

DANJUGAN ISLAND

Marine Reserve and Sanctuaries



Our Natural Museum

What and Where is Danjungan Island?

- Danjungan Island is a 43-hectare island, 1.5 kilometers long and 0.5 kilometers at its widest point
- It rests 3 kilometers Southwest off the coast of Negros Occidental in Barangay Bulata, Cauayan
- Danjungan has 5 lagoons and is covered with limestone forests providing asylum to many wildlife species that struggle to exist in the mainland.

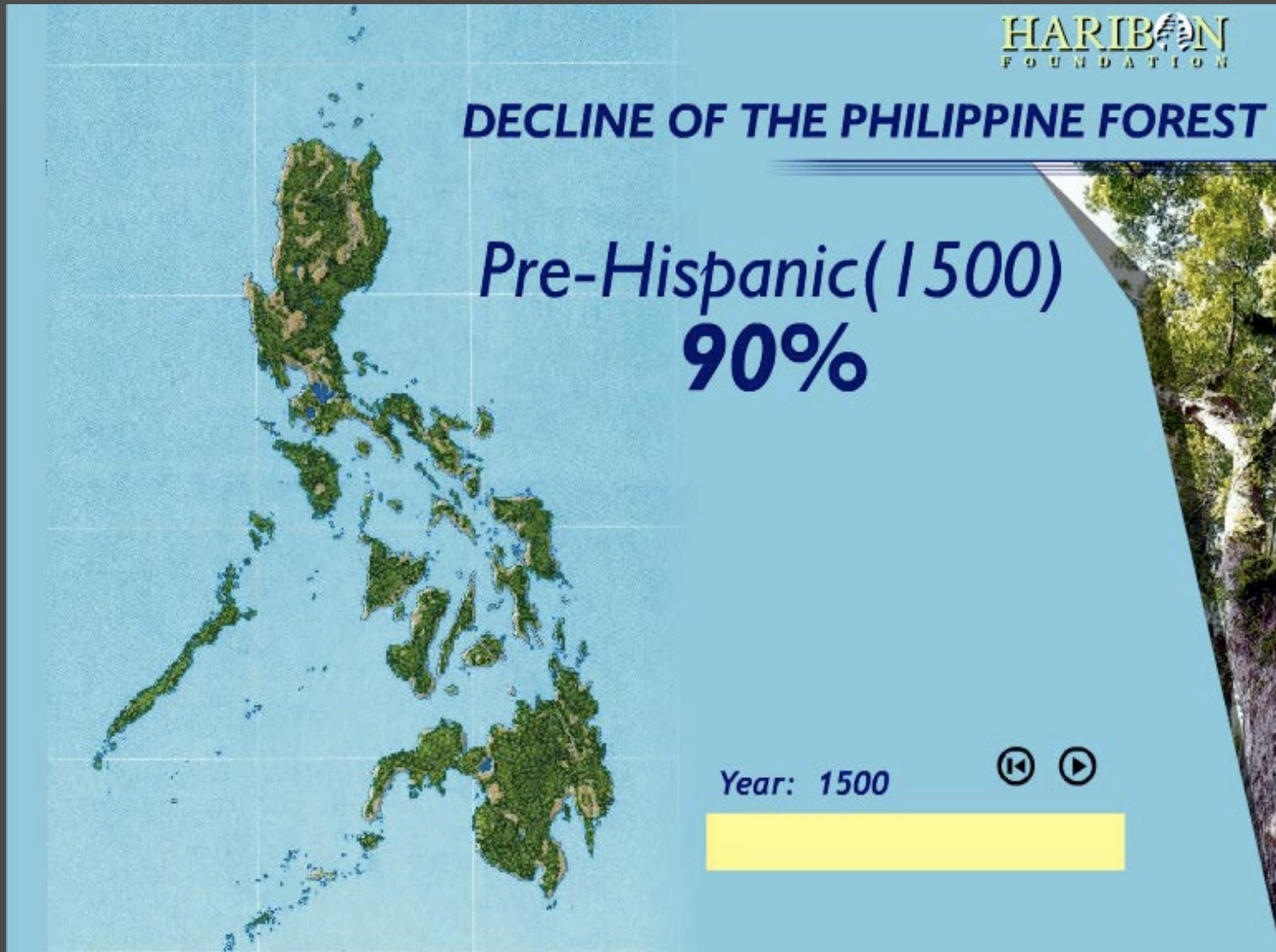


DANJUGAN ISLAND

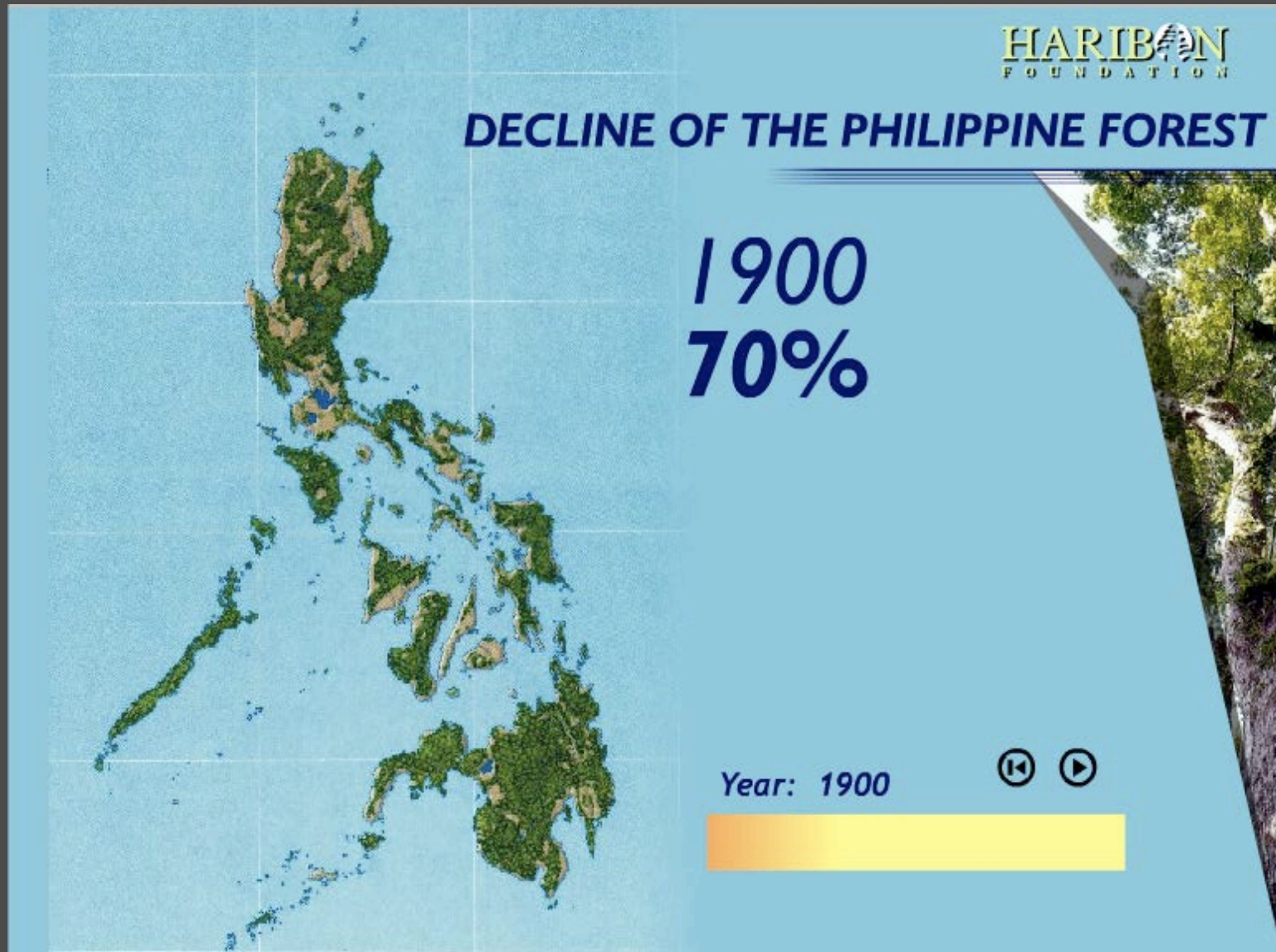


Why we HAD to save this little island...

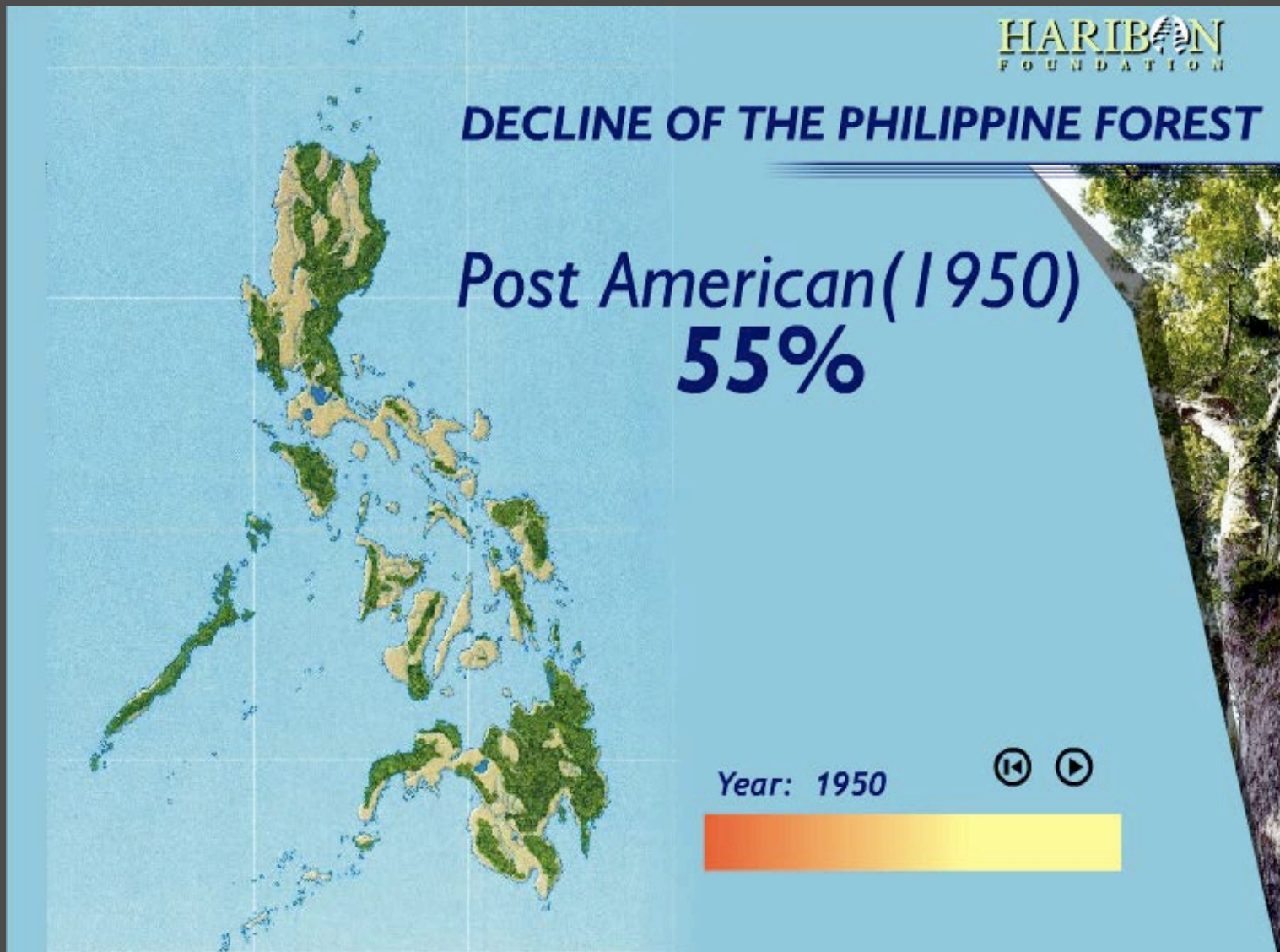
1. Rapid decline of our remaining forests



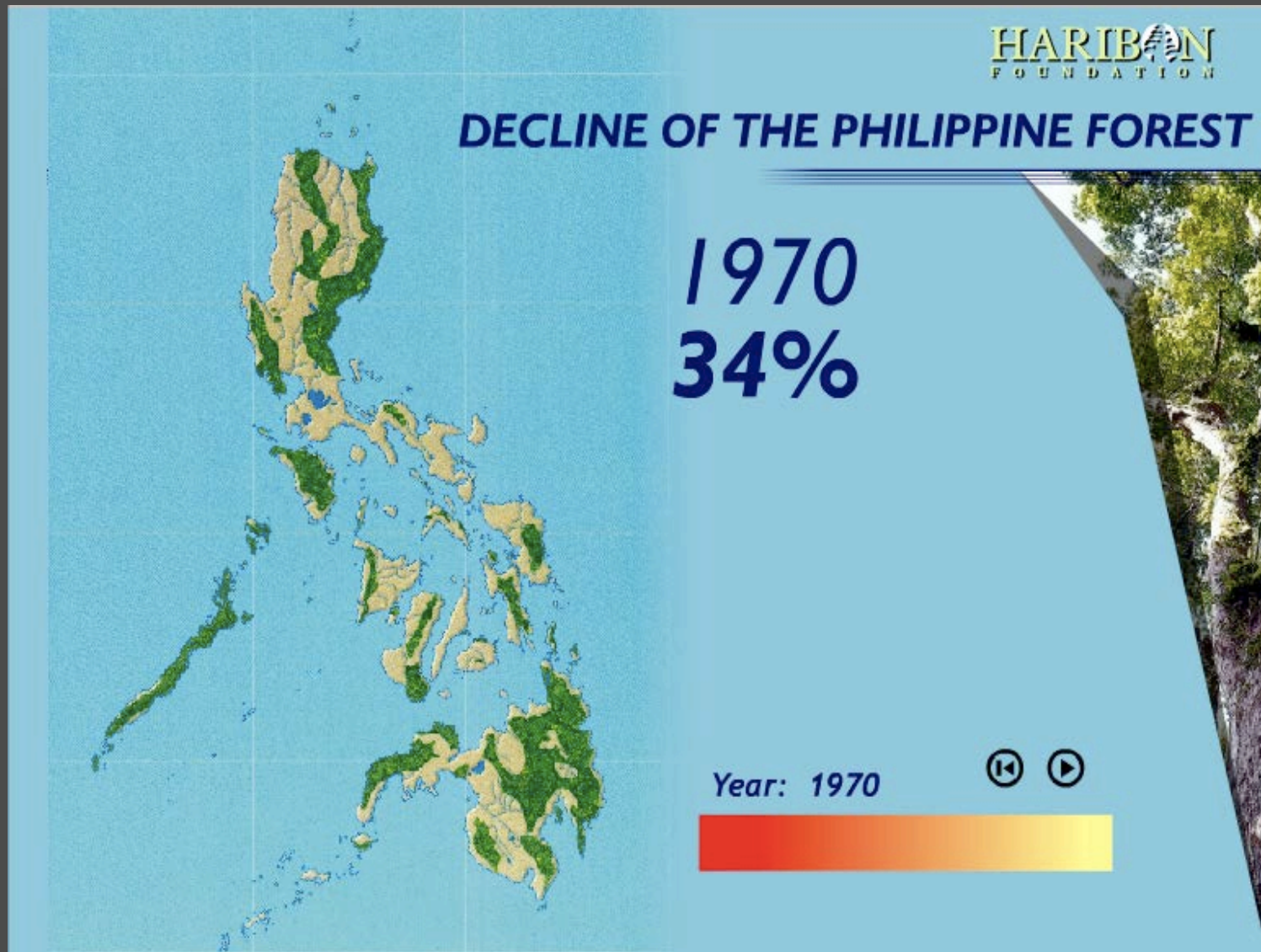
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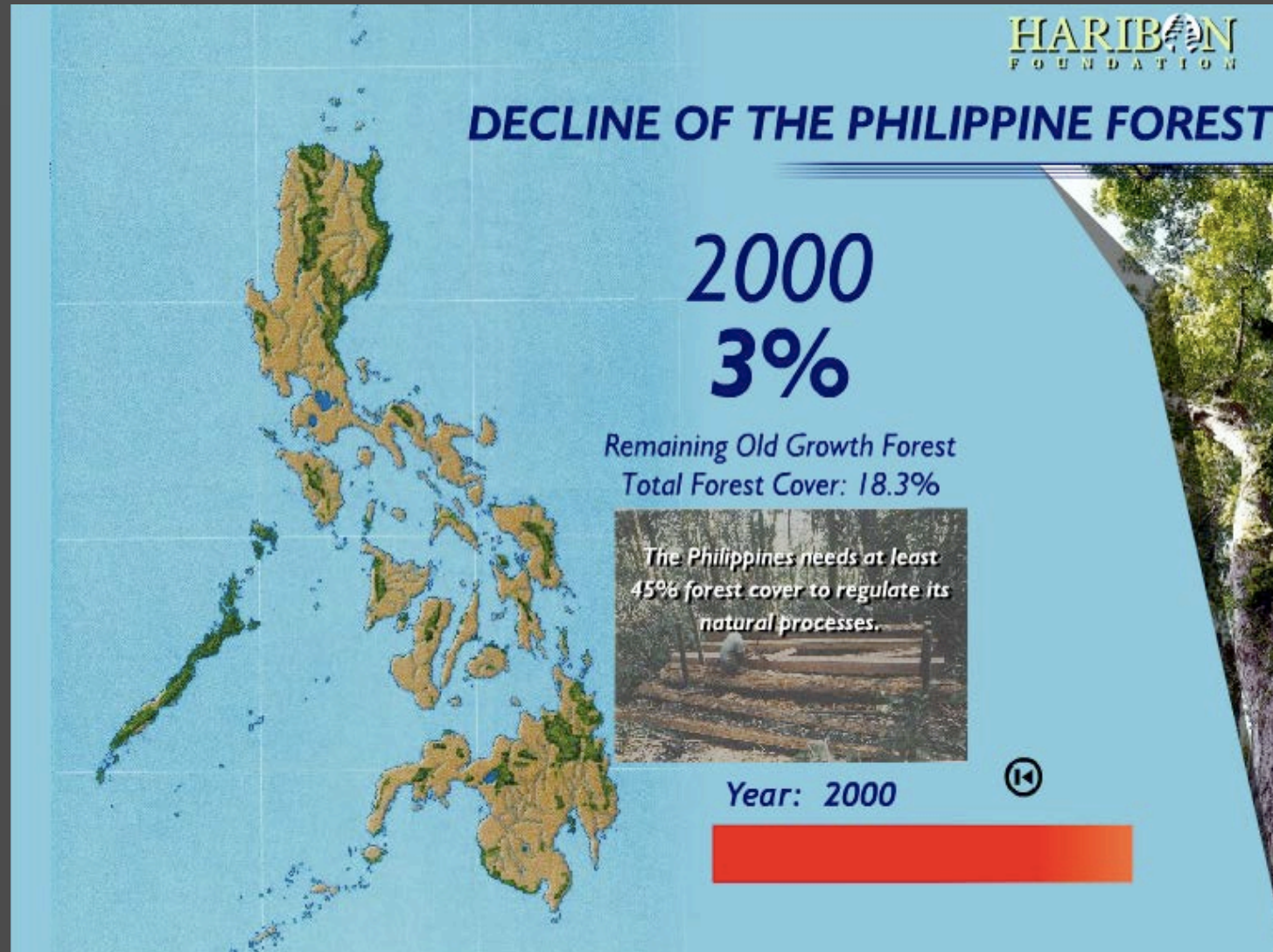
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1. Rapid decline of our remaining forests

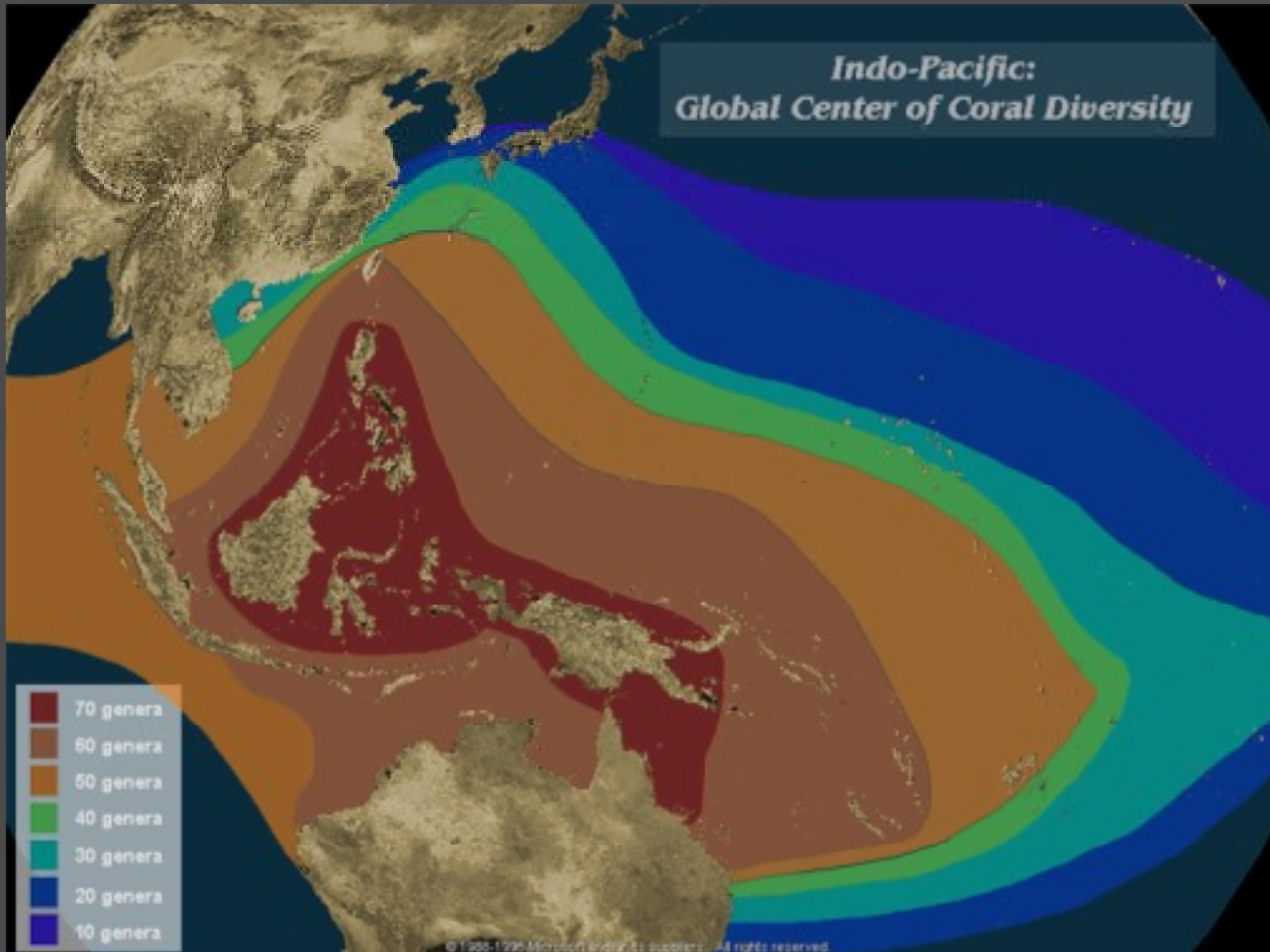


2. One of the world's hottest hotspots



- The 5 bio-geographic regions of the Philippines: the Negros-Panay Faunal Region is probably amongst the world's hottest hotspots.

3. Global Center of Coral Diversity



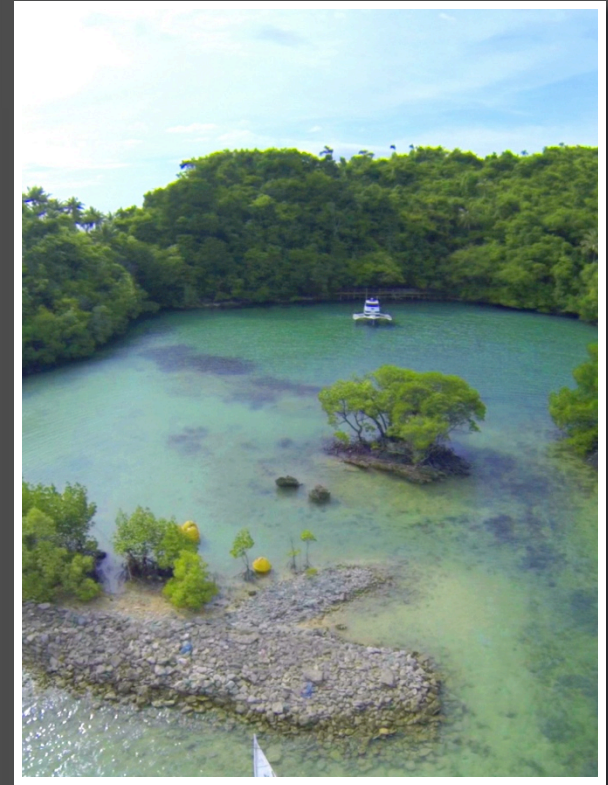
Why is Danjugan special?



Mangroves



Beach



Lagoon

It is NATURE'S PERFECT CLASSROOM, with 8 viable natural ecosystems.

Why is Danjungan special?



Cave



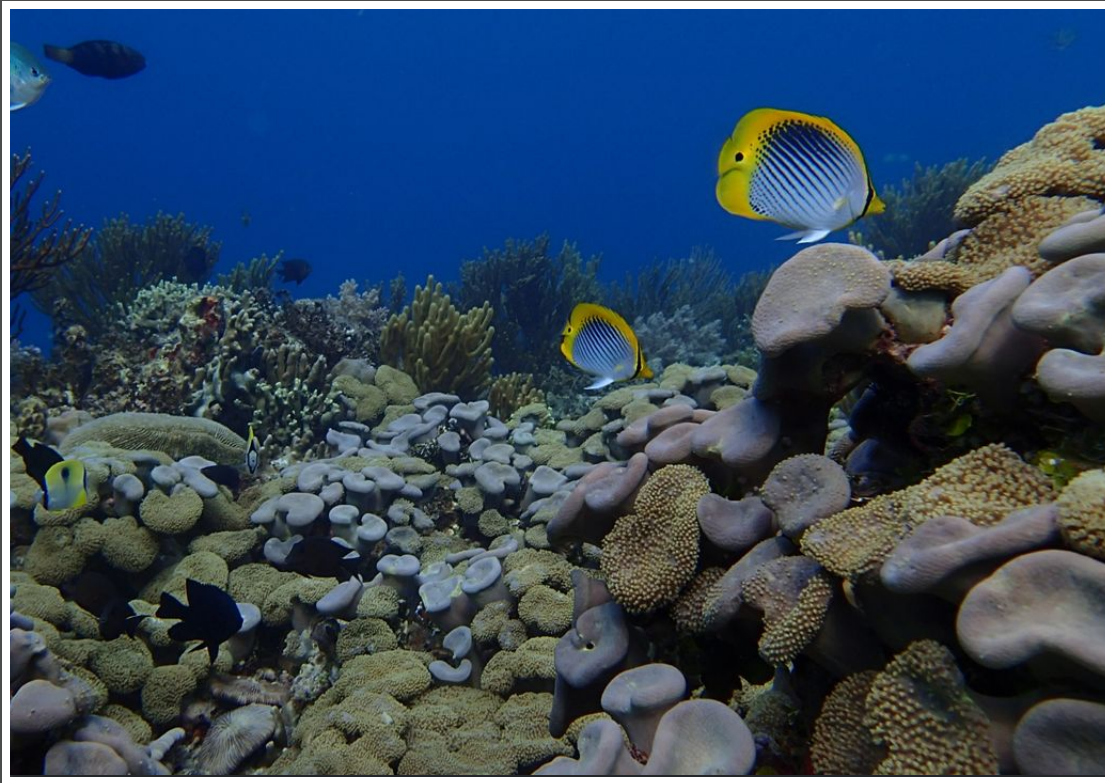
Limestone forest



Seagrass

It is NATURE'S PERFECT CLASSROOM, with 8 viable natural ecosystems.

Why is Danjungan special?



Coral reef



Open ocean

It is NATURE'S PERFECT CLASSROOM, with 8 viable natural ecosystems.

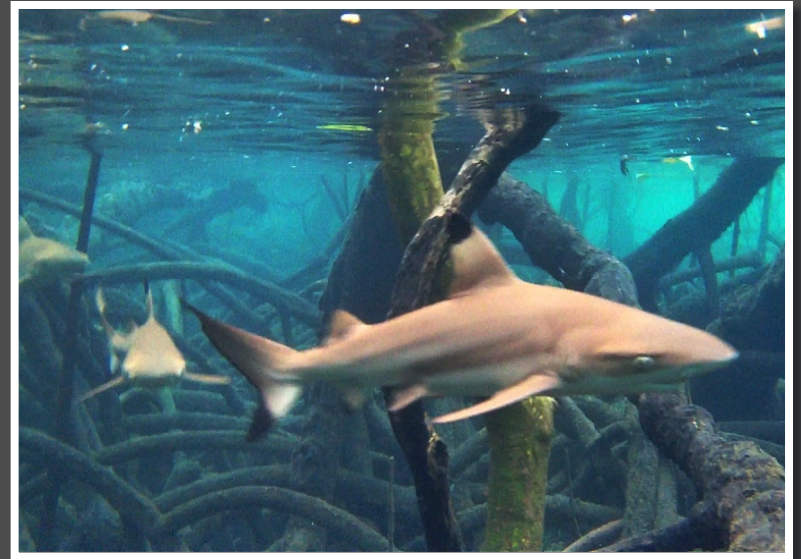
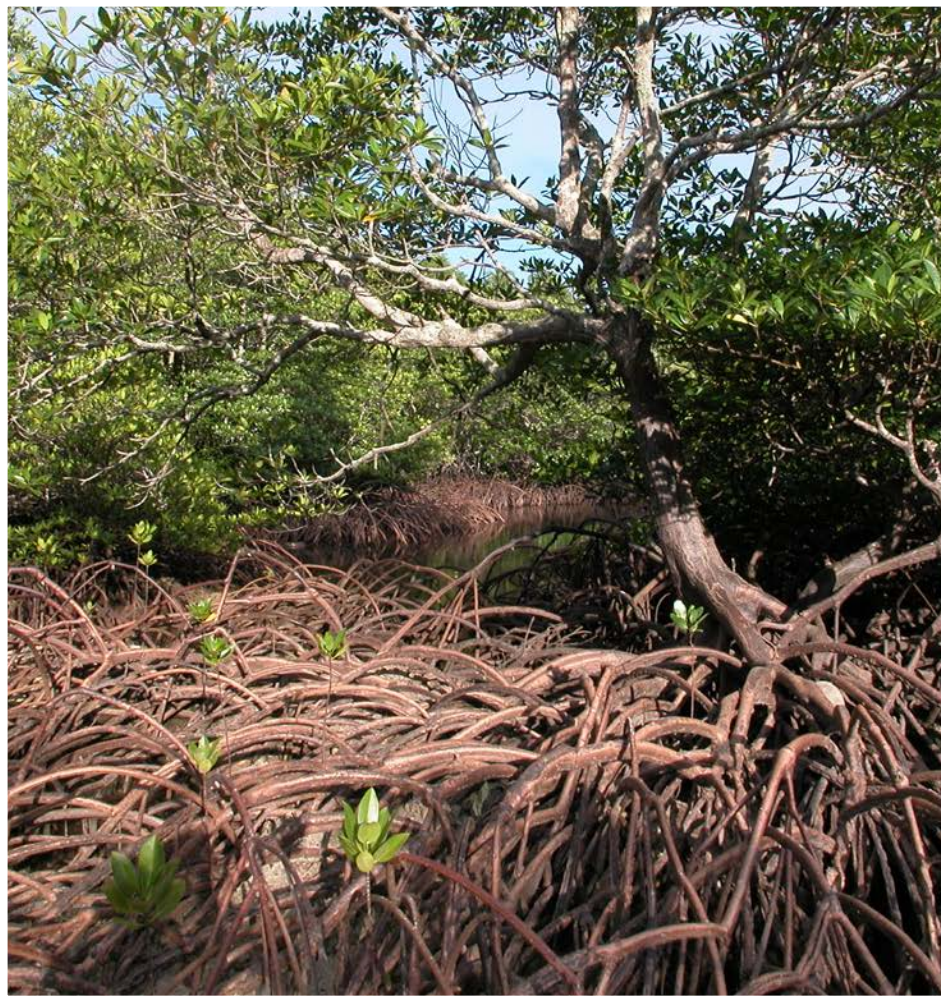
TREASURES OF THE ISLAND

- 72 species of birds



TREASURES OF THE ISLAND

- 17 species of mangroves



TREASURES OF THE ISLAND

- 572 species of reef fish



TREASURES OF THE ISLAND

- 7 species of fruit bats & 3 insect bats



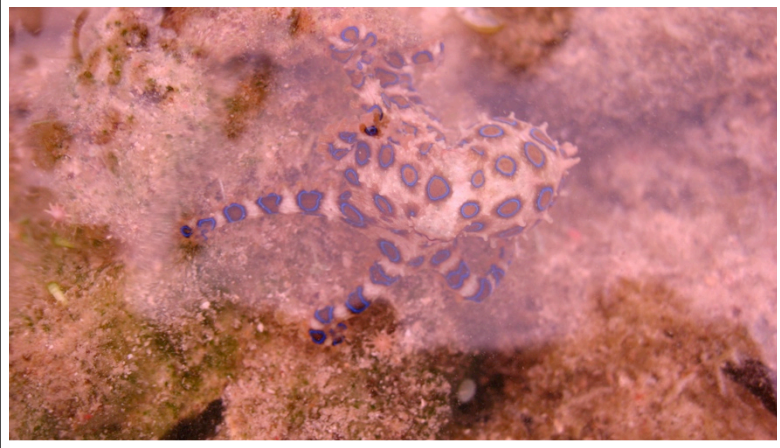
TREASURES OF THE ISLAND

- 244 species of hard corals



TREASURES OF THE ISLAND

- Home to many more rare wildlife

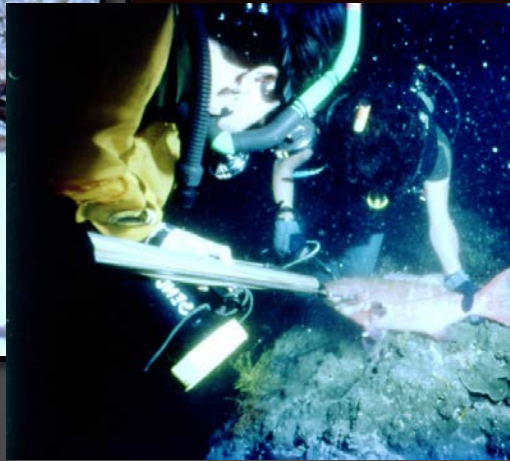


TREASURES OF THE ISLAND

- The beaches are nesting grounds of green and hawksbill sea turtles



PRE-ACQUISITION YEARS



- 90% of divers were spear fishers
- Probably inspired compressor fishing

PRE-ACQUISITION YEARS



- Threat from Maricalum Mining Corporation (MMC)

PRE-ACQUISITION YEARS



- MMC tailing ponds drain to the Sulu Sea

PRE-ACQUISITION YEARS



- 1978, a hillside of Brgy. Bulata was cleared for the construction of an international port of MMC

PRE-ACQUISITION YEARS



- Siltation killed reefs along the mainland

PRE-ACQUISITION YEARS



- In 1984, the mines temporarily shut down

PRE-ACQUISITION YEARS



- Cyanide became available to the displaced workers

PRE-ACQUISITION YEARS



- Blasting caps were available to displaced workers

ENLIGHTENED YEARS



- In 1990, SCUBA diver group leased small area of Island (now Typhoon Beach) for research and observation of degradation

ENLIGHTENED YEARS



Observed unsustainable fishing and causes

- Poverty and Lack of Opportunities
- Ignorance of nature conservation
- Ignorance of laws and absence of governance

ENLIGHTENED YEARS



- 1991: Pioneered Youth and Marine Wildlife Camp for children 13-16 years old

ENLIGHTENED YEARS



- In 1993
 - Island owner offered Eagle Tree for sale for \$800 4th and final reason of purchase
 - Group offer to buy island
 - WLT came to help with Philippine Reef and Rainforest Project

INTO CONSERVATION



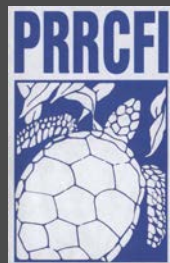
- Spearheaded international fund raising with GREENSHARES sold at 25 pounds or \$40.



- Provided bridging loan at very favorable rates
- The bank's first environmental loan.



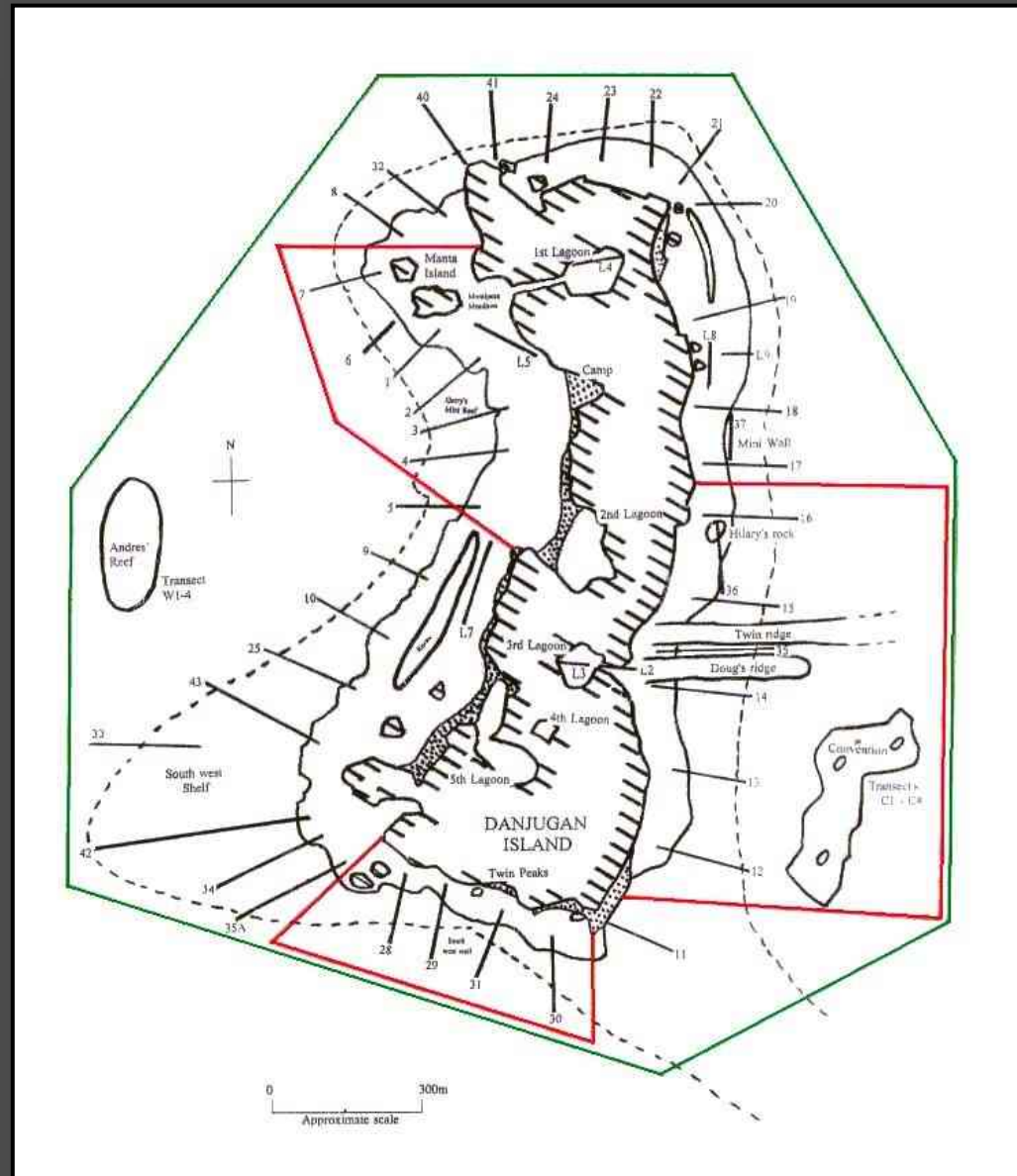
- Provided volunteer assisted surveys in marine research that provided basis for the establishment of MPAs.



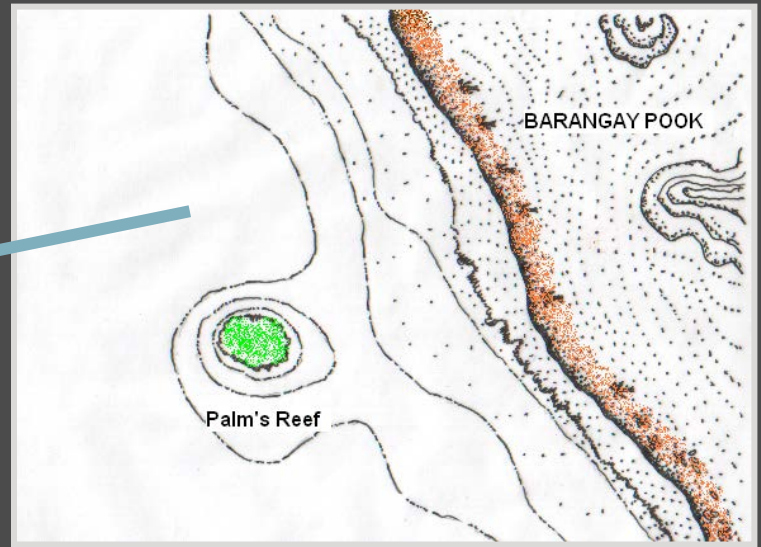
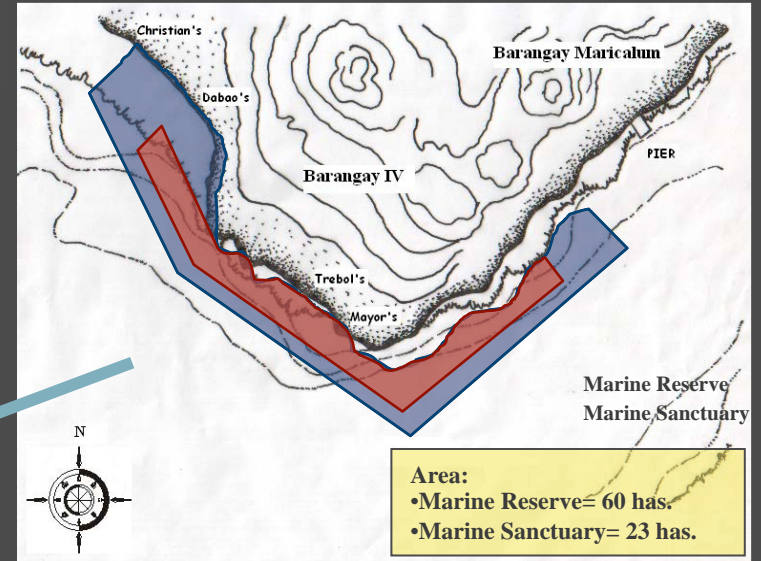
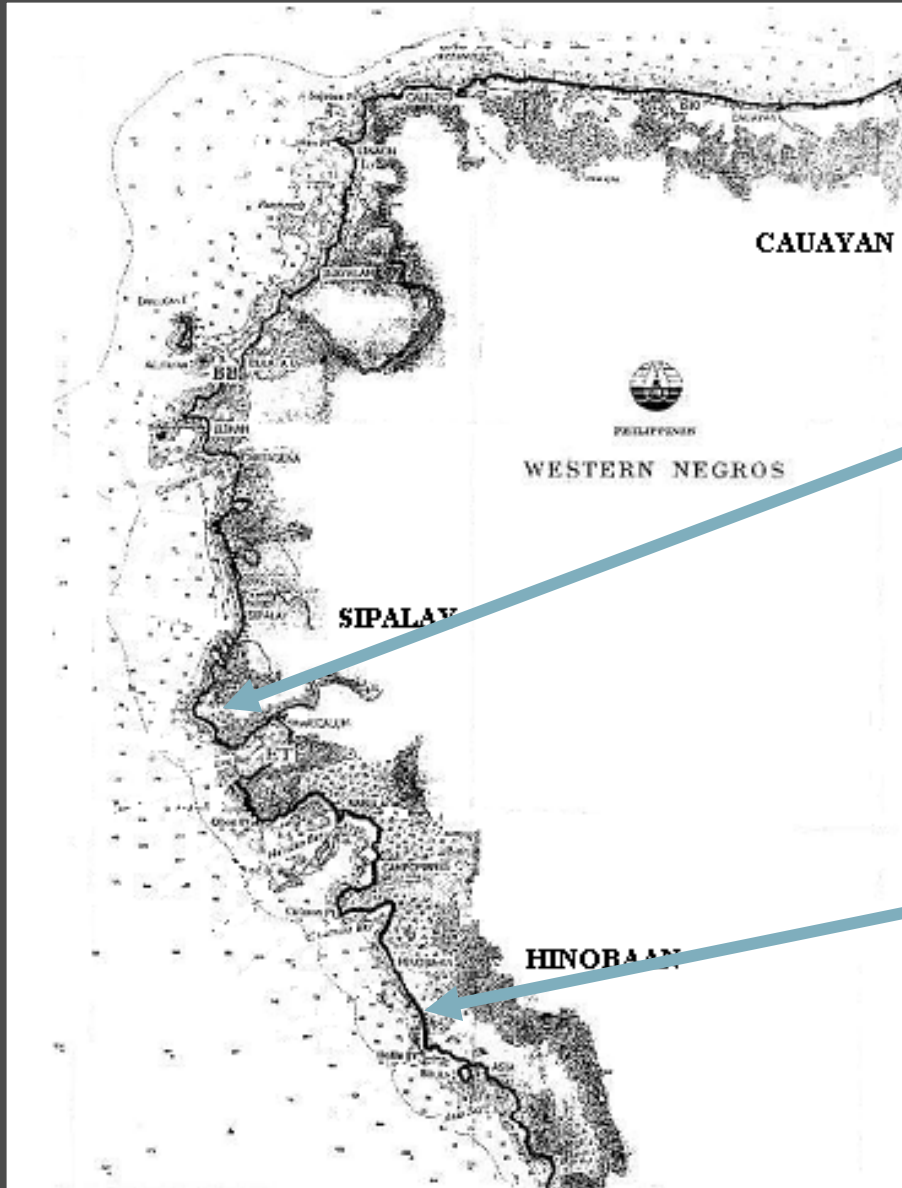
- Manages Danjungan Island and the marine conservation program for Southern Negros and elsewhere.

INTO CONSERVATION

- 1996 Southern Negros Coastal Development Program (SNCDP) was established with PRRCFI as chair of research and development.
- 1997 SNCDP Coastal Resource Assessment Program, the first grant from AUSB with PRRCFI/CCC to survey 2 municipalities and one city
- 1998 SNCDP Poverty Alleviation and Conservation Education project funded by the British DFID. Survey and Public Education for the Danjungan Island Marine Reserve and Sanctuaries completed.



INTO CONSERVATION – OTHER SITES

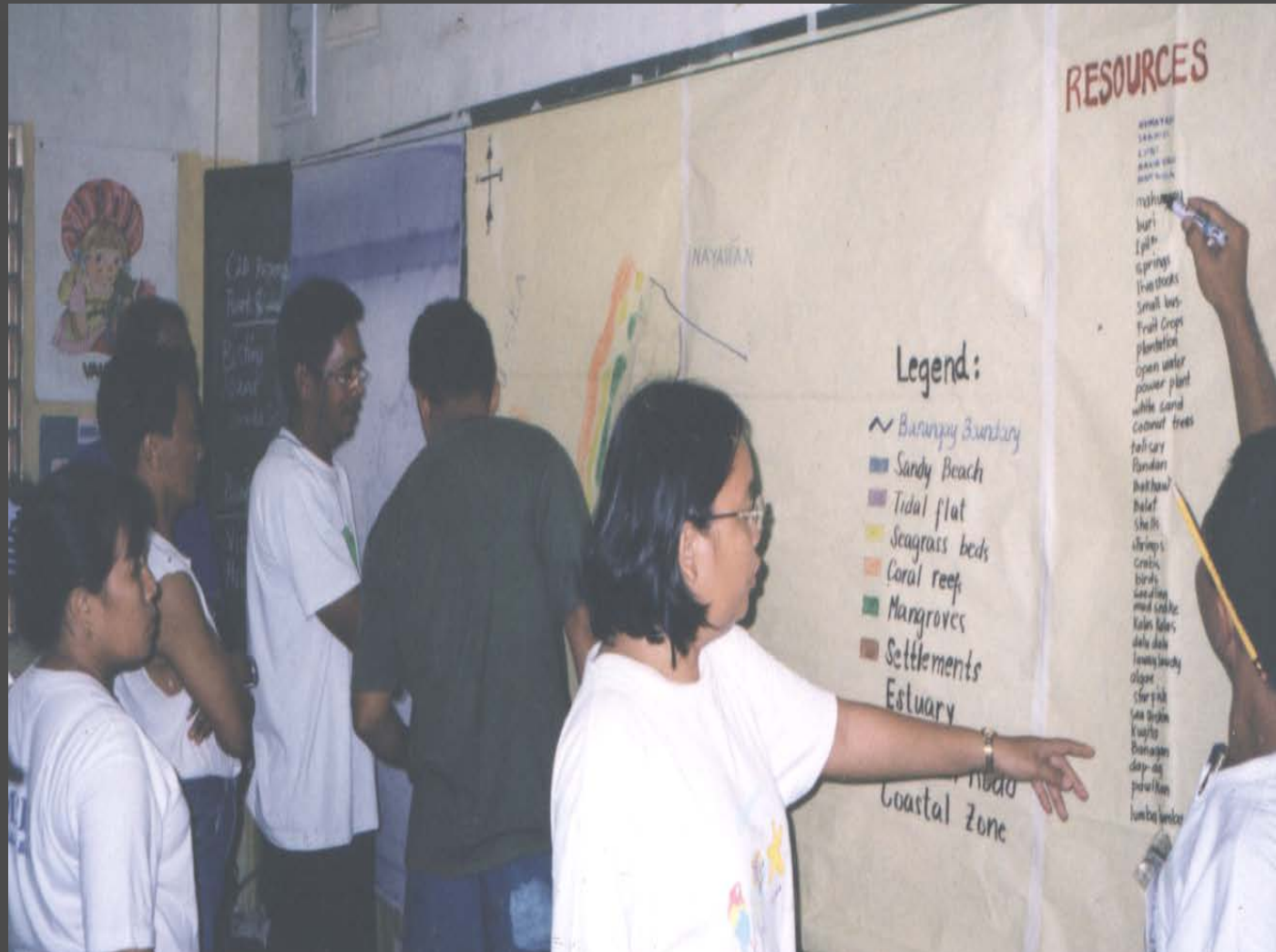


INTO CONSERVATION

- 2000 Danjungan Island Marine Reserve and Sanctuaries (DIMRS) accepted by the community and approved by the government
- 2001 won 1st Place in the Philippines' 2nd Best Managed Reef award



INTO CONSERVATION



- Community education for the Danjugan Island Marine Reserve and Sanctuaries (DIMRS)

INTO CONSERVATION



- Community meetings for the Danjungan Island Marine Reserve and Sanctuaries (DIMRS)

INTO CONSERVATION



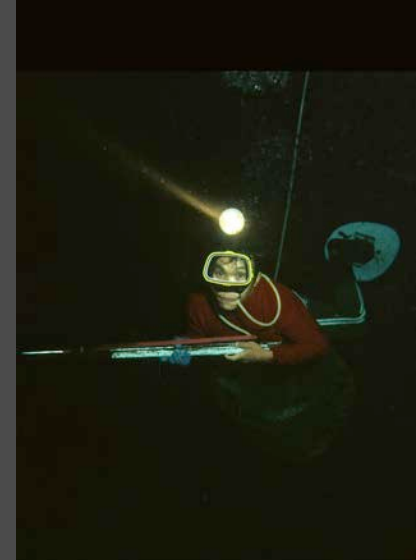
- Campaign for LGU support

INTO CONSERVATION

- British embassy, manila provided a one year grant to assist in the formation and development of the Danjungan Island Marine Reserve and Sanctuaries Management Board. the LGU of Cauayan pledged to assume its annual funding after 1 year.



- After 15 years, still no support from the LGU of Cauayan



CONSERVATION through EDUCATION



DANJUGAN ISLAND LEARNING CENTER

CONSERVATION through EDUCATION



WHY DEEP?

WHY PUBLIC SCHOOL STUDENTS?

Resource users

Local Business persons

LGU staff

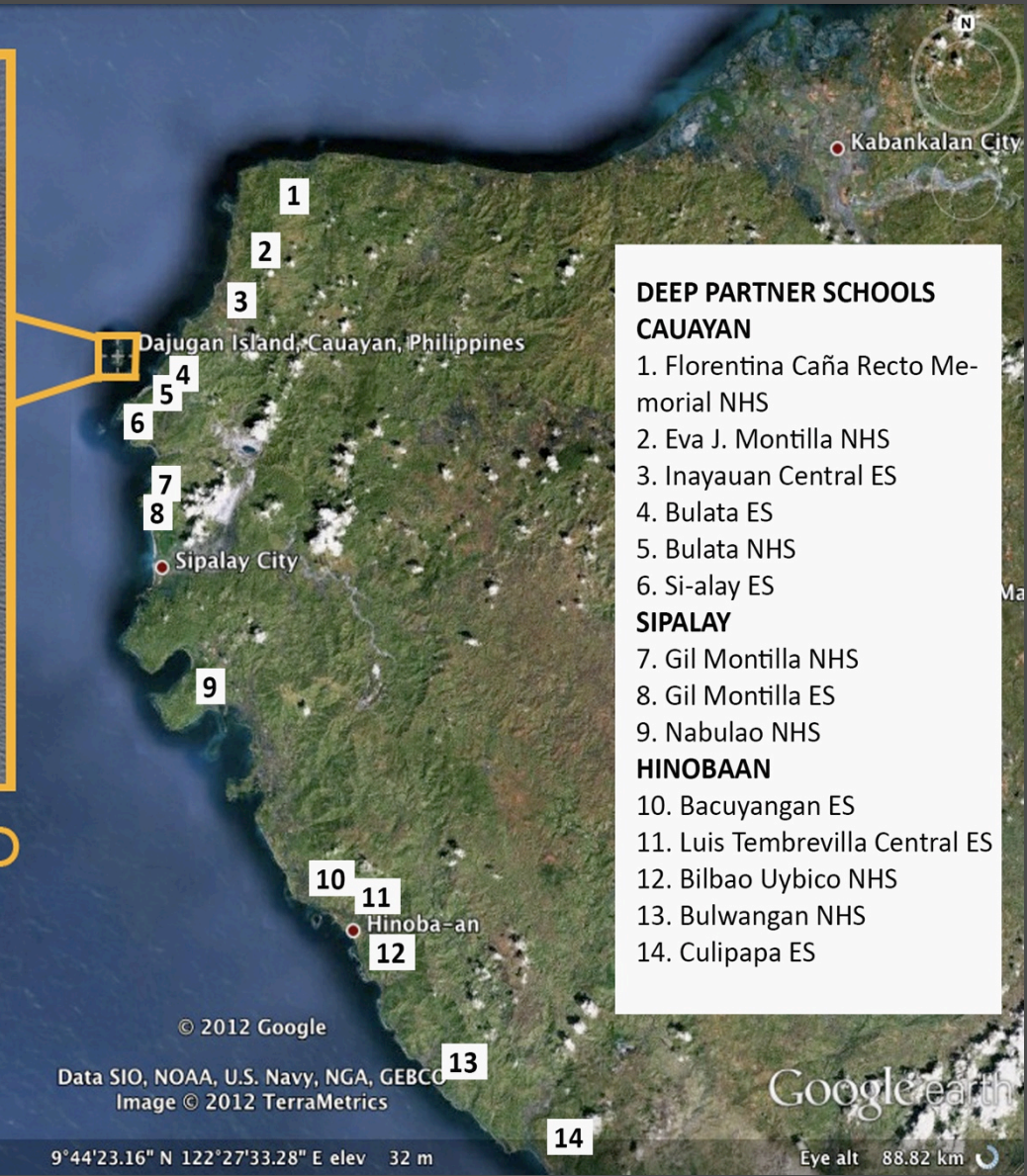
POLITICIANS

MOST COME FROM THE PUBLIC SCHOOL SYSTEM

CONSERVATION through EDUCATION



DANJUGAN ISLAND



DEEP PARTNER SCHOOLS CAUYAN

1. Florentina Caña Recto Memorial NHS
2. Eva J. Montilla NHS
3. Inayauan Central ES
4. Bulata ES
5. Bulata NHS
6. Si-alay ES

SIPALAY

7. Gil Montilla NHS
8. Gil Montilla ES
9. Nabulao NHS

HINOBAAN

10. Bacuyangan ES
11. Luis Tembrevilla Central ES
12. Bilbao Uybito NHS
13. Bulwangan NHS
14. Culipapa ES

© 2012 Google

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image © 2012 TerraMetrics

Google earth

9°44'23.16" N 122°27'33.28" E elev 32 m

Eye alt 88.82 km

CONSERVATION through EDUCATION



CONSERVATION through EDUCATION

What are Marine Reserves?

- No fishing zones or 'no-take' zones
- Allow overfished species and damaged habitats to recover , with enough time
- Tools for biodiversity conservation, sustainable fisheries, and fisheries management worldwide
- According to Phil. law (RA 8550) towns should protect 15% of their coastal waters using reserves
- Protects our Natural Treasures

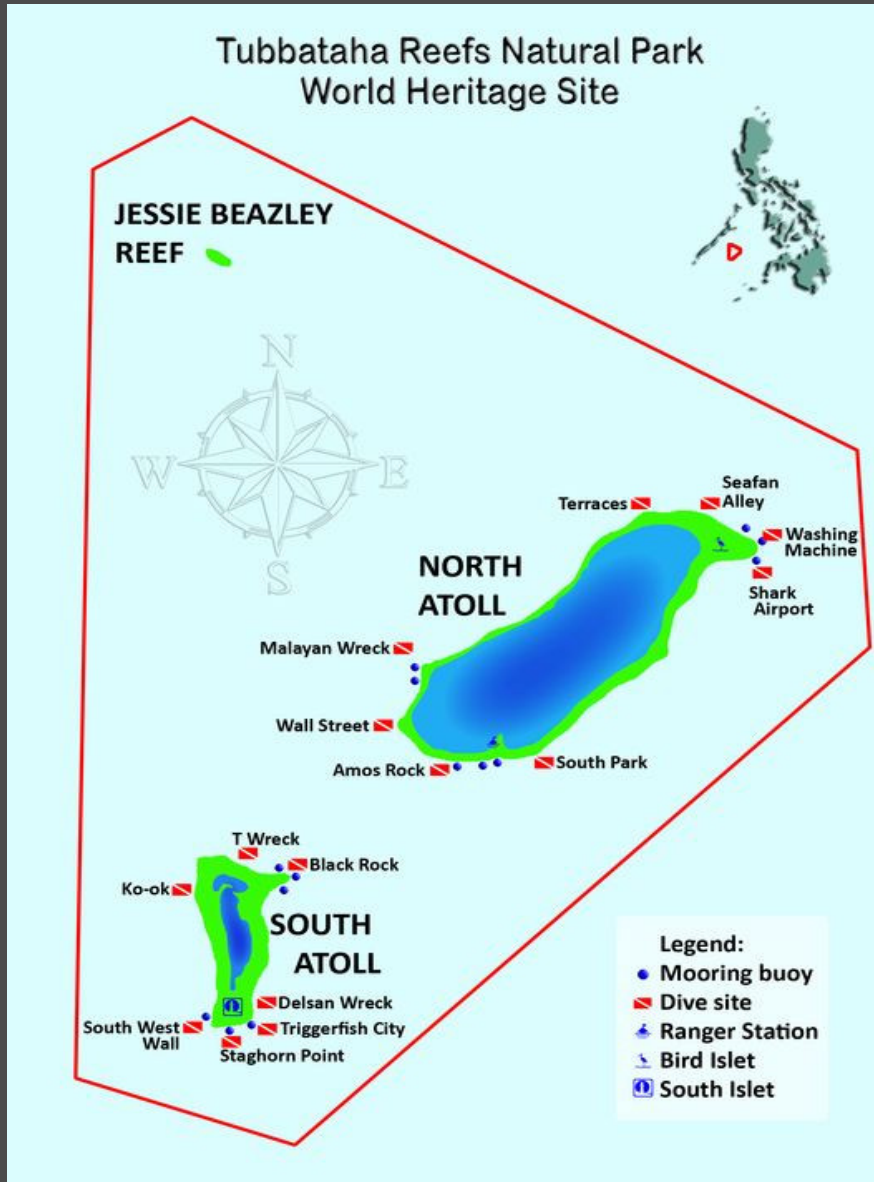
CONSERVATION through EDUCATION

CHAGOS
MARINE PROTECTED
AREA, the biggest
MPA in the world =
64 Million hectares

2 x the size of the
Philippine Islands
Including its
territorial
waters



CONSERVATION through EDUCATION



CONSERVATION through EDUCATION

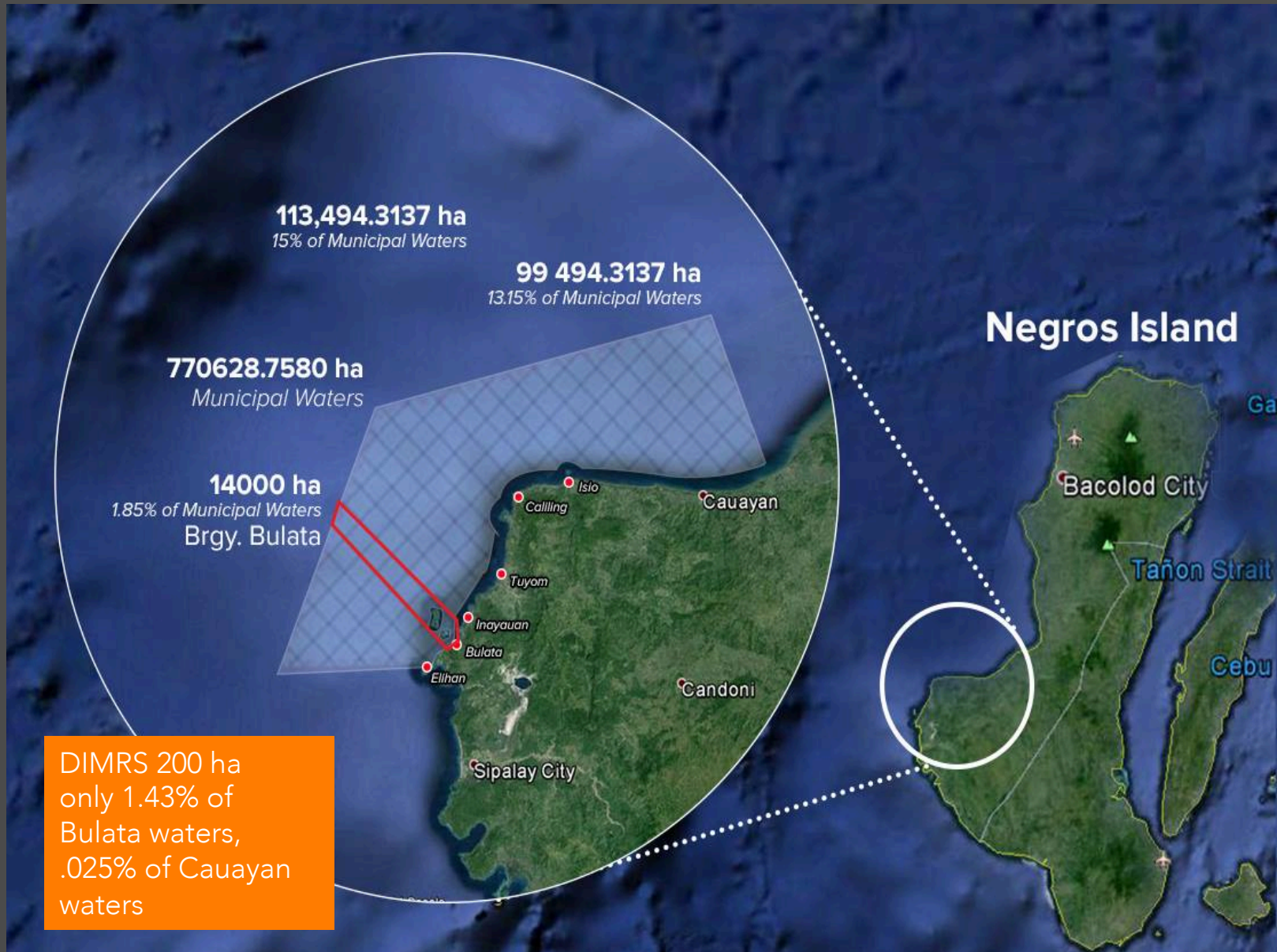
Danjungan Island Marine Reserves



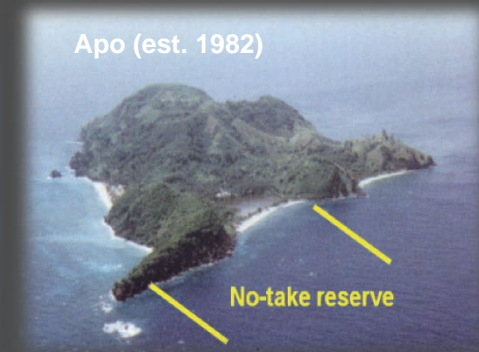
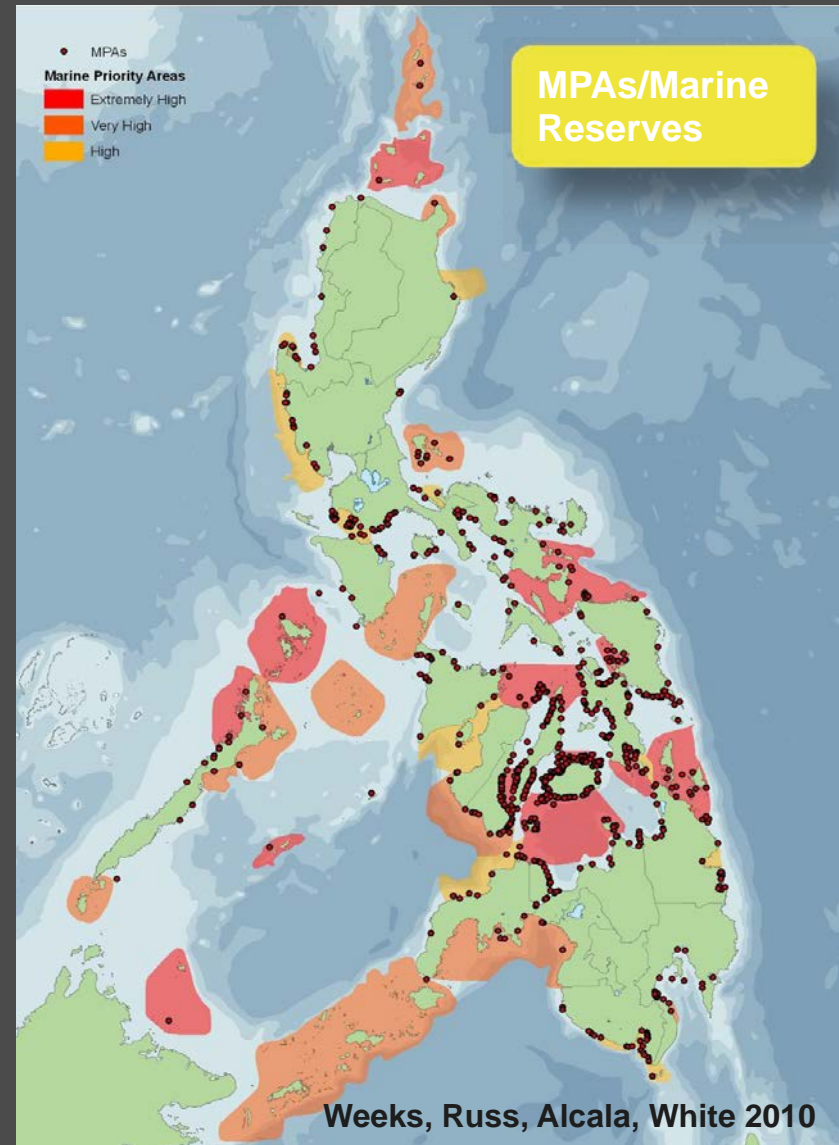
200 hectares: Only .2% of Cauayan's municipal waters;
572 fish species, 244 corals,
17 Mangroves, 8 Seagrass



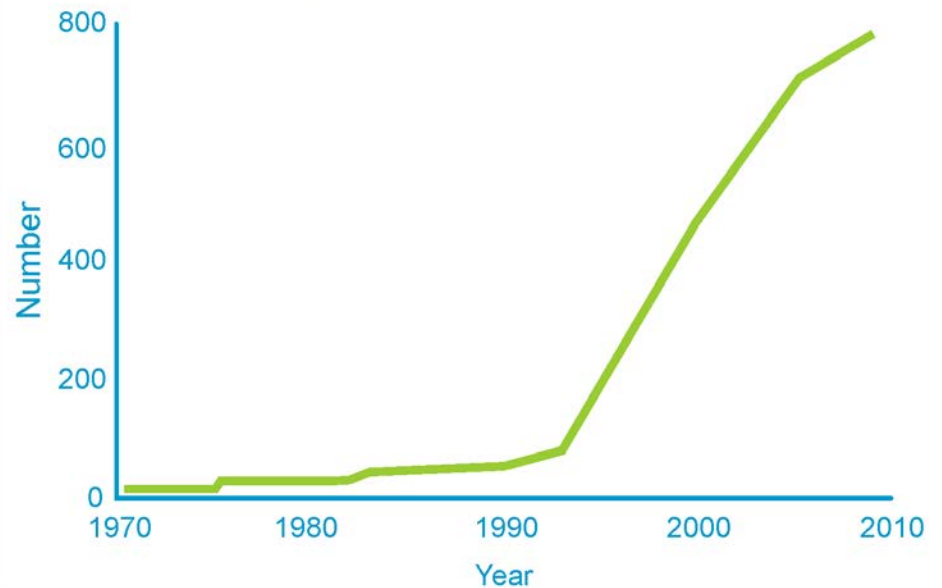
CONSERVATION through EDUCATION



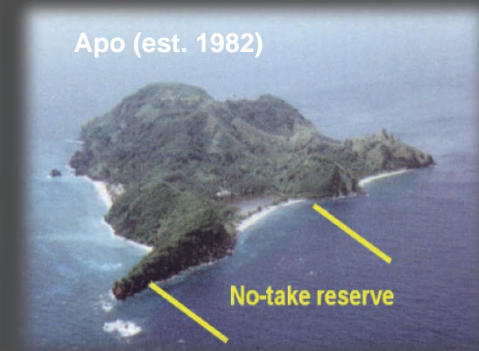
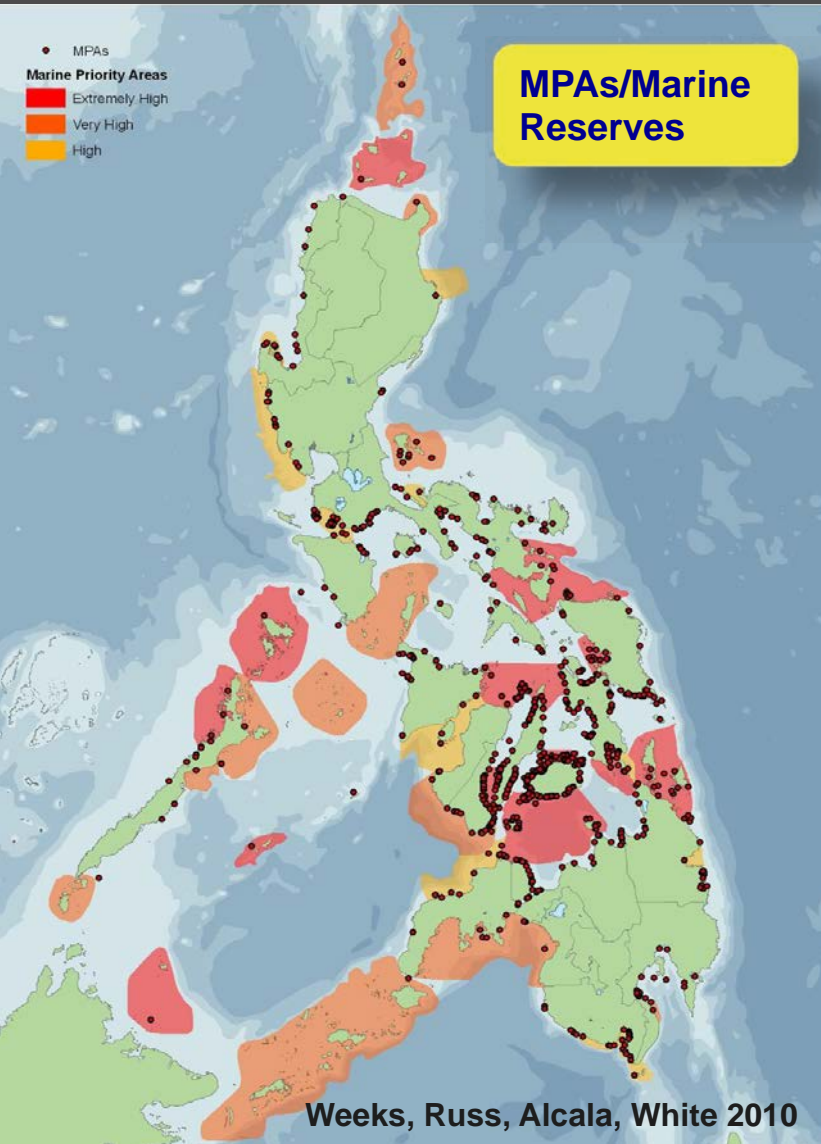
1000+ No-Take Marine Reserves in the Phils.



Cumulative Growth in Number of No-take Reserves
(Weeks et al. 2010)



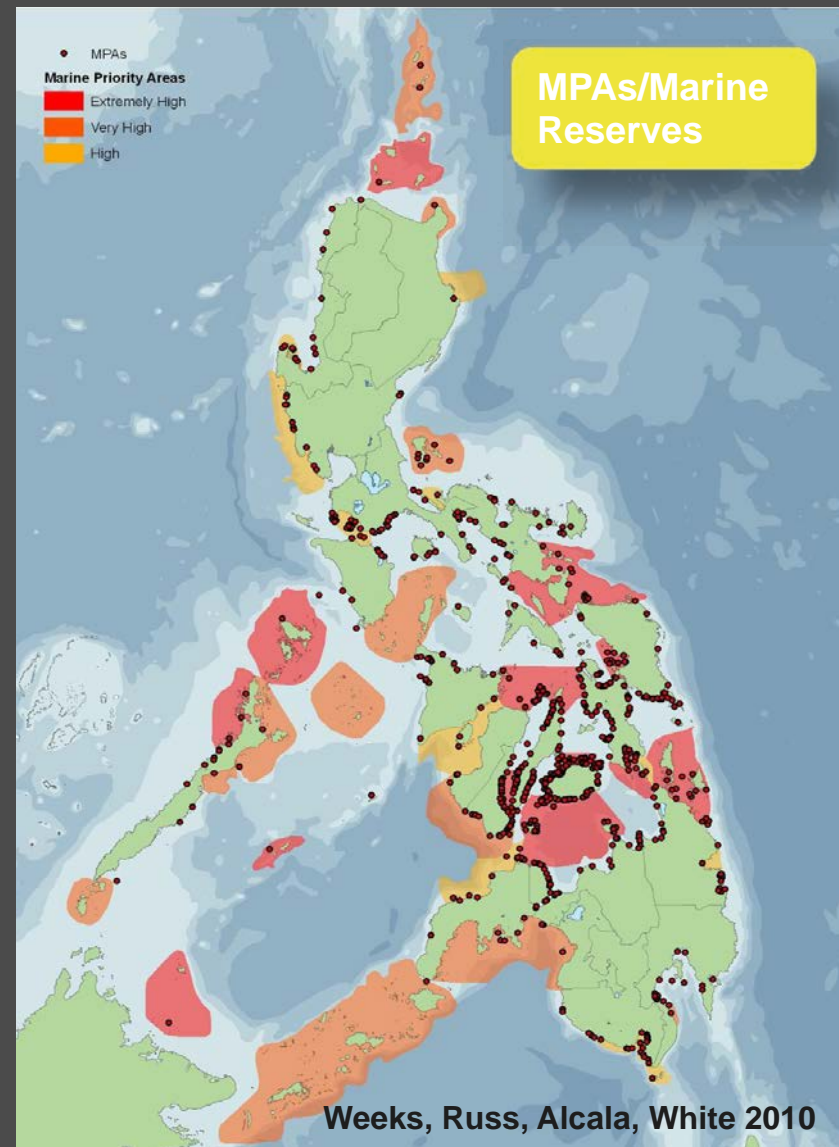
1000+ No-Take Marine Reserves in the Phils.



>90% are community-based



1000+ No-Take Marine Reserves in the Phils.

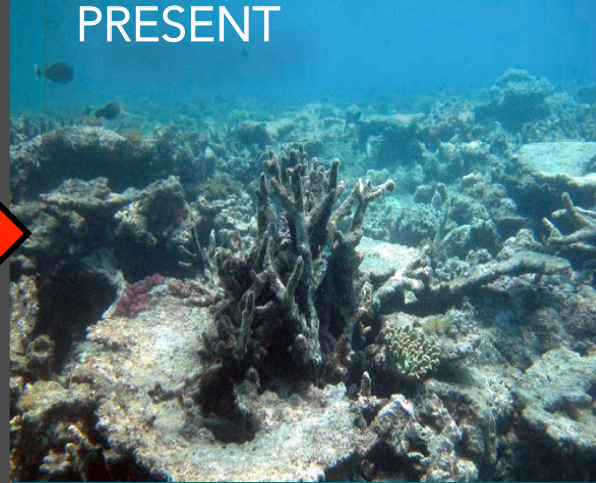


- Cover only 0.5% of coastal waters
- Protect <3.5% of coral reef area (20-30% needed for persistence)
- Needed in other habitats (seagrass beds, mangrove areas)
- Mostly in the Visayas (>500) but only ~30% are well-managed

PAST



PRESENT



"Good" coral reefs:
in 1981 = 25%
in 2004 = 5%



Overfishing affects
98% of reefs



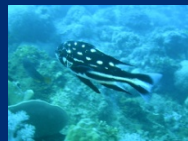
Fewer and
smaller fish
caught for the
same effort

If strictly enforced, marine reserves will 'work' but full recovery will take several decades

Apo Reserve (established in 1982)



**Up to 14x more
fish biomass after
26 years**



26 yrs protection

1983



2009

Russ &
Alcala 2010



Angel Alcala



Garry Russ

NEEDS to be done in Conservation

1. Network of Marine Protected Areas

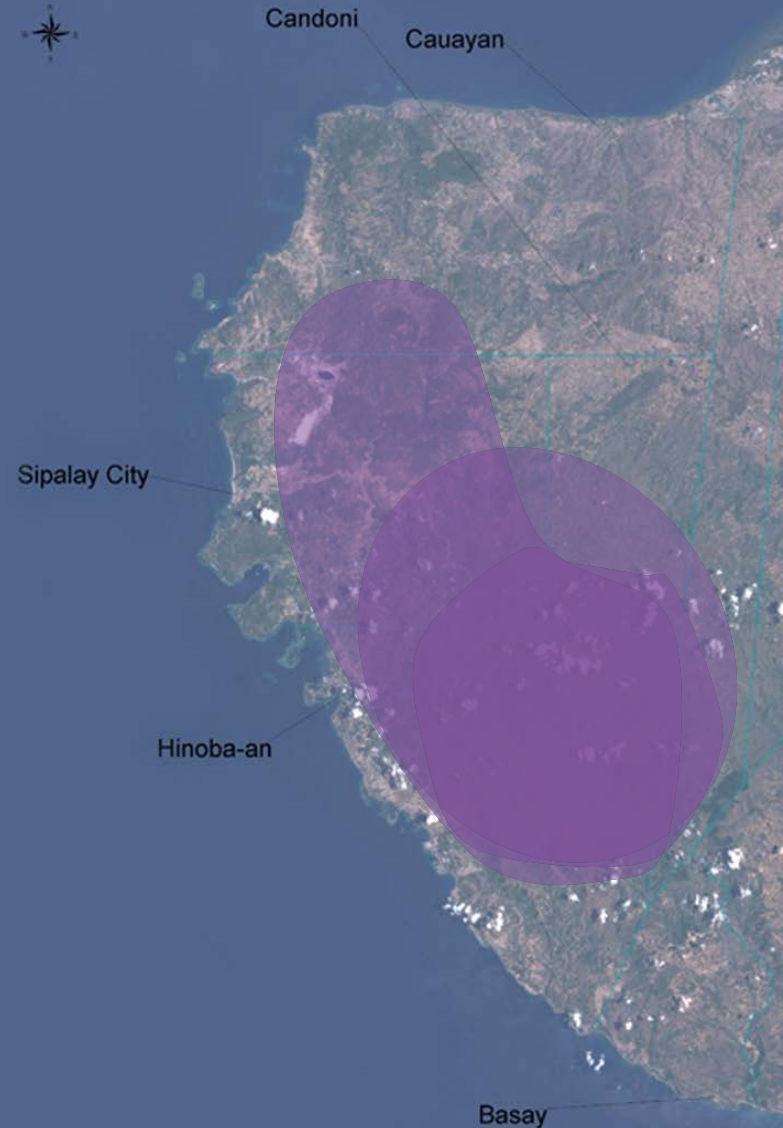
- Extremely High Marine Conservation Priority Area (PBCP 197)
- reef fishes, corals (PBCP 397)
- dugong, cetaceans, seagrasses (PBCP 196, 396)
- whalesharks, elasmobranch, turtles (PBCP 196, 388, 384)



NEEDS to be done in Conservation

2. Terrestrial Habitat Restoration

- Extremely High mammals conservation priority (PBCP 97)
- Extremely High amphibians and reptiles conservation priority (PBCP 254)
- Very High bird conservation priority (PBCP 255)
- Important Bird Area (IBA 082)



NEEDS to be done in Conservation

3. Mitigation of Sedimentation

- the restoration of Vital Watersheds
- the installation and practice of SALT and Sustainable Agriculture

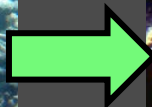
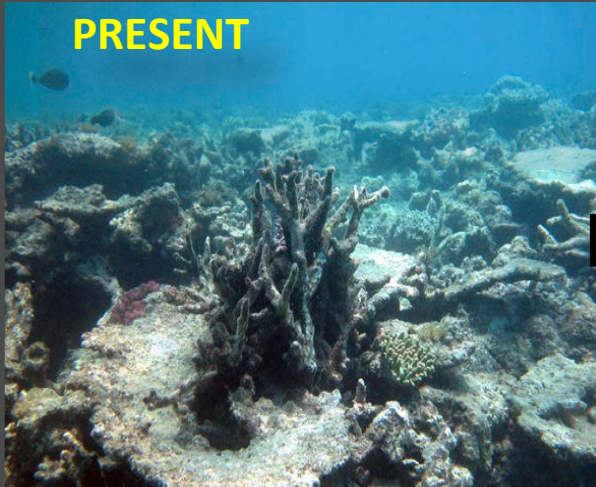


NEEDS to be done in Conservation

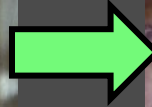
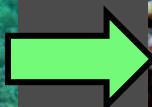


Sloping Agriculture Land
Technology: to minimize
sedimentation on coral reefs and
improve water turbidity

PRESENT



FUTURE











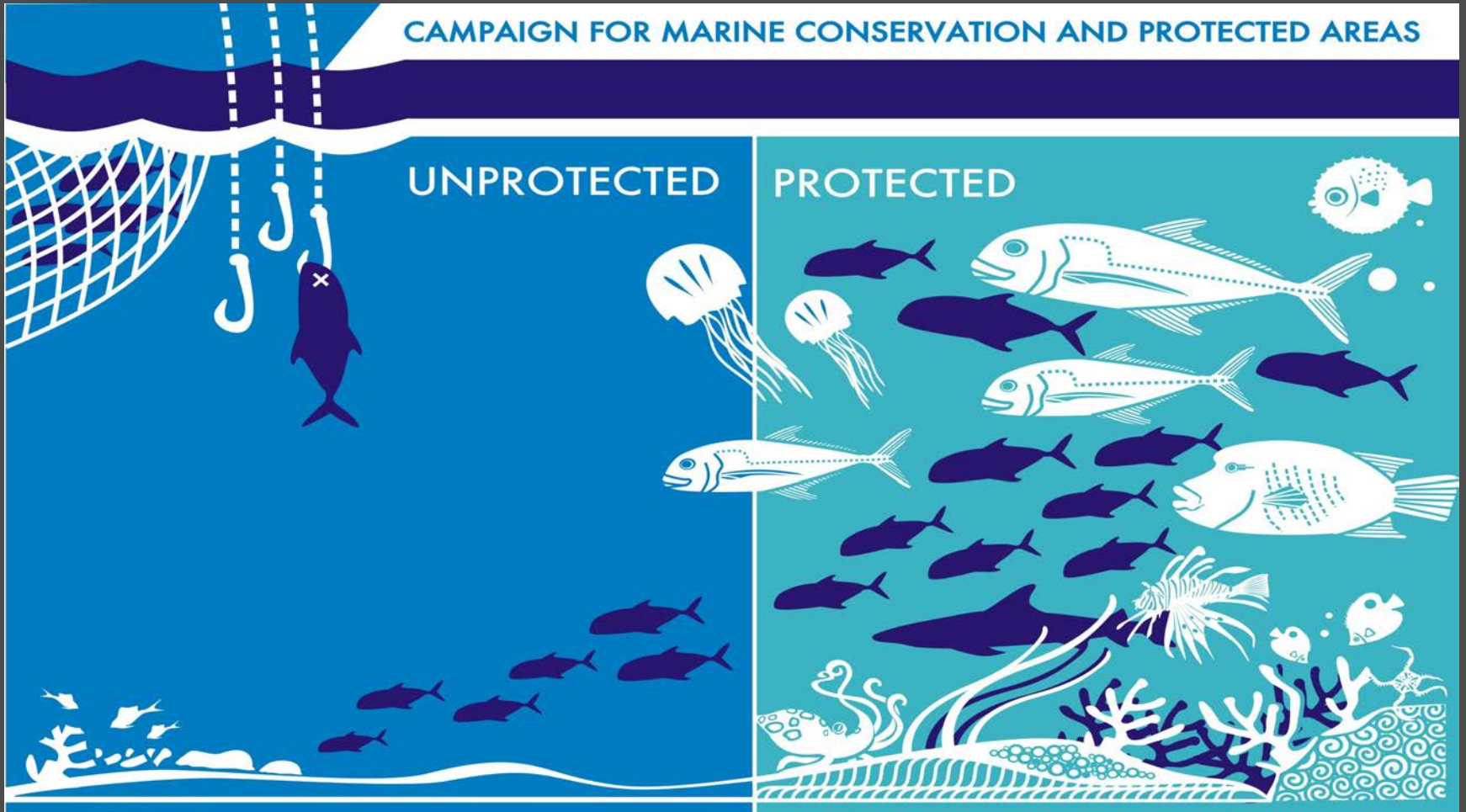


Jacks in Apo
Island



Jacks in Danjungan
Island

CAMPAIGN FOR MARINE CONSERVATION AND PROTECTED AREAS



PRRCFI PHILIPPINE REEF AND
RAINFOREST CONSERVATION
FOUNDATION, INC.

havaianas[®]

DEEP
DANUGUAN ISLAND ENVIRONMENTAL EDUCATION PROGRAM

A large commercial fishing vessel is shown on the left side of the image, with its massive net deployed across the water. The vessel is dark, and the net is a dark, heavy material. The water is a deep blue, and the sky is a bright, clear blue with some light clouds. In the background, there are low mountains or hills. The sun is high in the sky, creating a bright glare on the water's surface.

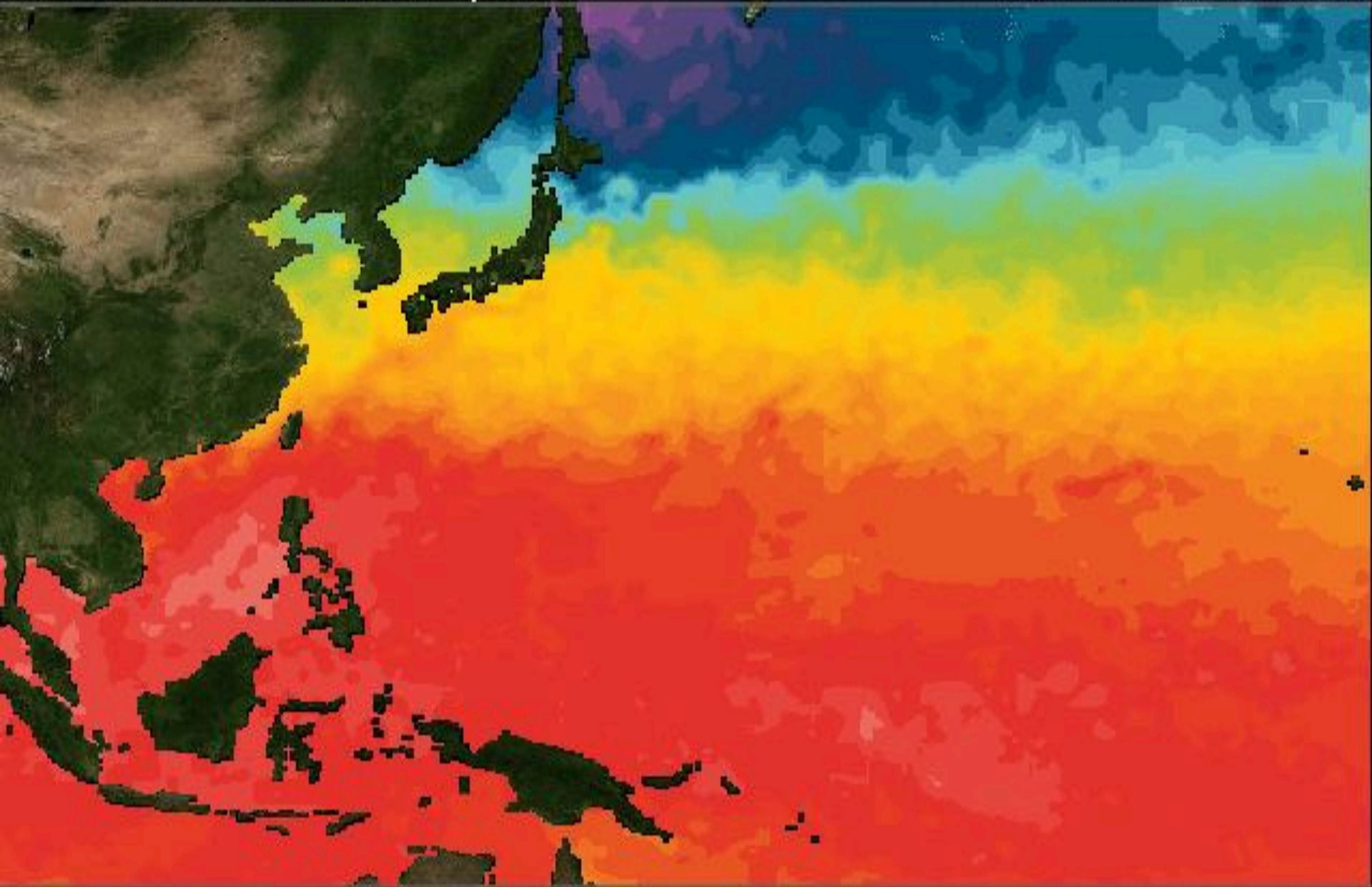
Encroachment of
Commercial Fishing
Vessel in the
Municipal Waters of
Cauayan





Western Pacific Sea Surface Temperature

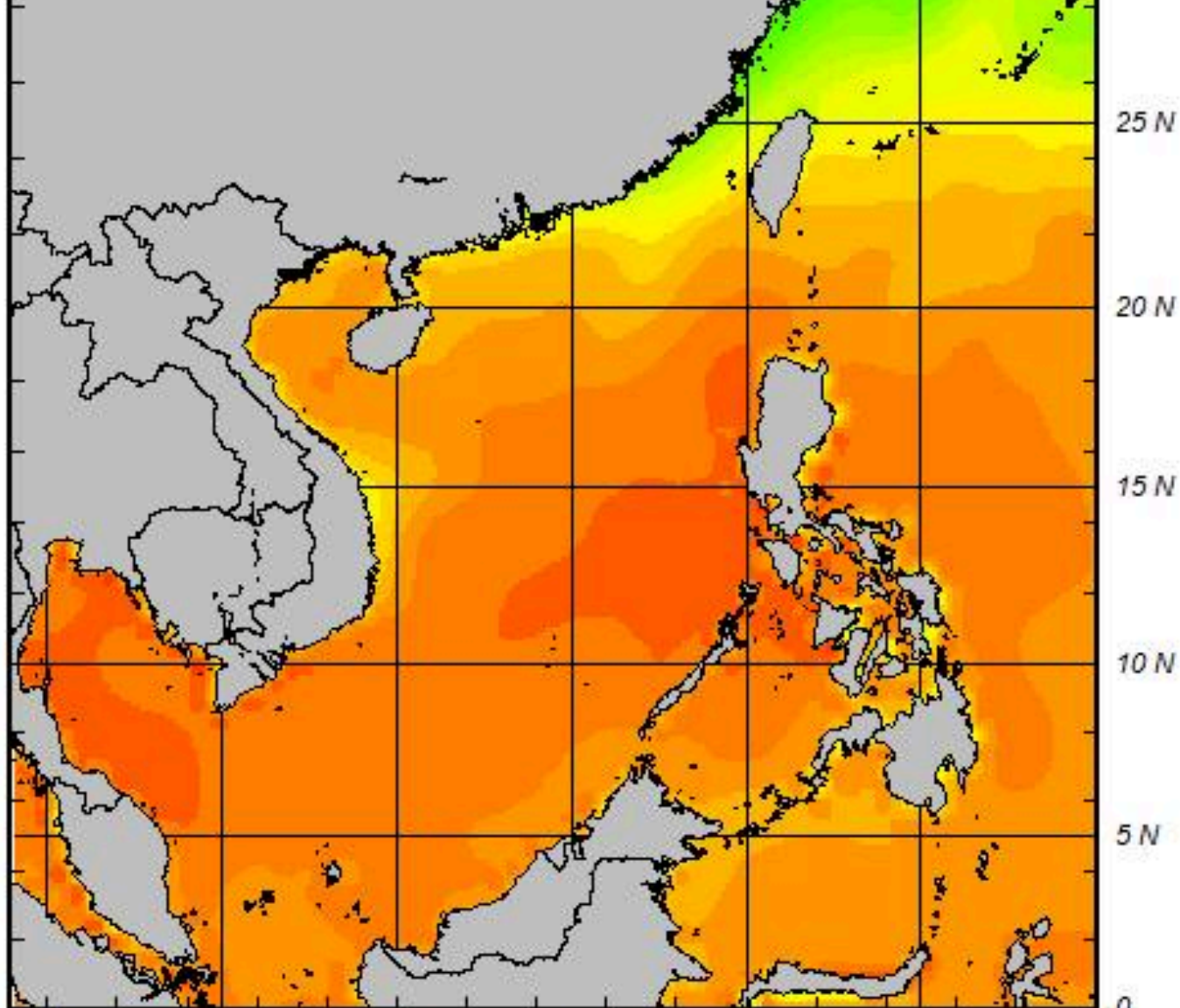
Generated Wed May 21 02:10 EDT 2014



-2.0 2.0 6.0 10.0 14.0 18.0 22.0 26.0 30.0 34.0 > °C

28.4 35.6 42.8 50.0 57.2 64.4 71.6 78.8 86.0 93.2 > °F



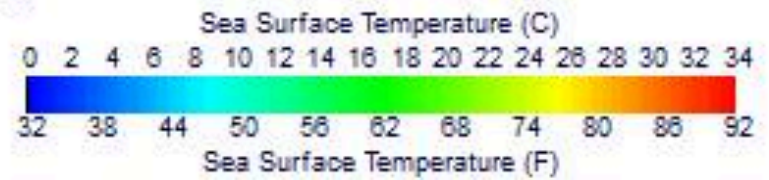


100 E 105 E 110 E 115 E 120 E 125 E 130 E

25 N
20 N
15 N
10 N
5 N
0

oceanweather inc.

Plotted at May 21, 2014 02:44 GMT



PHILIPPINES - current



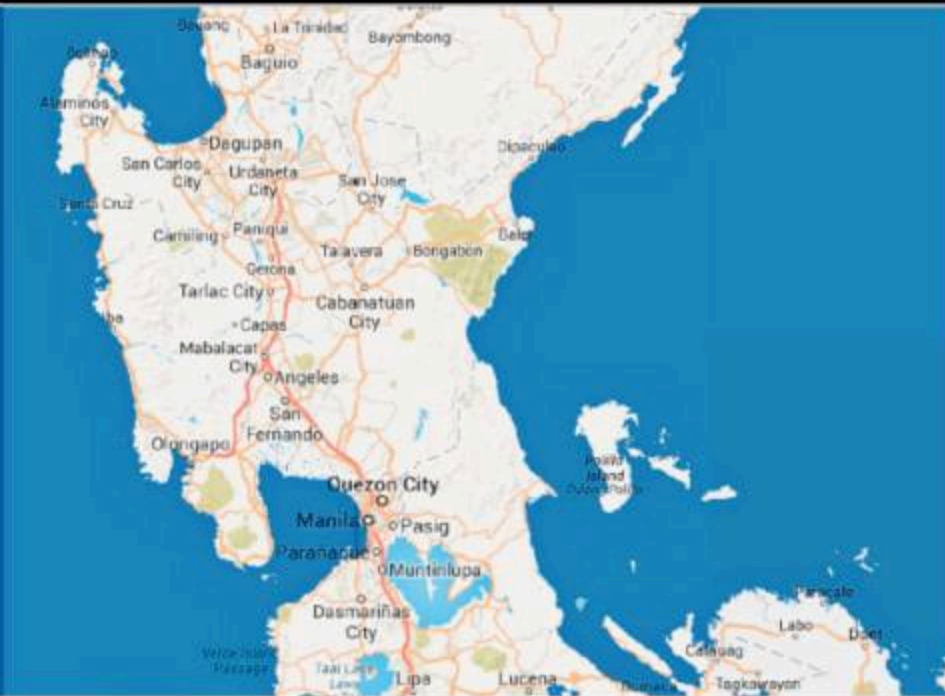
PHILIPPINES – if all the ice melts



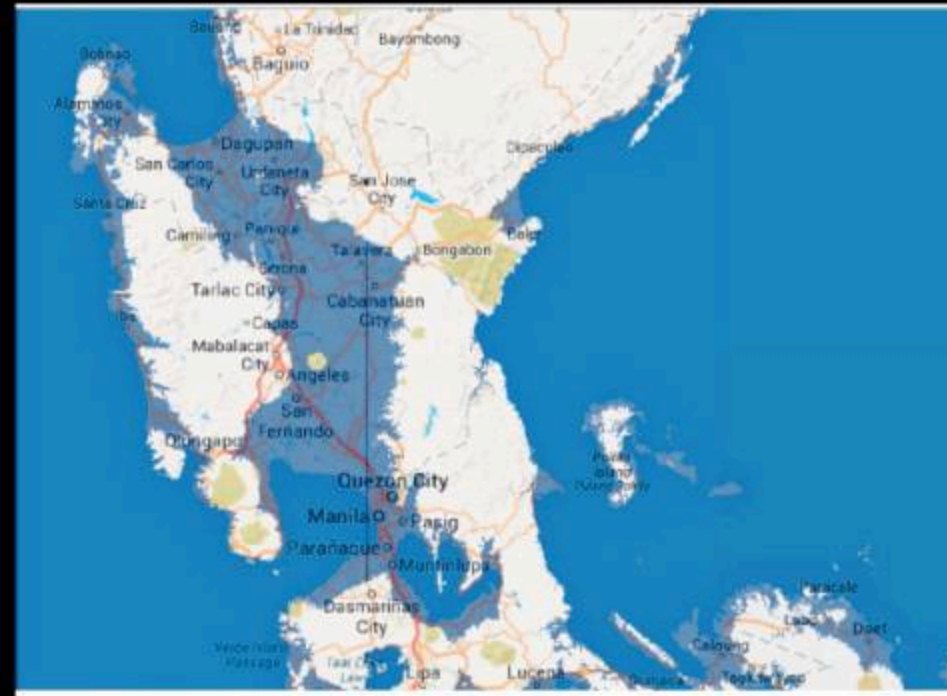
METRO MANILA is one of the most populated cities in the world



LUZON - current



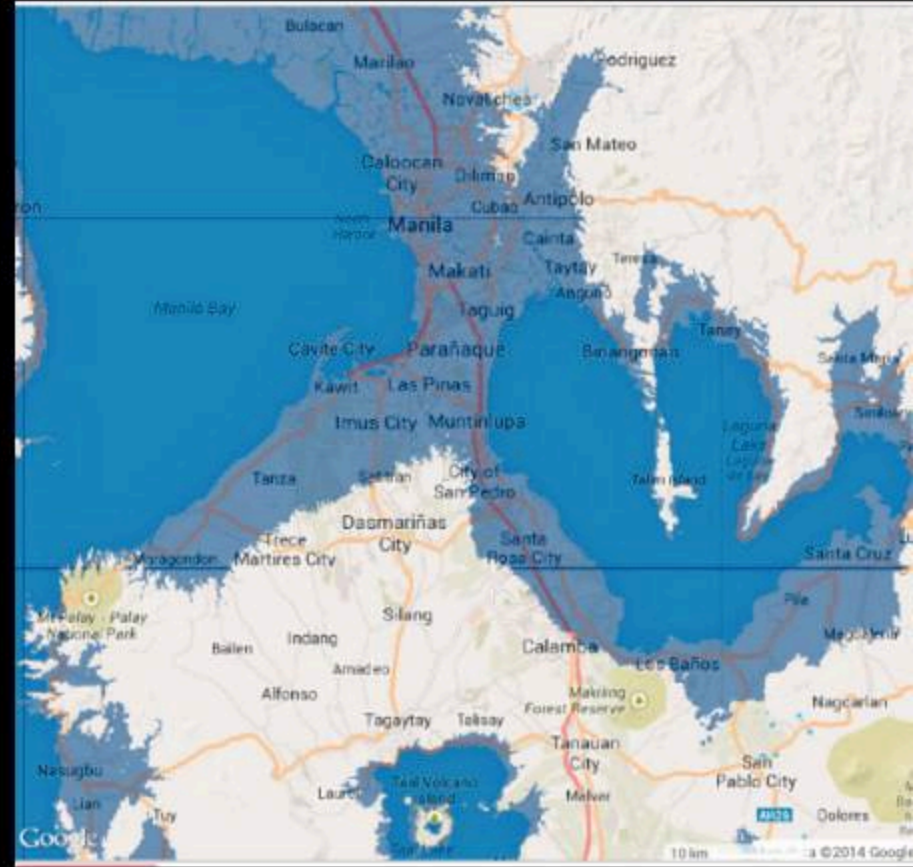
LUZON - if all the ice melts



METRO-MANILA current



METRO-MANILA if all the ice melts



ILOILO/BACOLOD/CEBU current



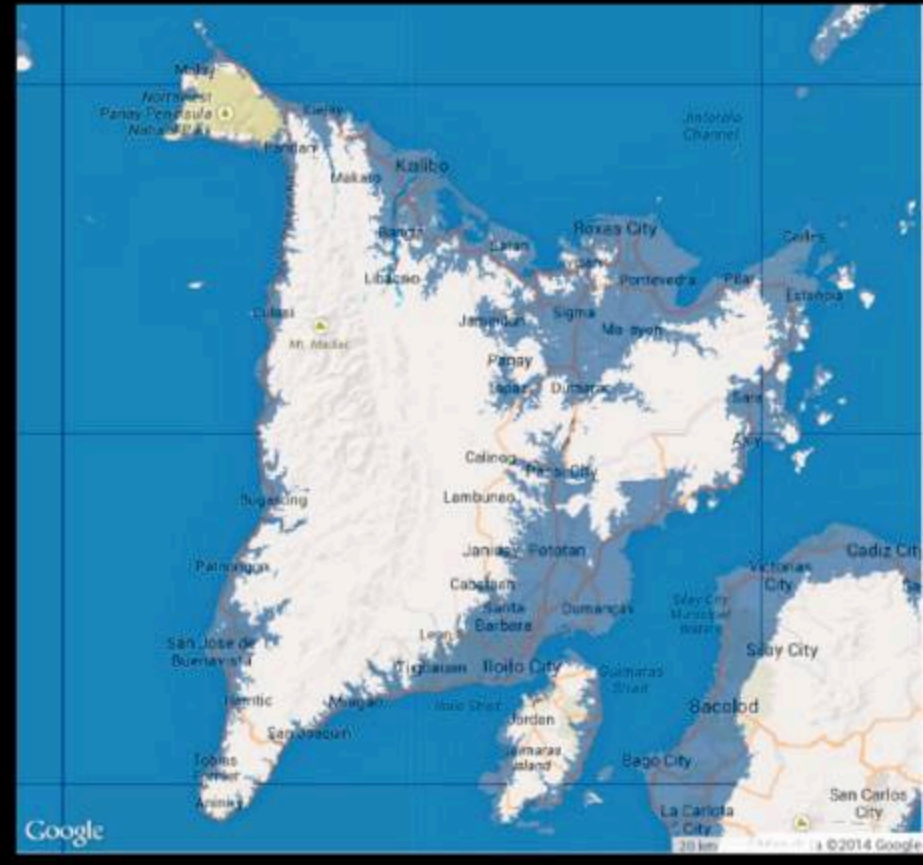
ILOILO/BACOLOD/CEBU if all the ice melts



PANAY ISLAND current



PANAY ISLAND if all the ice melts



CATICLAN / BORACAY current



CATICLAN / BORACAY if all the ice melts





DANJUGAN ISLAND ENVIRONMENTAL EDUCATION PROGRAM

Our
choice?
The future
is in
everyone's
hands...

**OUR CHALLENGE TO EVERYONE:
DON'T WAIT FOR OTHERS TO DO IT,
DO YOUR SHARE AND
MAKE THE DIFFERENCE!**

THANK YOU

ICOM

**The Board of Trustees and Staff, PRRCFI
The Foundation of the Philippine Environment
Colleagues in Biodiversity Conservation and
Sustainable Development
The Province of Negros Occidental**

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