



***NWF Campus Ecology Proposal
at the University of Puerto Rico, Mayagüez:
...Making our Logo really Green!***

October , 2008

Title: “Ride-a-Bike and the 7 Green Resolutions”

Summary:

Our proposal to the National Wildlife Federation Campus Ecology Fellows intends to design activities revolving around each of seven Green Resolutions in order to support UPRM Campus Verde’s goals. These resolutions focus on Recycling, Energy, Transportation, Nature, Infrastructure, Water, Education and Outreach. This means that our campus commits to reduce its ecological footprint. I will serve as the leader to a group of committed graduate and undergraduate students that will constitute sub-committees for each area.

Purpose:

The University of Puerto Rico at Mayagüez (UPRM) is a Land Grant, Sea Grant, and Space Grant University founded in 1911. Its student body is about 13,000 students distributed among the colleges of Arts and Sciences, Agricultural Sciences, Business Administration, and Engineering. Of these, about 4,600 are enrolled in Engineering (Chemical, Civil, Industrial, Mechanical, Electrical, and Computer. UPRM is one of the largest and very few Hispanic engineering schools in the United States. The student population consist of 99.9% Hispanics, US citizens. In December 1997, the Chancellor of the University of Puerto Rico at Mayagüez (UPRM), Dr. Jorge I. Vélez-Arocho, endorsed a set of new “green” resolutions as a starting point to becoming a sustainable campus and approved the creation of the Campus Verde (in English: Green Campus) initiative. Campus Verde [<http://campusverde.uprm.edu>] is a new initiative at UPRM that coordinates efforts to create awareness about the importance of living in harmony with our environment in a sustainable way.



How we plan to support each of these 7 Green Resolutions

1. Greening Transportation

Ride a Bike! is the name of the campaign that we will focus on under the transportation resolution. We will promote the use of bicycles on and off campus. An overwhelming majority of the students who attend the university live off-campus, but very close to the university, yet most use cars to come to campus. This measure would reduce campus traffic, gas emissions and decrease air pollution. It will improve the quality of life and health of students. By riding bikes as opposed to walking, criminality will also decrease. Fundraising ideas for this resolution include raffling bicycles, selling t-shirts with “Ride a Bike!” slogans and bicycle repair.

Short Term Goals

- Organize workshops to educate cyclists and drivers
- Bicycle marathon
- Promote the use of bicycles by university security officials
- Request more bike racks throughout the university

Long Term Goals

- Create a program for bike rentals
- Create bicycle-friendly lanes and routes

2. Reduce, Reuse and Recycle

As part of our proposal we will concentrate in reducing the amount of paper towels used throughout the university. Instead of using paper towels for drying hands, we will work towards the installation of hand dryers. We will begin by implementing this project in the Student Center, where the largest majority of students and staff traverse. In addition we want to stress the importance of recycling and make a campaign so that we can increase the amount of recycled materials.

Short Term Goals

- Change from paper towels to hand dryers in one highly transited building
- Promote the correct way of recycling materials and ask the administration to provide more and larger recycling stations on highly transited areas.

Long Term Goals

- Implement hand dryers in all of the building bathrooms on the campus
- Increase recycled materials from 28% to at least 50% by the end of the year.

3. Energy Conservation and Efficiency

Campus Verde Students is working with the administration in the hopes of obtaining a billboard that will assist in the process of promoting various campaigns throughout the school year. UPRM Unplugged is the first one. We will encourage students to use multi-plugs and to remember to unplug any unused electrical appliances, such as cell phone and laptop battery chargers. We will educate them about phantom loads and how these small adjustments in their everyday lives will not only benefit the environment, but also their pocket. Under this resolution we will also propose the idea of changing the building lighting to Compact Fluorescent Lighting (CFL) and/or Light Emitting Diodes (LED) together with IR/acoustic dual sensor lighting in the hallways for nights, when a minimum number of students are present. UPRM currently pays around \$1 million dollars a month in electricity due to the high cost of electricity in Puerto Rico, the inefficient electrical system, and to phantom loads. We will carry on an aggressive campaign to kill phantom electric loads which account for 5-23% in the U.S. We will also meet with the administration to see how we can improve our energy efficiency and conservation.

Short Term Goals

- Obtain billboard in a frequently transited area of campus
- Fundraising activities to obtain money for paints and supplies to paint billboard
- Meet with the administration to propose new lighting installations
- Start kill-an-electric phantom Campaign among students and employees

Long Term Goals

- Continue promoting various campaigns as needed.
- Reduce the electricity bill of UPRM by 10% in a year

4. Nature (Trees and Beaches)

Under this resolution, we plan to plant 100+ trees throughout the campus, including tropical fruit trees to attract and provide food and shelter for several species of birds. The trees will also provide shade for the students and keep buildings cooler. We will also plant trees along the campus riverbed in order to avoid the erosion currently occurring. Most of the trees will be donated by the Department of Natural Resources and Environment and by UPRM campus nursery. Planting supplies will be borrowed at UPRM agricultural department. In addition, we are in the process of adopting a beach called Playa Sucia, [translated Dirty Beach], about an hour away from campus. We will commit to have bi-monthly beach clean ups and provide recycling bins throughout the beach. The recovered garbage will also be properly disposed of. The cleaning supplies will be donated by a federal agency, which has already offered to assist us in our efforts.

Short Term Results

- Educate the campus community about the importance of the environment
- Make the campus more aesthetically pleasing
- Prevent trash from entering the ocean, thus reducing deaths of sea animals

Long Term Results

- Reduce energy consumption used for cooling classrooms and offices using tree shades.
- Prevent erosion in the riverbed
- Make beach cleanups a university tradition

5. Purchasing recommendations (No Styrofoam and more)

One of our main initiatives is transforming every day practices into eco-friendly ones. Since we have observed several behaviors that contribute, to a great extent, to the detriment of our environment, we have developed several ideas to counterattack these conducts. We will meet with the school food service company to submit a list of suggestions such as: using local food, organic food alternatives, ban Styrofoam, promote recycling, buy reusable dinnerware and encourage students to bring their own cups. We will establish a campaign to reduce the use of plastic bags in the bookstore along with recommending the use of reusable fabric. Those students that commit to using recyclable bags will be given one in order to do their food shopping and any other activity that will decrease a use of plastic bags.

Short Term Results

- Establish meetings with the bookstore and cafeteria administration
- Educate students and faculty about the importance of using re-usable bags instead of plastic bags

Long Term Results

- Eliminate the use of Styrofoam in the cafeteria
- Have the cafeteria commit to buying more local products
- Reduce the use of non-recyclable bags in the bookstore by 50% by the beginning of next semester
- Give out approximately 1,000 re-usable bags.

6. Education and Outreach

Organize a 2-day Global Warming Solutions Symposium during the spring semester, in which 10-20 professionals will offer conferences about a wide range of subjects including Composting, Climate Change, Energy Efficiency Measurement, Methane Sequestration at Landfills, Recycling, Biodiversity, Organic Farming, among others. UPR-Mayagüez campus will invite all other 10 UPR campuses from all over the island along with high schools and the general community. It will also be announced via radio. We will continue promoting the training given once a semester for students where they learn about Global Warming and its Solutions. After the training the students are tested and, if they pass, they are given a certificate that certifies them to give conferences. They can, in turn, visit K-12 schools, civic centers, churches, etc. By doing this we are spreading the education at a very large rate.

Short Term Goals

- Begin inviting professionals to offer conference in symposium
- Provide training and records of students who give conferences throughout the island

Long Term Goals

- Continue organizing symposium yearly, if not twice a year
- Continue offering training for students

7. Water Conservation

In an effort to reduce our human footprint we will promote water conservation in all our activities. We will include water-saving awareness within the Education and Outreach campaigns.

Participation and Support:

In this project will be involved the entire on-campus community including faculty, staff, administrators, but mainly students from different disciplines. Also, we will invite the off-campus community including K-12, as explained above. This project will become a lasting part of our campus since we already founded a Campus Verde Student Association which collaborates with UPRM Campus Verde and all student associations at UPRM to coordinate all 'green' activities coherently.

Nomination Process:

The nomination process was made at one of the meetings called by Campus Verde. The contact is Dr. Sandra Cruz-Pol (Advisor). She called for a meeting to all students who wanted to participate and they all chose me to participate as the leading person, and helped me develop this proposal through out several meetings.

Education and Documentation:

This section is address in point 6 above.

Timeline:

| ACTIVITY | Nov 08 | Dec 08 | Jan 09 | Feb 09 | Mar 09 | Apr 09 | May 09 | Jun 09 | Jul 09 | Ago 09 | Sep 09 | Oct 09 | Nov 08 |
|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Meetings | [Green shaded] | | | | | | | | | | | | |
| Write articles | | | | | | [Green shaded] | | | | | | [Green shaded] | |
| Order bike racks and set-up | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | | | | | | | |
| Organize Symposium | | | [Green shaded] | [Green shaded] | [Green shaded] | | | | | | | | |
| Planting trees (rainy season) | | | | | | | | | | | [Green shaded] | [Green shaded] | |
| Ride-a-bike! Marathon | | | | | | | [Green shaded] | [Green shaded] | | | | | |
| Recycling Campaign | | | | [Green shaded] | [Green shaded] | | | | | | | | |
| Billboard Painting | | | | [Green shaded] | [Green shaded] | [Green shaded] | | | | | | | |
| Outreach Activities | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | |
| CFL lights give-away to students | | | | | | | | | | | [Green shaded] | [Green shaded] | [Green shaded] |
| Re-use a bag give away | | | | [Green shaded] | [Green shaded] | | | | | | | | |
| Send report to NWF (bi-monthly) | | [Green shaded] | | [Green shaded] | | [Green shaded] | | | | [Green shaded] | | [Green shaded] | |
| Assessment of activities | | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] | [Green shaded] |

Evaluation:

The projects will be evaluated in different ways: the % increase in recycled materials, the % decrease of electricity bill (we have the contacts at UPRM to find this information), the evaluation survey after the seminars, conference and talks, we will use CPS system for assessment whenever possible (Dr. Cruz Pol will lend this system to us). In addition we will report on results on whether the Cafeteria avoided the use of Styrofoam, plastic bags, the incorporation of recycling bins on the Cafeteria, the number of trees planted, the number of visits to the beach and the pounds of trash removed each time, and the number of people attending each activity, seminar, bike marathon, etc.

Grad Student Leader: Axel Omar Ramírez-Madera

Undergrad Student Leader: Marinés Montes

Advisor: Prof. Sandra Cruz-Pol, PhD., Coordinator for Campus Verde initiative and professor in Electrical Engineering department

Verifier: Mr. Roberto Torres, Coordinator of the Recycling Program at UPRM and a Chemist.

Grant Processor: Prof. Yuri Rojas, Director of UPRM R&D Center