

Purchasing Group  
Recycled Paper Project  
Sustainable Campus Class  
Environmental Science 480  
Professor Dick Hansis  
Fall 1999

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# **1 Sustainable Purchasing Group**

## ***1.1 Discussion***

The group was formed around our common interest in changing the university's policies toward purchasing more environmentally sustainable products and services.

The members of the group are:

Deborah Keeth (707) 825-8220 [dlk2@axe](mailto:dlk2@axe)

Katie Stieren (707) 268-8526 [kms28@axe](mailto:kms28@axe)

Mike Wall (707) 825-7509 [mjw13@axe](mailto:mjw13@axe)

Michael Winkler (707) 822-1857 [mlw9@axe](mailto:mlw9@axe)

## **2 Problem**

As with all current U.S. society, Humboldt State University purchases large quantities of goods, energy and other services whose production has a great environmental impact. We decided to focus on campus paper resources for our target problem, because it's a visible, everyday common issue.

## **3 Mission, Goals, and Objectives**

### ***3.1 Discussion***

A mission statement describes the values of the group and why it exists. Goals and objectives describe how the group hopes to achieve the ends described in the mission statement. Goals and objectives should be specific and quantitative. Monitoring the progress of the group involves evaluating which specific goals and objectives have been achieved.

### ***3.2 Mission Statement of Sustainable Campus Class***

A sustainable campus strives to meet the present and future needs of the community while having a minimal environmental impact both locally and globally.

### ***3.3 Mission statement of Purchasing Policy Group***

To affect University purchasing policy to allow for the purchase of the most environmentally sound products that will meet the user's needs.

We will use recycled paper as a prototype in developing this process.

### **3.4 Objectives**

1. Policy changes will be made in University policy. Specifically,
  - Policy will allow for the purchase of the most environmentally sound product that will meet the user's needs
  - Policy will include life cycle and external costs
  - Policy will become standard operating procedure for Central Purchasing.
2. All fine printing and writing papers bought on campus will consist of 50% or greater post-consumer waste content by May 2000.
3. 33% of all fine printing and writing papers bought on campus will consist of 100% post-consumer waste content by May 2000.

## **4 Characterizing the Context of an Issue**

### **4.1 Discussion**

Characterizing the context of an issue involves researching the problem in depth in order to better understand the problem at hand. The characterization includes determining: who the key players are, what has been done in the past, what legal issues or challenges one may face, etc. Characterization is an important first step in solving any problem.

Professor Dick Hansis presented each group with a problem analysis model. See Appendix B for this model. Specifically, three areas of research are described. The areas include: Characterize the Environment, Characterize the Economic, Social, and Political Setting, and Characterize the Legal and Regulatory Setting. In addition, we researched what other universities had done in the area of purchasing policies on their campuses.

### **4.2 Characterize the Environment**

Characterizing the environment includes researching and describing the "big picture" of the issue. The group determined certain information that would be important in trying to characterize the environment of paper purchasing and use at HSU. This information includes: dollars spent on

paper, volume purchased, location of purchase, location of paper use, quality or type of paper purchase, and who is responsible for purchasing paper. (Table 1)

Department	Current Reams/Year (1 ream = 500 sheets)	Projected Added Cost/Year	Added Cost Per Student Per Semester
Academic Computing	4,250 (0% PCW)	\$8,500 (100% PCW)	\$0.85
HSU Bookstore (excluding Library Copy Center)	6,000 (30% PCW)	\$7,500 (1/4 @ 50% PCW) (3/4 @ 100% PCW)	0
Library Copy Center	2,800 (30% PCW)	\$2,800 (1/2 @ 50% PCW) (1/2 @ 100% PCW)	0
University Graphics	18,400 (30% PCW)	\$23,000 (3/4 @ 50% PCW) (1/4 @ 100% PCW)	\$2.30
<b>Total</b>	<b>31,450</b>	<b>\$41,800</b>	<b>\$3.15</b>

#### **4.3 Characterize the Economic, Social, and Political Setting**

The group discussed what information would be important to know in order to characterize the economic, social, and political setting. Specifically, we were interested in determining who has the ultimate purchasing authority both at the university and at the department level, who may be most receptive to possible changes, who the political players are, and where does the Associated Students stand on the issue. See Appendix A for a table of contacts, their position, and their phone number.

1. Who has campus purchasing authority?
  - University Graphics – Kathleen Heil, Director of University Graphics has purchasing authority for approximately 58% of the paper used on campus. They are currently using 30% PCW which is used internally and sold to other campus departments.
  - Library Copy Center and University Book Store – Jon Greene, Book Store Manager has purchasing authority for approximately 28% of campus paper.
  - Academic Computing – Bill Cannon, Director of Computing and Telecommunication Services and RJ Wilson, Manager of Academic Computing have authority over Academic Computing purchasing which comprises approximately 14% of campus paper use.
  
2. Attitudes of those with purchasing authority toward recycled paper:
  - Kathleen Heil – Is supportive of the project and use of recycled paper but has reservations regarding the use of student fees to subsidize recycled paper financing.
  - Jon Greene – Is receptive to proposal as long as outside funding is provided.
  - Bill Cannon – His first priority is reducing wasted paper use above purchasing recycled paper, but is supportive of the use of recycled paper.

3. Associated Students (AS):

- President Rob Hatfield overall is in favor of high PCW recycled paper, but is unable provide discretionary AS funds to support the transition.
- The AS Board is strongly supportive.
- Joan Tyson, AS Advisor, is helpful regarding student fee initiative advice, but is uncertain about the mechanism for implementation.
- Cory Sbarbaro, also an AS Advisor, is strongly supportive of the proposal, and has been willing to run tests and purchase sample test quantities of paper.

4. Other Student Organizations:

- Campus Recycling Program (CRP) along with Alec Cooley, Campus Solid Waste Manager, who serves as the CRP advisor, were strongly supportive and actively involved in planning the education and public relations portions of the project, as well as assisting with campus-wide paper testing and surveying. CRP will also assist as the responsible party for recycled paper on campus for long-term objectives, as well as play an active role in the planned ballot initiative campaign.
- The Sustainable Campus Task Force and the Campus Center for Appropriate Technology (CCAT) were generally supportive, but not actively involved in the project.

5. Faculty:

- Bob Gearheart, Engineering Professor, is very strongly supportive and has agreed to be the financing director for private donations for the University Copy Center and University Bookstore. He also assisted by authoring a letter strongly endorsing the project to encourage campus cooperation for paper testing. In addition, Bob made a commitment to make a substantial financial contribution to the project.
- Mike Anderson, Chairman of the Engineering Department, is supportive and encouraged Michael to write an article for the *ERE Messenger*, the engineering student publication.
- Peter Lehman, Director of Schatz Energy Research Center, agreed to be assistant director for administering private donations.
- Dick Hansis, Director of the Environmental Science Program and Sustainable Campus Instructor, supported direction and encouragement of project.

#### 4.4 Characterize the Legal and Regulatory Setting

Finally, the group brainstormed what information would be relevant to characterizing the legal and regulatory setting of the purchasing issue at HSU. Some issues that the group thought would be important to know include what legal requirements, if any, exist for government entities, what current legal requirements the university has in regard to purchasing policy, and what is the process for changing the purchasing policy.

Deborah was responsible for characterizing the legal and regulatory setting.

#### 4.4.1 Government Purchasing Policy

Two important pieces of federal legislation exist in regard to changing purchasing policies to be more environmentally friendly. They are the Resource Conservation and Recovery Act (RCRA) and Executive Order 12873.

##### 4.4.1.1 Resource Conservation and Recovery Act (RCRA)

Section 6962 of RCRA deals specifically with federal procurement. It outlines when the RCRA must be followed by federal agencies, reasons for exemption from the RCRA, how purchasing policies can be amended to incorporate the RCRA, and gives definitions and requirements for such terms as "post-consumer" and "minimum content." The legislation can be found online at <<http://www4.law.cornell.edu/uscode/unframed/42/6962.html>>. See Appendix C for a copy of the RCRA, section 6962 legislation.

##### 4.4.1.2 Executive Order 12873

Executive Order 12873, called the "Federal Acquisition, Recycling, and Waste Prevention Act, was signed by President Clinton in 1993. According to the Government Purchasing Project web site, "the purpose of the order was to more effectively utilize the vast purchasing power of the government to procure products that are environmentally preferable." The order is broken up into parts that: detail definitions of terms, describe how to actively include environmental responsibility in determining procurement policy, and list goals (specifically for paper products) for responsible product purchasing by the federal government. The text of the executive order can be found online at <<http://es.epa.gov/program/exec/eo12873>>. See Appendix C for a copy of portions of the order pertinent to paper purchasing policy. It would be important whether Humboldt State University must comply with this executive order.

↑ Did you find out?

#### 4.4.2 University Purchasing Policy

Humboldt State University is in the California State University system. The university is governed by the CSU Board of Regents. Many decisions are made at the state level for all CSU campuses. The degree of flexibility that each Cal State school has is limited by the Board.

HSU  
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The CSU has developed a policy on procurement and contracting. It is titled the "CSU Policy Manual for <sup>Contract</sup> Procurement." The policy can be found online at <http://www.csu.edu/CS+P/crl/policy/Policy.html>. See Appendix C for highlighted notes from the Policy.

One important purchasing policy with regard to paper purchasing at HSU is the lowest bid policy. Section 303 of the policy describes the bidding process that the university must follow. Basically, all items must go out to bid and no specifications can be put in the bid. The bidding must be done directly or indirectly, to any one bidder." For example, in the case of paper, the bidding must be 100% post-consumer content could be argued as a violation of the policy.

Section 303 of the policy is titled "Commodities with Special Purchasing Requirements." This section deals with the purchase of recycled materials by saying, "Campuses shall establish purchasing practices that assure, *to the maximum extent economically feasible*, the purchase of materials, goods, and supplies that are recycled or have recycled material within their content. Fitness and quality being equal, purchase preference shall be given to recycled products whenever such products are available and *the cost of such goods is no greater than that of their non-recycled counterparts*. [our emphasis]" No allowance is given for a price-premium on more environmentally sound products. No mention is made of including life-cycle or "true" cost in the equation. This severely limits the ability of campuses to make more sustainable purchasing choices.

#### 4.4.3 Changing the University Purchasing Policy

#### 4.5 The Work of Other Universities

The book "Greening the Ivory Tower" by Sarah Hammond Creighton discusses the experiences of Tufts University as they attempted to make their campus "green." While Tufts is a private university and therefore enjoys more freedom and flexibility than state schools, many of their points were relevant to our efforts. They described how purchasing decisions happen on campus,



how to add environmental criteria to the bid specifications (specs), and possible barriers to implementing change.

Purchasing decisions happen in three ways at most universities. The first, described as "end users", are the students, faculty, and staff who ask purchasers for specific products and services they need. The second decision method is "central purchasing." This is a department on campus that makes decisions about vendors, products, and services. This is usually used for large quantity purchases for the entire university. The final decision method is "negotiation of contracts." This is a method of determining the supplier of services.

Creighton concentrated heavily on changing bidding specs to include/require green products. It is recommended that bidding specs should address:

- A focus on product performance rather than specific product characteristics
- Removing language barriers to environmental action
- Listing specific environmental issues related to the commodity
- Ask for two alternatives so that the environmental product can be compared to a traditional product
- Including specifications for packaging and waste
- Offering long-term contract relationships to promote environmentally sound products
- Asking for life-cycle pricing.

Writing specifications into the bid that include the above mentioned topics is a common tactic in trying to green campuses. Unfortunately, public institutions have a harder time including these specifications in the bid (see Characterize the Legal and Regulatory Setting for an explanation). Another suggested method is to update and edit existing bid specs rather than trying to write new specs from scratch. This helps ensure that the environmentally friendly products perform as well as the alternatives they replace.

Possible barriers to implementing change in purchasing policy were described in "Greening the Ivory Tower." The first barrier described purchasing departments as performing a "pass-through" function. They take requests from departments on campus and make the order without "prejudice or comment." They may feel it is not their place or function to offer alternatives. A second barrier could be the fear in the purchasing department that seemingly inconsequential changes

could result in complaints from users. A final barrier described in the book is that the culture of the university (especially private institutions) discourages the use of mandates.

The California State Students Association (CSSA) is the formal organization for communication between student governments of the California State University (CSU) system. Laura Kerr and Alexis Mayer are the HSU representatives to the CSSA. Both strongly and enthusiastically support extending the recycled paper program to all campuses of the CSU system.

## **5 Alternative Solutions**

### **5.1 Discussion**

There were a number of ways to approach the problem. We choose certain methods that will be further described in section 6. Some of the alternative solutions include:

- Reducing paper waste
- Alternative fundraising, such as grant-writing.
- An educational campaign to encourage the reduction of over-use/waste of paper from students on campus.
- Addition research/education related to the environmental consequences of virgin paper production, and why recycled paper use is applicable and necessary.

Although we had originally decided not to pursue these alternatives, through the course of the semester, we incorporated them into our project.

## **6 Decision**

### **6.1 Discussion**

Our group decided to focus on 4 main areas, which include implementing higher post-consumer paper throughout campus, subsidizing the cost of that paper, conducting a student survey, and working with the Campus Recycling Program on educating students about paper waste.

## 6.2 *Paper Implementation*

### 6.2.1 Testing

Mike Wall and Katie Stieren began the recycled paper testing by first contacting Leslie Farar, the office manager at Graphic Services, who supply various departments on campus with computer and copier paper. Mike Wall was able to locate a list of the copiers on campus. Leslie directed Mike to the Procurement Office where they had a list of the copiers on campus for different departments.

In order to complete the testing, Michael purchased both 50% and 100% PCW recycled paper. Mike contacted various manufactures of copiers and printers (Lanier and Hewlett Packard) to make sure testing recycled paper wouldn't void the service warranty of the equipment. Mike was told the testing wouldn't void the warranty so we (Michael and Mike) decided to test copiers with 50% PCW recycled paper because it wouldn't tend to "curl" as much resulting in "jams" when copied on both sides. We decided to test the 100% PCW recycled paper in the office printers associated with the copiers (usually if a department office has a copier they also have a printer), because the 100% paper doesn't have any problems printing on one side, whereas most printers only print on one side. The 100% paper has a problem when it is "duplexed" (printed on both sides) because during the recycling process old paper is broken down and recombined and the recycled fiber length is shorter and therefore not as strong as new paper; thus it has a higher tendency to curl.

Mike Wall and Katie Stieren, along with the generous assistance of the educational director at the Campus Recycling Program (CRP), Brandon Rich, distributed 50 sheets of 50% and 50 sheets of 100% of post-consumer recycled paper to every office on campus with a printer and/or copier. Mike wrote a cover-sheet questionnaire for the tests, including such questions as current paper purchasing and performance inquiries regarding the recycled paper tested. See Appendix D for a copy of the questionnaire. Also, along with the questionnaire we included a letter of endorsement from Engineering professor Bob Gearheart. See Appendix E for a copy of Gearheart's letter. Mike met with Brandon at CRP and divided up the paper and Mike, Katie, and two CRP volunteers distributed the material throughout campus.

Not all test results have been collected to date. Some testing road-blocks have included offices agreeing to test the paper and then upon returning to pick-up the questionnaire they turned out to forget about it, so we'd have to return later.

Another testing issue is the validity of the tests. We chose to test 50 sheets of both 50% and 100% per office, which isn't a very comprehensive test when considering a major issue associated with recycled paper is its long term performance. One issue is the shedding of lint from the paper that can collect over time on hardware rollers and cause the equipment to malfunction. For the most part our aim for department testing was to introduce the paper to the campus and allow for first hand experience and association with the quality of the specific recycled paper. Future plans include long-term testing of both 50% and 100% PCW in association with Academic Computing.

### **6.3 *Subsidizing Paper***

- University policy does not allow Associated Students discretionary funds or any other existing student fees to subsidize the additional cost of high PCW recycled paper.
- University regulations require that the University Bookstore and Library Copy Center be self-supporting and not receive any university funding or student fees.
- Additional costs of high PCW must be paid for either by high prices for copying or private donations. Jon Greene does not feel that he can raise prices and remain competitive with private photocopy providers. Therefore, funding must come from private donations.

#### **6.3.1 Ballot Initiative**

Our current understanding is that university regulations allow new student fees to be specifically designated for subsidizing the purchase of high PCW paper for Academic Computing or other university departments. This requires that a ballot initiative be ratified by a majority of voting students and approved by the University President, Alistair McCrone. There is currently no precedent for a student group to put an initiative for a student fee increase on the ballot. So far we have made a presentation to the Campus Fee Advisory Committee. To complete the process we need to have at least one additional meeting with the committee. A meeting is tentatively scheduled for January, 2000. Before the time of the meeting we need to meet again with Joan Tyson to complete the proper forms for an initiative.

### 6.3.2 Private Sources

In order to fund the University Bookstore and Library Copy Center we must use private donations. Current commitments from private donors are adequate to meet these requirements for the next two years. Subsequent funding has not yet been defined. Current generous donation commitments are from Bob Gearheart, Roger Herick, and Michael Winkler.

## 6.4 Student Survey

The group decided that conducting a survey of the HSU student body could be a useful method for gaining information and insight into how the students feel. Specific issues we were interested in include: how much paper students think they use, what technical/computer skills students have in reducing the amount of paper wasted on campus, and how students feel about raising the Associated Students fee in order to supplement the purchase of 50% post-consumer content paper on campus. Deborah teamed up with Cindy Larom of the water group for the survey.

### 6.4.1 Survey Questions

The survey was broken into two parts — the first part being about water and the second part being about paper. It was decided that the survey length should be limited to one page, so each group had approximately one-half page worth of space. The survey was written and revised several times. The survey was tested on the Sustainable Campus Class and they gave feedback and suggestions for improving the survey. Professor Hansis also reviewed the survey questions and made suggestions. The final version of the survey can be found in Appendix F.

### 6.4.2 Survey Method

Obtaining a good, valid survey that gives useful information is a tough process. In trying to determine what would make a valid survey, Cindy and Deborah interviewed William Sise of the Forestry department and professor Hansis. Critical elements to a good survey include randomness, size, and representation. John Filce of the Analytic Studies department in the office of the Vice President for Academic Affairs provided us with the data we needed.

A random survey is the only kind of survey worth conducting. Some confusion existed in class as to what a random sample was. Examples of *non-random* samples would be: surveying people

who eat at the J, surveying via email, or surveying a class of environmental science students. An example of a random sampling technique would be telephoning every tenth person on the campus phone list. This method is very energy intensive, however, and requires a full review by the Committee for the Protection of Human Subjects. We chose instead to survey all the students in a variety of general education classes. This type of survey is anonymous and only requires an expedited review by the Committee. See Appendix H for the expedited review paperwork.

In regard to the size of the sample, the larger the better. The more people that can be surveyed, the more valid the data will be. In the fall of 1999, HSU had 7,545 students. For ease of administering the survey, we chose to survey mostly large classes. Usually the largest classes are the general education classes, but attention needs to be paid to the representative nature of the survey.

Obtaining a representative survey is another tough issue. For the student body, we determined that major/college at the university, class standing, and age were important factors to consider. We began with a test group. This is the theoretical survey sample based on registration information from the classes we wanted to survey. Our test group contained 556 students or 7.37% of the student body. After inputting the data in a spreadsheet, we were able to compare it to the data for the student body as a whole. For the most part, the data matched up fairly well. See Appendix G for the comparison of major/college, age, and class standing of the sample with the entire university.

#### 6.4.3 Administering the Survey

As discussed above, we were interested in surveying fairly large classes with a good variety of students by age, major, and class standing. After developing the survey and running comparisons on classes we were interested in surveying against the entire university, we asked the professors in person if they would let us run the survey. We were concerned that most teachers would say "no" because it was late in the semester (the week after Thanksgiving Break!), without much advanced warning. To our surprise, they all said "yes", with the caveat that we try to do it as quickly as possible. The classes we surveyed were Earthquake Country (GEOL 106), Cultural

Geography (GEOG 105), Whole Earth Engineering (ENGR 114), Inscape and Landscape (NR 400), US History to 1877 (HIST 110) and Art of Film (THEA 305).

The surveys were copied onto paper that was already used on one side. We had the copies divided into small batches to ease the process of passing them out.

After determining the survey days and times we gathered volunteers from Sustainable Campus Class to help administer the surveys.

#### 6.4.4 Survey Results

Our sample consisted of all the people from the test group who actually showed up to class and took the survey. Unfortunately, over one-half of the students were not in class for the survey. We ended up receiving data from a total of 310 students, or 4.1% of the student body.

See Appendix I for the raw survey data.

See Appendix J for a full review of the survey results.

### 6.5 Education

We did not include an educational component in our initial plan. After meeting with Bill Cannon we made education to reduce paper waste a high priority. We approached Campus Recycling Program's (CRP) Education Directors about a program to educate students on how to reduce unnecessary copies. The long-term plan is to create large, laminated signs for each computer lab to instruct students how to minimize wasted copies. We also will work with CRP to include minimizing paper waste as part of the Humboldt Orientation Program (HOP) for new students. A portion of the money that CRP already has budgeted for education can be used for this purpose. CRP's involvement in paper education will be coordinated through Alec Cooley.

## **7 Monitoring**

- Follow-up processes on the student initiative fee increase to implement the purchasing of recycled paper, including attending the next Campus Fee Advisory Committee meeting, next semester.
- Remain in contact with Bill Cannon regarding long-term testing of 50% and 100% PCW and the results of that testing, as well as HOP computer educational instruction.
- Keep in contact with CRP representatives regarding educational campaign.
- Have Academic Computing and the Graphics department monitor that amount of paper they distribute to all the departments, every semester or yearly.
- Have all department secretaries keep an active and accessible file on the amount of paper usage in the department.

## **8 Evaluation**

During the semester, we found that more time was greatly needed and money was also a limiting factor. We also feel that the survey would have been more productive on a larger scale, with larger amounts of paper being tested, however, money and time did not allow this. We do believe that we did raise awareness with the secretaries and others in the office, who use a great deal of paper.

There are two timing issues involved with the Sustainable Campus course that have made our work a little more difficult. The first is the fact that work on our specific project did not get started until the middle of the semester. The second is a concern over the continuity of the course. Sustainable Campus class will not be offered in the Spring 2000 semester. We are concerned that much of the work we have accomplished will be forgotten or that our contacts will loose interest over the semester. While our group plans to continue working regardless of whether the course is offered or not, some groups may have more difficulty in sustaining energy and interest.

## **9 Media Contacts, Publicity and Public Education**

The effort to switch to high PCW recycled paper has been covered extensively in the local news media. The most effective media contact was an interview with Michael Winkler which appeared in Humboldt State University *Lumberjack* in September. Michael was interviewed by



EcoNews, the monthly publication of the North Coast Environmental Center. Michael was also interviewed by Channel 3 TV, but the interview was not aired because the station didn't feel the story was sufficiently controversial. Michael wrote an article for *ERE Messenger*, the engineering student publication. This article will appear in Spring 2000.

In addition, we will be coordinating a reduce paper use/waste educational campaign with CRP and Academic Computing. In the future this will be both a continuing effort and made part of the mandatory Humboldt Orientation Program (HOP) for new students. We will also work together to campaign in support of the ballot initiative.

## **10 Other Areas to Explore For Purchasing Policy**

Other areas to explore include electronics/office equipment, transportation, chemicals, energy, food products, furniture and wood products.

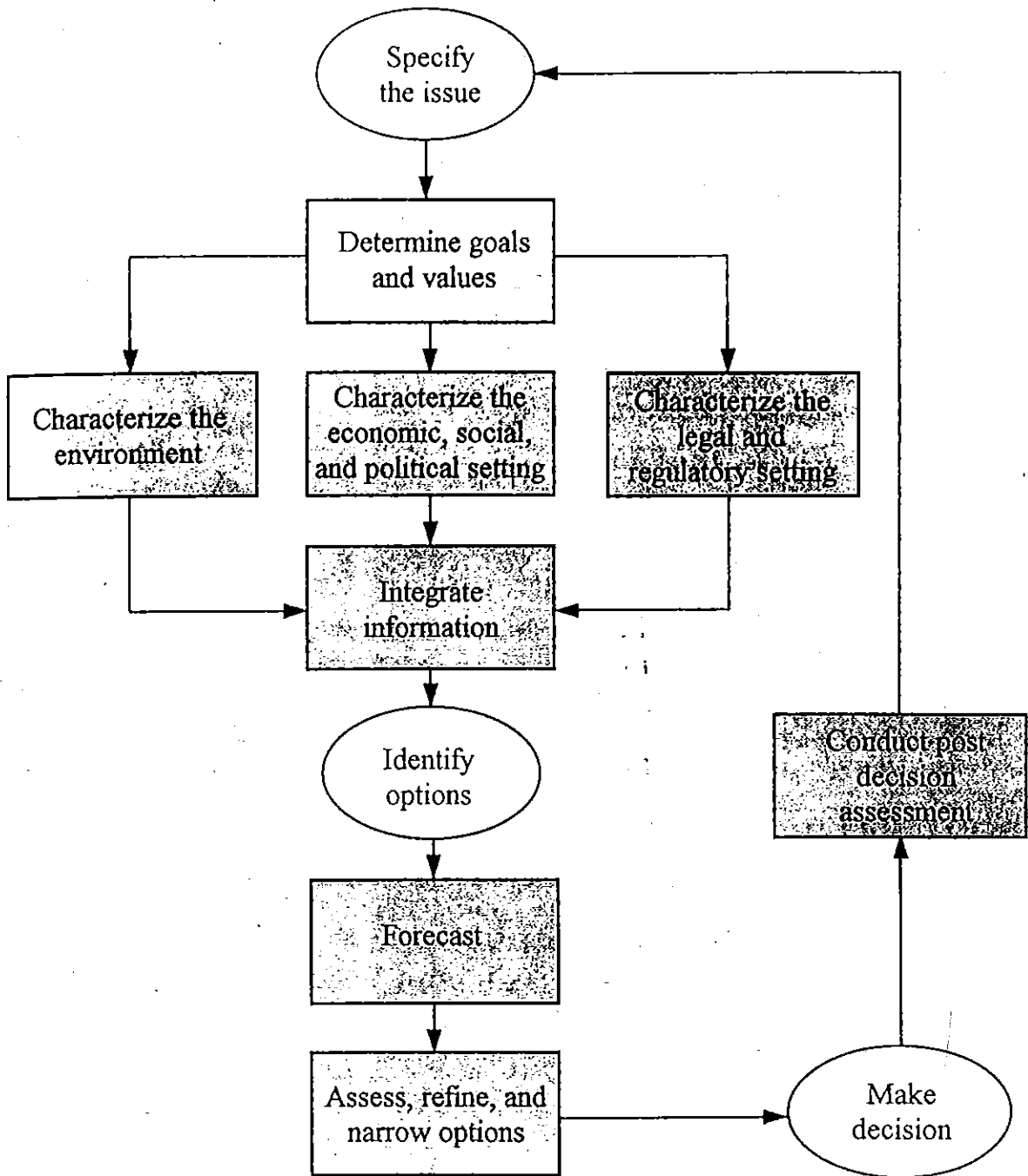
# 11 Appendices

## Appendix A — Contacts

Recycled Paper Task Force – Contact List			
Name	Phone	E-mail	Affiliation
Cloud Friedrich	826-5415	caf12@axe xerxes131313@hotmail.com	Associated Students
Lindsay Herrera	826-5413 839-0314	lah10@axe	Associated Students
Debbi Keeth	825-8220	dlk2@axe	Sustainable Campus Class
Laura Kerr	826-5415	lak8@axe	Associated Students
Katie Stieren	268-8526	kms28@axe	Sustainable Campus Class
Mike Wall	825-7909	mjw13@axe	Sustainable Campus Class
Michael Winkler	822-1857	mlw9@axe	Multiple

Other Interested/Involved People			
Name	Phone	E-mail	Affiliation
Alec Cooley	826-5920	anc2@	Solid Waste Management Coordinator
John Filce	826-5487	filce@humboldt.edu	Analyst, Analytic Studies Department
Jane Fusek	826-4146	jf5@axe	Supervisor, Library Copy Center
Bob Gearheart	826-3135	rag2@axe	Professor, Environmental Resources Engineering
Jon Greene	826-5832 826-3741	jg7001@axe	Manager, HSU Bookstore
Dick Hansis	826-4148	rah14@axe	Professor, Environmental Science
Brandon Rich	826-4162 822-7320	bpr2@axe	Campus Recycling Program
William Sise	826-4150	wrs1@axe	Forestry Professor

Appendix B — Problem Analysis Model



**Figure 3.1**  
Steps in an Environmental Decision-Making Process

## Appendix C — Legislation

**Resource Recovery and Conservation Act and Executive Order 12873 Notes**

Sec. 6962. Federal procurement

(a) Application of section

Except as provided in subsection (b) of this section, a procuring agency shall comply with the requirements set forth in this section and any regulations issued under this section, with respect to any purchase or acquisition of a procurement item where the purchase price of the item exceeds \$10,000 or where the quantity of such items or of functionally equivalent items purchased or acquired in the course of the preceding fiscal year was \$10,000 or more.

(b) Procurement subject to other law

Any procurement, by any procuring agency, which is subject to regulations of the Administrator under section 6964 of this title (as promulgated before October 21, 1976, under comparable provisions of prior law) shall not be subject to the requirements of this section to the extent that such requirements are inconsistent with such regulations.

(c) Requirements

(1) After the date specified in applicable guidelines prepared pursuant to subsection (e) of this section, each procuring agency which procures any items designated in such guidelines shall procure such items composed of the highest percentage of recovered materials practicable (and in the case of paper, the highest percentage of the postconsumer recovered materials referred to in subsection (h)(1) of this section practicable), consistent with maintaining a satisfactory level of competition, considering such guidelines. The decision not to procure such items shall be based on a determination that such procurement items

*reasons to not comply*

(A) are not reasonably available within a reasonable period of time;

(B) fail to meet the performance standards set forth in the applicable specifications or fail to meet the reasonable performance standards of the procuring agencies; or

(C) are only available at an unreasonable price. Any determination under subparagraph (B) shall be made on the basis of the guidelines of the National Institute of Standards and Technology in any case in which such material is covered by such guidelines.

(3)

(A) After the date specified in any applicable guidelines prepared pursuant to subsection (e) of this section, contracting officers shall require that vendors:

(i) certify that the percentage of recovered materials to be used in the performance of the contract will be at least the amount required by applicable specifications or other contractual requirements and

(ii) estimate the percentage of the total material utilized for the performance of the contract which is recovered materials.

(B) Clause (ii) of subparagraph (A) applies only to a contract in an amount greater than \$100,000.

(d) Specifications

All Federal agencies that have the responsibility for drafting or reviewing specifications for procurement items procured by Federal agencies shall -

(1) as expeditiously as possible but in any event no later than eighteen months after November 8, 1984, eliminate from such specifications -

(A) any exclusion of recovered materials and

(B) any requirement that items be manufactured from virgin materials; and

(2) within one year after the date of publication of applicable guidelines under subsection (e) of this section, or as otherwise specified in such guidelines, assure that such specifications require the use of recovered materials to the maximum extent possible without jeopardizing the intended end use of the item.

(e) Guidelines

The Administrator, after consultation with the Administrator of General Services, the Secretary of Commerce (acting through the National Institute of Standards and Technology), and the Public Printer, shall prepare, and from time to time revise, guidelines for the use of procuring agencies in complying with the requirements of this section. Such guidelines shall -

(1) designate those items which are or can be produced with recovered materials and whose procurement by procuring agencies will carry out the objectives of this section, and in the case of paper, provide for maximizing the use of post consumer recovered materials referred to in subsection (h)(1) of this section; and

(2) set forth recommended practices with respect to the procurement of recovered materials and items containing such materials and with respect to certification by vendors of the percentage of recovered materials used, and shall provide information as to the availability, relative price, and performance of such materials and items and where appropriate shall recommend the level of recovered material to be contained in the procured product. The Administrator shall prepare final guidelines for paper within one hundred and eighty days after November 8, 1984, and for three additional product categories (including tires) by October 1, 1985. In making the designation under paragraph (1), the Administrator shall consider, but is not limited in his considerations, to -

(A) the availability of such items;

*eliminates  
language  
barriers*

(B) the impact of the procurement of such items by procuring agencies on the volume of solid waste which must be treated, stored or disposed of;

(C) the economic and technological feasibility of producing and using such items; and

(D) other uses for such recovered materials.

(f) Procurement of services

A procuring agency shall, to the maximum extent practicable, manage or arrange for the procurement of solid waste management services in a manner which maximizes energy and resource recovery.

(h) "Recovered materials" defined

As used in this section, in the case of paper products, the term "recovered materials" includes -

(1) postconsumer materials such as -

(A) paper, paperboard, and fibrous wastes from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item, including: used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards; and used cordage; and

(B) all paper, paperboard, and fibrous wastes that enter and are collected from municipal solid waste, and

(2) manufacturing, forest residues, and other wastes such as -

(A) dry paper and paperboard waste generated after completion of the papermaking process (that is, those manufacturing operations up to and including the cutting and trimming of the paper machine reel into smaller rolls or rough sheets) including: envelope cuttings, bindery trimmings, and other paper and paperboard waste, resulting from printing, cutting, forming, and other converting operations; bag, box, and carton manufacturing wastes; and butt rolls, mill wrappers, and rejected unused stock; and

(B) finished paper and paperboard from obsolete inventories of paper and paperboard manufacturers, merchants, wholesalers, dealers, printers, converters, or others;

(C) fibrous byproducts of harvesting, manufacturing, extractive, or wood-cutting processes, flax, straw, linters, bagasse, slash, and other forest residues;



(D) wastes generated by the conversion of goods made from fibrous material (that is, waste rope from cordage manufacture, textile mill waste, and cuttings); and

(E) fibers recovered from waste water which otherwise would enter the waste stream.

(i) Procurement program

(1) Within one year after the date of publication of applicable guidelines under subsection (e) of this section, each procuring agency shall develop an affirmative procurement program which will assure that items composed of recovered materials will be purchased to the maximum extent practicable and which is consistent with applicable provisions of Federal procurement law.

(2) Each affirmative procurement program required under this subsection shall, at a minimum, contain -

(A) a recovered materials preference program;

(B) an agency promotion program to promote the preference program adopted under subparagraph (A);

(C) a program for requiring estimates of the total percentage of recovered material utilized in the performance of a contract; certification of minimum recovered material content actually utilized, where appropriate; and reasonable verification procedures for estimates and certifications; and

(D) annual review and monitoring of the effectiveness of an agency's affirmative procurement program. In the case of paper, the recovered materials preference program required under subparagraph (A) shall provide for the maximum use of the post consumer recovered materials referred to in subsection (h)(1) of this section.

(3) In developing the preference program, the following options shall be considered for adoption:

(A) Case-by-Case Policy Development: Subject to the limitations of subsection (c)(1)(A) through (C) of this section, a policy of awarding contracts to the vendor offering an item composed of the highest percentage of recovered materials practicable (and in the case of paper, the highest percentage of the post consumer recovered materials referred to in subsection (h)(1) of this section). Subject to such limitations, agencies may make an award to a vendor offering items with less than the maximum recovered materials content.

(B) Minimum Content Standards: Minimum recovered materials content specifications which are set in such a way as to assure that the recovered materials content (and in the case of paper, the content of post consumer

materials referred to in subsection (h)(1) of this section) required is the maximum available without jeopardizing the intended end use of the item, or violating the limitations of subsection (c)(1)(A) through (C) of this section. Procuring agencies shall adopt one of the options set forth in subparagraphs (A) and (B) or a substantially equivalent alternative, for inclusion in the affirmative procurement program.

[www4.law.cornell.edu/uscode/unframed/42/6962.html](http://www4.law.cornell.edu/uscode/unframed/42/6962.html)  
**United States Code, Title 42 – The Public Health and Welfare, Chapter 82 – Solid Waste Disposal, Subchapter VI – federal responsibilities**

Executive Order 12873, known as the "Buy Recycled" executive order, was signed by President Clinton on October 20, 1993. The purpose of order was to more effectively utilize the vast purchasing power of the government to procure products that are environmentally preferable. By acting "as an enlightened, environmentally conscious and concerned consumer," the federal government would be able to maximize recycling and encourage development of markets for environmentally friendly products which would benefit the economy and the environment.

Government Purchasing Project  
[www.gpp.org/eo.html](http://www.gpp.org/eo.html)

## Part 2: Definitions

**Sec 201.** "Environmentally preferable" means products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.

**Sec 210.** "Life Cycle Cost" means the amortized annual cost of a product, including capital costs, installation costs, operating costs, maintenance costs and disposal costs discounted over the lifetime of the product.

## Part 4: Acquisition Planning and Affirmative Procurement Programs

**Sec. 401. Acquisition Planning.** In developing plans, drawings, work statements, specifications, or other product descriptions, agencies shall consider the following factors:

1. elimination of virgin material requirements;
2. use of recovered materials;
3. reuse of product;

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4. life cycle cost;
5. recyclability;
6. use of environmentally preferable products;
7. waste prevention (including toxicity reduction or elimination); and
8. ultimate disposal, as appropriate.

These factors should be considered in acquisition planning for all procurements and in the evaluation and award of contracts, as appropriate. Program and acquisition managers should take an active role in these activities.

#### Part 5: Standards, Specifications, and Designation of Items

**Sec. 504. Minimum Content Standard for Printing and Writing Paper.** Executive agency heads shall ensure that agencies shall meet or exceed the following minimum materials content standards when purchasing or causing the purchase of printing and writing paper:

a. For high speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders, and white woven envelopes, the minimum content standard shall be no less than 20 percent postconsumer materials beginning December 31, 1994. This minimum content standard shall be increased to 30 percent beginning on December 31, 1998.

b. For other uncoated printing and writing paper, such as writing and office paper, book paper, cotton fiber paper, and cover stock, the minimum content standard shall be 50 percent recovered materials, including 20 percent postconsumer materials beginning on December 31, 1994. This standard shall be increased to 30 percent beginning on December 31, 1998.

c. As an alternative to meeting the standards in sections 504(a) and (b), for all printing and writing papers, the minimum content standard shall be no less than 50 percent recovered materials that are a waste material byproduct of a finished product other than a paper or textile product which would otherwise be disposed of in a landfill, as determined by the State in which the facility is located.

1. The decision not to procure recycled content printing and writing paper meeting the standards specified in this section shall be based solely on a determination by the contracting officer that a satisfactory level of competition does not exist, that the items are not available within a reasonable time period, or that the available items fails to meet reasonable performance standards established by the agency or are only available at an unreasonable price.

2. Each agency should implement waste prevention techniques, as specified in section 402(d) of this order, so that total annual expenditures for recycled content printing

reasons for  
not complying

and writing paper do not exceed current annual budgets for paper products as measured by average annual expenditures, adjusted for inflation based on the Consumer Price Index or other suitable indices. In determining a target budget for printing and writing paper, agencies may take into account such factors as employee increases or decreases, new agency or statutory initiatives, and episodic or unique requirements (e.g., census).

3. Effective immediately, all agencies making solicitations for the purchase of printing and writing paper shall seek bids for paper with postconsumer material or recovered waste material as described in section 504(c).

**Sec. 505. Revision of Brightness Specifications and Standards.** The General Services Administration and other Federal agencies are directed to identify, evaluate and revise or eliminate any standards or specifications unrelated to performance that present barriers to the purchase of paper or paper products made by production processes that minimize emissions of harmful byproducts. This evaluation shall include a review of unnecessary brightness and stock clause provisions, such as lignin content and chemical pulp requirements. The GSA shall complete the review and revision of such specifications within six months after the effective date of this order, and shall consult closely with the Joint Committee on Printing during such process. The GSA shall also compile any information or market studies that may be necessary to accomplish the objectives of this provision.

**Executive Order 12873 – Federal Acquisition, Recycling, and Waste Prevention**  
[es.epa.gov/program/exec/eo12873](https://www.es.epa.gov/program/exec/eo12873)

**CSU Policy Manual for Contracting and Procurement**  
<http://www.calstae.edu/tier3/CS+P/crl/policy/Policy.html>

**SECTION 200** - REQUIREMENTS RELATING TO ALL TRANSACTIONS  
The contents of the following sections apply to each of the four major categories of procurement transactions, i.e., personal property, services, information technology resources, and the sale, lease, license, and disposal of CSU personal property.

**201. COMPETITIVE BID REQUIREMENTS (Rev. 1/29/99).**

Reference: Education Code 89036, Public Contract Code 10300 et seq. and 10430(c), Public Contract Code 12100 et seq., **667**

The CSU is committed to a policy of promoting fair and open competition, for the acquisition of goods and services to meet its needs. In implementing its policies and procedures for the preparation and administration of purchase orders and contracts, the CSU strives to achieve through public advertising, notification, and outreach, the following objectives:

1. Compliance with the intent of competitive bidding statutes as a means of protecting the public from the misuse of public funds;
2. Stimulation of competition in a manner conducive to sound fiscal practices by providing qualified bidders fair opportunity to participate;
3. The elimination of favoritism, fraud, and corruption in the awarding of purchase orders and contracts.

**202. EXCEPTIONS TO COMPETITIVE BIDDING**

Campuses must secure competitive bids or proposals for transactions requiring formal bidding, except in the following circumstances:

1. In cases of emergency where a contract is necessary for the immediate preservation of the public health, welfare, or safety, or the protection of CSU property and programs;
2. The contract is with a State or federal agency, a local government entity, or an auxiliary organization of the CSU;
3. Contracts for which only per diem and travel expenses are paid and there is no payment for services rendered;
4. Contracts for the express purposes of obtaining non-CSU legal counsel or of obtaining expert witnesses for litigation (either of these must be submitted to the Office of General Counsel for approval);
5. Contracts with business entities operating handicapped workshops which meet the criteria stated in Section 19404 of the Welfare and Institutions Code;
6. Contracts that have been certified by an authorized campus official to (a) be unbidable (products or services being available from a single source only), or (b) best serve the interests of the CSU by not being subjected to competitive bidding;

## 203.01 Invitation for Bid (IFB)

An Invitation for Bid may be used to obtain commodities and services. For the acquisition of commodities (goods, supplies and materials), State law prohibits the award of contracts to other than the lowest responsible bidder. ITR awards may be based upon the "best value" offered, if the IFB provides for it.

## 204. SOURCING OPTIONS AND ALTERNATIVES

### 204.01 Guidelines

It is the policy of the CSU to seek to achieve discounts and reduce administrative costs through the use of consortium volume purchasing programs and multiple sourcing opportunities. To this end, the development and use of multi-campus agreements, systemwide purchases, and campus executed supply agreements are encouraged.

### 204.02 Targets Of Procurement Program

The CSU is committed to maximizing purchasing leverage through collaborative, joint, and planned purchasing activities. The Targets of Procurement program, under the direction of administrative vice presidents, is a self-governing council of CSU Procurement Officers dedicated to the effective management of volume purchasing and contracting in the CSU. Persons interested in pursuing volume purchasing, either on a multiple campus or systemwide basis, shall contact either the Director of Contract Services and Procurement or their local campus procurement office.

### 204.03 Sourcing Options (Rev. 1/29/99).

1. Pooled Purchases - These agreements result from solicitations designed to support the consolidated needs of two or more campuses which have common requirements for specified commodities. Pooled purchases also may include buying arrangements whereby campuses agree to form a purchasing consortium for purposes of avoiding redundant bid solicitations and contracts, maximizing volume discounts, and reducing administrative costs.

### 210.07 Restrictive Bid Specifications

Reference: Public Contract Code 10318

No State agency or employee thereof shall draft or cause to be drafted, any specifications for bids in such a manner as to limit the bidding directly or indirectly, to any one bidder.

## 303. COMMODITIES WITH SPECIAL PURCHASING REQUIREMENTS

### 303.01 Recycled Product Acquisitions, Report, and Plan (Rev. 7/20/99)

General

Reference: Public Contract Code Sections 12150-12226.

Campuses shall establish purchasing practices that assure, to the maximum extent economically feasible, the purchase of materials, goods, and supplies that are recycled or have recycled material within their content. Fitness and quality being equal, purchase preference shall be given to recycled products whenever such products are available and the cost of such products is no greater than that of their non-recycled counterparts. Materials, goods, supplies, or products containing the following recycled resources shall be subject to this requirement:

- (a) Printing & writing paper
  - (b) Paper products
  - (c) Compost and co-compost products,
  - (d) Glass,
  - (e) Oil,
  - (f) Plastic,
  - (g) Solvents,
  - (h) Paint
  - (i) Tires
  - (j) Tire-derived Products
  - (k) Steel.
- (P.C.C. 12205).

Contractors shall be required to certify in writing the minimum percentage, if not the exact percentage, of post-consumer and secondary material in the materials, goods, (or supplies) provided or used. This certification shall be furnished under penalty of perjury. (P.C.C. 12205, 10233, 10308.5, 10354).

Campus procurement officers shall, if feasible, establish purchasing practices that ensure the purchase of materials, goods, and supplies that may be recycled or reused when discarded. (P.C.C. 12205).

Campus procurement officers shall allow a price preference for recycled paper. Campus procurement offices shall strive to meet or exceed the legislative goals and timetables prescribed by the California legislature for the acquisition of recycled products. (P.C.C. 12205).

Recycled Paper Product Acquisitions

Reference: Public Contract Code Sections 10855-10860 and 12160-12164.5.

For the acquisition of recycled paper products, campuses shall abide by the same laws and policies established for all other recycled product acquisitions in addition to the specific requirements for paper as stated under P.C.C. 10855.

State Agency Buy Recycled Campaign (SABRC) Procurement Report and Plan  
Reference: Public Contract Code 12225, 12164.5(c), 12165.

A Campus SABRC Procurement Report is required annually to be submitted to the California Integrated Waste Management Board (CIWMB). This report to CIWMB reflects the preceding fiscal year's recycling acquisition activity data for the campus. It is due September 1 of each year from each CSU campus.

A projected one-fiscal-year SABRC Procurement Plan shall be submitted directly to the California Integrated Waste Management Board (CIWMB) by each State agency and CSU campus by September 1, annually. A copy of each Plan must also be transmitted to the Chancellor's Office Contract Services and Procurement Department, in a timely fashion. The legislature has established recycled product

procurement goals for both state agencies in general and the CSU in particular within Sections 12205 and 10860 of the Public Contract Code. The SABRC Procurement Plan shall be completed with these goals in mind.

## **PUBLIC CONTRACT CODE**

### **SECTION 12150-12159**

From <<http://www.calstate.edu/tier3/CS+P/crl/policy/pcc12150.html>>

12150. This chapter shall be known and may be cited as the State Assistance for Recycling (STAR) Markets Act of 1989.

12153. The Legislature finds and declares all of the following:

(a) It is the policy of the state to conserve and protect resources for future citizens as well as the current population of the state.

(b) It is in the best interest of the people of the state that the state alter its perception of solid waste to instead look upon this waste as resources that can be recovered and reused.

(c) It is in the best interest of reducing the increasing burden on communities disposing of the state's solid waste for the state to take a role in developing an integrated state solid waste management policy, which includes source reduction, recycling, composting, market development, incineration, and landfills. Since recycling is a necessary component of this policy, the state shall encourage the use of recycled products to ensure that the state's industries have sufficient and adequate markets for products regeneratively utilizing the state's solid waste as recycled resources.

(d) It is the policy of the state to encourage the expansion of businesses located in California and, to whatever extent possible, to look favorably on California businesses in the recycling industry, which include, but are not limited to, those California businesses that manufacture, distribute, or act as brokers for, recycled products.

(e) Market development is the key to moving beyond the uneven collection of recyclable materials to stable resource recovery and reuse. Because of existing local collection programs, significant quantities of recycled resources such as the following are today available for purchase: fine grades of paper, high-quality paper products, plastics, retreaded automobile tires, rerefined lubricating oil, reused automotive parts, reclaimed solvents, recycled asphalt, recycled concrete, carpet or geotextiles composed of recycled plastics, compost and co-compost products, and steel products.

(f) In making these findings, the Legislature declares that the policy and intent of this chapter is to set an example for the state and nation to encourage the purchase of products utilizing recycled resources.

(g) It is the intent of the Legislature, whenever economically feasible and as markets allow, to continually expand the policies of the state to utilize recycled resources in the daily operations of the state. This includes, but is not limited to, the procurement and purchase of recycled materials, the use of recycled resources in the performance of a service or project for the state, and the purchase of equipment used for the collection and sale of waste materials generated by the state.



Appendix D — Letter from Gearheart



Environmental Resources Engineering

Oct. 13, 1999

Dear Colleague

I am writing this letter to both introduce to you an important student effort and to ask for your support in their efforts to increase the use of recycled paper on the HSU campus. Humboldt State University presently uses approximately 28,000 reams of paper per year. The fiber for this paper comes primarily from new trees. Approximately 1000 large trees are cut down each year to supply paper to meet the HSU demand for paper.

At the present time the campus primarily uses 20% and 30% post-consumer waste recycled paper. However, high-quality 50% and 100% post-consumer waste recycled paper is now available. Switching to this type of paper will eliminate 2/3 of the trees presently cut and pulped for paper manufacturing.

A group of dedicated students, the Recycled Paper Task Force, affiliated with Associated Students, the Campus Recycling Program and the Sustainable Campus Class is now investigating the feasibility of switching the campus to this type of paper for use in photocopiers and printers. I strongly support their efforts. These students are actively attempting through their individual and collective effort to affect resource allocation and environmental enhancement.

I would appreciate your cooperation in giving them information and statistics on your current paper use and allowing them to perform test runs in your copiers and printers. This has already been done successfully in the library copy center.

If this paper is adopted at HSU there would be no additional cost to your department. Current plans are to fund the cost premium for this paper from private donations with possible additional funding by Associated Students. Current commitments for private donations are approximately \$22,000 for the next two years. We are considering an Initiative for a new student fee (approximately \$2 per semester) to provide long-term funding for this program.

High post-consumer waste recycled paper gives us the opportunity to demonstrate environmental leadership and greatly reduce environmental impacts at relatively low cost. In the future we would like to extend this program to other campuses of the California State University system. Purchasing volumes eventually reduces the cost of alternative products a lesson we learned with chlorine free pulping processes. It has to start somewhere. I hope you consider support of this approach with the long-term goals in mind. Please feel free to contact me if you have questions or suggestions (Ext. 3135-rag2).

Robert Gearheart, Professor

Appendix E – Recycled Paper Test Questionnaire

Recycled Paper Task Force

Contacts:

Mike Wall, 825-7909, e-mail = mjw13@axe.humboldt.edu

Michael Winkler, 822-1857, e-mail = mlw9@axe.humboldt.edu

### Recycled Paper Test Questionnaire

What brand and type of paper do you currently use?	
Copier:	Printer:
Where do you currently purchase photo-copier and printer paper?	
Copier:	Printer:
Who is in charge of purchasing paper for your department?	
Total quantity in reams used per year and cost per ream (500 sheets)?	
Copier:	Printer:
Any comments regarding previous experience with recycled paper?	
Test Results:	
Did any sheets of paper "jam" in the copier or printer? If so, how many?	
Copier:	Printer:
Did you try two-sided copying? Were there any problems?	
Any additional comments:	
Name: Date: Location:	
THANK YOU!	

## Appendix F -- Survey Questions

This is an anonymous survey. Please do not sign the survey.

Major \_\_\_\_\_ Class Standing \_\_\_\_\_ Age \_\_\_\_\_

1. Do you believe that drinking water is abundant in Humboldt County?  YES  NO
2. Where does your drinking water come from where you live?  
 HSU Dorms  City of Arcata, Mad River  City of Eureka, Mad River  
 Well water  Don't know Other \_\_\_\_\_
4. Do you purchase bottled water? YES  NO   
If yes, how much on average do you spend a month?  
 \$5 or less  \$5 - \$10  \$10 - \$25  \$25 - \$50  \$50 or more
- 5a. On average do you more often take  a shower or  a bath?  
b. If you shower on average how long is your shower time?  
 2 - 5 minutes  5 - 10 minutes  10 - 15 minutes  15 minutes or more
6. Water conservation is a problem on campus.  
 1 strongly agree  2  3  4  5 not a problem
7. When you see a plumbing problem in a building on campus, do you:  
 ignore it  report it to the office secretary of that building  don't know where to report it

#### Paper Usage

1. How many sheets of paper do you use each week from campus printers and copiers?  
 0-5  6-10  11-15  20+
2. Do you know how to:  
a). Only print what you want to print (specifically from the web)?  yes  no  
b). Check the print monitor and cancel a printing if necessary?  yes  no  
c). Make 2-sided copies on campus copy machines?  yes  no

#### AS Fee Increase

1. Did you vote in the last AS election?  yes  no  not eligible to vote

2. Currently each HSU student is required to pay \$24 in Associated Student fees per semester. The money supports such programs as the Student Health Center, the Multicultural Center, and Campus Recycling Program. Of that money, \$6 goes toward the purchase of paper and toner cartridges for student computer labs.

Computer labs are stocked with 0% post-consumer content paper — virgin paper. University Graphics uses 30% post-consumer content paper and individual departments use anywhere from virgin material to 30% post-consumer content paper. Academic computing has determined that using 100% post-consumer content paper on campus equipment is not possible because the paper jams. It is possible, however, to use 50% post-consumer content paper.

- a). Would you be willing to pay \$3 more per semester through your AS fee so that computer labs could be stocked with 50% post-consumer content paper?  yes  no
- b). Would you be willing to pay \$4 more per semester so that ALL paper users on campus could use 50% post-consumer paper?  yes  no

Thank you for your participation!

Appendix G — Survey Comparisons

A

Breakdown by college

College Humanities	Number in Test	Percent of Test	Nuber in Sample	Percent of Sample	Percent of University
Anthropology	4				
Art	33				
English	14				
French	0				
Geography	15				
German	1				
History	4				
Journalism	24				
Music	8				
Native American Studies	1				
Philosophy	2				
Political Science	2				
Religious Studies	1				
Social Work	4				
Social Work Pre-Major	1				
Sociology	5				
Spanish	1				
Speech Communication	3				
Theatre Arts	24				
Humanities Grad Students	1				
<b>TOTAL</b>	<b>147</b>	<b>0.270</b>	<b>93</b>	<b>0.300</b>	<b>0.267</b>
<b>College Natural Sciences</b>	<b>Number in Test</b>	<b>Percent of Test</b>	<b>Nuber in Sample</b>	<b>Percent of Sample</b>	<b>Percent of University</b>
Biology	36				
Botany	0				
Zoology	10				
Chemistry	1				
Computer Information Systems	7				
Environmental Resources Engr	11				
Fisheries	7				
Forestry	12				
Geology	5				



Mathematics	8					
Nat Resources Plng & Interptn	12					
Nursing	3					
Nursing Pre-Major	7					
Oceanography	1					
Physical Science	1					
Physics	2					
Psychology	23					
Rangeland Resource Science	0					
Environmental Science	59					
Wildlife	14					
Natural Resources Grad Students	1	0.402	136	0.439	0.417	
<b>TOTAL</b>	<b>219</b>					
<b>College PS</b>	<b>Number in Test</b>	<b>Percent of Test</b>	<b>Nuber in Sample</b>	<b>Percent of Sample</b>	<b>Percent of University</b>	
Business Administration	28					
Economics	0					
Liberal St-Child Dev-Elem Ed	5					
Liberal Studies-Child Develop	2					
Liberal Studies-Elementary Ed	26					
Liberal Studies-Recreation Adm	2					
Education	0					
Industrial Technology	1					
Kinesiology	8					
<b>TOTAL</b>	<b>72</b>	<b>0.132</b>	<b>31</b>	<b>0.100</b>	<b>0.195</b>	
<b>College AU</b>	<b>Number in Test</b>	<b>Percent of Test</b>	<b>Nuber in Sample</b>	<b>Percent of Sample</b>	<b>Percent of University</b>	
Interdisciplinary Studies	9					
Liberal Studies	8					
Undeclared	90					
<b>TOTAL</b>	<b>107</b>	<b>0.196</b>	<b>46</b>	<b>0.148</b>	<b>0.121</b>	
<b>TOTAL IN SURVEY</b>	<b>545</b>		<b>310</b>		<b>0.041</b>	

Breakdown by Age

Age	Number in Test		Percent of Test		Number in Sample		Percent in Sample		Number at University		Percent of University	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<20	233	0.419	123	0.397	1476	0.196						
20-24	253	0.455	140	0.452	3666	0.486						
25-29	37	0.067	24	0.077	1224	0.162						
30-34	13	0.023	10	0.032	402	0.053						
35-39	6	0.011	3	0.010	219	0.029						
40-44	4	0.007	3	0.010	158	0.021						
45-49	5	0.009	1	0.003	178	0.024						
50-59	2	0.004	1	0.003	112	0.015						
>60	3	0.005	2	0.006	110	0.015						
Blank			3	0.010								
Total	556	1.000	310	1.000	7545	1.000						

Breakdown by Class Standing

	Number In Test	Percent In Test	Number in Sample	Percent in Sample	Number at University	Percent of University
Total Frosh	108	0.240	51	0.165	1266	0.168
Total Soph	114	0.253	148	0.477	818	0.108
Total Jr	131	0.291	59	0.190	1825	0.242
Total Sr	92	0.204	47	0.152	2661	0.353
Total Grad	5	0.011	0	0.000	975	0.129
Blank			5	0.016		
Total Students	450	1.000	310	0.984	7545	1.000

Appendix H — Expedited Review

**HUMBOLDT STATE UNIVERSITY  
COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS**

**FORM 1: FACULTY COVER LETTER**

TO: Chair, Committee for the Protection of Human Subjects  
c/o Dean, College of Natural Resources and Sciences

FROM:

RE: Review of Enclosed Research Proposal by the Institutional Review Board

DATE:

PROJECT TITLE:

I hereby submit the attached research proposal for consideration under the Policy for the Protection of Human Subject in Research. I request (check one)

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

Outline risks, benefits, and risk management procedures:

\* If your research is an exempt survey, use only the survey form which is attached. There is no need to complete a full protocol.

**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, College of Natural Resources and Sciences

FROM: Student:  
Faculty Sponsor:  
Department:

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

DATE:

PROJECT TITLE:

The faculty committee listed below has reviewed the attached proposal:

Name:	Signature _____
Name:	Signature _____
Name:	Signature _____
Date:	

On behalf of the student we request:

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

Please outline risks, benefits, and risk management procedures:

\* If your research is an exempt survey, use only the survey form which is attached. There is no need to complete a full protocol.

## SECTION 4: DETERMINATION OF EXEMPTION

Unless otherwise required by department or agency heads, research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from this policy:

1. Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as
  - a. Research on regular and special education instructional strategies, or
  - b. Research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior, unless:
  - a. Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
  - b. Any disclosure of the human subjects' response outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

*N. B. If both 2a and 2b apply, your research is not exempt.*
3. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (2) of this section, if:
  - a. The human subjects are elected or appointed public officials or candidates for public office; or
  - b. Federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
4. Research, involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.
5. Research and demonstration projects which are conducted by or subject to the approval of (FEDERAL) department or agency heads, and which are designed to study, evaluate, or otherwise examine:
  - a. Public benefit or service programs;
  - b. Procedures for obtaining benefits or services under those programs;
  - c. Possible changes in or alternatives to those programs or procedures; or
  - d. Possible changes in methods or levels of payment for benefits or services under those programs.
6. Taste and food quality evaluation and consumer acceptance studies,
  - a. If wholesome foods without additives are consumed or
  - b. If a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

## INSTRUCTIONS FOR A REQUEST FOR EXEMPTION FOR SURVEY @

Please note that not all research which uses only surveys is A exempt @ from IRB review. To be granted an exemption, your survey must meet the following criteria:

1. subjects must all be 18 or over;
2. subjects= responses must be made anonymously, or the
3. information requested must place subjects at no risk if disclosed.

Surveys involving **children** (persons under 18 years old who are neither emancipated nor married) cannot be granted exemptions. Surveys involving children require parental consent and full-board review. A survey is **anonymous** only if no one, including the researcher, can know which subject made which response. **Risks** to be considered include risk of criminal or civil liability, damage to subjects financial standing, employability, or reputation.

Use of some or all of the following strategies will help to assure that your survey is exempt: (a) Include information on the top of the survey (or in oral instructions for a phone survey) indicating that it is **research**, subject participation is **voluntary**, **A if you are under 18 please do not participate in this survey, @** and **A Do not write your name anywhere on the survey, @** or **A Do not tell me (the researcher) your name. @** (b) Instruct the subjects to return the survey to a mail address, drop box, or other location where their responses will be mixed with those of other subjects before they are reviewed. (c) Use only random phone dialing methods or randomly generated lists of phone numbers rather than directories to administer a phone survey. **OR** (d) Ask only questions on your survey which place subjects at no risk.

**Instructions for @Method of Administering Survey@:** Please tell where and under what conditions the survey will be distributed to subjects, completed and returned. Here are some examples: (a) The survey will be handed out in introductory Psychology classes, and collected all at once. (b) The survey will be mailed to all freshmen and returned to a mail box in the Journalism Department. (c) The survey will be placed in all dormitories with instructions to return it to the Speech Communications Department. (d) The survey will be handed to students walking by in the quad, with instructions to place the completed survey in a drop box in the University Center.

**Instructions for A Subject Population@:** Please specify what kind of people you will be studying. Examples: (a) female college students; (b) male runners enrolled in cross-country at Humboldt State;

(c) school children in grade 6 of Eureka public schools.

Approval indicated by the execution of this form is for one calendar year. If your study will continue beyond the expiration date, you must apply for renewal in enough time in advance of this date to prevent interruption in your work. If your survey form, or your method of administering it must be modified, you must also apply for approval of your proposed modification.

If your request for exemption is denied, you may revise your research proposal and resubmit your request for an exemption, or you may submit a full application for review for approval for human subjects research in the categories of no more than minimal risk or more than minimal risk.



**HUMBOLDT STATE UNIVERSITY**  
**COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS IN RESEARCH**  
**FORM 3: REQUEST FOR EXEMPTION FOR SURVEY**

1. Principal Investigator:

Name:  
Department:

2. Faculty or Staff Sponsor (students only):

Name:  
Department:

3. Other personnel (name, position or class level)

4. Project Title:

5. Check all items that apply:

- G Master=s Thesis or Project
- G Senior Thesis or Project
- G Faculty Research
- G Class Project/Course No.
- G Other (specify):

6. Status of Request (check one):

- G New
- G Renewal
- G Modification

7. Dates Survey to be Administered:

Begin:  
End:

8. Subject Population:

Number of subjects:

9. Method of Administering Survey: Attach explanation.

10. Survey Instrument and Instructions: Attach explanation.

11. Forward three copies to the College of Natural Resources and Sciences (CNRS), Forestry 101.

**FOR OFFICE USE ONLY**

Approved:

Expiration Date:

Authorized Signature: \_\_\_\_\_

Denied:

Reason:

Appendix I – Raw Survey Data

# Raw Survey Results

## Questions

MAJOR	CLASS	AGE	W1	W2	W4	W4A	W5A	W5B	W6	W7	P1	P2A	P2B	P2C	F1	F2A	F2B
FS	SO	<20	Y	1	N		S		3	2	3	1	Y	Y	N	N	N
HUM	FR	<20	Y	2	Y		2	S	2	2	2	2	Y	Y	Y	X	Y
FS	SO	<20	N	4	Y		2	S	3	1	3	1	Y	Y	Y	X	Y
NS	SO	<20	Y	1	Y		2	S	3	3	3	1	Y	Y	Y	N	Y
NS	FR	<20	N	1	Y		3	S	2	1	1	2	Y	Y	Y	X	Y
HUM	SO	<20	Y	1	N			S	2	1	2	1	N	Y	Y	N	Y
NS	SO	<20	Y	5	Y		3	S	4	2	2	1	Y	Y	N	X	Y
AU	SO	<20	Y	1	Y		1	S	3	3	3	1	Y	Y	N	N	Y
NS	FR	<20	Y	2	N			S	3	4	3	1	N	N	N	X	N
HUM	SO	<20	Y	1	N			S	2	4	3	1	Y	Y	Y	X	Y
HUM	SO	<20	Y	1	N			S	2	4	3	2	Y	N	Y	X	Y
FS	SO	<20	Y	1	N			S	2	3	3	1	Y	Y	N	N	Y
NS	SO	<20	Y	5	N			S	1	3	3	2	N	Y	N	X	Y
AU	SO	<20	Y	1	Y		2	S	2	2	3	1	N	N	N	N	Y
AU	SO	<20	N	4	Y		1	S	3	3	3	1	Y	N	N	X	Y
NS	FR	<20	Y	1	Y		2	S	4	2	2	1	Y	Y	Y	X	Y
FS	FR	<20		1	N			S	2	3	2	1	Y	Y	Y	X	Y
FS	FR	<20	Y	1	N			S	3	3	2	1	Y	Y	N	X	Y
HUM	FR	<20	N	1	N			S	2	2	3	3	N	Y	Y	X	Y
HUM	FR	<20	Y	5	Y		2	S	4	3	2	1	Y	Y	Y	X	Y
AU	FR	<20	Y	2	Y		2	S	4	3	1	1	Y	Y	N	X	Y
HUM	FR	<20		1	Y		2	S	3	3	1	1	Y	Y	Y	X	Y
HUM	FR	<20	Y	6	Y		4	S	4	3	1	1	Y	Y	Y	X	Y
NS	FR	<20	Y	1	Y		3	S	2	4	2	1	Y	Y	Y	X	Y
NS	FR	<20	Y	5	Y		3	S	4	3	3	1	Y	Y	N	X	Y
FS	FR	<20	Y	1	Y		2	S		2	1	3	Y	Y	N	X	N
NS	FR	<20	Y	2	N			S	2	5	1	4	Y	Y	N	X	Y
NS	FR	<20	N	1	Y		2	S	3	3	3	1	Y	Y	N	X	N
NS	FR	<20	Y	1	Y		1	S	3	3	3	1	N	N	Y	X	Y
AU	FR	<20	Y	1	Y		2	S	4	3	1	1	Y	Y	Y	X	N
NS	FR	<20	Y	5	N			S	3	3	2	2	Y	Y	Y	X	N
AU	FR	<20	Y	1	N			S	4	1	3	1	Y	Y	N	X	
NS	FR	<20	Y	4	Y		3	S	3	3	3	1	N	Y	N	X	N
NS	FR	<20	Y	1	Y		2	S	2	2	1	1	Y	Y	N	X	Y
NS	FR	<20	Y	1	Y		4	S	2	3	3	1	N	Y	N	X	Y
HUM	FR	<20	N	1	Y		2	S	4	3	3	1	Y	Y	N	X	Y
HUM	FR	<20	Y	5	Y		2	S	3	4		2	Y	Y	Y	X	Y
NS	FR	<20	Y	6	Y		1	S	4	3	2	1	Y	N	N	X	Y
NS	FR	<20	Y	1	Y		2	S	2	3	2	1	Y	Y	Y	X	Y
NS	FR	<20	Y	3	Y		3	S	4	3	3	1	N	Y	Y	X	Y
FS	FR	<20	Y	1	Y		3	S	2	3	2	1	Y	Y	Y	X	Y
HUM	FR	<20	Y	4	Y		1	S	3	5	3	1	Y	Y	N	X	Y
HUM	FR	<20	Y	2	Y		2	S	2	2	3	1	Y	Y	Y	X	Y
NS	SO	<20	N	2	Y		1	S	1	1	3	1	N	Y	Y	Y	Y
AU	SO	<20	N	3	N			S	2	3	2	1	Y	Y	N	N	Y
HUM	SO	<20	Y	4	N			S	4	3	1	1	Y	Y	Y	N	Y
HUM	SO	<20	Y	2	Y		1	S	3	2	3	1	Y	Y	N	Y	Y

PS	SO	<20	Y	4	2 S	2	3	3	1 Y	Y	N	N	Y	Y
HUM	FR	<20	Y	1 Y	2 S	3	4	3	2 N	Y	N	X	Y	Y
HUM	SO	<20	Y	2 Y	2 S	3	3	3	1 Y	Y	N	N	Y	Y
HUM	SO	<20	N	3 Y	1 S	3	2		2 Y	Y	N	N	Y	Y
NS	SO	<20	Y	2 Y	2 S	4	3	1	3 Y	Y	N	N	N	N
NS	SO	<20	Y	2 N	S	4	5	3	3 N	Y	N	N		
HUM	SO	<20	Y	1 Y	3 S	2	3	2	2 Y	Y	Y	N	Y	Y
AU	SO	<20	Y	5 Y	1 S	2		3	4 Y	Y	Y	Y	N	N
AU	SO	<20	Y	4 Y	3 B			3	1 N	N	N	N	Y	Y
AU	SO	<20	Y	2 N	S	1	3	3	1 Y	Y	Y	N	Y	Y
NS	SO	<20	Y	1 Y	1 S	3	2	3	1 Y	Y	N	N	Y	Y
NS	SO	<20	Y	2 N	S	2	3	2	1 Y	Y	N	N	Y	Y
NS	SO	<20	Y	2 N	S	2	3	3	1 Y	N	N	N	Y	Y
NS	SO	<20	Y	2 Y	1 S	3		2	1 Y	Y	Y	N	Y	Y
NS	SO	<20	Y	2 N	S	2	1	3	1 Y	Y	N	N	Y	Y
HUM	SO	<20	Y	1 Y	2 S	3	3	3	1 Y	Y	Y	Y	Y	N
HUM	SO	<20	N	1 N	S	3	2	1	1 Y	Y	N	N	Y	Y
HUM	SO	<20	Y	1 N	1 S	1	2	3	1 Y	Y	N	N	Y	N
HUM	SO	<20	Y	4 Y	1 S	2	3	3	1 Y	Y	Y	N	Y	Y
NS	SO	<20	N	1 Y	1 S	2	1	1	2 Y	Y	Y	N	Y	Y
HUM	SO	<20	Y	1 N	S	3	2	1	3 Y	Y	Y	N	N	N
AU	SO	<20	Y	2 N	S	2	4	3	1 Y	Y	Y	Y	N	N
PS	SO	<20	Y	3 Y	1 S	3	3	3	2 Y	Y	Y	Y	Y	N
NS	SO	<20	Y	5 Y	1 S	3	3	3	1 Y	Y	N	N	Y	Y
NS	SO	<20	Y	1 Y	2 S	3	3	3	2 Y	Y	N	N	Y	Y
NS	SO	<20	Y	1 N	S	3	3	3	1 Y	Y	N	N	Y	Y
AU	FR	<20	Y	1 N	S	3	3	1	1 Y	Y	N	X	N	N
AU	SO	<20	Y	2 Y	1 S	3	3	1	1 N	N	N	N	Y	Y
NS	SO	<20	Y	1 N	S	2	3	2	1 Y	Y	Y	N	Y	Y
NS	SO	<20	Y	5 Y	2 S	2	4	1	1 Y	Y	N	N	N	N
HUM	SO	<20	N	5 N	S	2	3	1	1 N	Y	Y	Y	Y	Y
NS	SO	<20	Y	2 Y	1 S	4	4	2	1 N	N	Y	N	N	N
PS	SO	<20	Y	2 Y	2	2	3	3	1 Y	Y	N	N	Y	Y
PS	SO	<20		5 N	S	2	3	2	1 Y	Y	N	N	Y	Y
HUM	SO	<20	Y	5 Y	4 S	3	3	1	1 Y	Y	Y	N	Y	Y
NS	JR	<20	Y	1 Y	1 S	2	3	1	1 N	N	Y	Y	Y	Y
HUM	SO	<20	Y	2 N	S	3	4	1	2 Y	Y	N	N	Y	N
AU	FR	<20	Y	5 Y	3 S	2	3	3	4 Y	Y	N	X	Y	Y
HUM	SO	<20	Y	2 Y	1 S	2	2	1	2 Y	Y	Y	Y	Y	Y
NS	SO	<20	Y	6 Y	2 S	3	3	3	1 Y	Y	N	N	Y	Y
HUM	SO	<20	Y	2 N	S	2	4	1	1 Y	N	N	Y	N	N
HUM	SO	<20	Y	1 N	S	2	5	2	1 N	Y	N	N	Y	Y
NS	FR	<20	Y	1 Y	2 S	2	3	1	1 Y	N	N	X	N	N
AU	FR	<20	Y	1 N	S	2	3	3	1 N	Y	N	X	Y	Y
HUM	FR	<20	N	1 Y	1 S	1	1	1	2 Y	Y	N	Y	Y	Y
NS	SO	<20	N	2 Y	2 S	1	3	1	1 N	Y	N	N	N	N
NS	SO	<20	N	2 N	S	2	3	1	2 Y	Y	Y	N	N	N
AU	FR	<20	N	2 N	S	2	4	1	2 Y	N	N	X	N	Y
PS	FR	<20	N	1 Y	3 S	4		2	4 Y	Y	Y	X	Y	Y

AU	SO	<20	Y	2 Y	1 S	4	2	3	1 N	N	N	N	Y	Y
AU	SO	<20	Y	5 Y	4 S	2	1	2	2 Y	Y	N	N	Y	Y
HUM	SO	<20	N	1 N	S	3	2	1	1 Y	Y	N	N	Y	Y
NS	FR	<20	Y	5 N	S	4	4	3	3 Y	Y	Y	X	Y	Y
HUM	SO	<20	Y	1 Y	1 S	3	3	2	4 Y	Y	Y	N	Y	Y
AU	SO	<20	Y	1 Y	1 S	2	3	2	3 Y	Y	Y	Y	Y	Y
HUM	SO	<20	N	2 Y	3 S	2	3	2	2 N	Y	Y	Y	Y	Y
HUM	SO	<20	N	5 Y	3 S	3	3	2	1 Y	Y	N	N	N	N
NS	FR	<20	Y	5 N	1 S	2	2	1	4 Y	Y	Y	X	Y	Y
HUM	SO	<20	Y	5 Y	1 S	4	3	3	1 Y	Y	Y	N	Y	Y
NS	FR	<20	Y	1 N	S	2	2	2	1 Y	Y	N	X	Y	Y
HUM	SO	<20	Y	3 N	S	2	2	3	1 Y	Y	N	N	Y	Y
AU	SO	<20	Y	5 Y	3 S	4	3	3	1 Y	Y	Y	N	Y	Y
HUM	SO	<20	Y	1 Y	1 S	4	4	1	1 Y	Y	N	X	Y	Y
PS	SO	<20	Y	2 N	S	2	3	1	1 N	Y	N	N	Y	Y
AU	FR	<20	Y	5 N	S	3	4	3	1 Y	N	N	X	Y	Y
PS	SO	<20	Y	2 N	S	2	3	1	1 Y	Y	N	N	Y	Y
HUM	SO	<20	Y	1 N	S	3	2	1	3 Y	Y	N	N	Y	Y
NS	FR	<20	Y	5 Y	1 S	4	3	3	2 Y	Y	Y	X	N	N
AU	SO	<20	N	5 Y	1 S	3	5	2	1 N	Y	N	N	Y	Y
NS	SO	<20	Y	1 Y	2 S	2	5	N/SE	1 Y	Y	N	N	Y	Y
AU	SO	<20	Y	2 N	S	3	2	3	1 Y	Y	N	N	Y	Y
NS	SO	<20	Y	3 N	B		5	1	3 Y	Y	Y	N	N	N
HUM	SO	<20	Y	1 Y	1 S	4	4	2	1 Y	Y	Y	N	N	N
NS	SO	<20	Y	2 N	S	1	5	3	1 N	Y	N	N	Y	Y
HUM	SO	<20	Y	5 N	S	2	4	1	1 Y	N	N	N	N	N
NS	SO	<20	Y	2 N	S	3	2	3	1 Y	N	N	N	Y	Y
NS	SO	20-24	Y	2 Y	1 S	2	3	3	1 Y	N	N	Y	Y	Y
AU	SO	20-24	Y	2 Y	1 S	2	3	3	1 N	Y	Y	Y	Y	Y
AU	SO	20-24	Y	2 Y	1 S	2	3	2	2 Y	Y	Y	N	Y	Y
NS	JR	20-24		2 N	S	3	3	1	N	Y	N	N	Y	Y
NS	SO	20-24	N	2	2 S	2	1	2	1 N	Y	Y		Y	Y
HUM	SO	20-24	Y	2 N	S	3	2		1 Y	Y	N	Y	Y	Y
PS	SO	20-24	Y	2 Y	1 S	2	3	3	2 Y	Y	N	N	Y	Y
PS	JR	20-24	N	2 N	S	2	3	3	1 Y	Y	Y	Y	Y	
PS	SO	20-24		3 Y	4 S	3	3	1	2 Y	Y	N	N	Y	Y
AU	SO	20-24	Y	5 Y	3 S	4	4	1	3 Y	Y	N	N	N	N
NS	JR	20-24	Y	2 N	S	4	3	3	1 Y	Y	Y	N	Y	Y
NS	JR	20-24		N	S	3	3	2	2 Y	Y	Y	N	N	N
PS	JR	20-24	Y	2 N	S	3	3	3	1 N	Y	N	Y	Y	Y
HUM	SO	20-24	Y	2 N	S	2	4	3	1 Y	Y	Y	N	Y	Y
NS	SO	20-24	Y	2 N	S	3	3	3	1 Y	Y	N	N	Y	Y
NS	SO	20-24	N	6 N	S	1	1	3	1 N	Y	Y	N	Y	Y
NS	SO	20-24	Y	2 Y	S	2	2	3	4 Y	Y	N	Y	N	Y
AU	SO	20-24	Y	6 Y	1 S	2	2	2	1 Y	Y	Y	N	Y	Y
HUM	FR	20-24	Y	2 N	S	2	3	3	1 Y	Y	N	X	Y	Y
PS	SO	20-24	Y	2 N	S	3	5	2	1 Y	Y	N	N	N	N
NS	SO	20-24	Y	2 N	S	2	2	3	2 Y	Y	N	N	Y	Y
NS	SO	20-24	Y	1 N	S	3	3	2	2 Y	Y	Y	N	Y	Y

NS	SO	20-24	N	5 N	S	3	4	3	4 N	N	N	N	Y	Y
HUM	SO	20-24	Y	2 N	S	3	2	1	2 Y	Y	N	N	Y	Y
NS	SO	20-24	Y	1 N	S	4	3	2	1 Y	Y	N	Y	Y	N
NS	SO	20-24		5 Y	1 S	4	3	3	1 Y	Y	Y	N	N	N
NS	SO	20-24	Y	2 Y	3 S	2	3	1	1 Y	Y	Y	N	Y	Y
NS	SO	20-24	Y	1 N	S	1	4	1	1 Y	Y	N	Y	Y	Y
HUM	JR	20-24	N	1 N	S	2	3	3	1 Y	Y	N	Y	Y	Y
NS	FR	20-24	Y	2 Y	2 S	1	4	2	1 Y	N	N	X	Y	Y
FS	SO	20-24	Y	6 Y	2 S	2	5	3	2 Y	Y	N	Y	Y	Y
HUM	SO	20-24	Y	5 Y	1 S	3	4	3	2 Y	Y	N	N	Y	Y
FS	JR	20-24	Y	5 Y	1 S	3	3	1	1 Y	N	Y	N	Y	Y
AU	SO	20-24	N	2 N	S	3	3	3	1 Y	Y	Y	N	Y	Y
HUM	JR	20-24	N	2 N	S	1	1		Y	Y		N	Y	Y
NS	SO	20-24	N	2 Y	3 S	3	3	3	1 Y	Y	N	Y	Y	Y
NS	SO	20-24	Y	2 Y	2 S	3	4	3	1 Y	Y	N	N	Y	Y
AU	SO	20-24	Y	1 Y	1 S	4	5	2	4 Y	Y	Y	N	N	N
HUM	JR	20-24	Y	4 Y	1 S	3	3	3	1 Y	Y	Y	N	Y	Y
HUM	JR	20-2	N	6 Y	3 S	2	3	1	2 Y	Y	N	N	Y	Y
FS	JR	20-24	Y	3 Y	3 S	4	3	3	2 Y	Y	Y	N	Y	Y
NS	JR	20-24	Y	6 N	S	2	5	1	1 Y	Y	Y	Y	N	N
NS	SO	20-24	N	1 Y	2 S	4	4	2	2 Y	Y	N	N	Y	N
AU	SO	20-24	Y	5 Y	1 S	2	3	1	1 Y	Y	Y	N	Y	Y
NS	JR	20-24	Y	2 N	S		3	1	4 N	Y	Y	Y	Y	Y
HUM	SO	20-24	Y	6 Y	1 S	2	3	2	2 Y	Y	Y	Y	Y	Y
AU	SO	20-24	N	3 Y	1 S	2	3	3	1 Y	Y	Y	N	Y	Y
AU	FR	20-24	Y	6 Y	1 S	2		2	1 N	Y	N	X		Y
HUM	JR	20-24	Y	2 N	S	2	3	3	2 Y	Y	N	N	Y	Y
NS	SO	20-24	N	1 N	S	3	3	3	4 Y	N	N	N	Y	Y
NS	SO	20-24	Y	2 Y	3 S	2	3	1	1 Y	Y	Y	N	Y	Y
HUM	JR	20-24	Y	3 <sup>2</sup>	S	2	2	3	1 Y	Y	N	N	Y	Y
NS	JR	20-24	Y	5 N	B			3	1 Y	Y	Y	N	Y	Y
AU	FR	20-24		2 N	S	2			3 Y	Y	Y	Y	Y	Y
HUM	SO	20-24		2 Y	3 S	2	2		1 Y	Y	N	N	Y	Y
NS	SO	20-24	Y	2 Y	1 S	2	2	2	1 Y	Y	Y	Y	Y	Y
HUM	JR	20-24	Y	2 N	S	2	2	3	1 N	Y	N	N	Y	Y
AU	SO	20-24	Y	5 Y	3 S	4	4	3	1 Y	Y	N	N	N	N
FS	SO	20-24	Y	2 Y	1 B			3	2 N	Y	N	N	Y	Y
HUM	JR	20-24	Y	5 Y	1 S	2			2 Y	Y	Y	N	Y	Y
AU	FR	20-24	Y	5 N	S	1	3	3	1 N	N	N	X	Y	Y
NS	SO	20-24	N	2 N	S	2		1	1			N	Y	Y
HUM	SO	20-24	N	2 N	S	2	2	3	1 Y	Y	Y	Y	Y	Y
FS	SO	20-24	Y	2 N	S	3	3	1	3 Y	Y	Y	N	Y	Y
HUM	FR	20-24	Y	5 Y	1 S	4	3	2	2 Y	Y	Y	Y	Y	Y
NS	SO	20-24	Y	2 N	S	3	2	1	1 Y	Y	N	N	Y	Y
HUM	FR	20-24	N	Y	1 S	3	4	3	3 Y	Y	Y	N	Y	Y
HUM	JR	20-24	Y	2 N	S	2	4	3	1 Y	Y	Y	N		
NS	JR	20-24	Y	1 Y	3 S	3	4	2	1 Y	Y	N	N	Y	Y
HUM	JR	20-24	Y	2 Y	1 S	3	2	2	1 Y	Y	Y	N	Y	Y
NS	FR	20-24	Y	2 Y	1 S	3	3	3	1 Y	Y	Y	Y	N	N

NS	JR	20-24	Y	2 N	S	3	4	3	1 Y	Y	Y	N	Y	Y
NS	SR	20-24	Y	N	S	3	2	1	1 Y	Y	N	N	Y	Y
HUM	FR	20-24	Y	5 N	S	3	4	2	1 N	Y	N	X	N	Y
HUM	JR	20-24	N	5 N	S	3	3	3	1 Y	Y	Y	N	Y	Y
HUM	JR	20-24	N	6 Y	1 S	2	1	3	1 Y	Y	Y	N	Y	Y
HUM	JR	20-24	Y	5 N	S	3	4	3	1 Y	Y	Y	N	N	N
HUM	SR	20-24	Y	2 N	S	2	4	2	1 Y	Y	Y	N	Y	Y
NS	SR	20-24	Y	2 N	S	3	5	3	1 Y	Y	Y	Y	Y	N
PS	JR	20-24	3 Y	2	2 S	2	2	3	2 N	Y	N	N	Y	Y
NS	JR	20-24	Y	2 Y	3 S	2	3	2	2 Y	Y	Y	Y	Y	Y
NS	JR	20-24	Y	2 Y	3 S	2	2	3	3 Y	Y	Y	N	Y	Y
NS	JR	20-24	Y	6 Y	2 S	4	3	2	1 Y	Y	N	Y	Y	Y
PS	JR	20-24	Y	5 Y	1 S	2	4	1	2 Y	Y	N	N	Y	Y
NS	JR	20-24		N	S	3	2	N/SE	1 Y	Y	Y	X	Y	Y
NS	SR	20-24	N	2 Y	3 S	4	2	3	2 Y	Y	Y	Y	Y	Y
NS	JR	20-24	Y	2 N	S	3	3	3	1 Y	N	Y	X	Y	Y
NS	SO	20-24	Y	3 Y	2 S	2	4	2	1 N	Y	Y	N	Y	Y
NS	SO	20-24	Y	2 Y	2 S	1	1	2	1 Y	Y	Y	X	Y	Y
NS	SO	20-24	N	2 N	S	2	2	2	2 Y	Y	N	N	Y	Y
NS	SO	20-24	Y	2 N	S	3	5	1	4 Y	Y	N	N	Y	Y
HUM	SO	20-24	Y	2 Y	1 S	2	1	2	2 Y	N	Y	Y	Y	Y
NS	SR	20-24	N	2 N	S	2		1	1 Y	Y	N	X	Y	Y
HUM	SO	20-24	N	5 N	S	1	3	3	1 Y	Y	Y	N	N	N
HUM	SR	20-24	N	5 Y	4 S	4	1	1	3 N	N	Y	N	Y	Y
NS	SR	20-24		2 Y	1 S	3	5	3	2 N	N	Y	N	Y	Y
AU	SO	20-24	Y	2 N	S	3	5	3	1			N	Y	Y
NS	SO	20-24	N	2 N	S	2	2	2	2 Y	Y	Y	N	Y	Y
HUM	SO	20-24	N	2 N	S	2	2	1	2 Y	N	Y	N	Y	Y
PS	SO	20-24	Y	2 Y	2 S	2	2	2	4 Y	Y	Y	Y	Y	Y
NS	SO	20-24	Y	4 Y	2 S	3	53	1 Y	Y	N	N	N	Y	Y
NS	SR	20-24	N	5 N	S	2	3	1	1 Y	Y	Y	N	N	N
PS	SR	20-24	Y	2 Y	1 S	2	4	2	1 Y	Y	N	Y	Y	Y
HUM	SR	20-24	N	2 Y	1 S	1	3	3	1 Y	Y	Y	N	Y	Y
NS	JR	20-24	N	3 N	S	2	3		1 Y	Y	Y	N	N	N
HUM	JR	20-24	Y	2 N	S	2	3	3	1 Y	Y	Y	N	Y	Y
AU	SR	20-24	N	2 N	S	2	1		1 N	N	Y	Y	Y	Y
PS	SO	20-24	Y	2 N	S	3	4	3	1 N	N	N	N	Y	Y
HUM	SR	20-24	Y	5 N	S	3	5	3	1 Y	Y	N	N	Y	Y
HUM	SR	20-24	Y	2 N	S	2	4	3	1 Y	Y	Y	Y	Y	Y
NS	SR	20-24	N	2 Y	1 S	3	5	1	Y	Y	N	N	N	N
NS	JR	20-24	N	5 Y	2 S	1	3		1 Y	Y	Y	N	Y	Y
NS	JR	20-24	Y	2 N	S	2	3		2 Y	Y	Y	N	Y	Y
NS	JR	20-24	Y	5 Y	1 S	3	2	2	1 Y	Y	N	N	Y	Y
NS	SR	20-24	Y	2 N	S	1	4	1	1 N	Y	Y	N	Y	Y
HUM	SR	20-24	Y	2 N	S	1	1	2	1 Y	Y	Y	N	N	Y
HUM	JR	20-24	Y	5 Y	4 S	3	2	2	1 Y	Y	Y	Y	Y	Y
AU	JR	20-24	Y	2 Y	3 S	2	3	3	2 Y	Y	Y	N	Y	Y
NS	SO	20-24	2	3 Y	1 S	3	2	2	2 Y	N	Y	Y	Y	Y
NS	JR	20-24	N	2 Y	2 S	3	2	2	2 Y	N	N	N	Y	Y



AU	SO	20-24	Y	2	N		2	5	2	1	Y	Y	Y	X	Y	Y
AU	JR	20-24	N	2	N		3	3	2	1	Y	Y	Y	N	Y	Y
HUM	SR	20-24	Y	3	Y	1	S	2	3	3	1	Y	Y	N	N	N
HUM	SR	20-24	Y	6	Y	1	S	3	4	1	1	Y	Y	Y	N	Y
HUM	SR	20-24	Y	1	Y	1	S	4	2	3	1	Y	Y	Y	N	Y
HUM	JR	20-24	Y	6	Y	1	S	2	3	1	1	N	Y	N	N	Y
HUM	JR	20-24	Y	5	Y	1	S	2	3	2	3	N	N	N	Y	N
		20-24	Y	5	N		S	2	3	1	2	N	N	N	N	Y
NS	SO	20-24	N	2	N		S	3	2	3	1	Y	Y	N	N	Y
NS	SR	20-24	N	5	N		S	3	4	2	1	Y	Y	Y	N	Y
NS	SR	20-24	Y	2	N		S	2	2	2	2	Y	Y	Y	N	Y
NS	JR	20-24	3	3	N	1	S	3	3	2	3	Y	N	N	N	Y
NS	SR	20-24	N	3	Y	1	S	1	2		2	Y	Y	N	Y	Y
NS	JR	20-24	N	2	N	1	S	1	3	3	1	Y	Y	Y	N	Y
HUM	SR	20-24	Y	2	N	2	S	3	2	3	1	Y	Y	Y	N	Y
AU	SR	20-24	N	2	Y	2	S	1	2	3	2	N	N	N	Y	Y
NS	SR	20-24	Y	4	N		S	3	4	2	1	N	Y	Y	N	Y
NS	SO	20-24	Y	2	N		S	2	1	1	1	N	Y	N	Y	Y
NS	SR	20-24	Y	2	Y	2	S	2	3	2	1	Y	Y	N	Y	Y
NS	SR	20-24	N	2	Y	2	S	4	1	2	2	N	N	Y	N	Y
AU	SR	20-24	Y	5	N		S	2		2	2	Y	Y	Y	N	Y
NS	JR	25-29	Y	4	N		B		3	3	1	Y	Y	Y	N	Y
NS	SR	25-29	Y	2	N		S	2	3	2	4	N	Y	N	X	Y
FS	SO	25-29	Y	5	Y	2	S	3	2		1	Y	N	N	N	Y
NS	SO	25-29	N	2	Y	2	S	2	3	2	1	Y	Y	Y	X	Y
NS	SR	25-29	Y	2	N		S	3	3	2	1	N	Y	Y	N	Y
NS	SR	25-29	N	2	N		S	3	2	2	1	N	Y	Y	N	Y
HUM	JR	25-29	Y	2	N		S	4			1	N	Y	N	Y	Y
NS	JR	25-29		3	Y	2	S	2	3	3	1	Y	Y	Y	N	Y
AU	SO	25-29	Y	2	N		S	2	3	1		Y	Y	Y	N	Y
NS	SR	25-29	N	3	N		S	2	3	3	2	Y	Y	N	N	Y
NS	JR	25-29	N	5	Y	2	S	1	3	3	2	Y	Y	Y	N	N
NS		25-29	Y	2	Y	2	S	3	4	3	1	Y	Y	N	N	Y
NS	SO	25-29	N	5	Y	3	S	2	2	2	1	Y	N	N	N	Y
NS	SR	25-29	Y	2	Y	1	S	2	3	3	1	Y	Y	N	Y	Y
NS	SR	25-29	N	4	Y	4	S	2	3	3	2	Y	Y	Y	Y	Y
NS	FR	25-29	N	4	N		S	2	2	2	2	Y	Y	N	X	Y
HUM	SO	25-29	N	2	N		S	1	2	3	1	Y	Y	Y	N	Y
HUM	JR	25-29	N	5	Y	2	S	2	5	3	1	Y	Y	N	N	N
HUM	SO	25-29	Y	6	Y	2	S	3	2	3	1	N	N	N	N	Y
HUM	SO	25-29	N	6	Y	1	S	3	2	2	1	N	Y	N	N	Y
NS	JR	25-29	Y	2	Y	2	S	2	4	3	1	N	N	N	N	Y
HUM	SO	25-29	Y	2	N		S	2	3	3	4	Y	Y	N	N	N
NS	SR	25-29	Y	2	N		S	2	4	1	1	Y	Y	N	Y	Y
NS	JR	25-29	N	2	Y	2	S	2	2	2	2	Y	Y	Y	N	Y
NS	SR	30-34	Y	2	N		S	3	4	1	2	Y	Y	Y	N	Y
HUM	SR	30-34	Y	3	N		S	2	3	2	1	Y	Y	N	N	Y
NS	SR	30-34	Y	2	N		S	4	2	2	2	Y	N	N	Y	Y
NS	FR	30-34	N	1	N		S	3	2	3	4	Y	Y	N	X	Y

NS	JR	30-34	Y	3 N	B		3	1	1 Y	Y	N	X		
AU	JR	30-34	Y	4 N	S	2		3	3 Y	N	N	N	Y	Y
HUM	GR	30-34	N	2 Y	2 S	1	4	1	1 Y	Y	N	N	Y	Y
NS	JR	30-34	N	3 Y	2 S	3	2	3	1 N	Y	N	N	Y	Y
NS	SR	30-34	Y	2 N	S	2	3	3	1 N	N	Y	N	Y	Y
NS	SR	30-34	Y	2 N	S	1	5	FIXI	1 Y	Y	N	Y	N	N
HUM	JR	35-39	Y	5 Y	2 S	1	4	3	4 Y	Y	N	X	Y	Y
HUM	SO	35-39	N	3 Y	2 S	2	1	3	4 Y	Y	Y	N	N	N
NS	SO	35-39	Y	2 Y	3 S	2		2	1 Y	Y	Y	Y	Y	Y
AU	JR	40-44	Y	2 Y	3 S	2	4	3	1 Y	Y	N	N	Y	Y
HUM	SR	40-44	Y	5 N	S	3	1	3	2 N	N	Y	N	Y	Y
	SR	40-44	N	5 N	S	2	2	2	1 Y	Y	Y	N	Y	Y
NS	SO	45-49	N	2 Y	S	2	3	3	1 Y	Y	Y	X	N	N
HUM	SO	50-59	Y	4 N	S	2	1	3	4 Y	Y	Y	N	Y	Y
		>60	Y	2 Y	2 S	4	1	2	1 Y	Y	Y	N	N	N
AU	JR	>60	Y	3 N	S	2	3	3	1 Y	Y	Y	X	Y	Y
			Y	2 Y	3 S	2	1	3	1 Y	Y	N	N	Y	Y
PS	SR		Y	3 Y	1 S	2	3	3	2 Y	Y	Y	N	Y	Y

## Appendix J — Survey Results

## Paper Survey Results

Total in test sample: 545

Actual number surveyed: 310

### Paper Usage

**1. How many sheets of paper do you use each week from campus printers and copiers?**

0-5	0-5 (%)	6-10	6-10 (%)	11-15	11-15 (%)	20+	20+ (%)
203	65%	65	21%	18	6%	19	6%

Although it would appear from the survey that the number of sheets of paper used each week is fairly low, Academic Computing would probably disagree. Maybe the surevyees were not counting sheets that they recycle before they even leave the computer lab.

**2. Do you know how to:**

**a). Only print what you want to print (specifically from the web)?**

Yes	Yes (%)	No	No (%)
247	80%	61	20%

Again, there is doubt as to the statistics. Printing only what one wants from the web is fairly complex. There are different processes for Mac and PC as well as for Netscape and Internet Explorer. Better wording may have included something to this effect.

**b). Check the print monitor and a cancel a printing if necessary?**

Yes	Yes (%)	No	No (%)
261	84%	47	15%

This is a fairly common computer skill. It seems that the data is fairly accurate.

**c). Make 2-sided copies on campus copy machines?**

Yes	Yes (%)	No	No (%)
151	49%	156	50%

About half of the surveyees knew how to do this and about half did not. This would suggest an important area for CRP to work on. They have done some education in this area already, so they may want to change their strategy.

*AS Fee Increase*

**1. Did you vote in the last AS election?**

Yes	Yes (%)	No	No (%)	Not Eligible	Not Eligible (%)
55	18%	186	60%	68	22%

A very low percentage of the respondents voted in last year's AS election. If a ballot initiative were to go forward, the bulk of the energy would best be concentrated on those that actually vote in the election. The "Not Eligible" category indicates the respondent is either a freshman or a transfer student.

**2 a). Would you be willing to pay \$3 more per semester through your AS fee so that computer labs could be stocked with 50% post-consumer content paper?**

Yes	Yes (%)	No	No (%)
256	83%	49	16%

Overwhelmingly the respondents answered that they would be willing to support a \$3 fee increase. What one says and what one does are two different things, however. In addition, many of the respondents that said they would be willing to vote for an increase did not vote in last year's election. The question remains, would they come to the polls this year?

**2 b). Would you be willing to pay \$4 more per semester so that ALL paper users on campus could use 50% post-consumer content paper?**

Yes	Yes (%)	No	No (%)
251	81%	53	17%

Again, a very high percentage of positive responses. Only a few respondents answered that they would support 2a and not 2b. There is concern that perhaps the respondents did not read the question carefully enough, or did not understand what was being asked.

Appendix K – Individual Group Member Participation Analysis

### Activities By Mike Wall

An educational campaign to encourage the reduction of over-use/waste of paper from students on campus. Addition research/education related to the environmental consequences of virgin paper production, and why recycled paper use is applicable and necessary.

### Personal Participation Discussion

In the early stages of the project, Michael Winkler and I attended an Associated Students (AS) meeting to propose the idea of implementing the use of Post Consumer Waste (PCW) recycled content paper on campus. Our idea going in to the meeting was that AS would help fund the increased cost for recycled paper. We left the meeting with positive encouragement from the AS that they were interested in the proposal. The meeting also left us with new parameters to cover, such as how well would the paper perform, so we decided we would need to test the paper. We also concluded the meeting agreeing to set-up a "Recycled Paper Task Force" with interested AS members (Laura Kerr and Lindsay Herrera) to follow up on the project.

### Testing

I began the recycled paper testing by first contacting Leslie Farar, the office manager at Graphic Services, which supplies various departments on campus with computer and copier paper. My aim was to locate a list of the copiers on campus. Leslie directed me to the Procurement Office where they had a list of the copiers on campus for different departments.

In order to complete the testing, Michael purchased both 50% and 100% PCW recycled paper. I contacted various manufacturers of copiers and printers (Lanier and Hewlett Packard) to make sure testing recycled paper wouldn't void the service warranty of the equipment. I was told the testing wouldn't void the warranty so we (Michael and I) decided to test copiers with 50% PCW recycled paper because it wouldn't tend to "curl" as much resulting in "jams" when copied on both sides. We decided to test the 100% PCW recycled paper in the office printers associated with the copiers (usually if a department office has a copier they also have a computer), because the 100% paper doesn't have any problems printing on one side, whereas most printers only print on one side. The 100% paper has a problem when it is "duplexed" (printed on both sides) because during the recycling process old paper is broken down and recombined and the recycled fiber length is shorter and therefore not as strong as new paper, thus it has a higher tendency to curl.



I carried out testing with the help of classmate Katie Stierin, and the generous assistance of the educational director at the Campus Recycling Program (CRP), Brandon Rich. I wrote a cover-sheet questionnaire (enclosed) for the tests, including such questions as current paper purchasing and performance inquiries regarding the recycled paper tested. Also, along with the questionnaire we included a letter of endorsement from Engineering professor Bob Gearheart. I met with Brandon at CRP and divided up the paper and myself, Katie, and two CRP volunteers distributed the material throughout campus.

Not all test results have been collected to date. Some testing road-blocks have included offices agreeing to test the paper and then upon returning to pick-up the questionnaire they turned out to forget about it, so we'd have to return later.

Another testing issue is the validity of the tests. We chose to test 50 sheets of both 50% and 100% per office; which isn't a very-comprehensive test when considering a major issue associated with recycled paper is its long term performance. One issue is the shedding of lint from the paper that can collect over time on hardware rollers and cause the equipment to malfunction. For the most part our aim for department testing was to introduce the paper to the campus and allow for first hand experience and association with the quality of the specific recycled paper. Future plans include long-term testing of both 50% and 100% PCW in association with Academic Computing.

#### Road-blocks

Our initial proposal to the AS sounded promising. We left there with the thought that they would be willing to allocate some of their budget towards purchasing recycled paper. Shortly after however, a meeting was called by Elizabeth Wilson, president of the Forestry Club. Elizabeth objected to student funds being used for recycled paper. I understood her position that it would not be a majority decision by the student body and therefore it was inappropriate to allocate student body funds. So then we had to explore other avenues in order to generate the capital to make up for the price difference for recycled paper.

We've decided to pursue a ballot initiative so the additional money could be raised through a student fee-increase if the majority of voting students are in favor of recycled paper.

Michael and I were directed to Joan Tyson who serves as an advisor to the AS. She felt we would be best served by presenting our proposal to Academic Computing, so Michael and I met with Madeline Myers and Jeanne Wielgus, who are service and supply managers, for Academic Computing. They are both supportive of the idea, but they also brought an equally important aspect and that is the quantity of wasted paper currently produced on campus. We agreed to also include an education campaign within the recycled paper campaign. Next, Michael and I met with Bill Cannon who is the head of Academic Computing. Bill is supportive of the recycled paper project and has since decided to begin using 30% PCW recycled paper in the computer labs next semester, whereas currently virgin paper is used. Bill also stressed the need for education on the reduction of wasted use.

Again Michael and I returned to see Joan Tyson regarding the process for a student ballot initiative. She told us that nothing like this had been done, and suggested we attend the December 7 Campus Fee Advisory Committee meeting. We attended the meeting and they didn't have enough time to hear all of our proposal and we were told to attend the next meeting which will take place early next semester.

#### Education Campaign

Brandon Rich from CRP and I met with Madeline Myers and Jeanne Wielgus to discuss specific issues that they feel are important to address in order to reduce the wasted use of paper. We came up with some useful ideas (such as canceling printing functions and printing of the inter-net,) and we are in the process of designing signage to display in the computer labs on campus. Michael and I also discussed a possible orientation of computer lab use at the mandatory Humboldt Orientation Program (HOP) with Bill Cannon who was in favor of the idea.

#### Monitoring

Follow-up processes on the student initiative fee increase to implement the purchasing of recycled paper, including attending the next Campus Fee Advisory Committee meeting next semester.

Remain in contact with Bill Cannon regarding long-term testing of 50% and 100% PCW and the results of that testing, as well as HOP computer educational instruction.

Keep in contact with CRP representatives regarding educational campaign.

#### Evaluation

Our group as a whole has worked hard on the project. We have all been really enthusiastic and willing to contribute and commit our time.

## Activities by Michael Winkler

August 1999

Michael developed the idea of switching the library copiers to 100% post-consumer waste recycled paper.

### Library Copy center

Winkler met with Jane Fusek, the supervisor of the library copy center and proposed that the copy center switch from the current 30% post-consumer waste recycled paper to 100% PCW recycled paper. Jane agreed to do tests with paper supplied by Winkler. Winkler supplied one ream of 100% PCW. Fusek ran tests in small self-service copiers and found that single-sided copying worked well, but that there were problems with jamming when doing 2-sided copying. Winkler purchased 2 reams of 50% PCW to Fusek. She ran tests in both the smaller and larger copiers and had no problems. She used the remaining 100% PCW paper in the larger copiers and had no problems.

Winkler met with Jon Greene, the manager of the University Bookstore, who is also responsible for the library copy center and discussed switching to high PCW paper. Greene agreed to a larger test. Winkler supplied Fusek with 20 reams of 50% PCW paper. Fusek ran tests using this paper and found no problems. Winkler supplied Fusek with 5 reams of 100% PCW paper, which were made available to users in the copy center.

After the successful test Greene agreed to adopt 50% PCW paper for regular use in the copiers that the copy center controls. He reserved the right to terminate use of this paper if there were significant problems that could not be resolved to his satisfaction. Winkler agreed to pay the difference in cost between the current 30% PCW that the Copy Center was currently using and the cost of 50% and 100% PCW paper. Based on annual usage figures supplied by Fusek, Winkler estimated that the additional cost would be approximately \$2500 per year. Winkler committed to funding this for a minimum of two years. Greene said that funding need to be handled through normal university channels for charitable contributions.

Winkler met with John Sterns and Mary Wells in University Advancement to discuss setting up an account to handle funding. Initially John Sterns believed that funding could be handled through University Advancement. They now believe that it must be handled by the Humboldt State University Foundation. The Foundation will charge 4 1/2% to cover administrative overhead. Mary Wells has drafted a memo defining the parameters for the account for this project.

Bob Gearheart, a professor in engineering has committed to donating \$500 to finance this project. Roger Herick, an employee of Schatz Energy Research Center and the owner of Arcata EletriCar, has committed to donating \$1000 per year for the next two years.

### Academic Computing

Academic Computing is responsible for the computers used by students. They are one of the largest paper users in the university. They currently use paper with no recycled content. Mike Wall and I met with Madeline Myers and Jeanne Wielgus who are responsible for paper, supplies and service for the printers operated by Academic Computing. They generally support use of recycled paper in Academic Computing. However, a greater concern of theirs is the large number of wasted and unnecessary copies printed by students. Mike and I subsequently met with Bill Cannon who is the manager responsible for Academic Computing. He also heavily emphasized reducing unnecessary paper use. He strongly supported use of recycled paper and agreed to do large-scale tests of recycled paper in the Academic Computing printers. He agreed to purchase recycled paper paid for by his department to conduct these tests. At the present time this paper has not yet been purchased. Bill has not responded to our e-mails about this matter. We need to set up another meeting with him to discuss this.

### Graphic Services

Mike and I met with Kathleen Hell, the department manager, and her assistant Leslie Farar. Graphic services is currently using 30% PCW paper Kathleen supports the use of higher PCW recycled paper. In part because she has a child who is a student, Kathleen is generally opposed to raising student fees to cover the additional cost of recycled paper. She would be happy to use the paper if funding were available. With her approval, we gave Leslie five reams of 50% PCW paper for testing.

### Campus Recycling Program (CRP)

We decided that it makes the most sense to have CRP as the long-term focal point for use of high PCW recycled paper at HSU. We have actively included Brandon Rich and Kim ???, the two current student directors of CRP in the process. We have used volunteers from CRP for distributing paper for testing and for conducting a depart-by-department paper usage survey. We have met with Brandon and Kim to start planning signs for the computer labs to instruct students in how to reduce paper usage. At Bill Cannon's recommendation, CRP will be actively involved in an ongoing education campaign to train students in minimizing use of paper.

### Campus Waste Management

Alec Cooley, the campus waste management coordinator, has been included in the process. He is the advisor to CRP and is officially responsible for campus waste minimization and recycling. We have met with him a few times. He is supportive of our efforts. He has supplied us with information on paper usage on campus. He has also given us contact names for information on legislation related to recycling and recycled paper and buying groups for recycled paper.

### **Paper Distributors**

There are a variety of current sources for paper used on campus. The bookstore buys paper that is used in the copiers and printers that are under its control from Xerox. This paper is 30% PCW. The bookstore sells a small number of reams of paper retail. This has been 0% recycled. John Greene has agreed to sell 50% and 100% PCW paper. This will not be subsidized so that we do not unfairly compete with retail outlets outside of the University.

Solutions, a small retail store in downtown Arcata, sells 20% and 100% PCW recycled paper. Jon Greene has agreed to share bulk purchases of recycled paper with Solutions. This will allow Solutions to sell recycled paper at lower prices. I have discussed this with Kevin who is one of the owners of Solutions. Kevin is interested and said that he will contact Jon Greene about this.

Originally I bought 100% PCW paper, by the case, from Kinko's in Arcata. Subsequently I have been buying 50% and 100% PCW from TreeCycle, a distributor in Bozeman Montana. Their prices are significantly lower than Kinko's, especially in large quantities. My contact person at TreeCycle is Rick Meis who is very knowledgeable about and committed to recycled paper. The brand we have buying is Eureka, manufactured by Fort James Paper Company. Rick has supplied us with the names of other universities that are currently using this paper.

Paper for most of campus is bought through Media Services, which has contracts with 5 distributors. None of these distributors is currently able to supply 50% and 100% PCW paper.

A number of departments buy their paper independently. Some of it has recycled content. We want to gather complete information on all campus paper purchases through the survey that we are conducting.

### **Testing and Data Gathering**

Mike Wall is coordinating campus-wide testing and associated usage survey. We are using both 50% and 100% PCW paper for these tests. We purchased 10 reams of 50% PCW and 10 reams of 100% PCW paper for these tests. Secretaries have been friendly and receptive, but we have been having problems getting people to fill out the surveys and use the paper for testing.

To give us more credibility in the testing and the survey I wrote a letter edited and signed by Bob Gearheart explaining and endorsing our project. The letter was typed on university letterhead paper. We made color photocopies to give it a more professional appearance.

Debbi Keeth has coordinated with Cindi Larem to create a questionnaire to survey student knowledge and attitudes on use of paper, minimizing wasted copies and supporting higher fees for high PCW paper. The survey will be conducted over the next two weeks in classes that will allow us to survey students with a wide variety of majors.

### **Media Contacts**

Tim Hargus of the Lumberjack interviewed me. The interview appeared on September ????. Most of the content of the interview is drawn from the fact sheet that I presented to AS. The Lumberjack interview is available online at <http://???> In the interview I offered to donate \$20,000 to help finance the project.

On October 5, Suzanne Horgan of Channel 3 TV news interviewed me. The interview didn't air primarily because the station didn't feel that there was enough controversy in the story. I invited Elizabeth Wilson to join me in the interview. She wasn't able to be there. However, she appreciated the offer and has been friendlier as a result. I tried to set her up with an interview with Channel 3, but that has not yet happened. I felt that the more I included Elizabeth in the process the better we would be able to address her concerns and work together cooperatively.

I was interviewed for the publication of the North Coast Environmental Center, Econews. This interview is in the November issue.

As a result of the interviews many people have stopped me and thanked me for organizing the project.

### **Other Interested Parties**

Cory Sbarbaro also serves as an advisor to AS. His main job is as an assistant manager in the campus housing department. He is strongly supportive of high PCW paper. We have done a small-scale test. He wants to do a larger test paid for by the housing department. He believes that his department has funds available to pay for high PCW paper.

Marc Marshall, whom I work with at Schatz Energy Research Center, and other members of his American Government class have been involved in the paper test and the survey.

I work part-time at Schatz Energy Research Center, a research laboratory associated with HSU. Schatz has been using primarily 100% PCW paper for the past year. I originally offered to pay for the extra cost of the paper. Eventually, Peter Lehman, our director, agreed to have Schatz pay for it. Peter has also agreed to be a director for the donation fund for the library copy center.

### **Financing**

I am paying for paper for testing and cost of color copying for publicity. Donations from myself, Roger Herick and Bob Gearheart will be enough to pay for the library copy center and for initial funding for academic computing. For the bookstore, in the long run, we must either get the bookstore to pay for the fee or I must set up an endowment fund to pay for it.

We are planning two separate ballot measures; one for academic computing; a second for the remainder of campus. No student fee money can be used for copiers and printers under the control of the bookstore. Under university regulations the bookstore must be self-supporting.

### **Current Issues and Problems**

- Complete setting up donation account for library copy center
- Complete department testing and usage survey
- Conduct student paper usage survey
- Do large scale test in Academic Computing and get Bill Cannon to pay for it
- Continue developing education program with CRP and Academic Computing
- Make presentation to Campus Fee Advisory Committee
- Conduct initiative campaign to raise student fees

Kathryn Stieren  
Recycled Paper Group  
Sustainable Campus

My goal for the semester was to characterize the environment of the paper used on campus. Initially I was to contact all the departments on campus and ask for their statistics on paper usage, etc. I made a rough listing of all the department's phone numbers so that I could call each department secretary and find out how much paper they used a semester, how much their department spends a year, who purchases it and from where. After contacting around 20 secretaries and not receiving any useful information, I believed that we needed to re-evaluate this way of gathering information. Many of the secretaries that I did speak with told me that they receive their paper from Academic Computing. I then called Academic Computing to see if they had statistic on file for me to look at. I spoke with Leslie Farrar (826-4177), the office manager of Graphics and the Distribution Services. She was not able to give me anything, but only a rough estimate of how much paper they distribute (approx. 20,000 reams/year). I later talked to Mike Wall and he was able to get more information from Academic Computing.

In mid-October, Mike Wall and I, with some help from the Campus Recycling Center, began handing out 50% and 100% paper to every office on campus with a printer and/or copier. Mike Wall and I gave them a stack of 50 pages of 50% post-consumer recycled paper and 50 pages of 100% post-consumer recycled paper, a survey to be completed after the paper testing and a letter from Bob Gearheart. The 50% went into the copier to be tested and the 100% in the printer, but only if it was a Laser Jet printer, for that was the only printer on campus which had an extended warranty to allow us to run



### **Alternative Solutions:**

- possibly raising money through fund-raisers or other events to help offset the costs.
- possibly raising more awareness that there is in fact a problem, through campaigns, workshops, lectures, campus-wide orientation.

### **Other Areas to Explore for Purchasing Policy:**

- electronic/office equipment.
- transportation.
- chemicals.
- energy.
- food and other cooking products.
- furniture and wood products.

### **Paper Implementation (testing):**

--Mike Wall and Katie Stieren, along with assistance from individuals of the Campus Recycling Program distributed 50 sheets of 50% and 50 sheets of 100% of post-consumer recycled paper to every office on campus with a printer and/or copier. Along with the paper, we also handed out a letter from Bob Gearheart and a survey to be completed after testing the paper. Much of the paper was distributed at the end of October and a few weeks were allowed for their convenience to test.

--My (Katie) results: I received back 5 out of 10 surveys. All are very supportive for the 50% and 100% recycled paper. There were no problems reported. A few told me that they would in fact purchase the paper if Academic Computing/Graphics would supply it. The surveys that I did not receive back, I was told that they were misplaced.

### **Evaluation:**

- more time was greatly needed.
- money was also a limiting factor.
- the survey would have been more productive on a bigger scale (larger amounts of paper being tested), but I believe that we did raise awareness with the secretaries and the others in the office who do use a great deal of paper.

### **Monitoring in the Future:**

- possibly have Academic Computing/Graphics monitor the amount of paper they distribute to all the departments.
- possibly ask the department secretaries to keep a file on the amount of paper usage in their department. (a major frustration for me this semester, for no one knows how much paper they are using a year...some even do not know how much they are currently paying per ream of paper.)