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FIELD TRIP REPORT
TORTOLA- WESTERN ISLAND GROUP
May 21 to May 24, 2014

Prepared for the BVI Environmental Profile Programme

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Summary

From May 21st to May 24th, 2014, the Island Resources Foundation team took part in a reconnaissance of a group of islands and cays located to the west of Tortola. The islands surveyed were: Little Thatch, Great Thatch, Great Tobago, and Little Tobago. All are targeted for preparation of natural history characterizations as part of the Tortola Environmental Profile. This Field Trip Report summarizes reconnaissance activities and highlights important findings and issues. The reconnaissance trip was made possible thanks to a donation from John and Jill Maynard (owners of Little Thatch). Others participated in this effort and are listed at the end of this report.

Wednesday May 21, 2014 – Little Thatch Island

The IRF field team arrived at Little Thatch Cay in early morning. After a short orientation meeting with Katy Morley, the island's resident manager, the team proceeded to survey the island following existing trails, pathways, and cross-country transects. Additionally, the entire perimeter of the island was walked.

For its size, Little Thatch (55 acres) offers very scenic views of its own surroundings and nearby cays plus an equally impressive display of flora and fauna. The island barely1 km long and 300 m wide is formed of volcanic rock and has a highest elevation of 86 m. Most of the island's shoreline is rocky with narrow gravelly beaches except for the western north tip which greets visitors with a pristine coralline sandy beach (Photo 1).

At least 5 species of cacti, 3 species of mangroves, a few orchids, and many other rare species of plants were noted. See Table 1 for plant species of special concern.

Photo 1.
The pristine sandy beach at the far west end of Little Thatch offers idyllic views. In the foreground is Great Thatch and beyond is Jost Van Dyke.

An important observation was the high occurrence of the rare Tree Prickly Pear cactus (*Opuntia rubescens*). During more than two decades of field studies in the Eastern Caribbean, this is the first time such concentrations were observed by the IRF researchers in such a relatively small area. The team recorded a total of 25 specimens at 17 locations. Many were young seedlings which is a sign of healthy regeneration. All observed specimens were recorded by GPS. To date, Little Thatch Cay is perhaps the island with the highest density of Tree Prickly Pear cactus in the BVI (see Photo 2 of flowering Tree Prickly Pear). Other cacti species observed are listed in Table 1.

Little Thatch also offers very interesting fauna, although observations are less complete due to the fact that species are constantly on the move, daily and seasonally, and many are unlikely to cross investigators' paths during a brief visit. Nevertheless, a few important species, such as the rare Rock Iguana (*Cyclura pinguis*), Red-footed Tortoise (*Chelonoidis carbonaria*), Porto Rican Racer (*Alsophis portoricensis*) and many species of lizards, were observed. Bird species recorded are listed in Table 2.

Of the four islands visited, Little Thatch is by far the best managed and least detrimentally impacted, although it is also the only developed of the four. This is primarily due to the absence of goats and a well-structured rat control program that has been implemented in the early 2000s. The absence of mongoose also contributes to the preservation of species and habitats.

Photo 2.
Flowering Tree Prickly Pear cactus.

Friday May 23, 2014 – Great Thatch Island

The IRF team travelled to Great Thatch on Friday morning with a return pick-up scheduled later that afternoon. Transportation to and from the island was provided by Katy Morley and Orano Andrews from Little Thatch. The team was dropped along the south shore beach just to the west of Callwood Point. The calm waters made for a routine landing.

Due to its size (306 acres) and the limited amount of time available, reconnaissance focused on the salt pond and its surroundings. Since there are no developed trails on the island, hiking was mainly along the shoreline, cliff edges, and cross-country through thicket scrub vegetation. The area covered extended from the drop-off point eastward, traversing Callwood Point, and terminating at the only salt pond of the island (Photo 3). Beaches south and north of the salt pond were surveyed as well as the hillsides to the east and west. A small amount of time was spent at the ruins on the east side of the pond. The upper slopes west of the salt pond were examined up to approximately a 300-foot elevation.

Photo 3.
The only salt pond of on Great Thatch is extensive and frequently an attraction for waterfowl.

Presumably, the island was named for its abundance of tall thatch trees that can be seeing from a distance (Photo 4). The only significant flat and low-lying area is located between the two main ridges, now the site of the only salt pond. At one point in the distance past, Great Thatch was actually two islands, and as post-glacial sea levels fluctuated, beach berms, beach dunes, and a salt pond complex were formed, thereby linking the two as one island.

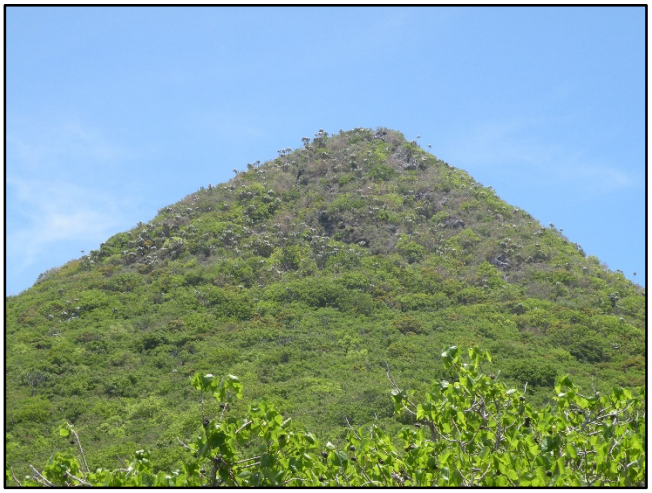

Photo 4.
A great number of Thatch Palms cover the highest peak of Great Thatch Island.

Great Thatch, despite its size and diverse landscape, has a declining floral and faunal diversity due to the presence of goats and, reportedly, the small Indian Mongoose (*Herpestes javanicus*). The impact of goats seems to be everywhere especially under forest cover as evidenced by sparse ground vegetation and exposed soils prone to erosion (Photo 5). This is most evident along steep slopes both inland and along the coastline. Deteriorating ground

Photo 5.
Inland, below tree cover, we see mostly bare ground devoid of vegetation due to the presence of goats. Exposed ground conditions contribute to significant soil erosion especially along steep slopes as shown above.

Photo 6.
The rare Woolly-Nipple cactus in the foreground (yellow–orange) along with a few Turk's Cap cactus (green), on Great Thatch Island, May 2014.

vegetation cover has an obvious impact on fauna as evidenced by the low reptilian species observed. The Ground Lizard (*Ameiva exsul*) was not observed during the survey, which is highly unusual for an island this size.

Notwithstanding the ravages of goats, the team encountered a number of plant species of special concern, namely the rare Woolly-Nipple cactus (*Mammillaria nivosa*) (Photo 6) and Bulldog shrub (*Malphighia woodburyana*). The team encountered at least four separate areas of *Mammilllaria nivosa* — the largest containing 11 patches (colonies) and half a dozen individuals. A significant expanse of *Malphighia woodburyana* was encountered in a least seven locations. Tree Prickly Pear cactus (*Opuntia rubescens*) was recorded at 16 locations. GPS coordinates were taken for each site.

As noted, ground wildlife was rather scarce. Lizards were seldom seen in areas investigated. The Dwarf Gecko (*Sphaerodactylus macrolepsis*) was observed, but their population seemed low. The limited leaf litter as a result of erosion cause by goats is likely a contributing factor. Two anoles (*A. stratulus* and *A. cristatellus*) were observed, though in relatively low numbers. Table 2 provides bird species recorded during the visit.

Saturday May 24, 2014 – Great Tobago Island

On this day the IRF team was joined by two volunteers, Clive and Daniel Petrovic, who also provided boat transportation. Travel time was substantial due to the islands' distance from Road

Photo 7.
A view of Camp Bay with our boat tied to a mooring. Looking offshore is Watson Rock and Little Tobago. A few cactus species cling to the cliff edge. They include the Pipe-organ cactus and the rare Woolly-Nipple cactus.

Town and a fuelling-up stop at Nanny Cay. Landing at Great Tobago was in late morning in a sheltered cove along the west side of the island (Camp Bay). Because the boat was not designed to beach, getting wet was unavoidable. The team waded hip-deep carrying equipment over their shoulders. Fortunately, calm seas made it feasible. A view of Camp Bay and its surroundings is shown in Photo 7.

On first impression, the island appears very dry with a vegetative cover dominated by mixed dry shrub species that include thorny scrub, cactus, and other succulents with xeromorphic characteristics. Most of the vegetation height is below two meters especially in dry, steep, wind-exposed areas. Investigations focused mainly on slopes surrounding the cove (Camp Bay) up to the ridge line (at about 475 ft in elevation). From that vantage, the team had a good perspective on both east- and west-facing sides of the island.

Some of the major highpoints of the day included observation of the evident hybridization of two cacti species: the Prickly Pear cactus (*Opuntia dillenii*) and the Jumping cactus or sucker (*Opuntia repens*). The hybrid specimen (*Opuntia dillenii x repens*) was seen at many different locations, which were GPS recorded. Both Opuntia species and the hybrid were in inflorescence stage (flowering), or recently flowered, which greatly helped in the confirmation process (see Photos 8 and 9). The offspring hybrid exhibited very similar physiognomic characteristics to the two parent species. Its size evidently ranged between the sizes of the two parent species. Flower petals were also distinguishable between both parent species.

Plowing through the cacti and thorny scrub landscape was at times brutal as there were no trails, therefore no means to avoid cacti, particularly the omnipresent jumping cactus. The island displayed low floral diversity for its size, elevation, and slope aspects. This is primarily due the presence of introduced goats and rats. Even at low population counts, goats can cause significant damage through time, especially under these dry conditions and steep slopes.

A pleasant surprise was the occurrence of a few patches of woolly-nipple cactus gripping the steep rock cliffs (Photo 7). The tree cactus is also present although few seedlings were encountered. Terrestrial fauna was limited to a few species of reptiles. Great Tobago hosts one of the largest the Frigate bird colonies in the Eastern Caribbean. Unfortunately, the IRF team lacked time to view the colony up close. Also observed were Brown Pelicans, Brown Boobies and Red Billed Tropic Birds (see Table 2).

Photo 8.
The flowering Jumping Cactus (*Opuntia repens*) is the most common cactus on Great Tobago.

Photo 9.
The Prickly Pear cactus (*Opuntia dillenii*) is much less common. This specimen has recently flowered.

Photo 10.
This hybrid *Opuntia dillenii* x *repens* is the offspring of the above two species *Opuntia repens* and *Opuntia dillenii*.

Photo 11. Remnants of U-shaped stone fence structure near ridge top.

Great Tobago (210 acres) is uninhabited and has no human structures. IRF researchers however did observe a U-shaped stone structure along the ridgeline. For now, the team interpreted the ruin as an old stone fence that at one time possibly served as an enclosure for livestock (Photo 11).

Saturday May 24, 2014 – Little Tobago Island

The IRF team departed Great Tobago in mid-afternoon, circumnavigating Watson Rock on the way to Little Tobago. This impressive steep-sided rock, which is a few kilometers to the southwest of Little Tobago, serves as a sanctuary for a great number of sea birds (Photo 12). A rough count estimated at least 150 + Brown Noddys, 12 + Bridled Terns, 20 + Roseate Terns and 40 + Brown Boobies present on the day of the IRF visit. Watson Rock, barely 2 acres in size, is part of the Tobagos National Park.

Unlike Great Tobago, Little Tobago does not have an embayment or sheltered cove for a comfortable landing with the type of boat the team was using. Increasing sea swell as the day wore on was also a factor. For these reasons, it was decided to do a boat reconnaissance around the island taking photos and making notes.

A great number of sea birds and even terrestrial birds use the island (see Table 2). The island is fringed by steep coastal cliffs with jagged ledges that allow opportunity for roosting and nesting bird colonies (Photo 13).

Vegetation characteristics and cover, although somewhat similar to Great Tobago, are sparser due to the island's size, height and greater exposure to inclement weather. Also, Little Tobago visibly suffers from the presence of goats. Many goats were observed roaming along the coastal cliffs, and in many areas the team noted that the goats have caused erosion and vegetation loss. From the team's vantage point, the following were observed: a few species of cactus including the Tree Prickly Pear cactus (*Opuntia rubescens*), Prickly Pear cactus (*Opuntia dillenii*), Turk's Cap cactus (*Melocactus intortus*), and large specimens of what is possibly *Opuntia elatior*, a very rare species in the Virgin Islands. If confirmed, Little Tobago will so far be the only remaining location known in the British Virgin Islands.

However, many of the species on Little Tobago could not be unidentified on this trip due to the limitations of photos as the only means of verification. Some appear quite intriguing and require close-up observation.

On the return trip to Road Town, a further boat reconnaissance was undertaken along the entire north shore of Great Thatch, providing additional opportunity to document the flora and fauna of this island.

Photo 12.
The protruding Watson Rock serves as a sanctuary for seabirds. To the right is Little Tobago.

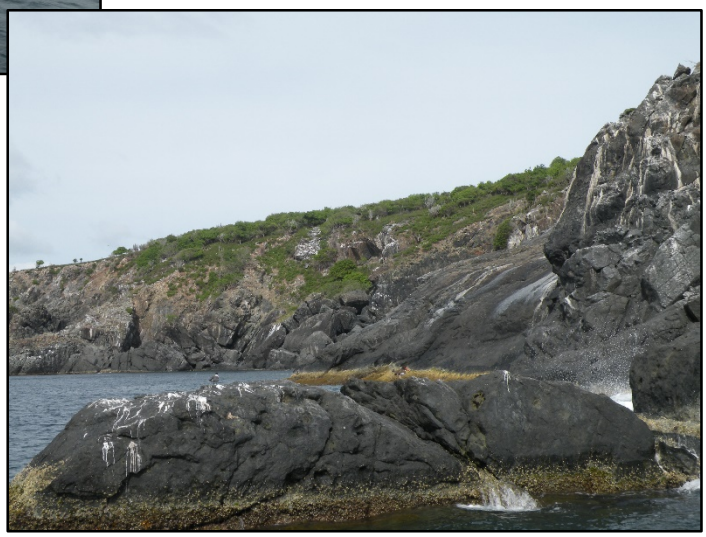

Photo 13.
Little Tobago is characterized by its typical rocky coastline and sparse vegetation. The island attracts many seabird colonies, as evidenced by the guano-covered rocks.

Acknowledgements

IRF researchers acknowledge the financial and logistical support provided by John and Jill Maynard, owners of Little Thatch Island. We also thank Jon and Katy Morley and the staff at Little Thatch for facilitating the team's visit to the island and providing helpful information.

Table 1.
Selected Plant Species of Special Concern for Little Thatch, Great Thatch, and Great Tobago.

Species of Special Concern	LTh	GTh	GT
Century Plant (*Agave missionum*)	x	x	
Thatch Palm (*Coccothrinax barbadensis*)	x	x	x
Sea Grape (*Coccoloba uvifera*)	x	x	x
Night Blooming Cactus (*Hylocereus trigonus*)	x	x	
Turk's Cap (*Melocactus* c.f. *intortus*)	x	x	x
Woolly-Nipple Cactus (*Mammillaria nivosa*)		x	x
Prickly Pear Cactus (*Opuntia dillenii*)	x	x	x
Opuntia hybrid (*Opuntia dillenii x repens*)			x
Tree Prickly Pear (*Opuntia rubescens*)	x	x	x
Pipe-organ Cactus (*Pilosocereus royenii*)	x	x	x
Steudel's Morning Glory (*Ipomoea steudelii*)		x	
Island Silverback Fern (*Pityrogramma c.*)		x	x
Amansa guapo (*Savia sessiliflora*)	x		
Cockspur (*Erythrina sp.*)	x		
Stinging Bush (*Malpighia woodburyana*)	x	x	x
Prickly Bush (*Oplonia spinosa*)	x		
Air Plant (*Tillandsia utriculata*)	x	x	

LTh Little Thatch (21 May 2014)
GTh Great Thatch (23 May 2014)
GT Great Tobago (24 May 2014)

Table 2.
Bird List for Little Thatch, Great Thatch, Great Tobago, and Little Tobago.

Species	LTh	GTh	GT	LT
Red-billed Tropicbird (*Phaethon aethereus*)			x	
Tropicbird (species undetermined)	x			
Brown Booby (*Sula leucogaster*)	x	x	x	x
Brown Pelican (*Pelecanus occidentalis*)	x	x	x	x
Magnificent Frigatebird (*Fregata magnificens*)	x	x	x	x
Little Blue Heron (*Egretta caerulea*)	x	x		
Yellow-crowned Night Heron (*Nyctanassa*	x			
White-cheeked Pintail (*Anas bahamensis*)			x	
Red-tailed Hawk (*Buteo jamaicensis*)		x	x	x
American Kestrel (*Falco sparverius*)	x	x	x	
American Oystercatcher (*Haematopus palliatus*)		x		x
Laughing Gull (*Larus atricilla*)	x	x	x	x
Sandwich Tern (*Sterna sandvicensis*)				x
Roseate Tern (*Sterna dougallii*)				x
Least Tern (*Sterna antillarum*)	X			x
Bridled Tern (*Sterna anaethetus*)				x
Brown Noddy (*Anous stolidus*)				x
Common Moorhen (*Gallinula chloropus*)	X			
Scaly-naped Pigeon (*Columba squamosa*)	X	x	x	
Zenaida Dove (*Zenaida aurita*)	X	x	x	x
Common Ground-Dove (*Columbina passerina*)	X	x		
White-winged Dove (*Zenaida asiatica*)	X			
Mangrove Cuckoo (*Coccyzus minor*)	X	x	x	
Green-throated Carib (*Eulampis holosericeus*)	X	x		
Antillean Crested (*Orthorhyncus cristatus*)	X			
Belted Kingfisher (*Ceryle alcyon*)	X			
Caribbean Elaenia (*Elaenia martinica*)		x		
Gray Kingbird (*Tyrannus dominicensis*)	X	x	x	
Caribbean Martin (*Progne dominicensis*)			x	
Northern Mockingbird (*Mimus polyglottos*)	X	x	x	
Pearly-eyed Thrasher (*Margarops fuscatus*)	X	x	x	x
Yellow Warbler (*Dendroica petechia*)	X	x	x	
Bananaquit (*Coereba flaveola*)	X	x	x	
Lesser Antillean Bullfinch (*Loxigilla noctis*)	X		x	
Black-faced Grassquit (*Tiaris bicolor*)	X		x	

LTh Little Thatch (21 May 2014)

GTh Great Thatch (23 May 2014)

GT Great Tobago (24 May 2014)

LT Little Tobago (24 May 2014, boat reconnaissance survey only)