Biology 20

Unit B: Ecosystems and population change

Habitats and niches

One lynx, four levels

- A single Canada lynx is one member of a species.
- The hares, spruce, and snow around it belong to a larger system than the lynx alone.



Niches within an ecosystem

- A population is one species in one area.
- A community is the populations living together.
- A niche is the role, and a habitat is the place where that role happens.

Key terms

ecosystem

The community of organisms plus the abiotic surroundings they use in one place.

niche

The role a species plays, including what it eats, where it feeds, and the conditions it tolerates.

habitat

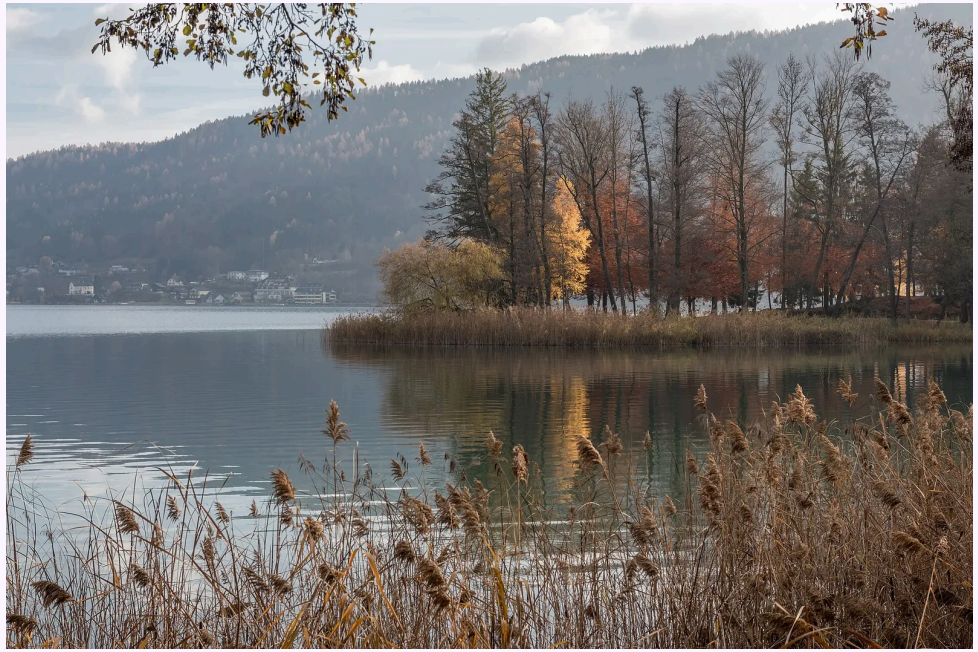
The physical place where a species lives, such as the forest floor or the littoral zone.

population

A group of organisms of one species living in the same area at the same time.

Layers in the forest and the lake

- Terrestrial layers run from canopy to sub-canopy, forest floor, and soil.
- Lake zones run from littoral shallows to limnetic open water, profundal dark water, and benthic bottom.
- Each layer offers habitats, and several niches can share one layer.



Plant and microclimate study

- The question names the dominant plant and one abiotic measure.
- The plan says where the samples sit, under the plant and in the open.

A one-line niche

- A niche line names food, feeding place, and one condition.
- A habitat line names only the layer or zone.

Stack and role

- Define population, community, and ecosystem with one local example.
- Separate habitat from niche for one lake organism.

Limits decide who stays

- The next lesson measures abiotic and biotic limits in a local place.
- A niche can be empty when a limit sits outside what the species tolerates.

Image credits

Johann Jaritz, Pörtschach Halbinselpromenade Naturpark im Landschaftsschutzgebiet 18112021 1711, CC BY-SA 4.0