

**SUSTAINABILITY CULTURAL INDICATORS PROGRAM:  
SECOND YEAR REPORT OVERVIEW**

**MONITORING THE CULTURE OF SUSTAINABILITY  
AT THE UNIVERSITY OF MICHIGAN: FALL 2013**



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## INTRODUCTION

The Sustainability Cultural Indicators Program (SCIP) is a multi-year project designed to measure and track the *culture of sustainability* on the University of Michigan's (U-M) Ann Arbor campus. It is intended to inform U-M administrators and others responsible for day-to-day operations of the University including its academic programs. Furthermore, it is intended to serve as a model demonstrating how behavioral research can be used to address critical environmental issues within universities generally and in other organizational settings. Culture of sustainability is meant to reflect a set of attitudes, behaviors, levels of understanding and commitment, degrees of engagement, and dispositions among a population such as members of a university community.

The findings presented in this overview represent the results from Year 2 (2013) and provide a comparison for the Year 1 (2012) results (baseline measures). The findings are largely descriptive in that all survey responses are reported for the three key populations of the University community---its students, staff, and faculty. Two separate web questionnaires are used for SCIP --- one for staff and faculty, and one for students --- with questions built around the U-M sustainability goal areas - *Climate Action, Waste Prevention, Healthy Environments, and Community Awareness*. In fall 2013, more than 3200 students including a panel of current undergraduate students who completed the 2012 survey, 750 staff, and 750 faculty participated in the survey representing a 22 percent overall response rate. Summaries of key findings and index scores for 15 key indicators are provided in this overview.<sup>1</sup>

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<sup>1</sup> Full versions of the SCIP annual reports are available at: <http://graham.umich.edu/leadership/scip>.

## BACKGROUND

In October 2009, U-M President Mary Sue Coleman elevated the University's commitment to sustainability in teaching, research, operations, and engagement by creating the U-M Environmental Sustainability Executive Council. One of the first actions of the Council was endorsing a Campus Sustainability Integrated Assessment (CSIA) to analyze the U-M's sustainability efforts to date, benchmark against other institutions, and chart a course for the future through identifying long term goals for sustainable operations on the U-M Ann Arbor campus, including the Athletic Department and the Health System. The CSIA builds on a long history of sustainability commitments in U-M campus operations, such as implementing cogeneration technology at the Central Power Plant in the 1960s, adopting the EPA Green Lights and Energy Star programs in the 1990s, and more recently establishing LEED (Leadership in Energy and Environmental Design) Silver certification as the standard for new non-clinical construction projects where the construction value exceeds \$10M.

The final CSIA report outlines four high level themes – *Climate Action, Waste Prevention, Healthy Environments, and Community Awareness*. Accompanying the themes are guiding principles to direct the U-M's long-range strategy and 2025 goals that are time-bound and quantifiable.<sup>2</sup> SCIP stems from the principles outlined under CSIA theme of Community Awareness. They indicate that the U-M will “pursue evaluation strategies toward a campus-wide ethic of sustainability” as articulated in President Coleman's September 2011 speech announcing the sustainability goals. Two separate questionnaires are used for SCIP --- one for staff and faculty, and one for students. While many of the questions are similar, different time frames and sequences are used in the two versions. In 2013, most respondents completed the survey in about 15 minutes. As a primary objective of SCIP is to work closely with the goals of the CSIA, questionnaire modules were developed with questions focusing on transportation, waste prevention, the natural environment, food, climate change, as well as U-M sustainability efforts.

## POPULATION AND SAMPLE

Data from the U-M's Registrar's Office indicate that 43,710 full-time students were enrolled for classes at the Ann Arbor Campus in fall, 2013. At the same time, records from U-M's Office of Human Resources show that 6,431 faculty and 35,846 staff were employed half-time or more. In order to ensure proportional representation from all segments of the University community and from all geographic parts of the Ann Arbor campus, the sample design aimed at obtaining relatively large numbers from the entire student body and from the population of staff and faculty. Additionally, all students from the current sophomore, junior, and senior classes who completed the 2012 survey were selected and those who responded in 2013 were designated as a panel. The panel of student respondents was included in the research design so as to measure individual changes in behaviors, levels of awareness, commitment, and other attitudes. These students will be contacted annually through their senior year. Response rates were lower than those reported in 2012 and reflect timing issues in questionnaire administration.<sup>3</sup> Nonetheless, completion of questionnaires was attributable to several factors including the personalized invitation to participate in the survey from President Mary Sue Coleman, a series of reminder emails including one

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<sup>2</sup> More information on the CSIA process, outcomes, and evaluation can be found at: <http://graham.umich.edu/knowledge/ia/campus>. Information on progress towards the 2025 Climate Action, Waste Prevention, and Healthy Environments goals can be found at: <http://www.ocs.umich.edu/goals.html>

<sup>3</sup> The relatively lower response rates may be attributable to U-M's transition to Gmail during the period of the SCIP data collection and the fact that emails with links to questionnaires were often redirected to Google SPAM. Additional analyses of non-responses are currently underway to better understand the circumstances associated with the 2013 survey.

from Mike Bottom, head coach of the U-M's men's and women's swimming and diving teams, and an offer of a possible monetary incentive through a random drawing.

## FINDINGS

### Climate Action

U-M respondents are more likely than the U. S. population to believe that climate change is real. Whereas **9 in ten U-M respondents said that climate change is happening**, somewhat less than two thirds of the U. S. population responded in this manner.<sup>4</sup> U-M faculty members were the most likely believers (93 percent) while students (90 percent) and staff respondents (81 percent) were somewhat least likely to say that climate change is happening. In 2012, faculty respondents were much more likely than students or staff to say that climate change is *caused mostly by human activity*. Findings from the 2013 survey were similar. More than half of the faculty gave this response compared to 31 percent of the staff and 40 percent of the students. The majority of staff (59 percent) and students (55 percent) indicated that *climate change is caused by both human activity and natural causes*; 43 percent of the faculty gave this response. Students who participated in the panel were more likely to think that climate change was caused mostly by human activity in 2013 than in 2012 (38 percent versus 34 percent).

Despite their strong belief in climate change and feelings among many that human activity is its main cause, faculty, staff, and students varied greatly in the manner in which they act to address the issue. Whereas significant numbers make efforts to decrease their carbon footprint, others are not. For example, **most faculty and staff (95 percent) said they turned off the lights when leaving their work place. Yet three-quarters of them drive to and from work. Similarly, more than 90 percent of the students reported turning off lights when leaving a room and 7 in 10 “never” or “rarely” drive a car and park on campus. But only half of the students living off-campus adjust their thermostats to conserve energy during cold or hot weather months.**

### Waste Prevention

Recycling and reuse of material by U-M faculty, staff, and students plays a critical role in the University's efforts to divert waste tonnage to disposal facilities. To a large extent, staff and faculty are behaving in an environmentally responsible manner while at work. **Nearly all faculty and staff members said they always “recycle bottles, containers, and paper products” during the past year or did so most of the time.** Many students engage in waste reduction activities but they are not as active as staff and faculty. For instance, **70 percent of the students (compared to 80 percent of staff and 90 percent of faculty) said they regularly “recycle bottles, containers, and paper products” during the past year.**

### Healthy Environments

Students, faculty, and staff are likely to support U-M's goals of protecting water quality in the Huron River and purchasing or obtaining food from sustainable sources. However, there are few direct actions that students, faculty and staff can take to achieve these goals. Nonetheless, individuals who are members of the University community can act to create healthy environments at places where they live.

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<sup>4</sup> U.S population results were drawn from the fall 2013 national survey conducted by the Yale Project on Climate Change Communication (<http://environment.yale.edu/climate>).

Accordingly, questions related to protecting the natural environment at home and purchasing sustainable foods were asked of respondents.

Staff, faculty and students were asked a series of questions about lawn care and disposing of hazardous materials during the past year. *For faculty and staff who had lawns and did respond, 4 in 10 said they “water their lawns” regularly or sometimes and about 1 in 6 regularly “use lawn fertilizer”. The number who had used “commercial herbicides or pesticides” was smaller; just 1 in 12 said they used these substances regularly and another 16 percent said they sometimes used them.*

With respect to obtaining sustainable foods, questions were asked about household purchases. *When asked to estimate how much of their grocery purchases during the past year were sustainable food, a third of the faculty said all/most or more than half. One in 4 staff members and a fifth of the students purchased sustainable foods at least half of the time.*

### Community Awareness

As part of the U-M’s guiding principle within the Community Awareness theme, the University intends to “pursue strategies toward creating a campus-wide culture of sustainability”. Questions about awareness were asked in both the 2012 and 2013 surveys and dealt with travel and transportation, waste prevention and conservation practices, protecting the natural environment, sustainable foods, and climate change. Respondents were also asked in both surveys about their awareness of the specific actions being taken by the U-M in each of these domains.

*Sustainable Travel and Transportation.* With few exceptions, a significant proportion of staff, faculty and students know relatively little about the range of options for traveling to and from campus and around Ann Arbor. *When asked about the AAATA a third of the staff-faculty said they know “not much or nothing”, nearly a third said “a little” and the remaining third said they know “a lot” or “a fair amount”. Students tend to know more about AAATA; nearly half (47 percent) said they know “a lot” or “a fair amount”. Graduate students know more about AAATA than undergraduates (54 percent versus 37percent). Similarly, staff and faculty are generally uninformed about the U-M bus system; when asked how much they know about it, about two-thirds responded “not much or nothing” or “a little” compared to less than a third (30 percent) of the student body.*

*Waste Prevention.* Staff, faculty, and students varied in the degree to which they know about recycling. *At least half of the respondents from each group said they knew “a lot” or “a fair amount” about recycling glass while higher proportions gave these responses when asked about recycling plastic. Even more respondents expressed an awareness of paper recycling.* These proportions were somewhat higher in 2013 than in 2012. In fact, differences between the two years for faculty knowing glass and plastic recycling were significant. *For example, 84 percent said they know something about recycling glass in 2012; in 2013, 89 percent of the faculty knew about glass recycling.*

*Protecting the Natural Environment.* Levels of awareness about protecting the natural environment differ greatly within each group. *For instance, nearly half of the staff and faculty said they know “a lot” or “a fair amount” about protecting rivers, streams, and lakes including their tributaries, native species and habitat with the Huron River given as an example; 14 percent responded “not much or nothing”. Students know even less; a quarter said they know “not much or nothing” and 38 percent said they know “a little”. Compared to the 2012 sample, staff respondents in 2013 were significantly more likely to know something about protecting waterways (86 percent versus 81 percent;  $p < .01$ ).*

*Sustainable Foods.* Within the context of SCIP, Sustainable foods is defined as foods that were organic, locally-grown, or were fair-trade foods, food from humanely-treated animals or animals that have not been given hormones or antibiotics, grass-fed beef, and fish from sustainable fisheries. ***In general, faculty tended to know more about each of these items than staff. Students were likely to know less than both groups.***

## **Summary**

Sustainability indicators are composite measures derived from one or more survey questions about a topic or concept. Numerical values were assigned to responses such that higher values represented the most sustainable forms of behavior or the highest levels of awareness, while the lower values represented the least sustainable behaviors or lowest levels of awareness. These values were then converted to a common 0-10 scale. Table 1 on the next page summarizes the 2013 indicator mean scores and changes, if any, for students, staff, and faculty. The table reveals several things.

***First, there is considerable room for improvement with regard to pro-environment behavior, levels of awareness, degrees of engagement and expressed commitment to sustainability among members of the University community.***

***Second, the travel behavior of students is more in line with the goal of greenhouse gas reduction than travel to and from campus by staff and faculty. Not surprisingly, students are most likely to walk, bike, or bus to campus. Similarly, students are likely to know more about transportation options available to them and are more engaged than either staff or faculty in sustainability activities on campus.***

***Third, compared to students and staff, faculty tend to act in a more sustainable matter with respect to conserving energy, preventing waste, purchasing food, and more generally, engaging in pro-environmental activities outside the University. Faculty members also express a higher level of commitment to sustainability than staff or students.***

***Fourth, students tend to be less knowledgeable than staff or faculty about protecting the natural environment, preventing waste, and sustainable foods. But they know as much as faculty about sustainability at the University. Nonetheless, members of the staff are most aware of the range of the U-M's sustainability initiatives.***

***Finally, the table shows that compared to 2012, members of the University community tend to be more knowledgeable about sustainability. Indicator scores for 2013 are significantly higher reflecting a greater awareness of natural environment protection, sustainable foods, and waste prevention. However, levels of commitment and the behaviors of students, staff, and faculty are unchanged. And each group is less disposed to do anything about it.***

Data covering index scores for the panel of undergraduates suggest that individual students learned about sustainability and were more engaged in sustainability activities between the 2012 and 2013 surveys. Panel results show a significantly greater understanding of both waste prevention practices and sustainable foods. These students also reported a significantly higher level of engagement in sustainability activities on campus. That is, significant numbers joined an organization addressing sustainability issues, signed up for a course that dealt with sustainability, and participated in EarthFest. At the same time, the student panel was less disposed that they were in 2012 to pay for sustainability initiatives on campus.

## GOING FORWARD

Following the release of the Year 1 report a program website was developed to share key results and materials.<sup>5</sup> Between September 2013 and June 2014 there were over 1000 views of this website and the Year 1 report was one of the top ten file downloads from the Graham Institute website. Meetings were held with more than a dozen campus groups to discuss Year 1 results, and these have already led to action. For example, a Campus Town Hall was organized around the SCIP findings that staff are less aware of climate change than students or faculty. Also, Planet Blue Ambassadors newsletters have addressed topics such as alternative transportation options and office computer energy conservation settings – two items for which respondents reported low levels of awareness and participation. Additional interventions based on SCIP results are in development by several campus units. In a few months, a third wave of data will be collected from new samples of U-M’s students, staff and faculty and from the panel of undergraduate students. Findings from the 2014 survey will indicate if there is a pattern to the changes that occurred between 2012 and 2013 and if any new changes have taken place as a result of specific University initiatives or other factors.

Table 1

### ***SUMMARY SUSTAINABILITY CULTURAL INDICATORS*** ***for STUDENTS, STAFF, FACULTY***

(mean scores & change from 2012)

<b>2013</b>	Students	Staff	Faculty
<b>PRIMARY</b>			
<i>Climate Action</i>			
<b>Conservation Behavior</b>	<b>6.2</b>	<b>6.7</b>	<b>6.9</b>
<b>Travel Behavior</b>	<b>7.5</b>	<b>1.3</b>	<b>2.0</b>
<i>Waste Prevention</i>			
<b>Waste Prevention Behavior</b>	<b>6.6</b>	<b>7.0</b>	<b>7.3</b>
<i>Healthy Environments</i>			
<b>Sustainable Food Purchases</b>	<b>5.3</b>	<b>5.8</b>	<b>6.2</b>
<b>Protecting the Natural Environment</b>	<b>8.9</b> ↑	<b>6.4</b>	<b>6.1</b>
<i>Community Awareness</i>			
<b>Sustainable Travel &amp; Transportation</b>	<b>4.3</b>	<b>3.0</b>	<b>3.3</b>
<b>Waste Prevention</b>	<b>4.2</b> ↑	<b>5.1</b>	<b>5.4</b> ↑
<b>Natural Environment Protection</b>	<b>3.3</b> ↑	<b>4.3</b> ↑	<b>4.6</b> ↑
<b>Sustainable Foods</b>	<b>4.5</b> ↑	<b>5.1</b> ↑	<b>5.7</b>
<b>U-M Sustainability Initiatives</b>	<b>5.1</b>	<b>5.6</b>	<b>5.1</b> ↑
<b>SECONDARY</b>			
<b>Sustainability Engagement at U-M</b>	<b>1.4</b>	<b>0.7</b>	<b>0.7</b>
<b>Sustainability Engagement Generally</b>	<b>1.8</b> ↓	<b>1.9</b>	<b>2.9</b>
<b>Sustainability Commitment</b>	<b>6.3</b>	<b>6.4</b>	<b>7.2</b>
<b>Sustainability Disposition</b>	<b>3.3</b> ↓	<b>2.6</b> ↓	<b>4.8</b> ↓
<b>Rating U-M Sustainability Initiatives</b>	<b>6.4</b> ↓	<b>6.8</b>	<b>6.5</b>

Significant changes are based on analyses of the 2012 and 2013 mean scores shown in Appendix F, Table F2 of the full Year 2 report.

↑ significant change (p<.001)

↑ significant change (p<.01)

↑ significant change (p<.05)

<sup>5</sup> The program website can be found at: <http://graham.umich.edu/leadership/scip>.