



Campus Verde Report 2012

This report includes the activities by the Campus Verde Initiative, which is constituted mainly by students guided by faculty and personnel from UPRM.



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GREEN Adventures | Student Activities & Leadership Development

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Campus Verde is now offering outdoor activities with the main goal to have students visit places of interest in Puerto Rico so that they can increase their appreciation of our beautiful island and the need for conservation practices. The students can select among a variety of activities, including kayaking, snorkeling, hiking, and cycling. Dallas Alston and Jorge Bencosme will coordinate these activities and there will be other leaders for some of the excursions.

Kayaking will primarily take place in La Parguera; the other activities may occur at other locations such as beaches, parks and rivers. For each activity, safety is a primary concern, so there will be no leeway for required equipment for some activities. For instance, helmets must be worn during cycling and life jackets must be worn during kayaking. The leaders will also be giving safety tips during the outings. Clothing requirements will vary, but in general we recommend that you protect yourself with clothing or sun screen during sunny activities. Long pants are recommended for hiking.

Important: We will try to point out activities which are strenuous. In any case, you will be getting a lot of exercise, so you should be in reasonably good condition to attend any of the trips.



Presented by Dr. Sandra Cruz-Pol,
Campus Verde Coordinator.
2012

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Campus Verde (CV or in English “Green Campus”) is an initiative founded in the fall of 2007 at University of Puerto Rico – Mayagüez Campus. It’s coordinated by Dr. Sandra Cruz-Pol with participation from students, faculty and campus personnel who strive to raise awareness of the prevailing importance of living in harmony with the planet in order to reduce our impact to the ecosystem and reduce global warming emission and climate change. CV coordinates activities and efforts directed toward education and the implementation of projects in eco-friendly and sustainable issues. We work with collaboration with various student organizations, campus departments and offices. (Campus Verde also has its own student organization called Campus Verde Students). We provide annual training to dozens of students/faculty, so they can continue to offer lectures and workshops to the community both here or wherever they go to work. Thus we reach thousands of people annually all over the island and beyond, including people from Colombia, Argentina and Mexico who have indicated that we use our resources downloadable freely from our web.

Examples of our education and outreach activities are annual Symposia with experts from multiple disciplines such as renewable energy, organic farming, biofuels, remote sensing of the atmosphere, e-waste, green transportation, political aspects of climate change, green architecture, green economics, among others. In addition we organize information booths at fairs, climate change forums, eco-films, eco-fair, educational campaigns, and parades during Earth week. We use online surveys, and pre/post-tests to assess impact of our activities. We also provide presentations to schools and conventions all over the island, reaching over 5,000 people per year through conferences and visits. See more information and photos in our annual report.

http://campusverde.uprm.edu/CampusVerde_Reporte.pdf

In addition we organized activities such as tree planting, beach cleanups, eco-eating fairs, recycling day, waterfalls cleanups, and bicycle marathons, among others.

In terms of implementation, we meet regularly with the administration to introduce eco-friendly alternative transportation, energy conservation and efficiency measures, etc. which result in substantial cost savings and lower emissions of greenhouse gases and toxic to the environment. In terms of prevention, we have an eco- health and numerous activities to raise awareness about the positive impact of a healthy diet, not smoking, use of bicycles, use of ecofriendly cleaning products and personal care products, and how all also benefits the planet. We develop and provide free materials online such as posters, fact sheets and presentations. <http://campusverde.uprm.edu>

I. Mission Statement

Campus Verde strives to integrate environmental knowledge into all relevant disciplines; improve environmental studies course offerings; provide opportunities for students to study campus and local environmental problems; conduct environmental audits of its practices; promote environmentally responsible purchasing policies; reduce campus waste; maximize energy efficiency; make environmental sustainability a top priority in land-use, transportation, and building planning; establish a student environmental center; and support students who seek environmentally responsible careers.

II. Campus Verde Structure

Campus Verde was moved from being under the Chancellors office to the Research And Development Center (CID by its Spanish acronym).

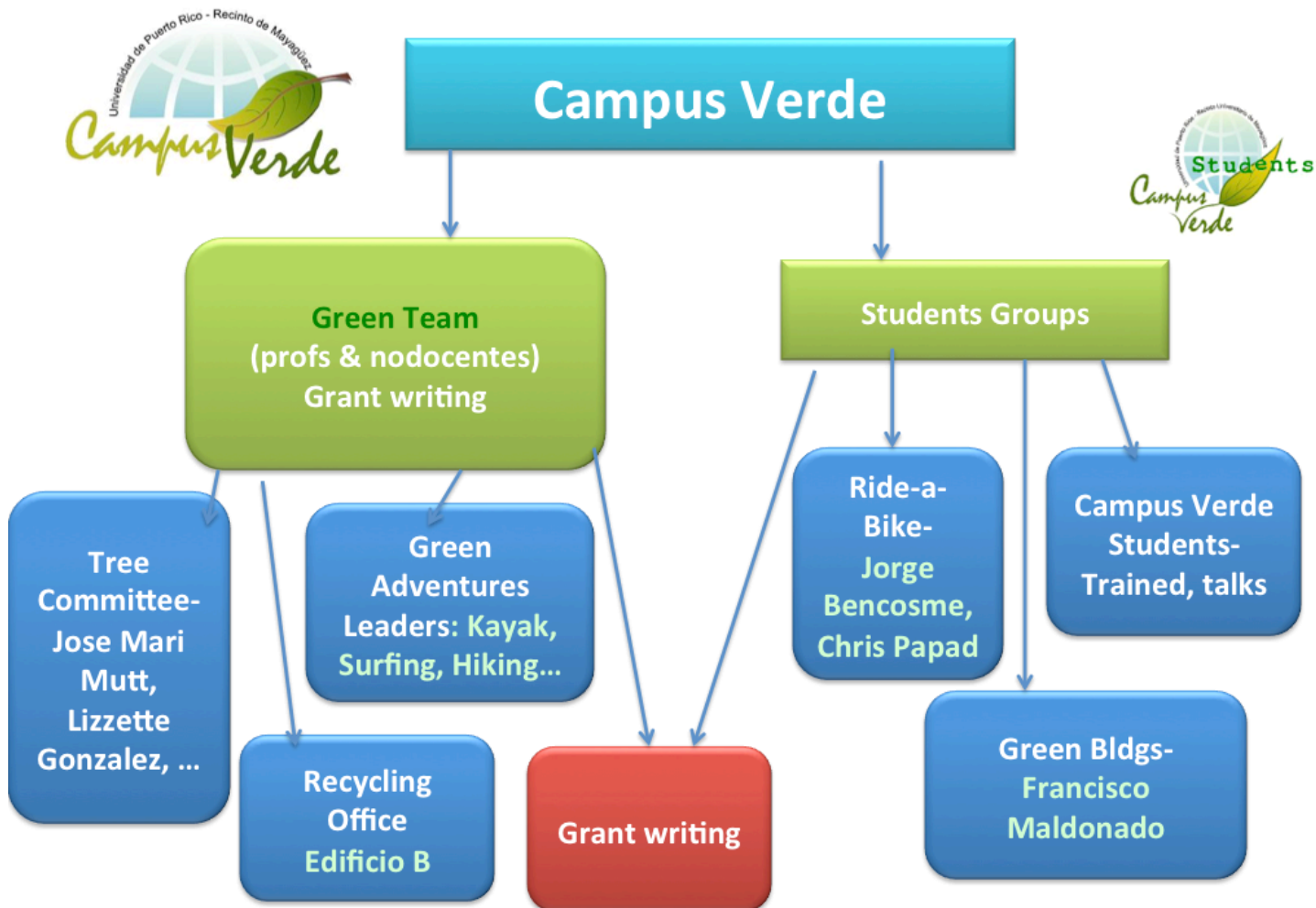


Fig. 1. Campus Verde structure: Green team is composed of UPRM personnel while Students Groups is composed mainly by students with personnel/faculty advisors.

III. Green Adventures

During this past academic year, Campus Verde grew impressively, thanks in great part by the addition of Dr. Dallas Alston as the Co-Director of the initiative. Dr. Alston is a professor of marine sciences and brought many ideas to the program such as the creation (By UPRM Computer Information Technology (CTI) personnel Efrain Morales) of a Green Adventures website. This new web (<http://www.uprm.edu/eventosverdes>) allowed the posting of all green activities of CV including new kayak trips (where Dr. Alston was the leader), biking trips (leader and CV Co-director Jorge Bencosme), and many others.



Fig. 2. New Green Adventures webpage designed by Efrain Morales and Dr. Dallas Alston can be found by clicking Próximos Eventos on Campus Verde web (<http://campusverde.uprm.edu>), by clicking Green Adventures from the main UPRM portal (<http://uprm.edu>) or directly at <http://www.uprm.edu/eventosverdes>.

Dallas also recruited many people to serve as leaders of these green trips whose main purpose was to give the student an opportunity to appreciate nature. Most activities on this new page were free but some asked for a small (non reimbursable) donation which went directly to CV account and serve to pay for new equipment or replacement of lost or old equipment, materials, snacks for some activities and the like.

New Green Adventures!

Nature Adventure Leaders

Hiking	Kayaking	Cycling	Caves Security	Recycling	Surfing
Carlos García José Pepe Figueroa Rufino Rosa Dallas Alston	Jessica Chappell Steve Tamar Rufino Rosa Rolf-martin Vieten Ricardo Liquet Herbert Forestier Rodney Sanchez Nilton Núñez Dallas Alston	Jorge Bencosme Dallas Alston	Tim Rothwell Dallas Alston José Santiago Evelyn Nieves, Carlos Cruz, Talia Cruz	Bill Birdsall Nelky Valentín*	Miguel Canals

Fig. 3 Leaders for the several types of new Green Adventure trips offered by Campus Verde through our new web Eventos Verdes.


IV. New Green Team

In addition, CV constituted a Green Team with expertise in several areas related to sustainability, including UPRM personnel and faculty with expertise in renewable energy, organic agriculture, etymology and organic pesticides, green chemistry, climate change outreach, organic apiculture, biodiversity, and sustainable construction, among others. A very prestigious green architect join the Green Team as collaborator from outside of UPRM, i.e. Dr. Fernando Abruña, who was previously president of (US Green Building Council) USGBC Caribbean Chapter and professor at UPR-RP.

Our intention is to leverage on the human resources already found within UPRM by asking each Green Team member to organize 1 or 2 activities per year within their field that can benefit our academic community and even our general community since some of our activities are realized on the town commons (Plaza Colón de Mayagüez).

Our Green Team is presented in the next figure. It can be found at <http://campusverde.uprm.edu/contact.html>.

New Hemos Crecido!




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Fig. 4. Collage of new Green Team members constituted mostly by UPRM personnel with expertise in areas related to sustainability. We also have our collaborator from outside of UPRM, Dr. Fernando Abruña, previous president of (US Green Building Council) USGBC Caribbean Chapter.

V. New Tree Committee

In addition to those, we gathered a group of experts in topics related to tree interference in construction and developed a Tree Policy for the first time in 100 years since the foundation of the institution. This policy is being reviewed by the administration. The idea is that the committee be consulted before the cutting of any tree within the campus.

The team is constituted (ad-honorem) by Jose Mari-Mutt, author of UPRM trees online inventory and vast knowledge about endemic trees of Puerto Rico and the Caribbean, Dr. Sally González and Dr. Lizzette González, experts in horticulture, Dr. Julia Mignucci, expert in phytopathology and Dr. Francisco Maldonado, expert in sustainable construction.

New

Comité Poda/Corte Árboles @ RUM

- Dr. Jose Mari Mutt
- Dr. Sally Gonzalez
- Dr. Lizzette Gonzalez
- Dr. Julia Mignucci
- Dr. Francisco Maldonado



Fig. 5. Members of the new Tree Cutting/Trimming Committee at UPRM

This group mainly communicates via emails but have visited some of the trees as needed. A tree Cutting/Trimming Policy was written and reviewed by the team with the help of Dr. Sandra Cruz-Pol and Jorge Bencosme. See appendix.

This past summer this Tree Committee helped save a tree of around 50 years old, which was about to be cut since its leaves bothers some other buildings and a water fountain. The

VI. Eco Cine: More Leveraging

Campus Verde has previously offered many documental movies with topics related to sustainability. This year we have the participation of UPRM Filmotech through Arlene Freimont, and the General Library Audiovisuals office through Eric Muñoz, and they agreed to collaborate with us by offering their resources to present a weekly movie from their collection or ours, that has related topics. See figure below.

All the movies are announced through our *Eventos Verdes* webpage.

eco-Cine

Todos los Martes: SH 205, 10:30am -**Gratis**

- *Dirt!*
- *Blue Gold*
- *Trashed*
- *Food Inc.*
- *The Cove*
- *Crude Impact*
- *Who Killed the Electric*
- *Inconvenient Truth*
- *Too Hot not to Handle*
- *Food Matters*
- *Earth*
- *Oceans*
- *HOME*
- *Flow*
- *The Human Footprint*
- *The Story of Stuff*
- *Story of Cosmetics*
- *Story of Electronics*
- *Story of Bottle Water*
- *Story of Cap & Trade*
- *Kilowatt Ours*
- *Gasland*



Fig. 8 List of all the movies that have been offered in previous years free of charge and will be shown again on a weekly basis.

VII. Merging: More Student Chapters

Campus Verde has previously served as an umbrella for green activities from other student associations and chapters. We have Ride-a-Bike, a group that promotes biking as a means of clean and healthy transportation and lead by Jorge Bencosme. We promote their activities through all of our means including social networks like Facebook and Twitter.

This year we incorporated an additional group of student, the USGBC UPRM student chapter. In addition, Campus Verde has a student chapter, called CV Students, and we help coordinate green activities like beach cleanups and tree planting with other student associations as PRWEA, IEEE, TauBetaPi, SWE, SHPE and others.



Fig 6. Student chapter affiliated under Campus Verde, in addition to our collaboration with green activities of other students chapters and our Campus Verde Students.

VIII. Education and Outreach Activities 2011-12

During this past academic year, Campus Verde coordinated dozens of activities reaching hundreds of students and general public. In our webpage, a photo album depicts most of our activities. We participated in several international environmental activities such as

- Earth Hour: 60 minutes for the Planet (with the collaboration of several local bands, the Mayaguez Municipality and several student organizations)
- 350: International Climate Action Day
- International Beach Cleanup Day

In addition, students organized several activities like biking trips, information booths at several fairs, Mountain of Bottles (to gather all plastic bottles misplaced out of recycling bins during a week), and so on.



Fig. 7. Photo Album depicting some of Campus Verde activities. campusverde.uprm.edu/album.html

This year our annual Student Training Retreat took place in a local organic farm 20 minutes from the university. We trained 30 students on how to offer talks about recycling, solar energy, organic agriculture and other topics in sustainability. As a result we outreached many students, civil clubs and more throughout the island.

Detalles en: uprm.edu/campusverde/Earthweek.htm

Earthweek 2012

April 23-29, 2012

University of Puerto Rico at Mayagüez

hora	Lunes 23	Martes 24	Mierc. 25	Jueves 26	Viernes 27	Sábado 28	Domingo 29
9:00 AM						Reciclaje	
10:30 AM						Enseres	
1:00 PM		Green Tech Fair @ 3er Piso Centro Estudiantes		Feria de ecoArtesano Parada del 3er piso del Centro de Estudiantes		Electrónica Gimnasio Espada	LEED Review Course, \$45 for both days. (incluye todos los materiales, almuerzos y más) Register ONLINE 9am-4pm
3:00 PM							LEED Review Course, 2nd Day 9am-4pm
4:00 PM							
6:00 PM	Charla Huella Ecológica Dr. Ivan Baigés @ CH 121	Festival Ecológico: Música de bandas locales, Comida, Artesanos y agricultores ecológicos @ 3er Centro Estudiantes	First of 6 parts of Caving Course (register online)	Charla Green Communities Dr. Arq. Fernando Abuña @ CH 121	Charla Techos Sustentables-Dr.S.Gonzalez @ Plaza Colón		
6:30 PM		Yoga for the Planet @ Enfermería		Yoga for the Planet @ Enfermería			
7:30 PM							
11:00 PM					Kayaking Adventure Dr. Dallas Alston Register ONLINE		



Fig. Program of events for the 2012 Earthweek at UPRM

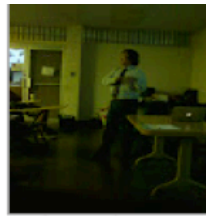
During the Earthweek (April 23-29), we coordinated 15 different activities including eco cinemas, eco-fair, concert, conferences, and more. We leveraged with other UPRM offices, municipality and agencies such as Sea Grant. During this week we had the participation of the UPRM Marching band on the Earthweek Parade. See pictures below. In the parade we also had representation from several student associations, an electric car and two hybrid cars.



Charla Green Communities -Charla Green Communities -



Charla Green Communities -Charla Green Communities -



Charla Green Communities -



anda GalaRadio el martes



Centro de Acopio del



Parada del Planeta,



Parada del Planeta,



Parada del Planeta, Banda



Parada del Planeta,



Parada del Planeta jueves



Parada del Planeta jueves



Parada del Planeta jueves



Parada del Planeta jueves



Auto PriusC Hibrido.. tiene 2



Parada del Planeta jueves



Parada del Planeta jueves



Parada del Planeta jueves



Semana del Planeta



Fig . Photos from some of the 2012 Earthweek activities including the Parade.

IX. Campus Verde Students

As mentioned above CV counts with a student chapter. This group of students is a very active and dynamic group that brings ideas and action to CV. Below is a list of our directive from this and next year.



President: Ryan Torres
Vice-President: Anthony Pérez
Treasurer: Jéysika Zayas
Director of Internal Activities:
 John Matos
Director of External Activities:
 Vivian Rodríguez
Marketing Manager: Stephan Roche



2012-13

Presidente – Anned Vargas
Vicepresidenta – Karitza Velazquez
Secretaria – Yíamar
Tesorera – Angela
Coordinador de Eventos- Angélica
Public Relations- Carlos Abreu
Vocales – Ryan Torres, Luis Sevillano, Félix Hernández, Zair Torres, Elis Rios, Jose Abraham Rivera Javier Ortiz, Luis Collado, Nelson Burgos

Fig. Students' positions for the CV Student chapter. Note the new positions for the year 2012-13.

X. Reduce, Reuse and Recycle

A. *BottleMountain Recycling during Campus Activities*

From March 31 to April 4 was the Agricultural Science Faculty Fair “5 Días con Nuestra Tierra” (Five days with our Earth). During this week a recycling program was implemented at the fair’s grounds. We placed the recycling containers around the fair, collected the recycling and put them in the recycling center and made announcements by the stage microphone about the importance and the right way to recycle.

B. *Hand dryers*

1. To reduce the use of paper towels, hand dryers were placed at the Student Center bathrooms and at the Stefani Building (a heavily transited Lobby area). We bought two models in order to compare the electric consumption before ordering more.

C. *New Paper-Use Policy*

A group of UPRM personnel met in 2009 to delineate a draft of a paper Use Policy for the university. The idea was to promote the wise use of resources, saving paper and using electronic means as far as possible. The draft of the Policy was handed to the Dean of Administrative affairs last August, but unfortunately it has not yet been implement. See Appendix for draft.

XI. Promote Bicycle Transportation

A. Official Student Organization

Ride a Bike will soon be an official Student Association in Campus. Inscription documents has been submitted to the Dean of Students and the organization's directive is as follow:

President - David R Soto Padín
Vice president - Darsy Smith
Secretary- Kathleen Del Mar Ramos
Treasurer - Eduardo Morales
Advisor - Jorge Bencosme
Vocal - Rafael Padilla
Vocal - Nelson Burgos
Vocal - Juan Burgos



B. Projects

On June 8th 2012 two group members have meet the Dean of Administration Ángel Matos and discussed several proposals including:

- Updating the current inventory of bike racks in Campus. Determine its capacity, location and conditions.

Action taken: We updated will maintain the inventory in a spreadsheet for more flexibility and better data management. We found that there are approximately 48 bike racks, and the approximate total capacity of those racks combined is 318 bikes.

- Some of these racks are not properly placed; the majority of them is not fixed and is on a surface that can have erosion, which is not recommended. We found that most of the existing racks are not appropriate for all kind of bicycles; they don't fit well. This lead to a consideration that future acquisitions of racks should properly accommodate most types of bikes.
- Determine the appropriate location of bike racks and suggest new alternative or practical locations to place racks.

Actions taken: On August 14th 4 members went through Campus with printed maps on hand identifying practical places to place convenient racks. Some concerns are protection from rain and placement next to the entrance of buildings.

- Fix bike racks to the ground and identify each zone as bike parking with a sign according to Manual on Uniform Traffic Control Devices. Also determine if "**share the road**" **aware sign** and bicycle signs in the roadway and strategic places can be installed/painted trough campus.

Action taken: We make an approach to the president of the transportation committee in Campus, Didier Valdés. We are going to prepare a formal proposal to submit to this committee.

- Address issues that may represent a risk to bike riders in campus. Rainwater drainage in one of our campus main roads represents an obstacle to cyclist. The Dean of Administration asked for a quote to address this issue.

Action taken: We meet with Eng. Roberto Ayala, director of the Land and Buildings Department and Architect Janice Mercado to evaluate the best solution to correct this problem and prepare the Quote for the materials.

Racks at full capacity



Racks out of place



Bikes out of racks



C. Educational, Recreational And Outreach Activities

On 24th of September, 2011 for the **International Climate Action Day** we coordinated with the cyclist participants of the **Campus 100 Years Anniversary** bike ride, gathering together cyclist and bicycles to form a 350 with the purpose of crate awareness of climate change. A picture was taken and sent to **350.org** site.

- **Event Link:** <http://www.moving-planet.org/events/us/mayaguez-pr/1721>
- **Photos:** <https://picasaweb.google.com/UPRMfun/September24201102>

On February, 4th 2012 45 km bike trip in Cabo Rojo, enjoying amazing nature sights by wildlife refuge and visit to the Light House. Two people participated in the event. The activity started at 8:30 am and finished at 12:30 pm.

- **Event link:** <http://www.uprm.edu/portada/eventosverdes/index.php?a=ev&id=8>
- Photo:

On March, 4th 2012 Bike trip in Mayagüez departing from Campus and passing through Malecón **visiting "La Boquilla"** natural reserve and wild life refugee.

- **Event link:** <http://www.uprm.edu/portada/eventosverdes/index.php?a=ev&id=26>
- Photos: http://bici.uprm.edu/Ride_a_Bike/Fotos/Paginas/Boquilla.html

On March 11th 2012, Bike trip in **Ponce city departing from Plaza Las Delicias**. Nine people participated, two from Ponce; they commented that they were learning new routes in Ponce. Activity started at 7:06 am and finished at 11:00 am. The route took in the Ponce Museum, La Católica University, Plaza Caribe, La Mega Puerta, La Guancha, el Parque Lineal, Parque Monagas, and La Ceiba.

- **Event link:** <http://www.uprm.edu/portada/eventosverdes/index.php?a=ev&id=25>
- Photos: http://bici.uprm.edu/Ride_a_Bike/Fotos/Paginas/Ponce.html

On April, 8th 2012 **Bike trip to Rincón**. Five people participated. Activity started at 8:00 am and finished at 12:00 pm. Departing from observation tower in road 115 in Añasco, passing through various costal communities and **visiting the light House and Domes Beach**. A total of 12.24 km. Also visited the organic market where most of the participants were able to enjoy organic food, fresh fruits and juices.

- **Event link:** <http://www.uprm.edu/portada/eventosverdes/index.php?a=ev&id=41>
- Photos: http://bici.uprm.edu/Ride_a_Bike/Fotos/Paginas/Rincon_2.html

On May 6th, 2012 in coordination with the **Athletics Department the first Campus Triathlon**, which consisted of *600 m swimming, 20 km bicycle and 3.2 km marathon*.

- **Event link:** <http://www.uprm.edu/portada/eventosverdes/index.php?a=ev&id=69>

On July, 31st 2012 as part of the **freemen's orientation activities the concept of "eco-taxi"** was exhibited and demonstrated, showing the importance of sustainable transportation in future generations.

XII. Energy Conservation and Efficiency

Our co-Director, Jorge Bencosme, produced a document with an inventory of the outside lightning around campus to show all the lights that remind on due to photo control failures or not been controlled automatically by a photo control or timer.

In the document is referenced the section of Energy Conservation, part of the Energetic Plan of the institution in which compares the cost analysis of replacing the existing outdoor lighting for a more energy efficient one, and the time it will take to recover the investment with the savings in energy bill.

It was proposed that:

- The administration should consider the option of replacing outdoor lighting with new luminaries that can be deemed when full light output is not needed.
- Consider turning off some outdoor lighting were security is not a concern or the light does not need to be on all night.
- Energy consumption should be metered in all buildings. This data should be public as we are a public institution and will encourage to pursue energy efficiency and been an example to others.
- Equipment such as air conditioner should have the option to be remotely controlled or turned off when there is no occupancy of the building or office. Office and hall lights should be controlled by occupancy sensors.
- Entrance, halls and outdoor lighting operation in the buildings can be improved and made more efficient by automated controls such as photo controls, motion / occupancy sensing and remote controlled circuits.
- Start projects for generating renewable energy in campus and pass that clean energy to the electric grid to be locally used and reduce the carbon footprint.
- In the long term, develop the campus electricity grid to be a smart grid.

A. Solar House into Ecological House

Our Dean of Engineering agreed to support the reconstruction of an old Solar Decathlon house from 2005 that has lost all walls to termites, and convert it into an Ecological house. Our last chancellor had approved funding for buying the new materials needed, but the construction was halted. Finally during the Spring of 2012 construction resumed and we hope to have it inaugurated by the end of 2012.

Casa Solar → Casa Ecológica



Centro Interactivo de Visitas y Oficina Campus Verde RUM

Fig. These photos show the state of the old solar decathlon house by the beginning of 2012 (left), and the state as of June 2012 (center). The final product should look similar to figure on bottom right.

We are submitting proposals to the government of Puerto Rico and to several private corporations to support this new sustainability showcase. A Copy of the proposal can be found online at:

http://campusverde.uprm.edu/Proposal-GreenCampus_UPRM_Eco_House.pdf

XIII. Nature Activities

A. Beach Clean-up Day

A beach cleanup was performed at Playa Golondrinas in Isabela during the international Coast Cleanup Day in September 2011. Another cleanup is already scheduled for this Fall (Sept 15, 2012). In addition, at least 2 UPRM students are taking the Scuba Dogs training to become Beach cleanup captains. As of today only our director is a captain.

B. Waterfall Clean-up Day

Gozalandia Waterfalls Cleanup Day

This past Spring, our group coordinated this cleanup event for two of the three waterfall system called Gozalandia in the town of San Sebastián. We had 22 students participating. We collected 15 large garbage bags including 5 of recyclable materials. See photos at our album webpage.

I. Education and Outreach Materials and Training

We continue to develop materials for our website including a new page only for Women (<http://campusverde.uprm.edu/album.html>), another about the link between healthy people and healthy planet (<http://campusverde.uprm.edu/ecosalud.html>) and we continue to add our pages with additional food eco-friendly recipes, homemade insecticides recipes, and much more.

A. Training for students and personnel about Global Warming Solutions

We continue offering the training given to students where they learn about Climate Change and its solutions in which the students are then tested and certified to give conferences, therefore spreading education. Later throughout the year, students visit several schools all over PR offering advise and talks. One of the 'adopted' schools has participated in beach cleanups with us and established a recycling program in their school. The student leader at the school, Adriana Caban, which was advised by our student Maraida Balaguer and Luz Laboy, received a Presidential awards. See picture below.



Fig. Adriana Cabán, a student from a local high school which was advised by our program and given several talks by our CV trained students; Luz and Maraida, and joined us in one of our beach cleanups with her school.

1. Television and Radio Appearances about Global Warming Solutions

Our Director was interviewed in a local TV show called CVBIEN with Carlos Ochotecho last 25th of June (Invitation by Jessica Otero jotero@cvnetwork.tv from Channel 24 of PR).

She was also intervied in Foro Colegial and talked about the Green Campus initiative and about tips on how to conserve electric energy, water, and how to lower our ecological footprint.

2. Texas wants Campus Verde!

Marcela Zuluaga from NBC -Telemundo at Dallas [817 654 6584]contacted us on March 2012 to ask for our authorization to use CVC informaion on their web. It was granted. So we are expanding our reach! Previously we were contacted by people in Mexico and Argentina to use our web.

3. Old San Juan Energy Museum

Our director was invited to record a video for the new ON/OFF Energy Museum in Old SJ. The filming took over 6 hours for only a few moments of actual video at the museum, but they incorporated several of our ideas on their interactive exhibits. [Contactos: Dinorah Bonilla

<dinorah@muuaaa.com> , Celina Nogueras Cuevas nogueras.celina@gmail.com y Dr. Fernando Abruña]

Additional alliances and dissemination

In our effort to reach beyond the university limits, we have formed the following three alliances and dissemination strategies:



1. We have just started an official collaboration with **Dr. Jane Goodall's Roots and Shoots (R&S)** environmental program, so our program is officially affiliated to them! This was as a result of our talks with Rick Asselta, Puerto Rico's R&S representative. We assisted to Dr. Jane Goodall Green Campus Talk in San Juan this month and presented a brief summary of our accomplishments. From this we expect to reach a larger audience and also learn from their activities.
2. In collaboration with Sustainable Environment for Quality of Life of North Carolina, we translated the page "100 ways to save the environment" into Spanish. The page can be visited at: <http://campusverde.uprm.edu//100maneras.htm>
3. We created a global group in Facebook called Green Idea\$ (Idea\$ Verde\$) so that we can reach people outside the academia with tips on how to save money and help the environment. We've had people from as far as Argentina complementing the group messages!

Appendix A: Campus Verde Survey Results Comparison 2009- 2011

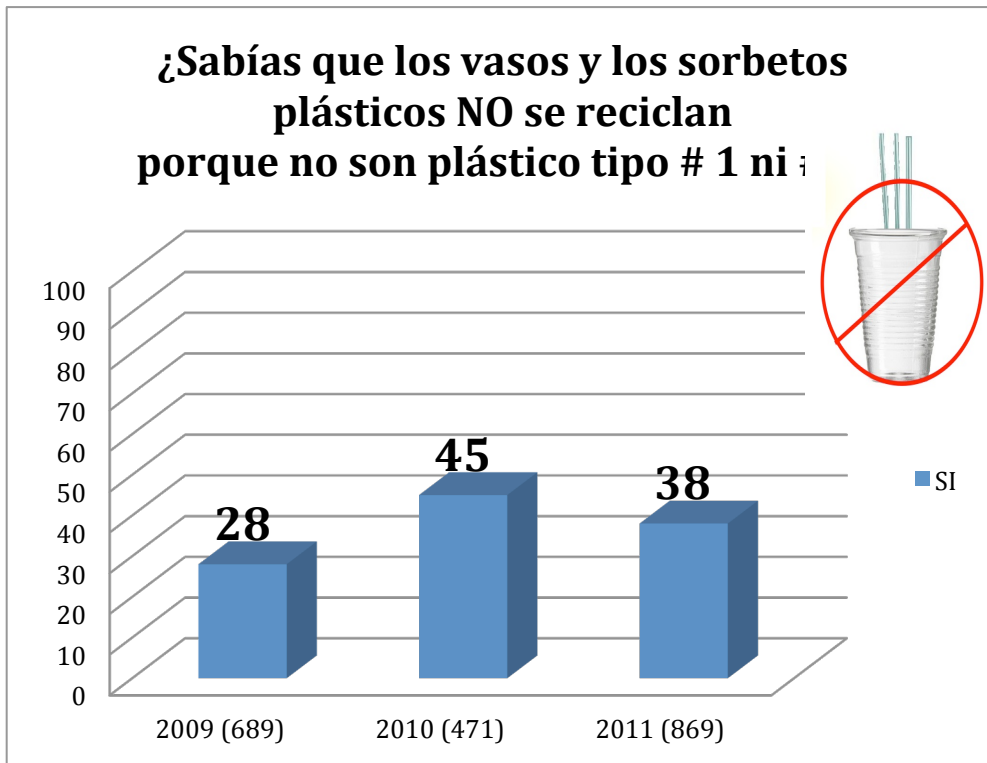


Figure A Did you know that straws and plastic cups cannot be recycled at UPRM because they are not #1 or 2?

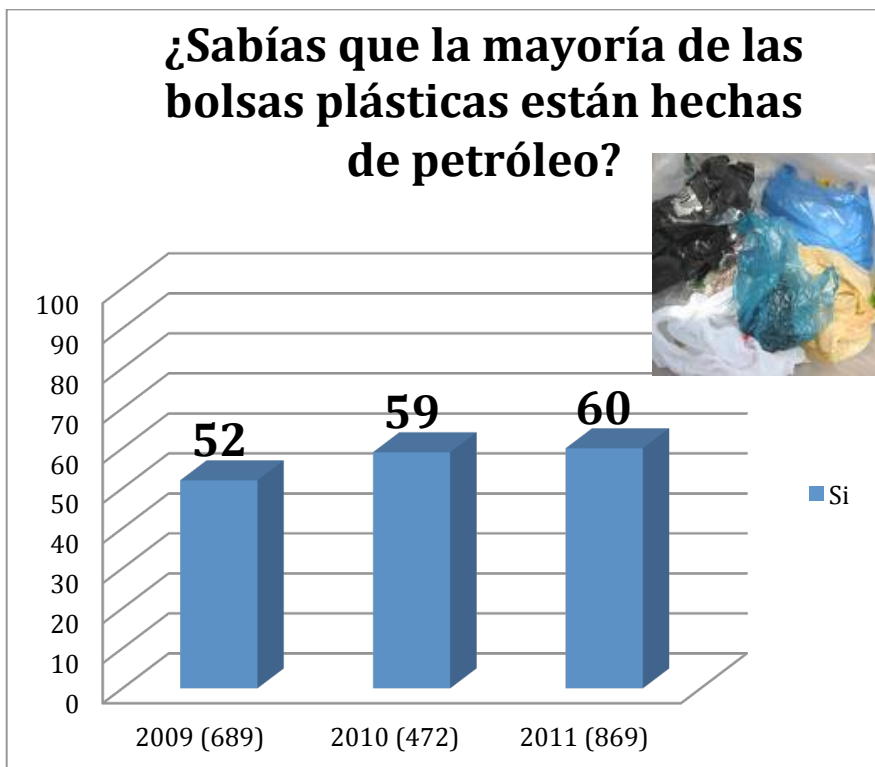


Figure B Did you know that most plastic bags are made of petroleum?

Did you know that most plastic bags are made of petroleum?

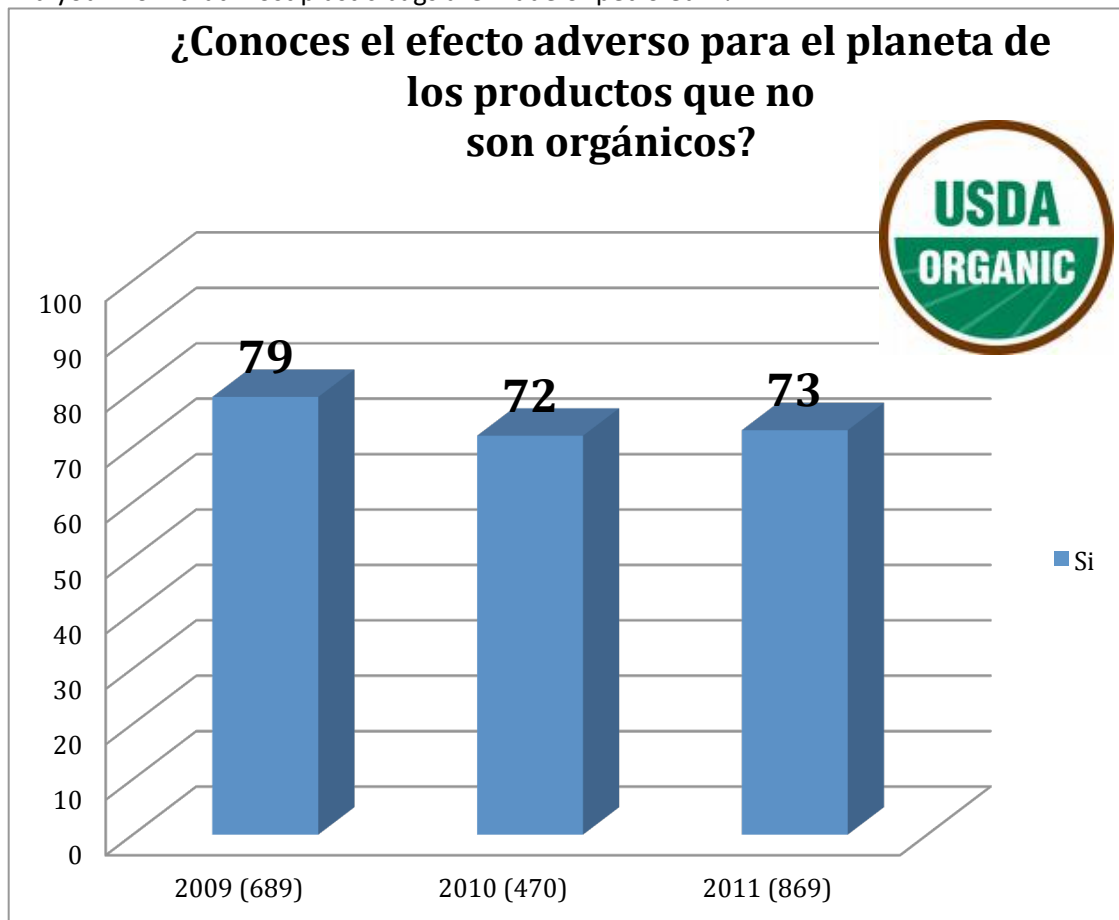


Figure C Did you know the adverse effect to the planet from non organic produce?

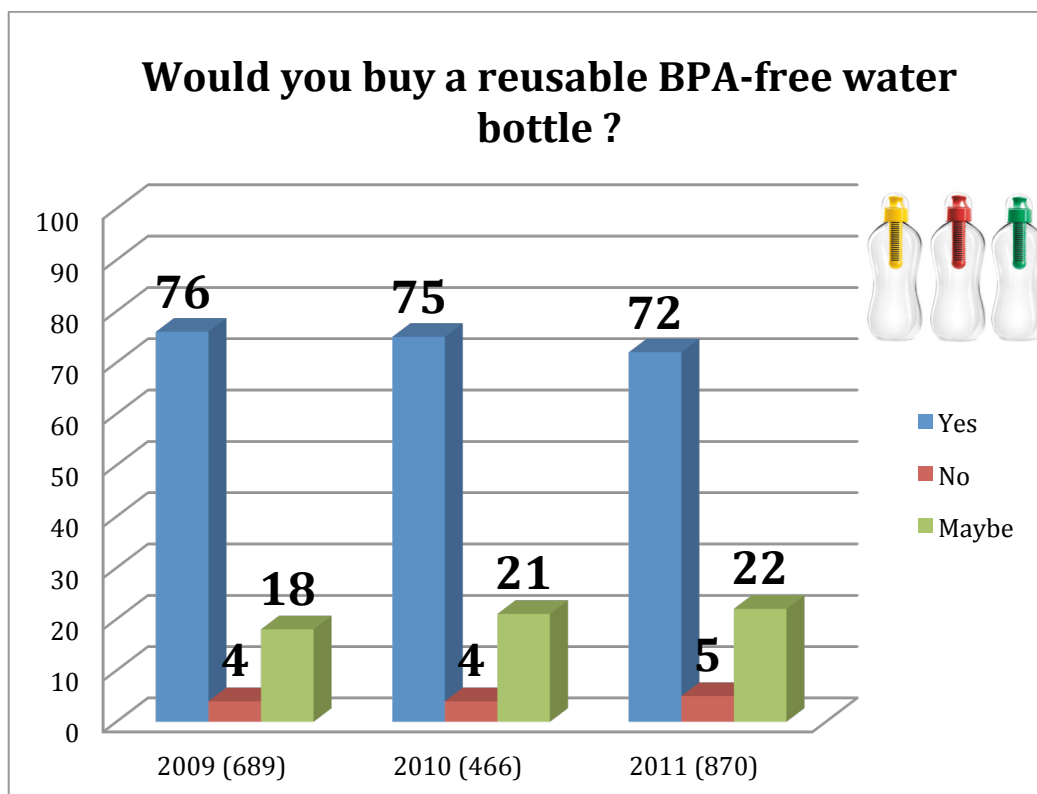


Figure D Would you buy a reusable bottle (BPA FREE) to drink water?

¿Sabías del posible daño a tu salud de las botellas plásticas debido a que contienen Bisphenol-A (BPA)?

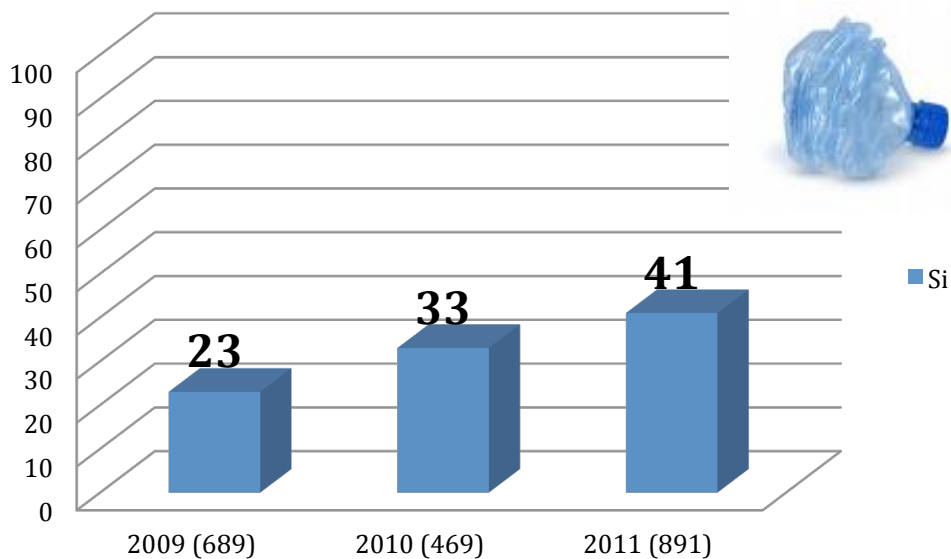


Figure E Did you know about the chemicals that can sometimes leak from the plastic to your water?

¿Sabes donde disponer de los cartuchos de tinta viejos?

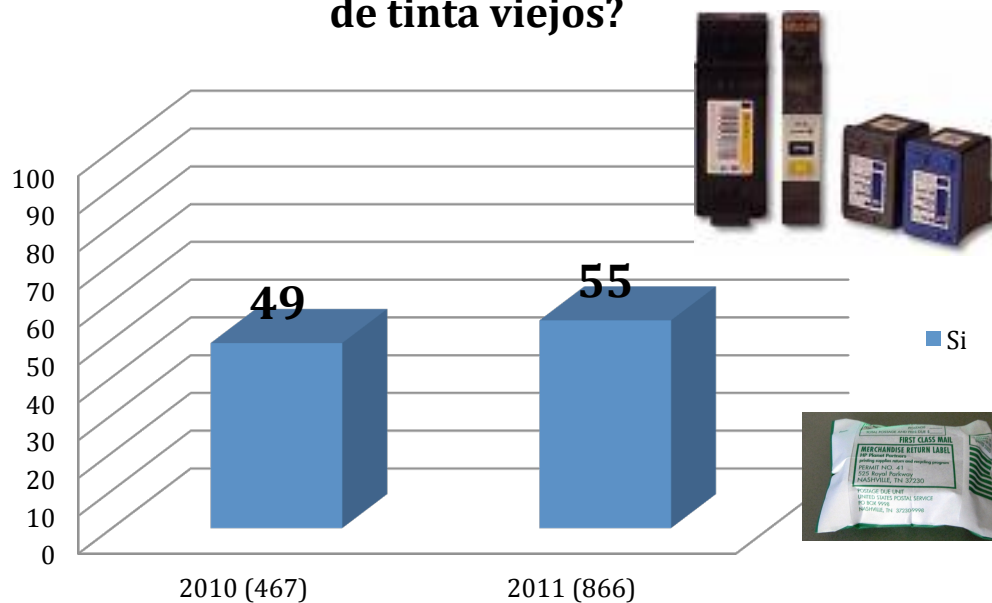


Figure F Do you know where to dispose old ink cartridges?

¿Sabes dónde disponer de las baterías viejas para evitar contaminación de las aguas y la naturaleza?

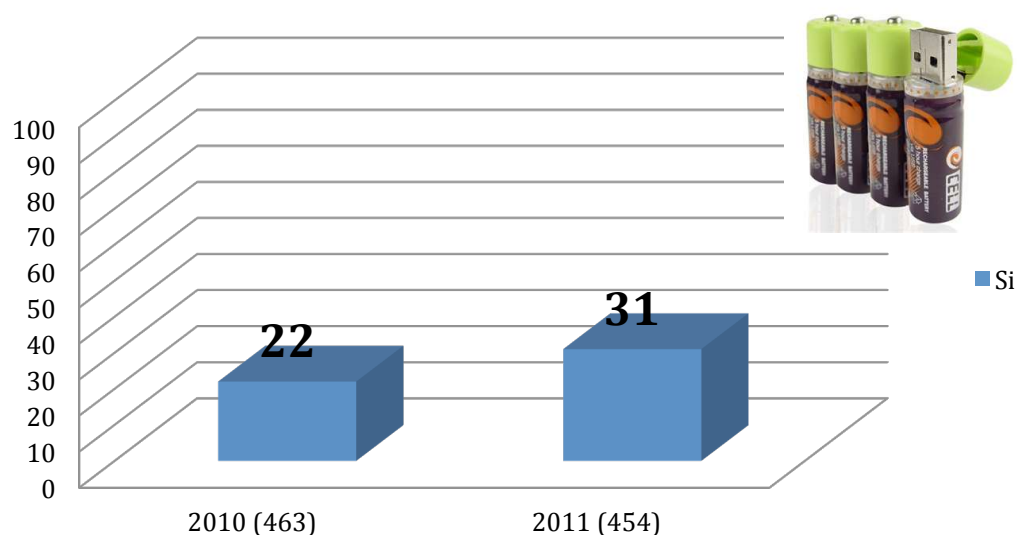


Figure G Did you know where to dispose old batteries to avoid water and soil pollution?

¿Sabías que el plato Styrofoam® con tapa tiene 3 veces más impacto ambiental que el plato llano?

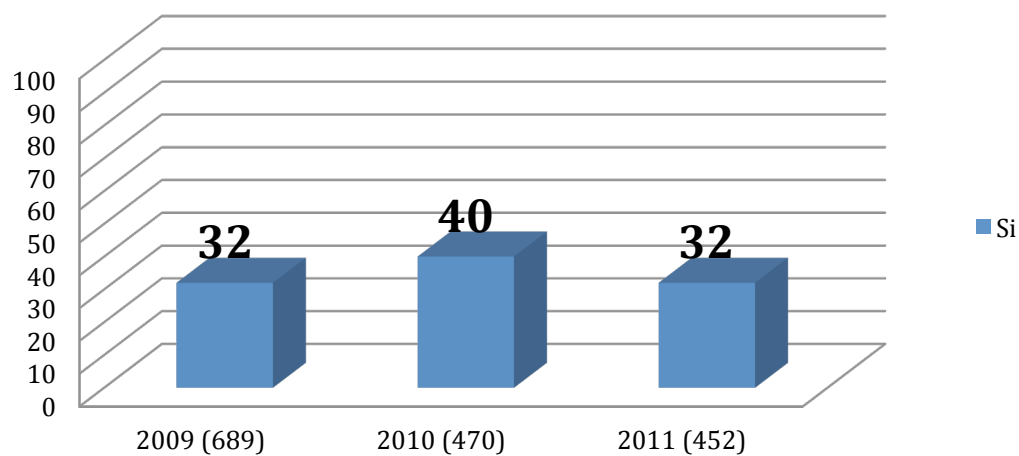


Figure H Did you know that the styrofoam plate with lid has 3 times the environmental impact as the flat plate?

¿Conoces el impacto ambiental que causan los platos de poliestireno (Styrofoam®) al fabricarse en términos de tóxicos atmosféricos...

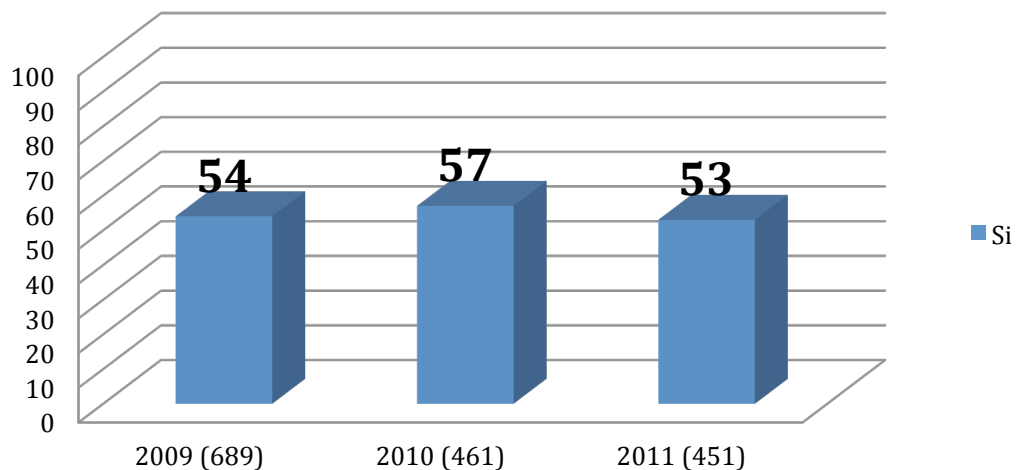


Figure I Did you know about the environmental impacts in terms of atmospheric toxic emissions that fabrication of styrofoam plates contributes?

¿Compraría un vaso plástico SIN Bisphenol-A, si con el mismo recibieras un descuento en la Cafetería ...

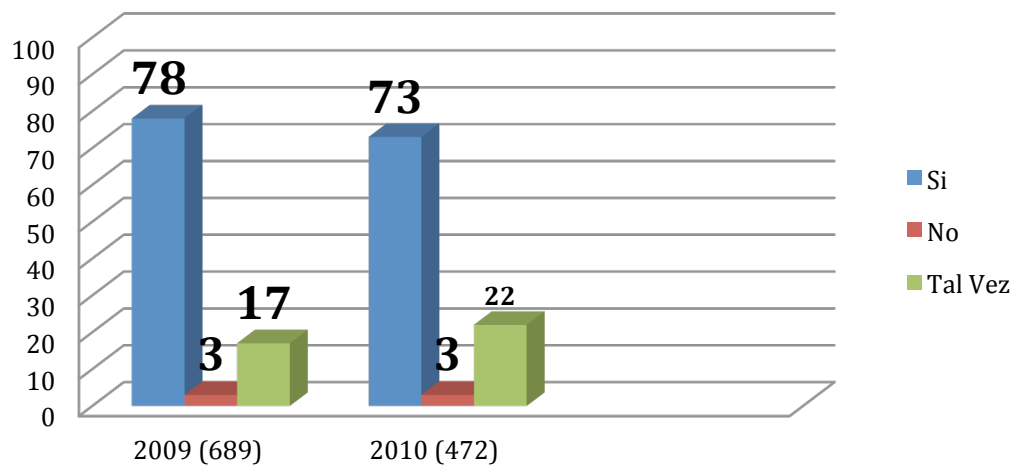


Figure J Would you buy a BPA Free cup?

¿Compraría una bolsa re-utilizable si la Librería Colegial ofreciera un descuento...

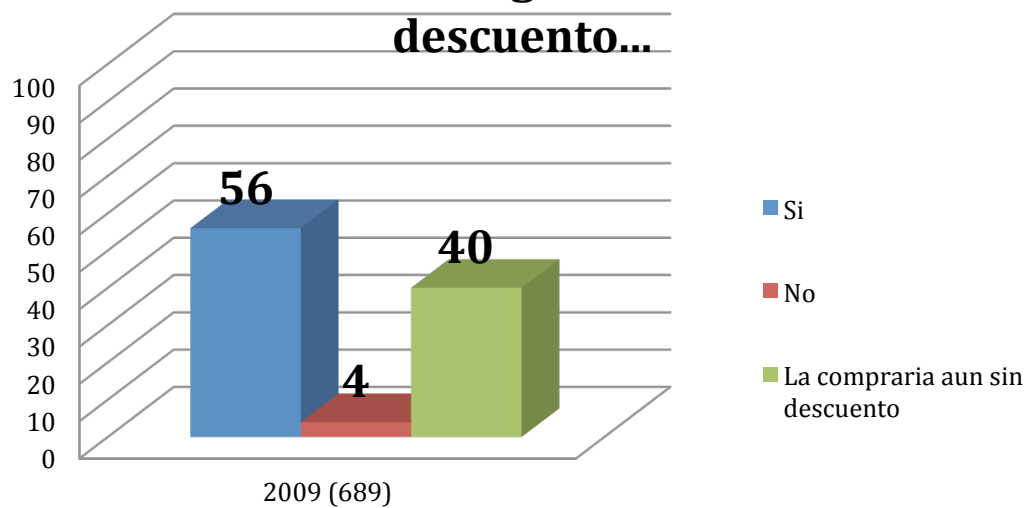


Figure K Would you buy a reusable bag if offered a discount at UPRM bookstore every time you use it?

¿Sabes donde reciclar el papel y el periódico en el RUM?

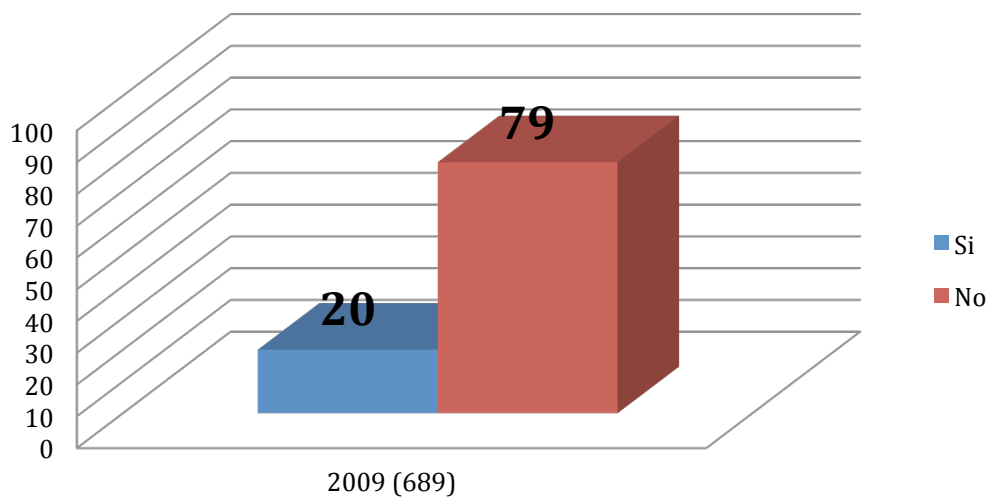


Figure L Do you know where to recycle newspapers within UPRM?

¿Sabías que en la página de Campus Verde hay mucha información descargable...

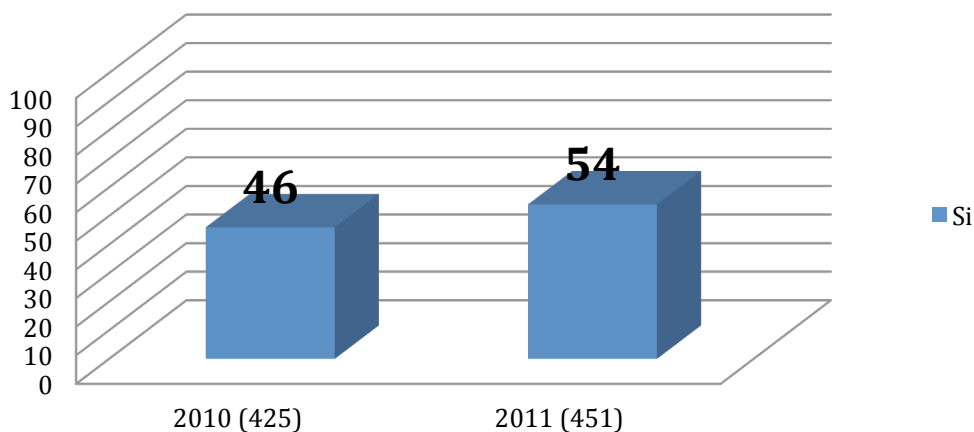


Figure M Did you know that there is a lot of downloadable information at our website?



¿Sabes donde disponer de las baterías viejas y cartuchos de tinta viejos dentro del RUM ...

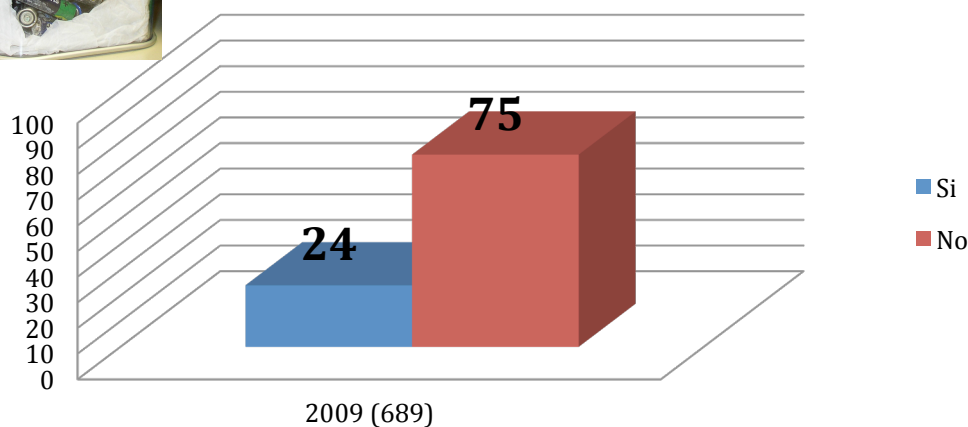


Figure N Do you know where to dispose of old bateries and ink cartridges within UPRM?

¿Sabías que en el RUM se reciclan y recopilan también periódicos y papel blanco?

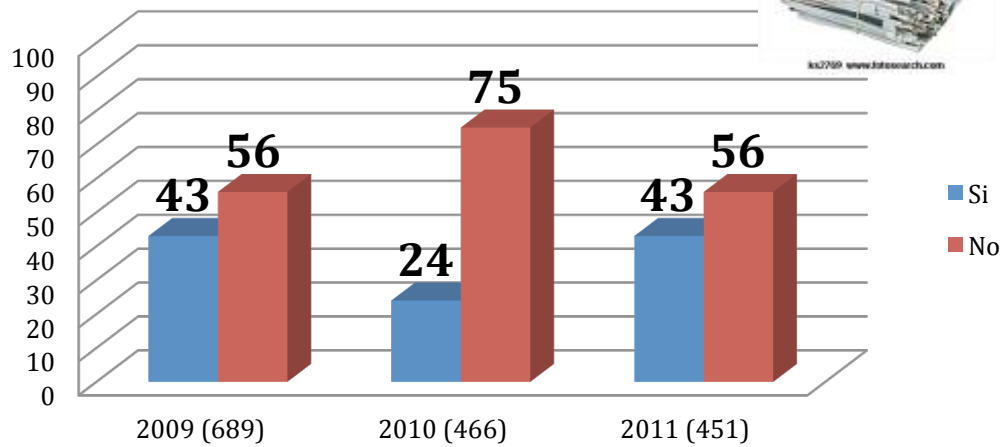
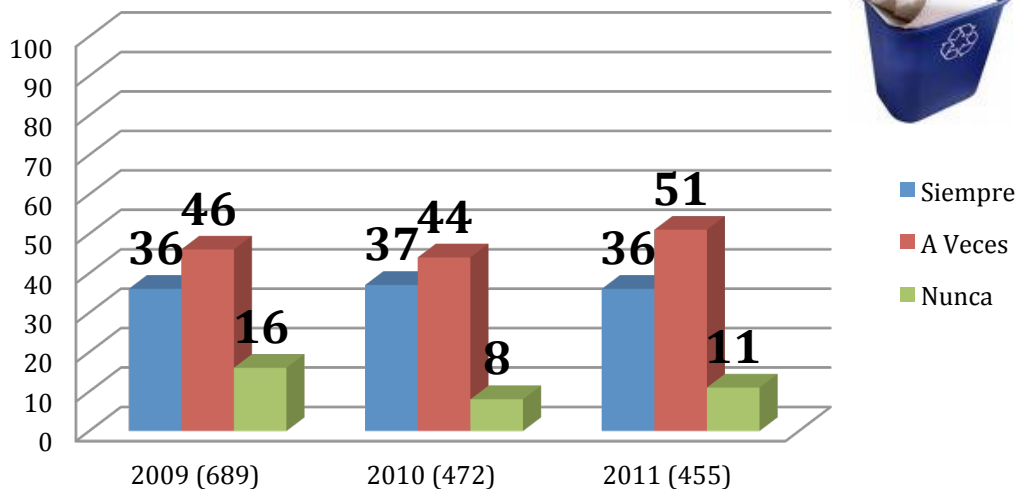
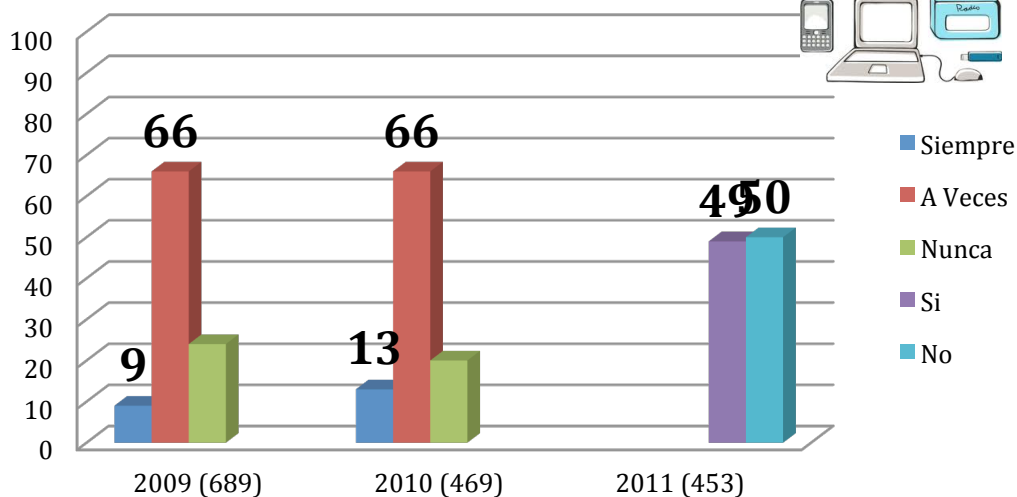


Figure O Did you know where to recycle old newspapers and WHITE paper at UPRM?

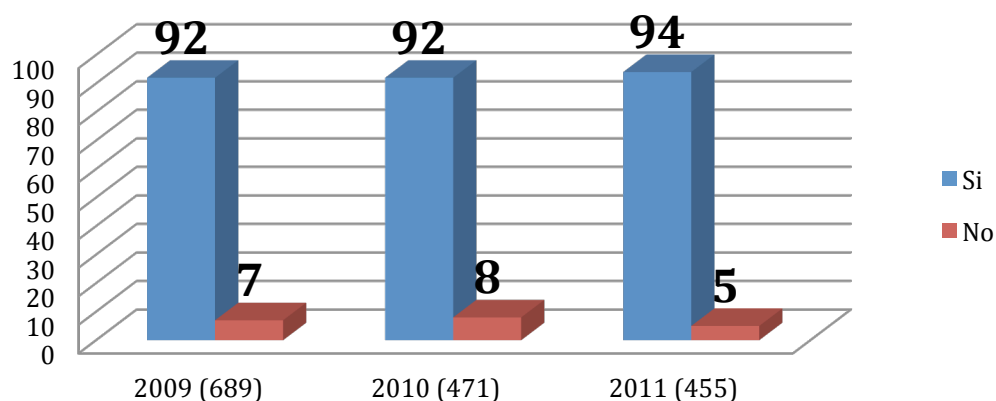
¿Reciclas tus latas y botellas plásticas en los envases de reciclaje del RUM?



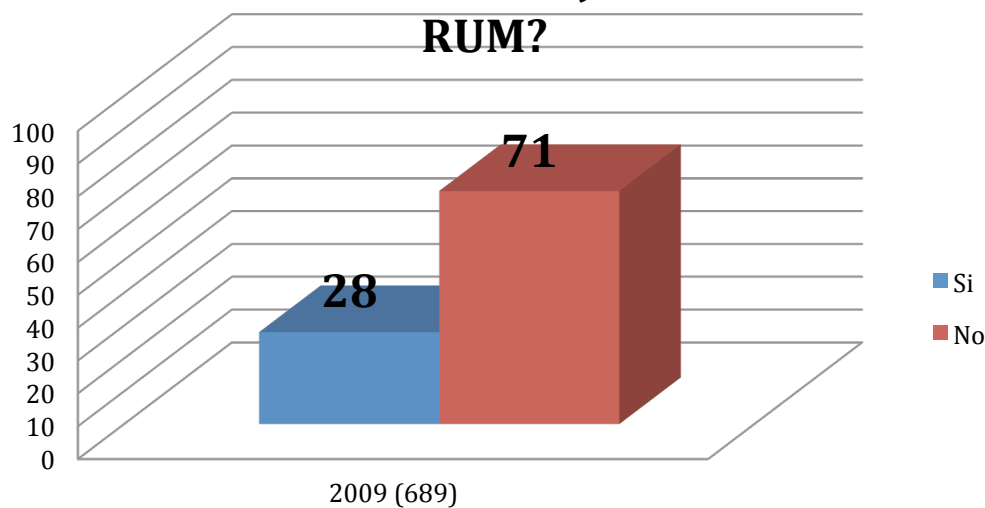
¿Desconectas los enseres eléctricos en tu oficina o salón cuando no los usas?



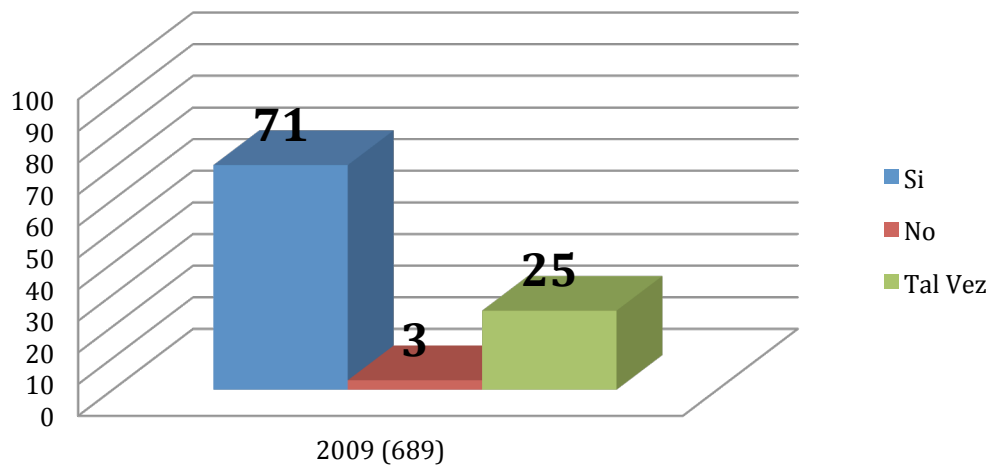
**¿Sabías que los enseres eléctricos siguen
gastando electricidad
estando apagados si permanecen
conectados?**



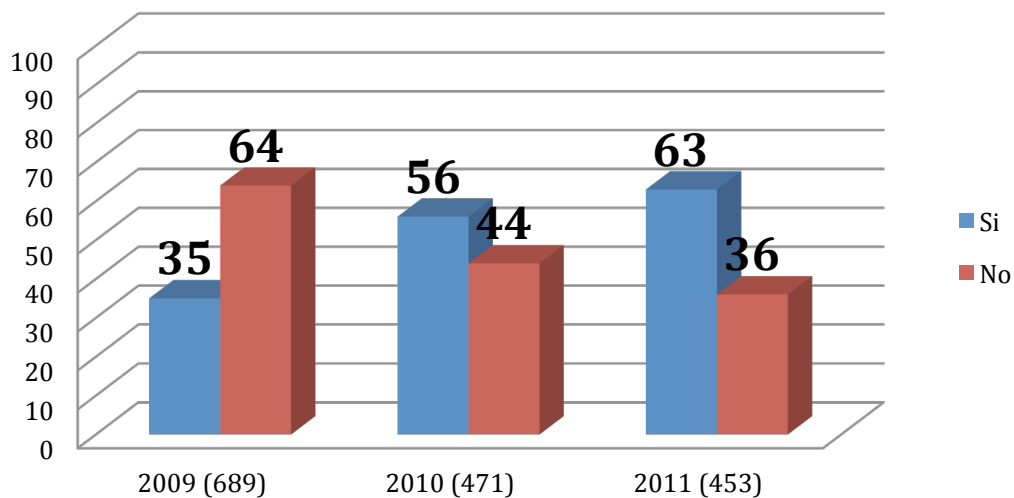
**¿Sabes donde disponer de los
teléfonos celulares viejos dentro del
RUM?**



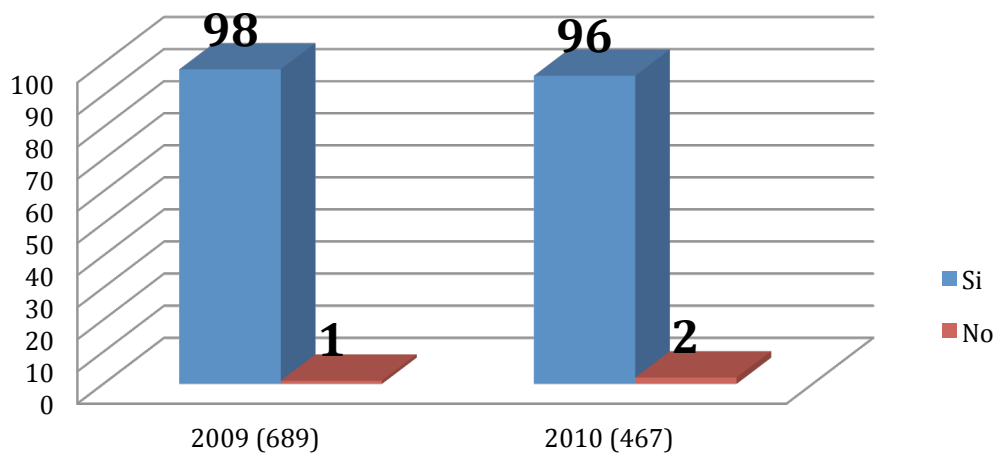
**¿Comprarias camisetas de algodón orgánico si
estuvieran disponibles a precio razonable en la
Librería Colegial?**



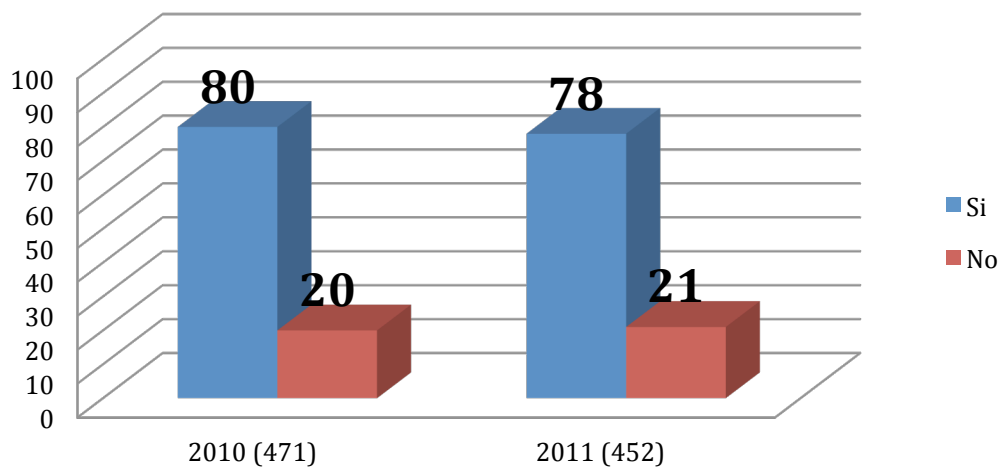
**¿Sabías que los productos anti-bacteriales
hacen más daño que bien ...**



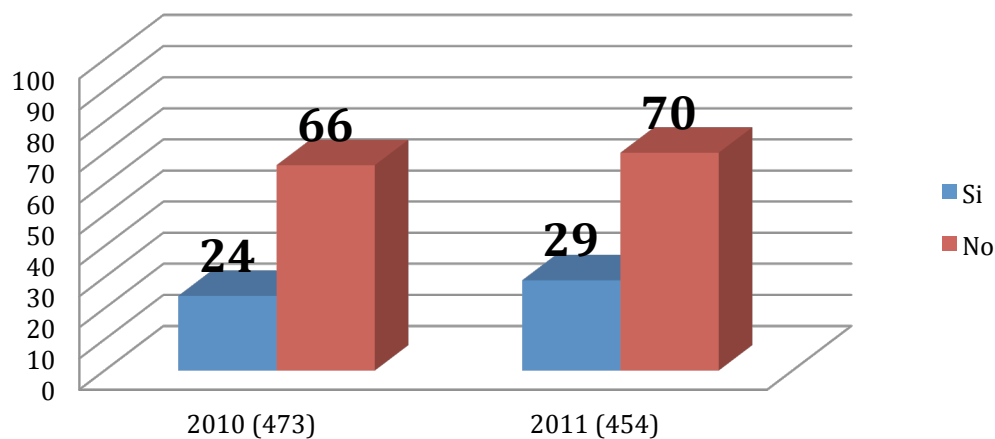
¿Te gustaría que en la Librería y en la Cafetería Colegial se ofrecieran más artículos/productos eco-amistosos?



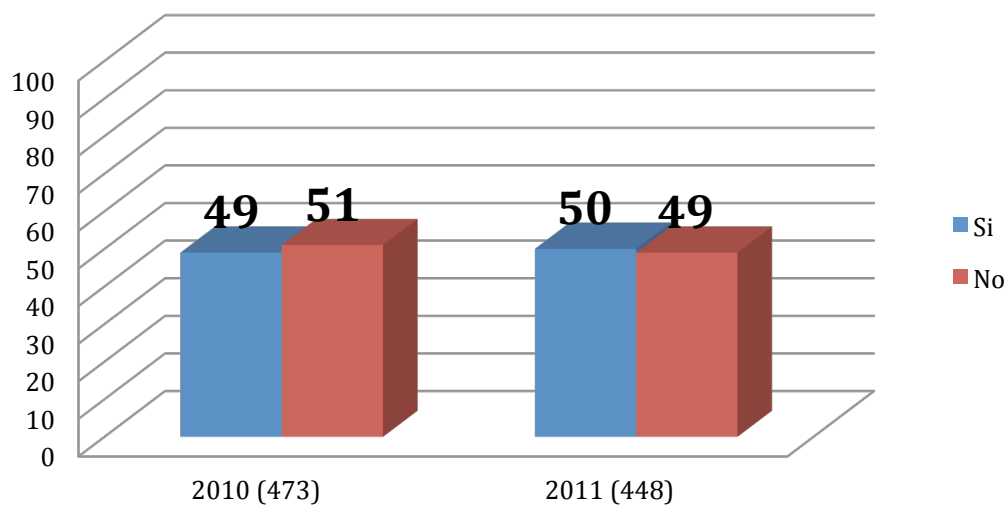
¿Te gustaría que se re-estableciera el uso de vajilla de platos reusables (mejores para la salud) en la Cafeteria...



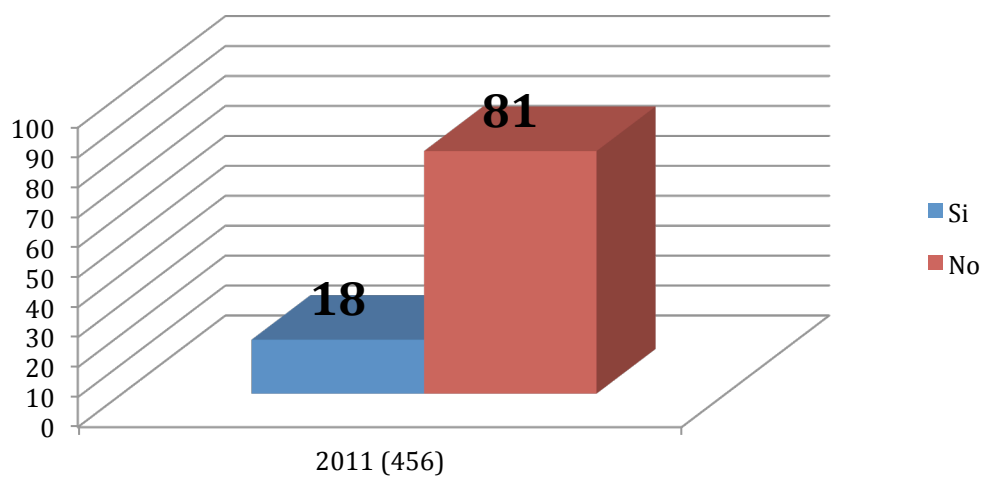
¿Sabías que el RUM se podría ahorrar sobre \$1 millón anualmente si todo el mundo desconectara sus enseres ...



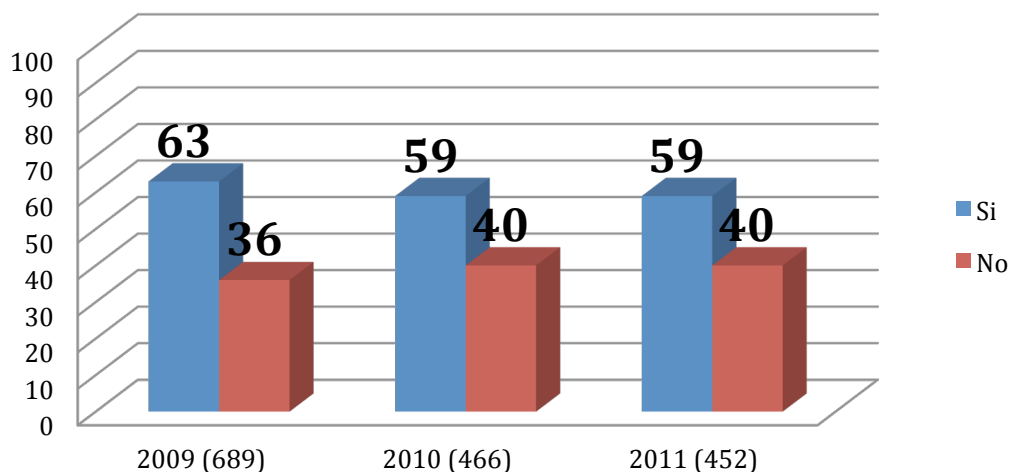
¿Sabías que puedes ahorrar unos \$100 por cada batería recargable que usas?



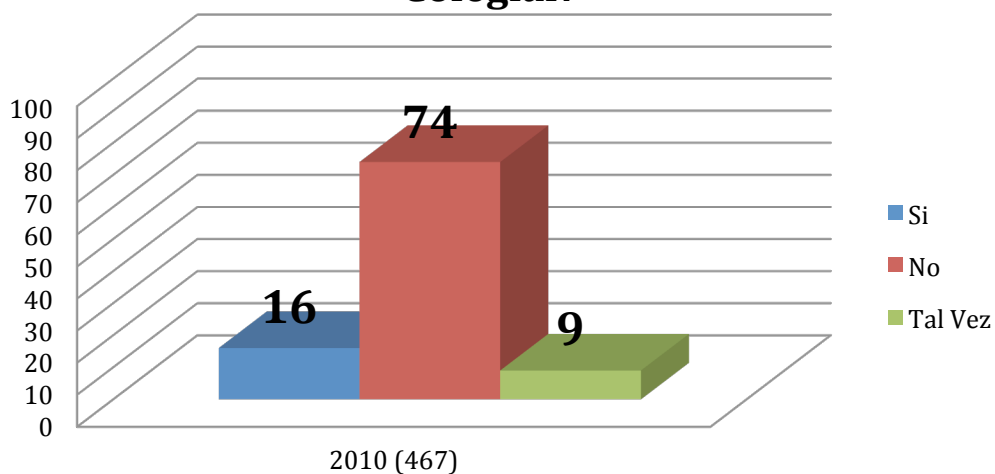
¿Sabías que el BPA también se encuentra en el laminado dentro de las latas de casi todos los alimentos enlatados y refrescos de sodas?



¿Conoces los beneficios a la salud de la comida, ropa y otros productos orgánicos?



¿Has comprado camisetas de algodón orgánico disponibles en la Librería Colegial?



Appendix B: Campus Verde Survey Feedback

Comentarios sobre la Encuesta Campus Verde 2012

La mayoría de los comentarios son muy positivos, notan los deseos de aprender de las personas, otros muestran sus dudas y frustraciones y otros muestran que aún con todas las actividades de educación y alcances hay muchos mitos que tenemos que corregir e instruir.

De: Cecilia C. Diaz Candelas

Email: cecilia.diaz1@upr.edu

Tremenda idea este cuestionario!! Ahora a leer un poco mas de esas preguntas que deje sin contestar ;)

De: Jean Galan Rivera

Email: jean.galan@upr.edu

Gracias por la encuesta, aprendí varias cosas gracias a ello.

De: Jose Calderon Garnier

Email: jose.calderon@upr.edu

El problema de la cafeteria obedece a falta de la implementacion de sistemas de seguridad y diciplina a estudiantes.

De: Christian Vargas Mendez

Email: christian.vargas5@upr.edu

Se deberia empezar con proyectos grandes de gran impacto al campus. Empezar con energia renovable en algunos edificios.. Poco a poco se logran grandes cambios ;)

De: Samuel De Hoyos Mercado

Email: samuel.dehoyos@upr.edu

buenos dias trabajo en la biblioteca pub del rum es lamentable que se haya olvidado el reciclaje de plastico y latas no hay segimiento por fa ayudenos

De: Antonio Moreno Ortiz

Email: antonio.moreno@upr.edu

Sorprendido, muy buena encuesta.

De: Geovanni Rodriguez Martinez

Email: geovanni.rodriguez@upr.edu

por favor, avísenme de las actividades que vayan a hacer para darles una mano, y me encanta la naturaleza. Sus proyectos hacen la diferencia en este mundo. Exitó.

De: Mariely Quinones Pacheco

Email: mariely.quinones2@upr.edu

Espero que no se quede solo en una encuesta sino que informen al estudiantado para mejorar nuestro ambiente.

De: Elisa Benitez Ayala

Email: elisa.benitez@upr.edu

Veó que hay una actividad el sabado proximo de Campus Verde, seria bueno si hubieran mas asi y las personas se pudieran informar mas sobre los temas planteados en la encuestas y/o otros. Muchas personas no saben la importancia de cuidar nuestro planeta.

De: Mirene Rosas Feliciano

Email: mirene.rosas@upr.edu

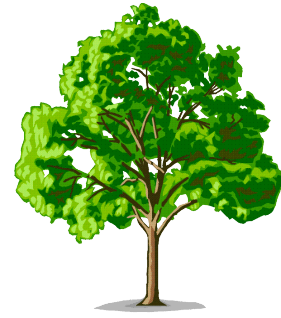
Deberían de realizar charlas informativas o blogs destinados a los colegiales del RUM para que adquieran dicho conocimiento ya que es muy importante para mantener una buena relación con nuestro planeta que tanto lo necesita.

De: Saely Rosado Ortiz

Email: saely.rosado@upr.edu

Wow, estoy muy impresionada. Ahora con más razón deseo unirme al Campus Verde.

Appendix C. Draft for the new UPRM TREE Policy



Política Institucional para la Conservación de los árboles y las palmas del Recinto Universitario de Mayagüez

Introducción

Gracias a la iniciativa de los miembros de la comunidad académica que a través de las décadas han sembrado plantas, y a la dedicación del personal encargado de cuidarlas, el Recinto Universitario de Mayagüez es hoy un atractivo jardín botánico donde crecen doscientas especies de árboles y palmas. Esta flora no sólo embellece el recinto, sino que con su sombra refresca los edificios. También atrae aves que hacen más placentera la estadía de empleados y visitantes. No menos importante, nuestra flora sirve de laboratorio para varios cursos.

Muchas universidades otorgan una alta prioridad a la conservación de su flora. Con el cuidado adecuado, nuestros árboles y palmas continuarán embelleciendo el recinto y beneficiando a futuras generaciones de estudiantes, profesores, administradores y visitantes.

Comité de Árboles

Se establece mediante esta política un Comité de Árboles compuesto por **tres profesores** nombrados por el rector, el decano de administración o su representante y **un miembro del Departamento de Campos y Carreteras** nombrado por el director de esa dependencia. Los miembros servirán por tres años, al cabo de los cuales podrán ser nominados para otro término similar. El comité establecerá las normas para su funcionamiento y evaluará cada solicitud de poda sustancial o corte en un plazo no mayor de tres semanas luego de ser notificados sobre la intención de realizar dicho trabajo. El comité evaluará cada solicitud teniendo como una de sus prioridades más altas la conservación de los ejemplares y la protección de los miembros de la comunidad académica y de la propiedad pública y privada. El Director de Planta Física y su personal están para “implantar y ejecutar” las medidas a tono con la Política Ambiental de la UPR, de la leyes que administra Recursos Naturales y de la política interna que se apruebe para el manejo preventivo de la flora del RUM. Adjunto ver copia de la *Política de Manejo de Áreas Verdes de la UPR* Comité de Árboles del RUM es el que debe tener la decisión final sobre el trabajo a realizarse.

Mantenimiento de los árboles y las palmas

El Departamento de Campos y Carreteras establecerá un plan para la remoción anual de plantas epífitas y parásitas que por su abundancia reducen la salud y buena apariencia de los árboles. El

Comité de Árboles identificará estas plantas para que sólo se remuevan las que ocasionan daño. Esta actividad evitará que el árbol se debilite o muera y tenga que ser removido. Durante el mantenimiento rutinario de los alrededores, el personal de mantenimiento tendrá especial precaución con el uso de cortadoras de hilo (**trimmers**) que pueden remover la corteza y matar ejemplares jóvenes.

Mitigación por la remoción de ejemplares

La remoción ocasional de un árbol o una palma por razones justificadas será mitigada mediante la siembra de diez ejemplares similares cerca o en otro lugar del recinto. Si no es posible conseguir la misma especie o si ésta es común en el recinto, el comité recomendará otras especies adecuadas para los lugares donde serán sembradas. Este proceso de mitigación puede **aprovecharse para aumentar la diversidad** de especies que crecen en el recinto.

Siembra de ejemplares

La administración universitaria coordinará con las asociaciones estudiantiles la siembra periódica de árboles y palmas en lugares propios para dicha práctica. El Comité de Árboles asesorará en la selección de especies para asegurar que no se siembren variedades que más tarde puedan causar problemas por su impacto sobre personas o propiedad. Por esta misma razón los miembros de la comunidad académica que deseen sembrar árboles o palmas deberán solicitar permiso al Director del Departamento de Campos y Carreteras y recibirlo antes de realizar la siembra. Los árboles y las palmas sembradas sin permiso podrán ser removidas si a juicio del Comité de Árboles han sido colocadas en un lugar inapropiado para la especie o en un lugar que ha sido destinado a otro uso.

Cultura de conservación

Para que esta política sea exitosa es necesario crear conciencia en la comunidad académica sobre la importancia que tienen los árboles y las palmas, además de los arbustos y otras plantas que crecen en el recinto. Con este propósito, el Comité de Árboles, la administración universitaria y las asociaciones estudiantiles coordinarán **actividades que eduquen e integren** la comunidad a este esfuerzo.

