BYCATCH OF SEA TURTLES IN SURINAME AND GUYANA: SEEKING SOLUTIONS THROUGH GEAR TECHNOLOGY, FISHERIES MANAGEMENT AND FISHER EDUCATION.

WWF Guianas

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Guianas Marine Conservation Targets

- **Marine Turtles**: with priority on the conservation of representative populations of marine turtles nesting in the region.

- **Fisheries**: focused on sustainable tropical shrimp fisheries utilizing ecosystem based management (EBM) approaches.
Geographic Scope

- **Coastal Zone**: marine turtle nesting sites.
- **Inshore waters**: turtle foraging sites; artisanal fishing; IUU and an increasing amount of industrial fishing activity.
- **Offshore waters**: EEZ; industrial fishing; habitat impacts and bycatch of marine turtles from trawling are most severe.

Major Threats, Drivers & Challenges to Marine Turtle Conservation

- **Bycatch in Fisheries** (from gill net and fish trawling)
- **Threats to Habitat** (coastal development, marine pollution, seismic exploration, light pollution and Climate Change, including impacts on nests, turtles and nesting sites)
- **Direct Exploitation** (local consumption, predation)
Addressing Bycatch of Sea Turtles

Fisheries Sector: Suriname
Gill net fishing boats
Artisanal fishing boats, Guyana

Artisanal Fishing, Guyana
Gill net fishing boats (outboard engines)
The In-board powered or closed type boats have an average size of 55’ to 65’ by 11’ by 9’ (18m by 3.3m by 2.72m). Powered by 125-150 engines. They are decked, have a cabin and built-in ice box with a capacity of approx. 5 ton ice.

The State of Marine Turtle Bycatch in the Guianas
Gillnet Bycatch in Suriname 2007

Gillnet Bycatch in Guyana 2011
Bycatch on Fish Trawlers - 2011

Bycatch in fish trawler, Suriname, 2011
Comparison of reports of bycatch of Marine Turtle Species by fish trawlers during Feb, - June 2010 /Sample: 8% of fishing effort

Leatherback – 1
Green turtles – 13
Olive ridley – 17

Estimated total interactions with fish trawlers = 388

<table>
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Bycatch data from Gill Nets in Suriname, 2011
Data from 25% of the fishing effort.

Estimated total capture of marine turtles in the Suriname gill net fishery, nesting season 2011
(data also available for 2006 & 2010)

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<tr>
<th>Month</th>
<th>No. of boats interviewed</th>
<th>Total number of boats</th>
<th>Total turtles caught</th>
<th>% Fleet sampled</th>
<th>Est. total turtles caught</th>
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Gathering and analysis of gill net and trawl by-catch data and education and training of fishermen in the mitigation of marine turtle by-catch and in turtle reanimation.

Participation in regional and international fisheries management meetings, to identify sustainable fishing technologies.

Conducting of, in collaboration with National Organizations / DOF, gear technology research.

Implementation of incentive measures to secure fisher interest in participating in research on and offshore.

Organization of consultations to enable fisher involvement in research and adoption of new gears/methodology.

Hosting of regional exchanges to maximize information dissemination and sharing of data.
Fishermen's Consultation, Suriname: 
Let everyone have a voice

Fisher Exchanges, 
Guyana
Not all fishermen participated and provided data.

The fish trawlers as well as the coastal fishermen are afraid of repercussions if they give info on bycatch.

Fishermen fear that their sole source of livelihood may be restricted or banned if WWF or the DOFs feel that bycatch rates are too high, and propose time or spatial closures.
Fishermen are not pleased to find turtles in their nets. Most of the turtles are reported to be alive when found in the net. Fishermen report that nets are often not too deep in the water and turtles are able to come to the surface to breathe. It seems that turtles get tangled easier in the larger mesh sizes of the fishing nets. Fishermen reported that turtles are already seen in January in the coastal waters.

For the Gillnets Boats.
- When the fishermen are retrieving the net and find a turtle caught in the net, they bring the net alongside the boat.
- Because of the weight of the turtle they cannot lift it into the boat and have to cut the net around the turtle to release it.
- As a consequence of the above, fishing nets are often damaged.
- No-one receives compensation for damaged nets and other fish gear.
Fisher Recommendations
Feb 2012

- Gill netters are concerned about the large number of illegal fishing boats and pirates in the Guianas’ waters. They need the DOF to address this in order to reduce over fishing.
- Until such time fishers are too concerned about their personal safety and the security of the boats and engines, to entertain consideration to reduce fishing effort.
- Illegal fishermen will continue to exploit fish resources without constraints, hence registered fishermen fear that gill nets may continue to be lengthened.

Research initiatives
Bycatch Mitigation
Seeking solutions through research adjusting net design and reducing net length

Redesigning the TTED used in shrimp trawlers to fit drums of fish trawlers
Fisheries Research: Addressing Bycatch / Improved Fishing Practices and working with fishermen

Tracking of C. mydas and D. coriacea in 2011 to assess potential interaction with Fisheries (identifying migration and foraging hotspots)
Results

Results from Surveys and Research 2011

- Adjusted gill nets (shorter and with escape gaps) caught significantly fewer fish than the normal nets.
- The flexible TED did not catch turtles but fishermen insist that fewer fish were caught. Fish trawlers request repeated testing, and preferably with another flexible TED design.
- Data collection in Guyana suggests that less than 20 turtles are caught annually in fish gear. However, there is a high chance that this data is well below actual figures.
1. Support national efforts to control illegal gill net fishing and trawling.
2. Support the strengthening of the Maritime Authority in order to increase presence of the defense force marines at sea.
3. Lobby with the Ministry of Fisheries on behalf of the gill net fishermen and other artisanal fishers, to provide a patrol boat and fuel to fisher associations so that they may conduct sea patrols themselves.
4. Demand the DOF apply stricter penalties on persons caught fishing illegally.

**Fisher Proposal to WWF cont’d**

1. Provide assistance to the DOF so that it may seek to secure retirement benefits for fishermen who wish to retire and move out of gill net fishing.
2. Lobby to increase fish prices on domestic and international markets, reducing the need for fishers to over-exploit fragile fish stocks.
3. Support artisanal fishers in their quest to ban fish trawling which is reported to be devastating inshore fish resources.
4. Discuss the benefits of putting a moratorium on the issuing of fish permits (especially in Suriname).
Key Challenges to Sustainable Fisheries in the Guianas:

- Absence of Fisheries Management Plans;
- Limited technical, human and financial resources of the Fisheries office;
- Insufficient monitoring and analysis of fish and shrimp landings;
- Little or no fish stock assessments;
- Absence of monitoring of impacts on the benthos and or non-target species by fishing gear and technologies;
- Almost no control of illegal fishing and piracy; and
- Absence of any monitoring or regulation of harvest levels to ensure that the various fisheries are operating at or below but not beyond MSY.