

VIII. APPENDICES

Appendix A: Coastal Barangays of Bataan

Province: Bataan

Coastal Cities/Municipalities	Coastal barangays
1st District	
HERMOSA	Pulo Almacen Saba Mabuco
ORANI	Pantalang Luma PantalangBago Kaparangan Balut Kabalutan Wawa Tapulao Puksuan Calero
SAMAL	Lalawigan Calaguiman Santa Lucia Daan Bago Sapa Tabing Ilog
ABUCAY	Mabatang Capitangan Calaylayan Wawa Omboy
MORONG	Sabang Nagbalayong Poblacion Mabayo
BALANGA	Sibacan Pto. Rivas Ibaba Pto. Rivas Itaas Tortugas Tuyo Lote
PILAR	Balut I Balut II Wawa Wakas Landing

Appendix A (continued)

Coastal Cities/Municipalities	Coastal barangays
2nd District	
ORION	Putting Buhangin Santa Elena Daan Pare Capunitan Lusungan Daan Bago Wawa Pag-asa Balut Camachile
LIMAY	Lamao Alangan Kitang II/Luz Kitang I Landing Townsite/Villafrancia Wawa Reformista St. Francis/Roxas St. Francis II
MARIVELES	Lucanin Cabcaben Townsite/Pinag-Apugan San Jose Alas-asin Sisiman Nasui Ipag Camaya Balon Anito Mt. View Batangas II Biian
BAGAC	Binuangan Pag-asa Quinawan Saysayin Paysawan Ibis Banawang

Appendix B: Mangrove Planting Initiatives for Bataan

MANGROVE PLANTING INITIATIVE OF BICMP, PMO

Year	Location	Area (ha)
2001	Mabatang Abucay	2
2002	Daan Pare, Orion	2
	Alangan, Limay	2
2003	Sibacan, Balanga City	2
	Mabatang, Abucay	2
	Wawa South, Pilar	2
	Sitio Sibul, Daan Pare, Orion	2
	Alangan, Limay	1
2004	Daan Pare, Orion	2
	Camachile, Orion	2
	Balut II, Pilar	2
2005	Camachile, Orion	1
2006	Capunitan, Orion	2
	Tortugas, Balanga	2
2007	Balut, Orion	1
	Balut II, Pilar	1
2009	Santa Elena, Orion, Bataan	2
2011	Balut II, Pilar	0
2012	Tortugas, Balanga	0
Total	12 barangays in 4 Municipalities	30
Other Data		
No. of propagules planted	More than 221,500	
No. of seedlings planted	More than 49,500 seedlings	
Survival rate	70%	
No. of volunteers involved in the activity	More than 6,500 volunteers from 2001	

Appendix B (continued)

DENR – PENRO INITIATIVE (2007-2010)

Year	Location	Area (ha)
2007	Kabalutan, Orani (BAKLAD)	8
2008	Kabalutan, Orani (BAKLAD)	5
	Wakas, Pilar (SALBA)	3
2009	Pto. Rivas, Balanga	5
	Orion	7
	Pilar	5
	Balanga	3
	Abucay	10
	Samal	10
	Orani	5
2010	Orani	5
	Orion	3
	Samal	3
Total		72

BFAR's ENHANCEMENT PLANTING (2011)

Year	Location	Area (ha)
2011	Orani to Limay	18

PRIVATE SECTOR INITIATIVE (2014)

Name	Location	Area (ha)
Jollibee Group of Companies	Santa Elena, Orion, Bataan	4,000 propagules
Rotary Club of Metropolitan Cubao Association of Safety Practitioners of the Phil Inc	Camachile, Orion, Bataan	3,000 propagules
ASSPI and Phil Resins Industries Inc (PRII)	Santa Elena, Orion, Bataan	2,000 propagules

PEOPLE'S ORGANIZATION INITIATIVE (under the UNDP, SGP Project)

Name of PO	Location/Year	No. of Propagules Planted
Sagip Likas Yamang Dagat ng Bataan Inc. (SALBA)	Orani and Pilar (2003 – 2006)	130,000
Samahan at Ugnayan sa Pangisdaanng Orion Inc. (SUGPO)	Brgys. Balut, Camachile and Santa Elena, Orion, Bataan (2009 – 2012)	120,000



Appendix C: Subic Bay Freeport Zone mangrove forest area coverage
(in hectares)

Location	Closed Canopy	Open Canopy	Cleared/ Denuded	Total
Binictican	18	10	1	30
Boton	9	2	1	12
Nabasan	3	3	0	7
Triboa A	7	1	0	8
Triboa B	3	0	0	3
Ilanin	3	0	0	3
Total	42	17	3	62





Appendix D: List of Coastal Barangays per Municipality of Zambales

Municipality	Coastal Barangays	
Sta Cruz	Lucapon North	North Poblacion
	Lucapon South	Malabago
	Naulo	Gama
	Balitoc	Sabang
	Lipay	Pagatpat
	South Poblacion	
Candelaria	Uacon	Libertador
	Sinabacan	Dampay
	Malimanga	Binabalian
	Malabon	Lawis
	Panayonan	
Masinloc	Taltal	Inhobol
	Bani	Bamban
	Balaganon	Santo Rosario
	Collat	San Lorenzo
	North Poblacion	San Salvador
	South Poblacion	
Palauig	Pangolingan	Santo Tomas
	Lipay	East Poblacion
	San Juan	Liozon
	Gareta	Magalawa
	Libaba	Macarang
	Bato	Alwa
	Locloc	West Poblacion
Iba	Amungan	Palanginan
	Bangantalinga/Sta Rita	San Agustin
	Lipay Dingin Panibuatan	Sto Rosario
Botolan	Panan	Bangan
	Binoclutan	Beneg
	Porac	Danacbunga
	Capayawan	Parel
Cabangan	Laoag	Felmida Diaz
	Lomboy	Mabanglit
	San Isidro	Santo Niño
	Arew	Camiing
San Felipe	Santo Niño	Maloma
	Sindol	
San Narciso	Lapaz	
San Antonio	San Miguel	
	Pundaquit	
Subic	Baraca-Camachili	Calapandayan
	Wawandwe	Matain
	Calapacuan	Cawag
TOTAL	75	





Appendix E: Mangrove Seedling Production by Year in Pangasinan

Calendar Year	Annual Production
2008	20,000
2009	81,884
2010	71,886
2011	91,587
2012	105,613
2013	80,100
Total	451,070



Appendix F: Coastal Mangrove Reforestation of Bani, Pangasinan from 2007-2013

Year	Location	No. of propagules	Species	Area (ha.)	Alive	Survival Rate	PO Involved	No. of pax	Source of Funds/ Sponsor
2007	Bangrin MPA	4,951	<i>A. marina</i>	1	1,683	34%	AFAI, NAGKASAMA	25	UPMERF-Sagip LGP
		2,700	<i>R. mucrunata</i>	1	918	34%	AFAI	12	UPMERF-Sagip
2008	Bangrin MPA	10,000	<i>R. mucrunata</i> , <i>R. apiculata</i>	1.3	4,500	45%	Bangrin Federation	50	NEDA KR2
		2,500	<i>R. mucrunata</i>	1	375	15%	Bangrin Federation	13	PMA Class 72
		2,500	<i>R. mucrunata</i>	1	482	19%	AFAI	13	PGU Pangasinan
		2,000	<i>R. mucrunata</i>	1	40	2%	PASS, Alaminos Students	13	Hundred Islands Rotary Club
2009	Bangrin MPA	845	<i>R. mucrunata</i>	1	541	64%	NAGKASAMA	5	LGU-Bani
		1,459	<i>R. mucrunata</i>	1			AFAI	10	PMA Class 72
		725	<i>R. mucrunata</i>	1.3		43%	AFAI	15	LGU-Bani
		1,725	<i>R. mucrunata</i>	1		84%	AFAI	15	PGU Pangasinan
March 2012	Bangrin MPA near Wild Duck Avenue	14,250	<i>R. mucrunata</i>	0.3562	9,120	64%	NAGKASAMA	26	BFAR-DENR- Tanim Kalikasan- KASAMMBA-LGU
March 2012	Bangrin MPA near Heron Boulevard	15,240	<i>R. mucrunata</i>	0.381	10,973	72%	AFAI	34	BFAR-DENR- Tanim Kalikasan- KASAMMBA-LGU
18-May 2012	Bangrin MPA	355	<i>S. alba</i>	0.02	355	100%	AFAI, NAGKASAMA		PCV VEG
		445	<i>R. mucrunata</i>		445	100%	AFAI, NAGKASAMA		PCV VEG
23-Oct 2012	Bangrin MPA near Heron Boulevard	10,000	<i>R. apiculata</i>	0.25	7,400	74%	AFAI	65	BFAR-DENR- Tanim Kalikasan- KASAMMBA-LGU
4-Dec 2012	Bangrin MPA near Heron Boulevard	6,000	<i>R. apiculata</i>	0.15			AFAI	32	DENR National Greening Program
10-Dec 2012	Bangrin MPA near Heron Boulevard	11,000	<i>R. apiculata</i>	0.275			AFAI	32	DENR National Greening Program
14-15 Dec 2012	Bangrin MPA near Heron Boulevard	3,360	<i>R. mucrunata</i>	Replacement planting			AFAI	39	LGU-Bani
17-Jan 2013	Bangrin MPA	1,200	<i>R. mucrunata</i>	Replacement planting	5,200	100%	NAGKASAMA	10	LGU-Bani
28-29 Jan 2013	Bangrin MPA	4,000 s	<i>R. mucrunata</i>	Replacement planting			NAGKASAMA	10	LGU-Bani
13-Feb	Bangrin MPA	2,000	<i>R. mucrunata</i>	0.162			NAGKASAMA	10	BFAR-DENR- Tanim Kalikasan- KASAMMBA-LGU



Appendix G: List of Coastal Barangays with Their Population in La Union

Municipality/City	Number of Coastal Barangays	Population
Agoo	10	15,160
Aringay	5	11,911
Bacnotan	7	11,625
Balaoan	2	3,676
Bangar	4	5,601
Bauang	13	29,023
Caba	4	4,409
Luna	13	18,700
Rosario	3	5,137
San Juan	5	3,951
Santo Tomas	10	16,449

Source – Municipal Fishery Profile





Appendix H: Coastal barangays by municipality/city of Ilocos Sur

Municipality	Number of Barangays	Name of Barangays
Sinait	8	Dadalaquiten Norte, Dadalaquiten Sur, Cabangtalan, Katipunan, Sabangan, Paratong, Teppeng, Pug-os
Cabugao	7	Namruangan, Daclapan, Sabang, Dardarat, Salomague, Salapasap, Pug-os
San Juan	7	Surngit, Solot-solot, Dardarat, Camindoroan, San Isidro, Saoang, Sabangan
Magsingal	7	Pagsanaan Norte, Pagsanaan Sur, Namalpalan, Manzante, Miramar, Alangan, Puro
Sto. Domingo	5	Sived, Calay-ab, Casili, Suksukit, Nanerman
San Vicente	2	San Sebastian, Nagtupacan
Santa Catalina	4	Tamorong, Cabittaogan, Subec, Paratong
Caoayan	7	Tamurong, Puro, Caparacadan, Fuerte, Manangat, Villamar, Don Alejandro Quirolgio
Vigan City	3	Mindoro, San Pedro Sur, Pantay Laud
Santa	10	Magsaysay, Quezon, Bucalag, Tabucolan, Pasungol, Rancho, Calungboyan, Casiber, Dammay, Oribi
Narvacan	4	Sulvec, Bulanog, San Pedro, Pantoc
Santa Maria	5	Suso, Nalvo, Bia-o, Lingsat, Nagsayaoan
San Esteban	4	Villa Quirino, San Pablo, Apatot, Bateria
Santiago	6	Gabao, Sabangan, Guinabang, Butol, San Roque, Ambucan
Candon City	8	Patpata 1 st , Patpata 2 nd , Tamurong 1 st , Tamurong 2 nd , Calungboyan, Paypayad, Darapidap, Caterman
Santa Lucia	6	Luba, Vical, Paratong, Bao-as, Sabuanan, Nangalisan
Santa Cruz	14	Pattiqui, Gabor Sur, Las-ud, Villa Hermosa, Pilar, Dili, Villa Garcia, Capariaan, Casilagan, Sevilla, Mambog, Paratong, Pinipin, Mantanas
Tagudin	11	Becques, Pacac, Borono, Tampugo, Bimmanga, Libtong, Farola, Dardarat, Pudoc West, Sawat, Tarangotong



Appendix I: 1st State of the Mangrove Summit: Northwestern Luzon
Activity Design and Program

1st State of the Mangroves Summit: Northwestern Luzon

23-24 October 2014

CTC 201, Ateneo de Manila University

In cooperation with:



CONSERVATION
INTERNATIONAL
Philippines



Supported by:
Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety
Based on a decision of the German Bundestag



Activity Design

Background and Rationale

In the wake of the destruction left by Super Typhoon Yolanda, building natural coping mechanisms against climate change becomes more crucial as the world experiences the new “normal.” This is especially significant for coastal inhabitants. Among these coping mechanisms, mangroves have proven to be life savers, protecting coastal dwellers and their livelihoods from storm surges and sea level rise (see for example McIvor et al., 2013). A press release by the United Nations Development Program entitled “Mangrove restoration saved our lives and our economy, says villager in Northern Samar, Philippines,” published 13 November 2013, is just one of the many testaments to the value of mangroves. In the article, a resident of Northern Samar was quoted as saying, “Had we not protected the mangrove trees against illegal cutting and had we not planted the areas surrounding the fish farms, the super typhoon would have destroyed everything that the poor fisherfolk established.”

The Need for a Mangrove Summit

Given the important role of mangroves, the lack of consolidated data, and some constraints in resources, there is an urgent need to have the first Mangrove Summit focusing on the provinces of Central and Northern Luzon. The provinces of Bataan, Bulacan, Cagayan, Ilocos Norte, Ilocos Sur, La Union, Pampanga, Pangasinan and Zambales still have a substantial number of mangroves but are highly vulnerable against anthropogenic and natural disasters.

The summit serves as a pioneering activity that envisions institutionalizing a national State of the Mangrove biannual workshop that consolidates monitoring data (growth, biodiversity, etc.). This information, collated in an accessible database, will also be useful in estimating the carbon sequestration of mangroves and its vulnerability against sea level rise. All this will be valuable in enhancing mangrove conservation and management strategies.

Summit Objectives

The 1st State of the Mangroves Summit: Northwestern Luzon aims to complement the State of the Coast Reports of the UP Marine Science Institute by opening up the stage for provinces across the Philippines to discuss the status of mangrove forests in the country.

Specifically, the summit aims to accomplish the following objectives:

1. Provide a venue for provinces to share and discuss the status of mangrove forests in the Philippines, especially in the light of climate change vulnerability;
2. Invite experts in the field of mangrove ecology and management, climate change vulnerability, and blue carbon sequestration to share state of the art knowledge to enrich the workshop and action planning;
3. Consolidate more accurate data from each province; and
4. Come up with a plan of action to enhance mangrove management

Outputs

5. Proceedings of the State of the Mangrove Summit: Northwestern Luzon;
6. Initial inputs for the development of a national mangrove database;
7. Formation of a mangrove management network for Northwestern Luzon; and
8. Draft action plan for mangrove management in Northwestern Luzon

1st State of the Mangroves Summit: Northwestern Luzon

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In cooperation with:



CONSERVATION
INTERNATIONAL
Philippines



Supported by:
Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety
based on a decision of the German Bundestag



Day 1

- | | |
|----------|--|
| 8:30 AM | Registration
Prayer
National Anthem |
| 9:30 AM | Welcome Remarks
Dr John Paul Vergara
<i>Vice President for the Loyola Schools, Ateneo de Manila University</i>

Mr Godofredo T. Villapando
<i>Executive Director, Foundation for the Philippine Environment</i> |
| 10:00 AM | Summit Introduction and Overview
Dr Severino G. Salmo III
<i>Assistant Professor, Department of Environmental Science,
Ateneo de Manila University</i> |
| 10:30 AM | Status of Mangrove Research in the Philippines
Ms Anna Cubos
<i>Research Assistant, APN Project, Marine Science Institute,
University of the Philippines</i> |
| 11:15 AM | Status of Mangrove Biodiversity Management
Ms Nilda Baling
<i>Section Chief, Coastal Marine Management Section, Biodiversity Management
Bureau, Department of Environment and Natural Resources</i> |
| 11:45 AM | Open Forum |
| 12:15 PM | Lunch Break |
| 1:00 PM | Presentation and Update of Mangrove Status per Province |
| 6:00 PM | Welcome Dinner |

Appendix I (continued)

Day 2

8:30 AM	Registration
	Day 1 Synthesis and Workshop Introduction Ms Abigail Marie T. Favis <i>Department of Environmental Science, Ateneo de Manila University</i>
9:30 AM	Mapping of Mangroves in Northwestern Luzon Engr. Homer Pagkalinawan <i>EnviSAGE Research Laboratory, Department of Geodetic Engineering, University of the Philippines</i>
10:15 AM	Understanding Climate Change Vulnerability Assessments: Application to Mangrove Forests Dr Laura T. David <i>Professor, Marine Science Institute, University of the Philippines</i>
	The need for institutional networking in Integrated Coastal Management: Interconnectivity among Coral Reefs, Seagrass Beds and Mangrove Forests Dr Porfirio M. Aliño <i>Professor, Marine Science Institute, University of the Philippines, Diliman</i>
11:00 AM	Open Forum
11:30 AM	Lunch Break
12:00 NN	Incentivizing Blue Carbon: Application to Mangrove System Mr Enrique Nuñez <i>Country Executive Director, Conservation International – Philippines</i>
1:00 PM	Workshop Proper Workshop Introduction: Action Planning and Recommendations
2:00 PM	Summit Synthesis and Closing Dr Severino G. Salmo III <i>Assistant Professor, Department of Environmental Science, Ateneo de Manila University</i>
5:00 PM	Dinner
Emcee:	Ms Abigail Marie T. Favis <i>Department of Environmental Science, Ateneo de Manila University</i>