

### INTER-AMERICAN SEA TURTLE CONVENTION

# Uruguay

## IAC - Annual Report 2024

IAC Annual Report General Instructions

Annex IV of the Convention text states that each Contracting Party shall submit an Annual Report each year.

To complete this Annual Report, Focal Points should consult with appropriate stakeholders involved in sea turtle issues. If you have any questions regarding this Annual Report, please contact the Secretariat at secretario@iacseaturtle.org

The submission deadline for this Annual Report is April 30th, 2024

# THE PDF OF THE ANNUAL REPORT SUBMITTED BY EACH COUNTRY WILL BE PUBLISHED ON THE CONVENTION WEBSITE

Original language Spanish. Unofficial translation by Haydee Medina

### Part I - General Information

#### Country

Name of the country reporting >>> Uruguay

#### **Official Note**

If required, please attach here the relevant administrative authority **official note** endorsing the annual report submission. Are you attaching an official note? *Please select only one option* □Yes ⊠ No You have attached the following documents to this response. <u>http://seaturtlereport.org/answers/21378/documents/920</u> - Official delivery note of the report

#### 1) Focal Point

1.1 Name >>> Alvaro Irazoqui

#### 1.2 Institution

>>> Dirección Nacional de Recursos Acuáticos- Ministerio de Ganadería Agricultura y Pesca

1.3 Submission Date >>> August 9, 2024

#### 2) Agency or Institution responsible for preparing this report.

#### 2.1 Name of the person preparing this report

>>> MSc. Cecilia Lezama

#### 2.2 Name of Agency or Institution >>> Dirección Nacional de Recursos Acuáticos- Ministerio de Ganadería Agricultura y Pesca

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#### 3) Others who participated in the preparation of this report

#### 3.1 Others who participated in the preparation of this report

	Name	Agency or Institution	E-mail
l	Dra. Gabriela Vélez-Rubio	1. Oceanografía y Ecología Marina, IECA, Facultad de Ciencias,Universidad de la República Oriental del Uruguay. 2. Asociación Civil Karumbé	gabriela.velezrubio @gmail.com
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### Part II - Policy and Management

#### 1) General description of activities

General description of activities carried out for the protection and conservation of sea turtles.

In accordance with Articles IX and XVIII of the text of the Convention, each Party shall establish monitoring programs, policies and plans for implementation at a national level for the protection and conservation of sea turtles and their habitat. The Party shall report on the action plans, management plan or other types of instruments. Please select the options that best apply for your country and provide the link to the corresponding document if available online. If it is in progress add the date is expected to be finalized in the corresponding section.

**1.1** The country has a national strategy/plan for the conservation of sea turtles in accordance with Article XVIII.

Please upload the file or attach the links to the corresponding documents using the blue box icons beneath each question.

Please select only one option □Yes ⊠No □In Progress

1.2 Does your country have policies and programs at local and regional scales in accordance with Article XVIII?

Please attach the list of policies and programs and other information relevant to their adoption or implementation. *Please select only one option* 

⊠Yes □No

□ In Progress

1.3 Does your country have monitoring programs in accordance with Article IX?

Please attach the list of programs and other information relevant to their adoption or implementation. *Please select only one option* 

□Yes

⊠No

□In Progress

# $\mathbf{2}$ ) National legislation and international instruments related to sea turtles adopted during the preceding year

Describe any national regulations, international agreements and other legal instruments related to sea turtles and/or relevant activities that were adopted during the preceding year (**30 April 2023**–**30 April 2024**).

Please provide a literature reference and attach the digital file for the legislation and its corresponding number. The laws adopting the international legislation should be included when they exist.

**First time a country is submitting this information**: please include all pertinent national legislation and international instruments currently in force.

**Countries that have previously submitted this information**; please provide information for any changes that have occurred since your country's last report submission (2023).

National Legislation

Type and name of the legal instrument (No.)	Description (Range or application)	Sanctions(s) Imposed

You have attached the following Web links/URLs to this answer.

<<<

Treaty, Convention, Agreements, Memorandum of Understanding	Year signed and/or ratified
2023	ICCAT Supplementary Recommendation Amending Recommendation 22-12 on By-Catch of Sea Turtles Caught in Partnership with ICCA Fisheries

#### 3) Actions to comply with National and International Mandate

List actions that are being carried out to comply with national and international mandates.

(Ex: inspections, confiscations, sanctions, etc.)

#### 4) Efforts to increase IAC membership

**4.1** Has your country encouraged non-member states to join the IAC? *Please select only one option* □ Yes (list countries below)

››› ⊠No

**4.2** Has your country reached out to Canada, Guyana, French Guiana, Trinidad and Tobago, and/or Suriname to inform these nations about the critical situation of the population and priority actions for the conservation of leatherbacks in the NW Atlantic? *Please select only one option* 

 $\Box$ Yes (list countries below)

>>> ⊠No

#### 5) Exceptions under the Convention

#### Implementation and monitoring of exceptions established in the Convention.

5.1 Does your country have an exception established in the Convention?

Describe the progress in the implementation of the exception correspondent to the current year (800 words) according to the current resolutions on exceptions.

#### **Resolutions on Exceptions**

Panama's Exception Resolution CIT-COP10-2022-R3 Guatemala's Exception Resolution CIT-COP10-2022-R4 Costa Rica's Exception Resolution CIT-COP10-2022-R5 *Please select only one option* □Yes ⊠Not applicable. The country does not have an Exception

5.2 Has your country presented a 5-year report on the implementation of the Exception Resolution?

Resolution CIT-COP10-2022-R3 Exception Panama Resolution CIT-COP10-2022-R4 Exception Guatemala Resolution CIT-COP10-2022-R5 Exception Costa Rica Attach the five-year report.  $\Box$ No  $\boxtimes$ Not applicable. The country does not have an Exception

#### 5.3 Does your country have a management plan for the exception?

If yes, attach the exception management plan

□Yes

□No

 $\hfill\square$  In preparation

oxtimes Not applicable. The country does not have an Exception

Part III - Compliance with IAC Resolutions

#### 1) Sea Turtle Species Presence

#### 1.1 Sea Turtle Species Present in the Country

Check the box if the species listed is present in the oceanographic basins of your country as established in Article III of the text of the Convention.

	Atlantic Ocean	Pacific Ocean	Caribbean Sea
Lepidochelys olivacea	$\boxtimes$		
Lepidochelys kempii			
Dermochelys coriacea	$\boxtimes$		
Eretmochelys imbricata	$\boxtimes$		
Caretta caretta	$\boxtimes$		
Chelonia mydas	$\boxtimes$		

#### Additional Notes

Include other information, if required

>>> The listed species use the Uruguayan territorial sea as a feeding, development and/or migratory corridor area. Uruguay is at the limit of the distribution range of Lepidochelys olivacea and Eretmochelys imbricata, so their presence in our waters is low and occasional.

#### 2) IAC Resolutions

2.1 The following resolutions apply to this country

- Eastern Pacific Leatherback Turtle Resolution
- ⊠ Hawksbill Resolution
- $\boxtimes$ Loggerhead Resolution

 $\Box$  Northwest Atlantic Leatherback Resolution

⊠ Fisheries Resolution

#### Resolution CIT-COP10-2022-R6 - Eastern Pacific Leatherback Turtle (Dermochelys coriacea)

#### Section 1 - Monitoring of nesting of the Eastern Pacific leatherback turtle

1. Does your country have Eastern Pacific leatherback nesting beaches?

If the answer is "No" please answer "Not applicable. There are no nesting beaches in the country" in questions 1-10 and continue to Section 2. *Please select only one option* Yes

 $\boxtimes\,$  Not applicable. There are no nesting beaches in the country

#### 2. Does your country protect East Pacific leatherback nests at the nesting beaches?

Please select only one option  $\boxtimes$  Yes  $\square$  No  $\boxtimes$  Not applicable.

If the answer is "Yes", please described (500 words maximum) >>> Not applicable.

3. Has your country developed and implemented strategies to ensure and increase hatching success and hatchlings production of the East Pacific leatherback?
Please select only one option
□Yes
□No
⊠ c

If the answer is "Yes," please describe the strategies used (500 words maximum

# 4.If your country is strengthening the protection of important nesting and foraging habitats by declaring protected areas and regulating anthropogenic activities that adversely impact these habitats.

4a. Protection of nesting habitats
Please select only one option
□Yes
□No
☑ Not applicable

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> Not applicable

4b. Protection of feeding habitats *Please select only one option* ⊠Yes □No □Not applicable

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> There is no relevant information during the last year

# Resolution CIT-COP7-2015-R3: Resolution on the Conservation of the Loggerhead Sea Turtle (Caretta caretta)

1. Has your country created national action plans and/or monitoring programs to promote loggerhead seaturtle conservation?

Please select only one option □Yes ⊠No □Not applicable

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required. >>> Not applicable

2. State if there are plans or recovery programs, or bilateral or regional cooperation in your country. *Please select only one option*Yes
No
Not applicable

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required. >>> Not applicable

3. Are these action plans or monitoring programs being implemented?
 Please select only one option
 □Yes
 ☑No
 □Not applicable
 IAC - Annual Report 2024 [Cecilia Lezama, Uruguay]

#### Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> Not applicable

4. Is there protection of the loggerhead turtle at a state or federal level?
Please select only one option
⊠Yes
□No
□Not applicable

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> At the national level, the following regulations exist that directly or indirectly protect this species and/or its habitats:

- Decree No. 144 of 1998 - Maintains the prohibition of capture, retention and transport, commercialization, transformation and processing of the four species of sea turtles cited for the country up to that date.

- Law No. 17,283 of 2000 - Protection of the environment

- Law No. 17,234 of 2000 - Creates the National System of Protected Areas (Modified by Law No. 17,930 of CIT - Annual Report 2024 [Cecilia Lezama, Uruguay] Page 7 of 21 2005).

- Law No. 19,175 of 2013 - Establishes the legal regime of Fisheries and Aquaculture in order to ensure the conservation, research, sustainable development and responsible use of hydrobiological resources and the ecosystems that contain them (Regulated by Decree No. 115/2018).

5. Has your country taken conservation actions to protect nesting beaches and their associated habitats? *Please select only one option* 

□Yes

□No

 $\boxtimes$  Not applicable. There are no nesting beaches in the country.

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> Not applicable

**6.** Are there laws on turtle-friendly lighting in areas impacted by coastal development? *Please select only one option* 

□Yes

 $\boxtimes$  Not applicable. There are no nesting beaches in the country

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> Not applicable.

**7.** Is there long-term (minimum 10 years) standardized data available for population trend studies? *Please select only one option* 

🗆 Yes

□No

 $\boxtimes$  Not applicable. There are no nesting beaches in the country

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> Not applicable

8. Is there exploitation or direct harvest of loggerhead turtles in your country?

Please select only one option □Yes ⊠No □Not applicable

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> Not applicable

#### Resolution CIT-COP10-2022-R7 - Reduce impacts of fisheries on sea turtles

Relating to if your country has adopted the 'Guidelines to Reduce Sea Turtle Mortality induced by fisheries operations', of the United Nations Food and Agriculture Organization (FAO) including:

#### A. Research and monitoring of the adverse impact of fisheries on sea turtles

#### Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> For the Industrial fishing fleet, there is a National Observer Program on board the National Directorate of Aquatic Resources (DINARA) that collects relevant information on fisheries as well as on the bycatch of sea turtles and other species. It should be added that during the past year this Program did not operate in the Coastal Trawl fleet, which is the fishery that has the greatest impact on the populations of sea turtles present in the Uruguayan territorial sea.

2. Does your country have observer programs?

Please select only one option ⊠Yes □No □Not applicable

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> The National Directorate of Aquatic Resources has a National Program of Onboard Observers for Industrial Fisheries. Within the framework of this program, information is collected on the incidental capture of turtles, birds and marine mammals.

As mentioned above, during the past year, the program did not operate in fisheries that interact with sea turtles in the Uruguayan territorial sea.

3. Does your country do research on sea turtle/fishery interactions?

Please select only one option

 $\boxtimes$ Yes

□No

□ Not applicable

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> When the DINARA Observer Program is operational, it collects information on incidental capture of sea turtles in the different Industrial Fisheries, based on which different investigations are developed. On the other hand, within the framework of the Rescue and Stranding Network of Sea Turtles of Uruguay (created by the Karumbé Civil Association in 1999), the presence of signs of interaction with fisheries of turtles stranded on the coast (alive or dead) is verified, in cases where possible.

4. Does your country have information on non-Party vessels and interactions with sea turtles?
Please select only one option
□Yes
⊠No
□Not applicable

#### Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required. >>> N/A

5. Does your country cooperate with non-party states to obtain information on interactions with

sea turtles? Please select only one option □Yes ⊠No □Not applicable

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required. >>> N/A

#### B. Mitigation measures

6. Does your country implement mitigation measures in long-line fisheries?
Please select only one option
□Yes
□No
⊠Not applicable

#### Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> At present, there is no pelagic longline fleet in Uruguay.

7. Does your country implement mitigation measures in gillnets fisheries?

Please select only one option □Yes □No

□ Not applicable

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> In Uruguay, gillnets are used by the artisanal fishery (coastal fleet with vessels up to 13.8 meters in length) and to date there is no observer program for this fishery nor mitigation measures implemented.

8. Does your country implement mitigation measures in trawl fisheries (e.g. TEDs)?
Please select only one option
Yes
No
Not applicable

#### Please list the most relevant actions of the year (500 words)

TEDs: specify legally approved TEDs, their dimensions, material, and target species for that fishery, 2. time-area closures: specify a geographical area, time of closure and target species for that fishery, 3. tow times and/or 4. other measures; or attach any relevant documents

>>> At present, no mitigation measures have been implemented for the capture of sea turtles in the coastal trawl fishery.

9. your country implements mitigation measure in other fishing gears?
Please select only one option
□Yes
☑No
□Not applicable

If yes, please indicate which fishing gears >>> Not applicable.

10. List the fisher training programs about best practices for safe handling and release of incidentally- caught sea turtles carried out by your country during the last year >>> In the last year, no program with this approach has been implemented.

#### C. Socio-economic considerations

11. Do your country support socio-economic activities that help mitigate adverse impacts of fisheries on sea turtles?

Please select only one option □Yes □No □Not applicable

Please list the most relevant actions of the year (500 words)

List the activities, workshops, research, publications, or any other relevant material related to your response. Attach supporting documents, if required.

>>> N/A

### Part IV - Research Information

Indicate threats (Coastal development, incidental capture, direct use, contamination, pathogens, and climate change) by species

#### 1) Threats

1.1 Indicate threats

Indicate threats (Coastal development, incidental capture, direct use, contamination, pathogens, and climate change) by species

- Lo = Lepidochelys olivacea
- Lk = Lepidochelys kempii
- Dc = Dermochelys coriacea
- Ei = Eretmochelys imbricata
- Cc = Caretta caretta
- Cm = Chelonia mydas.

	L o	L k	Dc	Ei	Cc	Cm
Direct Use						$\boxtimes$
Incidental Capture			$\boxtimes$		$\boxtimes$	$\boxtimes$
Coastal development			$\boxtimes$		$\boxtimes$	$\boxtimes$
Pathogens						$\boxtimes$
Contamination	$\boxtimes$		$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$
Climate Change			$\boxtimes$		$\boxtimes$	$\boxtimes$

#### 2) Indicate the mitigation actions that apply for each species

2.1 Habitat loss mitigation actions (i.e. coastal development, pollution, climate change)

	L k	L o	Dc	Ei	Cc	Cm
Establishment of Marine Protected Areas		$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$
Lighting regulations in place						
Permits required for construction near nesting sites						
Permits required for scientific research on feeding/nesting grounds		X		$\boxtimes$	$\boxtimes$	$\boxtimes$
Permits required for recreational activities near nesting sites						
Beach Cleanups			$\boxtimes$		$\boxtimes$	$\boxtimes$
Predator's removal/contro l						
Use of sea turtle friendly lighting						
None						

#### 2.2 Bycatch mitigation actions (i.e. Incidental Capture)

	L o	L k	Dc	Ei	Cc	Cm
Sea Turtle Excluder Devices (TED)						
Time/space closures						
Research on new fishing gear technology						
Vessel monitoring using VMS					$\boxtimes$	$\boxtimes$
Marking of fishing gear in commercial vessels						
Fishers trained on sea turtle safe handling and release	$\boxtimes$					
Observers program						
Use of circle hooks						
Nets are banned						
Trawling is banned						
Nets illumination						
None						

#### 2.3 Direct use mitigation actions

	L o	L k	Dc	Ei	Cc	Cm
None						
Nests relocation						
Night Patrols						
Day Patrols						
Flipper Tagging	$\boxtimes$		$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$
Satellite Tracking						
Poaching regulations in place						
Environmental education for local communities	X		$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$
Seizure of sea turtle products	X		$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$
Livelihood alternatives for local communities						
Permits required for scientific research	$\boxtimes$					
Exception management plan (if applies)						

#### 3) Research

#### 3.1 Types of research

Please fill out the following table on the types of research being carried out in the country related to each species.

	Cm	Cc	Ei	Dc	L k	L o
Tagging	$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$		$\boxtimes$
Migration	$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$		$\boxtimes$
Genetics	$\boxtimes$	$\boxtimes$		$\boxtimes$		
Habitat monitoring	$\boxtimes$					
Fisheries interactions						
Disease	$\boxtimes$	$\boxtimes$				

#### 3.2 Describe scientific research

In addition to the above, please describe scientific research that is being carried out in the country relating to sea turtle population assessments including tagging, migration, and genetic studies, as well as those relating to conservation issues including habitat monitoring, fisheries interactions, disease, etc.

To report each project, please use the following structure:

1) Name of the project

2) Objective

3) E-mail of the organization/responsible

4) Summary (5 lines)

5) Annex Number (Use the blue buttons to attach photos and/or the full report, if available)

Describe the file with the same Annex number referenced in the text.

>>> POPULATION STUDY OF THE GREEN TURTLE (Chelonia mydas) ON THE ATLANTIC COAST OF URUGUAY Objective: To understand the population structure of the green turtle aggregation, identify the areas of greatest use, understand its diet and possible changes in this associated with environmental changes. In addition, it is intended to understand the health status and the incidence of threats affecting the species at a regional and global level.

Responsible: Gabriela Vélez-Rubio (NGO Karumbé and CURE-Udelar). Email: karumbemail@gmail.com

Abstract: The Atlantic coast of Uruguay is an aggregation area for juvenile individuals from different populations of the green turtle, so the use of the coast by the turtles can be seasonal or annual. For juvenile sea turtles it is difficult to establish a specific population size since they make use of large distribution areas and mortality at this stage is very high both for biological reasons and threats of anthropogenic origin. Previous studies carried out by Karumbé in the study area have shown a 12% recapture rate of individuals, indicating that this is an area where turtles show high site fidelity. Given the high seasonal migration and site fidelity, mark-recapture work is of special interest to understand the movements of turtles.

EVALUATION OF SEA TURTLE AGGREGATIONS IN URUGUAYAN WATERS BY ANALYSIS OF STRANDINGS.

Objective: To determine the abundance and spatiotemporal patterns of sea turtles, as well as the threats that affect them.

Responsible: Gabriela Vélez-Rubio (NGO Karumbé). Email: karumbemail@gmail.com

Abstract: Annually, the number of sea turtles found on the coasts or captured by fishing boats in the waters of the Río de la Plata and the Atlantic Ocean amounts to approximately 300 individuals. Although most of the reported strandings correspond to dead specimens, a significant number of live turtles are also found on the beaches, with varying degrees of compromised health. Based on the work of the Karumbé Civil Association that began in 1999, and the creation by the same of a Rescue and Stranding Network of Sea Turtles of Uruguay (RRVTMU), the problems that put the physical integrity of the turtles at risk were made evident, and with it the need to carry out long-term monitoring of the aggregation of turtles present in our waters.

EFFECT OF THE INTERACTION OF SEA TURTLES WITH SOLID WASTE IN URUGUAYAN WATERS

Objective: To analyze the effects of plastic pollution on the health of the green turtle and to study the distribution patterns of plastic waste in Uruguayan waters. In addition, the results will allow to evaluate the risk of plastic ingestion for this population related to the levels of exposure to plastic.

Responsible: Gabriela Vélez-Rubio (NGO Karumbé, Facultad de Ciencias-Udelar and CURE-Udelar) and Ayelen Pacheco (NGO Karumbé). Email: karumbemail@gmail.com

Abstract: This study provides a unique opportunity to analyze and evaluate the effects of anthropogenic

waste pollution (mainly plastics) on the health of green sea turtles, based on a wide and robust range of samples over a 10-year period. Since the quantification of these impacts remains a high priority for research both in the field of marine pollution by anthropogenic waste and in the conservation of sea turtles.

ENVIRONMENTAL POLLUTION AND HEALTH STATUS OF THE GREEN TURTLE AGGREGATION PRESENT IN THE PROTECTED COASTAL MARINE AREA "CERRO VERDE AND ISLAS DE LA CORONILLA" AND INFLUENCE AREAS Objective: To obtain information on the health status of the C. mydas species from indicators of oxidative stress, such as antioxidant enzyme activity, lipid peroxidation and loss of DNA integrity.

Responsible: Florencia David (NGO Karumbé and University of Rosario, Argentina). Doctoral thesis in its second year of completion. Email: karumbemail@gmail.com

Abstract: Marine turtles, due to their ontogenetic change in diet and the different habitats they use throughout their life cycle, play an important role as indicators of environmental health. Although sea turtles face numerous anthropogenic threats, the effects of heavy metals, organochlorine compounds (OC) and polychlorinated biphenyls (PCB) on their health, survival and reproduction are among the main topics of study for their conservation. Blood samples are a reliable and non-lethal method to evaluate concentrations of xenobiotics in sea turtles. Considering that knowledge about the effects of exposure to contaminants on juvenile green turtles that inhabit Uruguayan waters is practically non-existent, this study aims to obtain information on the health status of the aggregation of juveniles of this species present in the Protected Coastal Marine Area "Cerro Verde and La Coronilla Islands".

OPPORTUNISTIC BENTHONIC EPIBIONTS ON JUVENILE GREEN TURTLES ON THE ATLANTIC COAST OF URUGUAY: COMPOSITION AND HABITAT USE INDICATORS

Objective: To analyze the composition and structure of opportunistic epibionts of juvenile green turtles (Chelonia mydas) and estimate habitat use during brumation, comparing it with benthic assemblages of rocky substrates on the Atlantic coast of Uruguay.

Responsible: Gabriela Vélez-Rubio (NGO Karumbé, Facultad de Ciencias-Udelar and CURE-Udelar) and Fabrizio Scarabino (CURE, Udelar) Email: karumbemail@gmail.com

Abstract: On the Uruguayan coast there are large seasonal variations in sea surface temperature, so most juvenile green turtles migrate during the winter to coastal waters in southern Brazil or to oceanic waters where the temperature is higher. Even so, a small proportion of the juvenile aggregation may remain in Uruguayan coastal waters during this season. These individuals that do not migrate, when faced with a gradual drop in temperature, may develop a winter lethargy behavior or "brumation" to tolerate low temperatures by remaining on the seabed for long periods of time. In this context, the hypothesis of this work is that green turtle individuals during the cold months constitute an available substrate for benthic organisms, reflecting the benthic assemblage of the rocky substrate of the Atlantic coast of Uruguay. The study of the assemblage in these areas (species composition, monthly recruitment and growth rates of mussels) will allow us to infer the habitat use of the turtles during this period of the year.

APPLICATION OF UNMANNED AERIAL SYSTEMS (DRONES) FOR THE EVALUATION OF GREEN TURTLE POPULATIONS IN PROTECTED COASTAL MARINE AREAS IN URUGUAY

Objective: Estimation of green turtle density in the Cerro Verde Coastal Marine Area and La Coronilla Islands, in the Department of Rocha, during different seasons of the year, and to evaluate possible changes in the seaweed cover associated with invasive species, sand deposition, among other stressors.

Responsible: Natalia Teryda (Ph.D Student, School of Natural Resources and Environment, University of Florida) and Gabriela Vélez (NGO Karumbé)

Abstract: Throughout its wide distribution range, thousands of stranded turtles have been reported affected by direct threats annually in the South-eastern Atlantic Ocean (SWAO), indicating strong anthropogenic pressures. Since juvenile green turtles have high fidelity to feeding areas in the SWAO, this project will use unmanned aerial systems (UAS or drones) to analyze the ecological role of the green turtle in these coastal habitats and assess how their distribution patterns are affected by habitat variability. For this project, a UAS will be used to conduct aerial surveys to estimate green turtle density in the Cerro Verde Coastal Marine Area and La Coronilla Islands, in the Department of Rocha, Uruguay during different seasons of the year, and to assess possible changes in seaweed cover associated with invasive species, sand deposition,

among other stressors. https://www.boydlyonseaturtlefund.org/natalia-teryda

AUTOMATED RECOGNITION OF MARINE FAUNA USING DIGITAL IMAGE RECORDS FROM UNMANNED AUTONOMOUS VEHICLES: IDENTIFICATION OF SEA TURTLES ON THE COAST OF URUGUAY

Responsible: Engineer Rafael Rosa (Master's Student in Systems, Faculty of Engineering, Udelar, Uruguay) and Gabriela Vélez (NGO Karumbé-Udelar). ANII National Postgraduate Scholarship 2022

Objective: Estimation of green turtle density in the Cerro Verde Coastal Marine Area and La Coronilla Islands, in the Department of Rocha, Uruguay during different seasons of the year, and to evaluate possible changes in the cover of seaweed associated with invasive species, sand deposition,

among other stressors.

Abstract: The thesis project proposes to address the problem of automating turtle counting to estimate habitat use in Uruguayan coastal waters. For this estimation, visual censuses or capture-recapture of individuals are currently used, which have as main disadvantages their high margin of error and their invasive nature. It is proposed to develop a non-invasive monitoring system, based on video images captured by unmanned aerial vehicles, UAVs (known as drones) and processed using computational intelligence techniques. The objective is to develop an automated image recognition system that allows the identification and counting of sea turtle individuals that use Uruguayan waters. Taking as a basis a series of videos

generated from drone flights carried out on the coast of Uruguay, it is proposed to train and validate an automated model for recognition and counting of sea turtles. The developed system will be used in the Karumbé monitoring program and could be scaled to other marine fauna species in Uruguay and the world. BIBLIOGRAPHICAL CITATIONS (period 2023-2024) - Prosdocimi L, Vilaca ST, Naro-Maciel E, Caraccio MN, Formia A, Vélez-Rubio GM (2024) Genetic composition of green sea turtles (Chelonia mydas) at coastal feeding areas of Uruguay. Frontiers in Amphibian and Reptile Science, 2, 1351226. https://doi.org/10.3389/famrs.2024.1351226 - Vélez-Rubio GM, Prosdocimi L, López-Mendilaharsu M, Caraccio MN, Fallabrino A, LaCasella EL, Dutton PH ( 2023) Natal Origin and Spatiotemporal Distribution of Leatherback Turtle (Dermochelys coriacea) Strandings at a Foraging Hotspot in Temperate Waters of the Southwest Atlantic Ocean. Animals 13(8):1285.

https://doi.org/10.3390/ani13081285 CONFERENCE PRESENTATIONS •42nd International Sea Turtle Symposium. Pattaya, Thailand. Arbitrated. International. Annual. March 2024. -Vélez-Rubio GM, Fallabrino A. Spatio-temporal distribution and associated threats of Loggerhead turtle strandings in Uruguay (2000-2022).

-Teryda N, Vélez-Rubio GM, Prosdocimi L, Carthy R. Uncrewed Aerial Systems as tools for green turtle population assessment in coastal marine protected areas in Uruguay (Oral presentation).

-Teryda N, Prosdocimi L, Vélez-Rubio GM, Carthy, R. Unmanned aircraft system surveys target leatherback (Dermochelys coriacea) conservation in the Rio de la Plata Estuary, Argentina. Workshop Oral Presentation.

-Rosa R, Teryda N, Vélez-Rubio GM. Utilization of Artificial Intelligence (AI) to automate sea turtle identification in low water visibility in Uruguay, South Western Atlantic.

-González-Paredes D., Vélez-Rubio GM, Marsh H, Hamann M. Plastic ingestion in marine turtles: insights from different study approaches.

•10th RED-ASO Sea Turtles Conference. Refereed. International. Biannual. November 2023 Oral:

- Heguaburu, Lara, Laura Pérez, Gabriela M. Vélez-Rubio, Roksana Majewska. DIATOM DIVERSITY ASSOCIATED WITH CHELONIA MYDAS ON THE ROCHA COAST, URUGUAY.

- David, F., Ferrando, V., Gary, M., Stanley, S. CHARACTERIZATION OF FIBROPAPILLOMATOSIS IN Chelonia mydas IN URUGUAY.

- Vélez-Rubio, GM., Angel Segura, Gustavo Martinez Souza, Daniel González-Paredes & Alejandro Fallabrino. ESTIMATION OF SOMATIC GROWTH AND MATURITY SIZE OF THE GREEN TURTLE IN URUGUAY.

 Prosdocimi, L., Sibelle T. Vilaça, Eugenia Naro-Maciel, Ma. Noel Caraccio, Angela Formia & Gabriela M. Vélez Rubio. GENETIC COMPOSITION OF THE GREEN TURTLE IN FOODING AREAS OF URUGUAY - Buteler, C., Rafael Rosa & Gabriela M. Vélez-Rubio. ARTIFICIAL INTELLIGENCE TOOLS IN POPULATION STUDIES OF SEA TURTLES
 Scarabino, F., Gabriela M. Vélez-Rubio, Romina Trinchin, Alejandro Fallabrino & Andrés Estrades. HISTORICAL PRESENCE OF CHELONIA MYDAS IN URUGUAYAN COASTAL WATERS

- Pacheco Viola, A., Javier Torres, Marina García, Gabriela Vélez-Rubio, Daniel Fajardo, Maximiliano Rodriguez , Inti Lavecchia, Juan Manuel Llanes, Shirley Marquez, Alejandro Fallabrino. KNOWING, EXCHANGING AND CONSERVING: SEA TURTLES, AQUATIC ACTIVITIES AND WASTE MANAGEMENT IN LA CORONILLA FROM THE SEA TO SCHOOLS: COASTAL ENVIRONMENTAL EDUCATION IN URUGUAY

- Teryda, N., Gabriela M. Velez-Rubio, Laura Prosdocimi, Raymond R. Carthy. UNMANNED AERIAL SYSTEMS AS TOOLS FOR THE EVALUATION OF GREEN TURTLE POPULATIONS IN PROTECTED COASTAL-MARINE AREAS IN URUGUAY

- Brittos, L., Carolina Lewis, Julia Rodrigo Nocchi, Thiao Passadore, Juan Manuel Ordoqui, Sebastián Serra, Fabrizio Scarabino, Gabriela M. Velez-Rubio. INTRODUCTORY SEMINAR TO BIOLOGY: EXPERIENCE OF BEGINNING TO THE RESEARCH OF THE DIET OF SEA TURTLES IN A DEGREE SUBJECT

- David, F., Ferrando, V., Fallabrino, A., Pochettino, A.CHARACTERIZATION OF THE HEMATOLOGICAL PROFILE OF THE

GREEN TURTLE (CHELONIA MYDAS) IN URUGUAY

#### 4) Other activities

In the case of projects, please include the name of the project, organizations involved, a five lines summary, status, and contact person.

#### 4.1 Other activities

Include a 500 words summary of information on environmental education activities, programs to establish and manage protected areas, and cooperative activities with other Party countries.

Please attach any other relevant documents using the blue boxes below.

>>>> INTERACTION OF MARINE MACROFAUNA WITH PLASTICS ON THE COAST OF MONTEVIDEO. Funded by the "Ing. Oscar Maggiolo" fund of the Municipality of Montevideo and the Sectorial Commission for Scientific Research (CSIC) of the Udelar. Responsible parties: Gabriela M. Vélez-Rubio and Diana Szteren. Email:

karumbemail@gmail.com Karumbé actively collaborates in the registration of stranded sea turtles that will be analyzed within the framework of this project. The project began in April 2024 and will last one year.

DEVELOPMENT OF NATIONAL CAPACITIES TO PROMOTE MARINE CONSERVATION EXPERIENCES IN URUGUAY. Project funded by WCS-Argentina.

Carried out jointly by the organizations Karumbé and Vida Silvestre. Email: karumbemail@gmail.com The objective

of this collaboration is to develop national capacities to promote marine conservation experiences in Uruguay, with a focus on the planning and monitoring of MPAs and the mitigation of environmental impacts. To this end, this initiative will adopt a praxis-based approach, generating and analyzing information in the marine sectors of two protected areas that make up the SNAP: Laguna de Garzón and Cerro Verde and Islas de La Coronilla. This will allow us to acquire experience and capacities for the planning and management of MPAs and the conservation of marine space in general, taking advantage of the facilities that come with operating from the coast. The project began in April 2024 and will last one year.

#### ENVIRONMENTAL EDUCATION PROGRAM

Objectives: 1. Strengthen the environmental education program of the NGO Karumbé by updating the educational material used in the workshops held within the framework of the program. 2. Update information and recreational activities with teachers from different educational levels. 3. Conduct workshops where these materials can be worked on, generating knowledge regarding the coastal environment, biodiversity, threats, care and conservation practices. 4. Disseminate this material through workshops, educational centers and digitize it to be able to share it from the organization's website.

Summary: Since 1999, the NGO Karumbé has been working on environmental education as a fundamental tool to encourage and promote a correct relationship between society and nature, taking into account values, experiences and knowledge to achieve sustainable development and improve this relationship between humans and nature. This project aims to update the educational material used in workshops within the framework of the environmental education program of this organization, together with teachers, non-university actors and students of udelar, to update, create and adapt knowledge to three age ranges from early childhood education, primary and secondary (basic cycle).

### Part VI - Fisheries Information

If your country does not have data available to fill out the information on longline fisheries, please contact the IAC Secretariat secretario@iacseaturtle.org

#### **Longline Fisheries**

#### Longline Fisheries (Vessels >20m)

Does your country have industrial longline fisheries with vessels over 20m? Please select only one option □Yes ⊠No

# To follow up the implementation of the Resolution Reduction of the Adverse Impacts of Fisheries on Sea Turtles CIT-COP10-2022-R7 and Resolution Conservation of East Pacific Leatherback CIT-COP10-2022-R6

#### Instructions:

Dear Delegate: please fill out the information regarding your country, in the following format.

This format contains 5 sections that will need to be completed: 1) Fisheries Characteristics 2) Sea Turtle Bycatch 3) Reduction of the Bycatch impacts on sea turtles 4) Strandings 5) Participation of your country in RFMOs and other international organizations and entities.

#### 1) FISHERIES CHARACTERISTICS

Fishery is defined as a fishing activity that takes place in a specific area, using a specific fishing gear, targeting certain species, and interacting with one or more species of sea turtles in different life stages, like pelagic longline targeting tuna, shrimp trawlers, semiartisanal pelagic longlines for Mahi mahi, etc.

The following information is requested to evaluate the implementation of Resolution Reduction of the Adverse Impacts of Fisheries on Sea Turtles CIT-COP10-2022-R7.

If this Resolution does not apply to your country, you do not need to fill out the section.

1.1Please write in each row of the Question 1.1, the fisheries with the most known or expected adverse impacts on sea turtles in your country. Include those fisheries with the greatest numbers of interactions and/or interactions with critically endangered species and please **indicate with (x)** which species of sea turtle(s) interact(s) with those fisheries. **Examples of fisheries**: pelagic longline for tunnids, shrimp trawlers, bottom gillnet targeting "seabass", among others. Add more rows to the table as needed. Cc=Caretta caretta; Cm=Chelonia mydas; Dc= Dermochelys coriacea; Ei= Eretmochelys imbricata; Lk= Lepidochelys kempii and Lepidochelys olivacea

FISHERY	Cc	Cm	Dc	Ei	Lk	Lo
Coastal bottom trawling (Industrial Fishery)	х	х	х			х
Floating and bottom gillnets in the internal estuarine zone	х	х	х			
Bottom gillnet External Estuarine Zone	x	x	x			
Atlantic coast bottom gillnet	х	Х	х			

1.2For each fishery mentioned in Question 1.1, provide the following information

FISHERY	Averag e length boat size (m)	Target species	General fishing area (coastal up to 12 miles and oceanic more than 12 miles)	Estimated total number of vessels that operated in the last year: (10, 11-100, 101- 1,000, 1,001- 10,000, >10,000, unquantified)	Average effective fishing days/vessel in the last year: (10, 11-30, 31-60, 61-90, 91-180, >180, every day, unquantified)
Coastal bottom trawling (Industrial Fishery)	26	Micropogonias furnieri (white croaker), Cynoscion guatucupa (spotted whiting) and accompanying fauna	coastal and oceanic	11-100	61-90
Floating and bottom gillnets (ZEI)	6.4	Micropogonias furnieri (corvina rubia) y Prochilodus lineatus (sábalo)	coastal - in the internal estuarine zone (EEZ)	101-1000	Unquantified
Enmalle de fondo (SEE)	6.6	Micropogonias furnieri (blond croaker) and Cynoscion guatucupa (openwork whiting)	coastal - in external estuarine zone (EEZ)	101-1000	Unquantified
Bottom gillnet (ZO)	8.1	Micropogonias furnieri (corvina rubia), Mustelus schmitti (gatuzo) y Squatina spp. (angelito)	Coastal - On Ocean Coast	11-100	Unquantified

#### 2) SEA TURTLE BYCATCH

The following information is requested to evaluate the implementation of Resolution Reduction of the Adverse Impacts of Fisheries on Sea Turtles CIT-COP10-2022-R7.

If this Resolution does not apply to your country, you do not need to fill out the section.

Using the data of fisheries with the greatest impact on sea turtles defined by your country **in section 1 (Question 1.1)**, please indicate approximately how many sea turtles have been caught as bycatch in each fishery? Please select the most appropriate abundance value (zero, 1-10, 11-20, 21-50, 51-100, 101- 1,000, 1,001-10,000, >10,000, or unquantified). If a species does not interact with a fishery, write N/A (Not applicable).

If the requested information is not available in the country, indicate in the fields of the tables "ND" or "no data".

FISHE RY	Cc	Cm	Dc	Ei	Lk	Lo
Coastal bottom trawling (Industrial Fishery)	ND	ND	ND	ND	ND	ND
Floating and bottom gillnets (ZEI)	ND	ND	ND	ND	ND	ND
Enmalle de fondo (SEE)	ND	ND	ND	ND	ND	ND
Bottom gillnet (ZO)	ND	ND	ND	ND	ND	ND

**2.1**Please indicate the source(s) of bycatch data and the percentage of fishing effort monitored to obtain those results: (0, <10%, 11-25%, 26-50%, > 50%, 100%, unquantified). If a monitoring method is not used for a given fishery, leave the field in blank.

If the requested information is not available in the country, indicate in the fields of the tables "ND" or "no data".

		FISHERY	On-board observers	Port-based observers/intervie ws	Electronic monitoring	Fishermen logbooks	Radio comms	Other
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Coastal bottom trawling (Industrial Fishery)	Unquantified	ND		
Floating and bottom gillnets (ZEI)				
Enmalle de fondo (SEE)				
Bottom gillnet (ZO)				

#### 3) REDUCTION OF THE BYCATCH IMPACT ON SEA TURTLES

**3.1**Mention which of the following bycatch mitigation measures are implemented in your country, in the fisheries in section 1 (Question 1.1) and in what percentage of the fleet's activities (0, <10%, 11-25%, 26-50%, >50%, 100%, unquantified)? If a measure it is not implemented in your country, write "N/I" and include a brief description of the reason(s) why on the corresponding box. If the measure does not apply in your country, write "N/A" and a brief description of why the measure does not apply in its respective column, for example this measure and / or fishery does not exist.

	Fishery to which the measure applies	% of fleet for the fishery (use ranges above)	This measure is not implemented (N/I)	This measure does not apply (N/A)
Circle hooks	Pelagic Longline			N/A - there is currently no pelagic longline fleet
Fish bait	Pelagic Longline			N/A - there is currently no pelagic longline fleet
Net illumination	Floating and bottom gillnet			N/A - this measure does not exist
Reduced soak times	Floating and bottom gillnet		N/I	
TEDs (Turtle Excluders Devices)	coastal bottom trawling			N/A - There are no TEDs in bottom trawling for coastal fish in Uruguay
Others				

3.3Which of the following best practices and measures for safe handling and release for sea turtles are implemented in your country (in the fisheries identified in section 1 question 1.1), and in what percentage of the fleet's activities (0, <10%, 11-25%, 26-50%, > 50%, 100%, unquantified)?. If the practice is not implemented in your country, write (N/I) on the column "This practice is Not Implemented", and include a brief description of the reason on the space provided. If the practice is Not Applicable in your country, write (N/A) on that column and a brief description of the reason, for example: the measure or practice/ or fishery does not exist in your country.

	Fishery to which this measure applies	% of the fishing fleet (use ranges above)	This measure is not implemented (N/I)	This measure does not apply (N/A)
Dehooking	Pelagic Longline			N/A - this fishery does not currently exist in the country
First aid to injured sea turtles	Coastal bottom trawling - Floating and bottom trawling	Unquantified		
Disentanglement	Coastal bottom trawling - Floating and bottom trawling			
Installation and maintenance of TEDs			N/I	
Communication program with the fishing fleet to promote best practices			N/I	

Projects to promote exchange between fishermen at national level to share experiences on reduction and mitigation of EP leatherback bycatch			
Projects to promote exchange between fishermen at regional level to share experiences on reduction and mitigation of EP leatherback bycatch			
On-board equipment and educational material for best practices for safe handling and release of sea turtles		N/I	
Other			

3.4 In your country, who is receiving training on the following best practices and how many individuals received the training this year? (? zero, 1-10, 11-20, 21-50, 51-100, 101-1,000, >1,000, or unquantified)?

# If the requested information is not available in the country, indicate in the fields of the tables "ND" or "no data".

	Received training (YES or NO)	Number of trainings or workshops made	Number of people who received training (use ranges above)
Onboard observers	No		
Collector of fishing information in ports	No		
Fishermen or fishing crew	No		
Park rangers	No		
Environmental police/Conservation Officers	No		
Other			

#### 4. STRANDINGS

4.1 In your country, is there a systematic registration for standings? A systematic registration refers to the collection of annual information for standings through a governmental agency or another organization authorized by the government. *Please select only one option* ⊠YES

4.2 Indicate which methods are used to collect strandings information in your country, and how frequently each is used (continuously, sporadically, on demand, never)

	YES/NO	How frequently it is being used (continuously, sporadically, on demand, never)
Continuous and systematic monitoring within the framework of governmental programs (e.g. beach census)	ND	

Systematic monitoring within the framework of specific research projects (e.g. particular projects lead by the scientific sector and the NGOs)	ND	Continuously
Opportunistic monitoring (e.g. Isolated/fortuitous reports)	ND	Sporadically
Other – please indicate below	ND	

4.3 If you have the available information, approximately, how many sea turtles were stranded on the beach in your country last year? Please select the abundance value that is the best fit for your country (zero, 1-10, 11-20, 21-50, 51-100, 101-1000, 1001-10 000, >10 000 o UNQUANTIFIED).

If the requested information is not available in the country, indicate in the fields of the tables "ND" or "no data".

	Number of stranded turtles (use range above)	Is the number of stranding the product of a systematic monitoring (Yes/NO)	Presence of the turtle species in your country (YES/NO)
Cc	101-1000	Yes	Yes
Cm	101-1000	Yes	Yes
Dc	11-20	Yes	Yes
Ei	1-10	Yes	Yes
Lk			
Lo	1-10	Yes	Yes

#### Thank you!

Thank you, you have completed the IAC Online Report questionnaire.

We are very appreciative of the time you have taken to answer all the questions. The PDF of this document will be published on the Annual Reports section of the IAC

website http://www.iacseaturtle.org/informes-eng.htm