

PICES special project "SEAturtle" report 2020



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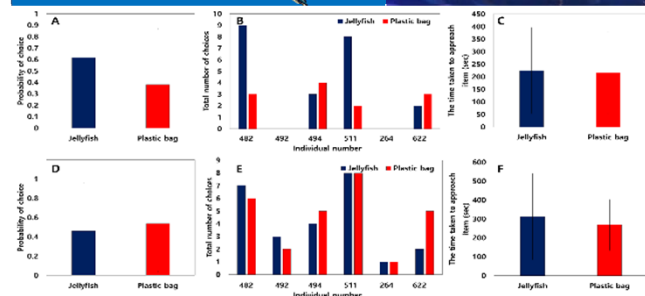
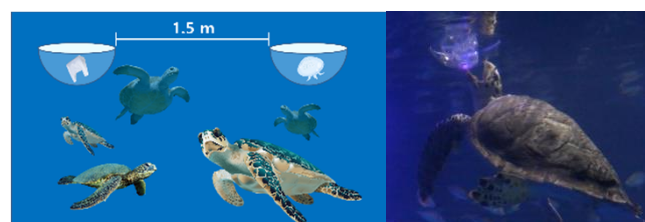
Membership

(Korea, Japan, China (Hong Kong), USA, Canada, and Mexico still looking for more Chinese member)

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Aquarium experiment: sea turtle and plastic recognition

- Question: Do hawksbill turtles misrecognize plastic bags as jellyfish prey?
- Location: Lotte World Aquarium at the end of 2019.
- Period: Oct – Dec 2019
- The results showed that hawksbill turtles can discriminate btw. plastic bags and jellyfish. But there is high probability for them to misrecognize plastic bags and jellyfish.



Joint necropsy: stranded large marine animals

- Where: Korea Fisheries Resource Agency (FIRA), Jeju Island
- Period: Aug 20-21, 2020
- Two loggerhead turtles hooked by longline fishing gear
- Plastic piece with Chinese letters were found.



Dive research: Derelict fishing gear and the sea turtle stranding



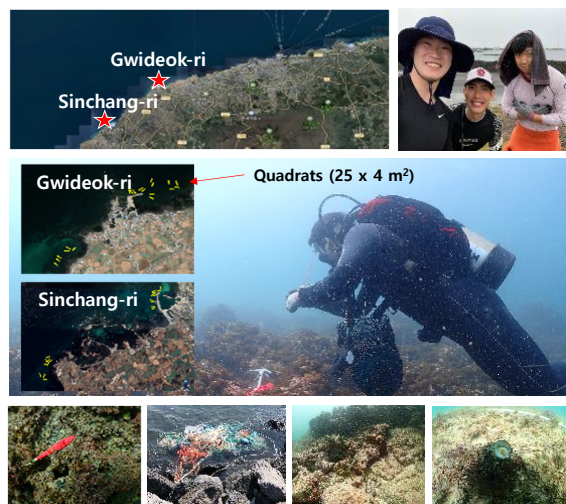
Background

- Ghost fishing is one of the serious problems that could threaten the survival and health of large marine animals. we investigate the correlation between the frequency of sea turtle stranding and the number of derelict fishing gears (DFG) on the northwest coast of Jeju island.

Research Site: The northwest coast of Jeju island (where bycatch of sea turtles are most reported between 2011-2019)

- Gwideok-ri: High stranding pressure (20 stranding)
- Sinchang-ri: Low stranding pressure (3 stranding)
- We predict that Gwideok-ri has more DFG than Sinchang-ri.

Period: Aug 17 – Sep 5, 2020



19 quadrats (25 x 4 m²) investigation on the subtidal zone for each site was conducted by using SCUBA diving to investigate the distribution of DFG, and investigate the number of stranded nets. Roughly, both values are high in Gwideok-ri. These samples are being analyzed.

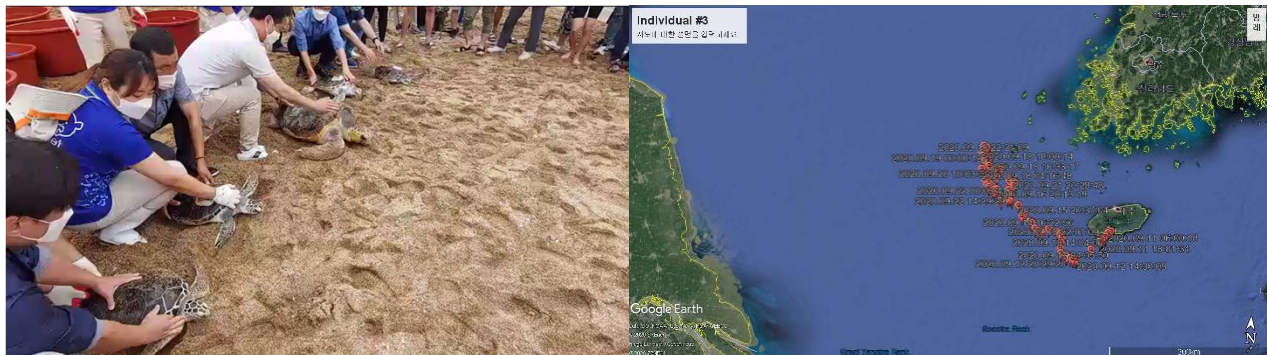
Tracking research: Tagging sea turtles rescued

- 2020 Plan: Tagging 5 Iridium transmitters for sea turtles
- Current output : 3 individuals (1 loggerhead, 2 green) tagged and are being tracked successfully



PICES SEAturtle Individual # 3 (loggerhead sea turtle)

- Cured and kept at Hanhwa Aquarium in Jeju
- 9/11 Release at Jungmun Saekdal Beach with other sea turtles
- Currently moving southwest of Korean peninsula



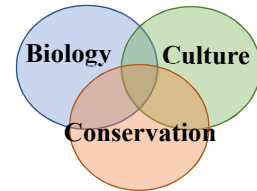
Interview Research: Understanding Sea Turtle through the stories of Jeju Islanders



©Brian Miller
Haenyeo from Jeju Island (UNESCO Culture Intangible Heritage)

The belief of dragon king/queen of the ocean and turtle as the third and youngest daughter of the king/queen by Jeju Islanders who highly depend on the sea for their livelihood is still active and strong.

This project aims to listen to these Jeju Islanders for the biological insight of sea turtles and expand our knowledge of the cultural value of the sea turtles. Furthermore, we hope to answer a biological and cultural questions about sea turtles worldwide using a similar platform.



Expected Goals

- Filling the gaps in the understanding of sea turtle ecology around Jeju Island.
- Increasing our knowledge of cultural identification of sea turtles to Jeju islanders and its effects on conservation.
- The use of cultural identification of sea turtles to the younger generation, scuba divers, and visitors of Jeju island might be practical to increase the awareness of both sea turtle and Jeju ocean conservation.
- Designing the questionnaire that aims to increase biological and cultural knowledge about sea turtles worldwide

Future Plan: Based on the results of Jeju interview research as a testbed, we plan to perform interviews worldwide centering on PICES SEAturtle member countries.

Public Outreach: Sharing Research with the Public through Social Network

The SEAturtle Project has been introduced to the public through three highly used social networks in Korea. We also shared information on the first tagged and released sea turtle of the year 2020 (Individual #3). We hope to increase public awareness of the current project and sea turtle conservation in Korea through sharing our project in social media.



The upcoming posts related to sea turtles will include:

1. Tagging of each sea turtle.
2. Follow up on tagged individuals through opening a few GPS points coming in from the released sea turtles (Ex. 2020 Individual #3)
3. Introduce interesting facts and recent scientific researches about sea turtle.

MARC (Marine Animals Research and Conservation)

Side product

Marine Pollution Bulletin 159 (2020) 111514

Contents lists available at ScienceDirect

Marine Pollution Bulletin

journal homepage: www.elsevier.com/locate/marpolbul



First record of plastic debris ingestion by a fin whale (*Balaenoptera physalus*) in the sea off East Asia

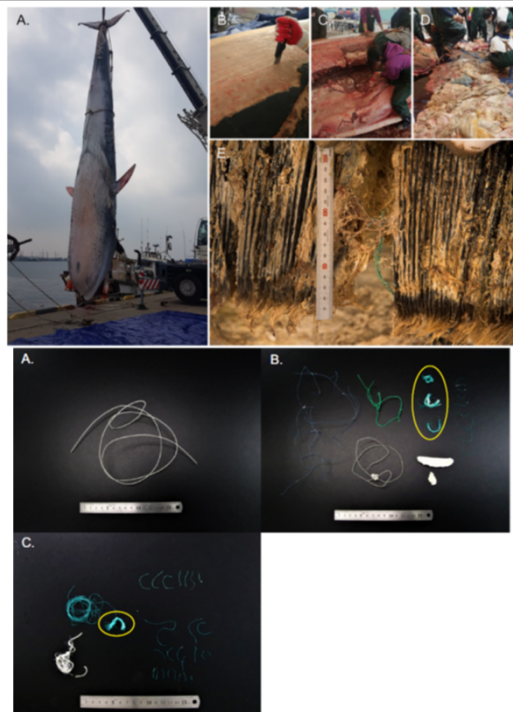


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Acknowledgments

The authors wish to thank the Jeju Maritime Police for logistic assistance, Byeong-yong Park and Seung-Kyu Kim for helping FTIR plastic identification at Incheon National University. This research was supported by **PICES (North Pacific Marine Science Organization)**, National Research Foundation of Korea (NRF-2020R1A2C1005194), and "Gyeonggi Sea Grant Program," funded by the Ministry of Oceans and Fisheries, Korea (20170362).



PICES SEATurtle project road map

	Year 1 (2019)	Year 2 (2020)	Year 3 (2021)	Year 4 (2022)
Tracking Jeju Sea Turtles	3 Iridium tags (at least one logger head) -> 2 Iridium tags	3 Iridium tags (at least one logger head) -> 5 Iridium tags (planned)	3 Iridium tags (at least one logger head)	3 Iridium tags (at least one logger head)
Dive research	Trash monitoring (Jungmun)	Trash monitoring in foraging grounds -> 2 sites DFG comparison		
Tracking Green Sea Turtles in Japan (Ishigaki)		2 iridium tags (delayed)	1~2 tags depending on the results (delayed)	
Interview research (questionnaires)	Korea (demonstration, standardization) Delayed	N = 15 ~25 Korea Japan Hong Kong Hawaii (?) Delayed	USA Canada Mexico China (?)	
Meeting	Kick-off meeting (Jeju) PICES business meeting(Canada)	PICES business meeting (cancelled)	PICES business meeting	Wrap-up meeting

Request for extension of research period

- Planned works were delayed due to COVID 19 (e.g. Tagging in Japan and interview research).
- Request for one-year extension to 2023.

Thank you!