

# Volunteer Sports Divers: A Valuable Resource in the Management of Bahrain's Fisheries

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## Abstract

The Directorate of Fisheries (DOF) of Bahrain has a novel scheme in which the DOF workers cooperate with local sports divers in the management and conservation of their marine resources. This cooperation is mutually beneficial for both the DOF and the divers who are interested in environmental conservation.

## Introduction

In many countries, the resources available for management of fisheries are extremely limited. These limitations include labor, equipment, trained staff, as well as funds. Diving can be an expensive activity for any fisheries office. Equipment, training and special allowances can make most dive operations quite expensive. In Bahrain, a novel approach has been used to augment the capacity of the Directorate of Fisheries (DOF). In 1993, a volunteer sports diving project was initiated in collaboration with the local diving community. The DOF provides the boat, fuel and boat operator, while the divers provide their services, use their own equipment, pay for their own training and are not financially

compensated by the DOF. Many divers are very conscious of environmental issues and are interested in marine resources and their conservation. Participating in this project gives them a larger variety of dive sites and conditions. They get "free" dive trips and are able to log a lot of diving experience at no cost to themselves. Since all volunteers have full time jobs, dives are normally scheduled for the weekend. Volunteer divers simply call to sign up for the weekend dive.

## Range of Activities

Bahrain has four diving organizations: the Bahrain Diving Committee, the Delmon Dive Club, the Awali British Sub-Aquatic Club and the British Diving Club. Over

the past few years, volunteer divers have assisted the DOF in a wide range of diving related activities:

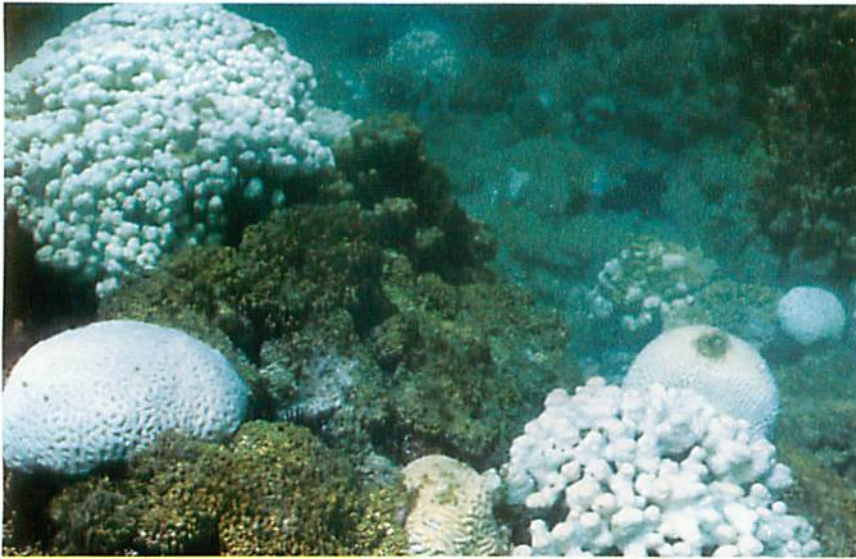
1. Offshore fish cages - predeployment surveys for proposed offshore fish cages and the deployment of the rather complex anchoring system.
2. Fish release - prerelease habitat assessments, fish release activities and post release surveys as part of the fish release project of the DOF.
3. Artificial reefs - predeployment surveys, actual reef deployment and follow-up site assessments (including collection of water and fish samples) as part of the artificial reef project of the DOF.
4. Coral bleaching - field surveys of the extensive coral bleaching



Volunteer divers assisted predeployment surveys, artificial reef deployment and postdeployment surveys.



Illegal driftnets: artificial reefs deployed with assistance from volunteer divers have proven effective in catching illegal driftnets.



*Environmental incidents: volunteer divers first reported coral bleaching to the DOF, then assisted in reef surveys to study the extent of bleaching.*



*Ghost fishing: volunteer diver neutralizing this lost fish trap to stop ghost fishing.*



*Marine conservation: volunteer divers rescued this baby turtle found entangled in plastic.*

event in Bahrain in 1996. This event was probably related to the extremely high water temperatures that year.

5. Lost fish traps – locate and retrieve lost fish traps for local fishers. When lost fish traps are observed on dive trips, sports divers have been instructed to neutralize them (wire open the escape door) so that ghost fishing is minimized.
6. Anti-driftnet devices - deploying and conducting follow-up surveys of anti-driftnet devices.
7. Marine surveillance – conducting surveillance of dredgers (to ensure that they stay within their permitted area) and of illegal fishing operations (such as driftnets, shrimping during the closed season, mother ship operations and foreign fishing operations) as a side activity on dive trips.
8. Hydrographic soundings - identification of unconfirmed echo soundings of seabed contacts. This has been useful to the local hydrographic office and the DOF.
9. Undersea cables - locating and assessing the impact of shrimp trawling on an old telecommunication cable. This information was essential for planning the deployment of a new fiber optic cable.
10. National Day - collecting live marine species for the children's touch pool which is part of the DOF's National Day display.
11. Reef Check - participating in the global Reef Check program that is coordinated by the Institute for Environment and Sustainable Development, Hong Kong University of Science and Technology.
12. Marine debris campaign – Helping to clean the seabed of lost driftnets and other marine debris, as part of the marine debris campaign initiated by the Fisheries Enforcement Committee in 1997.

## Benefits and Limitations

The use of volunteer divers allows the DOF to expand its capacity for marine related work. In addition to the wide range of marine related activities, volunteer divers have been very helpful in facilitating projects. The cost of fielding these divers is a fraction of the cost of fielding government divers and is, therefore, extremely cost effective. It has also improved communication linkages with the local diving community. When marine environmental problems are observed by them, the information is conveyed to the DOF. With their assistance, investigation and documentation (by photo and video) can be completed in a timely manner.

There are limits to what unpaid volunteer divers can and will do. Consideration and patience are needed to manage them. As the level of training and experience of volunteer divers can be very diverse, novice and new divers need to be monitored extremely closely for safety.

In Bahrain, this cooperation between volunteers and the DOF has worked well. Only certified divers are allowed to participate. Most of the diving is in relatively shallow waters. Much of the work is conducted in waters of about 10 m depth and it is rare for a working dive to reach 20 m. In other countries it may be difficult to put together such a cooperative scheme. This is especially true in places such as the USA, where legal liability can be high and diving depths may be higher than the limits for SCUBA divers.

## Further Readings

Uwate, K.R. 1993. Bahrain Diving Committee/Directorate of Fisheries Joint Diving Project, Report of 1993 Activities. Directorate of Fisheries, Ministry of Works and Agriculture, Bahrain. 9 p.

Uwate, K.R., J. Al-Meshkhas and S. Busherhri. 1995. Bahrain Diving Committee/Directorate of Fisheries Joint Cooperation in 1994. Directorate of Fisheries, Ministry of Works and Agriculture, Bahrain. 10 p.

Uwate, K.R., J. Al-Meshkhas and S. Busherhri. 1996. Bahrain Diving Committee/Directorate of Fisheries Joint Cooperation in 1995. Directorate of Fisheries, Ministry of Works and Agriculture, State of Bahrain. 8 p.

Uwate, K.R., J. Al-Meshkhas and S. Busherhri. 1997. The Directorate of Fisheries' eco-volunteer diving activities in 1996. Directorate of Fisheries, Ministry of Works and Agriculture, State of Bahrain. 9 p.

Uwate, K.R., J. Al-Meshkhas, S. Busherhri and H. Almaghani. 1998. The Directorate of Fisheries' eco-volunteer diving program: 1997. Directorate of Fisheries, Ministry of Works and Agriculture, State of Bahrain. 10 p.

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## ERRATA

We apologize for the errors in the article "Fifty Years of Reservoir Fisheries in Mettur Dam, India: Some Lessons" published in the October-December 1998 issue (Vol. 21, No. 4): page 4, line 27 "Gourami (*Etroplus suratensis*)" should read "Gourami, *Etroplus suratensis*"; page 5, line 14 "1853-54" should read "1953-54"; page 5, line 21 "*Crossochilus*" should read "*Acrossochilus*"; and line 4 from the bottom "*Mastacembelu*" should read "*Mastacemba*".