



Stream 1-Reaching Conservation Goals

Session 38

National experiences with MPA network development

Session leader: Dr Barbara Musso, Parks Australia

Panellists: Juan Bezaury-Creel, Fairul Izmal, N. Vasudevan, Daniel Cebrian, Gwendalyn Sisior, Mathieu Ducrocq, Kwang-Tsao Shao, Melwert Kikuo, Cristina González-Onianda

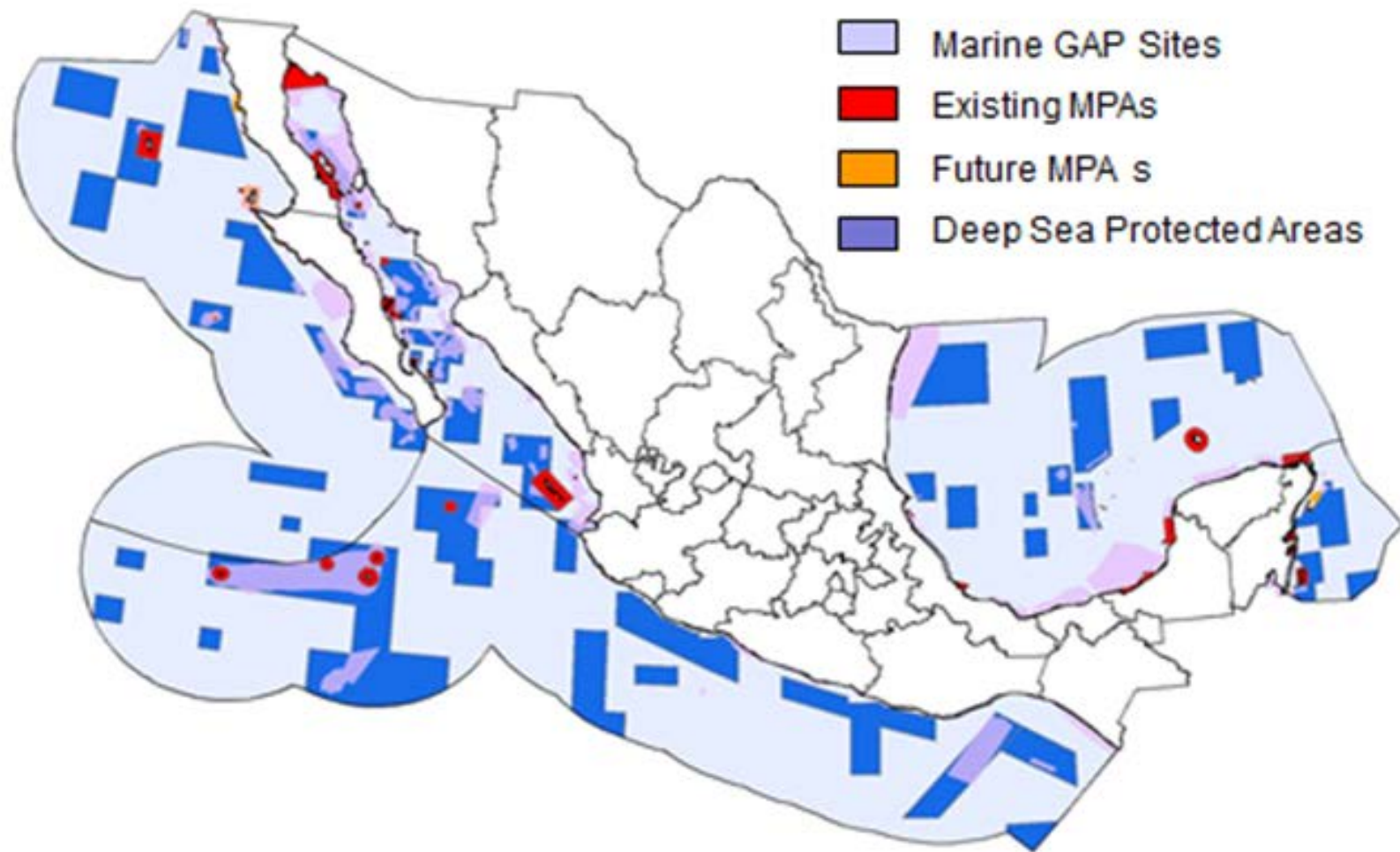
National experiences with MPA network development

1. Designing national networks: policy and science	2. Balancing economic, conservation and social considerations	3. Communicating and promoting national networks
Juan Bezaury-Creel, The Nature Conservancy, Mexico	Gwendalyn Sisor, Protect Areas Network Office, Palau	Melwert Kikuo, Protected Area Network Fund, Palau
Fairul Izmal Jamal Hisne, The MareCet Research Organization, Malaysia	Mathieu Ducrocq, National parks Agency (ANPN), Gabon	Cristina González-Onianda Guerrero, Fundacion Biodiversidad, Spain
N. Vasudevan, Government Of Maharashtra, India	Kwang-Tsao Shao, Biodiversity Research Center, Academia Sinica, Taiwan	
Daniel Cebrian, Regional Activity Centre For Specially Protected Areas		

Panel 1) Designing national networks: policy and science

Juan Bezaury-Creel, The Nature Conservancy,
Mexico

Mexico Deep Sea Marine Protected Area Network



Panel 1) Designing national networks: policy and science

Fairul Izmal Jamal Hisne, The MareCet Research Organization, Malaysia

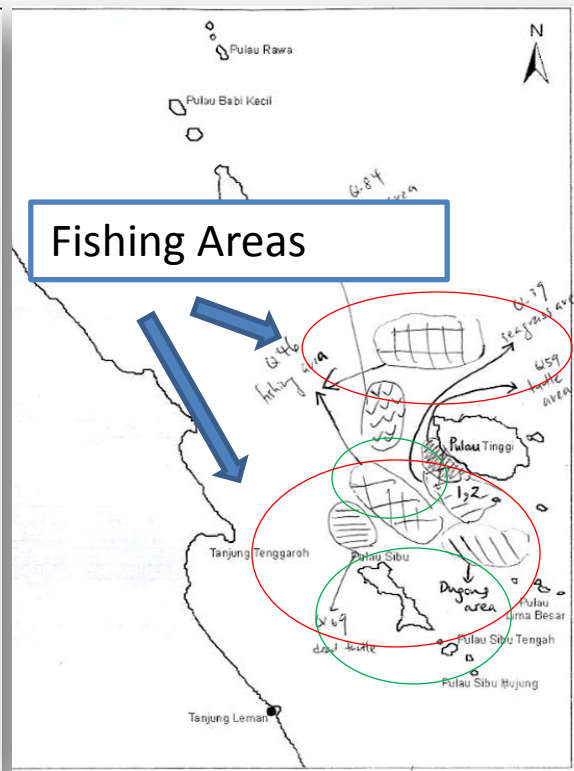
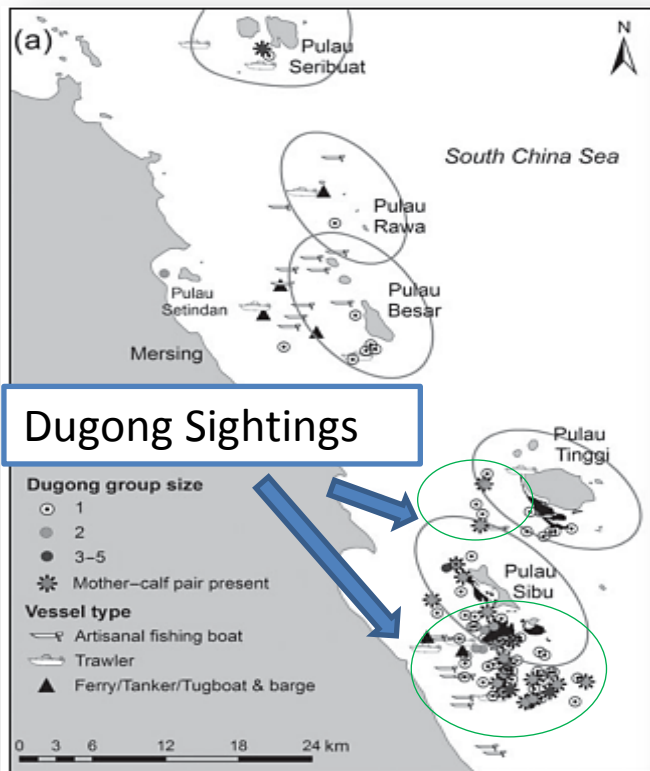
Aligning research needs and conservation goals: Perspectives from Malaysia

FAIRUL IZMAL Jamal Hisne
Environmental Resources Management
&
The MareCet Research Organization



Louisa S. PONNAMPALAM, PhD
Institute of Ocean & Earth Sciences,
Universiti Malaya
&
The MareCet Research Organization





Multiple deaths annually

Population suspected in decline



1985

1999

2010

- MPA legislation introduced
- First group of MPAs established around the country at an arbitrary 2 nm distance from coastline.

- “Re-discovery” of dugong presence in Malaysian waters
- Legislation introduced for management of threatened marine species

- 60% of dugong population found concentrated outside of MPA boundaries (Ponnampalam et al. 2014)
- Area of concentration is also area with anthropogenic pressures

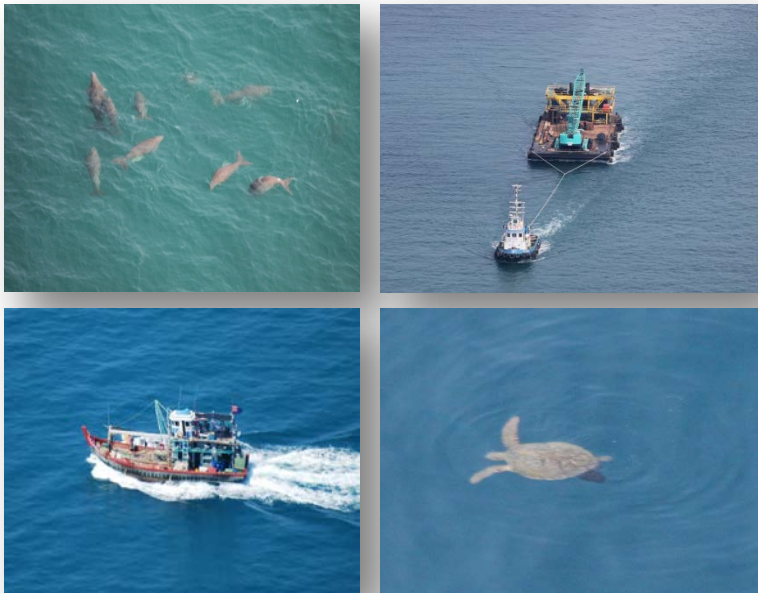
Challenges

- To establish MPAs, decision-makers require a lot of information.
- Research involve high costs, long duration and sufficient manpower
- Legislative and administrative processes in designing and establishing MPAs takes a long time.

Issue

Threatened species unable to comply to our timeline.

Do we need so much information before we act?



2010 survey provided us with a few **essential information**:

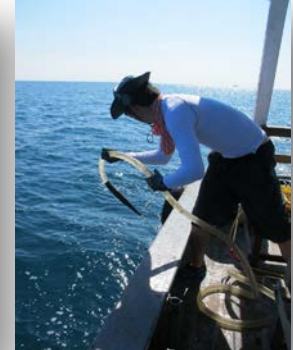
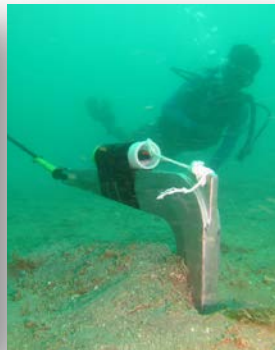
- **Where** most of the dugongs are;
- What **threats** they are currently facing; and
- What **other species** present in the area.

CONSERVATION MEASURES IMPLEMENTED

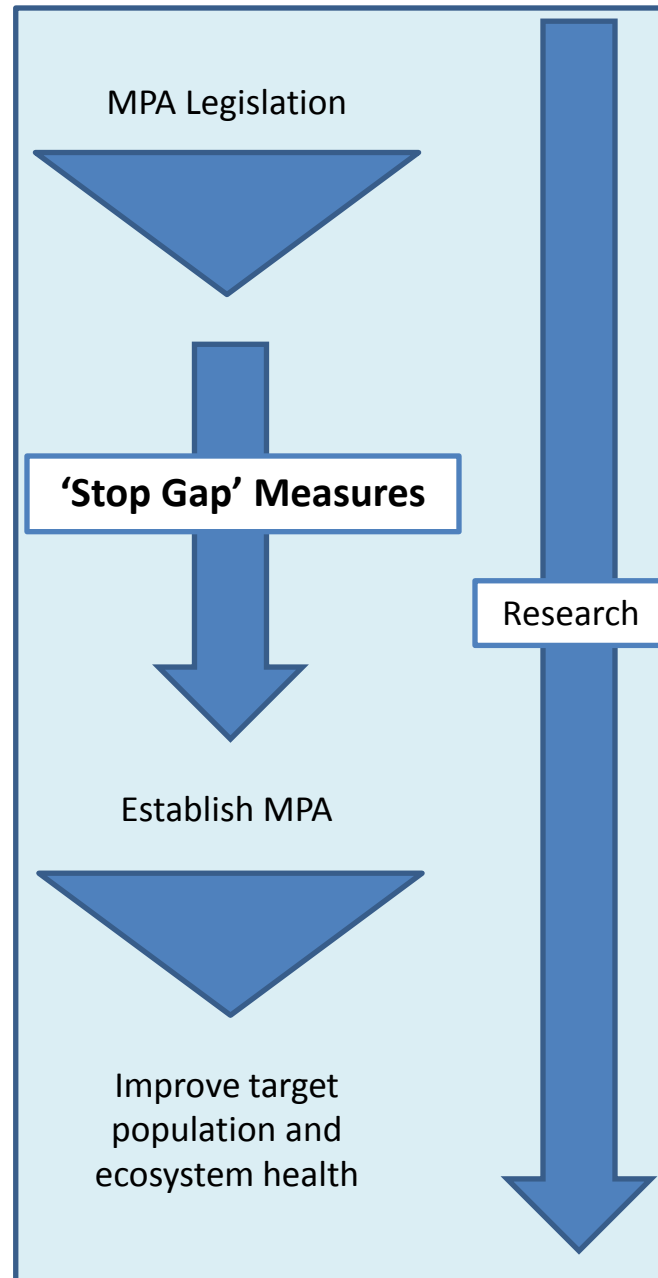
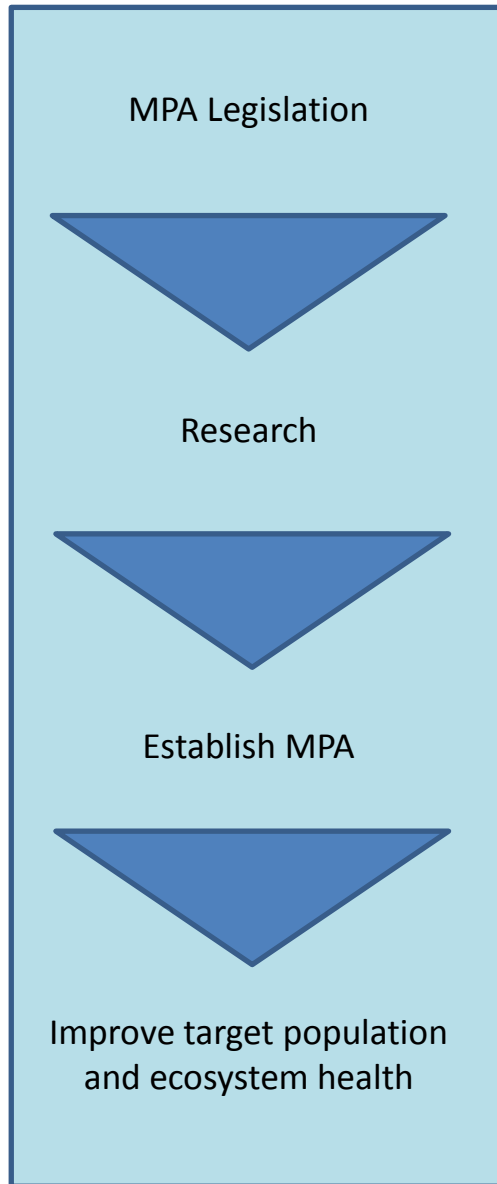
- Established MP committee comprising management agencies and communities to address immediate environmental issues
- Increased conservation fees to reduce number of snorkelers and divers
- Implemented quota on number of divers per dive site per day
- Recruitment of volunteer rangers from local communities to monitor any illegal activities

FOCUSED RESEARCH EFFORTS

- Continued research focused to study dugong distribution, extent of habitat, threat analysis, and socio-economic situation.
- Obtained government and local community's in-kind support:
 - Accommodation
 - Boat facilities
 - Manpower
 - Basic equipment
- Provided 'hosting' facilities to attract foreign scientists to conduct required research in the area at their own cost:
 - Passive acoustics (Japan)
 - Contaminant sampling and analysis (USA)



Photos: MareCet



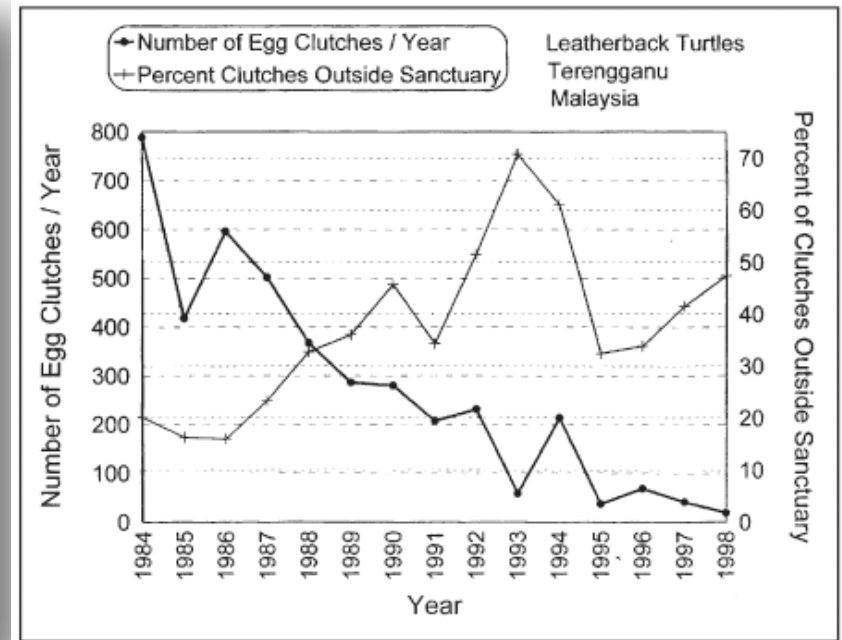
Little data =
No action

Little data =
More action

Malaysia's leatherback turtles are **gone**.....



Photo: Internet



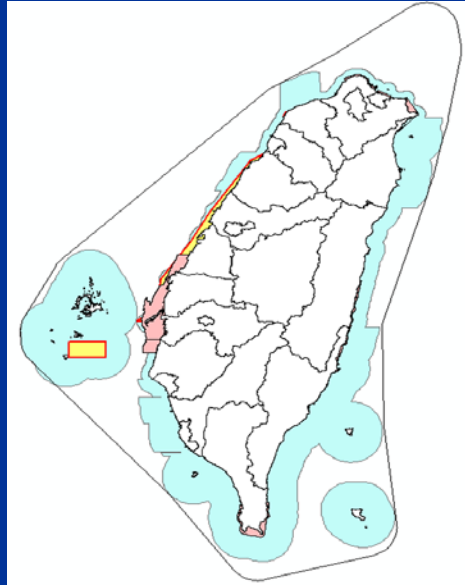
Source: portals.iucn.org

What does the **future** hold for other species and habitats?

Kwang-Tsao Shao Biodiversity Research Center,
Academia Sinica, Taiwan

Marine Protected Areas in Taiwan

--Status & Challenges



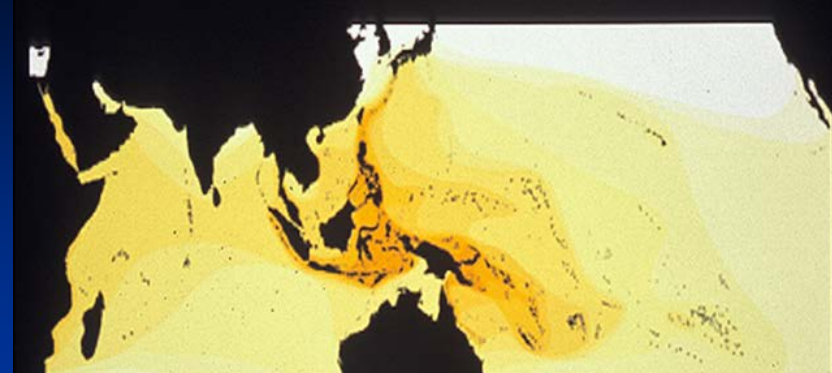
Shao, Kwang-Tsao
Biodiversity Research Center, Academia Sinica
Taiwan, Republic of China

Taiwan has rich marine biodiversity – 1/10 of world total species number

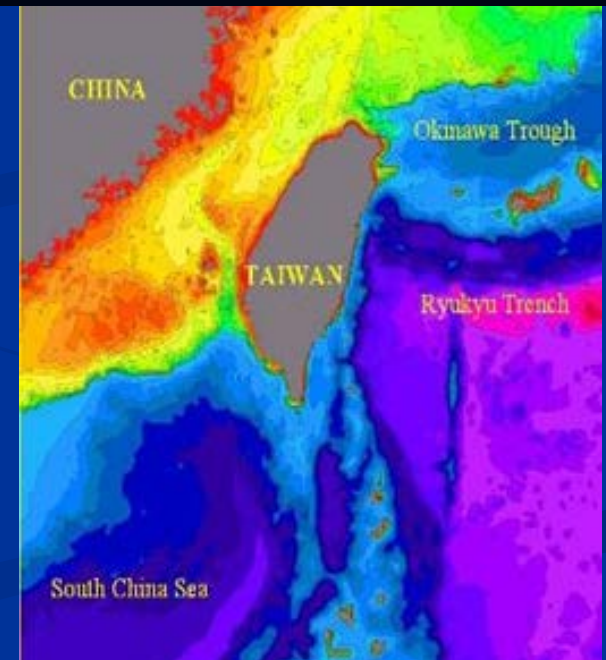


The land area of Taiwan is only 0.025% of the world

Located on the intersection of three Large Marine Ecosystems (LMEs) or Ecoregions



Located on near the northern tip of the Coral Triangle (East Indies).

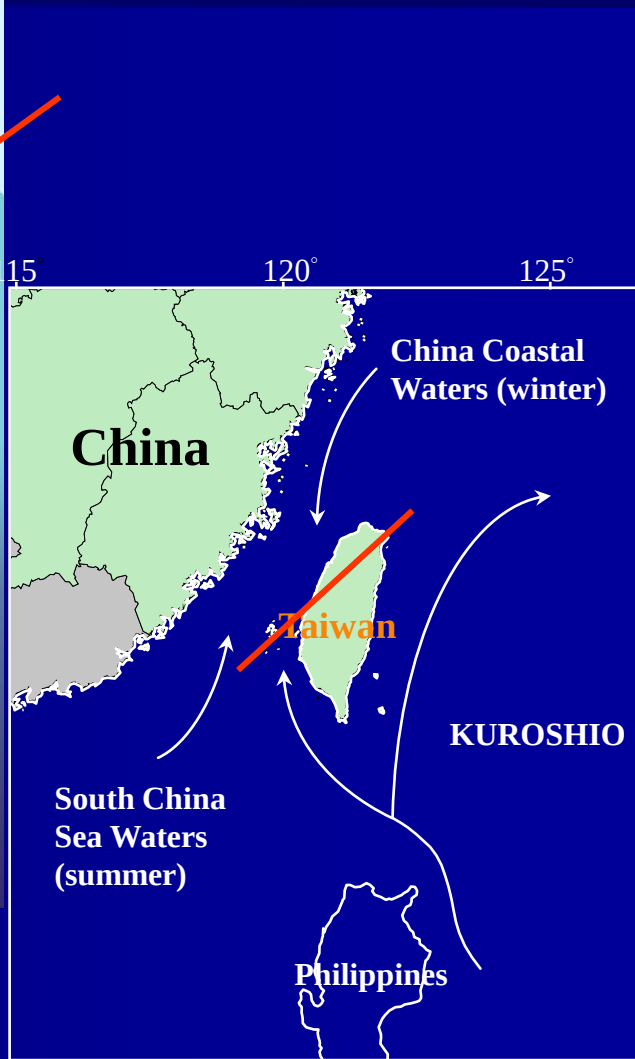
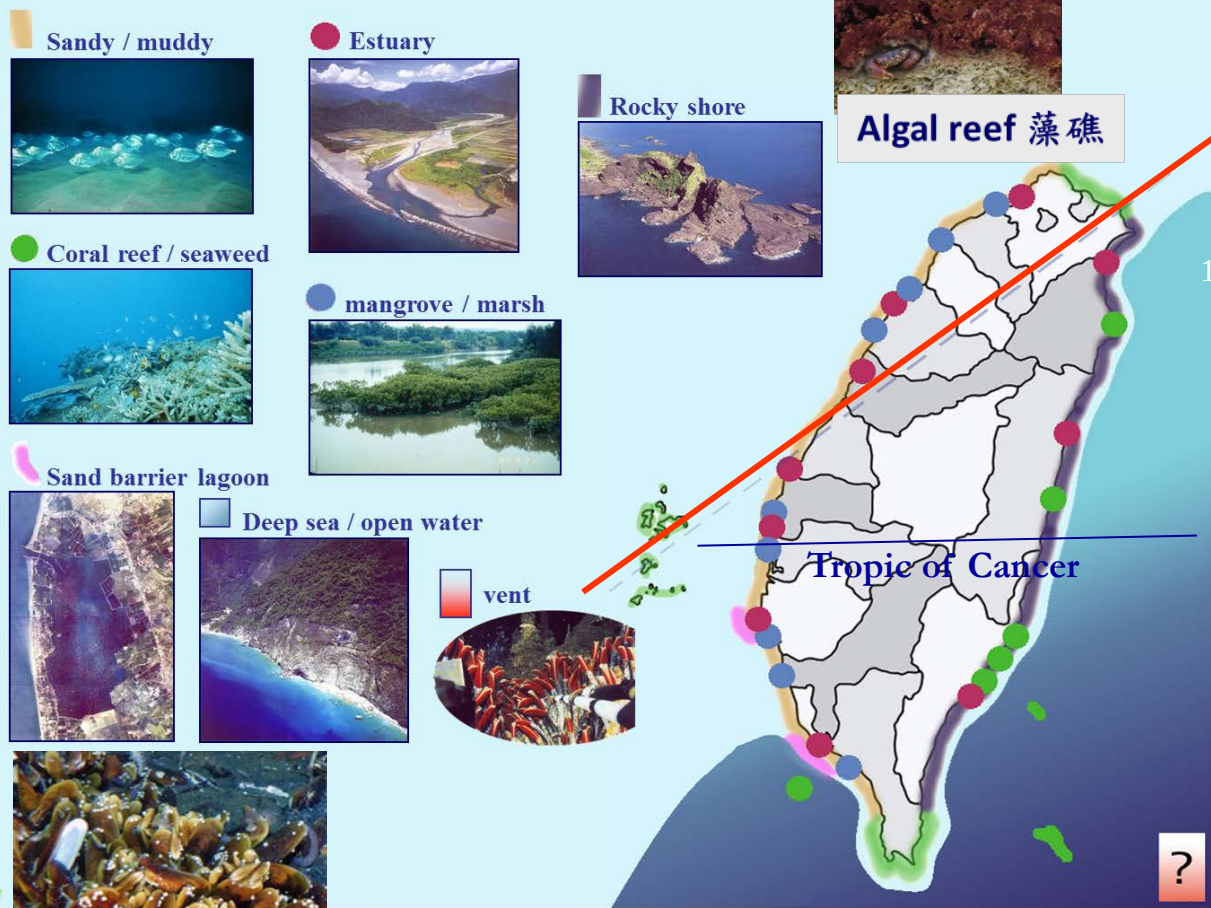


Located on the edge of the world largest Eurasian Plate

High marine habitat diversity & three ocean current surrounding Taiwan. Ocean current determines the two different types of marine fauna and flora (up-left & lower right) – important for future MPA network design.



Algal reef 藻礁



Current Status of MPAs (National Parks) in Taiwan --

4 out of 9 **National Parks** in Taiwan include coastal waters – Kenting, Dongsha , Taijiang & Penghu Southern Four Islets.

Wildlife protected zone, Fishery resources conservation zone, National scenic area, Cultural & natural reserve areas established by various Law/Act are all excluded here because they only protect certain species and their area is small.



墾丁國家公園



玉山國家公園



陽明山國家公園



太魯閣國家公園



雪霸國家公園



金門國家公園



東沙環礁國家公園



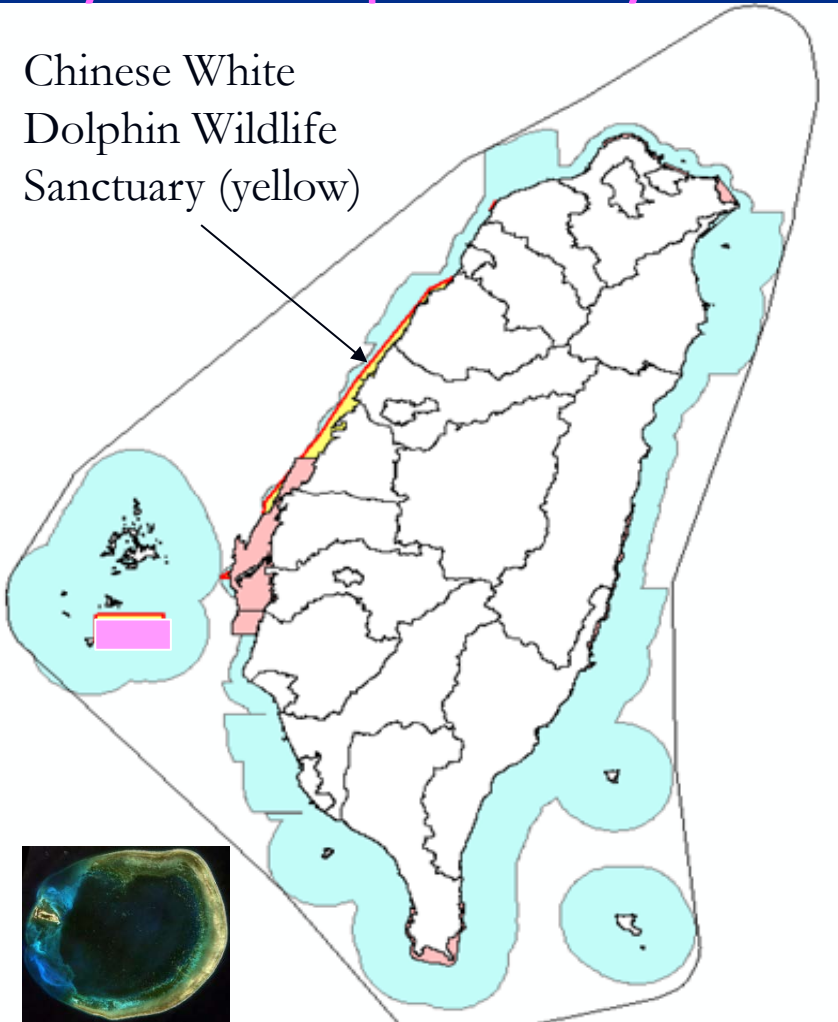
台江國家公園

Does Taiwan's MPA reach the goal (10% by 2020)? – 70~80 sites about 30,000 km² in total

How to calculate the MPA area ratio need to be solved first.

MPA's definition -- A region from mean high tide level seaward, with special landscape, cultural significance , or ecological resources for sustainable uses. But they need to be protected by law or managed by effective ways.

Chinese White
Dolphin Wildlife
Sanctuary (yellow)



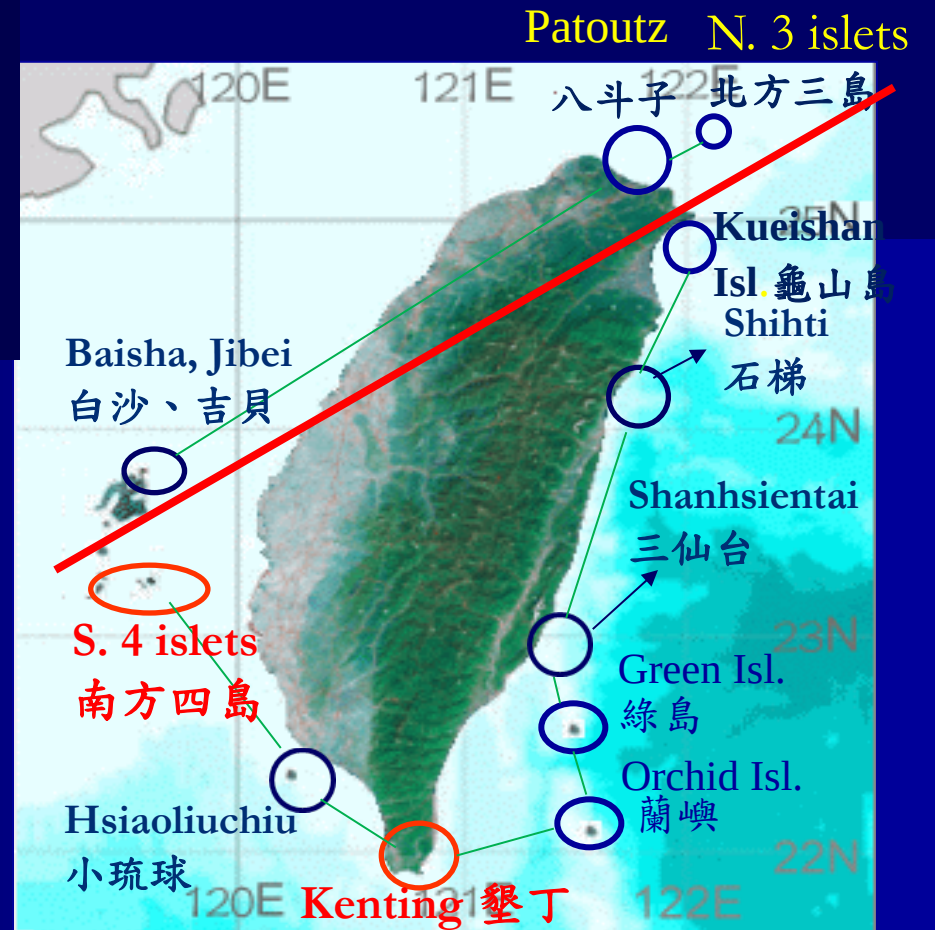
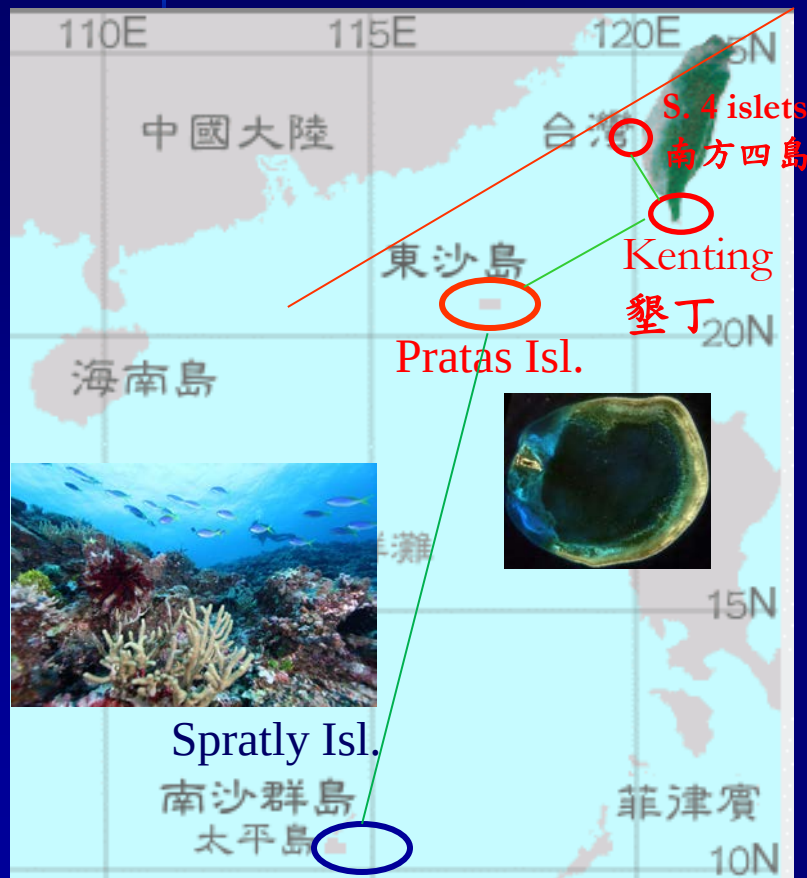
Two calculations:

1. MPAs include all waters as long as they have banned fishing for one species, one fishing gear or one season. They were all treated as MPAs (**blue region**). Then the ratio up to **46.2%** of Taiwan Ocean territory (65,076 km², including inner waters).

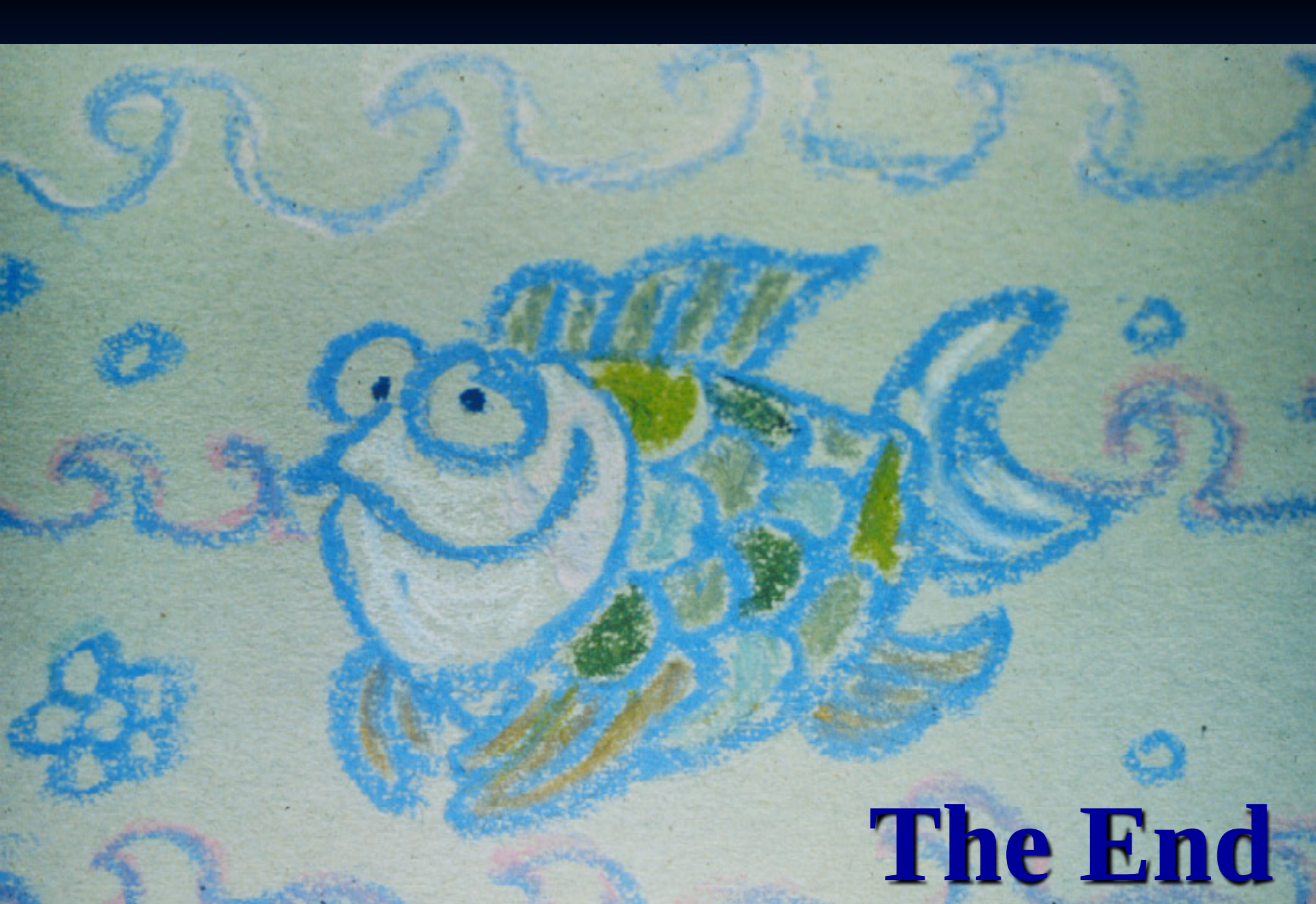
2. If only areas enclosure were included in (**pink region**). Then, the MPA ratio only has about **6 %** (Pratas Isl. in South China Sea comprise 4.78%).

Future challenges of MPA in Taiwan–

1. Need more MPAs & networking – ex. coral reefs (in figure)
2. Need other habitat representatives – seamount, vent, seep, open ocean (cetacean)
3. Need funding, enforcement, education



- Existed MPAs
- Proposed MPAs -- Kuishan, Green Isl., Northern 3 islets and Spratly islet are all under planning.



The End

Panel 1) Designing national networks: policy and science

Daniel Cebrian, Regional Activity Centre For
Specially Protected Areas