Building resilience through recovery: mangroves and MPAs in the Philippines

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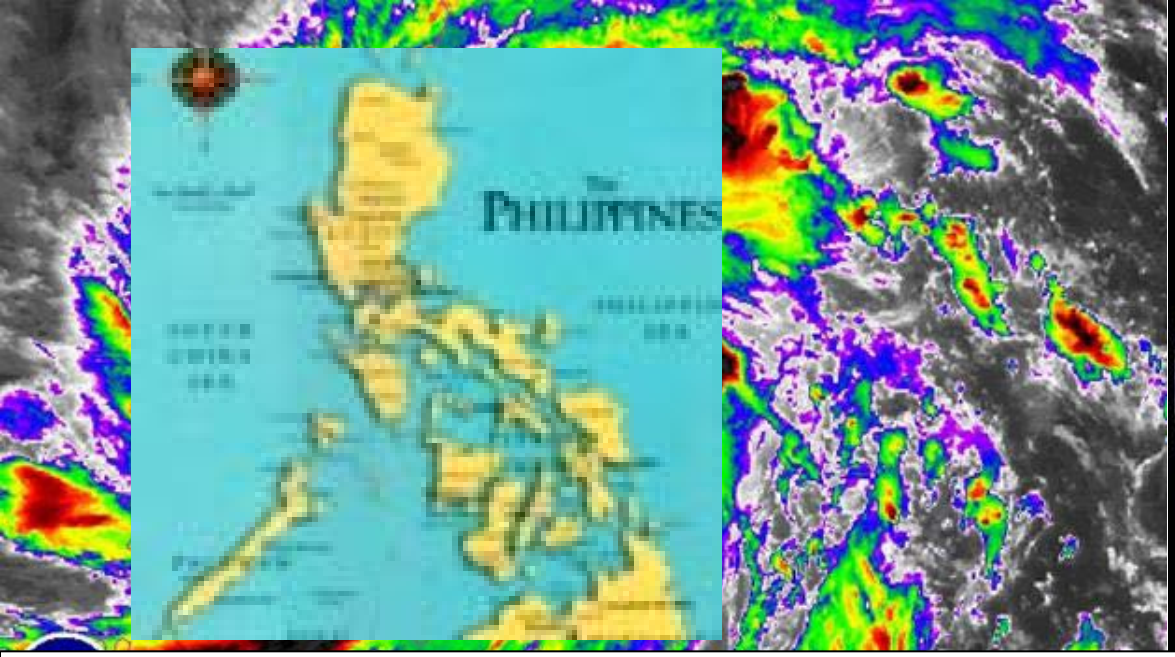
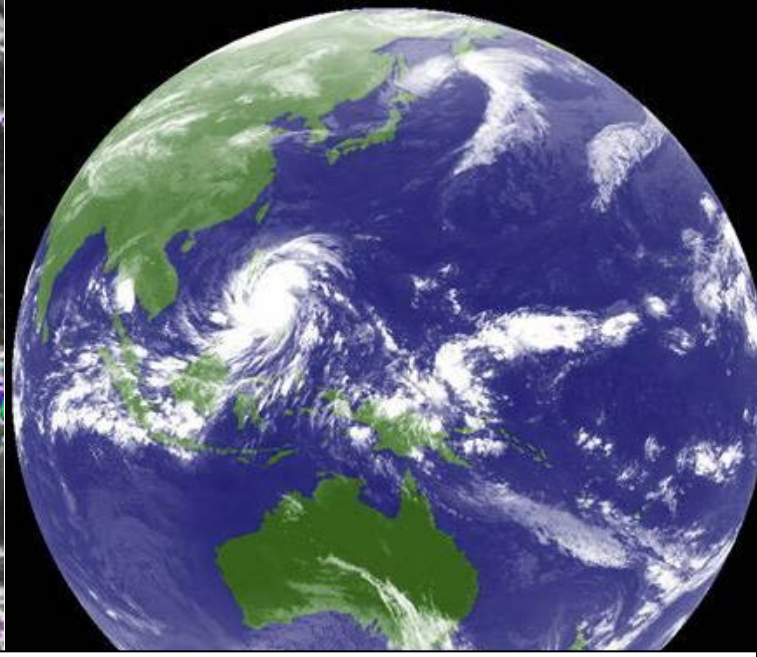
ZSL

Conservation Programmes





TY. YOLANDA (HAIYAN): STRONGEST STORM/Category 5 TO MAKE LANDFALL (315 kph); 4TH STRONGEST IN HISTORY (1750 km across, up to 5-/10-meter storm surges)


SAFETY FIRST

PHL to plant more mangroves in wake of super typhoon Yolanda

November 25, 2013 8:19am

Agence France-Presse

The Philippines said Sunday it will plant more mangrove areas to prevent a repeat of the deadly storm surges that claimed hundreds of

DENR PLAN Year 1 **(PhP1 billion/US$22 million)**: **To replant 380 km coastline = 1,900 ha of mangrove + beach forest**

PhP64 QUESTION – DO WE NEED TO PLANT MANGROVES??

Who

2 teams/ 17 participants from NGOs (ZSL, GDFI, ELTI, Haribon, C.I. and Tambuyog) and academe (UP Diliman, UP Tacloban, Ateneo de Manila University and La Salle University) and DENR Region 6 (assisted by UP Tacloban students)

***What**:* assessed **mangrove damage & recovery** potential

a) Mangrove Community Structure (estimating counts and biomass of live seedlings, saplings and trees in a 100 sq m plot)
b) degree of defoliation /other damage classified as Not Damaged, Partially Damaged , or Totally Damaged

***Where* (total 14 sites in E. Samar & Leyte)**

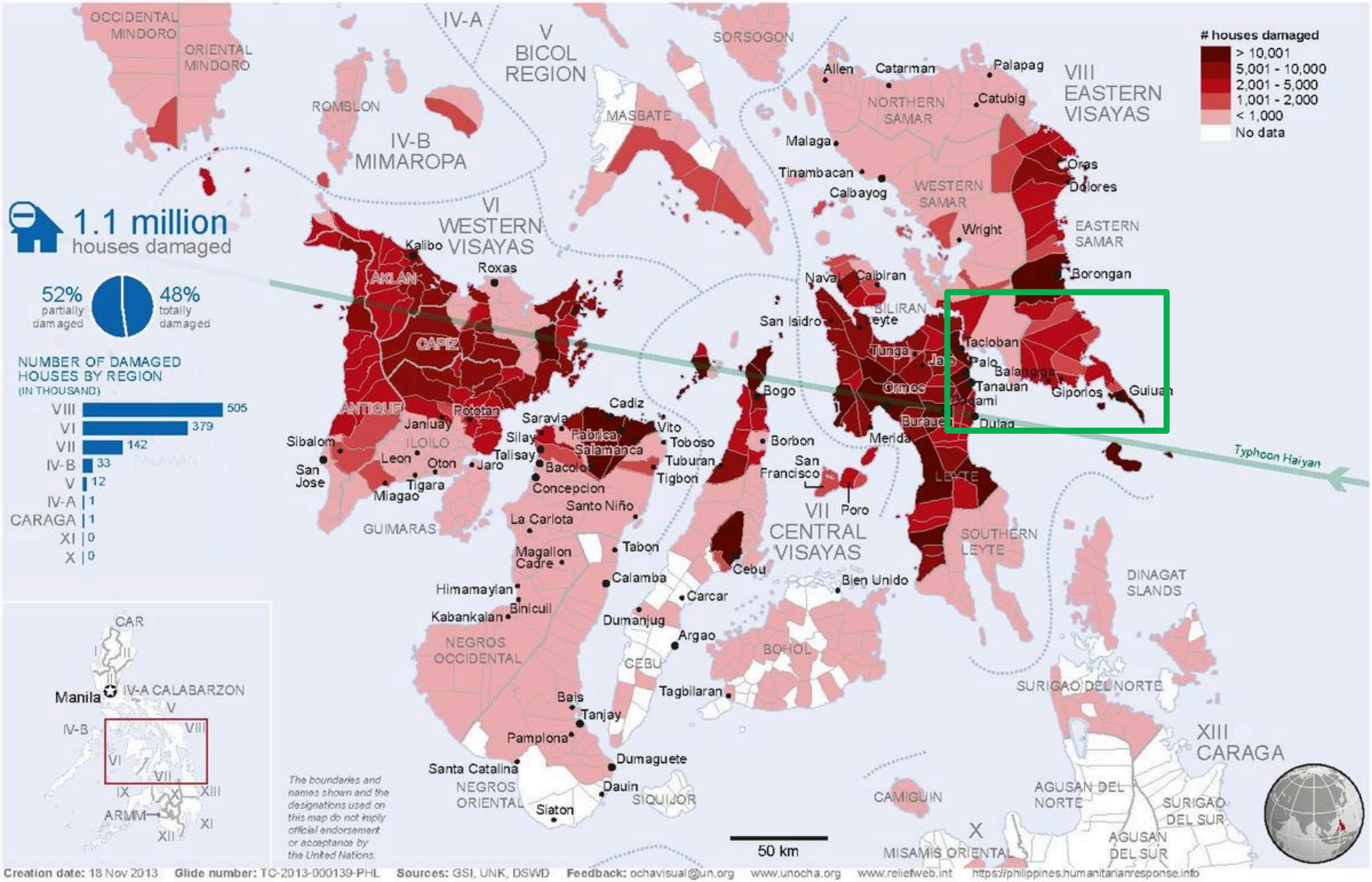
• Eastern Samar (7 sites/ 6 municipalities: Quinapondan, Guiuan {Bagong-banwa Is. and Maliwaliw Is.}, Salcedo, General MacArthur, Hernani , Lawaan)
• Leyte (5 municipalities + 2 cities: Ormoc City, Palompon, Isabel, Merida, Carigara, Palo, and Tacloban City)

***When**:* **Jan/2.5 mo & March/4.5** mo 2014 (total 7 days)

From: JH Primavera, M dela Cruz, C Montilijao, H Consunji, M dela Paz, R Rollon, K Maranan, MC Samson and A Blanco. 2014. DAMAGE AND RECOVERY POTENTIAL OF EASTERN SAMAR MANGROVES, POST- TYPHOON YOLANDA. ZSL-Philippines. Report submitted to Christian Aid.

PHILIPPINES: Damaged houses (as of 18 Nov 2013 18:00 UTC+8)

OCHA



Creation date: 18 Nov 2013 **Glide number:** TC-2013-000139-PHL **Sources:** GSI, UNK, DSWD **Feedback:** ochavisual@un.org www.unocha.org www.reliefweb.int https://philippines.humanitarianresponse.info

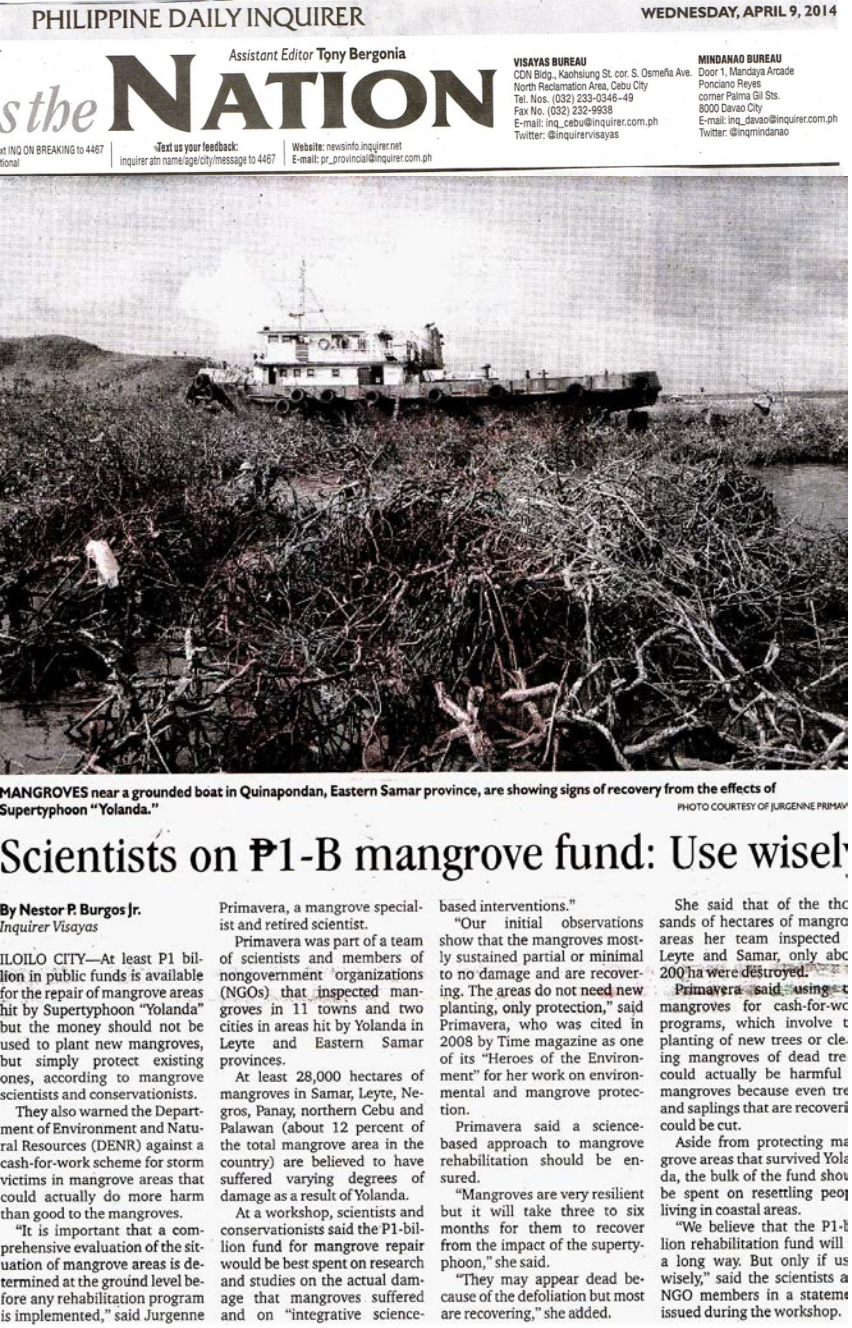
Comparison of mangrove species and counts in Eastern Samar, January and March 2014 (Primavera et al, 2014)

Municipality	Maslog, Lawaan	Sto. Niño, Quinapondan	Anahaw, Gen. MacArthur	Maliwaliw, Salcedo	Batang, Hernani	Abejao, Salcedo	Bagonbanua, Guiuan
Coordinates: Latitude	11° 7'22"N	11° 8'49"N	11°15'9"N	11° 5'54"N	11°18'5"N	11°11'23"N	11°3'18"N
: Longitude	125°19'52"E	125°31'30"E	125°33'17"E	125°35'3"E	125°36'18"E	125°36'30"E	125°39'44"E
Kind of Mangrove	Plantation (80% planted)	Natural	Natural	Plantation (90% planted)	Natural	Natural	Natural
Dominant species	*Rhizophora spp.*	Mixed	*Sonneratia alba, Aegiceras floridum*	*Rhizophora spp.*	*Sonneratia alba, Aegiceras floridum*	Mixed	*Sonneratia alba, Aegiceras floridum*
Trees (no/ha)	2,460.0	2,787.5	720.0	7,320.0	735.3	2,800.0	6,775.0
No Damage (%)	400 (16.3)	1,587.5 (57.0)	106.7 (14.8)	0 (0)	0 (0)	2,000 (71.4)	0 (0)
Partially Damaged (%)	1,320 (53.7)	993.8 (35.1)	533.3 (74.1)	1,940 (26.5)	100.6 (13.7)	800 (28.6)	1,925 (28.4)
Totally Damaged (%)	740 (30.1)	206.3 (7.4)	80 (11.1)	5,380 (73.5)	634. 8 (86.3)	0 (0)	4,850 (71.6)

NATURAL MANGROVES: NEAR VS FARTHER FROM LANDFALL

Mangrove counts and tree damage in natural vs planted mangroves in Eastern Samar, Jan. and March 2014 (Primavera et al, 2014).

Kind of Mangrove	Natural	Plantation
Damage: trees - counts (no/ha)		
No Damage (%)	1,293.8 (56.8)	200 (4.1)
Partially Damaed (%)	722.0 (31.7)	1,630 (33.3)
Totally Damaged (%)	261.8 (11.5)	3,060 (62.6)
Recovery		
Total counts (no/ha)	17,700.6	8,690.0
Trees	2,277.6	4,890.0
Saplings	3,289.7	550.0
Seedlings	12,133.3	3,250.0



PHILIPPINE DAILY INQUIRER WEDNESDAY, APRIL 9, 2014

Assistant Editor Tony Bergonia

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MANGROVES near a grounded boat in Quinapondan, Eastern Samar province, are showing signs of recovery from the effects of Supertyphoon "Yolanda." PHOTO COURTESY OF JURGENNE PRIMAV

Scientists on ₱1-B mangrove fund: Use wisel

By Nestor P. Burgos Jr.
Inquirer Visayas

ILOILO CITY—At least P1 billion in public funds is available for the repair of mangrove areas hit by Supertyphoon "Yolanda" but the money should not be used to plant new mangroves, but simply protect existing ones, according to mangrove scientists and conservationists.

They also warned the Department of Environment and Natural Resources (DENR) against a cash-for-work scheme for storm victims in mangrove areas that could actually do more harm than good to the mangroves.

"It is important that a comprehensive evaluation of the situation of mangrove areas is determined at the ground level before any rehabilitation program is implemented," said Jurgenne Primavera, a mangrove specialist and retired scientist.

Primavera was part of a team of scientists and members of nongovernment organizations (NGOs) that inspected mangroves in 11 towns and two cities in areas hit by Yolanda in Leyte and Eastern Samar provinces.

At least 28,000 hectares of mangroves in Samar, Leyte, Negros, Panay, northern Cebu and Palawan (about 12 percent of the total mangrove area in the country) are believed to have suffered varying degrees of damage as a result of Yolanda.

At a workshop, scientists and conservationists said the P1-billion fund for mangrove repair would be best spent on research and studies on the actual damage that mangroves suffered and on "integrative science-based interventions."

"Our initial observations show that the mangroves mostly sustained partial or minimal to no damage and are recovering. The areas do not need new planting, only protection," said Primavera, who was cited in 2008 by Time magazine as one of its "Heroes of the Environment" for her work on environmental and mangrove protection.

Primavera said a science-based approach to mangrove rehabilitation should be ensured.

"Mangroves are very resilient but it will take three to six months for them to recover from the impact of the supertyphoon," she said.

"They may appear dead because of the defoliation but most are recovering," she added.

She said that of the tho sands of hectares of mangro areas her team inspected Leyte and Samar, only abo 200 ha were destroyed.

Primavera said using mangroves for cash-for-wo programs, which involve t planting of new trees or cle ing mangroves of dead tre could actually be harmful mangroves because even tre and saplings that are recoveri could be cut.

Aside from protecting ma grove areas that survived Yola da, the bulk of the fund shou be spent on resettling peo living in coastal areas.

"We believe that the P1-b lion rehabilitation fund will a long way. But only if us wisely," said the scientists a NGO members in a stateme issued during the workshop.

P1 billion fund for mangrove rehab 'misguided,' scientists warn
By KIM LUCES, GMA News, April 11, 2014

http://www.gmanetwork.com/news/story/356518/scitech/science/p1-billion-fund-for-mangrove-rehab-misguided-scientists-warn

No need to replant most mangroves in Yolanda-hit areas – study April 10, 2014

http://www.gmanetwork.com/news/story/356376/scitech/science/no-need-to-replant-most-mangroves-in-yolanda-hit-areas-study

Use P1-B mangrove rehab fund to relocate coastal dwellers first – scientists
By KIM LUCES, GMA News April 12, 2014

http://www.gmanetwork.com/news/story/356669/scitech/science/use-p1-b-mangrove-rehab-fund-to-relocate-coastal-dwellers-first-scientists

Protect recovering/natural mangrove forest

Expand mangrove area through replanting **cleared/majorly damaged areas**

Misguided planting of *Rhizophora* – WRONG SPECIES/ECOSYSTEM

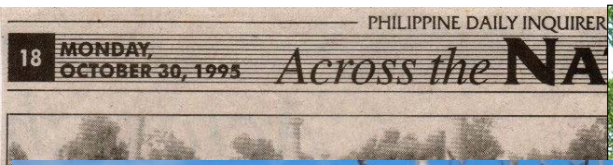


Photo Collage by JH Primavera

MANUAL ON COMMUNITY-BASED MANGROVE REHABILITATION

MANGROVE MANUAL SERIES NO.1

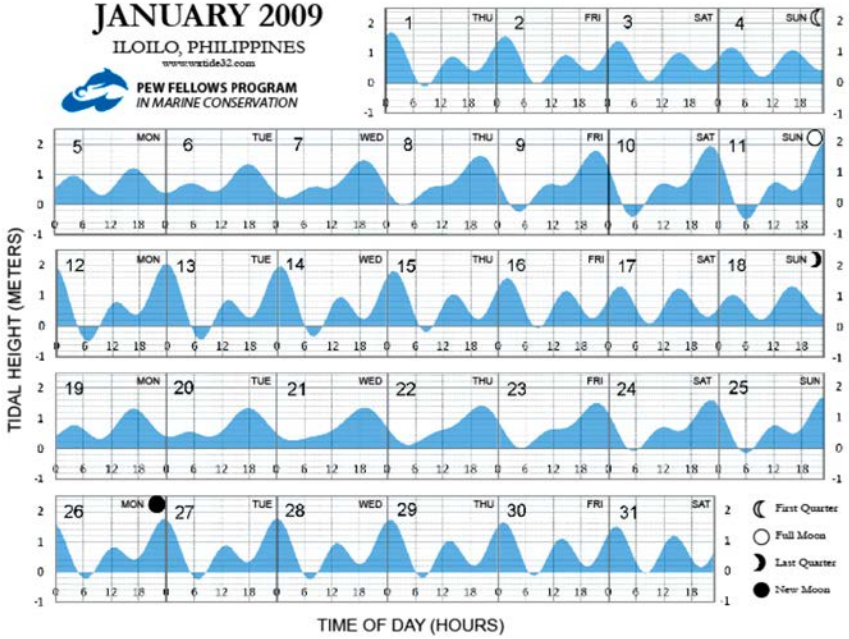
JH Primavera, JP Savaris, BE Bajoyo, JD Coching, DJ Curnick, RL Golbeque, AT Guzman, JQ Henderin, RV Joven, RA Loma and HJ Koldewey

ZSL
LIVING CONSERVATION

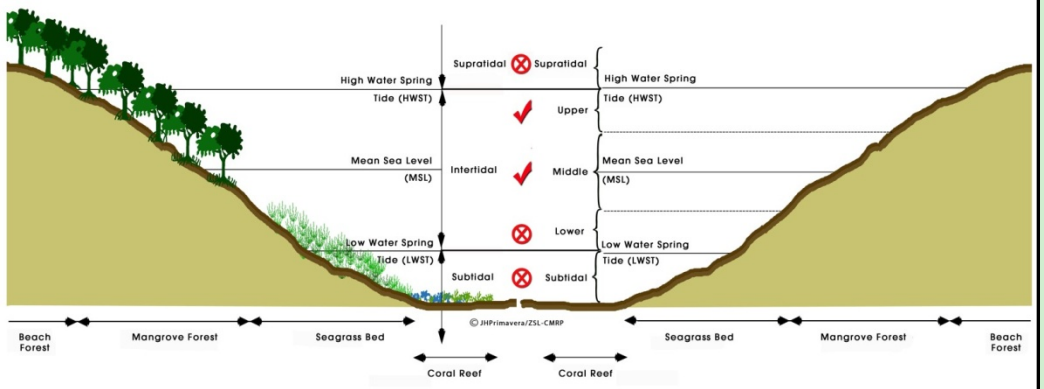
2012 Mangrove-Tidal Calendar

Opening at dusk, the lovely but short-lived flowers of pagatpat *Sonneratia alba* fall from the canopy as dawn approaches, enveloping the early morning visitor in a blanket of white filaments. *Photo by Jon Altamirano*

©2012 J.H. Primavera & A.M. Guzman



PLANT MANGROVES IN THE RIGHT PLACE!!



Mangroves grow at or above mean sea level (MSL). To avoid the high mortality rates of most seafront projects, follow the following guidelines.

DO

- Select planting site during neap tide
- Plant in the middle to upper intertidal
- Plant **piapi/bungalon** and **pagatpat**
- Plant 50 - 100 cm (0.5-1 meter) tall seedlings

DON'T

- Select planting site during spring tide
- Plant in the lower intertidal to subtidal
- Plant **bakhaw**
- Plant seedlings less than 50 cm tall

For more information please contact:

The Project Manager, CMRP
ZSL Office, 3rd floor Lim Bldg. #48 Burgos St.
La Paz, Iloilo City, Philippines 5000
Tel/Fax + 63 33 330 0929
Email: mangromproj@yahoo.com
URL: www. zsl.org/conservation/regions/asia/mangrove-Philippines

giz ZSL ACCCoast

Common Mangrove Species in the Philippines

In the Philippines, the common mangrove species along the shoreline are;

Avicennia marina **(bungalon/apiapi)** varied substrates (muddy,sandy,rocky,etc), wide salinity range; front liner

pagatpat *Sonneratia alba* **-** sandy substrate, full seawater salinity; frontliner

Rhizophora stylosa **(bakhaw)** more sheltered sites, or behind *A. marina -S.alba* zone, sandy to muddy

Rhizophora apiculata **(bakhaw lalaki)**- more sheltered sites, or behind *A. marina-S.alba* zone, sandy to muddy

Philippine Mangrove Laws

Protection

P.D. 705 (1975) - Revised Forestry Code: Retention of 20 m-wide mangrove strip facing oceans
P.D. 953 (1976) - Fishpond/ mangrove leaseholders required to retain or replant 20-m mangrove strip along rivers, creeks
P.D. 1067 (1976) - 3 to 20 m of riverbanks, seashore for public use (recreation, navigation, floatage, fishing and salvage), building of structures not allowed
P.P. 2151 & 2152 (1981) - Declaration of 4,326 ha of mangroves including Palawan as wilderness areas and 74,767 ha as forest reserves
DENR A.O. 15 (1990) - Granting/ renewal of mangrove timber license and/or permit no longer allowed; mangrove released to BFAR for fishpond that are not utilized or have been abandoned for 5 years from date of release shall revert to category of forest land
R.A. 7161 (1991) - Internal Revenue Code: Ban on cutting of all mangrove species
DENR A.O. 34 (1991) - Guidelines for Environmental Clearance Certificate (applied to fishponds)
R.A. 8550 (1998) - Fisheries Code: Prohibits mangrove conversion to fishponds and other uses


Apr 2007

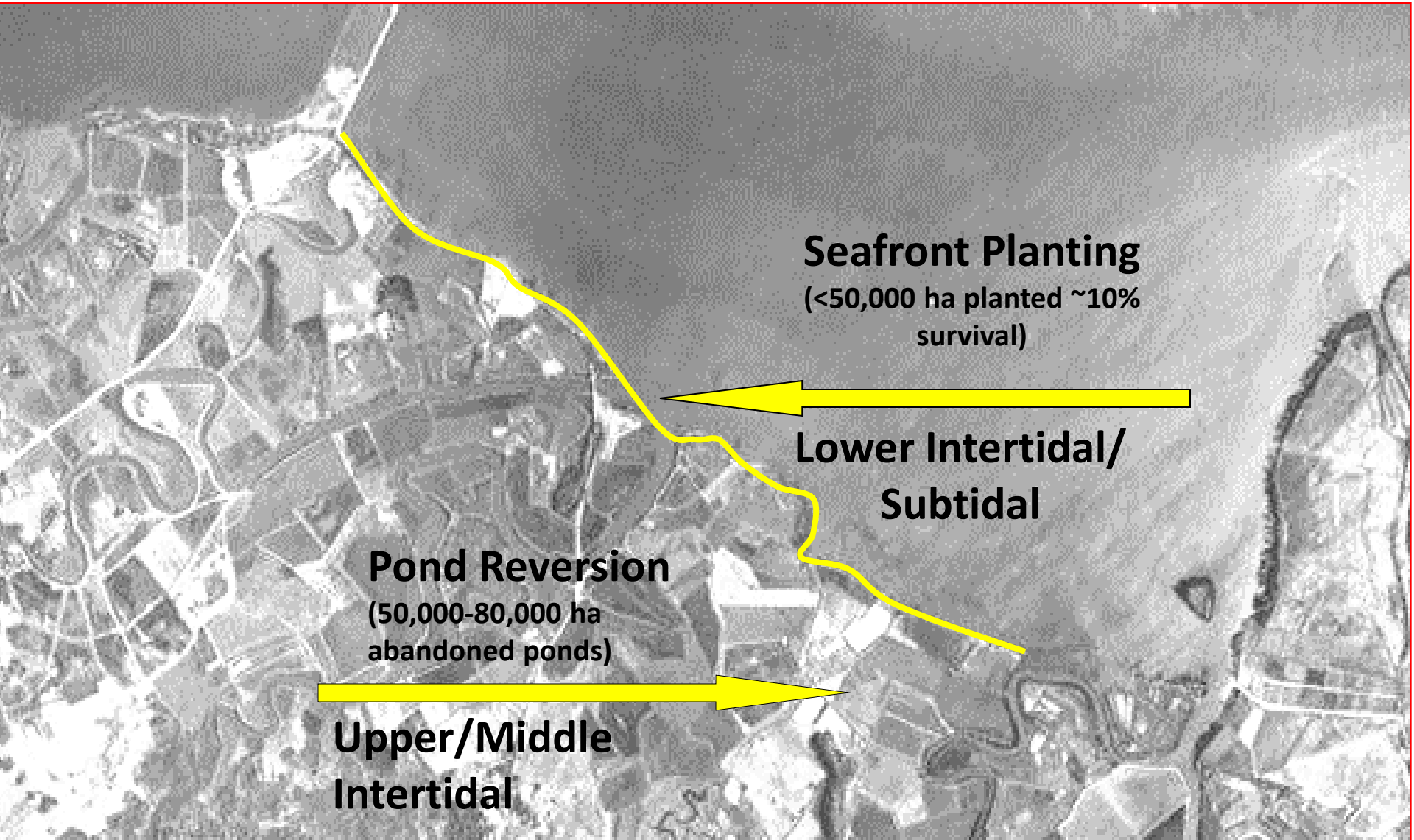

Apr 2008


Mar 2009
26 3 2009

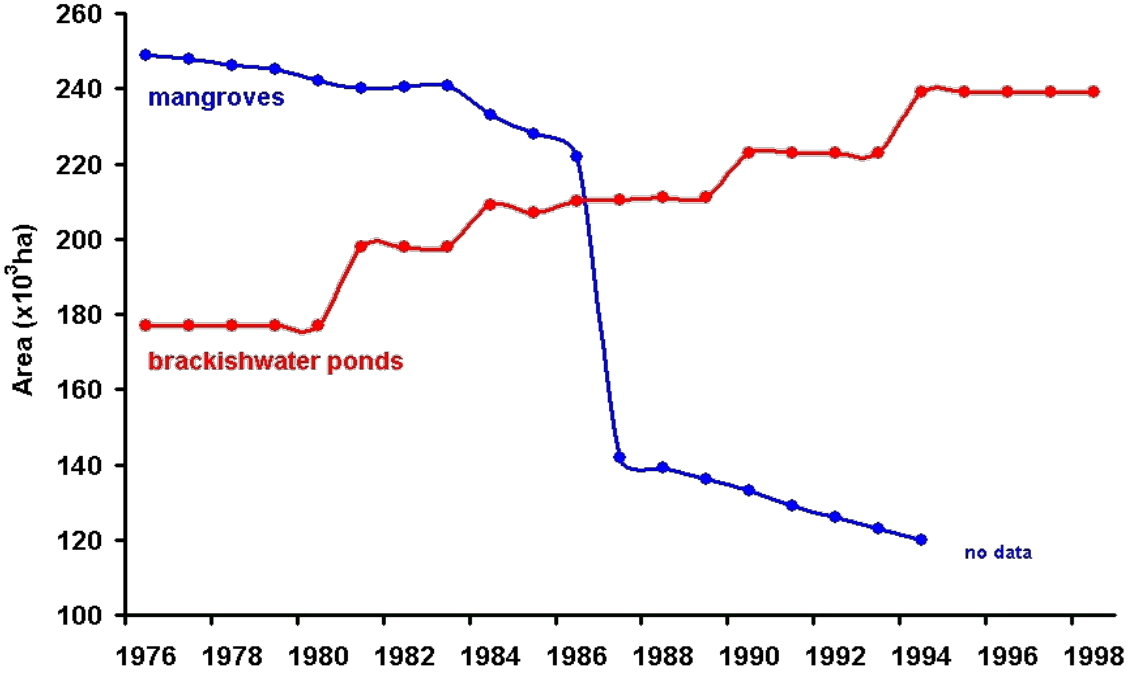

Apr 2012

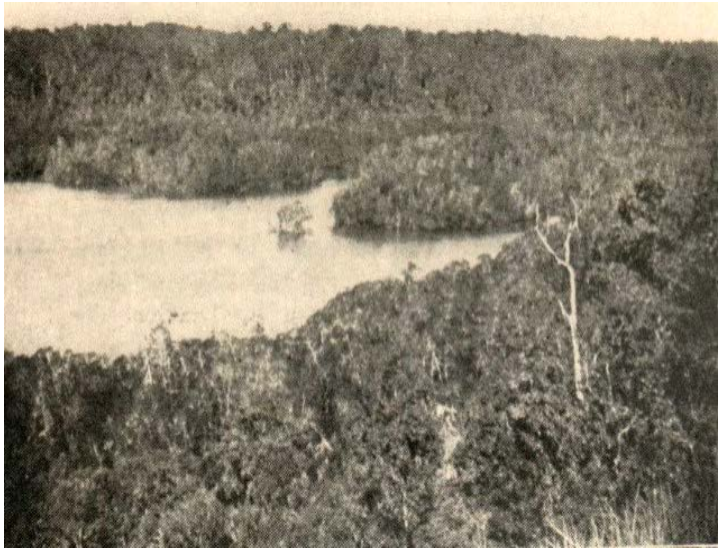

May 2010
May 2011

Fishpond reversion



Mangroves to fishponds (Primavera, 2000)

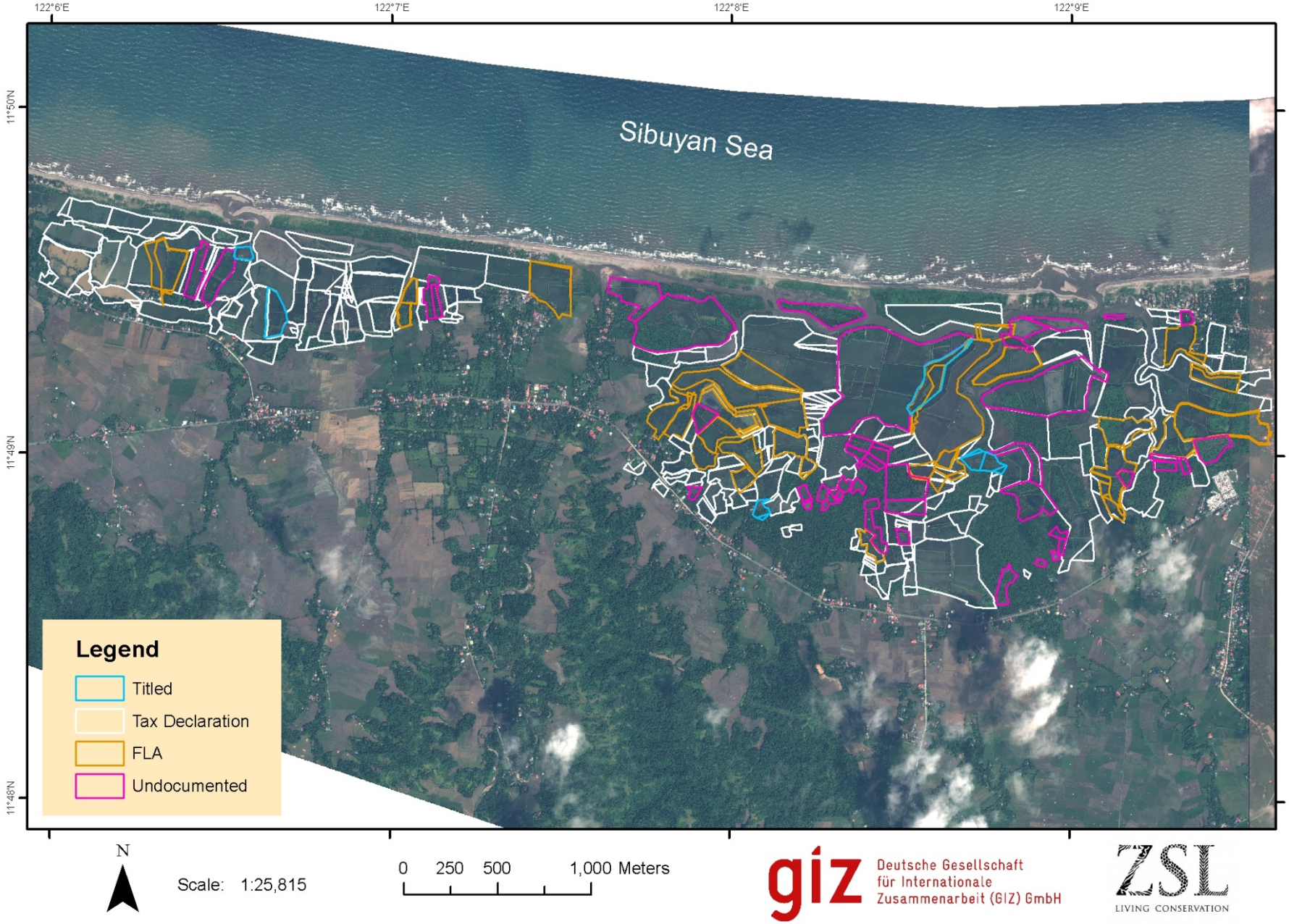




MANGROVES	PONDS
1918: 450,000 ha	1940: 61,000 ha
2010: 240,800 ha	1994: 232,000 ha

Present MANGROVE: POND RATIO - 1: 1

IDEAL RATIO (Saenger et al 1983) - 4: 1


122°6'E
122°7'E
122°8'E
122°9'E
11°50'N
11°49'N
11°48'N
Sibuyan Sea
Legend
Titled
Tax Declaration
FLA
Undocumented
N
Scale: 1:25,815
0 250 500 1,000 Meters
giz
Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH
ZSL
LIVING CONSERVATION


Oct 2009

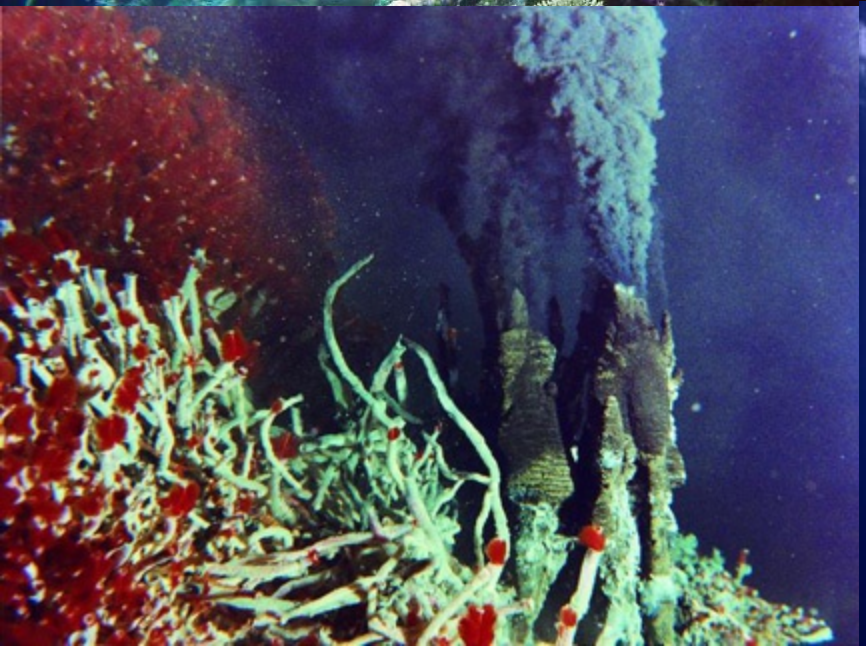

Mar 2011


Jan 2011
ZSL


Mar 2012

MPAs – no-take zones

Uneven habitat representation



Increasing MPA area and resilience

Lipata MPA	10 ha	104.2 ha
Sinandigan MPA	50 ha	245.4 ha
Aquino-Ondoy MPA	35 ha	102.8 ha

TURNING THE TIDE ON MANGROVE LOSS

The status of mangroves and their associated fauna

6th- 7th November 2014

http://www.zsl.org/science/whats-on/turning-the-tide-on-mangrove-loss

IUCN SSC Species Survival Commission Mangrove Specialist Group

IUCN Mangrove Specialist Group statement for WPC

- Mangroves essential for resilience to impacts of climate change & natural disasters
- PROTECT recovering and natural mangrove stands
- RESTORE areas converted to fishponds, and make mangrove areas “No-Go” to aquaculture.
- APPLY STANDARDS for all replanting based on best available science – right spp in right places (for ZSL manuals – zsl.org/mangroves)
- Help people resettle outside of mangrove/coastal forest zone
- See **zsl.org/mangroves** for full statement and more