

EBO-3003: Conservation and Restoration Ecology

(Credits: 2)

Unit-I

1. Introduction to Conservation Ecology: Principles, postulates and ethics
2. Population dynamics and conservation: Genetic variation and its loss, variation in natural populations, mechanisms of population regulation, habitat specific demography, population viability analysis
3. Species and habitat conservation: Prioritizing species and habitat, protected area networks, theory of reserve design
4. Diagnosis and prediction: Predicting ecological consequences of changes, environmental impact assessment
5. Conservation strategies: Planning and management, plan process for species and site management; general principles of management; models of sustainable development.

Unit-II

1. Ecology of disturbed ecosystems: Ecosystem dynamics and stability, disturbances, impact of disturbances on the structure and functioning of ecosystems
2. Aims and strategies of restoration: Concepts of restoration, ecosystem reconstruction, major tools used in restoration
3. Restoration of biological diversity: Acceleration of ecological succession, reintroduction of biota
4. Degradation and restoration of natural ecosystems: Forest, grassland and lake
5. Restoration of degraded soils: Saline/sodic soils, contaminated soils, mines soils