

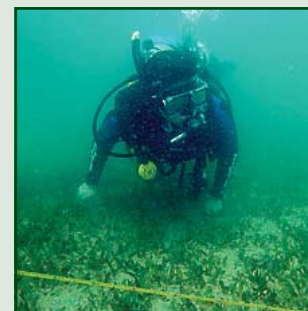
# HARBOURKEEPERS MARINE SURVEYS IN SYDNEY HARBOUR

## overview of the project

HarbourKeepers Marine Surveys give recreational divers the opportunity to become actively involved in the conservation of Sydney Harbour's marine environment. The program, which consists of a fish biodiversity survey and a weed monitoring survey, was developed by the Marine Branch of the NSW National Parks Association (NPA) and marine scientists from the NSW Department of Primary Industries.

The fish survey gathers information on 50 marine fish species in Sydney Harbour. Trained volunteers incorporate fish surveys into their normal diving operations. The data collected is available for use by local councils, NSW Marine Park Authorities and other interested organisations, and is available on the internet through the BioNet website [www.bionet.com.au](http://www.bionet.com.au)

The weed monitoring survey maps the spread of the aquatic weed *Caulerpa taxifolia* in Sydney Harbour. The survey monitors existing sites where the weed has been found and raises public awareness about the spread of *Caulerpa taxifolia*.



Weed survey

PHOTOS © JAYNE JENKINS/HARBOURKEEPERS

## how the project was carried out

NPA worked with marine scientists and the dive community to select 50 marine species for the Fish Survey. 50 species is the most that divers could reasonably be expected to identify and record for a survey. A survey period of 30 minutes was considered



ID Cards help divers identify 50 different fish species

to be a suitable time for most divers to work at common depths without any safety risks.

Divers attended a training course that consisted of a workshop and two training dives supervised by a PADI instructor. The workshops taught the divers about survey methodology, diver safety and fish identification. Participants received a training manual and a

set of laminated fish identification cards. Successful participants received certification as 'Fish ID Specialty' divers.

Weed surveys were developed in partnership with the Underwater Research Group of Sydney, a non-profit dive club with an interest in research and conservation. Members already had experience with the monitoring of *Caulerpa taxifolia* so no additional training was required. The survey method uses a 10–30m circular sweep around the boat's anchor. Divers progress out at 5m increments to a maximum of 30m from the anchor. Any *Caulerpa taxifolia* that is found is recorded with a compass bearing and distance from the anchor, the location of which is recorded by GPS.

## outcomes now and in the future

14 training workshops were held which resulted in 107 divers being certified in fish survey techniques. A total of 221 fish surveys were submitted during the period of the project. Divers are required to work in teams of two for safety – as more divers become involved with the program the number of surveys will increase.

HarbourKeepers established many links with other organisations during the project including local Councils, dive operators, the Department of Primary Industries and TAFE NSW who created a Statement of Attainment as a formal qualification for HarbourKeeper volunteers.

The partnership with the Underwater Research Group has resulted in active monitoring of the Harbour for the presence of *Caulerpa taxifolia*. HarbourKeeper volunteer divers have also received information on the impacts of the weed, identification cards, and instructions on how to report it if they find it during a dive.

## benefits, challenges & lessons learned

HarbourKeepers has learnt about the importance of managing risk when organising dives, both for participants and the NPA. The creation of a certified training course ensured that all dive activities undertaken by HarbourKeepers were safe for volunteers. Although creation of this course delayed the start of the fish surveys, it increased the project's credibility by requiring participants to complete a formal education program. The data gathered during the surveys is more reliable and divers are safer as a result.

Delays were experienced with the weed monitoring survey for a number of reasons. The additional time spent developing the fish survey training course, and the high demand for training, delayed the start of the weed survey. Further delays occurred due to seasonal factors, as *Caulerpa taxifolia* dies back over winter meaning surveys can only be carried out during summer.

This project has demonstrated the concern for protecting Sydney Harbour that exists amongst the dive community, and provided a way for these community members to become actively involved in marine conservation.