



Memorandum of Understanding on the
Conservation and Management of Marine Turtles and
their Habitats of the Indian Ocean and South-East Asia

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THIRD MEETING OF THE SIGNATORY STATES
Bangkok, 29-31 March 2005

GUIDELINES ON HATCHERY MANAGEMENT

1. The issue of hatchery management was raised at the Second Meeting of the Signatory States. Members of the Advisory Committee were aware that a range of hatchery practices were being used in countries within the IOSEA region, some of which were appropriate and some of which were not. The Committee concluded that conservation practices of diverse organisations in many of these countries could benefit from a policy statement that provided guidance in what constituted sound management of marine turtle nesting beaches and hatcheries. Accordingly, the Meeting of Signatory States requested the Advisory Committee to develop a proposal for a policy paper on “hatchery management” to be considered by the Signatory States for subsequent adoption at the Third Meeting.
2. The Advisory Committee has not been in a position to complete the requested policy paper in time for the present meeting. The Chairman of the Committee will advise the Meeting on the progress that has made thus far, and on the prospects for finalising the paper in the near future.
3. Nevertheless, in November 2004 the Southeast Asian Fisheries Development Center (SEAFDEC) published an excellent “Guide to Set-up and Manage Sea Turtles Hatcheries in the Southeast Asian Region” which offers clear guidance on hatchery management practice. A review of the publication, prepared by the Chairman of Advisory Committee at the request of the Secretariat, is attached hereto. Copies of the Guide will be made available to Meeting participants.

Action requested / Expected outcome

Signatory States are invited to take note of the SEAFDEC publication, consider its useful application in other sub-regions, and decide on the next steps to be taken in relation to a more general policy paper on hatchery management.

A new informative manual for management of marine turtle hatcheries

Ali, A., Talib, Z., Isa, M. M., Razak, S. A. and Zakaria, N. A. (2004). *A guide to set-up and manage sea turtles hatcheries in the Southeast Asian region*. (Marine Fishery Resources Development and Management Department, Southeast Asian Fisheries Development Center (SEAFDEC): Kuala Terengganu). 60 pages.

This is an excellent, must read, introductory manual for any management agency or research group contemplating the use of hatcheries in their marine turtle conservation program. It is written in English and the text is liberally illustrated with informative colour photographs and diagrams.

The authors have given appropriate emphasis on the preferred use of natural incubation of undisturbed (in situ) nests wherever it is practicable.

However, they also identify some nesting habitats where there is very poor survival of the eggs unless the eggs are taken into protective custody (into a hatchery). It is in these situations that this manual will be a useful guide for increasing the production of healthy, correctly imprinted hatchlings with an appropriate mix of both sexes.

The manual covers a good breadth of topics needed for good hatchery management:

- A clear summary of the breeding biology of marine turtles;
- Easily understood methods for accurate identification of the turtle species from observations of the adults, hatchlings or tracks;
- How to design and establish a hatchery;
- How to safely relocate eggs to the hatchery to ensure high hatching success;
- Data recording when the eggs are laid and at hatchling;
- Predator control;
- Release of hatchlings to maximise their strength and vigour and to ensure that the hatchlings have a good chance to correctly disperse to the open ocean pelagic phase of their life cycle; and
- Hatchery maintenance.

The manual also provides informative sections on critical issues that hatchery managers need to address:

- How to minimise movement induced mortality of turtle eggs (= how to maximise hatch success of the eggs being relocated);
- Temperature dependent sex determination and the use of managed shade to control sand temperatures to increase hatching success and ensure an appropriate sex ratio for the hatchlings;
- The potential for altered light horizons to disorient hatchlings; and
- How to ensure appropriate imprinting of the hatchlings to the area where they were born and hence maximise the chance for the turtles to return to the same area when they become adults.

This is also worthwhile reading for managers of established hatchery programs who are urged to use this manual to re-evaluate the effective of their own hatchery programs. If this manual introduces new information and methods, consider incorporating them into your own program. If you identify aspects of your program that can contribute to even better incubation success and hatchling survivorship, you are urged to share this with the authors and the IOSEA MoU Secretariat.

The global understanding of marine turtle biology and management are continuing to improve as the years pass. This manual makes a useful contribution by summarising up to date information in a readable form for today's turtle managers.

Reviewed by: Colin J. Limpus, 25 March 2005.