

# RED TIDES IN HONG KONG



## Kevin Lewis looks at what turns our waters red

Recently, Hong Kong has suffered from some of its worst cases of “Red Tide” in recent years, the effects have been especially severe on the South side of Hong Kong Island, and have included Aberdeen, Deep Water Bay and Repulse Bay. Waters around Middle Island have been effected badly.

### What is Red Tide?

A Red tide is the common name for an algal bloom, which is the rapid multiplication of tiny, single-celled algae in sea water. There is no complete explanation for such occurrences, but contributing factors include a warming of sea water to the optimum temperature for specific algae species, intensity of sunlight and nutrient rich waters which may be linked to certain types of agricultural run off and pollution. Algae contain pigments to allow photosynthesis, and it is the rapid growth of these organisms that can discolour sea water, sometimes in huge concentrations that lead to murky brown or red colouring. Recently at Middle Island, one ABC member described the sea water as having the colour and appearance of Coca Cola!

### Is Red Tide Harmful?

Most species of algae are not harmful, even in high concentrations, and indeed provide food for marine life in our oceans. There are around twenty to thirty incidents of red tide a year in Hong Kong, and serious effects are very rare. Harmful Algal Blooms (“HAB’s”) do occur worldwide, however, and it largely depends on the particular algal species. Adverse effects may include killing fish and contamination of seafood. Usually, fish die due to a lack

of oxygen in the sea water or reduced function of the gills that are clogged by a mucus secreted by the algae. Some specific algae species can produce toxins that are absorbed into shellfish and other sea food. On rare occasions swimmers can get minor eye, nose or skin irritation.

### Red Tides in Hong Kong

The Hong Kong Agriculture, Fisheries and Conservation Department (AFCD) started to note occurrences of red tide in 1975. From 1975 to 2005, a total of 759 red tides incidents were recorded in Hong Kong waters, 27 of which were serious enough to effect fish. A total of 70 algal species have been recorded to form red tides in Hong Kong, but the majority of them are harmless. In fish-farming areas, the government warns of non-toxic red tides by raising a yellow flag and reminding fish farmers to check oxygen levels in the sea water. A red flag indicates more serious, potentially harmful algae growth. At beaches, even though most algae blooms are harmless, the government may still raise a red flag and close the beach. Sailors need not worry unduly, even if they find themselves in the water, but its not recommended to spend long periods swimming in the more severely effected areas.

The “Hong Kong Red Tide Information Network” has a lot of information at [www.hkredtide.org](http://www.hkredtide.org) including an explanation of algae species in Hong Kong and maps showing effected areas. Many other organizations and research institutes study Red Tides, take a look at [www.redtideflorida.org](http://www.redtideflorida.org) and [www.whoi.edu](http://www.whoi.edu) for more information.