

Island Plant Life

- 1► Islands are geographical formations that are completely surrounded by water, yet many islands are covered with a rich assortment of plant life. It may seem surprising that so much plant life exists on many islands, yet there are surprisingly simple explanations as to how the vegetation has been able to establish itself there. Principles for the development of plant life on an island have been established that take into account factors such as island size, distance from larger landmasses, and whether the island was formerly attached to land or whether it emerged independently from the water. Other elements that influence plant life on islands include existing animal life on and around the island, as well as the migration patterns of birds.
- 2► One generally accepted principle about island plant life is that larger islands support a wider diversity of plant life than smaller islands. An obvious reason for this is that larger islands have more land area to support plant life, but this does not entirely explain the variety of species that are found on them in comparison to those on smaller islands. Larger islands also have a broader diversity of soil types, which can support different kinds of plants. These varying soil types occur with more frequency on larger islands than on smaller islands, permitting plant species to root and grow in multiple areas, which in turn, reduces the chances of plant extinction. For example, if a plant can only grow in one area on a small island, a catastrophic event that destroys that area will wipe out the species on that island. In contrast, if a plant species is growing in several areas on a larger island, the probability of a destructive occurrence happening to every area where it grows is dramatically decreased, so the plant species has a greater likelihood of survival.
- 3► Proximity to larger landmasses, usually mainland regions, also has a positive impact on the development of plant species on islands. Islands in extremely close proximity benefit from wind and weather patterns that transport seeds from the mainland. Even islands that are a little further away, but are relatively easy to reach from the mainland, have the potential for seed transfer to occur through visits from people, especially if the islands are inhabited by people or are popular tourist destinations. However, a danger occurs with this means of seeding the island, since people from other locations can unknowingly introduce plant life considered exotic to the island, and which can adversely affect some of the native species. A third means by which islands receive the benefits of seed transfer is through bird migration. As birds fly over or rest on islands, they also drop seeds from their bodies that they picked up on the mainland.
- 4► Some islands are created when rising water levels or flooding occurs, cutting off a piece of land from a larger mass. These islands that used to be part of a mainland tend to retain the same plant species they had before the islands were separated from the larger landmass. This makes sense in that the soil type and climate of both land areas remain virtually the same. In addition, the newly formed islands may also have the same animal species as the mainland has, which means that patterns of seed transfer and fertilization will mimic what occurs on the mainland and sustain the plant life that already exists. One such example of this type of island is Kangaroo Island off the coast of Australia. It was separated from Australia approximately 10,000 years ago because of rising sea levels. Its closest point to the mainland is only 8 miles (13 kilometers). Although the human inhabitants eventually died off after the island became isolated, several native species, both plant and animal, continued to thrive and are still present on the island today.
- 5► Conversely, islands with the least amount of plant species and diversity are those that emerge from the ocean in isolated areas far from other landmasses. These islands generally form from volcanic activity. As the lava from a volcano cools, it changes composition and becomes capable of supporting plant life. This process can take centuries before a measurable amount of plant species are seen. While these islands can be seeded from wind and bird migration, the diversity and amount of seeds being carried decreases the farther out the island is from larger landmasses.

This question is worth 2 points (2 points for 3 correct answers, 1 point for 2 correct answers, and 0 points for 1 or 0 correct answers).

Simple principles govern the amount and variety of plant life on an island.