Photo-identification of sea turtles in the Caribbean French West Indies
Status of marine turtles in the Caribbean French West Indies

- All marine turtles are classified as Endangered or Critically Endangered on the IUCN Red List

Protection:
- Guadeloupe: since 1991
- Martinique: since 1993

- Recovery action about sea turtles in French West Indies (since 2006)
Usual marking methods

External tags

Flipper tags (since 1998) *(plastic, monel, titanium)*

Internal tags

Passive Integrated Transpondeur (PIT)

Bedel S., 2013, Kap Natirel

ONCFS, 2013
Disavantages

- Lack of compatibility in tag readers

- Problems of tag loss ([Reisser et al., 2008](#))

- Traumatic and costly ([Reisser et al., 2008](#); [Scofield et al., 2008](#))

- Not last for a lifetime

- Can induce errors in CMR estimates ([van Dam & Diez, 1999](#))
Photographic identification of individual organisms

Why?

> Population size,
> Distribution,
> Habitat use,
> Movement,
> Life history traits

Conservation tools

Chabrolle A., 2015, ONCFS
Advantages

> Cheap and reliable method (Lloyd et al., 2012)

> Based on distinctive individual morphological characteristics (Carter et al., 2014) that may be photographically captured (Jean et al., 2010)

> Useful method in studies of threatened and endangered long-lived species (Reisser et al., 2008)

> Non invasive technique

> Reduce stress and handling of capturing sea turtles (Jean et al., 2010)

> Used from hatchling to adults

> Implicate divers community
Leatherback turtles

(Dermochelys coriacea)

Mc Donald et al., 1996
Buonantony, 2008 (A)

« Pineal Spot Identification »
Loggerhead turtles
(Caretta caretta)
Schofield et al., 2008

Method based on facial (post-ocular) scale patterns
Green turtles
*(Chelonia mydas)*

*Reisser et al., 2008 (A)*
*Jean et al., 2010 (B)*
*Chassagneux et al., 2013 (C)*
*Carter et al., 2014 (D)*

Use of the facial profile photographs of marine turtles

Use of the post-ocular scutes
Hawksbill turtles
(Eretmochelys imbricata)
Reisser et al., 2008 (A)
Jean et al., 2010 (B)
Dunbar et al., 2014 (C)

(A) Investigate automated recognition of turtles in a database by using the spot recognition program, I3S
(B) Use of the facial profile of marine turtles
(C) Use of the facial profile of marine turtles
The photo-ID method

> Based on the individual scute pattern on either side of the head (Jean et al., 2010; Chassagneux et al., 2013)

2 distinctive profiles for each individual
The photo-ID method

« Method of photo-ID based on a computer assisted process using the coding of the facial profiles according to the position and the shape of the scutes using photographs » (Jean et al., 2010)

The photo-ID method
TORSOOI database

Select of the picture

Select your picture:

Parcourir... Aucun fichier sélectionné.

Picture name:

Additional information

Name of the photographer:

Email:

Site name:

Select Information

GPS Position in decimal degrees (WGS84)

Latitude:

Longitude:

Date of observation:

Species:

Sex:

Select Information

Other comments:
TORSOOI database

(2014 © TORSOOI / KELONIA / IFREMER)
Photo-ID in Guadeloupe and Martinique

6 months (January – June 2015)
Baie de Malendure
Réserve Naturelle de Petite-Terre

*Chelonia mydas*
*Eretmochelys imbricata*

6 months (April – September 2015)
Les Anses d’Arlet

*Chelonia mydas*
*Eretmochelys imbricata*
Photo-ID in Guadeloupe

TORSOOI (13/01/15 – 27/02/15)
Photo-ID count: 56
Left profiles: 19
Right Profiles: 37
Total turtles count: 9
Reviewed turtles: 4

Higuero.E, 2015, ONCFS - Kap Natirel
First match in Guadeloupe (Malendure)
gpcm3 (24/10/13 - 24/01/15 - 31/01/15 - 16/02/15)
Thank you for your attention


