**Keystone Species Notes**

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| **Screen shot 2014-03-16 at 1.44.39 PM.png** | **What is a Keystone?**   * The term “keystone” derives from architecture. * The keystone in an arch is the stone at the top of the **arch**, which **holds** the rest of the stones in **place** and allows the arch to bear weight.   *Q: What would happen if you removed the keystone?* | |
|  | **Keystone Species Definition:**  1) A keystone species is a species whose impact on its community or ecosystem are larger and **greater** than would be expected from its relative **abundance** or total **biomass** in the environment.  2) Keystone species play the same role in many ecological communities by maintaining the **structure** and **integrity** of the community. | |
| **food web.jpg** | | **Keystone Species: Sea Otter**  Food Web Overview:  1.Sea Otters eat urchins  2.Urchins eat Kelp  Q: What happens when Sea Otters Decline?  Keystone Engineers |
| **Types of Keystone Species**   1. **Predator**: Control populations of Prey    1. **EX**: 2. **Prey**: Provide important food source    1. **EX**: 3. **Modifier/Engineer:** Change the environment around them.    1. **EX**: 4. **Mutualist:** Mutually beneficial interactions – AKA link species    1. **EX**: 5. **Host:**  Provide home and protection for a disproportionate number of species.    1. **EX**: | | |

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|  | **The prairie dog serves as a keystone engineer.**   * By digging burrows, the prairie dog creates homes for other animals, including burrowing owls, rabbits, snakes, and insects. * In addition, by churning the soil:   + Mix **nutrients**   + Allow **water** to penetrate **deeper**   + Help the prairie sustain more **plant** life   + Increasing the overall **primary productivity** of the community. |
| **Q: What 2 roles do prairie dogs perform as keystone engineers?** | |
| **Q: How are prairie dogs like upwelling?** | |
|  | **Indicator Species**   * A species whose presence, absence, or relative well-being in a given environment is **indicative of the health of its ecosystem** as a whole. * **Basically**: *A Species that tells people what is going on in an ecosystem* |
| Overview of Keystone Species | |