

The Fish and the Forest

As you read the article answer the following questions:

1. Why did fishery managers want to kill bears in Alaska?
2. What do bears do for forest ecosystems?
3. How much mass do the salmon gain while at sea?
4. What nutrients do salmon bring into stream and lake ecosystems?
5. Why might those minerals be important? (Think about what you know of macromolecules...)
6. How much total nitrogen was received by one stream in southeastern Alaska?
7. How much total phosphorus was received by this same stream?
8. What are two bear behaviors exhibited when eating salmon?
9. How much salmon did the 200 kg female bear catch?
10. How do these behaviors benefit forests?
11. Why are bears ecosystem engineers?
12. What are 10 species that use abandoned fish carcasses?
13. In Washington State, how many species eat salmon?
14. What percentage of nitrogen in streamside habitats is from salmon?
15. Which tree species particularly benefits from salmon?
16. Do nutrients move toward the ocean or away from it?
17. Why are salmon being dropped out of helicopters?
18. List 4 abiotic factors that help keep this ecosystem stable. List 4 biotic factors that help keep this ecosystem stable.
19. Draw a food chain from a salmon habitat, include at least 4 organisms. For inspiration see paragraph 2 (A creature...) on page 2.
20. Draw a food web out of the following: Sitka spruce trees, huckleberry, grass, deer, flies, beetles, wasps, birds, mice, eagles, bears, and salmon. Keep in mind that salmon do NOT eat in freshwater.
21. To an outsider, partially eaten fish left by bears seems like a waste of a good resource. Why is this not the case? Provide a quote from the text to support your answer.
22. What may happen to this ecosystem if bears had been removed, like the fishery managers proposed in the 1940s?