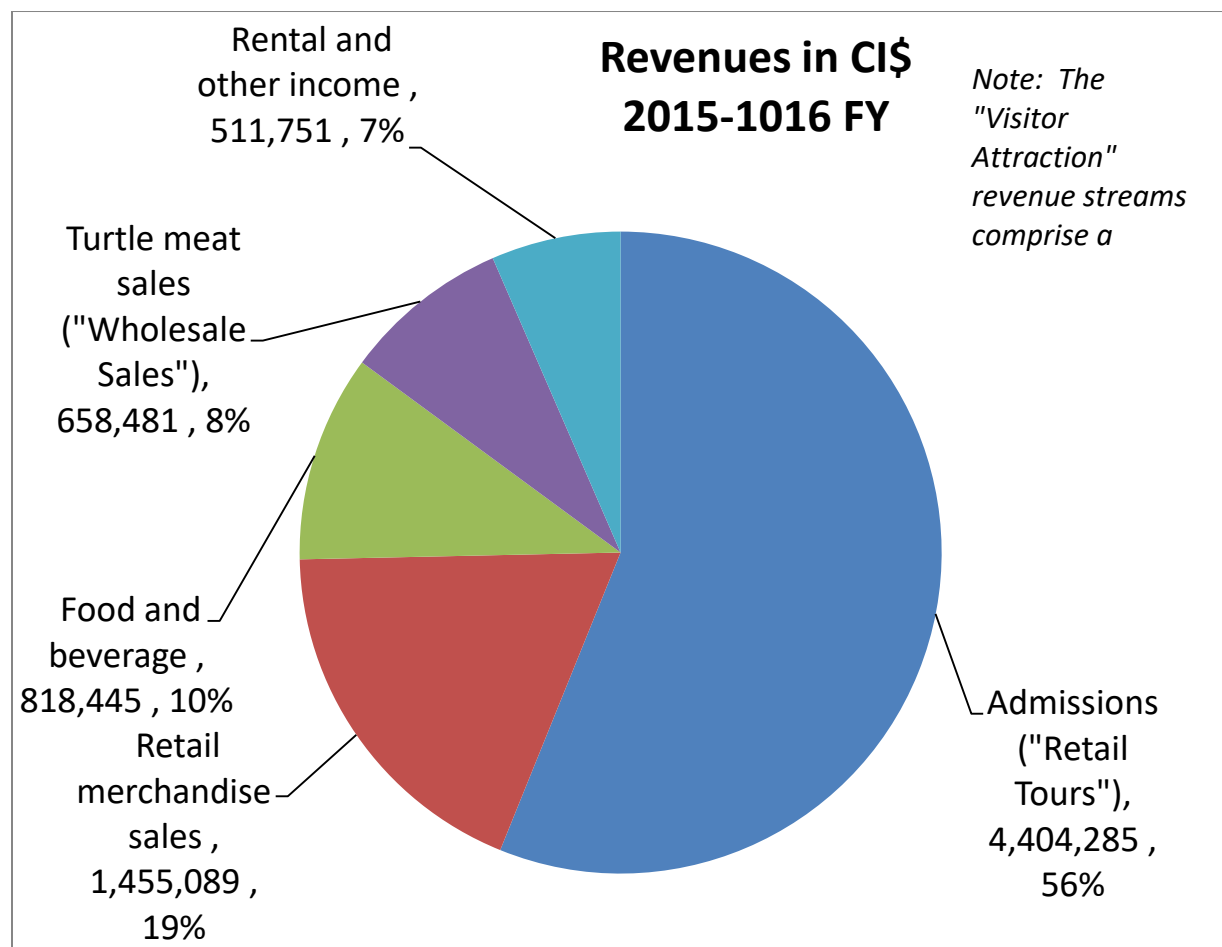


Figure 2 Revenues

- The “Tours” revenue is derived from admission charges. Admissions are sold wholesale to cruise lines and local Tour Operators and attractions, and sold retail directly to visitors and residents on site and through our web booking facility. The “Retail Merchandise” revenue is from CTC’s “Splash Gift Shop” on site and from the new gift shop in the kiosk at Royal Watler (cruise) Terminal. The “Food and Beverage” revenue is from CTC’s “Schooner’s Bar & Grill” on site, and this includes revenues from food and drinks catered to birthday parties and corporate events hosted on site.
- The total of the foregoing three categories, comprise total earnings from the “Visitor Attraction” line of business, which made up 85% of the Company’s revenues.
- **Breakdown of Expenses**

Expenses	CI\$	%
Personnel expense	3,815,564	30.2%
Depreciation expense	2,928,766	23.2%
Interest and amortisation	976,898	7.7%
Utility expense	1,424,107	11.3%
Insurance expense	375,961	3.0%
Maintenance costs	927,875	7.3%
Feed and other operating expenses	618,570	4.9%
Professional fees	241,949	1.9%
Other expenses	199,366	1.6%
Advertising	291,513	2.3%
Bank fees	98,608	0.8%
Defined benefit liability - profit/loss	387,000	3.1%
Telephone	158,877	1.3%
Retail operating expense	151,427	1.2%
Travel and entertainment	44,645	0.4%
	12,641,126	

Table 2 Expenses Analysis

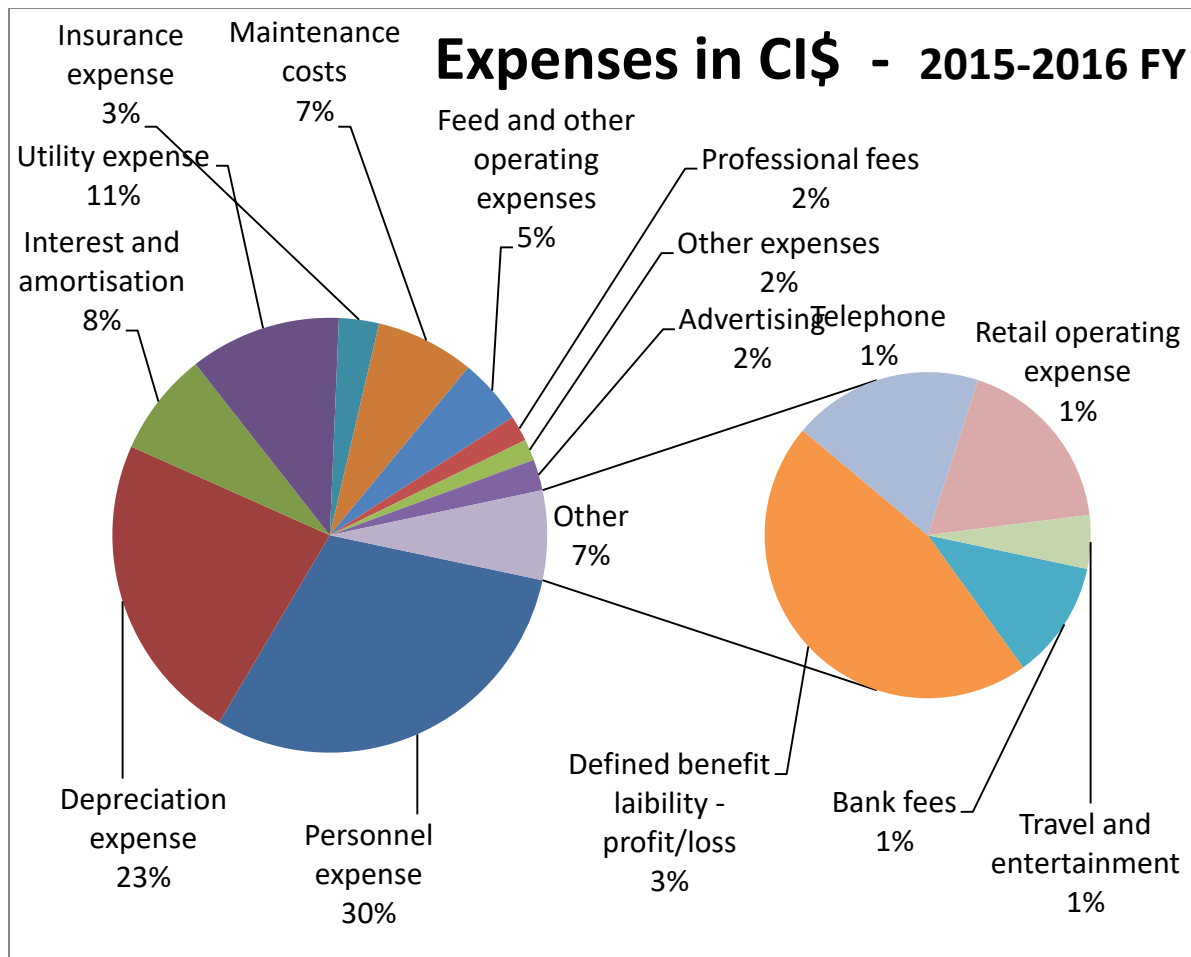


Figure 3 Expenses

The majority of Utility expense is the cost of electricity, due in large part to the water pumps that must run constantly at the seaside pumping station (supplying sea water for the turtle tanks), in the Aquatic Life Support System (filtration and sanitization for the water in the salt water “Turtle Lagoon” and “Predator Reef” exhibits), and in the quarantine tanks. Additionally there are pumps for the water slide and waterfalls in the fresh water “Breakers Lagoon” (on timers for opening hours), also for the filtration and chlorination system in that lagoon.

The largest single expense is Personnel expense. The Company has a budgeted maximum headcount of 90 FTE's.

- **Equity Injections**

The “subsidy” provided by the government, which comes in the form of equity injections, has been steadily reduced as the financial performance of the Company has improved.

<i>Year ending 30th June</i>	<i>EI portion in cash (for debt servicing + cash shortfall) – CIS</i>
2010 audited	9,555,610
2011 audited	9,852,569
2012 audited	9,669,418
2013 audited	10,678,771
2014 audited	10,503,078 ¹⁴
2015 audited	9,506,349
2016 audited	9,002,749

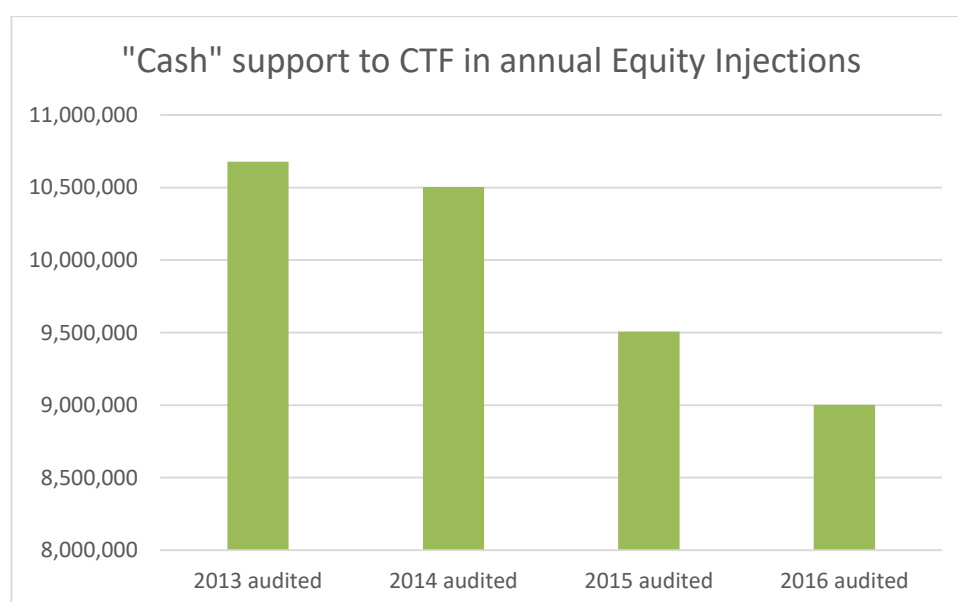


Figure 4 Trend in Reduction of Equity Injection required

- **Capital Withdrawals**

There were no Capital Withdrawals made by the Governor in Cabinet from the Company during the financial year.

- **Dividends or Profit Distributions**

There were no Dividends or Profit Distributions paid by the Company during the financial year.

¹⁴ This \$10,503,078 amount shown is the “cash” portion of the equity injection for the year ended 30th June 2014. The Financial Statements for that year show a total figure of \$15,564,162, but \$5,061,084 related to a reclassification of an accounts payable balance to contributed capital.

○ **Loans**

There were no new loans to the Company by the Governor in Cabinet or by any financial institution, during the financial year.

Table 3 Loan and Bond Debt Balances as at 2016-Jun-30 shows the loan and bond debt balances totalling CI\$14,486,310 as at 30th June 2016.:

CI\$ equivalent at 30 th June 2016	From date	
<u>12,903,511</u>	Mar.2004	Guaranteed senior notes ¹⁵
12,903,511		Bond debt
96,568	Mar.2006	CNB Loan "Facility 1"
<u>1,486,231</u>	May.2009	FCIB Loan "Facility 3"
1,582,799		Loan debt

Table 3 Loan and Bond Debt Balances as at 2016-Jun-30

○ **Guarantees**

There were no new Guarantees relating to the company made by the Governor in Cabinet during the financial year.

At the time of issue of the foregoing debt instruments, as well as up to CI\$4.2 Million of the Overdraft facility, the Governor in Cabinet had guaranteed the debt as shown in Table 4 Government Guarantees of debt and overdraft, and these guarantees remain in place.

Up to (CI\$ equivalent)	Guarantee
36,600,000	for Guaranteed senior notes
5,208,000	for Bank Loans
<u>4,200,000</u>	for Overdraft
46,008,000	Total

Table 4 Government Guarantees of debt and overdraft

¹⁵ In regard to the "Guaranteed senior notes":

The Notes were issued at par and were placed by William Blair & Company, L.L.C. (the "Placement Agent") with third party institutional investors. The Notes are guaranteed by the Government up to an amount of CI\$36,600,000. The Notes mature on 1st March 2019 and bear interest at a fixed rate of 4.85% per annum, payable quarterly in arrears. Quarterly payments commenced on 2nd June 2004. The first nine (9) quarterly payments were interest only, and quarterly payments of principal and interest commenced on 1st September 2006. The principal amount of the Notes will amortise quarterly to an approximate final principal payment of US\$5,400,000 (CI\$4,536,000) due on 1st March 2019.

APPENDICES

APPENDIX 1. Standard Reporting Additional Information

- **Economic Impact Assessment**

The Company had engaged PricewaterhouseCoopers (PwC) to do a study on the Company's impact on the national economy. They completed that study and produced the report in 2013-May and it is available from the FOI section of our website:

<https://www.turtle.ky/about-us/freedom-of-information/>

In March 2013 PwC was contracted to produce a study of the economic impact of the Company. PwC gathered information from the Company, the Cayman Islands Government (CIG), the Department of Tourism, the Economics & Statistics Office, private sector tour operators and tourism attractions owners, and BREA (Business Research & Economic Advisors). The approach used was consistent with that used in the UK by HM Treasury. They completed the study in May 2013 and produced a report on the study¹⁶.

The scale of the estimated impacts on Cayman's economy used two indicators: economic output as measured by Gross Value Added, and employment. CTC has direct, indirect and induced economic impacts, but a key determinant of CTC's net economic impact is its wider effect on enabling and encouraging greater visitor spending in Cayman which of course also translates into employment.

The study estimated the current impact of CTC on Cayman's economy for a one-year period (2012), and went on to estimate the net present value of the economic impact of CTC over an estimated 15-year economic life period in "counter-factual" scenarios, in other words what is the impact of CTC in two different scenarios of the future, compared against a hypothetical scenario in which the Company receives no subsidy and as a result its operation is wound down over twelve months to cease operation.

The results of the study produced in May 2013, are given for the two different scenarios:

- If there is going to be no cruise berthing in Cayman, the Net Present Value of the Gross Value Added is US\$73 million with a national employment impact of 203 full-time employees.
- If there is going to be cruise berthing, the Net Present Value of the Gross Value Added is US\$220 million with a national employment impact of 603 full-time employees.

These results are summarized in a table on p.34 of the PwC report on the Economic Impact Study:

¹⁶ PricewaterhouseCoopers. *Economic Impact Study Cayman Turtle Farm*. www.turtle.ky. N.p., May 2013. Web. 27 Sept. 2016. <<https://www.turtle.ky/upimages/1396990996CTF-Economic-Impact-Study-16.5.2013.pdf>>.

Source: PwC analysis

		Net present value to GVA: (US\$m)	Impact in terms of employment: operational (FTEs)
Scenario 2a	With subsidy – no Cruise Port redevelopment	73	203
Scenario 2b	With subsidy – Cruise Port redevelopment	220	603

Figure 5 Net Expected Economic Impacts of the Company

The economic impacts outlined above should be considered in the context of CIG's ongoing subsidy of operating losses, which, at approximately [US]\$4m per annum, equate to a net present value of [US]\$40m over the fifteen year period. In determining the value-for-money of the subsidy, the CIG should consider whether its [US]\$40m 'investment' is generating sufficient 'returns' in terms of economic benefits. This assessment should not be made in isolation, but bearing in mind alternative subsidy options for cruise tourism such as, for example, subsidization of cruise berthing fees. CTF's conservation role discussed above and the cultural/social value of CTF will also be relevant in these considerations. The main observations to be drawn from the analysis are

- *Overall, CTF clearly has a number of linkages for the cruise and tour industry in the Cayman Islands. Together with attractions such as Stingray City, it offers a unique experience for cruise visitors, which is critical in light of the repetition of attractions in many competitor destinations, such as dolphinariums. As a result, the wider economic impacts of CTF are substantial.*
- *While CTF has also a somewhat symbiotic relationship with the cruise lines, its presence in Cayman is not likely to be the deciding factor in cruise lines' decisions to include the Cayman Islands on their itinerary.*
- *In the absence of a redevelopment of the Cruise Port, the ongoing subsidy of operating losses may still be justifiable in the context of the overall CTF economic impacts. However, without a new Cruise Port an even more rapid decline in cruise tourism than expected could quickly undermine the rationale for the ongoing subsidy.*
- ***In the context of a redevelopment of the Cruise Port and a wider strategic tourism plan to maximize Cayman Islands' offering to the cruise industry, CTF's long term positive economic impacts could be substantial. In this scenario, the rationale for the ongoing subsidy would be clear, particularly if it formed part of the overall cruise tourism strategy***

Given the Government's firm commitment to and commencement of a deliberate systematic process aiming to redevelop the cruise terminal and berthing facilities, of the two different future scenarios studied the second scenario now appears to be the most likely of the two, which assumes Government will be proceeding with the redevelopment of the cruise terminal and berthing facilities in George Town.

The primary purpose of this economic analysis was to inform decision making for the future. The Government guarantees almost all of the Company's debt, so the portion of subsidy that is applied toward debt servicing and reducing overdraft does not factor into this analysis because

Government's debt obligations would remain whether or not the Company continues operating. Therefore, for comparison purposes the study estimated the value of the portion of Government's subsidy that goes toward subsidizing the Company's operational losses; that is the US\$40 million figure that PwC mentioned for the 15-year period.

As PwC put it, *"In determining the value-for-money of the subsidy, the CI Government should consider whether its [US]\$40 million 'investment' is generating sufficient 'returns' in terms of economic benefits. This assessment should not be made in isolation, but bearing in mind alternative subsidy options for cruise tourism such as, for example, subsidization of cruise berthing fees. CTF's conservation role ... and the cultural/social value of CTF will also be relevant in these considerations."*

In summary the key numbers show that especially in the scenario of having cruise berthing facilities, there are large economic benefits from the Government subsidy to enable CTC to continue operating and having the positive net impact on the wider economy and employment in Cayman. In addition the Company also provides other benefits in its role in conservation and in maintaining our Islands' cultural and social traditions.¹⁷

- **Risk Management**
 - **Key Risks and Risks Mitigation**

In this section we discuss below in depth a few of the main risks facing our Company.

Key Risk:

Continued dependence on Government subsidy, provided annually in the form of Equity Injections.

This is expressed as an *Emphasis of Matter* note each year in the Audit Opinion, with typical wording as follows:

We draw attention to note 12 of the financial statements which discloses that the Company is dependent upon the continued financial support of the Government of the Cayman Islands to enable it to meet its obligations as they fall due. Without this ongoing support a material uncertainty exists that casts significant doubt about the Company's ability to continue as a going concern. Our opinion is not qualified in respect of this matter.

- In other words, this risk does not cause an "audit qualification" but it is given "emphasis" as a significant risk in terms of the future viability of the Company.

Risk Mitigation: The risk of Government withdrawing its annual financial "subsidy" is minimized by the Company delivering huge benefits for the nation and its people, coupled with the Company highlighting these benefits in its contacts with government decision-makers and key influencers. These benefits include major successes such as:

- Functioning effectively in our conservation and research roles with results giving clear evidence that the Company is a vital and very active Key Success Factor in ensuring that green sea turtles, and other sea turtle species in turn, remain in the wild in the waters of the Cayman Islands to delight visitors and residents who swim, snorkel, or dive and have as

¹⁷ The report gives further detail as to PwC's methodology and findings, and is available for download from the Company's website at: <http://www.turtle.ky/economic-impact-study-of-cayman-turtle-farm>

many opportunities as possible to see these magnificent creatures in their natural habitat. The powerful evidence of that impact is discussed above in the portions of the report that relate to conservation and research, and the huge positive impact of captive-bred turtle meat availability as well as turtle releases and turtle egg translocations to wild beaches.

- Providing a world-class, very popular tourist attraction which is a positive factor in prospective stay-over guests choosing the Cayman Islands as their destination, and prospective cruise visitors choosing Grand Cayman to be in their itinerary. Furthermore this attraction motivates cruise visitors to come ashore when their ship calls at Grand Cayman, thereby generating spin-off passenger spending within the country rather than passengers remaining aboard the ship.
- The Company stands out as an exemplary role model of deliberate, determined efforts to recruit, train, develop, and retain Caymanians. In turn the Company is:
 - Providing employment which is a primary means of income to support some 92 families, and no doubt in some cases this helps to support extended families. With only 3 out of 92 of our staff requiring Work Permits, by far the highest percentage of our employees is Caymanian.
- The Company stands out as an exemplary role model of deliberate, determined efforts to assist other public sector entities in being successful in their endeavours. Our spirit of partnership with such entities as the government's Tourism Attractions Board (TAB), coupled with our track record of reliable execution and delivery of high-quality, safe experiences for visitors, have resulted in the tangible benefits of attracting a significantly large number of guests on "combination" shore excursions that the Company's sales competence has been applied. These benefits include:
 - Incremental revenue to TAB venues supporting world-class underutilized attractions such as Pedro St. James National Historical Site and the Queen Elizabeth II Botanic Park, by having the Company apply its expertise and experience to be the sales channel to create and coordinate the logistics for these shore excursions and the wholesaling arrangements to cruise lines who now "sell" these tours to these venues as part of their port adventure packages.
 - The Company's competence in delivering quality "combination" tours has resulted in the shore excursions to these sites receiving high ratings by the cruise passengers experiencing them in this way. In turn that has driven demand and further driven other cruise lines to affirm their interest in purchasing these wholesale packages from the Company, thereby yielding even more benefits and a positive future outlook for our symbiotic relationships with the TAB and its attractions.

Key Risk:

Large dependence on revenues from cruise lines and cruise passenger spending.

As seen in the financial results and revenue graph, by far the largest revenue sources the Company presently has, relate to visitors to the park and on shore excursions that the Company sells both wholesale and retail. In turn, within those revenue streams the largest numbers of customers are cruise passengers. Therefore there are significant related risks:

- The ongoing, but hopefully soon to be overcome, lack of a Cruise Berthing Facility (CBF) in Grand Cayman is a major impediment to cruise lines maintaining existing numbers of cruise passengers and is presently a significant barrier to cruise lines being able to significantly increase the numbers of cruise passengers that they bring to our island. Coupled with the

cruise industry moving very visibly toward ordering and now deploying larger ships for which tendering is considered unacceptable, the risk of decline in cruise numbers is growing and gets steeper every time we hear another cruise line announcing the anticipated date that they will be deploying another large ship in their Caribbean itineraries. Given that of all the Caribbean islands which BREA surveys every three years to determine the economic impacts of cruise tourism in our region, the Cayman Islands is the only island nation that still does not have a cruise berthing facility therefore the cruise lines, which typically plan their itineraries and commitments (especially for their large ships) years ahead, have to take that into account as to which ports they are going to include in their itineraries in the season, the year, and the future years ahead.

- Inclement weather that results in ships bypassing Grand Cayman, has a large detrimental effect on our revenues. Given that many of our major cost components are not variable, we still have those costs to bear on those days when we lose customer revenue because their ships cannot come to our port. The forecast is that the CBF will mitigate this risk down from to a small fraction of the typical “days lost due to inclement weather conditions for tendering” per annum. Realistically however, the CBF is not likely to be in operation for another two or maybe three years while we continue to face this risk.
- If cruise lines are influenced by other factors to stop doing business with the Company for whatever reason whether perceived or actual, each cruise line that makes such a decision will leave a significant “hole” in our revenues.

Risk Mitigation:

- The ongoing risks related to lack of a CBF are being addressed on an ongoing basis by the Company’s top management assisting in influencing and encouraging for the CBF to be built as soon as it can be properly done. The Managing Director has invested considerable time and efforts in these endeavours and continues to do so, and remains an active participant within ACT (The Association for Advancement of Cruise Tourism), the FCCA, and related entities.
- The potential risks of cruise lines withdrawing from business relationships with the Company are mitigated by sincere, deliberate and frequent positive interactions and mutually beneficial business deals with the cruise line executives and with the FCCA. To that end, recently the Company became an Executive Platinum Member of the FCCA, and furthermore the Company demonstrates its commitment to the cruise industry partners by its Managing Director, Chief Sales Officer and other executive level senior managers attending the FCCA’s annual Conference and Trade Show, at which these executives are able to take many formal and informal opportunities to build on our excellent relationships with cruise lines and their industry leaders.
- To add some measure of mitigation of this large dependence on cruise passengers, the Company has also extended its outreach to stay-over tourist industry partners, accommodation properties and especially resorts in the “Seven Mile Beach” touristic zone. This outreach has resulted in increased stay-over visitors coming to our park, and it is with pleasure that we have had to increase from one to two Courtesy Shuttle minibuses to keep pace with the growing demand for this facility from the resorts. There are several other factors in our strategic developments in that direction, including the hiring of a part-time employee who liaises with the accommodation properties, and places marketing materials in those properties to help concierges and front desk staff in promoting our park attraction.

- To further enhance and develop the Company's relationships with stay-over visitor accommodation properties, the senior management of the Company and our scientific staff have this year commenced a project in which we have proven the potential for new product developments in "turtle tourism". By our positive interactions with property managers in placing our egg translocation projects on beaches in front of prominent tourist accommodations, they have been able to see the very positive interactions and engagement this creates with their guests and the "once-in-a-lifetime" memories it creates for individual guests and multi-generational families that this project gives them, to observe up close and in person the emergence of turtle hatchlings on a beach and their crawl to enter the sea and swim away as they commence the first stage of their lives in the ocean.
- The Company has also put in place the infrastructure and the protocols to enable us to be able to offer private turtle releases, such that guests celebrating a milestone can have an event in which they and their loved ones or business associates can participate in an event releasing one of our head-started turtles into the wild. We have conducted the first set of such events starting in May 2016, and from the experience we gained from those events during summer 2016 we are now refining and preparing the marketing collateral that those properties will be able to use in consultation with their guests in creating these events.

In terms of various other risks, some of those are discussed below in brief summary:

Reputational Risk:

There are various potential sources of reputational risk therefore the prime ones are discussed below along with our mitigating actions:

Reputational Risk Mitigation:

- Misunderstanding of the Company's role in turtle meat production, and lack of understanding as to why that is essential for sea turtle conservation in our country, subsequent to the financial year-end has been partially mitigated by the creation of a separate brand for those functions.
 - "*Cayman Turtle Products*", the new brand applied for that purpose, was launched mid-September 2016 and will hereafter be the identity under which those aspects of our operations are conducted.



- Complementary to that change, the Company's functions as a tourist attraction and as a leading centre for sea turtle conservation, education and research have now been placed under a new brand "*Cayman Turtle Centre*".



- *Note:* For ease of transition and to retain customer and industry partner familiarity with those elements of our business, we have retained the same logo style and image but we no longer use the brandname “Cayman Turtle Farm” so as to differentiate the new identity as distinct from the aquaculture commercial “farming” aspects that are now identified under the Cayman Turtle Products brand.
- To complete the transition to identities that will go a long way toward avoid the risks of misunderstanding the Company’s role and fundamental purposes, the Board of Directors has resolved that the official registered name of the Government Company “Cayman Turtle Farm (1983) Ltd.”, should be changed to “Cayman Turtle Conservation and Education Centre Ltd.”, and also to amend the Company’s Memorandum of Association to reflect the Company’s remit in the objectives of conservation, education and research. Those proposals have been presented to the Minister of Tourism (Deputy Premier and Minister of District Administration, Tourism and Transport) and it is anticipated these proposals will be presented to the Governor in Cabinet to exercise its powers as Shareholder of the Company to approve those important corporate changes so that they can then be officially registered.
- In the past there arose the reputational risk of Special-Interest groups attacking the Company’s reputation especially with accusations of animal welfare violations and related allegations. Those risks have now been mitigated by the commencement and continuation of periodic assessments by the Animal Welfare Unit of the Department of Agriculture. That Unit is the constitutional authority for animal welfare matters in the Cayman Islands, and their expert team has to this point already conducted three periodic assessments of the Company’s operations in respect of animal welfare matters.
- If there are customer complaints in relation to their experience or observations at our park, there is a reputational risk on social media especially on TripAdvisor.com which is a popular reference source for travellers. This risk is mitigated by constant attention to delivering a high quality, safe experience for our guests.

Compliance Risks:

Procurement:

This risk has been mitigated by familiarizing senior managers involved in purchasing, with the procedures and business controls which our CFO and his team have done a lot of work on developing, implementing, and enforcing. In addition, the Ministry of District Administration, Tourism and Transportation has provided excellent procedure documents that help in giving senior managers an easily readable format that covers the requirements for procurement to be done in compliance with the Public Management and Finance Law, and the Financial Regulations.

Conflicts of Interest:

Annually the executives and Directors update their declarations of interest and our CFO maintains a register of these.

Regulatory Compliance:

There are two main regulatory bodies that could adversely impact the Company's ability to remain in compliance.

Water Authority

This Statutory Authority has regulatory functions under which it regulates our water extraction, sewage treatment and sewage effluent discharge, and it also regulates the discharge from our flow-through seawater system in our captive-breeding facility. That system carries salt water pumped directly from the sea into our various turtle tanks and then discharges that water back into the sea after it has flowed through those tanks. In regard to the latter system, there is the requirement for a Marine Discharge Permit which is a form of permission issued by the Water Authority. The last license issued was for 24 months and had specified three 6-monthly checkpoints with specified aspects targeted to be achieved by the end of each of the four 6-month periods. The Company complied as far as we were able to comply, which came at the second of the checkpoints by which time we were required to submit to the Water Authority for approval, a full RFP for a wastewater treatment system to result in reduced figures for various measurements that are regularly taken of the water in our outflow stream. We submitted the full RFP to the Water Authority by the specified deadline, and we wrote that RFP making use of the relevant FIDIC template¹⁸. There now remains somewhat of a risk however because:

- The Water Authority has to date not been able to approve the RFP. Anecdotally we believe that in some aspects beyond our control as to the national infrastructure in which the extracted sludge would be treated, it is likely that the volume needing to be treated is simply not feasible in our island.
- Whether it was for that reason or some other, the criterion of subsequent checkpoints that relate to procurement and implementation of the plant that was the subject of the RFP, obviously could not be fulfilled without the required approval of the Water Authority and furthermore it appears that subsequent to implementation, the logistics of operation would in any case have resulted in requirements for which it is most likely not going to be feasible for the national infrastructure to accommodate.

Risk Mitigation: This risk in relation to the Water Authority has been mitigated as follows:

- When the Marine Discharge Permit was coming up to its expiry date, the Company filed the application for renewal of the Permit. To date the Water Authority has neither refused nor issued a new Permit.
- In our original discussions leading up to the issue of our last License, we had suggested quite a different approach for handling the outflow water and for which the engineering appeared more feasible. That method would not have created the sludge and would not have impacted treatment systems on the island, and it would have resulted in removing the outflow water from the benthic area of interest i.e. the water would not have been deposited where it would be likely to have any noticeable impact on the reef areas or other areas where residents or visitors would be using for diving, snorkelling, etc. We believe that is going to prove to be the best

¹⁸ FIDIC is the International Federation of Consulting Engineers: <http://fidic.org/>

way forward to help the Water Authority arrive at a sensible and workable solution in regard to how best to handle our outflow salt water.

- In the meantime the Company continues to cooperate well with the Water Authority in the other elements of compliance with the Marine Discharge Permit. The Company funds the periodic video transects, and the Company continues to regularly submit the water samples as required for monitoring parameters of the discharge water.
 - It should be noted that the video transects that we have seen to date, do not indicate that the outflow is causing a progressively worsening situation. To the contrary, anecdotal evidence from the management of a nearby dive site suggests that the nutrients in the outflow may actually help considerably in attracting fish and other marine wildlife to the area which in turn helps to maintain the dive site's reputation as one of the best shore dives on the island.
- Therefore we consider that if the good spirit of cooperation and the practice of pragmatic approaches that have characterized the Company's relationships with the Water Authority to date are continued, this risk can be mitigated. There does not appear to be a compelling case for urgency and so there is a positive outlook that eventually whatever is done in respect of the Permit issuing, the way ahead can be feasible and sensibly "beneficial to all concerned."
- In summary therefore in light of what we have observed in the approach the Water Authority has taken, we do not perceive this to be a large risk but rather we have included it for the sake of completeness and disclosure to our Shareholder.

National Conservation Council and Department of Environment

This Council, which is appointed by the Governor in Cabinet and empowered by the new National Conservation Law (NCL), has now been given sweeping powers by the recent coming into force of various Sections of the NCL. That has the potential to present large risks to the survival and success of the Company if there emerges "regulatory activism" and if "ideologues" are allowed to set or influence the agenda. There are various sections of the NCL that if not properly handled and sensibly administered by this Council, or by the leadership of the Department of Environment as delegated by the Council under the NCL, could be disruptive to our operations, damaging to our business prospects and hazardous to our success in fulfilling our mission.

Risk Mitigation: The primary channel of compliance risk mitigation in relation to the NCC, rests with the Governor in Cabinet. Whereas the NCL makes provision for the Cabinet to have the power to mitigate such risks, for example by giving "directions" to the NCC, to date it appears that few if any of those needed "directions" have been given. In recent months there has been clear evidence of possible risks of "regulatory overreach" by the NCC and/or the DoE leadership. In addition the DoE leadership has made statements which reveal a tendency toward being influenced by "perceptions", whereas our senior management insist that policy-making should be evidence-based. This regulatory risk therefore requires further discussion with and action by the Cabinet in order to avoid such risks arising and propagating to the detriment of our Company and its beneficial impacts in our nation-building, and thereby Cabinet will need to direct these entities toward outcomes that are ultimately sensible and to the national benefit.

- **Actual Losses/Damages, Write-offs, and related Payouts**

There were no material losses, damages claimed, write-offs or related payouts required for the financial year ended 30th June 2016.

- **Financial Performance and analysis**

- Details of Actual vs Prior Year and Actual vs Budget

The key strategic goals and objectives (from an ownership perspective) for The Cayman Turtle Farm (1983) Ltd set for the financial year ended 30th June 2016 are shown on p.22 and following pages.

Summary of Achievement of Ownership Performance Targets

Overall: The Company remains dependent on Government for subsidies. In the financial year ended 30th June 2016 the “cash” portion of the Equity Injection was CI\$9 Million, down 5.3% from the year ended 30th June 2015 (\$9.506 Million). Of this amount, approximately CI\$4.569 Million was applied to debt servicing (for calculation of this amount, please see Table 2).

The Ownership Performance Targets as specified in schedule 5 to the Public Management and Finance Law (2013 Revision) compared with actual results for Cayman Turtle Farm (1983) Ltd for the 2015/16 financial year are as shown in Table 5 Ownership Performance Targets & Actuals.

- **Financial Performance**

Financial Performance Measure	2014/15 Actual CI\$	2015/16 Target CI\$	2015/16 Actual CI\$
Revenue from Cabinet	0	0	0
Revenue from ministries, portfolios, statutory authorities and government companies	0	0	0
Revenue from other persons or organisations	6,346,820	7,510,937	7,336,300
Surplus/(deficit) from outputs	(5,201,527)	(6,217,877)	(5,316,436)
Other expenses	(1,138,872)	(1,050,000)	(976,898)
Net Surplus/(Deficit)	(6,340,399)	(7,267,877)	(6,293,334)
Total Assets	32,859,955	30,491,579	32,033,488
Total Liabilities	22,216,218	19,204,219	18,680,336
Net Worth	10,643,737	11,287,360	13,353,152
Cash flows from operating activities	(4,132,111)	(4,203,593)	(3,559,901)
Cash flows from investing activities	(828,438)	(1,175,000)	(689,503)

Cash flows from financing activities	5,020,137	5,477,472	5,416,406
Change in cash balances	59,588	98,879	1,167,002

Financial Performance Ratio	2014/15 Actual CI\$	2015/16 Target CI\$	2015/16 Actual CI\$
Current Assets: Current Liabilities	0.55:1	0.46:1	0.81:1
Total Assets: Total Liabilities	1.48:1	1.59:1	1.71:1

Maintenance of Capability

Human Capital Measures	2014/15 Actual CI\$	2015/16 Target CI\$	2015/16 Actual CI\$
Total full time equivalent staff	89	90	90
Staff turnover (%)	6%	6%	9%
Average length of service (Number)			
Senior management	7.3	7.5	9
Professional staff	8.2	8.1	11
Administrative staff	8.6	8.8	8
Significant changes to personnel management system	No changes	No changes	No Changes

Physical Capital Measures	2014/15 Actual CI\$	2015/16 Target CI\$	2015/16 Actual CI\$
Value of total assets	29,122,265	27,357,262	26,883,001
Asset replacements: total assets	2.8%	4.3%	2.6%
Book value of depreciated assets: initial cost of those assets	52%	48%	47.7%
Depreciation: Cash flow on asset purchases	3.36:1	2.47:1	4.25:1
Changes to asset management policies	No changes	No changes	No changes

Major Capital and Repair Projects	2015/16 Budgeted CI\$	2015/16 Spent CI\$	2015/16 Remainder CI\$
<u>Buildings</u>	195,000	94,956	100,044

Admin Building Air Conditioning Project	50,000	0	50,000
Lighting in Retail Shop	10,000	0	10,000
Raising & Paving Driveway - Farm	35,000	0	35,000
Various Misc. Projects	100,000	94,956	5,045
<u>Plant and Equipment</u>	980,000	288,786	691,214
VFD's Seawater Pumps	35,000	0	35,000
Seawater Supply Pipes	390,000	0	390,000
Turtle Tanks Waste Treatment System	500,000	0	500,000
Tower Lights	25,000	0	25,000
ALSS Deaeration Chamber	30,000	0	30,000
Various Misc. Projects	0	288,786	(288,786)
<u>Furniture & Equipment</u>	0	17,816	(17,816)
<u>Computer Hardware</u>	0	197,389	(197,389)
<u>Computer Software</u>	0	37,775	(37,775)
<u>Motor Vehicles</u>	0	52,781	(52,781)
Total 2015/16	1,175,000	689,503	485,497

Table 5 Ownership Performance Targets & Actuals

The remainder will be used during 2016-2017 to:

- Complete air conditioning project, and upgrade lighting in Splash Gift Shop.
- Complete projects on VFD's for seawater pumps, biofouling clearing and/or replacement of seawater supply pipes, and upgrading of ALSS De-aeration Chamber infrastructure.
- The remainder of the money will be used for various other projects, such as: air conditioning for Ticket Counter hall in Reception building at entrance; MD and Office Manager's office relocation and storage, air conditioning unit for Accounts offices, etc.

• **Analysis of how the Equity Injection was Utilized**

As shown the Company's audited Financial Statements, the total Equity Injection made by the Governor in Cabinet in the company during the financial year was \$9,002,749. This amount was contributed in "cash".

Of the "cash" amount of the Equity Injection, \$4,575,683 went toward debt servicing, which in turn reduced the debt balance of bank loans and the bond by \$3,586,343 during the year. **\$2,387,669** went toward "subsidizing" the shortfall between "revenues including rental and other income" and "operating expenses before interest, tax, depreciation, and amortization" ("OpEx BITDA"), and the remaining impacts were \$390,261 decrease in the overdraft amount, current account balances increased by \$776,741 and remaining funds were

applied toward other changes affecting "cash" (various items shown on the Statement of Cash Flows). A summary analysis of how the Equity Injection was applied to ensure the financial well-being of the Company is shown in Table 6.

CI\$ equivalent		Application of Equity Injection 2015-2016
9,002,749		Total Equity Injection from Government (Note 11)
9,002,749		"Cash" Contribution of Equity Investment (per the Appropriation Law)
	(507,743)	Long Term Bank Debt Paid (Note 9 & Statement of Cash Flows)
	(3,078,600)	Repayment of Guaranteed Senior Notes (Note 8 & Statement of Cash Flows)
	(3,586,343)	Debt servicing: debt repaid (debt balance reduction)
	(989,340)	Debt servicing: interest paid (Statement of Cash Flows)
(4,575,683)	(4,575,683)	to Debt Servicing - total
(689,503)		to Capital Expenditure projects (Note 7)
(2,387,669)		to "subsidise" shortfall between Revenues and OpEx BITDA
(776,741)		increase in Current Accounts (Notes 4, 14)
(390,261)		decrease in Overdraft (Notes 4, 14)
(182,892)		to other changes affecting "cash" (various items on Statement of Cash Flows)

Table 6 Analysis of Application of Equity Injection

- **Scrutiny by Parliament and the Public**

Parliamentary Questions

The Company's Management is not aware of any Parliamentary Questions nor any significant PAC issues directed toward the Company or its business affairs.

FOI Requests:

The following FOI request was dealt with:

- FOI Ref. #: 70681
- Received: 2015-Oct-22
- Summary of request:
To provide images and video of Clostridium outbreak at CTF between April and July 2014, including correspondence between CTF and CI Gov't, the UK Gov't, cruise lines, university or scientific institutions or any other departments or institutions in relation to the outbreak.
- Requestor: Mr. Joshua Kaile
- Date answered: 2016-Nov-24

Complaints:

The Company's management is not aware of any official Complaints against the Company filed with the Complaints Commissioner.

- **Internal and External Audit updates**

The Company has addressed the one Management Letter point that the auditors raised in the audit for the year ended 30th June 2015: The Auditors stated their Observation as follows:

During the course of the audit information provided was incomplete and not received in a timely manner. For example, the revised pension report was received on October 20, 2015 and the final trial balance and financial statements received on October 19, 2015 (With the exception of the pension adjustment).

The Management Response records our Company's actions in response to that point:

The late audit adjustments and correcting entries was due to the internal audit done on the new accounting system and POS systems. This was communicated to the auditors and there will be adjustment due to the new systems. All the errors that we found were corrected and no further errors are expected. Most of the errors that we found related to the first 6 months of the year as the system was still very new.

The pension information has been updated and are correct now. We did contact PSPB numerous times starting February 2015 to update the records but there was a delay in there side to get this information updated and corrected.

- **Cross-Government Commitment**

The Company's Managing Director served on the *Committee to Improve the Performance of SAGC's*. There has been a draft Public Authorities Law created and which the Committee worked on, and it is our understanding that after some amendments the Law has been passed to the Caucus for scrutiny with a view to the next stage being its presentation to the Governor in Cabinet.

- **Forward-Looking**

The Company's *Strategic Goals & Objectives* have been set out in the *2016-2017 Ownership Agreement*.

To support those, the Company's senior managers and Directors have designed a Strategic Management Framework (SMF) for the next 3½ years, concentrating efforts on the key strategic initiatives to support the SMF of the Company and identifying specific areas of action and implementation to deliver it. As a result from this exercise, we identified **4 Strategic Pillars** that are further discussed on p.19.

APPENDIX 2. Historical Background

- **History of Turtles in the Cayman Islands**

The sea turtle has been an iconic figure of the Cayman Islands all the way back to their discovery by Christopher Columbus in 1503. The islands were first named “Las Tortugas” because of the abundance of sea turtles that Columbus observed in the sea around the islands. Over the next two or three centuries the Cayman Islands became a stopping point for sea vessels in the area to catch turtles and take them aboard ship to be a source of fresh meat for the voyage. For settlers of the Cayman Islands, “turtling” became a means of survival and although by the 19th century the population of sea turtles around Cayman had been depleted, turtles remained an important part of the islands’ economy. The Caymanian “turtlers” (turtle fishermen) were skilled at sailing to the Miskito Cays off Nicaragua to catch turtles there, and transport them to Cayman and on to Florida, USA where they were sold as a delicacy for their meat. This continued into the 20th century. Caymanian turtlers earned the title of “the world’s most effective turtle fishing fleet”.¹⁹

Up to today, the green sea turtle has remained a cultural icon of the Cayman Islands, featuring on the Cayman Islands coat-of-arms and flag, in the islands’ currency, in the logo and livery of the national airline, and in the logos of the Department of Tourism, the Cayman Islands Tourism Association, and several other organisations in the public and private sectors. Turtle meat dishes still feature highly as important aspects of local culture and culinary traditions. A June 2014 to June 2015 research project conducted by the Department of Environment on “*Socio-economic aspects of turtle conservation in the Cayman Islands*”²⁰ that was funded by the UK’s Department of Environment, Food and Rural Affairs (DEFRA) “Darwin Plus” initiative, revealed that some 62% of Caymanians by descent consumed turtle meat at least once during the year studied, and the tradition remains strong across all the age demographics: the study declared that it “*found inconclusive evidence of age differences in turtle consumption among residents*”²¹.

- **History of the Company in the Cayman Islands**

The company started in 1969 as *Mariculture Ltd.*, a venture started by private investors from the USA and UK, to commercially raise green sea turtles. This was the first commercial enterprise to domesticate sea turtles and it is the only remaining captive breeding farm in the world for sea turtles. The green sea turtle species was chosen because of the superior quality and taste of its meat, as green sea turtles become almost exclusively vegetarian as adults.

The primary motivation of the farm’s “founding father” Dr. Robert Schroeder, was conservation with a strong component of research and education; Dr. Schroeder’s passion was to find practical ways to ensure that sea turtles did not continue their population decline toward extinction. The primary methods he pursued involved captive breeding with the dual purposes of replenishing the wild population by releasing live turtles into the wild from captive-bred

¹⁹ Rieser, Alison. *The Case of the Green Turtle: An Uncensored History of a Conservation Icon*. Baltimore: Johns Hopkins UP (2012): 18

²⁰ Nuno, A., “Socio-economic aspects of turtle conservation in the Cayman Islands – Key results report”, *Cayman Islands Department of Environment* (2015): 16

and

Key results report *Cayman Islands Department of Environment* RSS. N.p., n.d. Web. 27 Sept. 2016 15–17

²¹ Nuno, A., “Darwin Plus Cayman Turtle Socioeconomics,” *Cayman Islands Department of Environment* RSS 16

stocks, and protecting wild stocks from human predation by selling captive-bred farmed sea turtle meat. From the farm's inception, his adopted philosophy of "conservation through commercialisation"²² has been both inherent and explicit; indeed green sea turtles are aptly described as "the buffalo of the sea."²³ Like the North American bison which are commonly known as buffalo, the green sea turtle species in its adult life eats vegetable matter almost exclusively – specifically *Thalassia testudinum*, commonly known as turtlegrass, and in the Pacific this specie eats algae – and converts it into a high quality meat with good taste, texture, and nutritional qualities.

Initially the green sea turtle farm was located in Salt Creek, Grand Cayman, on the eastern edge of the West Bay peninsula in a natural inlet off the North Sound, with the turtles held in floating pens. In 1971 Mariculture Ltd. relocated to the "Goat Rock" site in the community known locally as Vixville, on the coastline at North West Point in the West Bay district. Thereafter the turtles were kept in concrete tanks and in a large breeding pond with an artificial beach, with seawater being constantly pumped from an intake channel cut in the shoreline and piped directly to each of the individual tanks and breeding pond. Today the intake channel remains in operation and the current combined rated capacity of the seawater pumps that are normally running is 3,500 gallons per minute.

Although the farm was initially established to be an aquaculture enterprise that contributed to replenishing wild turtle populations, from its early days there was keen interest amongst tourists to see the farm and its turtles. Within a few years of the farm's establishment it had also become a popular tourist attraction, including a gift shop.

Mariculture Ltd. exported various turtle products including meat, turtle leather, turtle shell and derived products, and turtle oil (which was prized as an ingredient for cosmetics), until around 1973 when CITES (the Convention on International Trade in Endangered Species of Flora and Fauna) in effect imposed a ban on the commercial export of sea turtle products. In 1975, Mariculture Ltd. filed bankruptcy; private investors (the Mittag family from Germany) purchased the company and renamed it "*Cayman Turtle Farm Ltd.*" In the face of the CITES restrictions, which they hoped they could eventually get lifted once the operation was correctly recognized as a legitimate closed-cycle captive breeding facility, the company struggled financially. Finally after continued losses and little progress with CITES recognition, the Mittags decided to gradually shut down the operations because they could no longer continue to fund the company's financial shortfalls, but in 1983 the Government of the Cayman Islands recognized the enterprise was a vital part of its nation-building: preserving a cultural icon and a draw for ecotourism – sea turtles, preserving local culinary traditions without depleting the wild population, and providing a unique tourist attraction.

To complete the procurement the government created a new company named "*Cayman Turtle Farm (1983) Ltd.*", wholly owned by the government, which bought out Cayman Turtle Farm Ltd. It still remains a Government Company, administered under the Ministry of Tourism. It operates with its own management and Board of Directors. Shareholder liaison is primarily

²² Fisher, M., "Conservation Through Commercialisation", *Economic Affairs* 14 (1994): 15–17

²³ Schroeder, Robert E., "Buffalo of the Sea", *Sea Frontiers* 12 (1966): 176-83

through the Minister for Tourism and formal shareholder decisions are officially made by the “Governor-in-Cabinet” of the Cayman Islands Government.

In its “Goat Rock” location on North West Point Road in West Bay, many of the “production” tanks had been built on property Mariculture Ltd. had acquired on the “land” side of the road, but all the tanks on display, the breeding pond and the main part of the operation was on the “sea” side of North West Point Road. Given the relatively deep water immediately offshore from the site, this set-up proved to be somewhat vulnerable to heavy wave action from “nor’westers” and tropical cyclones. Over the years, damage occasionally occurred during inclement weather and finally in 2001, huge waves churned up by Hurricane Michelle caused devastating damage to the facilities and its animals. The waves swept away many of its turtles, including some two-thirds of the breeding stock as well as a large number of younger turtles. The storm-driven seawater also badly damaged the company’s administrative building that housed its gift shop and snack bar in addition to various offices, and destroyed many paper records along with other infrastructure. In the aftermath of that catastrophic damage, the decision was taken to move the entire operation, except for the seawater pumping station and the turtle meat sales outlet, to the “land” side of the road.

At that time the cruise lines were encouraging the government to take steps to see to it that the portfolio of tourist attractions on the island was expanded and enhanced. After a period of consultation, and with the engagement of experts from a saltwater wildlife attraction in Orlando, Florida, commencing in fiscal year 2004 a project that was branded “Boatswain’s Beach” increased the scope of operations to that of a theme park, boasting artificial saltwater and freshwater lagoons, a free-flight Caribbean aviary, a nature trail, a gift shop, and a bar & restaurant. Thereafter the attraction traded under the new brand-name “*Boatswain’s Beach*.”

This project had as part of its fundamental economic assumptions that there would be a cruise terminal adjacent or nearby in West Bay. Although the “Boatswains Beach” project went ahead, the West Bay cruise terminal did not. Up to now all the cruise visitors that come to the attraction must be transported over land by bus from the cruise terminal in George Town or during inclement weather, from the alternative terminal in Spotts. Therefore for shore excursions that adds a considerable amount of cost and total excursion time and both of those factors negatively impact cruise visitors’ propensity to take shore excursions to spend their shore time at the attraction.

- **Rebranding in 2010**

There were subsequently some difficulties in marketing and customer perception of the “Boatswain’s Beach” name. In August 2010 the company changed its trading name back to “*Cayman Turtle Farm*” with the tagline “*Island Wildlife Encounter*” to portray the primary activity of the company. At that time the company also adopted a new logo, incorporating four stylized images:



Figure 6 New Logo adopted 2010

- The image of a turtle is a reference not just to the historical residents and star performers at the farm, as well as the Island's cultural past, but the symbol of the turtle is also a reminder of the Farm's ongoing and world renowned research and conservation activities in addition to the traditional turtle-breeding and turtle release programmes.
 - The second image is that of a Cayman parrot, the National Bird of the Cayman Islands, drawing attention to both our free-flight walk-through aviary and also to encounters with some of our other indigenous wildlife.
 - The image of a shark directs visitors to the marine life exhibits, interactive swimming, feeding and predator tanks, as well as the excitement of seeing underwater wildlife.
 - And, finally, the fourth image in the logo depicts a frond of silver thatch – the National Tree - referring to the nature trails and promotion of Caymanian traditions and culture.
- **2010 Vision Statement**

Upon adoption of the new brand in 2010, the company restated its Vision:

"To be the Cayman Islands' premier tourism attraction where visitors and residents enjoy a world class experience, showcasing Caymanian wildlife and heritage while hosting an internationally renowned research and conservation centre for sea turtles."

Note: Please see p.39 for the **new Cayman Turtle Centre brand now in use**, and p.39 for the **Cayman Turtle Products brand now in use**.

APPENDIX 3. Audited Financial Statements of the Company

The Financial Statements are attached in a separate signed PDF document format.

► End of Annual Report : Cayman Turtle Farm (1983) Ltd. 30th June 2016 - Statutory edition ◀

So as to conserve paper “APPENDIX 4. Research and Conservation at Cayman Turtle Centre” and “APPENDIX 5. CTC’s Aviary Captive Breeding & Release Programs” are in the *Full Public edition*, in the electronic format of the document. The statutory reporting requirements are fulfilled in the main body of the Report plus the first three Appendices and together those form the *Statutory edition*.

APPENDIX 4. *Research and Conservation at Cayman Turtle Centre*

Our turtles in the company's captive breeding program range in size from 6 ounces to over 500 pounds, apportioned among specifically designated tanks. Researchers and visitors are able to observe turtles in various stages of growth and development.

- **Turtle Conservation and Captive Breeding**

The Cayman Turtle Centre represents both a unique wildlife-conservation project and a commercial-breeding enterprise.

Housed, in a sense, under the same roof, the two functions at times appear contradictory, which is unfortunately where some misunderstandings and controversies arise. From the inception of Cayman Turtle Centre's predecessor companies, however, the philosophy of "conservation through commercialization" thereby giving the species a realizable value, has been both inherent and explicit. Indeed at the outset of the captive breeding initiative, green sea turtles were given the title "the buffalo of the sea."

Furthermore the commercial availability of captive-bred sea turtle meat has resulted in strong and very effective means of curtailing sea turtle poaching, thereby protecting the wild sea turtles. "Buffalo" (North American bison) farming is a very apt analogy. Cayman Turtle Products makes available to turtle meat consumers within the Cayman Islands a legal source of captive-bred, farmed sea turtle meat. The Green sea turtle captive breeding program **takes no animals nor eggs from the wild** and in so doing, in our country there is a much lower number of turtles taken from the wild than would be the case if the company were not providing the legal captive-bred turtle meat products.

While cultural norms vary geographically, few observers nowadays would argue against the clear evidence that buffalo (North American bison) farming has been hugely helpful in conserving this species and expanding its natural range and population.

One could choose almost any commonly farmed animal; a similar logic emerges. Indeed an article²⁴ in Drovers Cattle Network of 4th September 2013 underscores the necessity of farming to achieve the aim of "*protecting wild food animals from extinction.*"

The protection of free-ranging animals from harvest or poaching is compatible with conservation of a species, and **the reality of this is clearly obvious provided observers will approach the matter without geopolitical or cultural bias and with a determination to be intellectually honest.**

Published data have shown that the sale of turtle meat has a significant positive conservation impact²⁵ because it greatly reduces poaching in the wild, which is often otherwise difficult to control, both in terms of numbers and indiscriminate in terms of age, sex and species.

²⁴ Murphy, Dan. "Commentary: Farmed Food Fallacy." *Cattle Network*. Farm Journal, Inc., 04 Sept. 2013. Web. 1 Jan. 2017. <<http://www.cattlenetwork.com/cattle-news/Commentary-Farmed-food-fallacy-222358171.html?page=3>>

Persons who have been visiting the Cayman Islands since the early days of scuba diving have mentioned that the chance of seeing a turtle on a dive here has improved significantly through the years. The increased numbers of turtles sighted aren't just those released from Cayman Turtle Centre; many sea turtles are in our waters today because over the years there has been a much reduced incidence of various species of turtles being caught and taken from the sea around our islands. The incentives for poaching have diminished considerably because Cayman Turtle Centre has made a legal source of captive-bred turtle meat available locally, at a reasonable price, and is sustained without the need to take any eggs or turtles from the wild. Since the farmed meat also supplies demand in Cayman Brac and occasional demand in Little Cayman, the conservation benefits also have a positive impact on the Sister Islands' wild turtle populations due to the same factors.

This vital importance of fulfilling the cultural norms for Caymanians through captive-produced and not poached turtles has now been indubitably revealed by the implications of a socioeconomics study²⁵ conducted by the Cayman Islands Department of Environment (DoE) funded as a "Darwin Plus" initiative by the Department for Environment, Food & Rural Affairs (DEFRA) of the United Kingdom government, and with the survey and analysis led by an expert in this specialty who the DoE recruited through the University of Exeter in the UK. Among the study's key findings²⁶ were:

- **30% of all residents and 62% of Caymanians by descent**, i.e., having a Caymanian grandparent, **consumed turtle meat at least once in the last year**. Key reasons given for eating turtle include taste, tradition and culture, and celebrating special occasions.
- The study found inconclusive evidence of age-related differences in turtle consumption among residents, suggesting that this behaviour is not expected to "die out" in the near future.
- When comparing current (i.e. during last year) and desired frequency of turtle meals among consumers, approximately 55% would maintain the same consumption level, 44% would like to have turtle more often, and 1% would decrease their consumption. For those that would like to eat turtle more often, restrictions mentioned by the respondents were related to price and availability. Based on the estimated 2.5 individual servings per pound of turtle meat cooked at home (information obtained in this study), an additional 31,000 lbs of turtle meat per year would be needed to meet desired consumption levels, suggesting that demand by residents is currently not being fully met. This would represent an increase of more than 50% compared to the current level of sales reported by the company in 2014. Please note this does not take price and availability into account (i.e. respondents were reporting "ideal" scenarios while ignoring potential restrictions). When compared to how often they used to eat turtle 5 years ago, 45% of the consumers reported eating less frequently now, 11% eat more frequently now and 44% kept similar frequency levels.
- Findings suggest that around 38,000 – 95,900 turtle meals had been consumed in restaurants during the year studied.

²⁵ Nuno, A., Godley, B.J. & Broderick, A.C. (2015). *Socio-economic aspects of turtle conservation in the Cayman Islands – Key results report*. University of Exeter. 38 pp. <<http://www.doe.ky/wp-content/uploads/2015/04/Cayman-key-findings-report.pdf>>

²⁶ Nuno, A., "Socio-economic aspects of turtle conservation in the Cayman Islands – Key results report", *Cayman Islands Department of Environment* (2015): 16

and

Key results report *Cayman Islands Department of Environment* RSS. N.p., n.d. Web. 27 Sept. 2016 15–17

- In part due to the availability of captive reared turtle meat, **no legal take of sea turtles has been recorded since 2008.**
- According to respondents' answers to a direct question about buying wild turtle during the 12 months previous to the study, 2% of all resident households bought meat of turtles illegally. 16.1% of consumers reported preferring wild turtle, with the remaining 83.9% preferring farmed meat or having a relatively neutral preference.
- **Alarminglly, 46.8% of existing consumers self-reported being more likely to be interested in purchasing illegally poached turtle meat in case of a closure of CTP.**
- This socioeconomics research also revealed that the age demographics of consumption and demand for turtle meat show clearly that this demand shows no signs of diminishing any time in the foreseeable future.
- The calculation revealing the order of magnitude of these realities is shown in the Hypothetical Analysis at the end of this Appendix. In summary, the Company's turtle meat production yields the numerical equivalent of leaving in the seas **approximately 18 adult breeding-size wild turtles per month**; comparing that to the estimated typical population of adult breeding green sea turtles in the Cayman Islands in recent breeding seasons, **in the absence of the Company's turtle meat production the projected take rate from the wild would remove all of those turtles from the seas around the Cayman Islands within approximately three months, as analysed on p.65. That is the stark reality of the need for the Company to continue turtle meat production to keep up with the culturally driven demand for this product within the Cayman Islands.**

Our unique management programs addressing the breeding, nesting, hatching, and raising of sea turtles has provided for better understanding and care for the turtles, their life cycle and their environment in the wild or in captivity. This knowledge has been, and continues to be shared with the national and international scientific community through several channels of outreach:

- *Publication or presentation of scientific papers:* Our website lists²⁷ over 150 of such papers that are available to the scientists and other interested persons involved in caring for sea turtles around the world.
- *On-site research by external institutions:* By allowing access, under specified conditions, to credentialed experts from various institutions, our Company enables those experts to gain knowledge about various practical aspects of caring for sea turtles at their various life stages in various circumstances. For example a recent project conducted by a team from such a specialist institution studied the best and safest method of attachment and configuration of acoustical tracking tags to hatchling turtles so that in turn, scientists will be able to obtain better and clearer understanding of the behavior of leatherback turtles emerging into the sea from beaches in various countries where this species still nests.
- *On-site research by our own scientists:* Our Veterinarian and our Chief Research Officer conduct various studies on our turtles and their eggs, and in some cases those studies are developed into full scientific papers which are offered to scientific journals for peer-reviewed publication thereby expanding the body of knowledge available to the world.

²⁷ "Scientific Papers." *Cayman Turtle Centre*. Cayman Turtle Centre, n.d. Web. 1 Jan. 2017. <<https://www.turtle.ky/research-conservation/scientific-paper/>>.

- *Collaborative research with various institutions:* During this year in particular, in addition to various liaisons with other institutions the Company conducted a lot of research work and collaboration with the University of Georgia as mentioned on p.57 and p.25.
- *Education and Training of other sea turtle experts and other students on-site:* The Company's scientific team trains sea turtle experts, other biologists, and a large number of other students in the science and techniques of sea turtle care and husbandry. Thus through our various channels of knowledge transfer we are able to provide invaluable and effective assistance to the conservation and management of various sea turtle species, not just green sea turtles.
 - Each year the Company collaborates with the St. Matthew's University School of Veterinary Medicine which offers **the MarVet program**²⁸ teaching marine animal health and conservation medicine. Our collaboration enables graduate veterinarians to be given closely supervised practical instruction in how to safely and effectively handle, examine and treat marine species including these unique opportunities with live sea turtles.
 - We host **scientific interns**, typically for periods of six months to a year. During the past financial year we had two graduate scientific interns working in our team, one from the USA and another from the Cayman Islands. By doing so they were engaged full-time in scientific projects that expanded their understanding of turtles at their various life stages, while enabling them to progress in their academic and career development pursuits.
 - We also train **biologists** from other nations that come to us to learn about various aspects in which we have developed expertise that is unique. For example, three of the leading biologists within the national authority of a Caribbean island nation in which leatherback turtle nesting is occurring, were on our site for two weeks being trained in the methods, techniques and key success factors to safely translocate turtle eggs when it is necessary to do such interventions for various reasons.
 - Our Curator – Terrestrial Animal Programs & Education provides **age-appropriate lectures, demonstrations, and other forms of education to the full range of ages of students** from pre-school to university and post-graduate level, primarily on our turtles but also on our other types of wildlife. Each year we reach over 2,500 students through these programs, thereby spreading the message of conservation and stimulating the desire for these students to pursue further learning and research on these important topics.
 - In addition, every guest on our tours hears as part of the narration, messages encouraging them toward greater awareness and actions beneficial to conservation of turtles and other wildlife.
 - **Releasing head-started captive-bred turtles**

Cayman Turtle Centre (and its predecessor companies) has placed more than 31,000 endangered green sea turtles into the wild since its 1968 founding. Some of those numbers were hatchlings and others were yearlings. During the 2012-2013 financial year, a total of 163

²⁸ Miller, Tom. "Veterinary School MARVET." St. Matthew's University, Grand Cayman, n.d. Web. 29 Sept. 2016. <<https://www.stmatthews.edu/veterinary-school-marvet>> and Marvet's Workshops. MARVET Marine Veterinary Medicine, n.d. Web. 01 Jan. 2017. <<http://www.marvet.org/workshops/focus/33>>.

turtles were released into the wild, and quarantine facilities were expanded to enable a greater number of turtles to be quarantined and released annually.

Quarantine protocols have been expanded to include laboratory testing to confirm that turtles to be released do not have abnormality that would pose a risk of introducing diseases to the wild population. This testing required establishment of relationships and protocols with a laboratory overseas that has the equipment and competence to conduct these tests reliably. In 2013 the Company suspended the turtle release programme until such time as those arrangements were put in place, functioning and yielding positive results. In light of the Company's self-imposed suspension of the turtle release programme, there were no turtle releases from 2013 through to the beginning of 2016. Such arrangements however are now in place with a laboratory at the University of Georgia. Through developing expanded pre-release evaluation protocols and a more thorough understanding of the diseases that occur in wild turtles, on 2016-May-15 the Company has recommenced its head-started turtle release program which has been proven to make major contributions to the populations of sea turtles around the Cayman Islands.

After reaching maturity, which in the wild takes 20 years or more, nesting females seek to lay their eggs on the same beach - or as close as they can come - from which they originally left to enter the sea. Green sea turtle females that had been released from Cayman Turtle Centre decades ago, have now begun to nest on the island's beaches. There was a period during the 1980's when Cayman Turtle Centre's predecessor company marked each released hatchling with a "living tag" grafted from its plastron (the cream-coloured underside of the turtle body) onto its carapace (the dark-coloured shell on its back) that resulted in a light-coloured spot in a particular position on the carapace as it continued to develop and mature. The scientific study of this return of these marked turtles was first published in 2005.²⁹ Because trained spotters do not see all the nesting females, however, it is uncertain how many of the nests are from turtles that started life at Cayman Turtle Centre. It is perfectly reasonable, though, to assume that as more of the turtles that were released years ago eventually reach nesting age, many more will eventually return to Cayman waters to breed and to nest on Cayman's beaches. Furthermore, the research revealed clear evidence that the head-started turtles we have released from our captive-breeding program at Cayman Turtle Centre have contributed to the sea turtle populations in Cuba, Nicaragua, Honduras, USA, Belize, Panama, Mexico, and Venezuela.³⁰

Data from the Cayman Islands Department of Environment starting from as far back as 1998 show that over the past decade there has been an upward trend in the number of sea turtles nesting in Grand Cayman, with the greatest numbers typically being in Green sea turtle nests. Given that other factors that would have influenced the re-establishment of breeding populations of green sea turtles in Grand Cayman are also present in Little Cayman and Cayman Brac, the following graph in Figure 7 provides clear evidence of the positive impact and effectiveness of head-starting programs in restoring populations of sea turtles.

²⁹ Bell, Catherine D.I., Joe Parsons, Timothy Austin J., Annette Broderick C., Gina Ebanks-Petrie, and Brendan Godley J. "Some of Them Came Home: The Cayman Turtle Farm Headstarting Project for the Green Turtle *Chelonia Mydas*." *Oryx* 39.02 (2005): 137-48. Web.

³⁰ Ibid., pp140-141.

This data refutes historical ill-informed assumptions or misinterpretations amongst certain entities in the international community of turtle conservationists that assert that headstarting is “an inappropriate conservation technique for marine turtles”.³¹ In the Cayman Islands we now have the benefit of decades of real-world experience and clear evidence that reveals the truth about the positive results of these programs over the longer term.

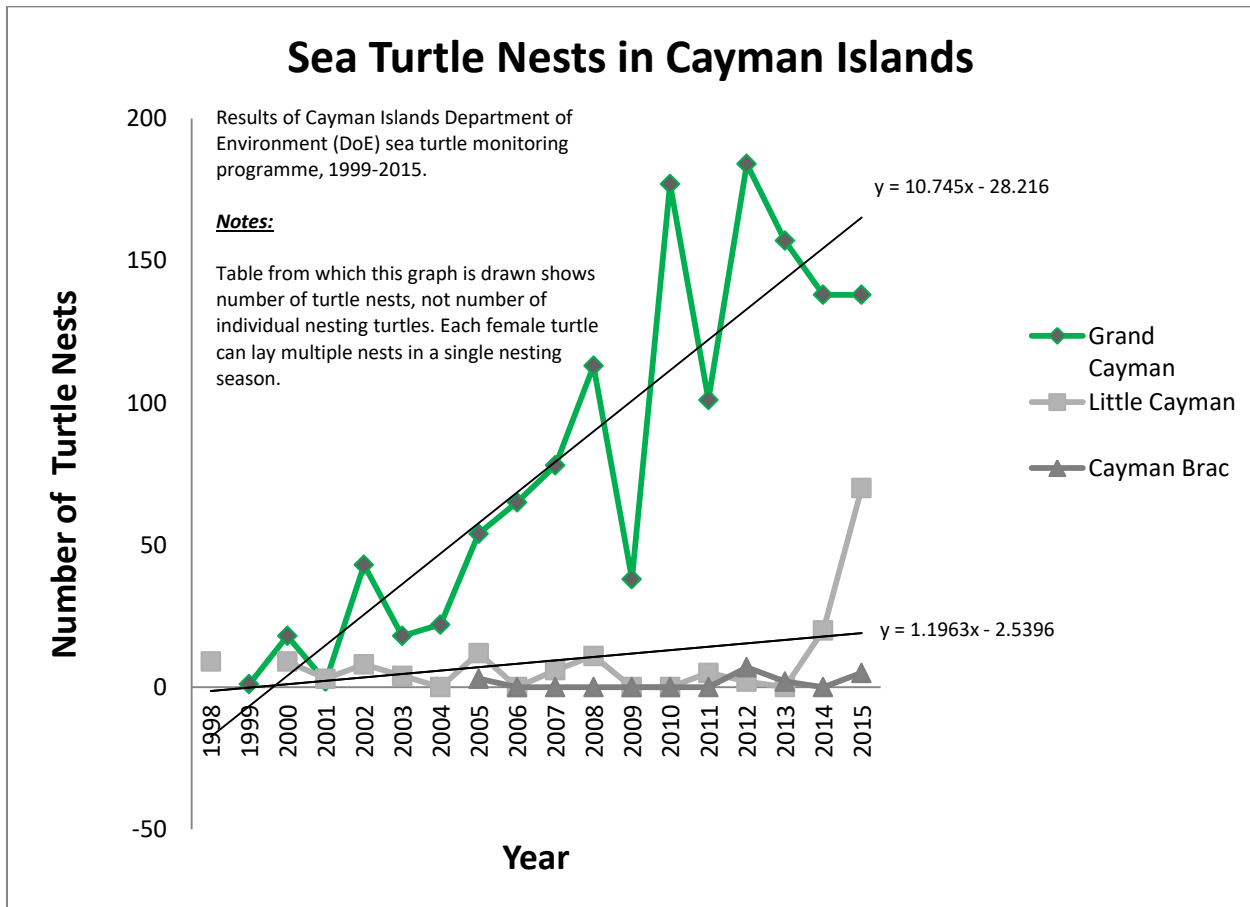


Figure 7 Number of Green Sea Turtle Nests each year – Cayman Islands³²

³¹ For one such example of unhelpful anachronism, see the notes on Kemp’s Ridley turtles, on the webpage: Florida Fish and Wildlife Conservation Commission (FWC). *Species of Sea Turtles Found in Florida*. State of Florida, n.d. Web. 29 Sept. 2016. <<http://www.myfwc.com/research/wildlife/sea-turtles/florida/species/>>.

³² Access to this data is provided in accordance with the terms of the Freedom of Information Law. Data ownership remains with DoE and data should be used and acknowledged accordingly.

The numbers of turtle nests of each of the species recorded in each of the Cayman Islands each year are shown in the graphs below.

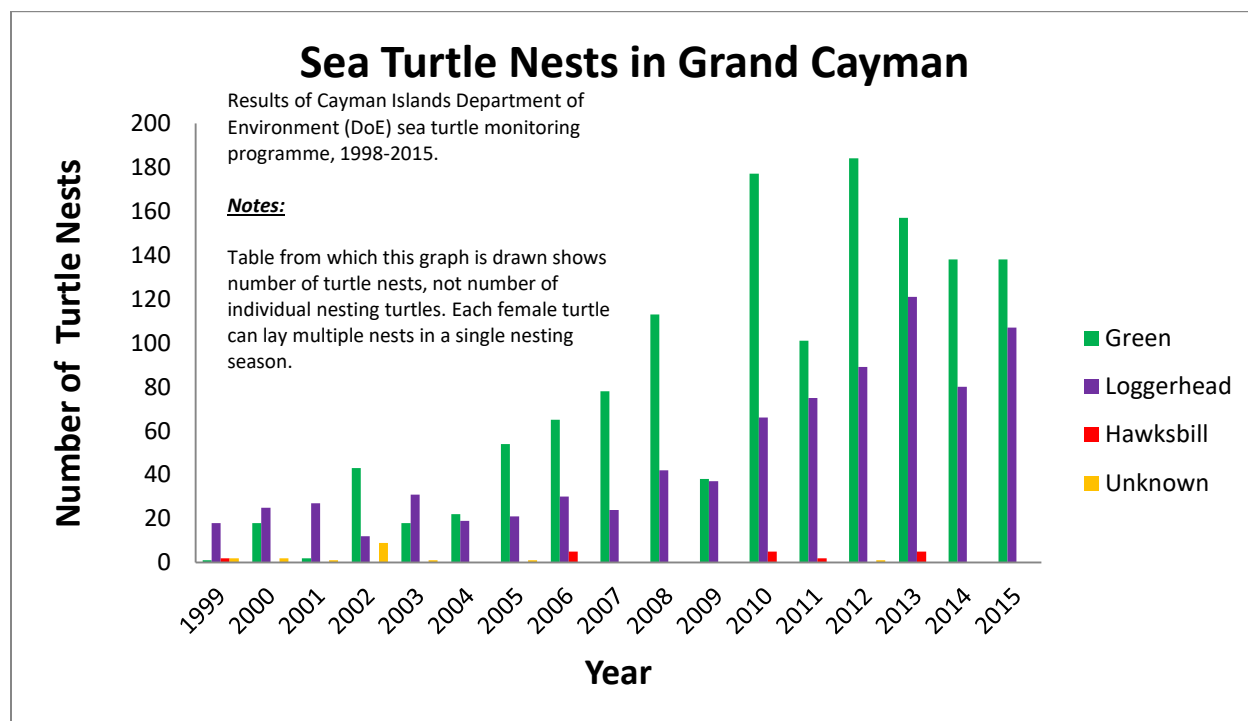


Figure 8 Number of Turtle Nests each year – Grand Cayman³²

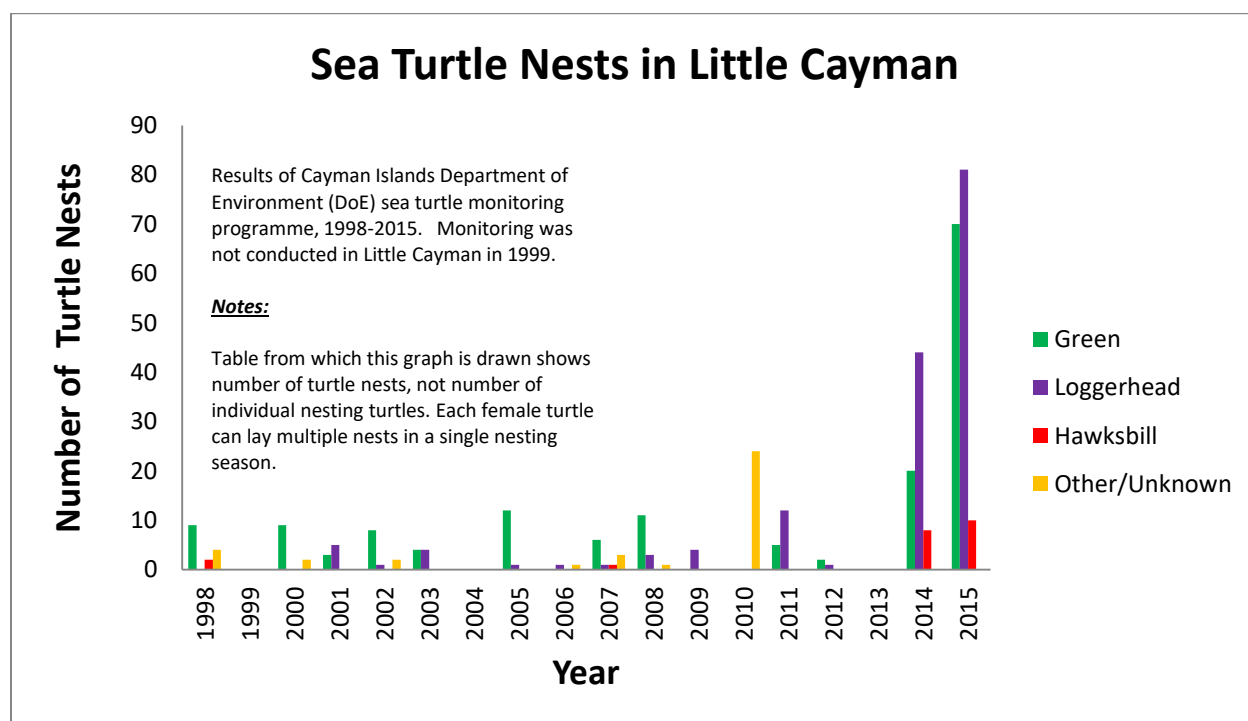


Figure 9 Number of Turtle Nests each year – Little Cayman³²

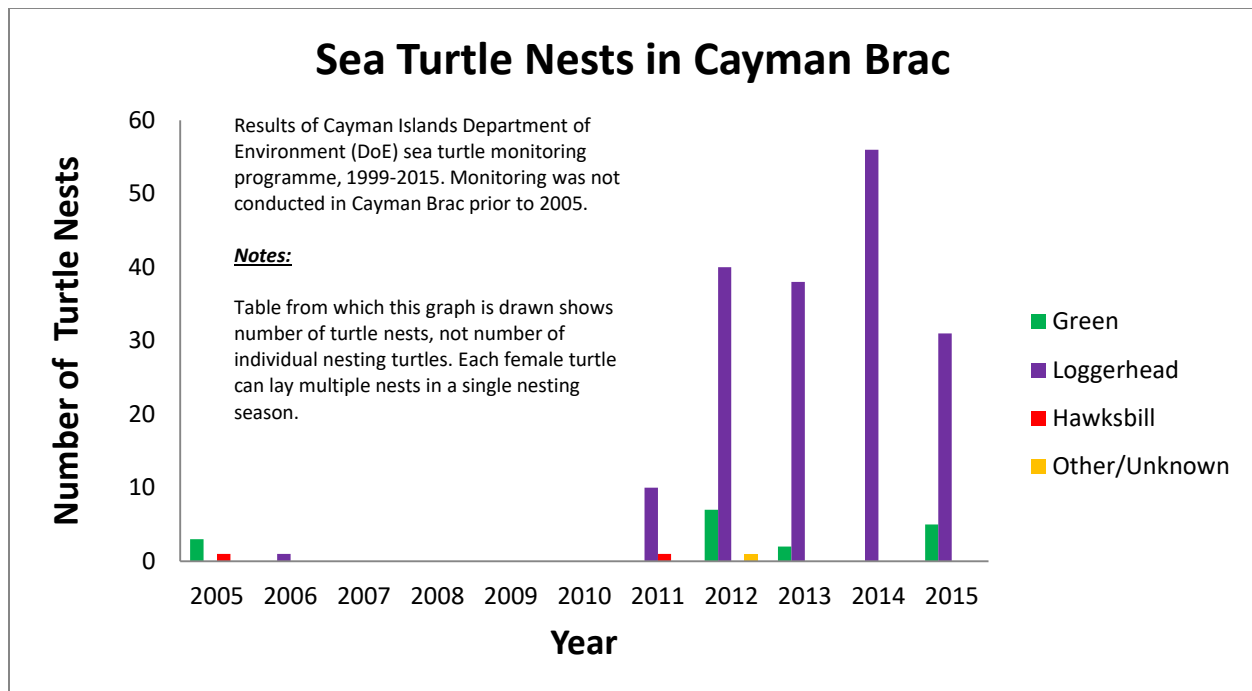


Figure 10 Number of Turtle Nests each year –Cayman Brac³²

During the 2013 nesting season in Grand Cayman, Department of Environment spotters saw seven (7) newly identified living-tagged turtles (in addition to those previously identified as returning to nest) that had been released from CTF in the 1980's.

The Cayman Islands Department of Environment has earlier this year concluded two years of data collection for "Output 2" of a research project³³ funded by the Darwin Plus initiative of the UK, of which one of the primary aims is to evaluate by DNA analysis and other evidence the extent that turtles released from Cayman Turtle Centre have contributed to the current wild turtle population around the Cayman Islands.

The results of "Output 1" of the project, relating to the socioeconomics of turtle meat consumption, have already been published on the web²⁶ and presented in the Cayman Islands. The results of "Output 2" of this multi-year project³⁴, relating to the wild turtle population and the contribution of the Company's captive-bred turtle releases, are expected to be published shortly however the results of "Output 2" of the project have not yet been made available to the Company at the date this Annual Report was prepared.

The **remarkable difference in the trendlines for sea turtle nests in Grand Cayman compared with Little Cayman** reveals that there must have been some very different factor enabling the much more rapid nest number increase in Grand Cayman³⁵, in turn revealing a much higher

³³ Official documentation of this project taken from the *Darwin Plus: Overseas Territories Environment and Climate Fund - Annual Report*: Project Ref Number: DPLUS019. Project Title: *Socioeconomic aspects of turtle conservation in the Cayman Islands*. Contract Holder Institution: Cayman Islands Department of Environment (DoE). Partner Institutions: University of Exeter. {Note: The Annual Report for this project also lists University of Barcelona as being involved especially in respect of the elements identified in "Output 2".}

³⁴ Blumenthal, Janice, Ana Nuno, Gina Ebanks-Petrie, Timothy Austin, Brendan Godley, and Annette Broderick. *DPLUS019. Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report*. N.p., n.d. Web. 1 Jan. 2017. <<http://www.darwininitiative.org.uk/documents/DPLUS019/23485/DPLUS019%20AR1%20-%20Edited.pdf>>.

³⁵ The trendline formulae reveal an average increase of approximately 10.7 nests per annum in Grand Cayman compared against the average increase in Little Cayman being less than 1.2 per annum.

growth rate in the numbers of the adult Green turtle population for Grand Cayman. **One major difference is that our Company's turtle releases over the years to date have all been from beaches in Grand Cayman.**

Even from as far back as 2005 however, there has been clear evidence produced by peer-reviewed scientific researchers proving that Cayman Turtle Centre's releases of head-started captive-bred turtles has a definite positive effect on sea turtle populations around the Cayman Islands, Cuba, and several other countries across the wider Caribbean region.³⁶ Therefore the evidence of DoE's turtle nest monitoring from 1998 onward to date, as summarized in the graphs of sea turtle nesting data in the Cayman Islands, reinforce the clear evidence that those researchers had previously found and presented in 2005 that the turtles Cayman Turtle Centre and its predecessors released over the years not only adapt to survive and thrive in the wild, but the nesting data also support the cited research showing that those released turtles are making significant contributions to the turtle populations around Grand Cayman.

○ **Captive-bred Turtle Egg Translocations**

Given the huge success in increasing the number of green sea turtle eggs that we are now able to produce annually in our captive breeding program at Cayman Turtle Centre, commencing in **2016-Jun the Company launched its first-ever program of translocating our captive-bred turtle eggs to hatch out onto wild beaches.** We do this in collaboration with tourist accommodation properties in order to fully involve visitors in the ecotourism oriented conservation of sea turtle populations in the wild.

"Turtle Tourism" has been successfully developed in other countries including some other tourist destinations within the Caribbean region, so CTC has now achieved the position to enable the Cayman Islands to emerge as an innovative leader in this important sub-sector³⁷ of the eco-tourism industry.

In our egg translocation "beach nest creation" program:

- We survey the beach areas near tourist accommodation properties to determine which are amenable for sea turtle nests, and which are likely to remain suitable for sea turtle nesting for decades ahead so that when the hatchlings grow into breeding adults, they will be returning to beaches where the females will be able to successfully lay their eggs.
- We want to ensure that this program is beneficial to all concerned.
- We meet to discuss the program in advance with the tourist accommodation management to confirm that they will welcome the project, that they will assist with relevant facilities to enable the project to work smoothly and safely, and that they will spread the word to their guests so that we will be able to use the opportunity to spread the sea turtle conservation messages while engaging the guests in watching the nests and also assisting on the night of the hatchlings emerging on top of the sand and making their way into the sea.
- We select a clutch from one of our known reliable female breeders that are laying eggs on the beach at our Breeding Pond. We randomly divide the selected clutch in two containers

³⁶ Bell, Catherine D.I., Joe Parsons, Timothy J. Austin, Annette C. Broderick, Gina Ebanks-Petrie, and Brendan J. Godley. "Some of Them Came Home: The Cayman Turtle Farm Headstarting Project for the Green Turtle *Chelonia Mydas*." *Oryx* 39.02 (2005): 137-48. Web.

³⁷ "Why Sea Turtle Eco-Tourism." WIDECAST - Wider Caribbean Sea Turtle Conservation Network, n.d. Web. 29 Sept. 2016. <<http://www.widecast.org/TurtleWatch/Why.html>>.

immediately after the clutch is laid and the retrieved eggs are moved into our Hatchery from our beach.

- We incubate the eggs in our Hatchery until at least day 50 after the date they were laid.
- Between day 50 and day 55, we dig a nest on the wild beach to the same depth and position above high tide that emulates a natural nest within the physical parameters that a female green sea turtle breeder would have followed in the wild.
- By monitoring the Control group in our hatchery, we can make good estimations as to the emergence date on the wild beach. When we estimate the emergence date is approximately three days out, we start all-night nest watches with trained spotters (typically our Lifeguards or in some cases interns) who are given special instruction and equipment for these tasks.
- Typically on the early evening of the night that the hatchlings are going to emerge, from one to as many as half a dozen of the hatchlings will raise the tips of their heads above the sand surface to peek while they wait for their chosen time to emerge. They sometimes remain in that position for hours, until the moment when as an entire group of siblings they initiate their climb-out from the sand and their rapid walk down the beach and into the sea. Once they begin that activity, typically all of the hatchlings that emerge will do so within just a few minutes of each other.
- Once the hatchlings make it to the water and imprint on the beach, once they have done all that they would have imprinted the various markers so as to have stored the various parameters in their memory to come back to the same beach area as breeding adults, we carefully catch up to half of them in a net and collect them to transport them back to our rearing tanks. We then raise those up to become head-started yearlings, so that in 12 months' time after their emergence on the beach we will take them back to the same beach in front of the same tourist accommodation property to be released into the wild with a much higher chance of survival than their siblings who began their swim as tiny hatchlings on the night they emerged from their nest.
- These events have proven immensely popular with eco-tourists, as well as with some residents, who become aware of the program when they spot the infrastructure we place on the beach to help protect the nest and to help ensure that the hatchlings make it safely to water when they eventually emerge.
- We use the infrastructure to place interpretive signage which informs the public about various aspects of sea turtles, their nests, important rules for persons observing the emergence event, and key actions that members of the public can take to help turtle conservation not only in Cayman but in coastal regions around the world Collaborative Research Projects

The turtle release programs and the egg translocation projects are important parts of our company's contribution to conservation, however our positive impact extends even further beyond that.

Another very important contribution has been Cayman Turtle Centre's research efforts, producing approximately 150 scientific papers that have been published or presented since

1968. These papers have surveyed a range of topics regarding the care, husbandry and life of sea turtles. Links to acquire those papers are provided on our website³⁸.

During the previous financial year a study in collaboration with a US university was concluded and accepted for publication³⁹. Toward the end of the fiscal year 2014-2015, a Purdue University Graduate student began a 6-month research program at the Cayman Turtle Centre collecting data in support of her Master's thesis. She investigated the effects of temperature and sand water content on hatching success and hatchling fitness of Green Sea turtles and has since completed her thesis.

In addition, Cayman Turtle Centre collaborated closely with researchers with the Department of Environment on two Darwin Plus research projects funded by the UK's Department of Environment, Food and Rural Affairs, one of which focuses on the socio-economics of the local supply and demand for turtle meat in the Cayman Islands, and the other aims to quantify the extent of the contribution to the wild Green Sea turtle population around Cayman from turtles that Cayman Turtle Centre released in prior years.

During the financial year a research paper was submitted for peer review, another paper is in preparation, and another was presented at a conference. Once these are published their titles will be posted on our website together with the other scientific papers²⁷.

○ ***Education on nature and conservation***

A key part of Cayman Turtle Centre's remit is education and research on sea turtles and other island wildlife. Our Educational Programmes take place year-round catering to schools, vacation camps, as well as other local and overseas visiting groups. Educational visitations peak in the spring and lead-up to summer vacation.

Each year, Cayman Turtle Centre hosts over 2,500 school students ranging from pre-school to university level, from both local and overseas educational institutions. Educational tours are usually led by our Curator – Terrestrial Animal Programs & Education Mr. Geddes Hislop.

In the year ended 30th June 2016, more than 2,765 school children and their teachers/chaperones visited the park for education and recreation. Over 2130 visited between 1st January 2016 and 30th June 2016, and approximately 1,411 of those partook in CTC's annual End of Term special promotion offered to schools during the month of June 2016. Also during the 2015/2016 school year, three senior high school student interns gained work experience with Marine & Terrestrial departments four (4) days a week under Cayman Turtle Centre's annual Work Experience partnership programme with CIFEC.

○ ***Egg Production and Hatch rates***

The percentage hatch rate of the turtle eggs, and the egg production rate per 100 female breeders, had been gradually declining such that by around 2007-2008 there were roughly 8 thousand turtle eggs laid at Cayman Turtle Centre each season. Research in recent years indicated the most likely reasons were related to nutritional factors of the breeders. After

³⁸ Ref: <http://www.turtle.ky/scientific-paper>

³⁹ Bjorndal, K. A., Parsons, J., Mustin, W.G., and Bolten, A. B. *Variation in age and size at sexual maturity in Kemp's ridley sea turtles*. Endangered Species Research, Ms. No. 201402008 (2014).

Careful study of previous scientific papers on green sea turtle nutrition, additional work by an interning newly graduated veterinarian in 2010, and detailed research by our Chief Research Officer, a new feed formula for the breeders and new food handling procedures were developed.

By the end of the 2015 nesting season, over 106 different breeding female turtles at Cayman Turtle Centre had laid 38,493 eggs in 476 nests on our beach. The eggs were collected by our trained staff and transferred to our hatchery to be incubated in a controlled environment.

As we approach the end of the 2016 nesting season, counting the new hatchlings Cayman Turtle Centre presently has a herd of over 10,000 turtles.

- Hypothetical Analysis: Conservation Effect of Turtle Meat Production**

<u>Source</u>	<u>Item</u>	
Turtles processed for meat	<i>Annual Demand for Turtle Meat: (No. of 4-5y/o Captive-Bred Turtles Processed)</i>	1,182
CTP standard procedures	<i>Typical live weight of each Captive-Bred Turtle processed: (lbs)</i>	100
(Anecdotal estimate)	<i>Average live weight of adult Green Turtle poached: (lbs)</i>	250
	<i>Equivalent if poached to meet 100% of current demand: (No. of wild adult Green Turtles that would be poached per annum to meet 100% of current demand)</i>	473
DoE Darwin Plus "... Turtle Meat Consumption" project summary (p.31)	<i>"X" = Share of current "legal" turtle meat consumers who would consume illegal meat if farmed meat were not available: (%)</i>	46.8%
	<i>Annual average of wild adult Green Turtles that would be poached to satisfy "X": (No. of wild adult Green Turtles p.a.)</i>	221
	<i>Monthly average of wild adult Green Turtles that would be poached to satisfy "X": (No. of wild adult Green Turtles poached per month)</i>	18
DoE nest count data	<i>Total No. of wild Green Turtle nests p.a. average last decade: (No. of Green nests all three Cayman Is.)</i>	132
	<i>Estimate typical average No. of wild Green Turtle nests per female adult breeder per annum: (No.)</i>	5
	<i>Estimate No. of wild Green Turtle adult breeding females in all three Cayman Is. in avg. season: (No.)</i>	26
	<i>Nominal (non-scientific – for illustrative purposes only!)⁴⁰ assumption/estimate of ratio of wild Green Turtle adult breeding males : females in all three Cayman Is. in avg. season: (No.)</i>	1
	<i>Estimated No. of adult breeding Green Turtles in all three Cayman Is. in avg. season: (No.)</i>	53
In the counterfactual scenario of no farmed-meat production	<i>Estimated No. of months of poaching at average rate "Y" to remove all wild adult Green turtles: (months)</i>	<u>2.9</u>

Notes:

1. (p.26) "According to respondents' answers to a direct question about buying wild turtle during the 12 months previous to our study, **2%** (05% CI: 0.8 - 4.8) of all resident households bought meat of turtles illegally."
2. (p.28) Only **16.1%** (95% CI: 11.6 - 21.4) of consumers reported preferring wild turtle, with the remaining preferring farmed meat or having a relatively neutral preference."
3. (p.31) **46.8%** (95% CI: 36.4 - 57.5) of consumers self-reported being more likely to be more interested in **purchasing wild turtle in case of a closure of [CTP].**"

⁴⁰ This estimate is very rough and is inserted for illustrative purposes only in regard to calculating the prognosis of what would happen in the counterfactual scenario. Although to the best of our knowledge there has not been an official count made of the sea turtle population around the Cayman Islands during breeding season, this assumed ratio of males:females is likely significantly lower than 1 in reality, in which case there would be even less "Estimated No. of months" to remove all wild adult Green turtles.

APPENDIX 5. CTC's Aviary Captive Breeding & Release Programs

○ **White-Crowned Pigeon breeding and release programme**



At the Cayman Turtle Centre (CTC), the Caribbean Aviary is one of the feature visitor attractions at the park, as well as the center for CTC's White-crowned Pigeon captive breeding and release project. This is one of three such conservation programmes ongoing at CTC, the others being the Green Turtle release and the more recent Grand Cayman Parrot release projects.

The White-crowned Pigeon ("WCP") was the first species selected for the Aviary's release programme because:

- 1) It is better to augment an existing population before the density becomes too low and cannot sustain itself;
- 2) WCPs readily breed on their own in the semi-natural environment of the Aviary;
- 3) At the start of the programme in 2008, the species was still undergoing the stress of recovering from the devastating effects of Hurricane Ivan in September 2004, both in terms of numbers of birds lost as well as loss of breeding/ feeding habitat. Also, being a designated Game Bird under the Animals Law, there was the added pressure of hunting and human disturbance;
- 4) The WCP, locally known as the Bald-Pate, is a familiar, iconic species and therefore relatively easy to endear and relate to the public.

Aviary-bred WCP chicks are banded with closed colour-coded metal leg bands while still two to three-week old nestlings. Once they are fully fledged (at least six to nine months old) a number of juvenile WCPs are selected from the Aviary flock for release to the wild. The birds are weighed and undergo veterinary physical assessments to qualify them for release. They are then treated for any medical issues and relocated to a separate enclosure to isolate them from the Aviary flock.

The isolation period can last from four to eight weeks, and during this time daily visual assessments along with occasional random weights are carried out to monitor the progress and health of the release flock. The isolation helps reduce the pigeons' captive-bred habituation to humans and is also an opportunity to transition the birds to a diet of native wild berries prior to their release. Some may argue that even captive-bred WCPs will still select their wild diet either from instinct or by following wild pigeons, but the feed transition process gives the captive birds a "head start", not only by teaching them to recognize their wild browse, but also by getting their digestive system accustomed to processing a much higher fibre diet than the soft commercial feed pellets they have been raised on.

Feed transition begins by offering wild berries such as Silver Thatch or Sea Grape. Initially a numbered amount of loose berries are placed in the feed bowls together with the commercial feed pellets and daily visual assessments of wild diet consumption are carried out at each feeding. Feed transition then moves on to forage recognition by offering various wild fruit on leafy branches, while the amount of pellet feed is systematically reduced, but not completely

eliminated. Daily visual assessments continue to be carried out at each feeding, noting when the birds begin to show a definite preference of wild over commercial feed.

Once the feed transition process is deemed successful, the pigeons are released into the wild via an unspectacular soft-release process, whereby the cage door is simply opened and birds exit the cage of their own volition during the course of the day. Supplemental wild diet and water are left on top of the feed cage for as long as release birds are seen in the area. Conditions for release include:

- A final visual assessment is carried out to ensure birds are in good physical condition.
- Random pre-release weights are taken, and birds that have lost more than 10% of their original capture weight are held back from release until there is weight gain.
- There is a ready availability of forage in the environs around the Release site, i.e. trees with ripe fruit.

Post release monitoring is casual. Released birds can be identified via their coloured leg bands, so CTC Animal Programmes personnel can observe and take note of WCP activity in and around the park compound.

From 2008 to 2015, the CTC programme has released 53 healthy and robust young adult captive-bred White-crowned pigeons. In 2010 and 2013 there were no releases due to insufficient captive breeding recruitment for those years. Through casual observation over the period of the release programme we have noted a number of trends:

- Released WCPs can frequent the familiar environs around the Aviary/ Release cage area for up to three weeks before dispersing.
- Released WCPs will sometimes return to the Aviary/ Release cage site during times of stress, such as in the depths of the Dry Season, or when threatened by predators.
- There has been a noticeable increase in the numbers of banded WCPs breeding and feeding in and around the CTC compound, sometimes paired with unbanded (assumed wild-born) pigeons.
- There has also been a noticeable increase in the numbers of (unbanded) juvenile pigeons residing and feeding in and around the CTC compound.
- Resident WCPs at the CTC compound tend to display an unusually high tolerance of human presence.
- Our Animal Programmes experts occasionally receive public reports of sighting banded WCPs in various parts the West Bay district.
- Our Animal Programmes experts have also received several comments from West Bay residents suggesting an increase in the numbers of WCPs seen in that district.

These observations give CTC cause to speculate that WCP numbers are returning to healthy pre-Hurricane Ivan levels. Additionally, the distribution of WCPs on Grand Cayman appears to be more widespread across the island, even nesting in trees within housing developments in the urbanized West Bay peninsula. According to public comment, this is a highly unusual behaviour for this notoriously shy species.

In general, the Cayman Turtle Centre's White-crowned Pigeon Release programme was born out of concern for the plight of an iconic species, which (we believe) has an understated key

role in the island's terrestrial ecosystem. Through the releases, the hope is to help maintain and possibly augment the island's existing WCP population before the density becomes too low and cannot sustain itself.

The White-Crowned Pigeon (WCP) *Patagioenas leucocephala* known locally as "Bald Pate" is an indigenous species distributed throughout the Western Caribbean, the Central American Caribbean coastline and the southern tip of Florida. WCPs normally feed on wild berries and fruits of hardwood trees and mangroves. Birds are usually solitary, but they can form large flocks while foraging for food, especially in the non-breeding season.

The breeding season for this species can extend from late March to early June. Breeding occurs in mangroves and tall, dense woodland areas, usually well away from human disturbance. Clutches consist of one or two chicks, which both parents help to raise. Breeding adults are known to fly long distances from their nest sites in search of seasonal berries to feed their young. In Grand Cayman, it is not unusual to see pigeons flying across the North Sound between West Bay and North Side.

White-Crowned Pigeons are known to be a migratory species. They are strong flyers that can easily cross the distances between islands. Consequently, although they may be indigenous to the Cayman Islands, it would be difficult to say if this species can be considered permanent residents of Grand Cayman. One may even hypothesise that our (Cayman) birds are part of a regional flock that may range as far as Cuba, Jamaica or the Bahamas.

Some of the reasons why White-Crowned Pigeons are important to Cayman's history and future are:

- White-crowned Pigeons are fruit berry eaters, foraging in trees or on the ground after storms. They move around singly and in flocks in search of whatever berries are in season. They digest the soft skin and pulp and defecate the seeds out as they fly around during the day and perch in their roosts at night. Their digestive juices actually soften the hard seed shells and prepare seeds for quick germination.
- They are strong, long distance flyers and will go from island to island in search of whatever berries are in season, always transporting and spreading seeds. White-crowned Pigeons can travel 30 - 40 miles a day to forage for food for their young.
- If in the next thousands of years' time the Earth does really warm, all the sea ice melts, sea levels rise again and Cayman goes back under water and then re-emerges from the sea with the onset of another ice age, then very likely it will be White-crowned Pigeons that will see Cayman from the mountains of Cuba and Hispaniola and will fly across to forage and deposit berry seeds and life will begin again.
- Think about how ancient Amerindian peoples navigated without a compass or GPS. They navigated from the flight lines of birds, and the iconic bird that draws navigation lines in the sky all over our region is the White-crowned Pigeon in the breeding season. These flight lines were of immense value as prehistoric navigation aids.
- White-crowned Pigeons are consumed as game meat in Cayman and many other Caribbean islands. It appears they were always an important food source to native people in our region.

- White-crowned Pigeons are the consummate game bird to Caribbean sports hunters – beautiful and fast with an erratic, defensive flight.
- White crowned Pigeons are a valuable eco-tourism asset - they are a "life bird" for birdwatchers from other countries and regions that love nature and value and collect memories and photographs of our native birds.
- Another eco-system function: White-crowned Pigeons are part of the food chain themselves, becoming prey for predators such as raptors (hawks). However, there is a return, the predators pick out and cull the weak, the slow, the sick and the heavily parasitized birds and so keep White crowned Pigeon populations strong and healthy.

○ **Cayman Parrot breeding and release program**



CTC's Aviary also has also successfully captive-bred the Grand Cayman Parrot, one of our country's two national birds. The parrots breed once a year and produce typically one or two chicks each breeding season. In May 2015, the Aviary's original parrot breeding pair, Sweetpea and Leo, hatched and raised three chicks. This is a rare event in nature and a first for the Cayman Parrot captive breeding programme. The "Triplets", as they are called, will be raised in the semi-natural Aviary environment until they are 9 – 12 months old, at which time they will undergo isolation for desensitisation

from humans and transition to wild feed for eventual wild release. The Triplets' release will bring the total up to 9 captive-bred Cayman Parrots introduced into the wild since the programme began in 2009.

Apart from captive-bred birds, the CTC Aviary has also assisted the Department of Environment with the rehabilitation and repatriation of Grand Cayman parrots that had been injured, poached, or rescued from deplorable captive conditions. In 2015 four of these birds were rehabilitated and returned to the wild, and the initiative has recently been extended to include rescued Cayman Brac parrots, Cayman's other national bird.

Details of other Collaborative Conservation & Research Projects

○ **Rock Iguana rehabilitation in conjunction with Department of the Environment**



In collaboration with a rehabilitation initiative by the Department of the Environment (DoE), we are temporarily accommodating a female Sister Islands Rock Iguana, *Cyclura nubila caymanensis* (otherwise known as the Cayman Rock Iguana/Sister Islands Iguana) - endemic to Cayman Brac & Little Cayman, a "cousin" of Grand Cayman's better known Blue Iguana. It is an endangered species that is highly threatened on Cayman Brac, but more abundant on Little Cayman. However, both populations are considered vulnerable and are both continuously threatened by development, road kills, and

free-roaming cats and dogs. The iguana was found in Grand Cayman and was transferred to the care of the Cayman Turtle Centre due to concerns over its apparently failing health, and the lack of appropriate resources at the DoE to rehabilitate the animal over an extended time period.

While housed at the Cayman Turtle Centre, the iguana has since been rehabilitated and nursed back to prime health. She also underwent DNA analysis to confirm her identity and island origin, which was part of a DNA analysis study carried out by a student at the Mississippi State University under the supervision of Dr Mark Welch, a specialist in *Cyclura* species genetics. Although the student's results indicated that the iguana is a Sister Islands Rock Iguana, a larger DNA analysis of the Sister Islands Rock Iguana is currently underway to see if each island has their own unique population. The DoE recommended in accordance with best practices that the iguana remains with the Cayman Turtle Centre pending the imminent results of the larger genetic analysis and then a final health screening, prior to release.

In the meanwhile, this particular iguana offers an educational opportunity for the benefit of visitors and guests for the benefit of visitors and guests by remaining on display at the Cayman Turtle Centre in the iguana enclosure located adjacent to the park's Caribbean Free-flight Aviary. Cayman Turtle Centre's Curator – Terrestrial Animal Programs & Education, Mr. Geddes Hislop, is working closely with the DoE to ensure that the iguana is appropriately cared for, and also in the development of an education programme centred on this sub-species. Over 2000 local schoolchildren visit the Cayman Turtle Centre each year on educational visits as part of their school curriculum.

- **Recycling**

Our plastic recycling programme was begun at CTC in honour of Earth Month 2014. Specially designated bins have been placed at strategic locations in the park to collect plastic bottles for recycling. On an average day, visitors can consume over 200 bottles of water! Blue recycling bins are also in place for collecting aluminium cans and the park's Schooners restaurant uses biodegradable cups and straws when serving drinks. Many of the offices will reuse office paper that has been printed only on one side for scrap or for informal printing tasks.

- **World Turtle Day participation**

The goal of World Turtle Day, which is observed every year on May 23, is to bring attention to turtle and tortoises, by encouraging human action to help them survive and thrive. Cayman Turtle Centre joined in the world-wide celebration with exciting activities and special observances throughout the day.