1. What is the function of the Center for Tropical Forest Science (CTFS)?

- CTFS manages long-term research projects in tropical forests.
- gather reliable data on every tree over their acreage

2. Why are the trees given the title of "engineers" of the tropical rain forest?

- Trees create microhabitats for smaller animals
- Affect light and moisture levels below the canopy
- influencing nutrient cycles especially through photosynthesis, respiration, nitrogen fixation
- "Engineer" the complex ecosystem

3. What is the Barrows Colorado Island (BCI Plot) CTFS project and what are some of the significant findings about diversity and abundance in ecosystems such as BCI?

- 50 acre plot in Panama that CTFS conducts research in
- Found that species with low pop density can still survive
- Trees are essential to high biodiversity
- Concrentration of trees is important

4. Why does a high density species suffer greater mortality rates than rare density species?

- negative density dependence
- when a species is more abundant in a given area - different kinds of pests, pathogens, and predators can specialize on that species and have higher catch rates. Easy prey

5. What is the focus of Robert Crabtree's research project in Yellowstone National Forest?

- predator-prey relationships (mainly wolves n deer) and the broader effects of top predator populations and how that trickles down the food web.

6. What were some of the Park's initial management strategies during the early 1900s to help preserve this national resource?

- Park management used to remove large predators like wolves and cougars to try to stimulate elk and deer populations. But these efforts disrupted the natural balance.

7. What was the cascade effect of the elimination of the Park's wolf population after 1926? Consider the following in your answer: willow, beaver, and elk populations.

- No wolves led to huge increase in elk population. Elks feed on willow, so the willow population plummeted. Beavers need willow to build dams, so beaver population also dropped. Lack of dams changed water habitats across the park.
- This shows the top-down ripple effect

8. Food chains and webs can be shaped from the "top down" or from the "bottom up." Which of these two categories best describes the wolf reintroduction project of 1995 and 1996?

- Top-down bc introducing top species (wolves)

9. What are the "hot spots"in Yellowstone and how are they important to the wolf reintroduction research project?

- Hot spots are areas of high ecological interaction
- Hot spots tend to center around wolf activity; their dens, hunting zones, etc
- These spots of high interaction are ideal for wolf reintrodcuton

10. What is meant by "escape height" and what additional parameters are used to measure the cascade effects of the wolf reintroduction process?

- Escape height is the height of the plants where it gets too tall for elks to graze on them
- Once willows reach this height, researchers found that rodents/insects populations start coming back