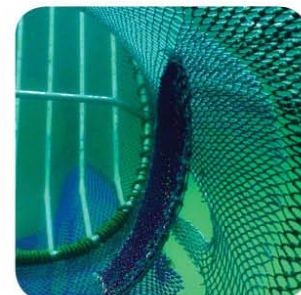
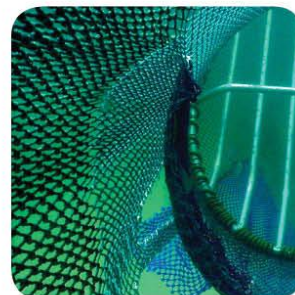




Food and Agriculture  
Organization of the  
United Nations



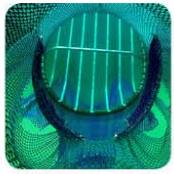
Sustainable Management of  
bycatch in Latin American and  
Caribbean Trawl Fisheries  
(REBYC-II LAC)

# TTED and CTED initiatives in Suriname

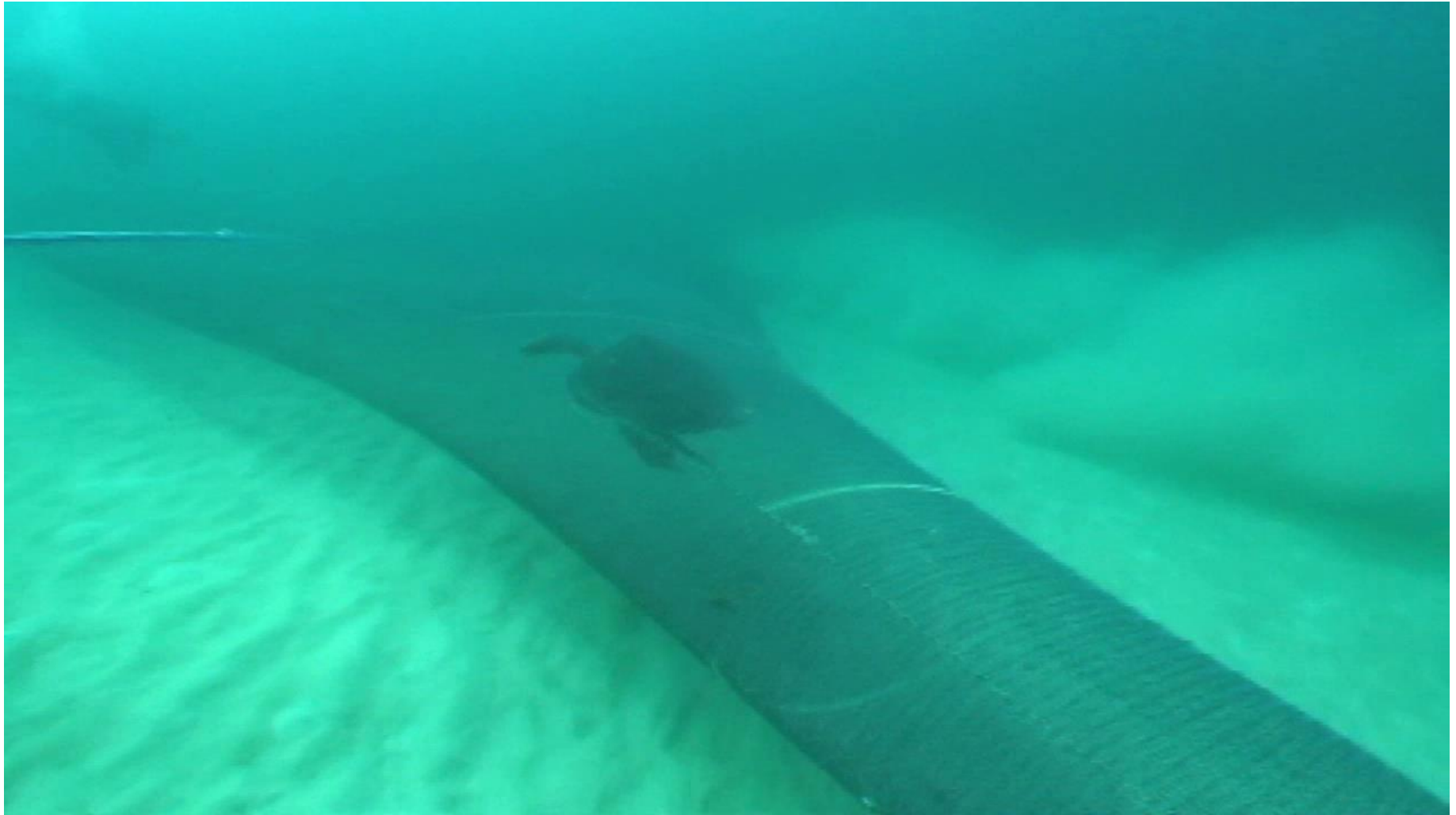
## 2019 WIDECAST Annual Meeting

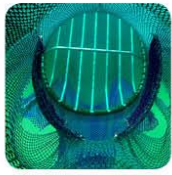


Tomas Willems  
REBYC-II LAC Project  
SURINAME



# Turtle Excluder Devices





# TED application in Suriname



## Seabob shrimp trawling

*Xiphopenaeus kroyeri*  
18-27 m depth  
26 licenses



*TED obligation since 1999*



## Penaeus shrimp trawling

*Penaeus* spp.  
From 27 m depth  
35 licenses



*TED Obligation since 1999*



## Fish trawling

Demersal finfish (*Sciaenidae*, *Ariidae*, *Lutjanidae*,...)  
From 27m depth  
35 licenses





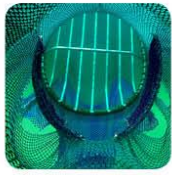
# TEDs in the seabob shrimp fishery

**Strong TED program**



**ETP Bycatch**





# TEDs in the seabob shrimp fishery

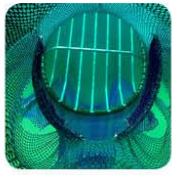
**TTED = Trash and Turtle Excluder Device**

**TED**

**3" TTED**

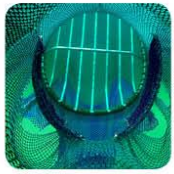
**2" TTED**





# TEDs in the seabob shrimp fishery

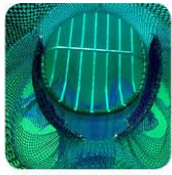




# TEDs in the seabob shrimp fishery



■ CONTROL ■ EXPERIMENTAL



# TEDs in the seabob shrimp fishery

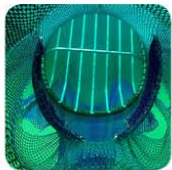
## Some conclusions

- TED as a sorting grid: 'platform' for further bycatch reduction
- Fishermen are already used to the TED concept
- Balance between bycatch reduction and catch retention

## Next step

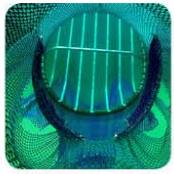
- Testing the 3" TTED on a larger scale to confirm trial results





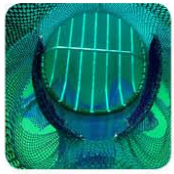
# TEDs in the fish trawl fishery





# TEDs in the fish trawl fishery





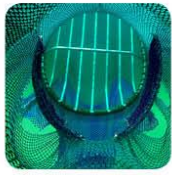
# TEDs in the fish trawl fishery





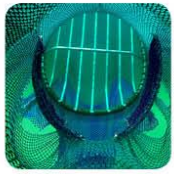
# TEDs in the fish trawl fishery





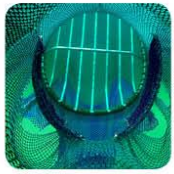
# TEDs in the fish trawl fishery



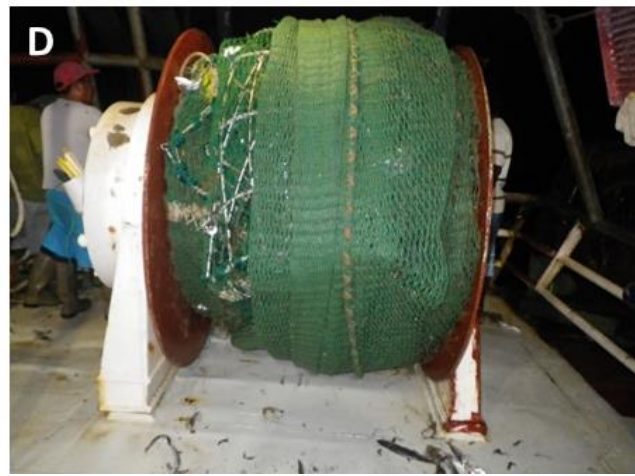
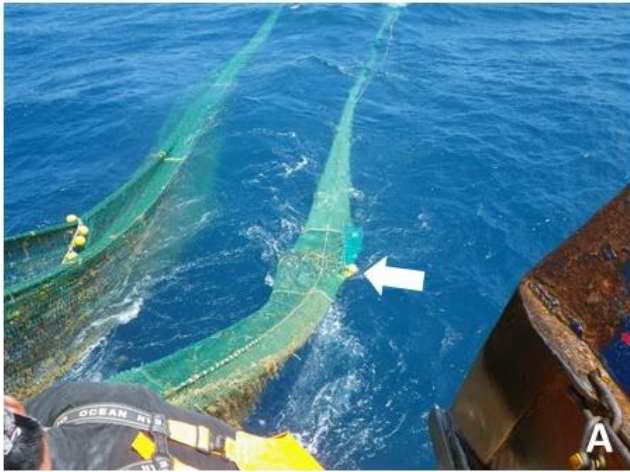


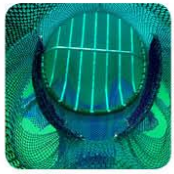
# Turtle Excluder Devices



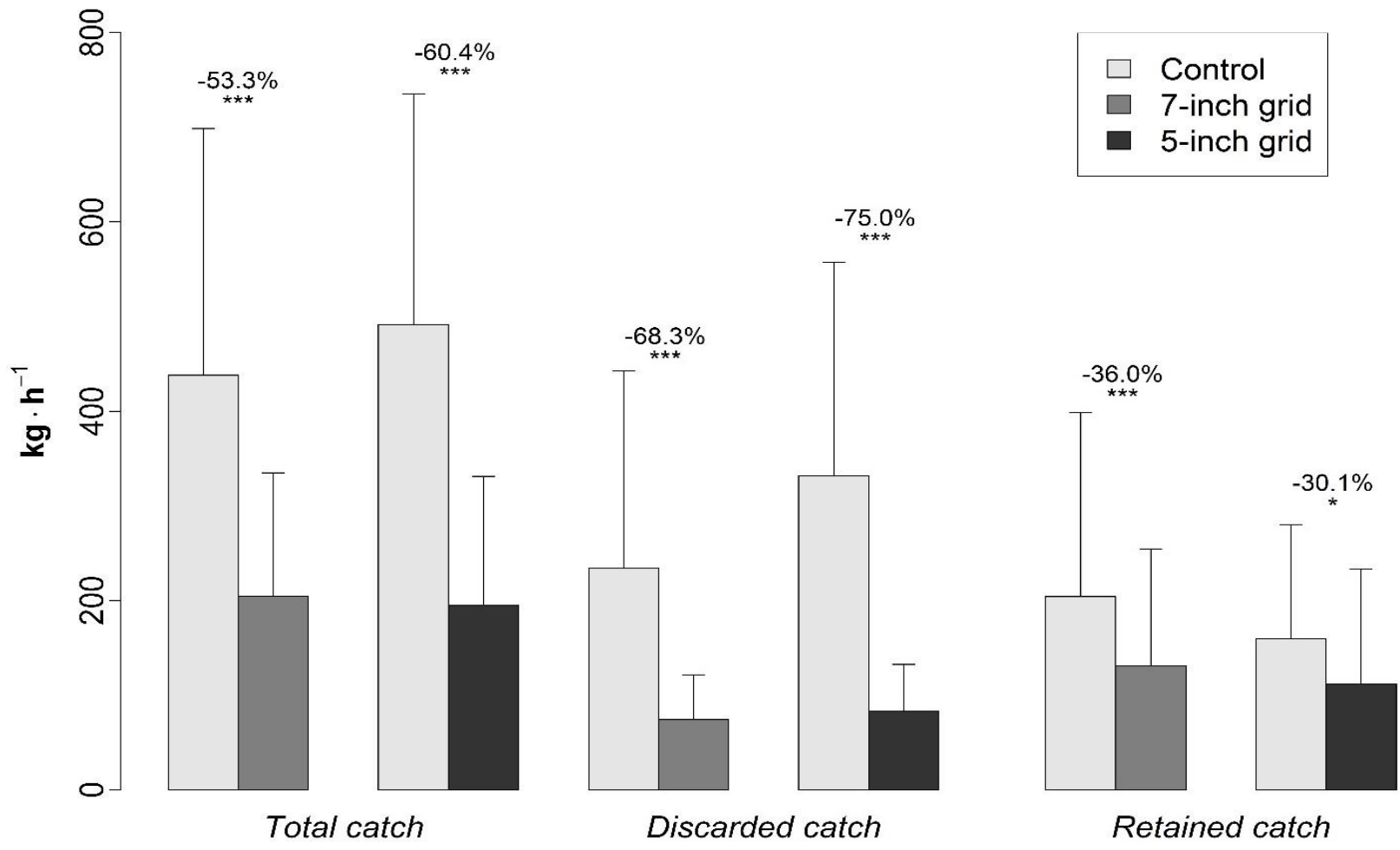


# RESULTS

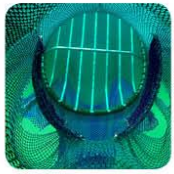




# RESULTS

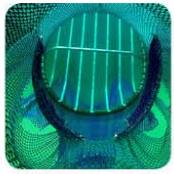




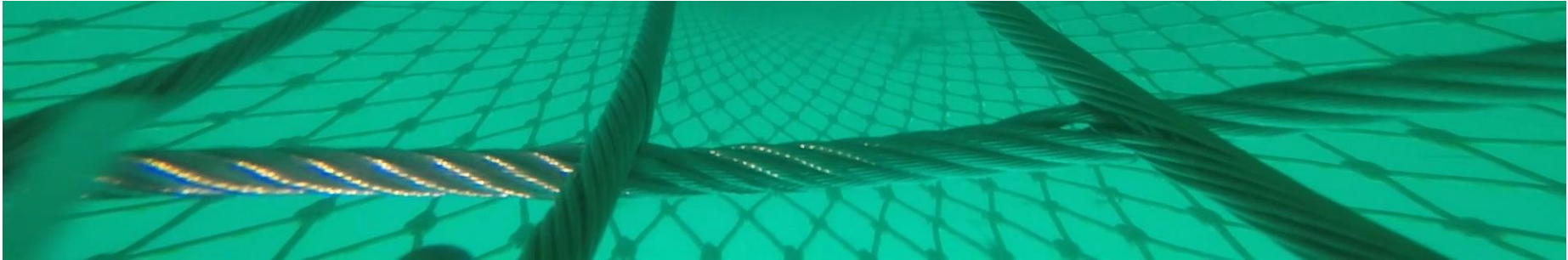
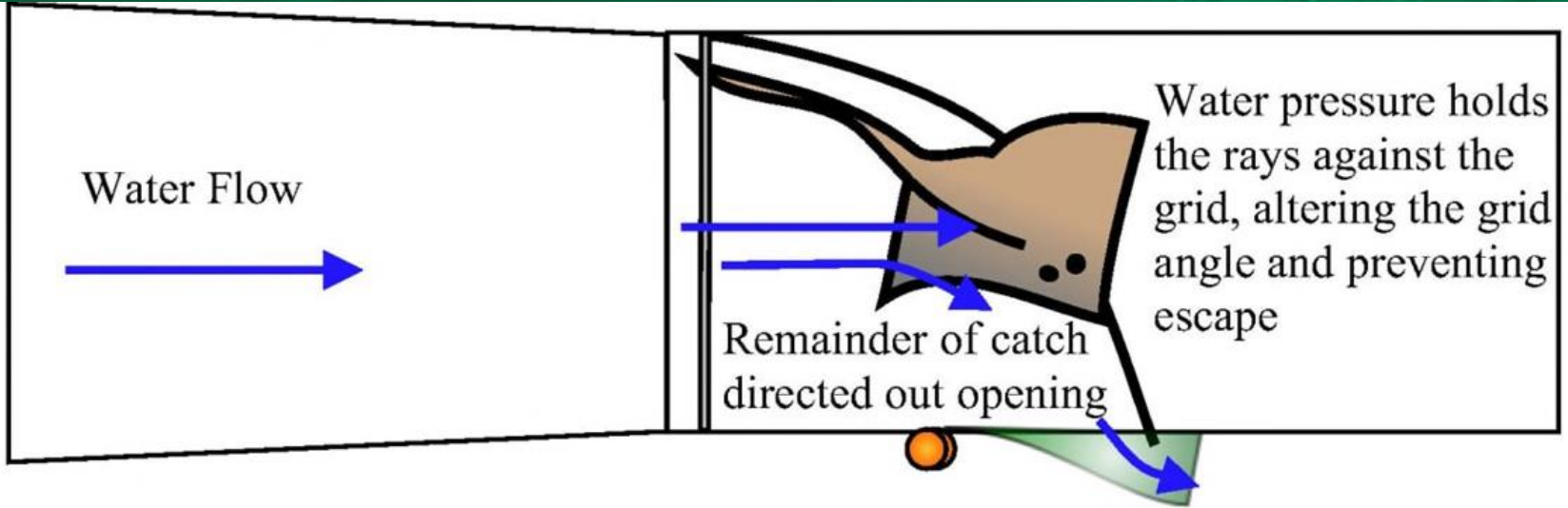


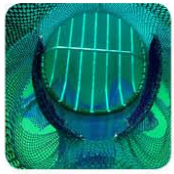
# RESULTS





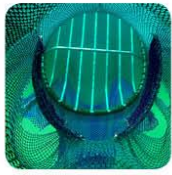
# RESULTS





# TEDs in the fish trawl fishery



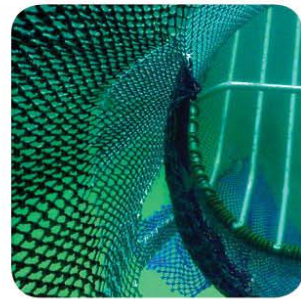


# Way forward...

- **No size fits all:** challenge to find a device for each fishery
- Balancing **bycatch reduction** and **target catch retention**
- Future work should include *Penaeus* shrimp trawlers and different types of fish trawlers
- **Involvement of fishing industry** is crucial
  - Field knowledge
  - Testing in real-life situations
  - Project ownership
- **Weak enforcement** at sea
  - Benefits for the fishermen must be obvious



Food and Agriculture Organization of the United Nations



Sustainable Management of bycatch in Latin American and Caribbean Trawl Fisheries (REBYC-II LAC)

Thanks to...

Nick Hopkins - NOAA Harvesting Systems

WWF Guianas

Marisa Fisheries



Tomas.Willems@fao.org