

Recycling Improvement Initiative: Steps towards Residence Hall Sustainability

Prepared for: ENVS 411: Sustainable Campus

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Discarded glass piles up at the landfill in Cheyenne, Wyo.

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Problem Statement:

There is a need for improvement regarding recycling in the Residence Halls at Humboldt State University, and there is an occurrence of cross contamination between trash and recyclables in Residence Hall waste bins.

Context:

Summary:

“Humanity is at a cross roads. By the end of the next century, global population is expected to reach 11.3 billion... we will be forced to alter our lifestyles dramatically so that our burgeoning population does not outstrip the Earth’s ability to support humanity and other species. Societies of the future... will need to consume far fewer resources much more efficiently” (McKenzie-Mohr, Smith).

Humanity relies on resources. When resources are overused, negative effects tend to happen to ecological systems. The need for sustainable practices is crucial so that human populations don’t deplete the natural resources that the earth has provided for us. Humboldt State University (HSU) has joined the effort for a sustainable future in many ways, one of them being ENV5 411, a Sustainable Campus class. This class allows students to be active in the design and implementation of projects on and around the HSU campus.

Recycling plays a major role in how HSU manages its waste. The Campus Recycling Program (CRP) is a student run club. CRP works closely with Comet Tail Chief (TC), the Sustainability Coordinator. Together they manage, collect, and dispose of the recycling and trash on campus. CRP and TC have observed that the Residence Halls (RH’s) have low recycling levels and a noticeable amount of cross contamination, when compared to the other facilities on campus.

“To enter onto a campus like Humboldt State University is an ecological privilege” (personal com. Davis). It is an opportunity for students to actively participate in sustainable practices. We decided to form a group within the Sustainable Campus class and directly work with issues related to recycling in the Residence Halls. We addressed what current resources were available, existing policies, and what other universities were doing regarding recycling on campus. We then formulated alternatives and weighed them against each other and chose what we believed to be the most realistic and beneficial options.

Our project was broken up into three parts. There was an outreach aspect, which was a survey and provided an updated document to be added to the ResLife and You Handbook. We wanted to quantify data to determine how much recycling and trash the RH’s were contributing so that that data could be compared in the future. The third aspect was institutionalizing Dorm Environmental Coordinators (DEC’s) within each of the RH’s. DEC’s role would be to contribute to the residents’ awareness of resources and activities, and also act as a liaison between clubs and programs on campus that deal with sustainable practices.

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Conducting the survey allowed us to do two things. First we were able to collect data about the students living in RH's. Second we were able to use it as an outreach tool and provided surveyors with information about resources, and stickers that promoted recycling.

Another outreach mechanism is the ResLife and You Handbook, which has only a brief, half page summation about the resources available on campus. This section lacks substance. We have prepared an updated document which will be added to next years Handbook and will include existing resources on campus, as well as ways students can be involved in the campus wide efforts towards sustainability. This will contribute to the perpetuity of the project as well.

Next, we realized that we needed to quantify data so that current rates of recycling and cross contamination can be compared to those of the future. TC decided the best way was to collect the recyclables and trash from RH's separately than the rest of campus. This data will also be helpful in justifying the need for Dorm Environmental Coordinators.

Institutionalizing Dorm Environmental Coordinators (DEC's) is the most ambitious aspect of the project. This is largely due to the bureaucratic process and the steps of approval needed. The accomplishment of DEC's would ensure perpetuity of the project and also be a strong outreach tool.

"The movement toward a sustainable future has begun in many places of the world" (Mckenzie- Mohr, Smith). Campuses are great places to foster practices and projects. Humboldt State University and the students living in Residence Halls have the resources and the ability to lower ecological impacts in our part of the world.

Residence Hall Sustainability Resources:

What follows are the resources identified in a search of Humboldt State's websites and documents that were linked or related to student campus living.

First, we found the Department and Housing and Dining 2009-2010 "Res Life and You Handbook" on the Residence Hall website. This handbook provides information for new residents on the resources, responsibilities and services available to them while living on campus. It seems to be geared towards providing information for those people who are living on their own for the first time. Page 16 provides information on recycling and energy saving opportunities for residents. The recycling section is one short paragraph informing the reader that there are many locations to recycle different products from plastic to paper, and there is a single sentence describing the importance of recycling (Dept, 16). This handbook could stand to use more information on the sustainability resources available to campus residents, and more information on the logistics of recycling in the Residence Halls.

Second, we found a brief orientation and resource guide titled "Sustainable Living and Learning at HSU." This was linked to the Department of Housing and Dining Website. Transportation, conservation of energy, sustainable living events, campus sustainability organizations and local products and sources are the five categories in this document (Sustain). This is not a complete resource and has a great deal of out-of-date or missing information, but it is a starting point. Who created and maintains this page?

*Did you ask
Student life?* 2

Third, we found a sustainability link off of the Residence Life website. This resource, once again, is incomplete. It only provides basic information of light pollution and toxins in the home (Dept. Sustainability Link). This link does not take into account of all the resources available to students. These sites should be comprehensive in order to fully help students in their exploration of sustainability and their opportunities to pursue this knowledge on campus. It is great that these webpages exist, and that they are accessible to every student because this information is usually only available to those students studying environmental and sustainability issues.

~~webpage~~

Fourth, during an interview with Jeremy Davis we were introduced to two very important groups in our work with the Residence Halls. The first group is the Residence Hall Association. This is the student governing body for the Residence Halls. They are similar to the Associated Students, and we will be working with them when making decisions on projects and other activities in the dorms (Davis). The second group we learned about is the eco-living special living community. This is located on the second floor of the Cypress complex. This is a group of students who have chosen to live in a setting where they address sustainability daily (Davis). This group will be important in the implementation of projects and events in the Residence Halls.

Existing Resources:

Humboldt State University has various groups on campus who focus their energy on waste diversion. We will work with these groups in order to address recycling issues.

Campus Assessment and Working Foundation for a Campus Sustainability Plan: Spring 2009- This was a project done by the spring 2009 Natural Resources Planning Practicum to draft framework for a more sustainable campus ("Campus Assessment and Working Foundation for a Campus Sustainability Plan: Spring 2009". Natural Resources Planning Practicum. 2009).

Campus Recycling Program (CRP) - The campus-recycling program focuses on waste reduction through education and outreach. They have various zero waste events throughout the semester, clothing swaps and their own student run compost program (<http://www.humboldt.edu/~recycle/>).

Reusable Office Supply Exchange (R.O.S.E.) - Part of the Campus Recycling Program R.O.S.E. allows people to donate or receive free used office and school supplies (<http://www.humboldt.edu/~recycle/html/rose.html>).

Campus Center for Appropriate Technology (CCAT) - CCAT is a live-in demonstration house on campus that is a model for sustainable living. They have various alternative energy technologies such as their photovoltaic system, solar thermal system, and a wind turbine. They work to help people be more consciously aware of social, economic, and environmental impacts they have on everyday life. CCAT offers various classes and has a recycled cap and gown program for graduates (<http://www.humboldt.edu/~ccat/>).

Take Back the Tap- Take Back the Tap focuses on educating students of the negative impact of one-time use bottles. They have installed various hydration stations on campus offering filtered water (<http://now.humboldt.edu/news/humboldt-students-take-back-the-tap/>).

Cypress Hall Eco-Living- An educational outreach in the Cypress Hall residential building focused on environmental responsibility and sustainable living (<http://www.humboldt.edu/housing/communities.html#eco>).

Existing Policies:

100% Recycled Paper Policy- Humboldt State has made a commitment to using 100 percent recycled, chlorine free paper. This policy helps save annually the equivalent of 1,200 mature trees; 349,000 gallons of water; 204,000-kilowatt hours of electricity; 3,000 lbs. of air pollution; and 104,485 lbs. of greenhouse gases while avoiding dioxin pollution and other negative environmental impacts of chlorine bleaching (<http://www.humboldt.edu/~pcw/memo.html>).

Sustainability Strategies Used by Other Universities:

Many universities other than Humboldt State have enacted policies to move closer to having sustainable campuses and have used a wide array of techniques in their efforts. The practices and policies used by other universities offer a valuable resource for finding ways to increase sustainability at Humboldt State. Examples of this include UC Davis's Aggie Stadium which sells only recyclable and compostable materials in order to reach zero-waste goals. Some of the Residence Halls at UC Davis have been retrofitted with Axis light harvesting, dimmable ballasts which automatically adjust light output based on the amount of available daylight in order to reduce energy use. Both UC Berkeley and UC Santa Barbara have created online energy dashboards that monitor the resource use of different buildings on campus in order to raise awareness of resource conservation.

Goals and Objectives:

Goal:

Increase the number of people recycling in the Residence Halls and decrease the amount of cross contamination between recycling and waste bins in perpetuity.

Objectives:

- 1.) Lower the amount of cross contamination between the Residence Halls recycling and waste bins by 5% of baseline data by the end of the spring semester 2010.
- 2.) Lower the amount of cross contamination between the Residence Halls recycling and waste bins by 15% of the baseline data by the end of the fall semester 2010.
- 3.) Lower the amount of cross contamination between the Residence Halls recycling and waste bins by 30% of the baseline data by the end of the fall semester 2011.
- 4.) Lower the amount of cross contamination between the Residence Halls recycling and waste bins by 45% of the baseline data by the end of the fall semester 2012.

Alternative Solutions:

Alternative Strengths and Constraints:

We created seven categories that we used to judge our alternatives. These categories represent what we desire to accomplish and include in this project. They also reveal our limitations in fulfilling our objectives. What follows are those seven general categories that we used to derive our practical solutions.

- 1.) Quantify the amount of cross contamination within recycling and waste bins.
- 2.) Consolidate information on where resources are located on campus and how students can be involved in recycling.
- 3.) Identify (and address) the social and behavioral barriers regarding recycling on campus Residence Halls and promote awareness.
- 4.) Solutions should be inclusive of all people living in the Residence Halls.
- 5.) Collaborate with existing resources available on campus by working with TC, RHA, CRP, all reps from each hall, Jeremy Davis, HEMI, and more...)
- 6.) Institutionalize a recycling method by working with decision-making bodies to build awareness among students.
- 7.) Time and energy intensiveness of proposed alternative solution.

Alternative List:

As we began to brainstorm and analyze our alternative solutions, we began to notice that our alternatives fell under three different focus areas. These categories are: information gathering through social research and actual recycling levels; outreach to campus residents; and policy changes in how the Residence Halls are managed. What follows are the eleven alternative solutions we found to be most promising. These alternatives do not exclusively fall under one category however. For example gathering and updating recycling information fits into all the categories, but we found it beneficial to align them with one category when analyzing the solutions and their relation to our criteria and the problem.

1). Surveys and Data:

- Conduct a recycling survey of HSU residents. This survey will be used to assess their knowledge of recycling; the benefits, and how to do it properly. This survey will provide other social information such as if a person would want to lead their floor in increased recycling by being a Dorm Environmental Coordinator, and what they believe can be done to improve recycling on campus.

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- Talk to T.C. in order to reveal the amount of cross-contamination in the Residence Halls waste bins. We believe he has this information, but are not sure. This information may be categorized by dorm and be correlated to the survey and observational study.

- Conduct an observational study or as we termed it; trash stalking. This alternative would have the group members watch and document how residents dispose of their waste. This can also be correlated with the other studies and would provide more accurate information on behavior than the survey because people will not have their conscience influencing their answers.

2.) Outreach:

- Give the CRP and whoever is involved with the end of year or semester move out help and the idea to collect people's good and unwanted stuff to sell in a yard sale to benefit recycling efforts on campus or some other cause.

-To participate in recycle-mania. This is a nationwide event that starts on January 17th and ends on March 27th. This event provides incentives for universities to reduce their waste output.

- To conduct a fun event that involves the campus residents in exploring recycling in new ways. We are calling this the recycling extravaganza. Turning recycling and waste into art or useful products would be one aspect of this event. This would be held near the Residence Halls.

-To update and improve the informational signs in waste disposal areas and on bins. This could be expanded to other parts of the Residence Halls as well. Include an institutional method by which this information can stay consistent with current institutional recycling procedures.

-Create a recycling video that is fun and interesting which could be played in the common areas of the Residence Halls or distributed via e-mail to students.

-Identify and update current recycling info that is provided to residents: in their move in handbook; on campus websites; and other places where recycling information is located and in need of updating or improvement. This solution also includes incorporating a method by which this information is updated institutionally when recycling methods change.

3.) Policy:

-Establish Dorm Environmental Coordinators in Residence Halls to coordinate and increase resident's ability and understanding of how to recycle on campus. This will provide an institutionalized structure to facilitate recycling. This solution will also increase social pressure to recycle correctly.

-Facilitate networking between recycling resources and residents within the Residence Halls. Incorporate new job descriptions and methods for those who are involved in recycling projects or organizations to help them work together.

Alternative Analysis:

After deciding on our eleven alternatives we created a matrix by which to judge how each alternative addresses each project desire or constraint. We created a scale of zero to three. Zero

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means that the alternative does not address the strength or constraint and three means the alternative fulfills the strength or constraint greatly. (See Table 1)

(Table 1) Alternatives rated for effectiveness of meeting objectives on a scale from 0 (not effective) to 3 (very effective). For the Time & Cost criteria, 0 is the most time intensive and/or expensive and 3 is the least.

Objectives*		Goal 1				Goal 2		Other	Total Score
		Quantify	Barriers	Resources	Inclusive	Collaborate	Insitutionalize	Time & Cost	
Alternatives**									
Survey & Data	Survey	2	3	2	3	0	0	1	11
	T.C.	3	1	0	0	0	0	2	6
	Observe	3	2	0	0	0	0	1	6
Outreach	Yard Sale	0	1	3	1	3	2	1	11
	Recyclemania	3	1	2	2	3	2	1	14
	Fair	0	1	3	1	2	1	0	8
	Update Signs	0	0	3	3	2	2	0	10
	Video	0	0	3	3	1	1	1	9
	Information	0	0	3	2	3	3	2	13
Policy	Block Leaders	0	2	3	3	3	3	1	15
	Network	1	2	2	1	3	3	1	13

*Objectives	
Quantify	Quantify recycling and cross contamination.
Barriers	Identify&address social/behavioral barriers.
Resources	Increase awareness of available resources.
Inclusive	Be inclusive of all people in Residence Halls.
Collaborate	Collaborate with different groups.
Insitutionalize	Institutionalize changes in recycling.

**Alternatives	
Survey	Conduct a recycling survey of the residents.
T.C.	Use other resources (T.C.) for recycling levels.
Observe	Conduct an observational study of residents.
Yard Sale	Yard sale at end of semester.
Recyclemania	Set up Recyclemania event.
Fair	Host recycling fair.
Update Signs	Update interpretive signs at collection sites.
Video	Create a video about recycling.
Information	Update information available to students.
Block Leaders	Create block leaders within Residence Halls.
Network	Network among recycling resources.

One issue the group has identified with this process is the difficulty in categorizing information, people, and social problems. The subjective nature of social and environmental problems makes it difficult to categorize solutions and their constraints. There are many instances where these categories overlap, and categorizing could have possibly hindered the group in deciding the most pertinent solution to our problem. However, we did get a sense of how each specific solution relates to the overall desired outcomes of each solution. This analysis also provided a method for determining the constraints of each alternative.

Chosen Alternatives:

After finishing the analysis of our eleven alternatives we decided on four solutions based on both the matrix and our own opinions on what would be successful. These four alternatives are described below.

- 1.) Social and Quantitative Research: As a group we have decided to perform a survey throughout the Residence Halls. This includes writing and distributing a survey to possibly each student resident. This information may then be correlated with actual observed and possibly measured cross contamination rates at each Residence Hall. The quantitative data will be accrued by working in conjunction with TC and C.R.P. This solution will also be instrumental in the quantification of our objectives.
- 2.) Recycle Mania: We have decided to help with the implementation of Recycle Mania which is described above. This event is already being implemented on campus by the C.R.P. However, our project will involve outreach and an attempt to broaden the student awareness of this event.
- 3.) Updating Residential Life Handbook: As a group we have noticed that there is inaccurate and inadequate information provided to students at waste disposal areas and in the information they are provided when moving into the Residence Halls. Even though we have determined that information updates and distribution doesn't change overarching behavior it is important to provide quality information to those students who utilize this resource already. If we are trying to increase recycling resource utilization we should ensure quality information for student to utilize.
- 4.) Implementation of Dorm Environmental Coordinators in Residence Halls: This alternative solution is the most innovative solution we have found. This involves working with the RHA in developing a management system that establishes recycling leaders on each floor or hall. These dorm environmental coordinators will ensure that proper recycling methods are happening, distribute information, network with other recycling groups and organize. This will be a difficult solution to implement and manage, but if it is established on the policy level in the Residence Halls there is a good chance that this solution will maintain low levels of cross contamination in waste bins.

Implementation:

Quantification of Recycling Levels:

In order to determine whether our objectives have been met it is necessary to have a baseline value for the amount of cross contamination currently taking place. This data will be gathered by working with TC. He is involved with the pick-up of recycling from the Residence Halls and already has an idea of the amount of cross contamination that occurs. We will use these rough estimates from TC as the baseline against which to evaluate our alternatives and will work with TC to develop a method of evaluating cross contamination levels in the future.

Implementation Plan for a Recycling Survey in Residence Halls:

Creating this implementation plan for our social research in the Residence Halls has brought us to several conclusions. First, the least time intensive method for understanding student perceptions of recycling and resources on campus would be to create a hardcopy self administered survey. This was compared to observational research, interviews and other types of surveys such as internet surveys. Second, we discovered that there would be approximately four steps to successfully fulfill the survey objectives. The objectives of the survey would be to gain an understanding of some of the social factors that influence the lack of recycling in the Residence Halls. This information may also be correlated to the numerical data of cross contamination. What follows is a discussion of the four steps that are needed to implement a successful survey.

The first step to conduct a survey was the actual survey design. This includes: writing questions that provide data that fulfills our needs and questions; deciding on how to administer the survey; figuring out what a valid sample of the campus residents is; testing the survey and questions; and determining the available time and money to conduct the survey. Considering this was decided and implemented late in the semester there was a limit to how much time could be spent on the pre-survey work. This step was completed on November 11th.

The second step for the survey implementation was to have the survey approved by the IRB (Institutional Review Board). Part of the approval considerations are making sure the survey doesn't impinge on the rights of the informants. There are exact wordings for this consideration that will be included in the research proposal. The survey was approved by the IRB on November 17th.

Step three is the actual implementation of the survey. This includes working with the Residence Hall Association and other people in the Residence Halls to distribute and collect the survey and the data. We tabled in the "J" which is the dining hall for residents and ask them when they walked by if they had some time to fill out a survey. This took approximately a week and was finalized on the 3rd of December.

The final part of the survey implementation was the data analysis. Considering that there was a limited amount of time that was given to this step the depth of the analysis was not too extensive. The depth of the analysis was also limited by our understanding of statistical methods.

In creating this implementation plan we realized that we have spent too much time discussing our alternative solutions and goal and objectives and not enough time doing the actual work. This limited the sample size and data analysis, but because the IRB was very prompt in their approval the survey was successfully conducted.

Revising the Recycling Information in the ResLife and You Handbook:

Currently this is what is stated in the ResLife and You Handbook regarding recycling in the dorms:

In order to be environmentally responsible, the Housing department, in conjunction with Campus Recycling, has a comprehensive recycling and waste reduction program. Each living area has a location for waste disposal and recycling. At each of these locations you can recycle plastics, paper, magazines, cardboard, aluminum and glass. Help do your part to reduce the strain on limited global resources. Reduce, Reuse and Recycle! Check with your RLC about composting opportunities in your area (Dept. ResLife).

We will be expanding this paragraph to an entire page (and more if needed) that will be a more interpretive message regarding recycling. Redwood Chapter of Interpreters (RCI) will also help to make a professional template for this document. It will explain what the CRP is and where it is located. There will be a list of the resources directly related to CRP. It will also include where the bins are located, and how people are expected to use them. There will be a statistic included stating how much recycling and cross contamination has occurred in past, and what is the expected amount in the future, depending on amount of students living in Residence Halls. This statistic will be provided by information we receive from TC. There will also be information on Recycle-Mania and what to expect during move out.

We have permission from Jeremy Davis, the Residence Life Coordinator who oversees the ResLife and You Handbook to perform the edits and update the information in the ResLife and You Handbook.

Dorm Environmental Coordinator:

The DEC position will be created as a means to support efforts to encourage environmentally responsible practices and behaviors in the dorms, as well as serve as a point person in the dorms to which students can go to with environmental questions and concerns. The central duties of the DEC are to:

1. Keep students informed about campus environmental policies and projects, including the dorm room recycling pilot program. This is important because students are often unaware of the college's commitment to environmental responsibility and/or programs aimed at implementing that commitment.
2. Be a resource and contact person for students in the dorms who have questions or concerns about campus environmental issues. Often students are not sure who to contact if they have questions about environmentally related issues, how to get involved, or how to figure out logistics like turning down the heat in their room (for example). You can help them out by answering those questions or connecting them with someone on campus who can find them an answer.

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3. Work closely with the TC and other environmental groups on campus to relay student environmental concerns and develop innovative ways for fostering sustainability.

DEC's will fill out weekly reports geared towards creating a record of all DEC activities. These records will show what has been done in the past and how they can build upon those successes. The report cards will include:

Hours worked this week (i.e. Tuesday 9am-10am, Wednesday 1am-2am):

Activities in the dorm this week:

Students contacted me with the following questions:

Updates on projects I am working on

Plans for this coming week:

Did you enter data into the Recycling scorecard sheet?

Who does this information go to?

In addition to the weekly reports, DEC's will fill out a weekly recycling scorecard with ratings as follows:

Excellent 1 little or no contamination

Good 2 mixed redeemables

Okay 3 mixed redeemables and/or other contamination and trash

Bad 4 almost all mixed redeemables, cross contamination, trash

(www.grinnellwiki.com)

Recycle-Mania:

Since we had a lack of time, and there is already an effort being made to include HSU in Recycle-Mania we have done no work on this chosen alternative. Several of our members will probably be participating in Recycle-Mania next semester.

Monitoring and Evaluation:

Quantifying the Recycling Levels:

During the week of November 9th through the 13th, 2009, Tall Chief collected and weighed recycling from the Residence Halls, dining halls, bookstore and the rest of the campus center separately from the other on-campus sources so that the amount could be quantified. The information from this will serve as the baseline against which our objectives are evaluated. The process will be repeated twice a semester starting in the Spring Semester 2010, in order to provide up-to-date information about recycling levels in the Residence Halls and evaluate the success of the project. TC has limitations in how he categorizes recycling and that is why the University Center is included in these recycling audits.

Residence Hall Survey:

The survey was conducted on Thursday the 19th of November, and the week of November 30th through December 4th. Monitoring for this phase of the project consisted of ensuring that all completed surveys were kept in a safe location. The purpose of this precaution was to secure a quality sample and insure that respondents are kept anonymous. There was an attempt to obtain a quality sample of campus residents, but the actual number of respondents was determined by chance and time spent conducting the survey. All completed surveys will be destroyed once all the data has been electronically entered and evaluated.

All data has been statistically analyzed to find any correlations between variables. See the results section for an in-depth analysis of the survey. The final data analysis and questionnaire will be given to both TC and CRP. This information will hopefully inform TC and CRP of the inadequacies and misunderstandings in the recycling system for Humboldt State University campus residents.

This survey has been designed as a one-time use survey. The questionnaire will be given to TC and CRP and they will be able to reuse the survey or expand on it at their own discretion. By providing this information on recycling in the Residence Halls to TC and CRP without asking for any commitment or future action, we are allowing these key sustainability actors to use their judgment in utilizing these resources to their advantage.

Dorm Environmental Coordinators:

Weekly recycling scorecards filled out by Dorm Environmental Coordinators will provide a way to monitor and evaluate recycling and cross contamination levels.

TC will visually assess the amount of cross contamination, while also conducting two separate Residence and Dining Halls trash audits each semester. Together this information will allow us to determine if recycling behavior is improving.

Results:

Initial Recycling Quantification:

TC has measured the percent and tonnage of recycling that Housing and Dining contribute to the HSU recycling stream. This measurement was made during the week of November 14th through the 21st. This is not an exact measurement, but provides a characterization of the waste stream. He will be doing several more of these audits in the future, and they are measured in a weekly time interval.

There were 2,080 lbs. of containers (metal and aluminum cans, glass and all plastic containers) and 3,920 lbs. of fiber (all types of cardboard and paper) measured. This means that the Residence Halls, the Jolly Giant Commons and the Depot/Bookstore contributed 36.6% of the container recycling and 48.9% of the fiber recycling to the campus recycling stream.

Residence Hall Survey:

A total of 154 surveys were completed, representing about 9.9% of the approximately 1,560 campus residents. The distribution of respondents throughout the RH's was uneven, mostly likely due to the differing frequency with which residents of the different RH's visit the dining hall where the surveys were conducted. Creekview and the Campus Apartments both accounted for less than 10% of total respondents while there were no respondents from the Manor. The majority of respondents (58%) indicated that they did not know what CRP was and another 58% had not read the recycling information contained in the ResLife and You Handbook.

Chi-square tests were used to test for correlations between a respondents RH and responses to the next three questions: ease of recycling, recycling frequency, and how often improper disposal is observed. Due to the small sample size for the Campus Apartments and Creekview, analyses were run both with and without them to ensure that results were not biased by them. The Manor was not included in any analyses. For all three questions, it was found that there was not a significant difference in the frequency of answers between the RH's with the inclusion of Creekview and the Campus Apartments or without them.

Dorm Environmental Coordinators:

The implementation of Environmental Coordinators has significantly improved recycling rates on other campuses. (Sargent, 2007) The process needed to implement such a position on campus at HSU was not completed during the length of this project. We have contacted the Residence Hall Association and emailed them our idea. We would like to present it at the Residence Hall Association meeting in the future but we were unable to be added to the agenda for this semester.

- Will TC or the CRP be following up on this

Reflections:

Andrew's Reflections:

This project has revealed several things for me when it comes to working towards sustainability in an institutional setting. It has given me a valuable process for addressing, identifying, analyzing and acting on environmental and social problems. The method provided in this class has revealed some intricacies when addressing problems that I had never thought of before. A very obvious and important process that I will continue to use is the need to define and understand the problem before any solutions are discussed or decided upon.

I have worked with groups in many instances, and there continues to be things that I learn from this. I am beginning to realize that I need to step back and let other take control. I tend to be assertive. This can be good but I don't like being overbearing. I have also learned this semester that I need to pick my activities carefully because I become overwhelmed with all of the projects and work that I do.

The first thing I would have done differently in this project is work more diligently in the beginning of the semester, so there would have been more time to adequately develop our solutions to the problem. Even though I feel like I have been doing good work in networking and establishing connections at school, I think I would have done more work actually on the

ground in the Residence Halls. I would have also tried to fight harder for the more radical ideas that I had at the beginning of the semester. These ideas were to try and address the corrupt nature of HSU and other universities, and how this hinders our work towards sustainability.

?
Who profits?
I feel that there is no way that any university system or HSU will ever become sustainable. The very core of the higher education system that I know rather intimately is based on profit. This is a business selling our minds as product, and I am so thankful that I have kept my skepticism. My experience in and out of school has provided me with this criticism and I am divided about my schooling. I have gained so much from my education that I will continue to use, but I feel that I have wasted some true life experience and some valuable time that I could have devoted to becoming more in tune with myself and my current place on earth. I have no regrets and will use what I have gained from this class and others to participate in the continued renewal and defense of our planet and our diverse communities.

Rachael's Reflections:

?
This is a project that will take much longer than a semester to not have any negligible results. It is a problem that has many groups on campus working on it. It took us a while to find our niche in addressing the problem so we had little time to implement our solutions. We did not meet any of our objectives. It would be nice to see some of our ideas carried out in the future, possibly by future students or by members of our group.

Amy Teeter's Reflections:

This class is usually a cap stone class for most students. I took this class because I wanted to become involved in something immediately that revolved around networking with groups on campus and students. I thought it would be a good way for me to introduce myself to this campus. I really enjoy being a part of something bigger than myself, and saw this class as an opportunity for me to do that.

Since I am new to the campus I felt like I did not really have a good grasp on what was going on at campus and what the problems were. At that point I began to second guess my decision and wonder if I had made the right choice. It took us a while to get the ball rolling, but once we did I feel like the project began to take a life of its own.

Recycling in the dorms is not the real issue. The issue is that they are not aware of the resources. Not all of the students who live in the dorms are like this, but after surveying we realized not very many of them knew what the CRP is. Do they know the labor that goes into getting the waste and recycling off of campus? If they did, would they care more? To know that their own peers are the ones that are volunteering to do it? And that basically two guys run around all day making sure our campus is clean, with help from the volunteers. CRP does so much at this campus, and I think they need more recognition.

I am still excited about this project. I plan on continuing to work with TC and Kyle in the making of a brochure and updating current information. I will also help out for recycle mania. CRP's information and mission statement should be posted in all buildings, in every dorm, and wherever possible. The interpretive signage at waste bins should all be uniform, but I know that takes time and money, but it is a proposal.

Even though it took us a little bit of time to get going, I think this project was worthwhile and it helped me accomplish my own goal, to be involved in something that is important and to network with other groups and clubs, and people. TC and Jeremy Davis have been very supportive of us, giving us ideas and contributing in any way that they could. I would like to see this project continue, and the establishment of DEC's would be very beneficial to our campus system.

As far as working within a group, I think our roles all changed throughout the project, and we all had something unique to contribute. We all worked well with each other, but time conflicts were difficult. Luckily, the way this class is set up, we were able to use most of our class time, which was already allotted to do our work, which was nice.

I would of liked to see stronger writing from myself earlier on in the project. I would have liked to do more outreach with the residents. But I am not done yet. Through this project I myself have learned about things I can do on campus to contribute to sustainability, and I will continue to be involved during my next three semesters here, as this was my stepping-stone.

Jacob's Reflections:

For this project we chose to attempt to help the Residence Halls move closer to being sustainable by increasing the portion of their waste stream that was recycled. The choice to work with the Residence Halls seemed clear to me since a large portion of campus resource usage and waste production is attributed to them. Furthermore, for many students the Residence Halls are the first time that they have lived on their own, so it seems an ideal location for teaching students how to approach sustainable living.

Settling on recycling as the area we would address was a little more difficult for me, as I have my reservations about the current recycling enterprise. It is my opinion that not only is the overall waste stream from the Residence Halls too large, but that the total amount of recyclable material that passes through them is also too large and ultimately is not a sustainable use of our resources. My initial ambition was to try to take measures to actually reduce the waste stream rather than divert part of it, but it is now quite clear that that would have been an unrealistically large project. Upon further investigation, simply getting students to recycle more of their recyclables, rather than throwing them out, turned out to be a sufficiently complicated endeavor and likely (hopefully) represents a valuable first step in encouraging them to think about sustainable living.

Looking back, I wish that we had had more time to work on actually implementing our solutions, since there is clearly more work that can be done in this area. However, I do feel it was valuable to thoroughly develop our problem statement and possible solutions before trying to implement anything. I also found that it was this early part of the project where working within the context of a group was the most difficult and the most beneficial. Although I had done plenty of group work before, I had never worked on a group project for this long before and I feel that I was able to learn more about how to work effectively within a group setting.

I had also never attempted to address a problem of this size before, and so this project was somewhat of a humbling experience, as our hard work, although hopefully beneficial, is unlikely to bring about large change or solve any immediate problems. Sustainability, at least

Res-Cycle

for now, is something that has to be continually worked at; it would be unreasonable to think that in one semester an issue of this magnitude could be completely dealt with. Although I was aware of this and never expected to solve the recycling problem completely, it is obvious that despite our work and the work of others (such as at CRP) there is still a lot more work to be done.

Appendices:

A: Survey and IRB Proposal

B: Survey Data

C: ResLife and You Handbook Improvement and Pamphlet

D: Hours Worked

E: Acknowledgements

Appendix A: Survey and IRB Proposal

This is the final draft of the survey that each respondent filled out during our five day tabling in the "J" which is the resident's dining hall.

Residence Hall Recycling Improvement Initiative: Resident Survey

The purpose of this survey is to research Humboldt State University campus residents and their understanding of the university's recycling resources. This survey is also researching if these resources are being utilized by residents.

Please **do not** write your name or any other identifying information on this survey. This is an anonymous survey, and will be used to improve the recycling in the residents halls. You must be 18 or older to complete this survey. Please, honestly answer each question to the best of your ability. For multiple choice questions circle the single answer that best describes your experience. For the short answer questions please answer as brief as possible.

Contact Andrew Collins-Anderson, adc37@humboldt.edu or (707) 499-9870, with any questions or concerns.

Which Residence Hall do you reside in (choose one)?

Cypress The Hill Canyon Creek View Campus Apt. Manor Other

Please indicate how you feel regarding the following statement. "Recycling in Residence Halls is easy."

Strongly Agree Agree Neutral Disagree Strongly Disagree

How often do you recycle (aluminum, glass, paper or cardboard) on campus?

Often Sometimes Rarely

How often have you witnessed improper disposal of waste on campus?

Often Sometimes Rarely

Do you know what the CRP (Campus Recycling Program) does?

Yes Partially No

Res-Cycle

Have you read the recycling information in the Res. Life Handbook?

Yes I skimmed it No What is the Res. Life Handbook?

Would you actively participate as a volunteer recycling coordinator for your hall?

Yes Maybe Unlikely No

Where did you live before moving to the residence halls?

Northern California Central California Southern California

Out of State (please identify which state) _____

Out of Country (please identify which country) _____

Please describe your recycling habits before moving to the residence halls.

Please state one way you believe recycling may be improved in the residence halls.

This is the final proposal that was submitted to the Institutional Review Board, and was passed with no problems. The reviewer even thanked us for doing a good job for ensuring respondent anonymity.

HUMBOLDT STATE UNIVERSITY
COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS IN RESEARCH
PROPOSAL SUBMISSION CHECK LIST

Name of Principal Investigator (P.I.) Andrew Collina-Anderson

P.I.'s phone number (707) 499-9870 P.I.'s E-mail adc37@humboldt.edu

If P.I. is a student, name of Faculty Advisor and E-Mail Richard Hansis Richard.Hansis@humboldt.edu

Title of Project Residence Hall Recycling Improvement Initiative

Please submit a research protocol that contains the following information (please do not include an entire thesis proposal). Provide copies of all materials that the subjects will see. This includes recruiting letters and/or posters, questionnaires, interview schedules, measurement protocols.

******FACULTY MUST INITIAL EACH ITEM ON THIS FORM******

MSA Completion of the IRB Tutorial, <https://learn.humboldt.edu/login/hsu/index.php>

MSA Original plus one copy of all materials (keep a copy of all paperwork submitted)

MSA All pages are numbered

MSA Cover letter (circle either Form 1 or Form 2):
Form 1 if P.I. is *faculty or staff* **OR**
Form 2, including signature of sponsoring faculty, if P.I. is a *student*
(students should include phone # and e-mail address)

MSA Form 3: Application for IRB Review, **OR**

MSA Form 4: Request for Exemption for Course Assignment

MSA Description of proposed study and its rationale/significance

MSA Explanation of logistics of recruiting and selecting subjects and by whom.

MSA Description of special populations (eg. pregnant women, children) and safeguards for those populations.

MSA Description of data gathering methods and procedures (e.g. experimentation, observation, survey research) with explanation of what subjects will experience when participating in study

MSA Approximate time commitment required from subjects

MSA Specification of any risks and benefits to the subjects for participating in the study, and risk management procedures involved

MSA Explanation of how anonymity or confidentiality will be maintained

MSA What will happen with raw data after project is completed (how long will data be kept, method of destruction)

MSA Copy of informed consent, if applicable. Include your name and contact information, and if student is PI, include faculty advisor's name and contact information as well. If PI is faculty/staff member, indicate that Chris Hopper may be contacted as well.

MSA Copy of research instrument, interview questions, questionnaire, or tool, as well as instructions that will be given.
P.I. should be identified in questionnaire introduction.

Submit to: Research & Graduate Studies, Siemens Hall 130 Questions: Contact Chris Hopper, Dean, cah3@humboldt.edu, (707)926-3853

HUMBOLDT STATE UNIVERSITY
COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS

FORM 2: STUDENT COVER LETTER

TO: Chair, Committee for the Protection of Human Subjects
c/o Dean, Research and Graduate Studies

FROM: Student: Andrew Collins-Anderson
Faculty Sponsor: Richard Hansis
Department: Natural Resources

SUBJECT: Review of enclosed research proposal by the Institutional Review Board

DATE: November 9, 2009

PROJECT TITLE: Residence Hall Recycling Improvement Initiative

The faculty committee listed below has reviewed the attached proposal (signatures required):

Name: <i>Richard Hansis</i>	Signature <i>Richard Hansis</i>
Name:	Signature
Name:	Signature
Date:	

On behalf of the student, we request:

- Expedited review (no more than minimal risk)
- Full review process (More than minimal risk)
- Exempt Status and expedited approval

Please provide an explanation of why the proposed research should be considered "exempt."

The research project "Residence Hall Recycling Improvement Initiative" should be considered exempt for the reason that it is an anonymous self-administered survey of adult Humboldt State University residents. There is minimal risk involved in this research and there are no vulnerable populations being studied.

Please outline risks, benefits, and risk management procedures:

The research risks include: personal questions involving recycling behaviors; possible human subjects that are considered vulnerable; and the misappropriation of data and a possible connection between an individual and their response.

The research benefits include: an increased understanding of the recycling habits and resource awareness of HSU residents; more efficient decision making and resource allocation for Tall Chief Comet (Campus Sustainability Coordinator) and CRP (Campus Recycling Program); revealing of correlations between recycling attitudes and observed behaviors; a possible economic savings for the residence halls; and increased awareness of recycling resources for residents.

The risk management procedures include: survey instructions ask subjects not to include any identifying information to guarantee anonymity; instructions also prohibit respondents under the age of 18 to take the survey; questions revealing vulnerable populations will not be asked; all raw data will be destroyed by the principle investigator after all data is analyzed and recorded in the final report by December 18th, 2009; the survey will be randomly administered in the campus dining hall by one of four surveyors and the respondents will be asked to answer questions where the researcher cannot see and deposit their folded answers in a collection box.

HUMBOLDT STATE UNIVERSITY
COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS IN RESEARCH
FORM 4
REQUEST FOR EXEMPTION FOR COURSE ASSIGNMENT FORM

1. Course instructor:

Name: Richard Hansis
Department: Natural Resources
Course name and #: Sustainable Campus: ENVS 411, Fall 2009

2. Assignment Title:

Sustainable Campus: Class Project

3. Assignment description:

As a class we were asked to work in groups of four to five to address a real-world environmental problem. Through our environmental problem-solving skills gained from other classes and ENVS 411, we have: identified a problem; determined some causes of this problem; create desired goals and objectives in addressing the problem; identified alternative solutions and selected the best solution according to our limited time and resources; implemented the chosen solution; and created a monitoring and evaluation plan.

4. Status of Request (check one):

- | | |
|--------------------------|--------------|
| <input type="checkbox"/> | New |
| <input type="checkbox"/> | Renewal |
| <input type="checkbox"/> | Modification |

5. Dates for research assignment (Note: IRB committee members have 10 business days to read and review proposals. Research cannot start until it is approved):

Begin: December 2nd, 2009
End: December 18th, 2009

6. Subject Population:

The subject population possibly includes all adult Humboldt University residents.

7. Method: Include sampling procedures, method of obtaining informed consent, procedures for maintaining confidentiality/anonymity of participants. If applicable, questionnaire, interview protocol, or other measurement instruments.

For this survey we will be conducting random sampling of campus residents in the "J" (campus dining hall). This must be approved by the RHA (Residence Hall Association). The investigators will be at the table with recycling information and the survey. Investigators will be present to answer questions, but subjects will be asked to read all instructions and fill out the

survey away from where investigators can see the completion of the survey. The subject will then be asked to fold the survey and place it in a sealed collection box. The instructions indicate that no identifying information should be placed on the survey and anyone under 18 may not fill out the survey. If identifying information is found on any survey it will be destroyed immediately by the principle investigator. Informed consent will come in the form of reading all survey information and completing the survey. Once all data is gathered and analyzed all initial surveys will be destroyed by the principle investigator. This will happen no later than December 18th, 2009.

8. How will the results be reports/used?

The results will be included in the final paper for ENV5 411, fall semester 2009. They will also be discussed in the final presentation for the same class. The information will be analyzed by taking percentages of each response for each question. Correlations will be drawn between which residence hall a respondent lives in and their recycling observations, recycling resource understanding and use. General categories will be developed for the two short answer questions to find trends in the responses. The final question is asking for the resident's ideas for improving recycling. This will be compiled to create a source for future improvements.

All analyzed data will be given to T.C. Comet and the Campus Recycling Program so they may gain a better understanding of campus resident's views on residence hall recycling. This will hopefully help these people to better support the residence halls in their recycling efforts.

Research Protocol:

Description of Proposed Study:

The proposed study is an anonymous self-administered survey of adult Humboldt State University residents. The purpose of this survey is to solicit campus residents understanding of the recycling resources on campus and to reveal resident's observations of the quality of recycling in the residence halls. This is significant because T. C. Comet (Campus Sustainability Coordinator) has identified a problem of cross-contamination between recycling and trash in the residence halls waste bins. This problem makes his job more difficult and costs Humboldt State University money.

Explanation of Recruiting:

Subjects will be recruited as volunteers. There will be one of four investigators (Andrew Collins-Anderson, Rachael Iverson, Jacob McGraw or Amy Teeters) present at a table in the campus dining hall. These investigators are all working on the same project for Sustainable Campus. Andrew Collins-Anderson is the principle investigator and will train the other three investigators on how to conduct the survey. There will be information on the table regarding recycling on campus. People will be asked if they are willing to fill out a survey about recycling in the residence halls. If the subject says they are willing to complete the survey they will be asked to read the instructions located on the top of the survey and fill out the survey on a table behind where the investigator is located. There is a question asking if the subject is a campus resident. Any survey that responds that they are not a campus resident will be removed by the principle investigator and destroyed.

Description of Special Populations:

There will be no known special populations identified by this survey. There are no questions asking about such characteristics that identify a vulnerable population. The instructions state that you must be 18 or older to complete survey. There is no way to check identification of the subjects because that would jeopardize the anonymity of the survey, but the subject population is comprised of mostly adult campus residents.

Data Gathering Methods:

This study will consist of a self-administered survey method of social research. There will be two tables set up in the campus dining hall. Investigators will ask passersby if they would be interested in learning more about recycling resources on campus, and if they could spare several minutes to fill out a short survey regarding residence hall recycling. If the subject agrees to fill out the survey they will be asked to read all instructions and fill out the survey on the other table located behind the investigator. Once the survey is completed they subject is instructed to fold the survey in half and place it into a collection box located on the table.

Time Commitment of Subjects:

The approximate time commitment required from each subject would be no longer than 10 minutes to complete the 10 question survey.

Risks, Benefits and Risk Management:

The research risks include: personal questions involving recycling behaviors; possible human subjects that are considered vulnerable; and the misappropriation of data and a possible connection between an individual and their response.

The research benefits include: an increased understanding of the recycling habits and resource awareness of HSU residents; more efficient decision making and resource allocation for Tall Chief Comet (Campus Sustainability Coordinator) and CRP (Campus Recycling Program); revealing of correlations between recycling attitudes and observed behaviors; and increased awareness of recycling resources for residents.

The risk management procedures include: survey instructions ask respondents not to include any identifying information to guarantee anonymity; instructions also prohibit respondents under the age of 18

to take the survey; questions revealing vulnerable populations will not be asked; all raw data will be destroyed by the principle investigator after all data is analyzed and recorded in the final report; the survey will be randomly administered in the Jolly Giant Commons and the Depot by one of four surveyors and the respondents will be asked to answer questions where the researcher cannot see and deposit their folded answers in a collection box.

Explanation of how Anonymity will be Maintained:

Anonymity will be maintained through direct instructions to the subject to exclude any and all identifying information in the survey. Surveys will be deposited into a collection box and will only be analyzed by the principle investigator and the three other group project members (Rachael, Jacob and Amy).

Raw Data Disposal:

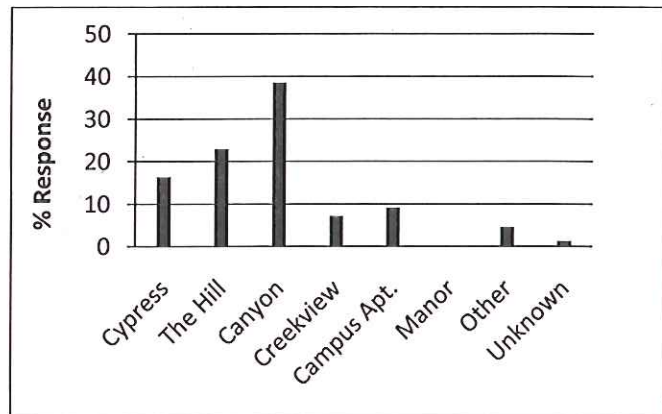
The raw data will be burned after it has been analyzed and included in the final report. The raw data will not be kept past December 18th, 2009. This is the end of the fall semester 2009.

Appendix B: Survey Data

Survey Response Frequencies

Question: Which Residence Hall do you reside in (choose one)?

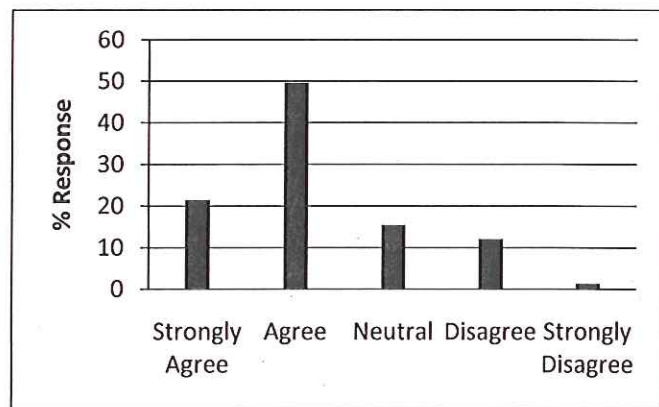
Answer	Count	Percent
Cypress	25	16.34
The Hill	35	22.88
Canyon	59	38.56
Creekview	11	7.19
Campus Apt.	14	9.15
Manor	0	0.00
Other	7	4.58
Unknown*	2	1.31



*Respondents who did not answer the question were assigned to the "Unknown" category

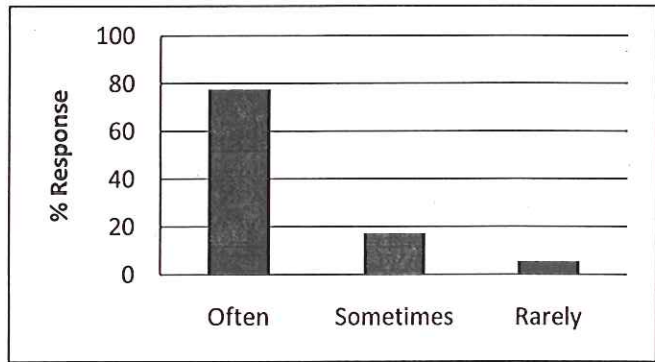
Question: Please indicate how you feel regarding the following statement. "Recycling in Residence Halls is easy."

Answer	Count	Percent
Strongly Agree	32	21.48
Agree	74	49.66
Neutral	23	15.44
Disagree	18	12.08
Strongly Disagree	2	1.34



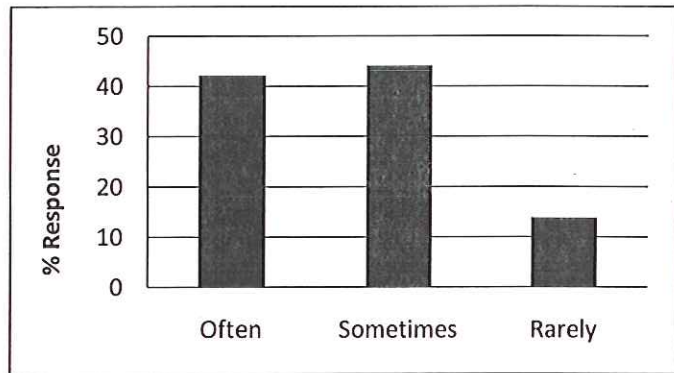
Question: How often do you recycle (aluminum, glass, paper or cardboard) on campus?

Answer	Count	Percent
Often	117	77.48
Sometimes	26	17.22
Rarely	8	5.30



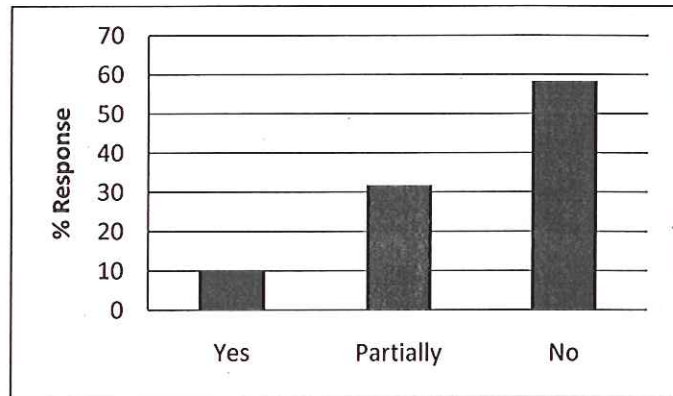
Question: How often have you witnessed improper disposal of waste on campus?

Answer	Count	Percent
Often	64	42.11
Sometimes	67	44.08
Rarely	21	13.82



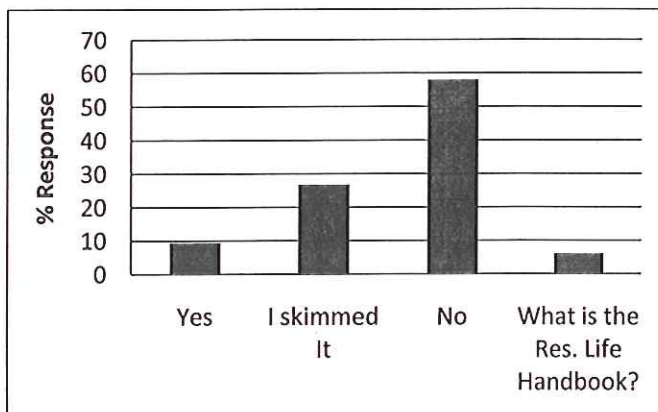
Question: Do you know what the CRP (Campus Recycling Program) does?

Answer	Count	Percent
Yes	15	9.93
Partially	48	31.79
No	88	58.28



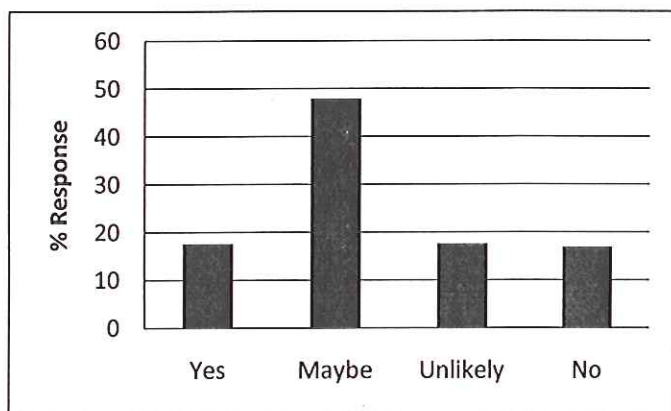
Question: Have you read the recycling information in the Res. Life Handbook?

Answer	Count	Percent
Yes	14	9.33
I Skimmed It	40	26.67
No	87	58.00
What is the Res. Life Handbook?	9	6.00



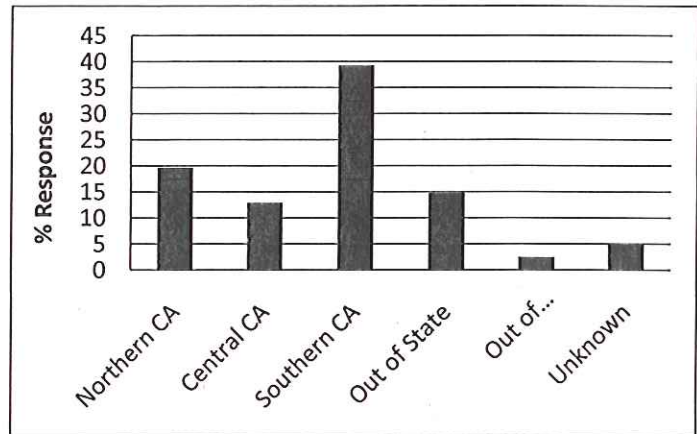
Question: Would you actively participate as a volunteer recycling coordinator for your hall?

Answer	Count	Percent
Yes	25	17.61
Maybe	68	47.89
Unlikely	25	17.61
No	24	16.90



Question: Where did you live before moving to the residence halls?

Answer	Count	Percent
Northern CA	32	20.92
Central CA	21	13.73
Southern CA	64	41.83
Out of State*	24	15.69
Out of Country**	4	2.61
Unknown***	8	5.23



***Out of State Frequencies:**

State	Count	State	Count
AZ	1	NJ	1
CO	1	NV	1
HI	3	NY	1
ID	1	OR	4
MO	3	UT	1
MT	1	WA	6

****Out of Country Frequencies:**

Country	Count
Azerbaijan	1
Germany	1
Mongolia	1
Vietnam	1

***Respondents who did not answer the question were assigned to the "Unknown" category

Appendix C: ResLife Handbook Improvement and Pamphlet

These are the additions that will be made to the ResLife and You Handbook and the recycling pamphlet that may be distributed around the Residence Halls and campus to inform people of recycling related resources.

Recycling + Waste Reduction

Bicycle Learning Center is a volunteer run club. The purpose of the club is to maintain an area where students and faculty can come and work on their bicycles, learn from each other, and avoid the often, prohibitive, labor costs of a bike store. We aspire to develop your understanding of bike mechanics and maintenance for when you're on the road or fine tuning your machine at home.

Campus Center for Appropriate Technology (CCAT) is a live-in demonstration house on campus that is a model for sustainable living. They have various alternative energy technologies such as their photovoltaic system, solar thermal system, and a wind turbine. They work to help students and community members to be more consciously aware of social, economic, and environmental impacts they have on everyday life. CCAT offers various classes and has a recycled cap and gown program for graduates.

Campus Recycling Program (CRP) focuses on waste reduction through education and outreach. They have various zero waste events throughout the semester, as well as clothing swaps and their own student run compost program.



Take Back the Tap focuses on educating students of the negative impact of one-time use bottles. They have installed various hydration stations on campus offering filtered water with a hygienic "no touch" system.

Cypress Hall Eco-Living is an educational outreach program in the Cypress Hall residential building focused on environmental responsibility and sustainable living.

Green Campus helps to educate students on energy efficiency. They have information on their website such as guides to saving energy and home energy audits. They have various projects on campus such as offering free compact florescent bulbs and surge protectors on campus.

Humboldt State University Energy Independence Fund (HEIF) awards money to projects on campus such as the re-light redwood bowl project that is projected to reduce energy usage by 1,525,000 kilowatt-hours over a 25-year period. that help to reduce energy use.

Reusable Office Supply Exchange (R.O.S.E.) is the part of the Campus Recycling Program that allows students to donate or receive free, used office and school supplies.

Existing Resources

Bicycle Learning Center- is a volunteer run club. The purpose of the club is to maintain an area where students and faculty can come and work on their bicycles, learn from each other, and avoid often prohibitive costs of a bike store. Volunteer at the BLC to increase open hours!

Campus Center for Appropriate Technology- is a live in demonstration house on campus that is a model for sustainable living. They have various alternative energy technologies such as their photovoltaic system, solar thermal system, and a wind turbine. They also have a re-use gown and cap program. Check out their calendar for workshops and events at <http://www.humboldt.edu/~ccat>

Campus Recycling Center- focuses on waste reduction through education and outreach. They have various zero waste events, clothing swaps, and move out procedures to lessen trash influx at end of semester. They also manage the campus compost. Check out their calendar at <http://www.humboldt.edu/~recycle/html/calendar.html>

Cypress Hall Eco-Living- is an educational outreach program in the Cypress Hall Residence Hall and focuses on environmental responsibility and sustainable living.

Green Campus- is a program which educates students on energy efficiency. They have information on their website, www.humboldt.edu/~greenhsu, such as guides to saving energy and home energy audits. They have various projects on campus such as the Relight the Redwood Bowl - a project to lessen energy usage by 1,525,000, kilowatt- hours over a 25 year period. They also offer free compact fluorescent bulbs on campus and power strips.

Humboldt State Universities Energy Independence Fund (HEIF)- awards money on projects on campus that help reduce energy use.

Reusable Office Supply Exchange (ROSE)- is part of the CRP and allows people to donate or receive free used office and school supplies.

Take Back the Tap- focuses on educating students of the negative impact of one-time use bottles. They have installed two Hydration Stations with filtered water for you! This is part of a world wide campaign.

What can you do to contribute to a sustainable campus?

-Use re-useable water bottles

-Reduce plastic consumption on campus and use the Take Back The Tap Hydration Stations

-Walk to school

-Ride your Bike!

-Or your skateboard

-Take the bus and use the Jack Pass- lets you ride for free

-Take advantage of the compost opportunities on campus

-Volunteer at the CRP or the Bicycle Learning Center

-Get involved in a Natural Resource Club

-Print double sided

-Give office supplies a second chance at the R.O.S.E. Center

-Participate in upcoming events which, which can be found on the CRP and/or CCAT calendar of events posted on their websites!



Campus Recycling Program

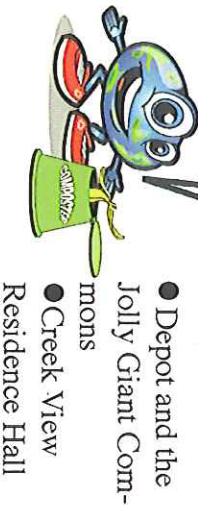
There are many opportunities to recycle on campus. The Campus Recycling Center (CRP) is a great resource for students at HSU to use.

The Reusable Office Supply Exchange (R.O.S.E.) collects all unwanted office supplies



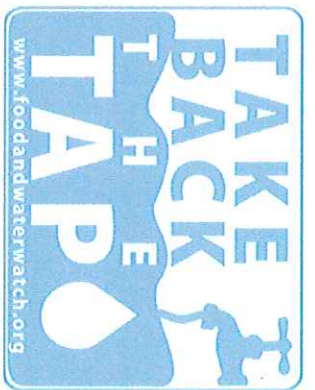
and redistributes them to students. So stop by and give re-used office supplies a second chance.

COMPOST! Where?



- Depot and the Jolly Giant Composts
- Creek View Residence Hall

Volunteer with CRP or CCAT to learn more about how you can use your waste in an organic space.



Tap That! at HSU Ban the Bottle!

The Take Back The Tap (TBTT) campaign is a student led club. The mission of TBTT is to reduce the consumption of bottled water at HSU and promote using local tap water in reusable bottles.

I Did you know that...

TAP WATER ● Every year 40 billion lbs of PET plastic bottles end up as road side litter or in landfills?

- That 40% of bottled water comes from the same source as tap water, but is sold back to consumers at hundreds of the cost?

There are currently two Hydration Stations, which are hands-free filtered water stations, located at the Depot and the Kinesiology and Athletics Bldg.



It's a Revolution! Bicycle Learning Center

The Bicycle Learning Center is a volunteer run club. The focus is to provide an area where students and faculty can maintain and learn about their bikes, and avoid the cost of repair shops.

Why should I bike to school?

- Lower your carbon footprint
- Avoid cost on car insurance, maintenance, and permits on campus.
- Reduce traffic congestion
- Increases mobility for those who don't own a vehicle
- Its a healthy low impact cardio activity an dlow impact on the environment as well
- Its the mosy enerfy efficient mode of transportation ever evented!



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Appendix D: Hours Worked

Andrew Collins-Anderson

Date: _____ Hours: _____ Work Description: _____

Sept. 1 st	1	Initial meeting with T.C.
Sept. 16 th	3	Research on institutionalizing sustainability and second meeting with T.C.
Sept. 21 st	2.5	Campus walk around looking at recycling facilities.
Sept. 23 rd	2	Worked on problem statement and made a behaviors table.
Sept. 30 th	3	Meeting with Jeremy Davis, finished problem statement, and divided tasks.
Oct. 5 th	3	Writing of needs statement.
Oct 7 th	2	Working on goals and objectives.
Oct. 10 th	1	Continued work on goals and objectives.
Oct 12 th	2.5	Reworked goals and objectives and problem statement and attended the RHA meeting.
Oct. 19 th	2	Read <u>Fostering Sustainable Behaviors</u> and communicated.
Oct. 20 th	3	Read <u>Fostering Sustainable Behaviors</u> conducted research and did alternatives brainstorm.
Oct. 21 st	3	Group work on alternatives.

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Oct. 25 th	2.5	Decided on chosen alternatives.
Oct. 26 th	3.5	Finished alternatives and turned them in. Started the implementation plan.
Oct. 28 th	1	Reworked objectives.
Oct 29 th	1	Typed up an outline and rough project.
Nov. 2 nd	3.5	Wrote implementation for survey. Met with T.C. and did other work on the survey.
Nov. 4 th	1	Met with Jeremy Davis and continued to work on survey.
Nov. 8 th	2	Took the IRB test on Moodle.
Nov. 9 th	3	Continued to work on survey and IRB approval.
Nov. 10 th	1.5	More work on IRB approval.
Nov. 16 th	1.5	Monitor and evaluation plan and attended the RHA meeting for tabling approval.
Nov. 19 th	.5	Conducted first survey in the "J".
Nov. 30 th	.5	Conducted 2 nd survey in the "J".
Dec. 2 nd	2	Conducted another survey and other work.
Dec. 3 rd	2	Final survey work in the "J".
Dec. 6 th	2	Finishing up final draft of paper.

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Dec. 7 th	8	Finalizing the project and survey data analysis.
Dec. 8 th	6	Finalizing project, editing and preparing for presentation.

Total Hours ~ 69.5

Amy Teeters

date	hours	Tasks
9-Sep	2	brainstorming
16-Sep	3	Hannah and Amy went to CRP meeting, and then meant with TC
21-Sep	2.5	Roved res. Halls
23-Sep	2.5	Problem statement and behavior chart interview w Jeremy Davis, final statement
30-Sep	3	draft, assigned "chores"
30-Sep	2	wrote summary
2-Oct	1	re working summary
7-Oct	2	put objectives together and goals re wrote problem statement and goals and
12th oct	2	objectives
14th oct	2	Research on campus projects
19th oct	3	Brainstorming
21st oct	3	Identifies alternatives
25th oct	2.5	weighed alternatives designed survey and began
26th oct	2.5	implementation phase
30-Oct	2	implementations
nov 2nd	2.5	interview with TC with Kyle
nov 4th	1	interview with Jeremy Davis
nov 10th	2	implementations
12-Nov	2	collecting info for ResLife Info
nov 16th	1	brainstorming
Nov 18th	1	Tabling
nov 19th	1	tabling at the j
		WORKING ON BROCHURE, RES LIFE INSERT, AND TABLING AT THE J
30-Nov	4	FOR 1 HR
1-Dec	1	tabling
dec 5th	2	learning brochure and insert program
6-Dec	3	res life insert

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Dec 7th	3	brochure
dec 8th	2	re working summary working on presentation and finalizing
dec 8th	3	paper
dec 9th	3	fine tuning

Total 66.5

Rachael Iverson

<u>Date:</u>	<u>Hours:</u>	<u>Description:</u>
8-31	2	brainstorming
9-9	2	goals and objectives
9-14	2	identifying problems
9-16	1	Meeting with TC
9-23	2	identifying problems
9-30	5	existing resources and policies
10-5	3	work with group
10-7	2	Green campus meeting
10-12	2	what other campuses are doing
10-14	2	campus resources
10-19	3	research
10-21	3	alternatives
10-25	2.5	alternatives
10-26	3.5	implementation
10-28	1.5	implementation
11-2	2.5	meeting with TC
11-4	1	meeting with Jeremy Davis
11-9	2	monitoring and evaluation

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11-11	2	monitoring and evaluation
11-19	.5	tabling
11-30	1	editing
12-1	1	tabling
12-2	.5	reflections and results
12-8	3	working on final product and presentation
12-9	4	working on final product and presentation

Total: 54 hrs

Jacob McGraw

Date	Hours	Tasks
Sep 21st	2.5	Looked at res hall recycling facilities
Sep 23rd	2.5	Problem statement and behavior chart
Sep 30th	5	Interview with Jeremy Davis, wrote summary
Oct 2nd	1	Re-worked summary
Oct 7th	2	Objectives and goals
Oct 12th	2	Redo problem statement and goals and objectives
Oct 13th	1	Green Campus meeting
Oct 14th	2	Research on campus projects
Oct 19th	3	Brainstorming
Oct 21st	3	Identifies alternatives
Oct 25th	4	Weighed alternatives/made alt chart
Oct 26th	2.5	Designed survey and began implementation phase
Oct 30th	2.5	Implementations
Nov 2nd	2.5	Interview with TC with Kyle
Nov 4th	1	Interview with Jeremy Davis
Nov 6th	1	Meeting with CRP
Nov 16th	2	Implementations
Nov 16th	1	RHA meeting
Nov 16th	1	Brainstorming
Nov 18th	0.5	Tabling at the J
Nov 20th	0.5	Tabling at the J
Nov 30th	2	Tabling at the J/data input
Dec 1st	2	Tabling at the J/data input
Dec 2nd	2.5	Tabling at the J/data input
Dec 3rd	3	Tabling at the J/data input

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