

State of the Mangroves in CAVITE

The Editors, based on inputs from Cavite participants

I. INTRODUCTION

Cavite has a total land area of 142,706 ha, constituting 8.72% of the total area of Region IV-A. The province has seven congressional districts, seven cities, 16 municipalities, and 829 barangays (**Appendix F**). Of these, seven municipalities (Rosario, Tanza, Noveleta, Naic, Ternate, Maragondon and Kawit), two cities (Bacoor City and Cavite City) and 316 barangays are situated along the coast. The coastal area of Cavite is approximately 93,679.38 ha with a shoreline length of 122.57 km.

The total population of Cavite is 3,090,691 (SEPP 2011) with 10.71% or 331,107 people living along the coast. The main sources of income among coastal residents are fishery activities, carpentry, and vending.

Coastal residents experience various socio-economic problems resulting from natural and anthropogenic causes. First is the impact of typhoons and accompanying floods on children's education. In school year 2009–2010, around 3,547 or 24.8% of children below six years old were affected by the disruption of classes due to flooding. Second is the decline in fish catch experienced by fishers. This is due to illegal fishing activities and diminishing fishing grounds, which is caused by reclamation, coastal development and water pollution. Third is the growing financial difficulties experienced by families. Lastly, informal settlers have been contributing to the pollution. Given the lack of central sewage and facilities as well as the lack of sanitary toilets in these areas, human wastes are directly emptied out onto the soil or water systems.

Table 14. Estimated areal extent of mangroves in Cavite (ha).

Old stand and secondary growth	Plantation
117.74 ha	32.65 ha

Importance of Mangroves

Mangrove areas are sources of products such as fishes, prawns, crabs, shellfish, and vinegar that are sold for extra income by coastal residents of the province. Mangroves provide ecological services such as shoreline protection, erosion control, climate regulation, sediment transport, and water purification. Lastly, mangroves also have cultural and aesthetic value as places for recreation, and reflection.

II. STATUS OF MANGROVES IN CAVITE

As of 2010, the total mangrove area of Cavite stands at 150.39 ha with plantation areas of approximately 32.65 ha (**Table 14**). **Fig. 13** provides an overview of the mangrove cover from 297.66 ha in 2003 to 150.39 ha in 2010. It also identified potential sites for rehabilitation of approximately 276.81 ha in the areas of Cavite City, Kawit, Noveleta, Rosario, and Bacoor.

Degradation of Mangrove Forests

The decline of mangrove forests in Cavite is due to their conversion into fishponds, salt beds and built-up or settlement areas. Mangroves are also used as wood for charcoal-making, particularly in the municipalities of Noveleta and Tanza (SEPP 2011). The decline of mangroves is being addressed through the management of Marine Protected Areas (MPA), mostly in Naic, Ternate, Rosario, Tanza, and Manggahan. The Province also leads mangrove planting and coastal cleanup activities.

Threats to Mangrove Forests

Coastal environmental threats include flooding due to human activities, weakening river capacity (i.e. rivers becoming shallower and narrower), and more frequent storms due to climate change; solid waste and pollution; coastal erosion due to coastal development; saltwater intrusion; tsunami and storm surge.

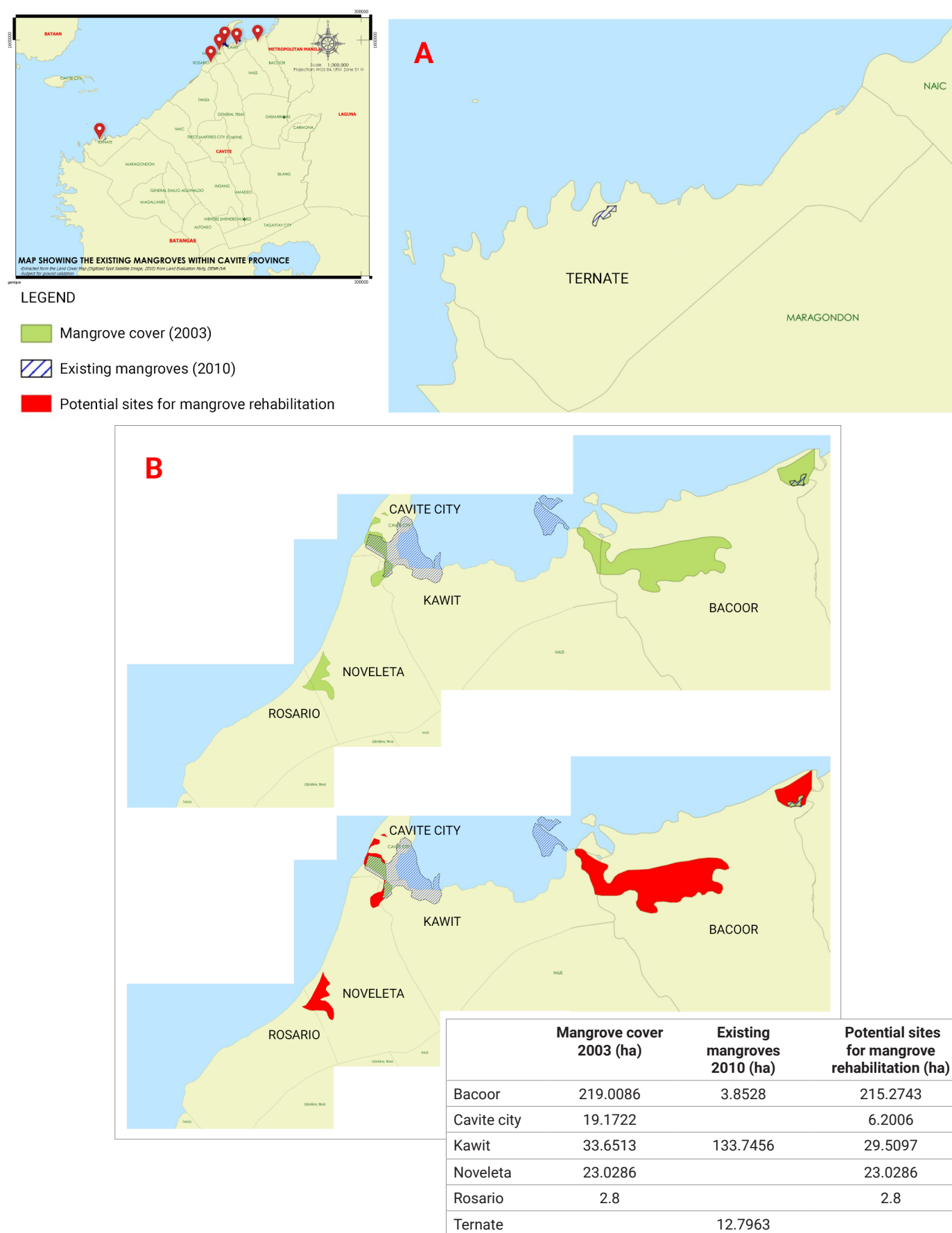


Figure 13. Existing mangrove resources of Cavite in the municipalities of (A) Ternate, (B) Bacoar, Cavite City, Kawit, Noveleta, and Rosario, and potential sites for rehabilitation.

III. MANGROVE PROTECTION AND MANAGEMENT

Municipal, provincial and national government agencies are actively involved in the protection and management of mangroves in Cavite. The MFARMC primarily implements the monitoring and maintenance of mangrove areas. The Provincial Government-Environment and Natural Resources Office (PG-ENRO), Office of the Provincial Administrator (OPA), and the Department of Environment and Natural Resources (DENR) are also engaged in the monitoring, maintenance, provision of funding support and protection of mangrove areas. The Cavite State University (CvSU) provides technical assistance.

Some of the mangrove protection and management initiatives in the province include the mangrove rehabilitation programs in the areas of Bacoar, Kawit, Cavite City, Noveleta, Tanza, Rosario, Naic, Ternate, and Maragondon in 2011 (**Table 15**). There are also initiatives that involve private companies. One of such is the mangrove planting in partnership with PTT Public Company Limited of Thailand in the municipality of Noveleta, where 50,000 mangrove propagules were planted by 600 volunteers in a one-day event (March 28, 2014). Another initiative is the one-hectare mangrove rehabilitation done in cooperation with the Island Cove Hotel and Leisure Park and the LGU of Bacoar City, Kawit Agricultural Office and their respective FARMCs. This was supported by the Provincial Environment and Natural Resources Office (PENRO) and DENR-CALABARZON.

Table 15. Rehabilitation areas in Cavite in the year 2011 (SEPP 2011).

City/ Municipality	Rehabilitated areas (ha)
Bacoar	0.26
Kawit	13.06
Cavite City	0.99
Noveleta	4.12
Tanza	6.5
Rosario	3
Naic	0.5
Ternate	2.12
Maragondon	2.1
TOTAL	32.65

A third initiative is the mangrove planting project conducted by the Coast Guard Station (CGS) in celebration of the Philippine Coast Guard's (PCG) 113th anniversary celebration in 2014. Planting of 2000 propagules provided by the MENRO and CGDNCR-CL was done at La Isla Bonita and Brgy. Ligdong II. Involved in the activity is a total of 171 representatives from the PCG, DILG, MENRO, Bureau of Fire Protection, PNP Rosario, Petron Terminal, 103rd PCGA Squadron, 125th PCGA Squadron, 129th PCGA Squadron, NSTP students of AIMS, Processing Export Zone Authority (PEZA), Philippine Dental Association-Cavite Chapter, and the barangay officials of La Isla Bonita, Brgy. Ligdong II, and Rosario.

Another CGS Cavite mangrove planting activity coupled with a coastal cleanup took place on March 21, 2014. This was initiated by the Coast Guard Marine Environmental Protection Office (CG-9) at Barangay San Rafael IV, Noveleta, Cavite. The participants planted 4000 mangrove propagules and collected approximately 200 sacks of garbage.

Monitoring and Evaluation

Editors' note: No data were provided regarding the monitoring and evaluation processes of the province.

IV. SUMMARY AND RECOMMENDATIONS

The mangrove cover of Cavite has been depleted in the past years due to aquaculture conversion and reclamation. Efforts have been made by various stakeholders in the province involving the government agencies, private organizations and academic institutions. As it continues to rehabilitate its mangrove areas, the Province of Cavite is guided by the five objectives of its PG-ENRO, namely to: (1) protect and improve the quality of the major resources of the province, (2) facilitate the exchange of scientific discussion, (3) identify challenges and opportunities in improving water efficiency, (4) strengthen the networks among key players, and (5) identify causes of impairment and pollutant sources.

V. REFERENCES

Provincial Planning and Development Office (PPDO). 2011. Cavite socio-economic and physical profile (SEPP) 2011. Trece Martires City, Cavite.