

Habitat Science Revision



Exam Paper

- 4 hours on Teams
- Paper will be emailed to you. Type up your answers and submit via Turnitin
- 2 from 4: equal marks
- Referencing
- Essay structure
- Read the question properly
- Equal time division!

Key Themes

The background of the slide is a close-up photograph of a tree branch. The bark is covered in numerous orange, scale-like lesions, which are likely a sign of a fungal infection or insect infestation. The branch is dark brown and textured, with the lesions appearing as bright orange, irregular patches.

- Planning & Access
- Grassland Management
- Flooding Management
- Hedgerows
- Farmland Conservation
- General areas: such as Rewilding, covid and wildlife

Planning & Access

- Reserves – important but a fine balance
- Site management – inventory; site objectives; resources; monitor
- Management Plan
- Volunteers
- Zoning – prevent physical damage and disturbance
- Access:
 - Resources available, nature of site, insurance policy; cross-section of needs
 - Signage; footpaths; hides - vandalism

Grassland Management

- Historical changes
- Types & associated assemblages:
 - Acidic; Mesotrophic; Calcareous
 - Drainage status – wet; dry
 - Intensity of improvement and level of grazing – meadow & Pasture
- Types of management
 - Grazing; cutting; burning; soil disturbance; non-intervention
- Peat restoration

Flood Management

- Recent weather events
- Inappropriate planning decisions
- Hard defences – costly
- Natural flood management – protecting, restoring and emulating natural function of catchments
- Creation of woodland
- Soil management and upland drainage
- River & floodplain restoration
- Maintenance of ditches and wetlands
- Hedgerows
- Beavers!

Hedgerows

- Complete Ecosystem
- Single species vs ancient
- Combining history with ecology – tithe maps
- Important hedgerows:
 - Pre-1850 parish
 - >7 woody species in 30m
 - Associated features – archaeological site; ditch; bank; wall
- Demise:
 - Agricultural mechanisation; neglect; increased stocking rate; over-use chemicals; loss hedgerow trees
- Benefits:
 - Wildlife corridor; aesthetics; wind break; flood prevention
- Long-term management:
 - Laying; coppicing; pollarding – structure important
- Gower and Carmarthenshire hedges – Hooper's Rule

Farmland Conservation

- Current problems:
 - Fragmentation; drainage wet meadows; loss edges; continual sowing; over-use chemicals
 - Ecological & productivity impacts
- Management Principles:
 - Retain existing management; increase semi-natural habitats and structural variation
 - Managing field margins:
 - Grass strips
 - Conservation headlands; beetle banks
 - Flooding regimes

Soils

- Soil formation
 - Parent material
 - Climate
 - Organisms
 - Relief
 - Time
- Soil compaction
 - Bulk density; total porosity; air filled porosity and soil strength
- Implication on plant growth
 - Seed germination
 - Impeded root growth
 - Nutrient and water uptake

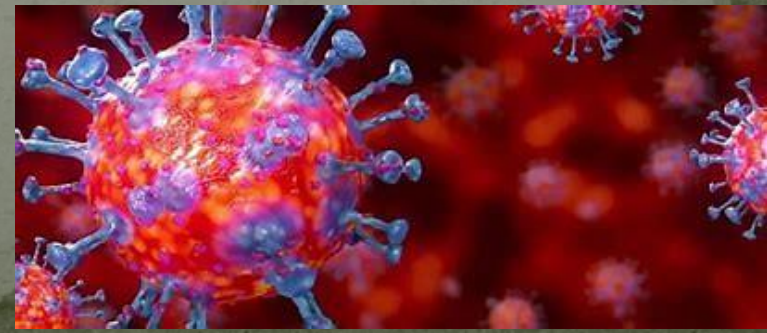


Re-wilding

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- A photograph of two wolves standing in a forest. The wolf on the left is looking directly at the camera, while the one on the right is looking slightly to the right. They are surrounded by green foliage and trees in the background.
- Controversial
 - Restoring ecosystem function
 - Securing core areas
 - Connecting these core areas
 - Re-introducing large carnivores
 - Case studies
 - Opportunities – abandoned agricultural land
 - Passive management
 - Can help to fight climate change and flood protection
 - Opportunity for ecotourism

Covid and wildlife conservation

- Funds diverted
- Borders closed – projects on hold and enforcement difficult
- Increase in poaching
- Surveys halted through lockdown
- Planning and development laws relaxed to rebuild economy
- Movement of animals to 'lockdown quiet spots' – what happens when life returns to normal?
- Money spent on feeding wildlife affected vs increase in charitable donations
- Disposable masks thrown away
- Re-focus in environmental damage
- Re-connecting with nature
- Wet markets
- Reduction demand for traditional medicines
- Reduction pollution



Past Papers

1. Considering the current status of UK upland areas. With particular reference to acid peat bogs what are the main factors affecting their management. Evaluate which techniques are used to manage them in the Brecon Beacons?

[50 marks]