

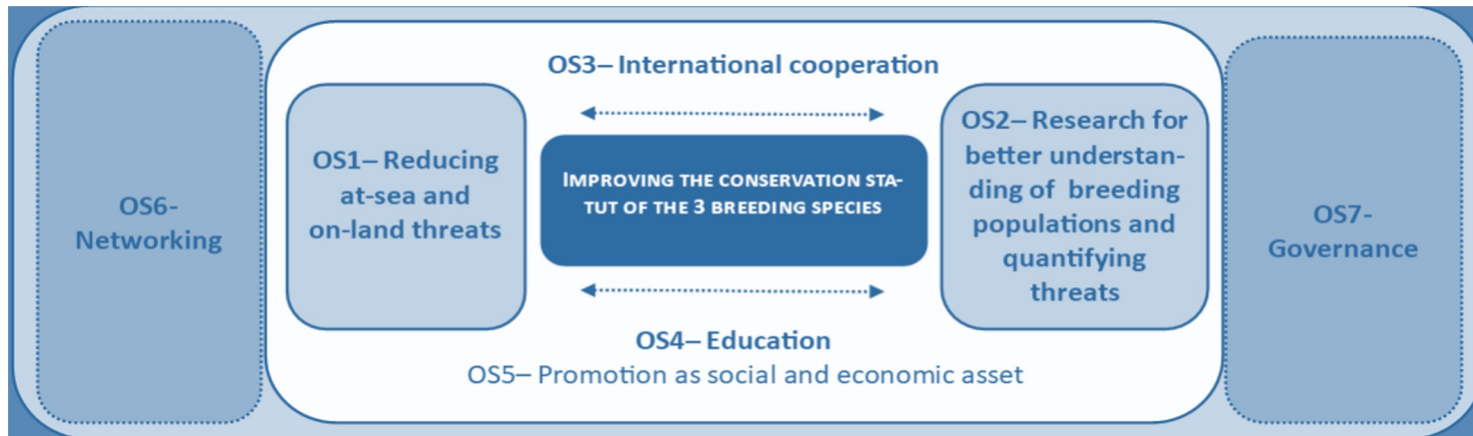
Conservation & research programs in French Guiana

2014-2023 MARINE TURTLES NATIONAL ACTION PLAN



THE MARINE TURTLE NATIONAL ACTION PLAN (NAP) IN FRENCH GUIANA 2014-2023

- National Action Plan → French strategic document to preserve species in decline, with prioritization of identified conservation issues
- In French Guiana:
 - 1st Marine Turtles National Restoration Plan (2007-2012)
 - **2nd Marine Turtles National Action Plan (2014-2023)**
 - 2024: evaluation of last 10 years of implementation
- 3 species of sea turtle / 2 main nesting sites / 54 actions
- Network of **30+** stakeholders



2014-2023 NATIONAL ACTION PLAN IS ENDING: WHAT'S NEXT?



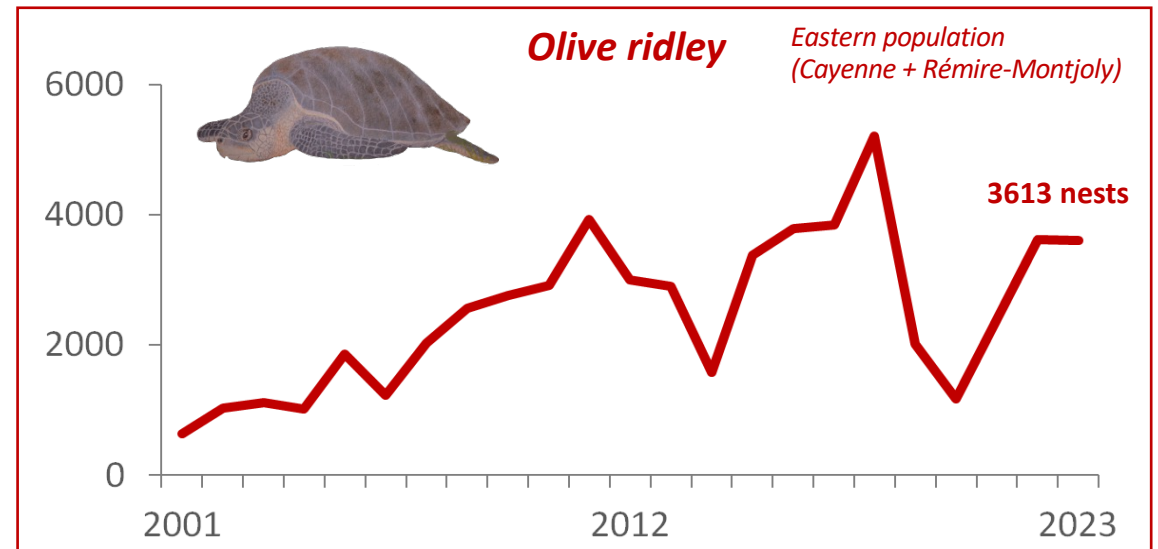
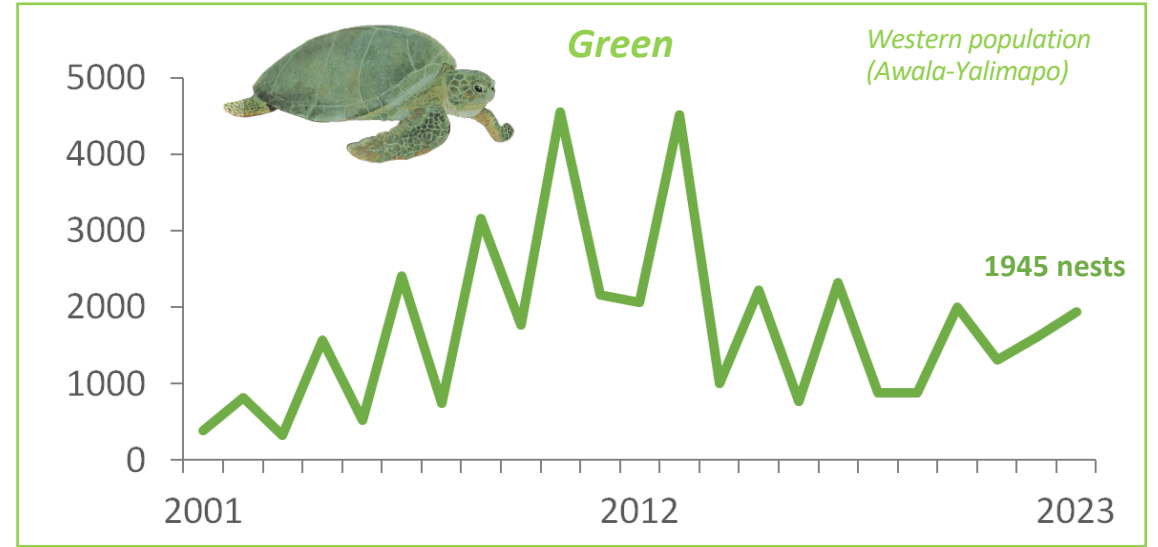
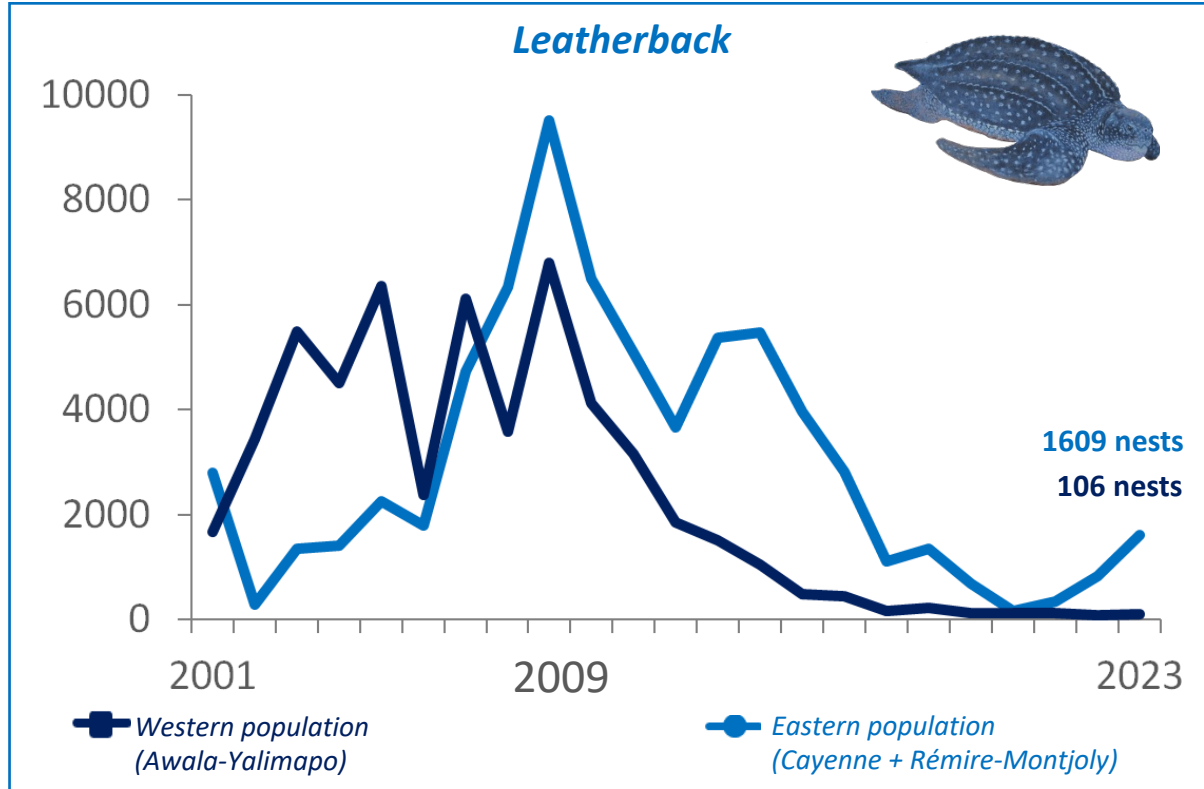
- Bycatch reduction → WWF/CRPMEM partnership
- Monitoring & research → better knowledge of certain demographic parameters and movement areas of the 3 species
- Education and communication → many people reached over the years
- Transboundary cooperation → good relationship with Surinam, Guyana and T&T through the RAP development



- Foreign IUU fishing → big issue, especially on the West
- Increasing threats on land in Yalimapo:
 - Dog predation
 - Poaching
 - Erosion
- Lack of involvement of certain communities
- Multi-annual financing difficult to secure

→ Towards a 3rd National Action Plan?

NESTING ACTIVITY FROM 2001 TO 2023 IN FRENCH GUIANA



Monitoring & Research

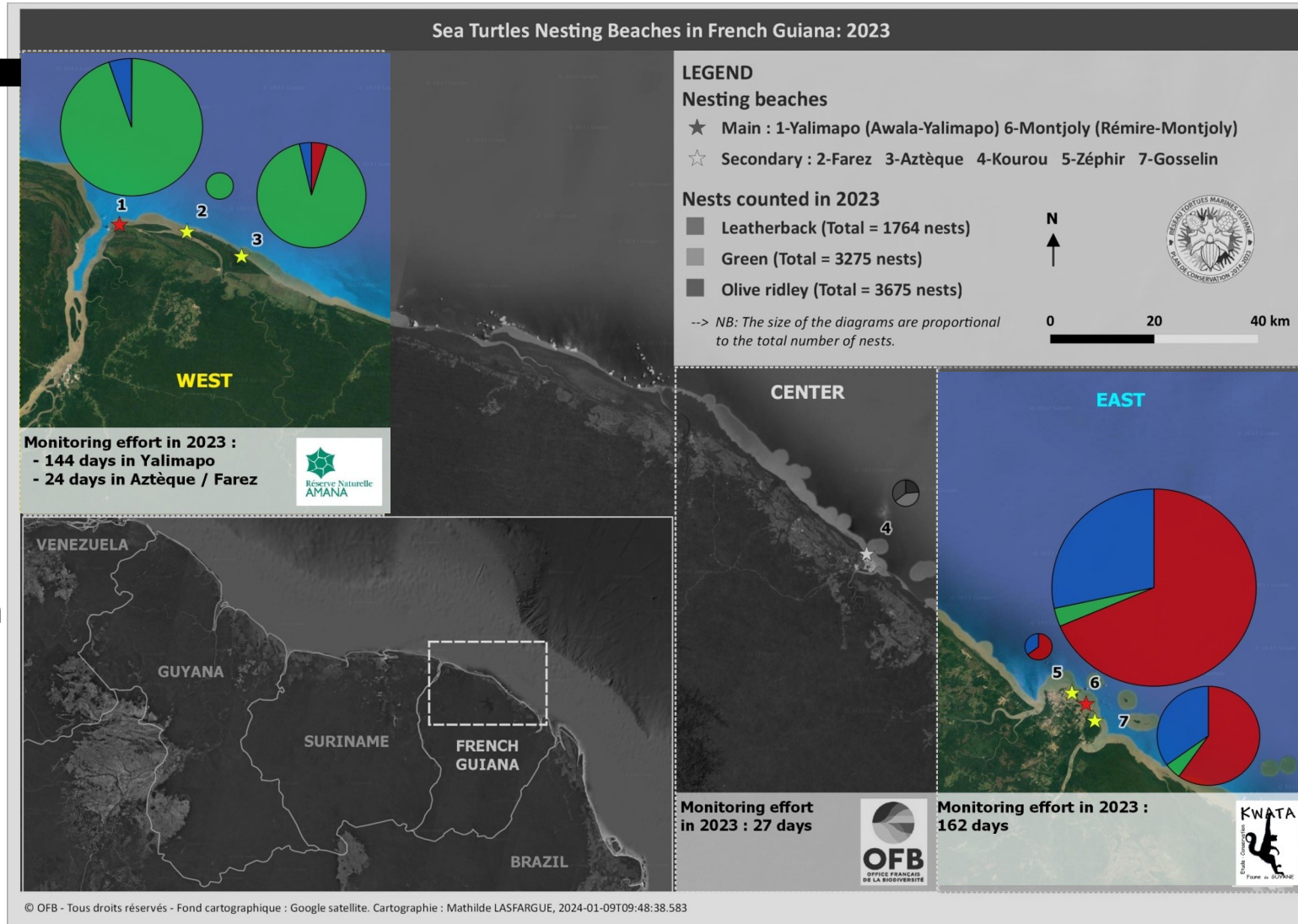
Yalimapo beach

Main species:
Green & leatherback

Main threats:

- IUU fishing
- Poaching (eggs)
- Dog predation (eggs)
- Erosion

Project:
Kawana hatchery



Cayenne/Rémire beaches

Main species:
Olive ridley & leatherback

Main threats :

- Bycatch & IUU fishing
- Dog predation (adults)
- Light pollution

Projects:
PALICA & ARRIBA



REDUCING BYCATCH IN FRENCH GUIANA: PROTECTING MARINE TURTLES THROUGH INNOVATIVE APPROACHES AND STRONG PARTNERSHIPS WITH LOCAL FISHERMEN



Project ARRIBA

- Timeline: 2020 – 2022
- Objective: Reduce interactions between gillnets and olive ridleys during the arribada events
- Funding: € 100K
- Donors: French Biodiversity Agency (OFB)
- Project leader: WWF
- Partners: Fisheries committee, CNRS, Kwata



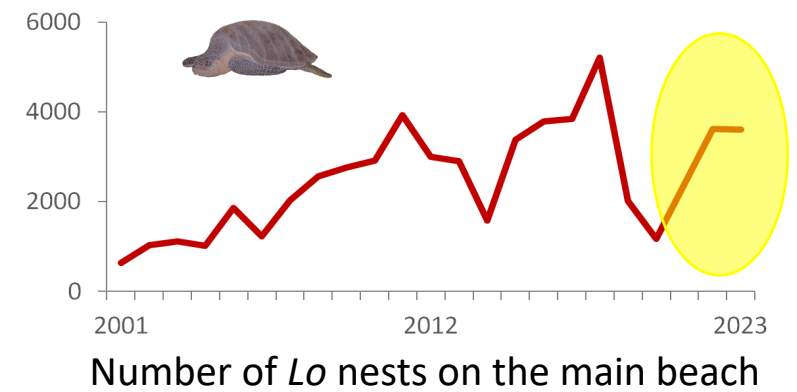
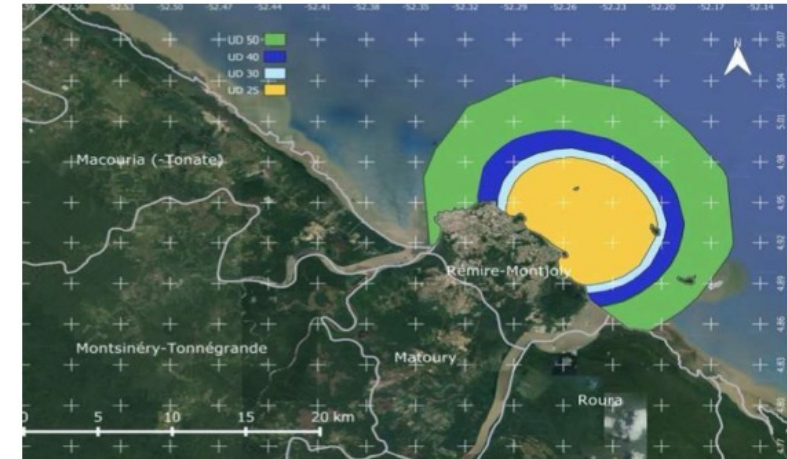
REDUCING BYCATCH IN FRENCH GUIANA: PROTECTING MARINE TURTLES THROUGH INNOVATIVE APPROACHES AND STRONG PARTNERSHIPS WITH LOCAL FISHERMEN



WWF's Approach in FG to reduce Bycatch: Zoning



- Arribadas: 1 night = 450+ turtles
- Fishermen decided to voluntarily designate a **no-fishing zone** in front of the main olive ridley nesting beach to reduce interactions
- The fishermen themselves decided to annually put out a press communication that they will not fish in that area during nesting season (arribadas), and remind others of the zone's GPS coordinates
- This could explain the **420% increase of olive ridley nests** on the main beach between 2020 and 2023
- Next steps: maintaining the fishermen's network, equips 40 turtles with new beacons to create a more precise alert network



REDUCING BYCATCH IN FRENCH GUIANA: PROTECTING MARINE TURTLES THROUGH INNOVATIVE APPROACHES AND STRONG PARTNERSHIPS WITH LOCAL FISHERMEN



Project PALICA I-III

- Timeline: 2018 – 2026
- Objective: Testing gillnet modifications to reduce turtle bycatch and deployment of onboard observers
- Funding: approx. € 2M
- Donors: Europe (FEAMP), Fonds vert & OFB
- Project leader: WWF
- Partners: Fisheries committee, CNRS, Kwata, Ifremer



REDUCING BYCATCH IN FRENCH GUIANA: PROTECTING MARINE TURTLES THROUGH INNOVATIVE APPROACHES AND STRONG PARTNERSHIPS WITH LOCAL FISHERMEN

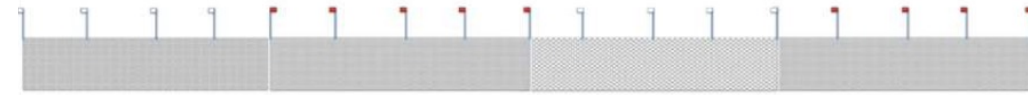


WWF's Approach in FG to reduce Bycatch: Gillnet modification



- To limit bycatch, gillnet modification trials have taken place, trying **four different modifications**
- Each test is inspired by turtle or dolphin behaviour and fishermen's observations/suggestions
- This has led to **encouraging results, motivating the pursuit of all trials (2024 – 2026)**

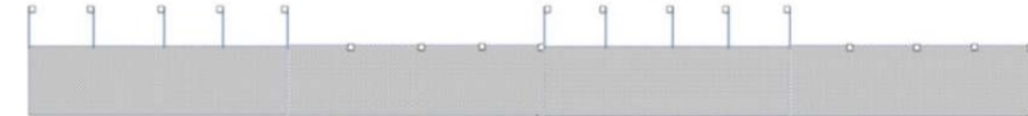
Test 1. Colouring of floats in red



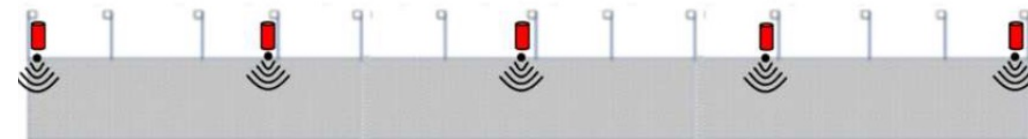
Test 2. Vertical profile reduction



Test 3. Suppressed floating lines



Test 4. Acoustic signalers (FG dolphin)



REDUCING BYCATCH IN FRENCH GUIANA: PROTECTING MARINE TURTLES THROUGH INNOVATIVE APPROACHES AND STRONG PARTNERSHIPS WITH LOCAL FISHERMEN



WWF's Approach in FG to reduce Bycatch: On-board Observation

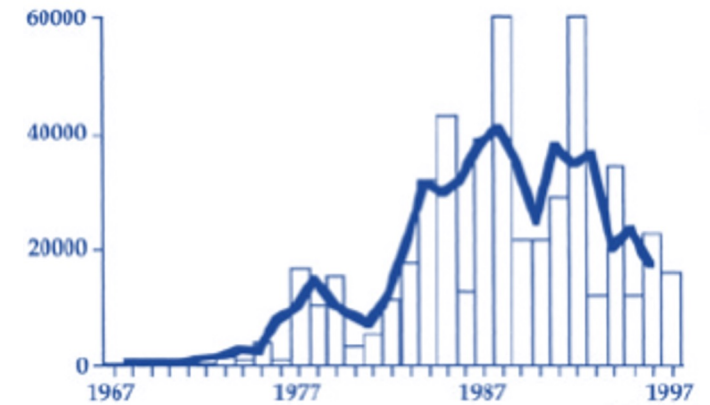


- To obtain objective results, on-board observations are necessary
- **Bycatch observers** are placed on vessels to observe the bycatch, the target species, methods of release, etc. – based on TRUST
- **On-board cameras** are installed to help better understand the volume, species etc. of bycatch
- **Generated feedback** on how successful gear modifications were **and better information shared** on target species

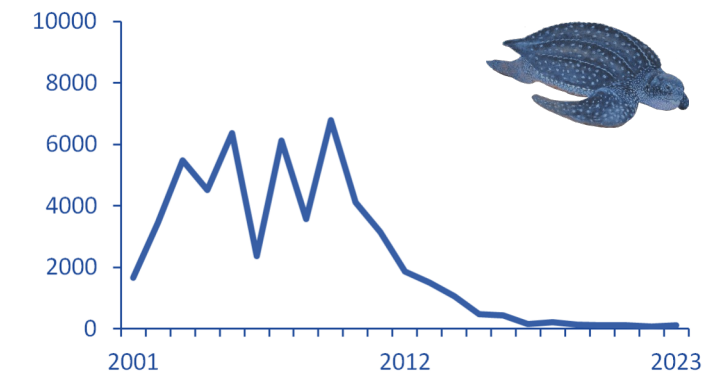


KAWANA HATCHERY: THE « LAST CHANCE » SOLUTION FOR LEATHERBACK ON YALIMAPO BEACH

- In the West, leatherback nesting activity figures are alarming:
 - **Loss of over 95% of nests laid in the last 20 years**
 - On a broader time scale, the decline is even more spectacular: 12 000-18 000 females in the 1970s → around twenty in 2022 and thirty in 2023
- Despite the creation of a National Nature Reserve (since 1998) and the implementation of 2 National Action Plans (2007-2012 & 2014-2023), the situation of leatherback turtles in FG has become particularly critical
- 3 main threats are currently uncontrolled : **dog predation, poaching and erosion** → **45-60% of nests destroyed each year**
- Faced with this sad reality, the FG stakeholders met on November 4, 2022 and unanimously agreed to **set up a natural hatchery** in Awala-Yalimapo, as a last resort



Number of leatherback turtle nests on Yalimapo beach between 1967-1997 (up) and 2001-2023 (down)



KAWANA HATCHERY: OBJECTIVES

- **Main Objective:** Removal of nests from the main threats (erosion, dogs, poaching) to increase eggs & hatchlings survival rates
- **Secondary Objectives:**
 - Environmental Education & Community Engagement
 - Knowledge improvement
- **Timeline:** 2023 – 2026 (at least)
- **Funding:** € 350K
- **Project leader:** Kwata / **Partners:** Amana Nature Reserve, CNRS
- **Donors:** DGTM, Fonds vert, OFB, WWF, CTG
- Official opening on **4 May 2023** with French Minister of Sea



KAWANA HATCHERY: IMPLEMENTATION

- **Natural hatchery:** Enclosure and light structure to allow easy displacement if needed
- **Sampling:** during the egg-laying phase only, using a 2 entry watertight bag, wearing gloves and a surgical mask
- **Release:** at the top of the beach, as early as possible in the morning, with all the animals together (cylinder of wire mesh placed on the nest a few days before the scheduled date of emergence, to keep the hatchlings together so that they can be counted before release)
- **Nest emptying:** one week after the last emergences, all the eggs are opened in order to differentiate between unfertilized and fertilized eggs, and the embryonic stages



KAWANA HATCHERY: 2023 REVIEW AND 2024 OUTLOOK



- **Measures:**

- Hatching success rate: nbr of eggs hatched / nbr of eggs laid
- Emergence success rate: nbr of emergences / nbr of eggs laid
- Measurements of the emergences: length of the dorsal fin and widest width of the dorsal fin
- Shell samples: physico-chemical analyses
- Temperature & humidity sensors (end of the season)

- **2023 results:**

- 26 nests relocated between April and July 2023
- 83 fertile eggs per nest in average
- Only 10% average emergence success rate, with a very pronounced drop as the season progresses & numerous deformations → very marked El Nino phase, with a significant water deficit and high temperatures

- **Question for 2024 season:** cover whole or part of the enclosure, in order to bring the temperatures down?



THANK YOU!



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