**Electroreception**

Open your eyes in sea water and it is difficult to see much more than a murky, bleary green colour. Sounds, too, are garbled and difficult to comprehend. Without specialised equipment humans would be lost in these deep-sea habitats, so how do fish make it seem so easy? Much of this is due to a biological phenomenon known as electroreception – the ability to perceive and act upon electrical stimuli as part of the overall senses. This ability is only found in aquatic or amphibious species because water is an efficient conductor of electricity.

**B**Electroreception comes in two variants. While all animals (including humans) generate electric signals, because they are emitted by the nervous system, some animals have the ability – known as passive electroreception – to receive and decode electric signals generated by other animals in order to sense their location.

**C**Other creatures can go further still, however. Animals with active electroreception possess bodily organs that generate special electric signals on cue. These can be used for mating signals and territorial displays as well as locating objects in the water. Active electroreceptors can differentiate between the various resistances that their electrical currents encounter. This can help them identify whether another creature is prey, predator or something that is best left alone. Active electroreception has a range of about one body length – usually just enough to give its host time to get out of the way or go in for the kill.