

ENVIRONMENTAL SCIENCE 225
FINAL PROJECT

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ENVIRONMENTAL SCIENCE 225
INSTRUCTOR: DAN CURTIS
September 30, 2010

Benchmark Assignment Part I
Natural Environment Observation

Benchmark Assignment Part II
Personal Waste Generation, Measurement and Assessment

Benchmark Assignment Part III
Personal Eco-footprint Calculation

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PROJECT I, II, III INTRODUCTION

Project I: Natural Environment Observation

This project involved spending a minimum of 2 hours in a natural environment observing nature, from the tree and plant life, to the animals and all that inhabited that environment. I was in the midst of a regional park and spend time sitting and walking while observing the natural life within that park. I documented all observations describing the plant life, trees, animals, natural habitat and the interactions of my presence there taking special notice of how the animals reacted when they heard my footsteps as I walked through the forest. Charts were created to document the natural habitat along with any special identification and interactions that took place between me and the forest animals.

The beauty, calmness, and innocence of the deer and her baby doe I encountered as they slowly and gracefully walked from the grassy field into a pathway back into the forest are the special memories of that observation I will always remember. Taking the time to be a still presence in the forest was educational; once the animals knew I was not a threat, they eventually calmed down and went back to their normal activities. This experience revealed that our forests are a unique environment to be taken care of with the utmost respect and dignity.

Project II: Personal Waste Generation, Measurement and Assessment

Measuring the personal waste generation from my household was not one of my favorite experiences but it was enlightening. This project involved taking a weekly assessment and measurement of the garbage, waste, and recycling for a one month duration. Each week had a different assessment for measuring garbage, recyclable materials, reusable items and compostable items. Each week was documented by the waste category and assessing the amount of each category.

After assessing the waste generated from my household for one month, this project revealed that overall my household was doing a good job of recycling and minimizing waste along with identifying the areas of improvement that will be made in the future to minimize the waste that my household generates.

Project III: Personal Eco-Footprint Calculation

Measuring my eco-footprint was an interesting development of my awareness of the impact I make upon this earth and its natural resources. When I first began this project, I really did not fully understand what an eco-footprint calculation was or what this calculation represented. To find out what my individual eco-footprint is, I logged onto several websites that stepped me through and evaluated my current lifestyle regarding the foods I eat, the items I purchase, waste produced, and the resources I potentially use.

The website took all of the data I had selected and created a chart of how many acres that I would use to sustain my lifestyle and personal behaviors. The development of the eco-footprint calculations are documented in a chart that shows how many acres I have used to date, how many acres I would use if I lived to be 80 years old and how it would impact the total available farm acres that are currently utilized on the earth right now.

This report outlines the journey of each of these projects in detail and the lessons learned from each project. I didn't realize how valuable this information is and that I am more aware of the natural resources on this earth, how my individual choices currently effect it and how my future choices will potentially affect these resources.

SUMMARY

Throughout all three projects, there were many observations that I made that have either been an eye-opening experience or a realization that the consumer choices I make, really do make a physical impact on this earth and its resources.

In the first project of waste assessment, I was made aware that if the food I have purchase or prepared is not consumed in a timely fashion, then I create food waste. The food waste that is now in my garbage is a wasted resource that if continued on a regular basis, could equal wasted acreage. The consumer choices regarding the purchases I make also impacts the earth when it comes to the waste I generate and the non-renewable products I purchase and then discard once those items are broken or no longer function. I never really considered thinking about where some of those non-renewable items go when they are placed in the trash. Where do those items go? Do they get recycled or are then just randomly placed into the overall landfill with the rest of the garbage? I take those items into consideration now and will definitely think through all of my consumer choices regarding my purchases.

Nature in its purest form is like a taste of heaven. It's bliss and a sanctuary of its own. In my second project I spend two hours in a local national forest just observing and listening. Spending time in nature just observing that eco-system changes your senses. You become keener to the

sounds of the animals, the snaps of the twigs in the forest growth of unseen critters as they scamper away from you and the rich contrasting colors of the lush natural growth of the forest environment. At the end of the two hours in the forest, I seemed to be more at peace, calm and very reflective of the natural beauty that we have on this earth and in our neighborhoods. We as humans who enjoy the nature of the forest need to take good care of that habitat as well as to inform and guide those around us to do the same. Some of the natural resources within that natural environment are one-of-a-kind species that need to be protected and defended so the next generation can enjoy them as we have.

When I started Project III assessing my eco-footprint, I kept asking. What does that really mean, what impact does one person have on the earth. I was very naive, but more than that, uneducated. Once the research began, an eco-footprint left by one human or one animal can make a lasting change for the worse or for the better. After taking an eco-footprint analysis of my current lifestyle, it was really amazing to see the results. An eco-footprint considers the food that is needed over an estimated lifespan, the needed resources for shelter, the family life, purchases that will be made, and the potential waste (recyclable, renewable and/or non-renewable) that my household will produce. All of us as consumers need to really be aware of the food we utilize or waste, the types of cleaners we purchase, the personal toiletry items that are friendly to the

environment, and be thoughtful of all purchases, large or small, considering what will happen to that item when I am done with it. This project has changed the way I look at my purchases and anyone who is shopping with me gets a little more educated along the way as I share what I have learned about how important it is to leave a positive footprint and how it impacts our earth.

Our eco-footprint can be a positive footprint or a negative footprint. I have chosen to make some changes with my current lifestyle to minimize the negative impact on the earth and by giving back to the earth to enhance leaving a positive footprint. Some of the short term plans I have implemented or will be incorporating are:

- Discuss with my sphere of influence what an eco-footprint is
- Read the labels of cleaning products
- Minimize food waste and plan to shop smarter
- Removing harsh chemicals from my household
- Purchasing earth friendly products
- Plan and prepare for the products I do purchase
- Purchase from farmers markets and local farms
- Go to a local garden or farm area and give back to the earth
- Plant trees each year with the City of Gresham
- Volunteer at local area forests
- Research more ways to leave a positive footprint
- Clean up the garbage within my own neighborhood
- There are so many things to choose from, one step at a time

What I have learned through all three of these projects is insurmountable. The one thing that will remain with me is that one person can make a difference, a positive difference with one small change. By sharing with everyone why those changes are important to the sustainability of our earth and its resources for living an enjoyable, earth friendly and healthy lifestyle.

GLOSSARY

Acres: A common variable unit of land measure, now equal in the U.S. and Great Britain to 43,560 square feet or 1/640 square miles (4047 square meters).

Assessment: The act of assessing, appraisal, evaluation.

Biosphere: The ecosystem comprising the entire earth and the living organisms that inhabit it.

Composting/compostable: The process of harnessing the natural process of decomposition to transform organic materials into compost, a humuslike material with many environmental benefits.

Consumption: The act of consuming, as by use, decay, or destruction, the amount consumed, or using up of goods and services having an exchangeable value.

Eco Footprint: A comprehensive indicator of sustainability indicator that gauges consumption to the Earth's carrying capacity, evaluating current consumption and earth's resources for long term effects..

Ecosystem: A group of interacting species along with their physical environment.

Environment: Everything that affects an organism during its lifetime.

Garbage: Discarded animal and vegetable matter, as from a kitchen; refuse, any matter that is no longer wanted or needed; trash.

Generation: The entire body of individuals born and living at about the same time, a group of individuals, most of whom are the same approximate age, having similar ideas, problems, attitudes, etc.

Global acres: acres that have been adjusted according to world average biomass productivity to be compared across regions— are used to generate our ecological footprint on the planet. They are determined and compared after computing our ecological footprint in relation to the world's biocapacity. Each global acre corresponds to one acre of biologically productive space with world average productivity. To determine the world's biocapacity, the amount of water, food, fiber, timber, and carbon sequestration provided by the Earth in a single year is measured and converted to a land area in global acres. To determine our ecological footprint, how much water, food, fiber, and timber we consume plus how much carbon we emit is measured and compared to the first number. These results are then converted to a land

area in global acres. When the two are compared, our ecological footprint emerges.

Hectares: A hectare is a unit of surface, or land, measure equal to 100 acres, or 10,000 square meters: equivalent to 2.471 acres

Invasive: Characterized by or involving invasion, invading, or tending to invade, intrusive.

Matter: Substance with measurable mass and volume.

Measurement: the act of measuring, a measured dimension, extent, size, etc. ascertained by measuring.

Native: Being in place or environment in which a person was born or a thing came into being; of indigenous origin, growth, or production, of, pertaining to or characteristic of the indigenous inhabitants of a place or country.

Nature: The material world, as surrounding humankind and existing independently of human activities. The natural world as it exists without human beings or civilization. The elements of the natural world, as mountains, trees, animals, or rivers.

Non-renewable resources: Those resources that are not replace by natural processes, or those whose rate of replacement is so slow as to be non-effective.

Recycling/recyclables: The process of reclaiming a resource and reusing it for another or the same structure on purpose.

Refuse: Something that is discarded as worthless or useless, rubbish, trash, garbage.

Renewable Resources: These resources that can be formed or regenerated by natural processes.

Species: A group of organisms that can interbreed and produce offspring capable of reproduction.

Waste: Useless consumption or expenditure, gradual destruction, impairment or decay, garbage, refuse.

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