3.3 How Introduced Species Affect Ecosystems Notes

1. **What is a native species**
   Plants and animals that naturally inhabit an area.

2. **What is an introduced species?**
   Plants, animals, or micro-organisms that are transported, intentionally or by accident, into regions in which they did not exist previously.

3. **What is an invasive species?**
   Introduced organisms that can take over the habitats of native species or invade their bodies.

4. **Why are invasive species successful?**
   Invasive species are successful because of climate change and expansion of trade and travel, which can introduce them to a new environment, where they thrive.

5. **Describe competition.**
   A harmful interaction when organisms compete for food.

6. **Describe Predation.**
   When one organism hunts another organism. Introduced species can hunt native species.

7. **Describe disease and parasitism.**
   Parasites or disease causing viruses and bacteria, can weaken the immune responses of an ecosystem's native plants and animals, including humans.

8. **Describe habitat alteration**
   When an introduced species can make a natural habitat unsuitable for native species, by changing its structures or composition.

9. **Name 4 invasive species that live in BC and how they got here.**
   a) Eurasian Milfoil: Believed to have been introduced to North America in 1800s and then in the 1970s to Okanogan Lake in BC
   b) Norway Rat: Believed to be introduced as stowaways on fur trading ships
   c) American Bullfrog: Frog legs restaurants failed therefore released frogs into the wild in the 1970s
   d) European Starling: 50 breeding pairs were brought to North America in the late 1800s

10. Why is each one of the invasive species mentioned in question 9 problematic?

   a) Eurasian Milfoil: This is problematic because it cuts off sunlight to the organisms below it.
   b) Norway Rats: They are problematic as they reproduce quickly and they eat puffin eggs. Additionally, they eat just about anything.
   c) American Bullfrog: They are problematic as they can grow as big as dinner plates. They attack/eat/devour ducks and small animals.
   d) European Starling: Fast growing species that exploits many types of nesting sites, as well as types of food in a wide variety of ecosystems.

11. How can we eliminate each one of the invasive species mentioned in question 9?

   a) Eurasion Milfoil: It can be eliminated by rototilling to cut out roots from lake bottoms. A native weevil is also an effective controller.
   b) Norway Rats: Efforts to control rat populations involves using poison in affected areas.
   c) American Bullfrog: Removed as quickly as possible from an area by removing the mature frogs and their tadpoles.
   d) European Starling: Controlled by introducing barn owls.

12. How can humans protect ecosystems?

   For example, the GOERT (Garry Oak Ecosystems Recovery Team) has strategies to remove invasive species by holding local weed pulls, and removing invasive shrubs, such as Scottish broom.

13. Why are Garry oaks in danger?

   Because of introduced invasive species, such as Scottish broom, that interferes with growth of the native Garry oaks species.