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NORTHWEST SUMATRA SEASCAPE

The earthquake of December 26 2004 that struck 30km beneath the Indian Ocean along the Andaman-Sumatera faultline, off the northwestern coast of Indonesia, triggered a tsunami that caused massive devastation on land and unprecedented loss of lives. These reefs are the gateway to the Indonesian archipelago and the Pacific for many Indian Ocean species, therefore, this is a uniquely informative community with respect to the biogeography of coral reefs. There is an urgent need for the collection of information on the impacts on existing marine resources in order to guide management of marine resources and the development of sustainable management practices.

The primary conclusion from WCS ecological surveys from 2005 to 2009 suggests that coral reef condition varies widely in the tsunami affected region and is clearly correlated with human activity prior to the tsunami. There was some obvious impact from the tsunami on coral reef resources, yet healthy reefs did not mitigate damage on the land, as has been hypothesized by a number of international agencies. Ongoing indirect effects of the tsunami, including sedimentation and lack of management, are major concerns. WCS is in a unique position with its expertise and contacts to gather information important for developing and influencing sustainable resource management practices in the future. WCS has gathered information over the 4 years on coastal and marine ecological assessments, the provision of information (ecological maps, human demographic maps) to local management agencies and collection of information that has been critical to developing new management regulations for marine resource use and conservation. Recent survey in 2009 has found quite remarkable recovery rates of coral reef ecosystems on the Aceh Islands. We believe this occurrence is due to the halt in destructive fishing over the past 4 years.

The Human Dimension

The Achenese people in many coastal regions are dependant on marine resources for food and income. Chronic human misuse of marine resources in northern Aceh has been exacerbated by the tsunami impact, yet there are examples of community based conservation management practices that are working to protect reefs and many reefs are on the path to recovery. There exists a huge challenge to manage marine resources in a more sustainable manner. The practice of improving marine resource sustainability required community support and involvement, without it improvements in community livelihoods or biodiversity conservation will not occur.

Marine program in brief

Total of Area
542,235 Ha

Geographic priorities

- Weh Island
- Aceh Islands (Beras and Nasi Island)
- Simeulue and Banyak Islands

Habitat Types

Coral reefs and associated ecosystems including sand, seagrass and mangrove habitat

Ecological findings

- Shallow reefs (0-2m depth) incurred little damage
- Coral suffered most damage at 3-10m depth from tsunami impact
- Some reefs have recovered since reduction in destructive fishing

WCS Involvement
2005



Aceh – Weh Seascape



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Threats

Key threats to the marine environment include uncontrolled fishing activities, destruction of corals reefs through overfishing and destructive practices (eg. cyanide poisoning) a lack of government capacity to control damaging activities and a lack of community awareness and involvement in resource management activities.

WCS Activities

At WCS our unique approach is to blend community based approaches with quality scientific investigations to deliver conservation outcomes for Indonesian marine conservation. The objectives of work in tsunami affected areas is to work with existing institutional frameworks in Aceh to:

- Assess patterns of resource use and conservation management to determine priority areas for conservation management;
- Assess the existing socio-economic and institutional capacity to manage resource use in tsunami affected coral reef areas;
- Improving community livelihoods in small island networks;
- Strengthening community and institutional support for marine resource management;
- Promoting improved marine governance and policy (MPA regulations);
- Increasing capacity of government and communities to manage marine resources;
- Improving education and awareness of marine protected area management;
- Design of and development of marine protected areas;
- Design of scientific programs to monitor the effectiveness of marine resource management;
- Ecological and socio-economic impact assessments (eg. overfishing, climatic events).

The project has brought together a team of marine scientists from various universities (Bogor Agricultural University, Syiah Kuala University (Banda Aceh), and James Cook University (Australia)).

WCS has a team of marine scientists and marine policy specialists who have expertise in fisheries management, coral reef ecology, protected area management and design. The team has developed the most detailed baseline of ecological and socio-economic data of the northern Aceh coastline impacted by the tsunami. We are working with local government agencies (Badan Perencanaan Pembangunan Daerah (BAPPEDA), Fisheries Agency), NGOs (Fauna Flora International Yayasan PUGAR), and international agencies (ADB, UNESCO, FAO) involved in management of coastal resources and local communities involved in protected area management to help with advice on marine resource management in the wake of the tsunami.

Important Next Steps

- Assess coral reef ecological condition;
- Assess socio-economic needs and perceptions to marine resource use and conservation;
- Develop community co-management and marine protected area networks;
- Build capacity of government and local NGO's in marine resource management;
- Conduct and support marine awareness and education programs in schools;
- Assist communities in developing alternative livelihood projects.

Some coral reefs on Aceh Island are showing a 70% increase in coral cover over the past 4 years

Partners

- Yayasan PUGAR
- Syiah Kuala University
- Fauna Flora International
- Sabang District Government
- Local communities
- Local dive operators
- James Cook University
- Ocean Diving Club of Syiah Kuala University

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Mission

The Wildlife Conservation Society's International Conservation program saves wildlife and wild lands by understanding and resolving critical problems that threaten key species and large, wild ecosystems around the world.

WCS Strategies

- Site-based conservation
- Research
- Training and capacity-building
- New model development
- Informing policy
- Linking zoo-based and field-based conservation

