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Physics

Environmental Paper

**1.**

Climax Community describes the idea that “a biological community of plants, animals, and fungi which, through the process of ecological succession can reach a steady state”. (Climax) In essence this would mean that a certain piece of nature can reach a self-sustaining state which would be the climax of that habitat. Noxious weeds or in other words invasive plants are a scourge for most of the entire world. They are a danger because they take over habitats and destroy the local flora and sometimes fauna. The invasive plants of Washington State that I have noticed are few but one that I believe I have identified is called Quackgrass or *Elymus repens* a plant native to Europe that, like most invasive plants, crowds out the native flora. (Invasive) Habitat Restoration refers to projects meant to replenish and ecosystems natural resources following some type of severe damage. (What) As far as I saw and know there is no man made restoration project going on in the burned area but there certainly is an obvious natural recovery going on because native flora seem to be coming back in droves and the local fauna are trickling back too, especially the birds.

**2.**

In the fall of 2012 there began a fire behind the main high school building of North Mason School District. The fire, which lasted for a few days, had burned through a large part of the trails that wind through the plot of land that North Mason owns destroying mainly the habitat in which the fauna lived. However I believe that the fire did more good than bad because along with some of the native plants it destroyed it demolished many invasive species which had become dominant before the fire. With the lack of invasive species the native flora that resided just outside the burn zone have been steadily coming in and repairing the land at a healthy yet fast rate. There is little we have to do to repair the environment inside the burn zone except keep the invasive species around the campus out, plant some missing flora in order, and, to prevent the regrowth of invasive species, uproot the previously burned invasive species such as scotch broom.

**3.**

My sit spot is fairly close to the beginning of the trail where some of the life can reach into the zone so I could see how quick life could infiltrate a devastated region. This sit spot is at Latitude: 47.41265 and Longitude: -122.83817. How I collected the data was fairly simple, most of the data was collected by listening to the fauna, typically birds. I also collected data by exploring the area I had chosen which turned out to be helpful in finding flora and fauna that would otherwise not be observed. All of this data was collected from the sit spot almost every week for about 30 minutes. The type of GIS used was ArcGIS, a mapping system which shows our sit spots compared to everyone else collecting data at the time.

**4.**

There were a total of 21 flora and 155 fauna observed in the burned area. The different flora observed were strawberries, green grass, ferns, and lichen. The numerous fauna observed are Crows, Swallows (all types), Bees, Doves, Spiders, Snakes, Finches, Owls, Woodpeckers, Fly’s, Robins, Hummingbirds, Juncos, Sparrows, Heron, and Deer. In essence all of this would describe an environment that has been damaged but is quickly recuperating and diversifying. There were vast differences in the sit spots as in the flora and fauna observed with more fauna observation deeper into the burn zone but the flora was observed more in the beginning of the burn zone which I suppose is expected as evasive fauna would try to stay as far away from the school as it could.

**5.**

**“**Environmental Restoration is the deliberate attempt to speed recovery of damaged areas”. (Environmental) The goals that we need to apply to the burned area are revegetation and remediation. (Vaughn) The burned area is or at least was a coastal forest. (Twelve) The typical ways to repair this type of environment are through chemical and mechanical means by applying some kind of weed killer to invasive species and also physical pulling their roots out. For the standing trees in the burned area that are blackened and covered in soot we should wash off what we can and girdle some of the trees so that way the birds there may use the cavity as a nesting place. By taking out the invasive plants the native species will be given a fighting chance to dominate the area and by creating a better habitat for the local fauna by girdling the trees and removing the invasive species. All of these things will at least help the habitat grow back to full health.

**6.**

This project proved to be challenging and looking for restoration types was a little hard. Back in the fall of 2012 a large portion of the forested area behind North Mason burned. The school has taken little action in restoring the habitat as it is right now. Yet with all that there is few things we would need to do because the native species are quickly coming back into the environment. The only things we really need to do is remove any surviving invasive plant species and repair the habitat to create safe nesting areas for the local fauna.

Works Cited

"Climax community - Wikipedia, the free encyclopedia." *Wikipedia, the free encyclopedia*. N.p., 27 May 2013. Web. 31 May 2013. <http://en.wikipedia.org/wiki/Climax\_community>.

"Environmental Restoration." *Welcome to Ecocomposite* . N.p., 25 Aug. 2003. Web. 3 June 2013. <http://www.ecocomposite.org/restoration/>.

"Invasive Species: Plants - Quackgrass (Elymus repens)." *National Invasive Species Information Center*. N.p., 2 May 2013. Web. 31 May 2013. <http://www.invasivespeciesinfo.gov/plants/quackgrass.shtml>.

"Twelve Priority Habitat Types Â« Long Island Sound Study." *Long Island Sound Study*. N.p., 1 Jan. 2013. Web. 4 June 2013. <http://longislandsoundstudy.net/issues-actions/habitat-quality/the-12-types-of-habitats/>.

VaughnÂ (, Â K. J.. "Restoration Ecology | Learn Science at Scitable." *Nature Publishing Group : science journals, jobs, and information*. N.p., 1 Jan. 2013. Web. 3 June 2013. <http://www.nature.com/scitable/knowledge/library/restoration-ecology-13339059>.

"What Are the Different Types of Habitat Restoration?." *wiseGEEK: clear answers for common questions*. N.p., 1 Jan. 2013. Web. 31 May 2013. <http://www.wisegeek.com/what-are-the-different-types-of-habitat-restoration.htm>.