

## AMPHIBIANS

Amphibians cover a broad spectrum of animals, including the frogs and toads, salamanders and newts. Due to their moist skins, these animals typically dwell in habitats that have a warm, moist climate. Because of their reliance on the quality of the water, amphibian numbers and diversity are able to provide us with an insight into the condition of the environment.

## FROGS

Except for the very cold regions of the world (e.g. Antarctic, Arctic, Greenland etc), frogs are distributed broadly around the globe. Typically they are not found in high altitudes, preferring low to mid range elevations. The largest numbers and diversity of frogs are found in the neo-tropical environments of Central and South America and the West Indies. The diversity of frogs in these regions is almost five times that in the Australo-Papuan region.

Frogs are reliant upon moist conditions as they lose much of their own moisture through their thin, permeable skins. Their skin is also a medium through which they are able to respire. During dry times of the year, frogs will become partially or totally dormant, being able to hibernate underground for periods of time and conserve water.

Living in warm, wet and tropical environments, frogs are afforded the luxury of a diverse diet. Their food, typically consisting of a broad range of insects, is readily accessible. Due to their reliance on moisture, most frogs are primarily active at dawn, dusk and all through the night. This is also the moment in which frogs will communicate to each other using vocalisation. Each species has its own unique call, varying in pattern and pitch, thus enabling females of a species (who do not vocalise) to locate a mate.

Research is currently underway in the South East region, in alliance with the environmental monitoring group Environmental Equilibrium for Earth (EEE). Together with this group, AGE is investigating frog populations in the South East region, as an indicator of environmental health – particularly that of the local waterways.

## TOADS

Toads are primarily the same as frogs, except they typically exhibit a broader habitat and are not able to jump as effectively as frogs (some frogs are able to jump up to 30 times their body length!).

Some toads, such as the Cane Toad, are rapidly occupying large tracts of Australia and have become recognised as a pest species in this country. The poisonous glands on the back of their neck manage to kill any unsuspecting predator looking for an easy meal. In this way, they are resisting any natural means of controlling their numbers.

## SALAMANDERS

Salamanders are an unusual amphibian that demonstrates a wide variety of shapes and forms. Some are terrestrial, some display life stages in water or on land, while others are purely aquatic – for example, there are the aquatic giant salamanders of eastern Asia which may exceed 150 cm in length, while other permanently larval salamanders are only found in subterranean water courses in Southern Europe and are only up to 3.5cm long.

The fully aquatic forms of the Salamanders have feathery external gills and a strong tail.

As is the case with frogs, the dependence of salamanders on water provides a clear indicator of problems in the environment. Population studies of salamanders is being conducted all over the world by a variety of organisations and AGE is working closely with many of these groups to draw on the results, enabling us to monitor any possible detrimental effects of business in the area.

