

WHEP Lesson 1: Species, Succession, and Ecoregions

1. Species: group of organisms that can _____ and produce _____
2. Population: Many individuals of one _____ that interact
3. Community: Group of living things of _____ that interact
4. Ecosystem: Living and _____ things interact
5. Food web: How does plant life in an area affect an eagle?

6. Succession: Change in plant community over _____
7. Sere: sequence of _____ that replace one another during succession
 - a. Succession happens in _____
8. Influenced by _____ factors: temperature, soil, climate, fires, disturbance events, etc.
9. _____ determines what types of plants are in a sere
10. A disturbance event is something that _____ succession
11. How can humans affect succession?

12. As plant community and food availability change, what else might change?

13. Different wildlife species have different _____ needs
14. *So, succession affects not only plant life but also _____ life and distribution!*

15. **Habitat:** resources needed by a wildlife species for _____ and _____

a. Resources: _____

16. Habitat needs are _____. Not all species require the same _____ in the same amount or distribution.

17. Habitat quality ranges from excellent to poor, depending on how well needs are met. If minimum needs of a species are not met in an area, that area will not provide habitat for that species.

a. Note: **Even though 2 species are found in the same ecoregion, they don't always have similar habitat needs!**

b. Habitat is not same as ecoregion or vegetation type

18. **Nonnative:** Not from here. _____ from other area

19. **Invasive:** spread very quickly, _____ to control

20. **Naturalized:** Able to maintain populations in the _____

21. **Nonnative invasives:** _____ available habitat for native species, often leading to population decline. Hard to control or eradicate.

22. Are all nonnative species bad? _____

23. **Focal species approach:** manage for one or two wildlife species

a. Increase cover, food, or water for selected species

b. Ex: Dove food plot

24. **Ecosystem approach:** manage for a healthy, functioning ecosystem, such as a tallgrass prairie ecosystem, and allow associated wildlife species to respond

25. Techniques that address the most lacking resource in ecosystem are preferred. Reduces limiting factors.

26. What is a **limiting factor**?

27. WMPs that benefit one group of species may be _____ to other

- a. Ex: Cut down hardwood trees to plant prairie

28. **Edge:** where 2 or more vegetation types or successional stages meet

- a. May be sudden (_____ edge) or gradual (_____ edge)

29. **Ecotone:** Area with characteristics of both vegetation types or successional stages

30. Increased edge= _____ vegetation types or successional stages

- a. May benefit species if both vegetation types are _____ and provide habitat requirement or if arrangement suits them.

31. May lead to greater biodiversity. *Why?*

32. May not benefit species. *Why?*

33. **Horizontal arrangement:** How different successional stages or vegetation types are located in relation to each other

- a. Some species have habitat needs met by only one type of vegetation or successional stages. Others require multiple vegetation types or successional stages.

34. For those that need multiple stages or vegetations types, proximity matters. Closer= better. *Why?*

35. **Interspersion:** how often different vegetation types occur

36. *Generally,* More interspersion= mixing of vegetation types= more wildlife variety

37. Vegetation types present and quality of food & cover matter more than amount of interspersion

- a. More interspersion= more edge

38. *Is interspersion beneficial? Why or why not?*

39. **Fragmentation:** disruption of vegetation types by man or by natural processes

40. **Area-sensitive species** need large, unfragmented area in a certain successional stage to provide habitat needs. Require unfragmented habitat of at least _____ acres; some need more.

41. Vegetation has _____

- a. Layer arrangement matters to wildlife. May forage in one layer, hide in another, nest in a third.
- b. Arrangement varies by site and may be changed through management techniques.
 - i. Ex: prescribed fire reduces understory in forest

42. **Carrying capacity:** number of animals that can exist in one _____

43. **Biological carrying capacity:** maximum number of animals within a species an area can support before that species or another species is _____ affected

44. Why is there a limit?

45. **Limiting factor:** resource in shortest supply. Determines _____

- a. Increasing LF increases _____.

46. What can influence limiting factors?

47. Does total population stay constant? _____

48. **Annual mortality:** rate at which animals _____ per year

- a. What things could cause mortality in white-tailed deer?
- b. Will annual mortality change year-to-year? _____

49. **Additive mortality:** as more mortality causes are added, survival decreases

- a. Example: Little rainfall= less ground cover & less food= fewer quail live through summer & fall= low bobwhite population entering winter (malnutrition, predation, heat stress) = winter storm kills off additional quail, causing lower survival

50. **Adaptive management:** adjust management practices as conditions change an additional info is available

51. **Home range:** area where animal lives. Size relates to habitat _____

52. **Seasonal home range:** area animal uses in particular season or year

53. **Migration:** seasonal movement. Animal moves from one seasonal home range to another.

54. **Corridors:** areas that allow animals to move around areas in their home range or during migrations. Size and vegetation in corridor needed varies by _____.

55. **Ecoregions:** areas with similar climate, vegetation, and wildlife. Divides land into areas based on the most common ecosystem in that region.

56. **Ecosystem:** the plant community along with the animal community together with soil, air, water, and sunlight

57. Wetlands & urban areas are found within all ecoregions

58. Ecoregion: _____

- a. Flat to rolling plains with cold winters & hot summers. 20- 40 inches average annual precipitation.
- b. Vegetation: tall grasses & forbs (wildflowers) with few shrubs & trees
- c. Contains large areas of cropland. Many areas grazed by livestock.
- d. Succession Stages:
 - i. Annual forbs and grasses
 - ii. Perennial grasses and forbs
 - iii. Woody species, such as juniper, osage orange, and elms. Shrubs and trees dominate riparian areas and other sufficiently moist areas that can support woody vegetation

59.Ecoregion: _____

- a. Rolling terrain. 35- 90 inches average annual precipitation
- b. Vegetation: deciduous trees
- c. Large areas cleared for crop area & livestock grazing
- d. Succession Stages:
 - i. Annual forbs such as common ragweed and grasses with a few perennial species
 - ii. Perennial grasses & forbs and brambles
 - iii. Young trees & shrubs
 - iv. Hardwood forest

60.Ecoregion: _____

- a. An area with many people
- b. Ecosystems may fragmented by roads and buildings
- c. Often dominated by nonnative invasive vegetation

61.Ecoregion: _____

- a. Bodies of water, and the transition areas between water and land
- b. Aquatic vegetation & trees
- c. Succession Stages:
 - i. Deep water with little vegetation
 - ii. Shallow water with lots of submerged and floating aquatic vegetation
 - iii. Very shallow water or wet ground dominated by emergent aquatic vegetation
 - iv. Ground becomes drier and dominated by upland vegetation similar to surrounding area