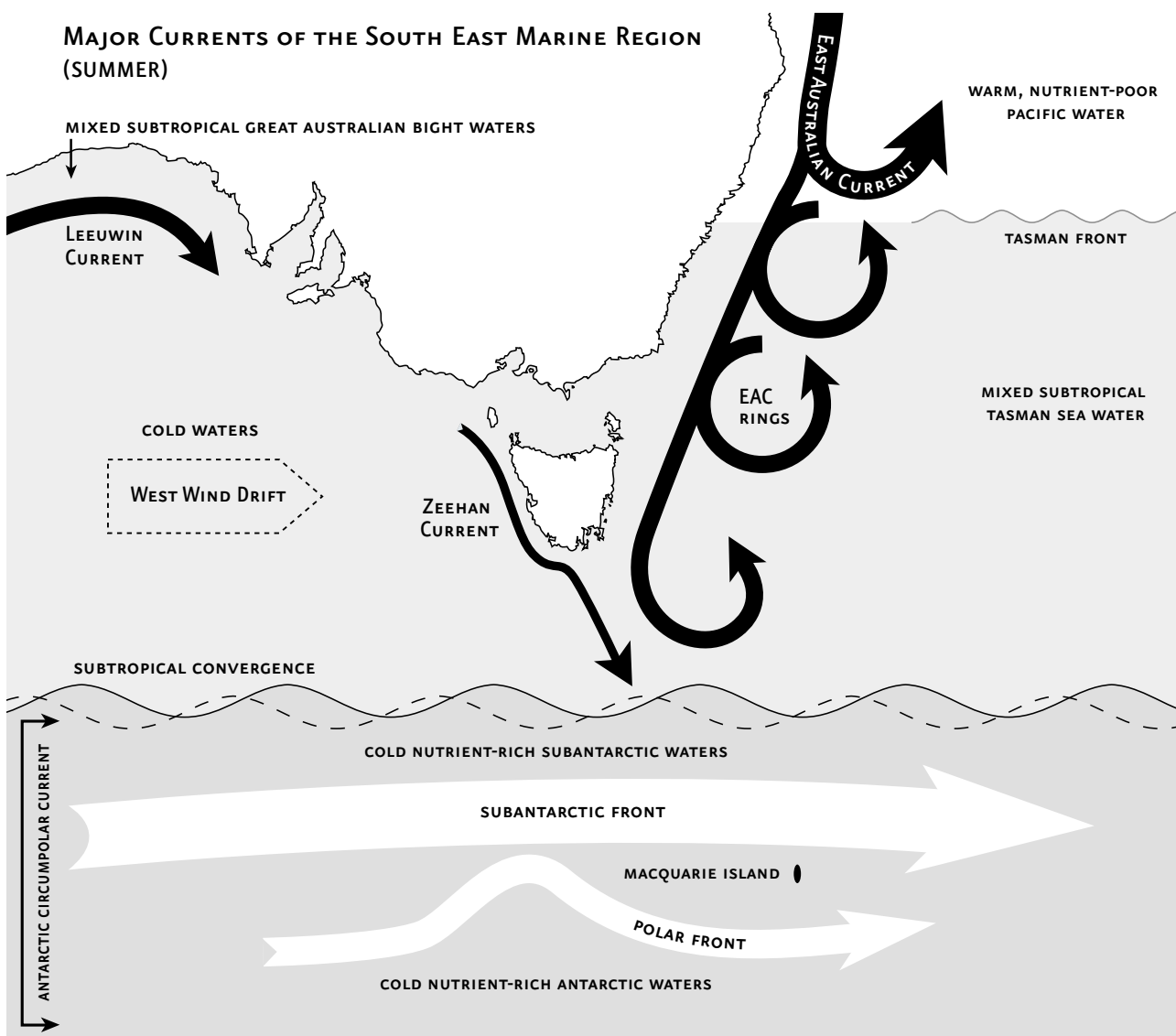


the open seas.

The open waters that wash down the continental slope are dominated on the surface by the East Australian Current and the Leeuwin waters (less than 250m). The middle layers are dominated by Subantarctic Mode Water (300-600m); below this at 800-1200m are the Antarctic Intermediate Waters. The deeper waters link all the oceans of the world.



Distinct groupings of fish species inhabit the various water masses, although many species move horizontally and or vertically between water masses on a daily or seasonal basis.

Light can penetrate to a depth of about 100 metres, but nutrients are sparse, especially in the warm sub-tropical waters of the south-east region of Australia. Subantarctic waters refresh nutrient levels in the region. The Subtropical Front carries nutrients north. Phytoplankton species can recycle nutrients by transforming methane emitted by zooplankton into the nutrients they need for photosynthesis.

Many species of fish, squid, mammals and seabirds feed on plankton in the surface waters. Squid, fish and large mammals such as the sperm whale live below the light zone. Some of these species journey up to shallower waters each night to feed while others live permanently in deeper waters.

In the open seas ecosystems, small phytoplankton are eaten by small zooplankton, which are in turn eaten by larger zooplankton or small fish. Food chains are flexible since species adjust their diet according to the availability of food species.

