



Migration of *C. mydas* and *D. coriacea* in the Guianas

Satellite tracking results: 2005, 2010, 2011

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Why monitor migration?

- Marine Turtles conservation ongoing in the Guianas for more than 20 years
- A significant threat to turtles is fisheries bycatch.
- In Suriname this threat is greater than in Guyana and French Guiana.
- Why? There are more turtles in Suriname than Guyana; and there is more unregulated fishing in Suriname than in FG.
- If we know where the turtles are, maybe we can help restrict or reduce interactions with fish gear and craft and thus reduce fisheries bycatch.



Method

- In 2005, 2 leatherbacks were tagged on the a beach of the Galibi Nature Reserve.
- In 2010, 5 turtles were tagged in Suriname: 3 green turtles and 2 leatherbacks.
- In Suriname in May 2011, 4 green turtles and 8 leatherback turtles were satellite tagged after nesting.
- Tagging occurred on the beaches of the Galibi Nature Reserve, and Matapica Multiple Use area.
- In 2011 also, for the first time, 3 turtles: 1 green and 2 leatherbacks were tagged on Shell Beach in Guyana.



Checking equipment





Transmitters for *D. coriacea* (2011)



Transmitter for *C. mydas* (2011)





Game wardens of the Nature Conservation Division of the Ministry of Forest Management: responsible for law enforcement on nesting beaches.



Tagging the leatherback





Students conduct egg counting



Data collection





Turtles are flipper tagged so that fishermen can participate in assessment of bycatch



Stainless steel flipper tag





Tagged leatherback: Galibi Beach



Tag attachment completed





Tagged leatherback departs the beach



The tagging team





Students, conservation officers and scientists leave Galibi



Attaching the transmitter to green turtle





Green turtles must be kept boxed in order to allow the epoxy to dry



The make-shift enclosure: thanks to the GMTCS team, Shell Beach, Guyana





Flipper tagging the green turtle



There goes Abbe – the only green turtle to date to be satellite tagged in Guyana



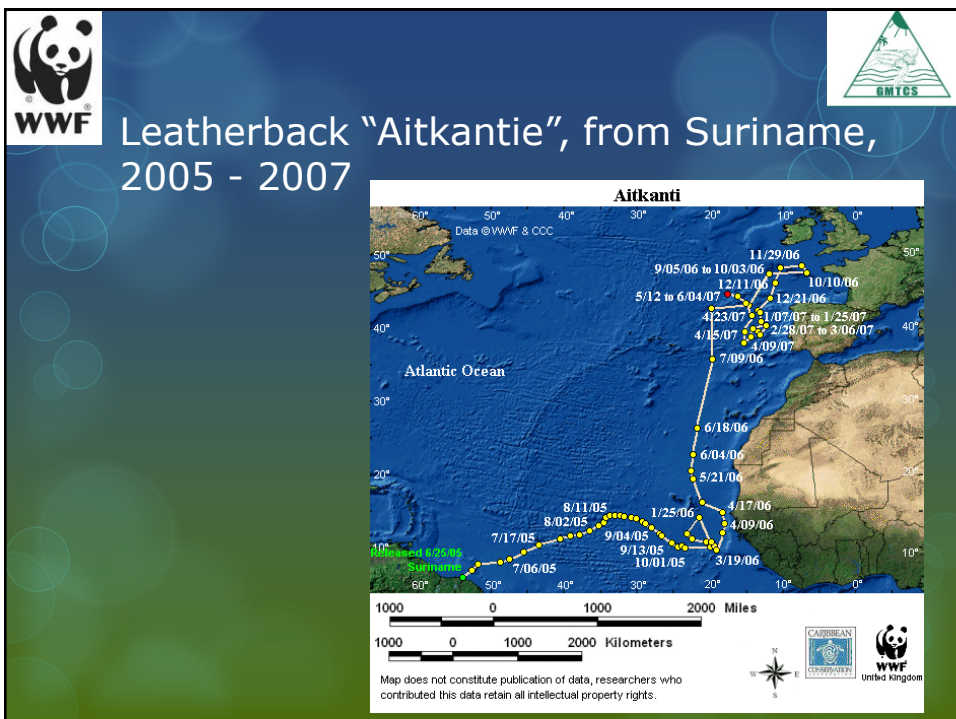
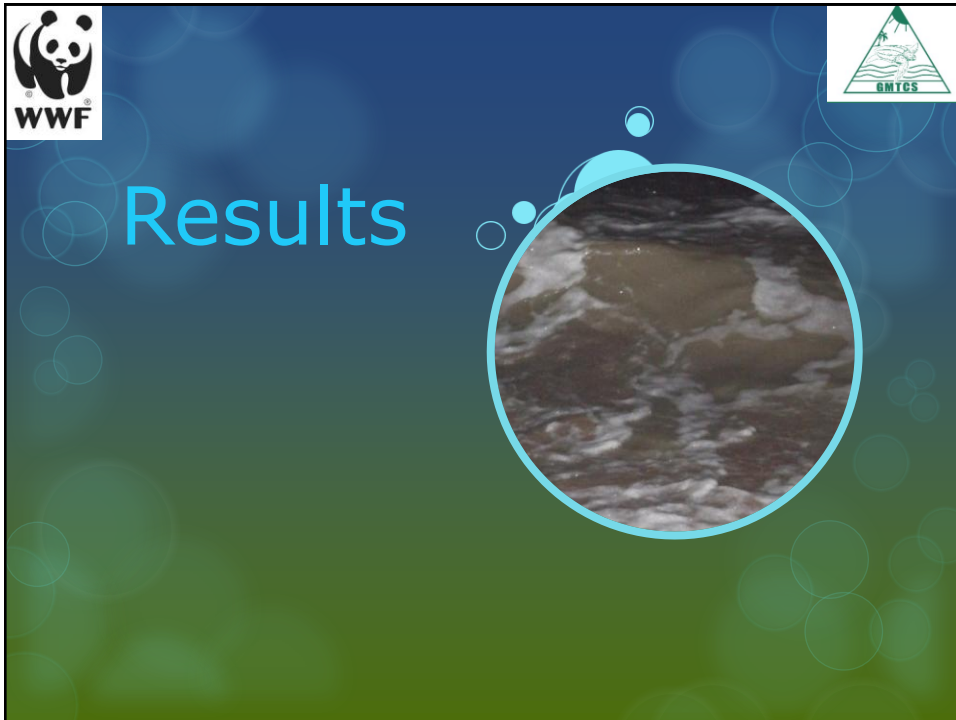




Abbe departs Shell Beach



Getting to (and from) Shell Beach is no easy task!





Observations:

- Observations: The leatherback turtle, *Dermochelys coriacea*, or Gabi, migrated furthest north, approximately **80 km** from the nesting beach, during nesting events. This behavior not only brings leatherbacks into direct contact with coastal artisanal gill net boats that fish **10 – 15 km** off shore, but also with the shrimp and fish trawlers that fish in deeper, off shore waters.
- The 3 green turtles, *Chelonia mydas*, named Amyja, Wori and O'tawa swam between **10 – 40 km** north of the nesting beach during nesting events. This also means that greens are also vulnerable to bycatch from fish and shrimp trawlers as well as gill net boats.
- On completion of nesting, all 3 green turtles migrated south east to the coastal waters of Brazil.

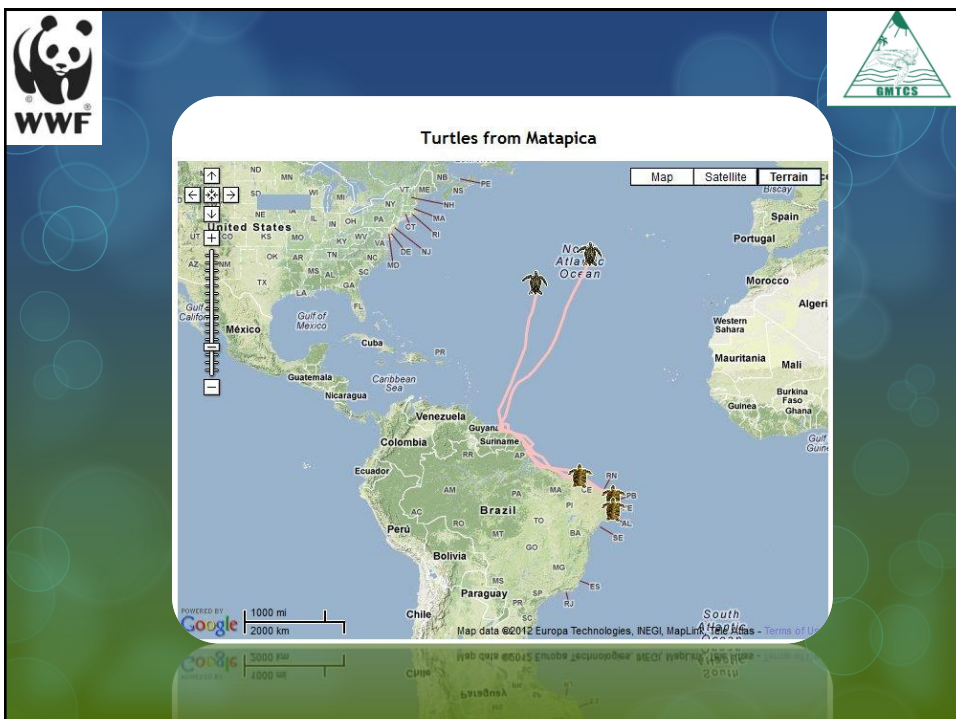


Tracking data 2011



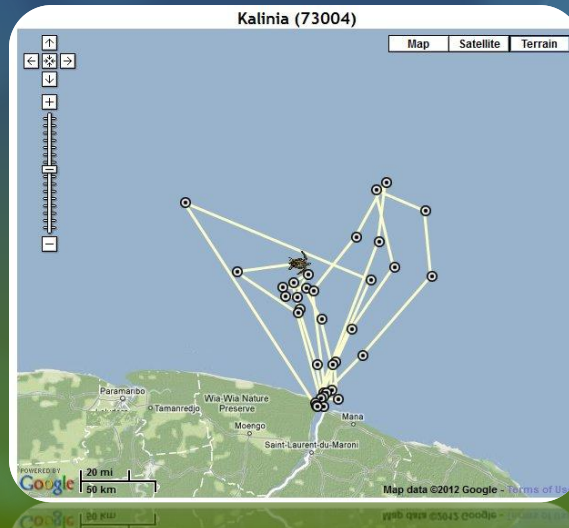
Turtles from Shell Beach



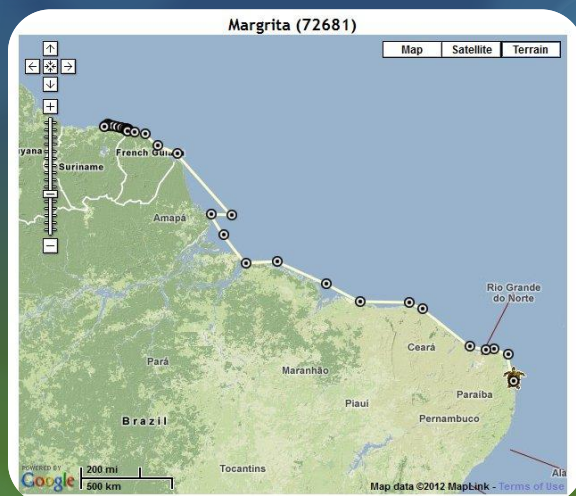




Foraging / inter-nesting behaviour of a leatherback

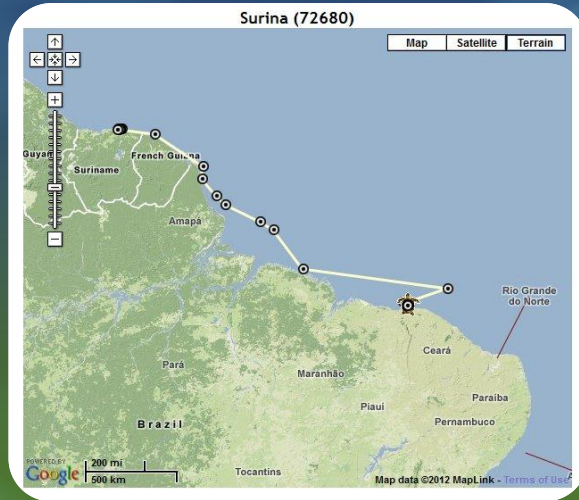


And where do the green turtles go?





Tracks of another green turtle



All turtles, May 2011



Year	Country	D. coriacea	Result	C. mydas	Result
2005	Suriname	Aitkantie	Atlantic		
		Kawana	Bycatch		
2010	Suriname	Gabi	Atlantic	Amyja	Brazil
				O'tawa	Brazil
				Wori	Brazil
2011	Suriname	Riverbanks	Atlantic	Margrita	Brazil
		Gail		Surina	Brazil
		Kalinia	Atlantic	Mi-O-Si	Brazil
		Lune	Atlantic		
		Adessa	Bycatch		
		Diana	Atlantic		
2011	Guyana	Luisa	Atlantic	Abbe	Brazil
		Cara	Atlantic		



Name	Species	Location	Date tagged / end	Migration pattern	Max distance offshore	Days Tracked	Distance Travelled
Kalina	LB	Galibi NR.	May 12	Foraged offshore of Wia Wia NR – Galibi NR	150 km	56	1,440 km 895 ml
Gail	LB	Deployed May 5 - 7	Aug 13	Transatlantic	2,000 km	99	3,391 km 2,107 ml
Adessa	LB		June 10	Bycatch / caught 5 km offshore	100 km	39	447 km 278 ml
Riverbanks	LB		Oct 03	Transatlantic	2,000 km	180	5,505 km 3,421 ml
Surina	Green	Matapica	Nov 19	Brazil: Parnaiba / Victoria / Camocim	25 – 200 km	190	2,607 km 1,620 ml
Margrita	Green	Deployed May 13 - 15	Aug 29	Brazil: Paraiba, off Baja Formosa	5 km	108	3,417 km 2,123 ml
Mi-O-Si	Green		Aug 24	Brazil: offshore Sirinhaem	5 – 10 km	103	3,273 km 2,034 ml
Diana	LB		Aug 11	Transatlantic (Morocco / Vrginia)	3,000 km	89	4,753 km 2,953 ml
Lune	LB		June 29	Transatlantic (Morocco / N Carolina)	2,750 km	48	2,890 km 1,796 ml
Luisa	LB	Shell Beach	May 12	Transatlantic	150 km	4	154 km 96 ml
Cara	LB	Deployed May 9 - 10	July 25	Transatlantic: offshore (passed close to B'dos, T'dad)	2,000 km	78	2,698 km 1,676 ml
Abbe	Green		July 5	Brazil: Sao Levis	3 – 10 km	56	1,944 km 1,208 ml





What does this mean for sea turtle conservation?

- Turtle bycatch mitigation for leatherback turtles should focus not only on national fisheries but also **on Atlantic fisheries.**
- **Turtle bycatch mitigation** for green turtles must focus on coastal fisheries of the Guianas and **extend to Brazil.**
- Impacts of seismic research for oil exploitation offshore the Guianas, for example 300 – 400 km, **should not ignore impacts on leatherbacks** during their transatlantic migration.
- Coastal zone managers should consider that **inshore activities** along the Guianas coastline can impact significantly **on green turtles** during the nesting.



Thank you!

