

7.4 POPULATIONS IN ECOSYSTEMS

Ecosystems

The niche is determined by how the organism is adapted to abiotic and biotic factors

Ecological niche = how an organism fits into its environment e.g. interactions, role

Ecosystem = the community and the non-living components from the environment

Population size depends on abiotic factors, competition and predation

Community = the populations of different species in one place at one time

Succession is managed to conserve habitats

High biodiversity

More habitats and niches to support more species

Succession

Pioneer species die and release nutrients into the land

Colonises an inhospitable environment e.g. bare rock or sand dunes

Pioneer species

This allows plants to grow and changes the abiotic environment, making it less hostile

Primary succession = changes in the species present in a barren area

Investigations

Habitat = the place where an organism lives

Ecosystems contain many habitats

Mark must be non-toxic and not make the organism more visible to predators

Proportion of marked to unmarked stays constant

Quadrats

Randomly placed

For slow-moving or non-motile organisms

For motile organisms

Mark-release-recapture

Use a random number generator to obtain coordinates

Frequency or percentage cover

Systematic sampling along a belt transect

Even distribution of marked organisms

No births or deaths within population

The mark must stay on the organism

AQA