



THE PHILIPPINE SUSTAINABLE SANITATION KNOWLEDGE SERIES

Guidebook for Designating a Water Quality Management Area



Department of Environment and Natural Resources
Philippines



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Guidebook for Designating a Water Quality Management Area

Published by the Department of Environment and Natural Resources (DENR) Philippines

Visayas Avenue, Diliman, 1100 Quezon City, Philippines

November 2010

ISBN 978-971-8986-79-0

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This document was developed through the Sustainable Sanitation in East Asia Program-Philippine Component (SuSEA).

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SuSEA
PHILIPPINES
Sustainable Sanitation in East Asia

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- Guidebook for a Local Sustainable Sanitation Strategy
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Acknowledgments

We would like to express profound thanks to the following individuals for their invaluable support for their contributions and commitment for the designation of the Silway River WQMA.

Dir. Eduardo Janairo, Dr. Yolanda Oliveros, Engr. Joselito Riego De Dios, Engr. Rolando Santiago, Engr. Luis Cruz, Engr. Gerardo Mogol, and Engr. Ma. Sonabel Anarna (DOH)

Dir. Juan Miguel Cuna, Dir. Julian Amador, Asst. Dir. Jonas Leones, Reg. Dir. Datu Tungko Saikol, Engr. Renato Cruz, Engr. Marcelino Rivera (DENR/EMB)

Engr. Leoncia Rillon and Engr. Ronnie Salmon (EMB XII)

Ms. Jema Sy, Mr. Edkarl Galing, and Ms. Shiela Dela Torre (WB-WSP)

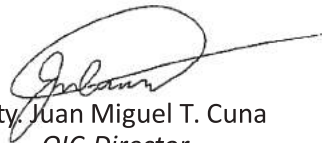
Engr. Nael Joseph Cruspero, Engr. Teody Dumagan, Ms. Becky Magante, Engr. Dave Acosta, Engr. Arn Gallengarin of General Santos City; Mr. Ronnie Muno, Engr. Cecil D. Mirasol, Engr. Alex Macabacyao, Engr. Hezel Marullano, Ms. Joyce De Guzman, Mr. Felix Bacaling, Mr. Aducan Nilong, Mr. Efren Cordon, Mr. Virgilio Rubio, Sr., Mr. Asgar Mangelin, Mr. Godofredo Diot, Ms. Avelina Rencio, Mr. Vicente Yungco, Jr., Ms. Anita Ladaran, Mr. Hosna Andiam of LGU Polomolok; Mr. Julian C. Asion, Jr., Ms. May Flor Carlos, Ms. Olivia Merimon, Mr. Rogen Guardaya of LGU T'boli, Engr. Julgen Dajay and Ms. Renette Bergado of LGU Tupi (LGU Partners)

Foreword

This Guidebook is a simple guide for local government units and other proponents in initiating a Water Quality Management Area in their jurisdiction. This can also aid EMB Regional Offices, which have no experience yet on the processes needed in designating a WQMA.

Mandated by the Clean Water Act, the designation of a WQMA is closely related to the protection of water bodies whose water quality in turn impacts on community health. A WQMA, through its Governing Board, can adopt local policies that enjoin local government units and other stakeholders to implement actions aimed at protecting water quality. One example of these measures is the adoption of appropriate sanitation and septage management programs as well as wastewater management.

The DENR has issued Memorandum Circular No. 15, series of 2009, prescribing the procedures in designating a WQMA. This Guidebook does not replace nor amend the DENR MC 15 but helps operationalize the guidelines based on SuSEA's experiences in the designation of the Silway River WQMA in South Cotabato and General Santos City.



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OIC-Director
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¹ Homepage of the International Year of Sanitation (<http://esa.un.org/iys/health.shtml>)

Acronyms and Abbreviations

BOD	Biochemical Oxygen Demand
CWA	Clean Water Act (RA 9275)
DAO	Department Administrative Order
DENR	Department of Environment and Natural Resources
EMB	Environmental Management Bureau
GOCC	Government Owned or Controlled Corporation
LGU	Local Government Unit
LWUA	Local Water Utilities Administration
MC	Memorandum Circular (of DENR)
MWSS	Metropolitan Waterworks and Sewerage System
NGO	Non-Government Organization
PAMB	Protected Area Management Board
PO	People's Organization
SuSEA	Sustainable Sanitation in East Asia
WFP	Work and Financial Plan
WQMA	Water Quality Management Area

The SuSEA Program

The Sustainable Sanitation in East Asia Program-Philippine Component (SuSEA) supported by the Water and Sanitation Program (WSP) of the World Bank and the Swedish International Development Cooperation Agency (SIDA), and implemented through the leadership of the Departments of Health (DOH) and Environment and Natural Resources (DENR), is geared towards increasing access by poor Filipinos, primarily low-income households, to sustainable sanitation services by addressing key demand and supply constraints. Aside from this, the program hopes to learn from local implementation of sanitation programs as basis for national policy and operational guidance. Beneficiaries are primarily the low-income households in participating program sites.

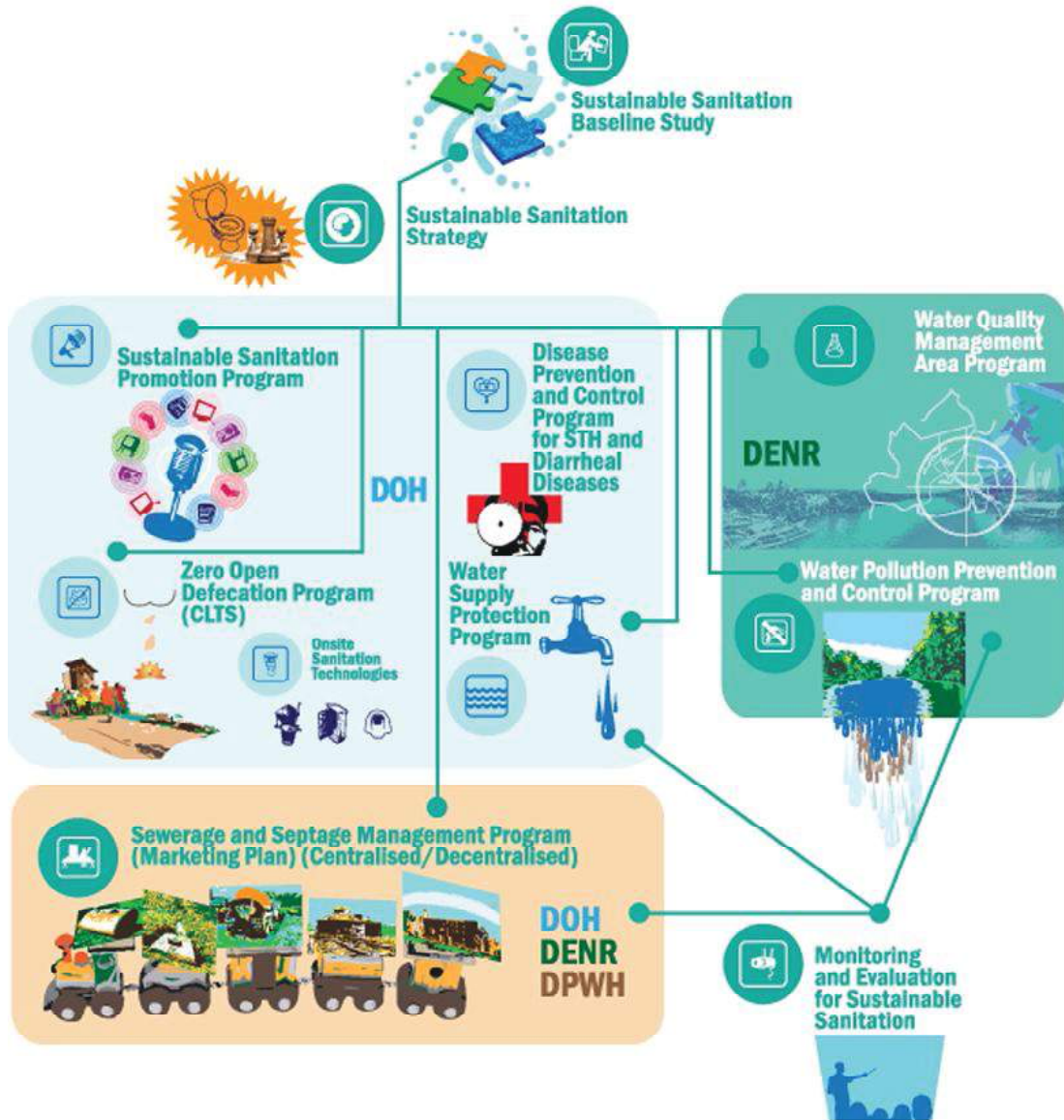
Of the six SuSEA pilot sites, the establishment and designation of a Water Quality Management Area for the Silway River and its watershed was a key activity seeking to complement local sustainable sanitation initiatives in General Santos City and Polomolok, two of the SuSEA sites. The idea is that if a water body like Silway River were to be managed properly and protect its water quality, then sanitation problems must be addressed through various measures like adopting local sustainable sanitation plans, eliminating open defecation, implementing a sewage/septage management program, and mobilizing stakeholders in seeking solutions to these problems.

The objective of designating WQMA is to carry out the state policy of pursuing economic growth in a manner consistent with the protection, preservation and revival of the quality of the country's fresh, brackish and marine waters. Complementing this policy is being able to formulate a holistic national program of water quality management that recognizes that water quality management issues cannot be separated from concerns about water sources and ecological protection, water supply, public health and quality of life. This is significant because of the very close association between water quality and public health where many diseases are caused by contaminated water and that water contamination can be traced, to a large extent, to poor sanitation practices and facilities.

This Guidebook seeks to aid planners and those involved in water quality management in initiating a WQMA. It is just one the guidebooks in the Sustainable Sanitation Knowledge Series developed by SuSEA.

On the succeeding page, you will find an illustration of the various sustainable sanitation programs (SSPs) under the National Sustainable Sanitation Plan (NSSP). For each of these SSPs, SuSEA has also developed materials under the Philippine Sustainable Sanitation Knowledge Series, intended to guide local government units in implementing the various sanitation programs and initiatives in their own area. The information gathered in the Knowledge Series is, in turn, based on specific SuSEA projects and activities in each of the six project sites.

Sustainable Sanitation Programs



Introduction

The Clean Water Act (RA 9275) of 2005 mandates the designation of certain areas as water quality management areas (WQMAs) using appropriate physiographic units such as watershed, river basins, or water resources regions. These management areas shall have similar hydrological, hydrogeological, meteorological or geographic conditions, which affect the physico-chemical, biological, and bacteriological reactions and diffusions of pollutants in the water bodies, or otherwise share common interest or face similar development programs, prospects, or problems.

Other considerations for the designation of a WQMA are manageability of the size, integrated development or management plans, inter-LGU working relationships and existence of similar management areas or bodies.

Through the designation of a WQMA, cooperation and self-regulation among the LGUs, citizens, industries and other stakeholders are encouraged and promoted. Likewise, the WQMA can become the mechanism to achieve improved quality of water bodies through action plans and LGU compliance schemes,

which will likely include water pollution control programs, a septage management plan, formulation of local sustainable sanitation plans, and adoption of a septage management ordinance.

In deciding which shall be designated as a WQMA, priority should be given to the areas where water quality has already exceeded the water quality guidelines to ensure that limited resources are efficiently used. The screening of a WQMA proposal, therefore, may be made according to the intensity of the pollution problems and its impacts on public health and on the regional economy.

To facilitate the designation of a WQMA, the DENR issued Memorandum Circular (MC) No. 15, series of 2009 adopting the Procedural Manual for the Designation of Water Quality Management Areas as part of the guidelines to implement the Clean Water Act. A copy of MC 15, series of 2009 is attached to this Guidebook.



Objectives of this Guidebook

This Guidebook does not intend to replace or amend DENR MC No. 15.

MC No. 15 series of 2009 is already clear on the procedures to be undertaken and information required to designate a WQMA and WQMA planners should be guided by this circular. The usefulness of this Guidebook is being able to provide practical guidelines on how to operationalize the procedures based on SuSEA's experience with the Silway River WQMA in South Cotabato.

This Guidebook can serve as reference to LGUs, local stakeholders and even to EMB regional offices that have no previous experience in designating a water body as a water

quality management area. This is highlighted by the fact that at this time (May 2010) only six WQMAs have been so far designated, limited only to jurisdiction of LLDA (by virtue of RA 9275), Region III (Marilao-Meycauayan-Obando River System), Region IV-A (Laguna de Bay), Region VI (Tigum-Aganan Watershed and Iloilo-Batiano River System) and Region XII (Sarangani Bay and Silway River). Work on WQMA for these regions was facilitated by donor technical assistance. The 13 other regional offices have yet to initiate work towards designating a water body as WQMA and gain actual experience.



Silway River,
South Cotabato



Procedures in Designating a WQMA

As indicated earlier, MC 15, the Procedural Manual for Designating a WQMA prescribes the requirements and steps towards designating a Water Quality Management Area. The procedures presented herein are supplemental actions and, in some cases, are simply reiterations of the provisions of the Manual.

A. Initiating the Designation of a WQMA

1. The Clean Water Act provides that the Regional Offices of the Department shall initiate the process of designation by evaluating information using the criteria to be developed by the Department. Operationally, the Regional Office refers to the EMB Regional Office, headed by the EMB Regional Director, not the DENR Regional Office.
2. Any concerned government agency, including local government units, Protected Area Management Boards, watershed councils, Fisheries and Aquatic Resources Management Councils,

government corporations with relevant concerns, or civil society, may propose the designation of a WQMA in their area to the Department and submit the relevant information. They shall follow the Manual of Procedures for Designating WQMA (MC 15, series of 2009) and coordinate with the Department (EMB) throughout the process of consultations and data gathering.

B. Planning the WQMA Work

1. Planning the WQMA work will be done by the EMB Regional Office, if it is the initiator of a WQMA designation.
2. If another party is the WQMA proponent, it is advisable to plan the work with the EMB regional office because the latter has the basic information about the concerned water body and has been trained on the procedures in designating a WQMA.

3. During the planning of the WQMA work, the following will be identified: major activities and tasks to be undertaken towards designating a WQMA; activity schedules; resources needed, including equipment, vehicle, funds, etc; office or offices to undertake activities; and roles and responsibilities.
4. Prepare a matrix of work and financial plan (WFP)
5. Give copy of the WFP to concerned persons and/or offices
6. Inform officially the National Water Resources Board about the plan to designate an area as a WQMA.

C. Defining the WQMA Work and Responsibilities

1. Identify the persons and/or offices that will undertake specific activities such as dialogues with local government units and other major stakeholders, water sampling and analysis, conduct of stakeholder consultations, documentation of activities, records keeping, and the like.
2. Each major player must commit to the responsibilities and where applicable, must have written authorization or instruction from his/her mother office to enable continuous official

performance of work and commit his/her office to the various WQMA tasks

3. The names/positions of the major players are to be indicated in the Work and Financial Plan, in B above.

D. Identifying the Stakeholders

1. Rule 5.1.5 of the IRR of the Clean Water Act has identified some of the key stakeholders in designating the WQMA. This is attached as Annex III of MC 15.
2. The identified stakeholders are
 - a. Regional Development Council
 - b. Local Government Units (LGU): The LGU shall mean the provinces, municipalities and cities that would be covered by the proposed WQMA designation
 - c. Non-Government Organizations (NGO): To be considered a key NGO stakeholder, the NGO must possess the following criteria: - currently accredited by any of the LGU where the WQMA is proposed to be designated; - has a track record of projects on water and the environment; and has an existing office in the area where the WQMA is proposed to be designated

- d. The Water Utilities: The following will be considered as key stakeholders under this category: Water districts operating under the proposed WQMA including MWSS; and privately-owned water service providers with approved water concessions with any LGU under the proposed WQMA
 - e. Business Sectors: To ensure the broad-based participation of the business sector, the following will be considered as key business stakeholders: Any organization or association of business enterprises that belong to one industry. Examples: a canning or bottlers association, a subdivision owners association; and any organization, confederation, or association which represents the different sectors of an industry. Example: a local chamber of commerce
 - f. Protected Areas Management Board: The PAMB governs all or part of the area where the WQMA is proposed
 - g. Watershed Councils: The watershed council governs all or part of the area where the WQMA is proposed
 - h. Fisheries and Aquatic Resources Management Council: The FARMC governs all or part of the area where the WQMA is proposed
 - i. Government Corporations: The GOCC are considered key stakeholders in that they may have policies directly affecting the operations of the proposed WQMA or vice versa. Examples: the Local Water Utilities Administration (LWUA), Philippine Economic Zone Authority (PEZA);
 - j. National Government Agencies: The NGA, having relevant concerns with the proposed designation of the WQMA, are also key stakeholders. Examples: the Department of Agriculture (DA), Department of Health (DOH), the Department of Public Works and Highways (DPWH).
3. In addition, the following may also be invited as key stakeholders in WQMA designation:
- a. Academe, which may provide relevant studies or researches undertaken or become a source of technical information pertaining to the areas relevant to WQMA designation, etc.

- b. Indigenous People's Group/Indigenous Community Organization found within the WQMA, which should be informed of the WQMA designation, hence is counted on to cooperate and provide support in WQMA-related activities
 - c. Other sectors which are deemed relevant to WQMA designation.
4. The identified stakeholders shall be notified in writing by the EMB or by the proponent of their inclusion as WQMA stakeholders. They will also be invited to meetings and consultations pertaining to the WQMA.

Annex 4 of MC 15 presents pro-forma letter of invitation to the stakeholders.

E. Organizing WQMA Task Forces/Designating Point Persons

1. To ensure sustained participation in the pre-WQMA work and to prepare the stakeholders for future water quality management, it is advisable for component LGUs to organize WQMA Task Forces. These Task Forces will take leadership in their respective LGUs and mobilize the participation of other stakeholders in their areas.
2. Other major stakeholders like the water districts,

industry chambers, academe and the like may assign their own WQMA Point Persons. These stakeholders may decide to make their representatives join the LGU Task Force or simply inform EMB that their designated representatives will attend scheduled WQMA meetings and activities.

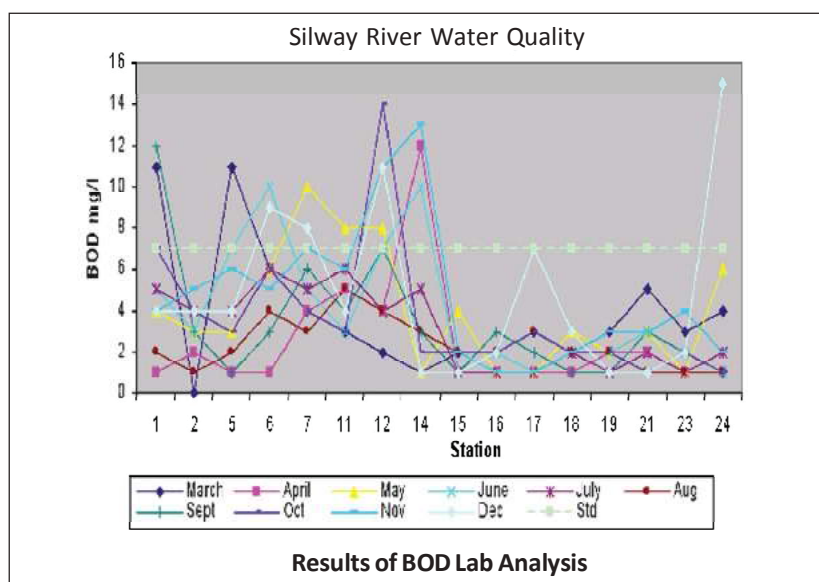
F. Funding the Pre-WQMA Designation Work

1. The major expenses in designating a WQMA are:
 - a. Water sampling – to be done monthly. This will entail use of vehicle (rental) and gasoline, field allowance of sampling team and other incidental expenses like ice chest and ice for preservation of water samples
 - b. Laboratory analysis – to be done at the EMB laboratory. This will need chemical reagents. The EMB Regional Chief of Laboratory can determine the quantity of reagents to be used for monthly analysis of samples
 - c. Laboratory glassware
 - d. Stakeholder consultations – venue, meals, reproduction of hand-outs
 - e. Documentation of meetings and consultations, including photography

Water sampling



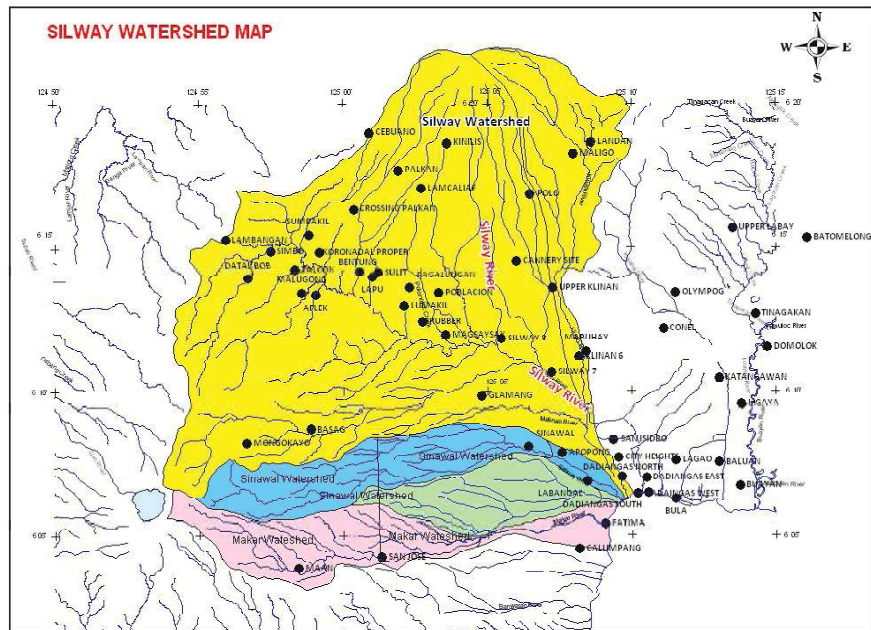
2. While the EMB regional office may have some funds and equipment for the above work, they may not be adequate to sustain a 12-month work.
3. Stakeholders, notably the LGUs, the water districts, and industry chamber may be requested to share the cost of activities identified above. For example, they may provide vehicle, driver and fuel for the water sampling and/or provide the needed reagents. The LGUs and water districts may take turns in hosting stakeholder consultations. An estimate of the cost of establishing a WQMA is in Annex D.
4. The identification of funding requirements and the possible sources shall be done during the WQMA planning process.



1. The jurisdiction of the proposed WQMA shall be delineated by the DENR regional office in coordination with the EMB and the LGU concerned, based on survey and maps.
2. The main consideration is the highest elevation at various points from where discharges emanate and flow to the water body.
3. The principal units at the DENR, which may be requested for survey and mapping are the Forest Management Sector (FMS) and the Land Evaluation Parties.

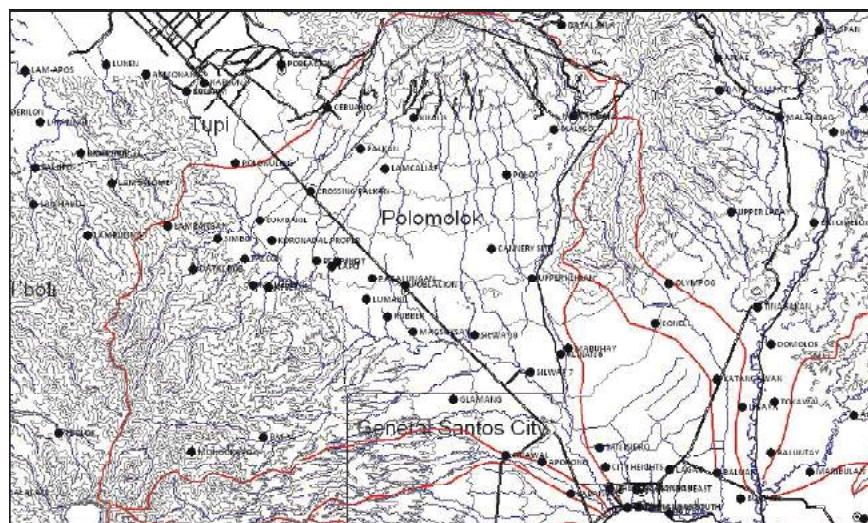
-
- This topographic map shows the Polomolok area, which is shaded in green. The map includes contour lines indicating elevation. Key locations labeled include Typi to the northwest, Polomolok in the center, and General Santos City to the south. The proposed road alignment is shown as a thick black line. Other labeled areas include T'boli to the west, and various smaller settlements and landmarks such as Poblacion, Poblacion 1, Poblacion 2, Poblacion 3, Poblacion 4, Poblacion 5, Poblacion 6, Poblacion 7, Poblacion 8, Poblacion 9, Poblacion 10, Poblacion 11, Poblacion 12, Poblacion 13, Poblacion 14, Poblacion 15, Poblacion 16, Poblacion 17, Poblacion 18, Poblacion 19, Poblacion 20, Poblacion 21, Poblacion 22, Poblacion 23, Poblacion 24, Poblacion 25, Poblacion 26, Poblacion 27, Poblacion 28, Poblacion 29, Poblacion 30, Poblacion 31, Poblacion 32, Poblacion 33, Poblacion 34, Poblacion 35, Poblacion 36, Poblacion 37, Poblacion 38, Poblacion 39, Poblacion 40, Poblacion 41, Poblacion 42, Poblacion 43, Poblacion 44, Poblacion 45, Poblacion 46, Poblacion 47, Poblacion 48, Poblacion 49, Poblacion 50, Poblacion 51, Poblacion 52, Poblacion 53, Poblacion 54, Poblacion 55, Poblacion 56, Poblacion 57, Poblacion 58, Poblacion 59, Poblacion 60, Poblacion 61, Poblacion 62, Poblacion 63, Poblacion 64, Poblacion 65, Poblacion 66, Poblacion 67, Poblacion 68, Poblacion 69, Poblacion 70, Poblacion 71, Poblacion 72, Poblacion 73, Poblacion 74, Poblacion 75, Poblacion 76, Poblacion 77, Poblacion 78, Poblacion 79, Poblacion 80, Poblacion 81, Poblacion 82, Poblacion 83, Poblacion 84, Poblacion 85, Poblacion 86, Poblacion 87, Poblacion 88, Poblacion 89, Poblacion 90, Poblacion 91, Poblacion 92, Poblacion 93, Poblacion 94, Poblacion 95, Poblacion 96, Poblacion 97, Poblacion 98, Poblacion 99, Poblacion 100.

8



Watershed Map

- d. drainage map (using the topographic map as base)
 - e. vegetation map
 - f. watershed map
7. The maps with a scale of 1:50,000 should contain baseline data that provide an accurate description of the area. Maps that need updating to reflect the actual description/condition have to be ground-validated.
 8. The maps shall be signed by the DENR Team that prepared them.



Topographic Map

H. Gathering Physical and Socio-Economic Information

1. The basic socio-economic information needed for the WQMA and which provide a more holistic view of the area and will be used to determine population and economic development growth trends are:
 - a. cities, municipalities and barangays to be included in the WQMA jurisdiction
 - b. population and number of households
 - c. land-use of the areas to be included in the WQMA
 - d. list of establishments in the proposed WQMA area
 - e. data on existing infrastructure and utilities such as drainage, water supply, sanitation and sewerage facilities for baseline information on structures and facilities.
2. The physical information, supported by maps needed, are the following:
 - a. length of the river or area of the bay or lake to be covered by WQMA
 - b. height of river bank relative to the river bed, at highest and lowest
 - c. depth at various points; depth during dry and wet seasons
 - d. flow rate in case of rivers
 - e. siltation and sedimentation rates
3. The other information to be gathered are:
 - a. Water quality records based on previous monitoring
 - b. Major pollution threats and sources
 - c. Key water quality problems or concerns
 - d. Information associated with water quality problems/issues such as public health and public use (drinking water supply, fishery production, tourism or recreation, etc.)
 - e. Water quality monitoring data from EMB
 - f. Self monitoring reports (SMRs) of industries, academe and other organizations.
4. Photographs of various points and location of the river, bay or lake will help describe the physical characteristics of the water body.

I. Participation of Local Government Units and Other Stakeholders

1. The Local Government Units (cities, municipalities and provinces) are key role players during the pre-designation process and in the eventual management of the WQMA after it is officially designated as such by the DENR Secretary.

2. The other major stakeholders are the Water Districts, National Water Resources Board, Regional Development Council, and regional offices of the Departments of Agriculture, Public Works and Highways, Health, Education, Science and Technology, Trade and Industry; Bureau of Fisheries and Aquatic Resources, and Housing and Land Use Regulatory Board.
3. Also included as stakeholders are business and industry, water utilities, duly registered non-government/ local people's organizations/ civil societies involved in natural resource management and environmental concerns, and academe; Protected Area Management Boards and Fisheries and Aquatic Resources Management Councils that exist in the area.
4. To elicit and ensure the participation of LGUs and the stakeholders, it is advisable that the EMB Regional Office (Regional Director) writes them officially-
 - a. About the plan to designate a specific body of water as a WQMA;
 - b. To explain the rationale and objectives of the WQMA; and
 - c. About the roles and responsibilities of the LGUs and stakeholders

during the preliminary processes involved in designating a WQMA and after the official designation as a WQMA.

J. Stakeholder Consultations

1. Consulting the stakeholders is a very important process towards the designation of a WQMA. These consultations provide the opportunities and mechanisms to:
 - a. Educate the stakeholders and the LGUs on the rationale, objectives, organization and operations of a Water Quality Management Area and the plan to designate a specific body of water as a WQMA;
 - b. Identify the peculiar and common water pollution problems and possible solutions;
 - c. Prepare the LGUs and other stakeholders towards the organization of the WQMA Governing Board and Technical Working Group;
 - d. Prepare the LGUs as common stakeholders of water body and;
 - e. Set the grounds for the preparation of LGU Compliance Scheme that the WQMA Governing Board will require.



Stakeholder Consultation

2. The number of consultations will depend on the adequacy of the topics that need to be discussed and understood by the stakeholders.
3. Whenever possible, stakeholder consultations should be presided by the EMB Regional Director or his representatives.
4. Consultations shall be documented through minutes of discussions and photographs.

K. Meeting the Mayors and Key LGU Officials

1. The support of the Mayors in the LGU jurisdiction is very critical in establishing, designating and operationalizing a WQMA. This is important starting from the participation of LGU

officials in WQMA activities, involvement as member of the Governing Board and consultations to the preparation and implementation of WQMA compliance plans.

2. The mayor's support may also lead to provision of resources needed in the process of designating the WQMA.
3. The meeting with the Mayor will also result in designating the LGU point person/s for the WQMA work.

L. Inter-LGU Meetings and Consultations

1. In case two or more LGUs are within the jurisdiction of the proposed WQMA, consultations between and among them need to be conducted.

2. Among the objectives of the inter-LGU meetings and consultations are: being able to recognize water pollution problems that are common to them and start planning actions to address these problems.
3. The inter-LGU meetings and consultations are also expected to usher cooperation and collaboration, including sharing of resources, especially when the WQMA has been designated officially and has become operational.

M. Documentation of Meetings and Consultations

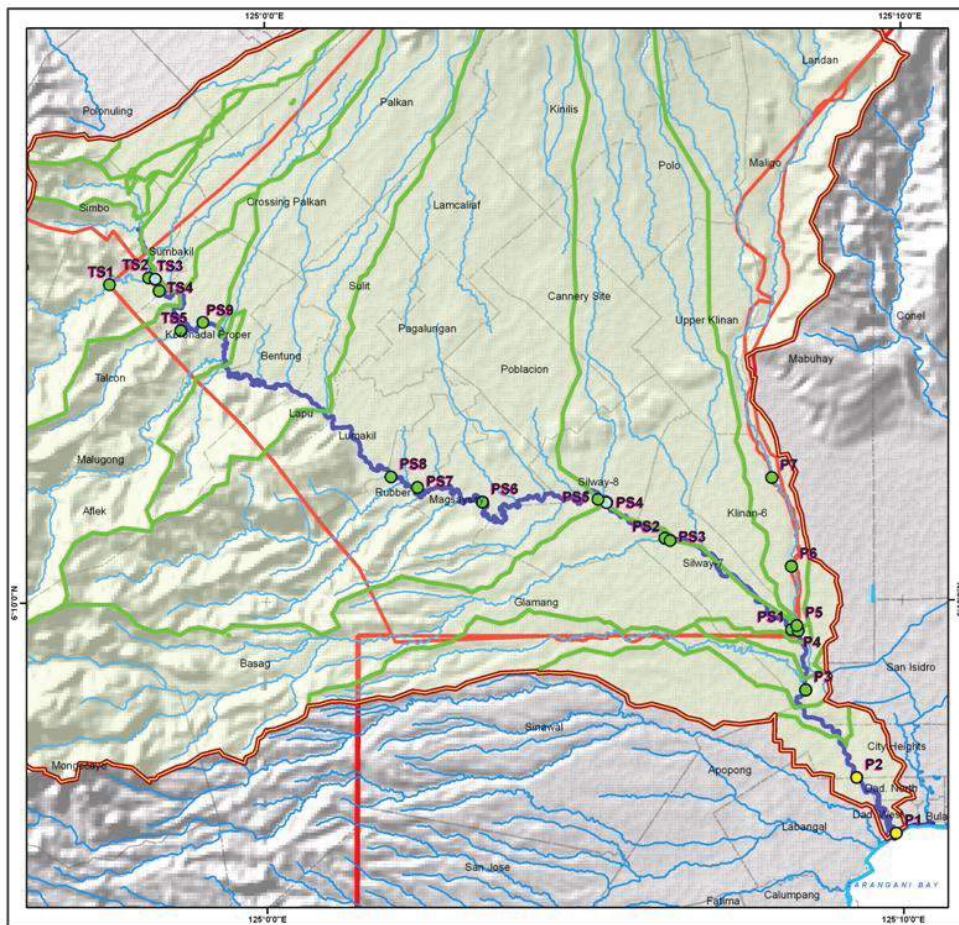
1. Meetings and consultations about the WQMA shall be documented through minutes of discussions and photographs. These will form part of the formal proposal for the designation of a WQMA.
2. In addition to the minutes of discussions, the other documents are: notices of meetings, programs, hand-outs and other materials presented during the consultation.
3. The documentation reports shall be kept by the WQMA proponent but in all cases, the EMB Regional Office should be provided a copy of these documents.

N. Classification of the Water Body

1. Before being designated as a WQMA, the water body should have been classified by the DENR upon recommendation of the EMB Director, in accordance with the provisions of DENR Department Administrative Order No. 34, series of 1990.
2. If the water body has not been classified yet but EMB already has the necessary data for its appropriate classification, EMB shall conduct a public hearing among the affected stakeholders (LGU's, industries, commercial establishments, residents represented by their barangay leaders, and other stakeholders) to generate consensus on the appropriate classification.
3. The official classification of the water body shall form part of the proposal for the designation of a WQMA.

O. Establishment of Water Quality Monitoring Stations

1. The water quality monitoring stations are to be established by or with the Environmental Management Bureau Regional Office.
2. Locating the water quality monitoring stations shall be in accordance with



Silway River Water Quality Monitoring Stations

established considerations and procedures adopted by the EMB

3. A map of the water quality monitoring stations, aided by Geographic Positioning System, shall be prepared by the proponent or EMB Regional Office, which shall form part of the final WQMA proposal.

P. Water Sampling

1. In accordance with the Manual of Procedures for Designating a WQMA, sampling of the water body shall be done within a period of 12 months prior to its designation as a WQMA. A minimum quarterly monitoring for a continuous period of 12 months shall be considered.

2. The purpose is to determine the prevailing water quality based on the analysis of basic parameters: biochemical oxygen demand (BOD), total suspended solids, pH and fecal coliform. In some areas, the parameters may include phosphate, nitrate and some heavy metals, subject to the determination of EMB.
3. The monitoring data that will be used should not be more than two years old.
4. Only DENR-approved methods of sampling and analysis shall be considered.
5. In case the WQMA proponent is not the EMB Regional Office, it can secure a copy of the sampling protocols from the EMB to guide actual gathering and analysis of samples
6. In the event that there are no monitoring data that pass the abovementioned criteria, a new water quality monitoring program should first be set up.

Q. Preparations for the Organization of the Governing Board

1. The stakeholder consultations shall serve as preparation for the organization of the WQMA Governing Board. This means that in at least one of the consultations, the Governing Board, its composition and functions shall be presented and discussed.
2. As early as the after planning, the WQMA Governing Board and the LGU WQMA Task Forces, the WQMA proponent (EMB) shall already inform in writing the Governor/s, Mayors, national government agencies and other stakeholders identified in MC 15 and reiterated in this Guidebook about the composition of the Governing Board and the need to eventually identify representatives such as those for LGUs.

IV

Proposal for Designating a WQMA

A. Who Formulates Proposal?

1. The EMB Regional Office will prepare the formal proposal to designate a WQMA.
2. If a stakeholder other than EMB is the proponent, the formal proposal will still be worked out with the EMB Regional Office. This will facilitate review of the proposal for adequacy and responsiveness before submission to the EMB Central Office.
3. As part of the internal procedure at the DENR/EMB, a proposal initiated by another party has to officially originate from the EMB Regional Office, which is assumed to have the relevant water quality information about the water body being proposed as a WQMA.

B. Draft Administrative Order to Designate the WQMA

1. Part of the WQMA Proposal is a draft DENR Administrative Order for designating the WQMA which shall have the following sections:
 - a. Objectives
 - b. Basic Policies
 - c. Coverage, presenting geographical coordinates and relevant provinces, cities/municipalities and barangays
 - d. Creation of the Governing Board, presenting governing board members
 - e. Functions of the Governing Board
 - f. Meetings
 - g. Technical Working Group and Technical Secretariat
 - h. Multi-sectoral Groups
 - i. Management of the Area Water Quality Management Fund
 - j. Revisions/Review of the Coverage of the WQMA and Representation in the Board
 - k. Effectivity

2. A copy of a DENR DAO designating a WQMA is attached as Annex 5 of MC 15 (Annex A) to guide the proponent in drafting an administrative order.

C. Submission of Proposal

1. The proposal will be submitted by the EMB Regional Director to the Director of the Environmental Management Bureau (Central Office) through a Memorandum. The memorandum/proposal shall include documents, maps, records of stakeholder consultation, stakeholder resolution of endorsements and other information identified in MC 15.
2. At least five copies of the proposal shall be submitted to the EMB Director.
3. A Power Point Presentation (in CD) shall likewise accompany the submission.
4. A sample of a WQMA proposal is attached as Annex C.

D. Documentation Requirements of the Proposal

1. The proposal shall include the following documents as support for the official designation as WQMA:
 - a. List of barangays of the LGUs traversed by the water body or are within the proposed WQMA

- b. Sanggunian Resolution of LGUs recommending the designation of the WQMA. A letter from the Mayor recommending the proposal may suffice when a Sanggunian resolution cannot be secured on time.

- c. Recommendation from other stakeholders like the water districts

- d. Maps

- 1) Political Boundary Map
- 2) Topographic Map
- 3) Drainage Map
- 4) Land Use Map
- 5) Watershed map
- 6) Slope map
- 7) Soil map

- e. List and location of the Water Quality Monitoring Stations

- f. Analysis/Results of the 12-month water sampling and monitoring (in values and in charts)

- g. List and Summary of Stakeholder Consultation

- h. Documentation of Stakeholder Consultations, including photographs

- i. Samples of Workshop Topics and IEC Materials Discussed during the Stakeholder Consultations

- j. Socio-Economic Profile of the LGUs within the proposed WQMA jurisdiction

2. A list of documents submitted for designating a WQMA is attached as Annex D for reference.



Review of the WQMA Proposal

A. Review by EMB Central Office

1. Upon receipt of the WQMA proposal, the EMB Director will refer it to the Water Quality Management Section of the Environmental Quality Division for review as to conformity with MC 15 and the adequacy of information needed for a WQMA designation.
2. In case additional information or other documents are needed, the originating regional office will be requested to submit them.
3. When the proposal is considered complete and adequate, EMB will officially transmit it to the DENR Undersecretary for Policy and Planning for review by the DENR Policy Technical Working Group.

B. Review by the DENR Policy Technical Working Group

1. The DENR Policy Technical Working Group is an inter-sectoral group within the DENR, representing various environment and natural resource concerns. It reviews all policy proposals and proposed Administrative Orders before they are finally adopted by the Department.
2. In conducting the review, one task of the Policy Technical Working Group is to ensure coherence and consistency of a proposed DAO and policy issuances with applicable laws, implementing rules and regulations and other existing circulars and orders.
3. During the review, the EMB (Water Quality Management Section) shall be present to answer questions and requests for clarification. To facilitate understanding of the WQMA proposal, the EMB may also be requested to make a presentation on the proposed WQMA.

4. In case the Policy Technical Working Group requires additional information or further clarification, it will request the EMB to comply with the requirements.
5. The EMB will again submit the revised draft DAO (incorporating the comments of the DENR Policy TWG) to the Undersecretary for Policy and Planning for endorsement to the DENR Secretary.

C. Review by the DENR Executive Committee (Case-to-Case Basis)

1. After favourable review of the WQMA proposal and the draft Administrative Order, the Policy Technical Working Group will arrange its inclusion in the agenda of the next available DENR Executive Committee meeting.

2. The EMB will present the proposed WQMA and Administrative Order to the Executive Committee, chaired by the DENR Secretary, with membership comprised mainly of Undersecretaries and Assistant Secretaries. EMB will answer queries and clarify issues that may be raised during the meeting.
3. Approval of the proposal will be recorded in the official minutes of the Executive Committee meeting.
4. In case the Executive Committee requires additional information or documents, it may schedule another presentation in future meetings or decide to approve the proposal, subject to the submission of the additional requirements.

VI

Designation of a WQMA

A. Approval of the Administrative Order

1. Only the DENR Secretary (or Acting Secretary) can approve/sign an Administrative Order.
2. After the Secretary's approval/signature, the Administrative Order is transmitted to the DENR Records Division for official numbering and publication.

B. Publication of the Administrative Order

1. Usually, an Administrative Order contains a provision on the date of its effectivity which is fifteen (15) days.
2. The signed and numbered Administrative Order will be published in a newspaper of national circulation and submitted to the Office of the National Administrative Register at the UP Law Center.
3. After publication, the Order is uploaded to the DENR and/or EMB website.

VII

Major Immediate WQMA Post-Designation Activities

There are major tasks that have to be undertaken after the issuance of the DENR Administrative Order designating a WQMA. The steps to take to initiate and complete these activities are not included in this Guidebook since the DENR/EMB has not issued circulars for defining the steps.

These major tasks are:

- A. Organizing the Governing Board, clarifying its major responsibilities under the Clean Water Act and setting up its management systems, planning work, including preparation of action plans, holding of meetings, records keeping and coordinating with the major stakeholders, among others.
- B. Organizing the Multi-Sectoral Group and defining its functions and responsibilities to enable the Governing Board to perform its functions
- C. Organizing the Technical Secretariat and its work procedures
- D. Setting up the Area Water Quality Management Fund in accordance with the guidelines that may be set up by the DENR and the Department of Budget and Management
- E. Preparation for the Formulation of the Area Water Quality Report

Annex A

DENR Memorandum Circular No. 15,
Series of 2009 (Nov. 6, 2009) –
Procedural Manual for the
Designation of Water Quality
Management Areas, including
Annex 1 – Relevant Provisions of the
Clean Water Act and its Implementing
Rules and Regulations;
Annex 2 – Procedure for Designation
and Re-designation of WQMA;
Annex 3- Key Stakeholders
Identified in the IRR;
Annex 4 – Pro-Forma Letter, and
Annex 5 – Sample DAO on
Designation of a WQMA

(Please see accompanying CD)

Annex B

PROPOSAL TO DESIGNATE THE SILWAY RIVER AS WATER QUALITY MANAGEMENT AREA

In accordance with Section 5 of the Clean Water Act, and Section 5.1 of its Implementing Rules and Regulations, we respectfully recommend the designation of the Silway River as a Water Quality Management Area (WQMA).

This recommendation is based on the following:

1. The Silway River, stretching 20 km from Tupi down to General Santos City, covers a common physiographic unit comprising of parts of the Municipalities of T'boli and Tupi, and the whole municipality of Polomolok, all towns belonging to South Cotabato, and parts of General Santos City.
2. A characterization and evaluation of the physical features of the river and its watershed, being a contiguous area with common physical characteristics.
3. A 10-month water quality monitoring from March 2009 to December 2009 in 24 stations which conclusively indicates water quality as conforming to Class C classification. This complements the earlier classification of downstream Silway River as a Class C water body.
4. Twenty (20) stakeholder consultations covering the period October 2008 (General Santos City and other South Cotabato national government offices and NGO's) and April 2009 to January 2010. Three inter-LGU consultations were conducted among the stakeholders of General Santos City, LGUs Tupi, Polomolok and T'boli. Five more consultations each for General Santos and Tupi, and six for Polomolok were conducted during the period. These consultations provided the opportunities and mechanisms to a) educate the stakeholders and the LGUs on the rationale, objectives, organization and operations of Water Quality Management Area; b) identify the peculiar and common water pollution problems and possible solutions; c) prepare the LGUs and other stakeholders towards the organization of the WQMA Governing Board and Technical Working Group; d) prepare the LGUs as common stakeholders of Silway River, and e) set the grounds for the preparation of LGU Compliance Scheme that the WQMA Governing Board will require.

5. Knowledge and widened understanding of the stakeholders about the Silway River WQMA as a result of the 20 consultations
6. Local support as evidenced by the resolutions/letter of the four Local Government Units (General Santos, Tupi, T'boli and Polomolok) and one Water District (Polomolok) recommending the designation of the Silway River WQMA
7. Submission of documentary requirements – e.g., maps, socio-economic profile of the LGUs.
8. Consideration of the presence of other management areas such as the Sarangani Bay WQMA, Sarangani Bay Protected Seascape, and the Mt. Matutum Protected Landscape.

The EMB Regional Office XII has evaluated the data and information about the Silway River and has found it more than adequate to designate it as a Water Quality Management Area (WQMA). The area is manageable, being contiguous – covering only parts of LGU T'boli and LGU Tupi, the whole of Polomolok and parts of General Santos City. It may be relevant to point out that except for T'boli, these LGUs, including General Santos City, also belong to the same Congressional District of South Cotabato and may be expected to get support from the Congressman. These LGUs are very accessible to one another in terms of coordination. Future regular monitoring of the river water quality based on the established monitoring stations will not be difficult because they are reachable as demonstrated by the 10-month monitoring in 2009. Consistent with the Procedural Manual ((DENR Memorandum Circular No. 15, series of 2009) the manageable size of the Silway River WQMA means greater focus, more flexibility, and better coordination of programs within the WQMA Governing Board. In this way, the overriding vision of having improved water quality in the WQMA for sustained economic growth and development will be realized sooner.

To support this recommendation, attached is a proposal for the designation of the Silway River WQMA which contains a) a write up about the Silway River and its attributes and b) annexes that include topographic, drainage, land use and political boundary maps, results of the 10-month water quality monitoring, summary of the stakeholders consultations which includes the participants and focus of discussions, recommendations of the LGUs to designate the Silway River WQMA and other documents like power point presentations.

The designation of the Silway River WQMA will complement the Sarangani Bay WQMA which was established by DENR Administrative Order NO. 2009-12, series of 2009, dated November 6, 2009. Of the 21 (out of 26) barangays of General Santos that are currently included in the Sarangani Bay Water Quality Management Area, only six (6) are to be covered by the Silway River WQMA, namely: Apopong, City Heights, Dadiangas North, Dadiangas West, Labangal, Mabuhay, and San Isidro.

It is expected that with the designation of the Silway River WQMA, the protection of the water bodies in the area will be intensified with the active participation of the Local Government Units and the various stakeholders who have demonstrated keen interest in environmental enhancement and protection.

We have earlier submitted to EMB Central Office our recommendation to classify the upstream and midstream of Silway River (Downstream Silway, at General Santos City has been classified as Class C water body). Based on the 10-month Water Quality Monitoring, and after conducting a public hearing on December 9, 2009 at Polomolok, South Cotabato, EMB Region XII officially recommended the classification of the upstream and midstream Silway River as a Class C water body in accordance with DAO 34, series of 1990. The EMB Region XII recommendation to classify the mid-and upstream of Silway River is in Annex E of the attached proposal.

A draft administrative order to designate the Silway River WQMA is also attached for your consideration.

Requesting your favorable consideration.

(signed)
DATU TUNGKO SAIKOL
Regional Director

Annex C

SAMPLE OF LIST OF DOCUMENTARY ATTACHMENTS TO THE PROPOSAL TO DESIGNATE THE SILWAY RIVER WATER QUALITY MANAGEMENT AREA

- Annex A - List of Barangays of the Four Local Government Units (LGU) Traversed by Silway River and are Within the Proposed WQMA
- Annex B-1 - Resolution of LGU T'boli Recommending the Designation of the Silway River WQMA
- Annex B-2 - Resolution of LGU Tupi Recommending the Designation of the Silway River WQMA
- Annex B-3 - Letter of the Mayor of LGU Polomolok Recommending the Designation of the Silway River WQMA
- Annex B-4 - Copy of the General Santos SP Resolution on Second Reading Recommending the Designation of the Silway River WQMA
- Annex B-5 - Excerpt from the Polomolok Water District Board Resolution 10-08 (January 20, 2010) Endorsing the Designation of the Silway River WQMA
- Annex C-1 - Political Boundary Map of Silway River Watershed
- Annex C-2 - Topographic Map of the Silway River Watershed
- Annex C-3 - Drainage Map of the Silway River Watershed
- Annex C-4 - Land Use Map of the Silway River Watershed
- Annex C-5 - Map of the Water Quality Monitoring Stations
- Annex C-6 - Maps Provided by the Mines and GeoSciences Bureau Region XII – 1) watershed map 2) rainfall pattern, 3) road network map, 4) slope map, 5) rock types in the area, 6) soil map, 7) land use map and a landsat imagery of the proposed WQMA
- Annex C-7 - Other Useful Maps
- Annex D - List and Location of the Water Quality Monitoring Stations in Silway River

- Annex E - Recommendation of EMB Region XII to Classify the Upstream and Midstream Silway River as Class C Water Body
- Annex F - Analysis/Results of the 10-Month Water Sampling and Monitoring (In Values)
- Annex G - Analysis/Results of the 10-Month Water Sampling and Monitoring (in Charts)
- Annex H - List and Summary of Stakeholder Consultations
- Annex I - Documentation of the Stakeholder Consultations, Including Photographs
- Annex J - Samples of Workshop Topics During the Stakeholder Consultations
- Annex K - Samples of Information and Education Materials Used During the Stakeholder Consultations
- Annex L-1 - Socio Economic Profile of T'boli
- Annex L-2 - Socio Economic Profile of Tupi
- Annex L-3 - Socio Economic Profile of Polomolok
- Annex L -4 - Socio Economic Profile of General Santos City
- Annex M-1 - Letter of EMB Region XII Director to Mayor Valentin Mariano of Tupi Requesting Designation of Tupi's Representative to the Proposed Governing Board of Silway River WQMA
- Annex M-2 - Letter of EMB Region XII Director to Mayor Pedro B.Acharon of General Santos City Requesting Designation of General Santos City's Representative to the Proposed Governing Board of Silway River WQMA
- Annex M-3 - Letter of EMB Region XII Director to Mayor Eduardo Lumayag of Polomolok Requesting Designation of Polomolok's Representative to the Proposed Governing Board of Silway River WQMA

Note: Similar letters were sent to the Mayor of T'boli, the Governor of South Cotabato and the Philippine Chamber of Commerce and Industry (General Santos City chapter).

Annex D

Estimated Cost of Establishing a WQMA (in Philippine pesos)

Assumptions: 4 LGUs involved, 24 sampling stations All activities are EMB led								
A Meetings, Orientations	No. of pax	Meals/day	No. of days	No. of activities	Total	supplies, handouts (per person)	Documentation	Total Cost
WQMA Orientation, all stakeholders	100	300.00	1	1	30,000.00	100	1,500.00	41,500.00
Meeting w Mayors and Key LGU officials	10	200.00	0.25	4	8,000.00	50.00	1,500.00	16,000.00
Organize WQMA Task Forces per LGU	30	300.00	1	1	36,000.00	100.00	1,500.00	40,500.00
WQMA Orientation, 4 WQMA Task forces	100	300.00	1	1	30,000.00	100.00	1,500.00	41,500.00
WQMA Task Forces meeting, 4 LGUs*	30	100.00	0.5	8	96,000.00	100.00	1,500.00	132,000.00
Inter LGU meetings**	100	300.00	1	3	90,000.00	100.00	1,500.00	124,500.00
							Sub Total A	396,000.00

B Cost of water Sampling (24 stations)								
	No. of pax	Food	No. of Days	No. of Months	Total	Supplies		Total Cost
EMB Staff, sampler and driver	4	200.00	3	10	24,000.00			24,000.00
DENR Staff	2	200.00	3	10	12,000.00			12,000.00
LGU Staff (2 per LGU)	4	200.00	3	10	24,000.00			24,000.00
Gas and oil (gov't vehicle)			3	10		1,000.00		30,000.00
Ice, chest, sampling bottles			3	10		1,000.00		30,000.00
							Sub Total B	120,000.00
C Cost of Laboratory Analysis (24 Stations)								
Parameters	Unit cost	No. of samples	No. of Months	No. of Types	Total Cost			
Dissolved Oxygen	120.00	24	10		28,800.00			
Biochemical Oxygen Demand	500.00	24	10		120,000.00			
Total Suspended Solids	75.00	24	10		18,000.00			
Total Solids	50.00	24	10		12,000.00			

Parameters	Unit cost	No. of samples	No. of Months	No. of Types	Total Cost
Total Dissolved Solids	140.00	24	10		33,600.00
Settleable Matters	35.00	24	10		8,400.00
Color	35.00	24	10		8,400.00
Ph	35.00	24	10		8,400.00
Conductivity	35.00	24	10		8,400.00
Turbidity	35.00	24	10		8,400.00
Salinity	35.00	24	10		8,400.00
Total Coliform	450.00	24	10		108,000.00
Fecal Coliform	450.00	24	10		108,000.00
Nitrates**	700.00	24	4		67,200.00
Phosphates**	700.00	24	4		67,200.00
Metals***	500.00	24	1	3	36,000.00
Glasswares					100,000.00
				Sub Total C	749,200.00
				Total Cost	1,265,200.00

*monthly **quarterly ***yearly

Note: Cost of laboratory analysis provided by EMB Region XII

DEFINITION OF TERMS

Classification/Reclassification of Philippine Waters - means the categorization of all water bodies (following DENR Administrative Order No. 34, dated March 20, 1990) taking into account, among others, the following: 1) existing quality of the body of water; 2) size, depth, surface area covered, volume, direction, rate of flow and gradient of stream; 3) most beneficial existing and future use of said bodies of water and lands bordering them, such as for residential, agricultural, aquacultural, commercial, industrial, navigational, recreational, wildlife conservation and aesthetic purposes; and 4) vulnerability of surface and groundwater to contamination from pollutive and hazardous wastes, agricultural chemicals and underground storage tanks of petroleum products.

Clean Water Act - refers to Republic Act 9275 of 2004 which seeks to pursue economic growth consistent with the protection, preservation and revival of the quality of our fresh, brackish and marine waters. This law is a statement of national policy on promoting environmental strategies, using appropriate economic instruments and mechanisms for the protection of water resource. It also encourages civil society and other sectors, particularly labor, the academe and businesses undertaking environment-related activities in their efforts to organize, educate, and motivate the people in

addressing pertinent environmental issues and problems at the local and national levels, among other objectives.

The law applies to water quality management in all water bodies and primarily to the abatement and control of pollution from land based sources.

Civil Society - means non-government organizations (NGOs) and people's organizations (POs).

Department - means the Department of Environment and Natural Resources.

EMB - Environmental Management Bureau. It has a Central Office and sixteen regional offices.

Governing Board - the Governing Board for a WQMA, composed of representatives of mayors and governors of member LGUs, regional development council, and representatives of relevant national government agencies, duly registered nongovernmental organization, water utility sector, and business sector. The Department representative shall chair the governing board. In the case of the LGUs with memberships on more than one (1) management board, the LGU shall designate only one (1) single representative for all the management areas where it is a member. The governing board shall formulate strategies to coordinate policies necessary for the effective implementation of the Clean Water Act in accordance with those

established in the framework and monitor the compliance with the action plan.

Local Government Units - also LGUs; refer to the province/s, cities and municipalities that are within the jurisdiction of the proposed WQMA

Multi-sectoral Group - a group mandated by the Clean Water Act to be created in a WQMA with the function of establishing and effecting water quality surveillance and monitoring network including sampling schedules and other similar activities. The group shall submit its report and recommendation to the chairman of the governing board.

Non-point source - means any source of pollution not identifiable as point source to include, but not be limited to, runoff from irrigation or rainwater which picks up pollutants from farms and urban areas.

Point source - means any identifiable source of pollution with specific point of discharge into a particular water body.

Pollutant - shall refer to any substance, whether solid, liquid, gaseous or radioactive, which directly or indirectly: 1) alters the quality of any segment of the receiving water body so as to affect or tend to affect adversely any beneficial use thereof; 2) is hazardous or potentially hazardous to health; 3) imparts objectionable odor, temperature change, or physical, chemical or biological

change to any segment of the water body; or 5) is in excess of the allowable limits or concentrations or quality standards specified, or in contravention of the condition, limitation or restriction prescribed in the Clean Water Act.

Regional Director - refers to the head of the EMB Regional Office

Sanitation - refers to the hygienic and proper management, collection, disposal or reuse of human excreta (feces and urine) and community liquid wastes to safeguard the health of individuals and communities. It is concerned with preventing diseases by hindering pathogens, or disease-causing organisms, found in excreta and wastewater from entering the environment and coming into contact with people and communities. This usually involves the construction of adequate collection and disposal or reuse facilities and the promotion of proper hygiene behavior so that facilities are effectively used at all times.¹

Stakeholders - the people and institutions whose welfare and services are being affected or potentially to be impacted by the quality of the water body that is being proposed as a WQMA. They include people and institutions that use water resources like water districts, water utilities, business and industry, other government offices, academe, and civil society. The LGUs, including the barangays are major WQMA stakeholders.

¹ *Philippine Sanitation Source Book and Decision Aid*. World Bank, German Technical Cooperation Agency, and Australian Agency for International Development for the Department of Environment and Natural Resources and the Department of Health.

Stakeholder Consultation - is a process of meeting between and among the various stakeholders, usually led by the EMB Regional Office, to discuss and understand the salient provisions of the Clean Water Act, particularly those pertaining to water quality and water quality management area. To be included or represented in the stakeholder consultation are those who would be affected, directly or indirectly, by the establishment of a WQMA. These are the domestic, residential, institutional, commercial, agricultural, industrial users of water, who are currently, or potentially polluters of water bodies, but who are not a part of the identified key stakeholders.

Technical Secretariat - a group mandated by the Clean Water Act to be created in a WQMA which shall be part of the Department and shall provide technical support to the governing board. They shall be composed of at least four (4) members who shall have the following minimum qualifications: 1) One (1) member shall be a member of the Philippine Bar; 2) One (1) member shall be a Chemical Engineer, Chemist, Sanitary Engineer, Environmental Engineer or Ecologist or have significant training and experience in chemistry; 3) One (1) member shall be a Civil Engineer or Hydrologist or have significant training and experience in closely related fields and mainly experience on ground water, respectively; and 4) One (1) member shall be a Geologist or Biologist or have significant training and experience in closely related fields.

Water body - means both natural and man-made bodies of fresh, brackish, and saline waters, and includes, but is not limited to, aquifers, groundwater, springs, creeks, streams, rivers, ponds, lagoons, water reservoirs, lakes, bays, estuarine, coastal and marine waters. Water bodies do not refer to those constructed, developed and used purposely as water treatment facilities and/or water storage for recycling and re-use which are integral to process industry or manufacturing.

Water pollution - means any alteration of the physical, chemical or biological or radiological properties of a water body resulting in the impairment of its purity or quality.

Water quality - means the characteristics of water which define its use in terms of physical, chemical, biological, bacteriological or radiological characteristics by which the acceptability of water is evaluated.

Water quality guidelines - means the level for a water constituent or numerical values of physical, chemical, biological and bacteriological or radiological parameters which are used to classify water resources and their use, which does not result in significant health risk and which are not intended for direct enforcement but only for water quality management purposes, such as determining time trends, evaluating stages of deterioration or enhancement of the water quality, and as basis for taking positive action in preventing, controlling or abating water pollution.

Water Quality Management Area - an area comprising a water body and its watershed (river, lake, bay) officially designated by the DENR Secretary using appropriate physiographic units such as watershed, river basins or water resources regions. Said management areas shall have similar hydrological, hydrogeological, meteorological or geographic conditions which affect the physio-chemical, biological and bacteriological reactions and diffusions of pollutants in the water bodies, or otherwise share common interest or face similar development programs, prospects, or problems.

Water Quality Management Area Action Plan - includes, but not be limited to, the following: 1) goals and targets including sewerage or septage management program; 2) schedule of compliance to meet the applicable requirements of the Clean Water Act; 3) water pollution control strategies or techniques; 4) water quality information and education program; 5) resource requirement and possible sources; (f) enforcement procedures of the plan; and (g) rewards and incentives under Chapter 4 of the Clean Water Act.