

Sustainability at Iowa State University: Faculty and Staff Perspectives

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Executive Summary

Introduction

Universities are increasingly focusing on sustainability as an institutional goal and seek to engage faculty and staff in sustainability-oriented efforts. ISU's strategic plans have consistently highlighted the importance of sustainability as a societal goal that the university can contribute to in diverse ways. The Office of Sustainability at ISU develops resources, organizes events, and implements initiatives to further these goals. This survey was conducted to measure faculty and staff awareness and engagement with these efforts.

Methods

The survey focused on awareness and participation in ISU's sustainability programs, environmental attitudes, information acquisition, and demographics. Two separate but largely identical web-based surveys were distributed to 1,757 faculty and 5,147 staff. Response rates were 14% and 17%, respectively. Data were analyzed using SPSS statistical software, and qualitative responses were thematically analyzed using Microsoft Copilot and traditional coding methods.

Results

- Awareness and Participation: Approximately two-thirds of respondents were aware of the ISU Office of Sustainability and its Live Green! initiative. However, awareness of other sustainability-related resources and events was generally lower. Rates of participation in activities and use of resources were generally lower than 25%. There were several notable exceptions, with strong majorities of faculty and staff reporting use of recycling bins, water bottle refilling stations, and solar powered compactors on campus.
- Differences Between Faculty and Staff: Few major differences were found between faculty and staff. Faculty were more aware of sustainability-related student organizations and obtained information from peer-reviewed journals, while staff were more aware of and participated more in the Adventure2 ISU Well-being program.
- Sustainability Attitudes: Both faculty and staff expressed high levels of concern for the environment and strong support for ISU's sustainability efforts. Nearly 85% of faculty and staff agreed or strongly agreed that ISU should be a leader in sustainability.
- Suggestions for Improvement: Respondents provided numerous suggestions for improving ISU's sustainability efforts, including enhancing bicycle and bus transportation options, increasing recycling and waste management, promoting energy conservation, and offering more sustainable dining options. Many respondents expressed sentiments that ISU should be more innovative in its sustainability efforts and show more commitment and leadership.

Discussion and Conclusion

The survey results indicate a high level of awareness and concern for sustainability among ISU faculty and staff, but also highlight areas for improvement in engagement and participation. The suggestions provided by respondents reflect a strong commitment to sustainability. ISU employees are strongly supportive of the university's sustainability initiatives and have many creative ideas for improvement. While awareness and participation rates could be higher, the high levels of environmental concern and support for ISU's leadership in sustainability indicate significant potential for growth in these areas.

1. Introduction

In recent decades, universities have begun officially recognizing sustainability as an institutional goal (Conner et al., 2018), and many universities have set sustainability goals and developed resources and initiatives to engage students, faculty, and staff in efforts to meet those goals (AASHE 2023). Iowa State University has, for decades, placed some emphasis on sustainability in its strategic planning processes. Two of the key goals articulated in the 2005-2010 strategic plan were “to promote the wise use of Iowa's resources and build a sustainable future” and “achieve a sustainable balance between responsibilities and resources that will allow the university to efficiently and effectively realize its vision” (ISU 2005). Both the 2010-2015 and 2017-2022 plans had similar statements (ISU 2010, ISU 2017), and the first pillar of the current (2022-2031) planning process states that “ISU will be recognized for its distinctive approach to environmental, social, economic and cultural sustainability and meeting the needs of society with integrity” (ISU 2022). While ISU has taken steps to integrate sustainability into its strategic plan and campus life, there is uncertainty about the degree to which the university's efforts are engaging their intended audiences. This study's research objectives were to examine employees' awareness, attitudes and actions associated with ISU's sustainability efforts.

To further ISU's sustainability goals, ISU's Office of Sustainability develops sustainability-related resources for the university community to access, organizes multiple events annually, and has implemented several initiatives meant to improve the university's sustainability outcomes. The Office of Sustainability submits a report every three years to the Sustainability Tracking, Assessment and Rating System (STARS). This program is facilitated by the Association for the Advancement of Sustainability in Higher Education (AASHE). STARS is intended to help higher educational institutions track and measure their sustainability performance.

To help the Office of Sustainability and other university stakeholders understand and track ISU faculty and staff awareness of and use of sustainability-related services at ISU, students and faculty associated with the ISU Consortium for Cultivating Human and Naturally reGenerative Enterprises (C-CHANGE) conducted a survey of ISU faculty and staff in spring 2024. The purpose of the online survey was to measure faculty and staff awareness and engagement in ISU's campus sustainability efforts. The survey was designed to address the following research questions:

1. What sustainability resources, events, and initiatives are ISU faculty and staff aware of?
2. What sustainability resources, events, and initiatives do ISU faculty and staff use or participate in?
3. What are ISU faculty and staff attitudes towards sustainability and the university's role in promoting sustainability?

This report presents selected results from the survey.

2. Methods

Survey Development

Two surveys were developed, one for faculty, and one for staff. Both surveys shared a set of core questions focused on awareness of and participation in selected ISU sustainability programs and initiatives, as well as a set of items measuring environmental attitudes, information acquisition, and demographics. These core question sets were adapted from a pilot survey created and tested in February and March 2023 by Agricultural Education Ph.D. candidate Kristine Micheletti in coordination with the ISU Office of Sustainability. The awareness and participation items in the core question sets contained a list of major sustainability resources, events, and initiatives at ISU and was compiled from information available on the Office of Sustainability's website and in consultation with the ISU Director of Sustainability. For this survey, "resources" were defined by the Office of Sustainability as materials, including websites, social media, blogs, and others, that are used to gather information about a topic. The Office of Sustainability defined "initiatives" as the policies and practices the university has implemented to help make the university more sustainable. Because sustainability as a concept is defined in myriad ways (Moore et al. 2017), we did not provide a specific definition, instead allowing respondents to rely on their personal conceptions of sustainability.

Survey Samples

All faculty and staff employed by ISU were considered eligible for the survey. ISU Human Resources provided email addresses for all university employees as of December 2023. Contract employees were deleted from the staff list, leaving the employment classifications professional and scientific staff, merit staff, and postdoctoral scholars. Graduate students on assistantships and student employees were not included in the sample.

Data Collection and Response Rates

The surveys were distributed using the online survey program Qualtrics to 1,757 faculty and 5,147 staff. The survey data collection mode was set to "anonymize responses," a Qualtrics setting that maintains participant anonymity by not recording respondents' IP Address, location data, contact information, or other identifiable data. The first email distribution message was sent on April 16, 2024. Reminder emails were sent on April 25 and May 7, and the survey was closed on May 15. The faculty survey was completed by 272 respondents, for a response rate of 14%. The staff survey was completed by 887 respondents, for a response rate of 17%.

Data Analysis

Quantitative (i.e., numerical) data were analyzed using SPSS statistical analysis software. Results were tabulated and frequencies for each question were presented for faculty and staff separately, as well as an overall total. Chi-square and Mann-Whitney U tests were

conducted to test for statistically significant differences between faculty and staff on all questions.

The survey also included an open-ended response question asking faculty and staff to offer suggestions about ways that ISU could improve sustainability initiatives and outcomes. Analysis of the open-ended responses was conducted in two steps. The first step used Microsoft Copilot to identify themes in the responses. A document with all faculty and staff survey responses was uploaded to Copilot, along with the following prompt: “This document contains responses to an open-ended survey question. Please provide ideas or thoughts you have about what ISU should do to improve the effectiveness of and access to sustainability resources, events, or initiatives. Please analyze the data and develop themes found in the data.” Copilot identified several major themes in the data. The second step of analysis used traditional qualitative analysis coding methods to corroborate thematic categories, code open-ended question responses by category, and identify demonstrative quotes for inclusion in this report. The results section presents a brief synopsis of each theme and several quotes that demonstrate diverse dimensions of each theme.

3. Results

Awareness and Participation

This section of the survey measured faculty and staff awareness of selected ISU-based sustainability-related resources, initiatives and activities as well as their use of and participation in these options. The first question set asked respondents to indicate if they were aware of the Office of Sustainability at Iowa State and its signature Live Green! initiative. As Table 1 shows, both faculty and staff were similarly aware of the Office and the Live Green! Initiative, with nearly two-thirds of respondents selecting the “Yes” responses.

Table 1. Percentage indicating awareness of the ISU Office of Sustainability and Live Green!

	Faculty	Staff	Total
Are you aware that ISU has an Office of Sustainability?	64.8	66.7	66.3
Are you aware of the ISU Live Green! initiative?	65.2	60.4	61.5

Chi-Square Tests; *p<0.05; **p<0.01; ***p<0.001

The next section of the survey consisted of three two-part question sets designed to measure 1) awareness of major sustainability-related resources, initiatives, and activities, and 2) use of those resources or participation in those initiatives and activities. The first part of each question set listed a number of resources, initiatives, and activities and asked respondents to select all that they were aware of. The survey then provided each respondent with the list of items that they had indicated they were aware of, and asked them to select the ones they had used or participated in.

Awareness of Resources

This question set focused on sustainability-related “resources,” or avenues for acquiring information, including materials such as websites, social media, blogs, etc. The two items that were checked most often were the Live Green! website and the Live Green! Monthly Newsletter, with approximately 39% and 23%, respectively (Table 2). About one-fifth of faculty and staff (21%) were aware of sustainability-related student organizations, 18% were aware of ISU’s strategic plan for sustainability in operations, and 16% were aware of the annual Board of Regents Sustainability Report. Each of the remaining seven items garnered less than 10% awareness.

Table 2. Percentage indicating awareness of sustainability-related resources on campus

	Faculty	Staff	Total
Live Green! Website	46.3	36.3**	38.7
Live Green! Monthly Newsletter	26.8	22.0	23.1
Sustainability-Related Student Organization	27.9	18.7**	20.9
Strategic Plan for Sustainability in Operations	22.4	16.8*	18.1
Annual Board of Regents Sustainability Report	16.5	15.9	16.0
Live Green! Calendar	14.0	8.5**	9.7
Live Green! Social media platforms	9.2	9.6	9.5
STARS International Sustainability Certification	10.3	8.0	8.5
Sustainability Course Directory	7.4	4.5	5.2
Live Green! Listserv	9.2	3.2***	4.6
Live Green! Blog	6.6	3.5*	4.2
Association for the Advancement of Sustainability in Higher Education Membership Resources	6.6	2.9**	3.8

Chi-Square Tests; *p<0.05; **p<0.01; ***p<0.001

Faculty tended to be more aware of sustainability resources than staff, with seven variables showing significant differences between faculty staff. A greater proportion of faculty than staff were aware of all the Live Green! resources (e.g., website, calendar), sustainability-related student organizations, the strategic plan for sustainability in operations, and the AASHE (Table 2).

Uses of Resources

The resources that were most utilized by both faculty and staff were the Live Green! Website and the Live Green! Monthly Newsletter, with 22% and 16% reporting use, respectively (Table 3). Approximately 5% of the faculty and staff reported that they had

taken part in sustainability-related student organizations and a similar percentage had utilized the strategic plan for sustainability in operations. About 4% of survey participants reported using the annual Board of Regents Sustainability Report and Live Green! social media platforms. The remaining six resources were utilized by less than 4% of faculty and staff.

Table 3. Percentage indicating use of sustainability-related resources on campus

	Faculty	Staff	Total
Live Green! Website	25.7	20.5	21.7
Live Green! Monthly Newsletter	18.0	15.8	16.3
Sustainability-Related Student Organization	9.9	3.9***	5.3
Strategic Plan for Sustainability in Operations	7.0	4.1*	4.7
Annual Board of Regents Sustainability Report	5.5	3.7	4.1
Live Green! Social media platforms	3.3	4.1	3.9
Live Green! Calendar	5.5	2.9	3.5
STARS International Sustainability Certification	4.4	2.1*	2.7
Sustainability Course Directory	2.9	1.6	1.9
Association for the Advancement of Sustainability in Higher Education Membership Resources	2.6	1.1	1.5
Live Green! Listserv	2.6	0.9	1.3
Live Green! Blog	1.5	1.0	1.1

Chi-Square Tests; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

There were three significant differences between faculty and staff in terms of resource utilization (Table 3). About 10% of faculty reported interaction with sustainability-related student organizations compared to about 4% of staff. Similarly, fewer staff reported use of the Strategic Plan for Sustainability in Operations and STARS sustainability certification information.

Awareness of Events

The second set of awareness questions examined ISU-sponsored sustainability-related events. Participants were provided with the question, “Which of these ISU-sponsored sustainability-related events are you aware of? Please select all that apply,” followed by seven options for participants to select.

Rummage RAMPage and Earth Day were the most recognized events, with approximately 60% of faculty and staff reporting awareness of both (Table 4). College Creek Cleanup had an awareness rate of roughly 44%. The Local Food Festival and Sustainapalooza garnered 30% and 29%, respectively. The Symposium on Sustainability and Campus Sustainability Month Celebration were the events faculty and staff were the least aware of, with less than 20% indicating awareness of each event. There was only one significant difference in awareness, with a slightly higher percentage of faculty reporting knowledge of the Symposium on Sustainability than staff.

Table 4. Percentage indicating awareness of ISU-sponsored sustainability-related events

	Faculty	Staff	Total
Rummage RAMPage	58.5	61.0	60.4
Earth Day	62.9	57.6	58.8
College Creek Cleanup Day	41.2	44.4	43.7
Local Food Festival	32.0	28.9	29.6
Sustainapalooza	29.4	29.0	29.1
Symposium on Sustainability	22.4	15.0**	16.7
Campus Sustainability Month Celebration	14.0	12.7	13.0

Chi-Square Tests; *p<0.05; **p<0.01; ***p<0.001

Participation in Events

The second part of this question set measured participation in the seven events. The prompt asked, “Which of these ISU-sponsored sustainability-related events have you participated in? Please select all that apply.” Rummage RAMPage was the event faculty and staff were most likely to have participated in, at 31% (Table 5). The Local Food Festival and Earth Day events both had a participation rate of about 14%. Eight percent of faculty and staff reported participation in Sustainapalooza, and fewer than 4% had participated in the remaining three events. There was only one statistically significant difference in participation rate between faculty and staff: 7% of faculty reported attending the Symposium on Sustainability compared to 3% of staff.

Table 5. Percentage indicating participation in ISU-sponsored sustainability-related events

	Faculty	Staff	Total
Rummage RAMPage	32.0	31.1	31.3
Local Food Festival	14.0	14.2	14.2
Earth Day	15.1	13.8	14.1
Sustainapalooza	8.8	8.1	8.3
Symposium on Sustainability	7.0	2.7**	3.7
College Creek Cleanup Day	2.9	3.4	3.3
Campus Sustainability Month Celebration	4.0	2.9	3.2

Chi-Square Tests; *p<0.05; **p<0.01; ***p<0.001

Awareness of Sustainability Initiatives

The third awareness question evaluated faculty and staff awareness of Iowa State University's sustainability "initiatives," defined as policies and practices the university has implemented to help make the university more sustainable. The question prompt asked, "Which of the following ISU sustainability initiatives are you aware of? Please select all that apply." The survey provided a list of twelve Iowa State initiatives that participants could select from.

Office recycling bins and water bottle refilling stations were the sustainability initiatives faculty and staff were most aware of, with over 80% of respondents indicating awareness (Table 6). About 73% of respondents reported awareness of CyRide's hybrid buses and Iowa State's solar powered trash and recycling compactors. About two-thirds (67%) of faculty and staff were aware of Iowa State's Surplus sales. The Adventure2 Iowa State Wellbeing program and ISU's participation in the Ames Resource Recovery Center garbage to electricity initiative had similar awareness rates, at 55% and 54% respectively. The remaining five initiatives each received awareness rates of below 40%.

Table 6. Percentage indicating awareness of ISU sustainability initiatives

	Faculty	Staff	Total
Office recycling bins	85.3	82.4	83.1
Water bottle refilling stations	81.3	80.7	80.8
CyRide uses hybrid buses (17% of the bus fleet)	82.7	70.6***	73.4
Solar powered trash and recycling compactors	79.0	70.9**	72.8
ISU Surplus conducts departmental and public sales of unneeded university durable goods, including furniture	71.0	65.4	66.7
Adventure2 ISU Well-being portal and resources	39.0	59.9***	55.0
Campus garbage is sent to Ames Resource Recovery Center for burnable components to provide electricity to City of Ames customers	60.3	51.7*	53.8
Organic waste from ISU dining is composted at the University Composting Facility	39.0	34.4	35.5
Bicycle repair stations	19.1	23.0	22.1
Double-sided printing defaults	24.6	20.1	21.1
ISU uses Environmentally Preferable Purchasing criteria	9.6	10.8	10.5
ISU has a university vehicle no-idling policy (30 seconds max)	7.4	6.2	6.5

Chi-Square Tests; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Faculty and staff had statistically significant differences in responses for four initiatives (Table 6). A greater proportion of faculty were aware of CyRide's hybrid buses and of the solar-powered trash and recycling compactors on campus than staff. In contrast, nearly

60% of staff were aware of the Adventure2 ISU Wellbeing program compared to 39% of faculty. Over 60% of faculty were aware of campus waste being sent to the Ames Resource Recovery Center compared to 51.7% of staff.

Participation in Sustainability Initiatives

The second part of this question set measured faculty and staff utilization of ISU sustainability initiatives. A list of eight initiatives was followed by the prompt, “Which of the following ISU sustainability initiatives have you used or participated in? Please select all that apply.” Four of the 12 resources listed in Table 6 were not included because they are not initiatives that faculty and staff can opt into, have control over, or are initiatives that do not apply to all positions (e.g., dining services composting).

Office recycling bins were the most utilized initiative with over 81% of faculty and staff selecting this option (Table 7). Water bottle refilling stations were the second most-utilized initiative, at 72%. Solar powered trash and recycling and ISU Surplus were used by 66% and 55% of faculty and staff, respectively. More than one-third of respondents reported using the Adventure2 Well-being resource, and a similar proportion reported use of double-sided printing defaults. The remaining two initiatives were each used by less than 7% of survey respondents.

Table 7. Percentage indicating use of selected ISU sustainability initiatives

	Faculty	Staff	Total
Office recycling bins	83.8	80.4	81.2
Water bottle refilling stations	71.7	72.3	72.1
Solar powered trash and recycling compactors	71.7	64.6*	66.3
ISU Surplus conducts departmental and public sales of unneeded university durable goods. including some furniture	53.3	55.0	54.6
Double-sided printing defaults	41.9	34.9*	36.6
Adventure2 ISU Well-being portal and resources	17.3	41.3***	35.6
ISU uses Environmentally Preferable Purchasing criteria	7.0	6.3	6.5
Bicycle repair stations	3.3	3.4	3.4

Chi-Square Tests; *p<0.05; **p<0.01; ***p<0.001

Faculty and staff had statistically significant differences in their use of three initiatives (Table 7). A greater proportion of faculty had used solar-powered trash and recycling compactors and double-sided printing on campus. In contrast, 41% of staff reported participating in the Adventure2 ISU Well-being program compared to 17% of faculty.

Information Sources

The next section of the survey examined how faculty and staff obtain information about sustainability. A list of nine common sources of information was preceded by the question, “Where do you obtain general information about sustainability in your daily life? Please select all that apply.” Social media sites such as Facebook and Instagram were the most commonly selected source overall, with 44% of faculty and staff choosing this as a platform for obtaining information (Table 8). Word of mouth was used second most often, at 39%, followed by newspapers (37%), radio or podcasts (34%) and university websites (31%). Television was sixth overall, at nearly 30%, followed by government websites (22%), peer-reviewed journals (19%), and Live Green! resources (18%).

Table 8. Percentage indicating use of varied sources of information about sustainability

	Faculty	Staff	Total
Social media (Facebook, Instagram, Twitter, etc.)	37.1	46.3**	44.2
Word of mouth	34.9	40.7	39.3
Newspapers (digital or paper)	52.9	32.7***	37.4
Radio/podcasts	36.8	33.0	33.9
University websites (ISU or other)	28.7	31.8	31.1
Television (Cable/satellite, streaming services, YouTube, etc.)	26.5	30.6	29.6
Government websites	34.9	18.5***	22.3
Peer-reviewed journals	44.1	10.8***	18.6
Live Green resources (e.g., website, newsletter)	16.9	17.9	17.7

Chi-Square Tests; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

There were four statistically significant differences between faculty and staff on these variables. Staff were significantly more likely to use social media to obtain sustainability information than faculty were, at 46% compared to 37% (Table 8). Faculty were much more likely to obtain sustainability-related information from newspapers (53%) than staff (33%). Similarly, as might be expected, faculty indicated that they gain sustainability information from peer-reviewed journals at higher rates (44%) than staff (11%). Government websites were utilized by nearly 35% of faculty, compared to less than 19% of staff.

Perspectives on Sustainability

The survey included a question set with several items measuring attitudes related to environmental concern and sustainability. Seven statements were provided, and respondents were asked to rate them on a five-point agreement scale. Statements one, two, six and seven in Table 9 were adapted from Emanuel & Adams (2011). Statements three, four, and five were sourced from Poole et al. (2023). The statements were preceded by the prompt, “Please indicate the extent to which the following statements accurately describes you.”

Table 9. Percentage agreement or disagreement on sustainability attitude measures

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
I want to help create a sustainable campus, community, and world	Faculty	1.2	2.0	5.6	44.0	47.2
	Staff**	1.4	1.0	7.6	54.9	35.1
I am concerned about the state of the environment	Faculty	2.0	3.2	3.6	26.5	64.7
	Staff***	1.4	3.4	8.3	34.1	52.8
ISU should be a leader in sustainability	Faculty	2.8	1.2	8.4	28.0	59.6
	Staff***	1.4	2.1	13.0	36.6	46.9
I am concerned that society is not on a sustainable path	Faculty	3.2	2.0	8.0	26.0	60.8
	Staff***	2.5	4.3	12.4	33.9	47.0
Public universities should be leaders in sustainability	Faculty	3.2	2.8	7.6	29.7	56.6
	Staff*	1.4	1.8	9.2	42.1	45.4
I am concerned about wasteful consumption on campus	Faculty	1.6	6.8	13.3	39.4	39.0
	Staff**	1.6	5.9	18.6	46.8	27.1
I feel the university's sustainability efforts are making a difference in protecting the environment	Faculty	7.6	10.8	36.9	42.2	2.4
	Staff***	2.6	6.1	33.5	50.3	7.6

Mann-Whitney Tests; *p<0.05; **p<0.01; ***p<0.001

The statement that received the highest level of agreement was “I want to help create a sustainable campus, community, and world,” with more than 90% of faculty and staff selecting agree or strongly agree. The statement, “I am concerned about the state of the environment,” also earned high levels of agreement, with 87% of faculty and over 91% of staff agreeing or strongly agreeing (Table 9). Three items received over 80% agreement from both faculty and staff: “ISU should be a leader in sustainability,” “I am concerned that society is not on a sustainable path,” and “Public universities should be leaders in sustainability.” “I am concerned about wasteful consumption on campus” also received strong endorsement with about three quarters of faculty and staff agreeing with that statement. Less than half of faculty agreed with the statement, “I feel the university's sustainability efforts are making a difference in protecting the environment,” while nearly 58% of staff agreed. This item received a relatively high uncertainty rating, with 37% of faculty and 34% of staff indicating they were uncertain about the

university's efforts. While there were statistically significant differences between faculty and staff responses for all of the items, only this last response differed by more than 10 percentage points.

Suggestions for Improving ISU's Sustainability Efforts

The first two tables present four themes that center on specific technical suggestions that faculty and staff had regarding improvements in transportation, recycling and waste management, and energy conservation (Tables 10 & 11). Suggestions in the transportation theme tended to center on more sustainable and accessible transportation options, including improving infrastructure for electric vehicles, encouraging use of CyRide, and enhancing bicycle transportation on and around campus. Ideas for improving recycling and waste management included provision of additional recycling and trash receptacles and ensuring that more waste is recycled or disposed of properly. In the energy conservation theme, suggestions included more emphasis on energy conservation measures, use of low-input landscaping, especially use of native species, and much greater reliance on renewable energy.

Table 10. Technical suggestions for improved sustainability outcomes

Category	Quotes
Transportation	<p>“...more charging stations for electric vehicles and plug-in hybrid vehicles. They should be in every major parking lot on campus.”</p> <p>“Free bus passes for staff and faculty (more money for buses); parking cash-outs; incentives for not driving to work (either using bus or bike).”</p> <p>“Better bike routes through and around campus...A few more paths with cycling lanes would be very helpful. Riding with the buses is not safe.”</p>
Recycling and Waste Management	<p>“Most recycling options have been removed from our building. I have to take recyclable waste home with me to recycle in our private recycle bins.”</p> <p>“It’s quite embarrassing when I have to tell out of state guests in the Earth sciences that there is nowhere to recycle their container.”</p> <p>“Please set up e-waste bins at places across campus! Student (and STAFF) have old cords, broken cords, broken small electronics. If ear buds or charging cases can be recycled there should be no reason folks are tossing those into the trash.”</p> <p>“None of my coworkers use recycling, everything goes in the trash, no matter what it is. If an apartment is left full of perfectly good items, it goes in the trash. The department of residence has a very wasteful mindset. As a person who thinks green, and uses the recycling services provided, it’s embarrassing working for the DOR.”</p>
Energy Conservation	<p>“Faculty should be encouraged to turn off lights and especially projectors when they finish their classes, especially if the class is after 2:00 p.m. I regularly find several classrooms lit up with their projectors on when I leave my building.”</p> <p>“It would be nice to have more buildings set to have lights that automatically shut off. “I am in the Forker Building and it’s irritating to find gyms empty and all the lights on as well as classroom settings too.”</p> <p>“I’d love to see solar panels on roofs of buildings that are appropriate for that. With all of our buildings being used during the day, there’d be little to no need for batteries.”</p> <p>“Exclusively purchase EVs for the motor pool moving forward (except when ICEs are needed for working vehicles).”</p> <p>“ISU’s heating and electricity should come from truly sustainable sources (e.g., wind, solar, etc).”</p> <p>“More truly meaningful, large-scale efforts such as shifting to renewable energy (solar, wind, geothermal). Shifts in campus grounds management such as discontinuing the use of chemical treatment of lawns and using native pollinator plants in landscaping.”</p>
Sustainable Dining	<p>“Eliminate plasticware from ISU Dining, residence hall dining, etc.”</p> <p>“There should be vegan or vegetarian food options offered at food events...I recognize that meat is a big part of Iowa agriculture, but it is one of the biggest causes of global warming.”</p> <p>“I would LOVE to have a dining option that is entirely plant-based.”</p> <p>“Compost option available for staff and students to bring food scraps to.”</p>

Table 11. Increasing awareness, leading by example

Category	Quotes
Education and Awareness	<p>"I think ISU should probably promote sustainability resources, events, and initiatives more so that faculty, staff, and students are aware that they are available. Perhaps including them in the Inside Iowa State email that goes out to everyone."</p> <p>"Each employee should know what they can do to be more sustainable. That would mean an online class or something."</p> <p>"A lot of programs listed in this survey I was unaware of. I try to stay current on all things with ISU but somehow this is not making it to the forefront."</p> <p>"I would love to know more about what I can do on campus to help with these initiatives."</p> <p>"Love the innovativeness in what ISU is doing to capture attention, run programs, and keep us informed about sustainability activities on campus."</p>
Leadership and Commitment	<p>"University leadership needs to model behavior that shows how to promote sustainability in the face of poor leadership at the state level on this issue."</p> <p>"We should be a leader in renewable energy. We are not living up to our motto of Innovate at Iowa State by just continuing to rely on natural gas. Why are we not investing more in innovative solar, wind, etc.?"</p> <p>"I feel as though sustainability is very unevenly spread throughout the campus and there is very little emphasis put on sustainability in our day-to-day functions. I watch colleagues throw away aluminum cans when there's a recycling receptacle in view and within reach. Food waste is rampant. There's certainly no emphasis whatsoever on sustainability in diet."</p> <p>"I know that Iowa State has sustainable initiatives, and that is great. But overall, it doesn't feel like a concerted, driven effort. More of something that people are allowed to do. That's not enough."</p> <p>"I think all of the sustainability events are great and bring the community together to share an abundance of resources. However, I hardly ever walk away from those events feeling like I have a better understanding of what the university leadership as a whole is doing to move forward with concrete sustainability and climate action practices. It would be great if the university could be more transparent about what they are doing, in particular, to address climate change and reduce emissions; what the timeline is for emission reductions plans; and how the university community can stay informed and can contribute."</p> <p>"Compared with other universities, I do not currently see ISU overall as a primary leader in sustainability and climate action. However, I do see specific ISU programs as leaders and wonder why the university isn't promoting their work more broadly. More explicit support for programs on campus that are leaders in interdisciplinary approaches to sustainability and climate action would be incredibly beneficial (climate science program, Graduate Program in Sustainable Agriculture, MFA Program in Creative Writing and Environment, CRP program, NREM, etc.)."</p> <p>"Model sustainable agriculture on research and demonstration farms. Today's practices there are almost a perfect case study in what not to do for water, soil, climate, and biological diversity."</p>

4. Discussion

The findings from the survey provide valuable insights into the awareness, participation, and perspectives of ISU faculty and staff regarding sustainability initiatives on campus. The results indicate a generally high level of awareness and concern for sustainability among both faculty and staff, with some notable differences between the two groups in specific areas.

Awareness and Participation

The survey results showed that about two-thirds of faculty and staff were aware of the ISU Office of Sustainability and its signature Live Green! initiative. Awareness of two major events--Rummage RAMPage and Earth Day—was around 60%. Similarly, many of the visible central campus sustainability initiatives such as recycling bins in buildings, water bottle refilling stations, and solar-powered compactors were well-known.

However, awareness of less visible sustainability-related resources, events, and initiatives was generally much lower. For example, fewer than one-third of employees knew of annual events such as the Local Food Festival, Sustainapalooza, and the Symposium on Sustainability. Similarly, while the Live Green! Website, the Live Green! monthly newsletter, and sustainability-related student organizations were the most known among the 12 resources listed in the survey, just 39%, 23%, and 21% of employees indicated awareness of them, respectively. Meanwhile, other Live Green! and similar resources such as the sustainability course directory garnered awareness levels in the single digits.

Use of sustainability-related resources and participation in sustainability-related events and initiatives were lower than awareness rates. Highly visible sustainability initiatives such as office recycling bins, bottle refilling stations, and solar powered compactors had been used by two-thirds or more of faculty and staff. Among events, the Rummage RAMPage had the highest participation rate, followed by the Local Food Festival and Earth Day events. Use of resources such as the LiveGreen! Website were substantially lower than awareness, with only one resource (LiveGreen! Website) cracking 20% use. This indicates that while many faculty and staff are aware of sustainability efforts, fewer are actively participating in them. This gap between awareness and participation highlights an area for potential improvement in engaging the university community more effectively.

Differences Between Faculty and Staff

Although analysis found many statistically significant differences between faculty and staff, most of the differences were slight and not significant in a practical sense. There were, however, some notable differences, most of which make sense given job differences between faculty and staff. For example, more faculty were aware of sustainability-related student organizations, likely because they tend to have more contact with students (although at 28%, faculty awareness of such organizations, of

which there are many, seems low). Similarly, faculty were much more likely to obtain information about sustainability through peer-reviewed research journals, which is not surprising given that research is a primary function for most faculty. Another notable difference was that staff were more aware of the Adventure2 program and participated in the program at a much higher rate.

Sustainability Attitudes

A remarkable finding was the level of agreement with most of the measures of sustainability attitudes. Nearly all faculty and staff agreed that they were concerned about the state of the environment and that society is not on a sustainable path. Almost 90% agreed that ISU should be a leader in sustainability and that public universities should be leaders in sustainability. These results indicate that both faculty and staff are highly supportive of ISU's sustainability efforts.

Suggestions for Improving ISU's Sustainability Efforts

Considered together, the responses to the open-ended question about how ISU might improve the effectiveness of and access to sustainability resources, events, or initiatives indicate that faculty and staff care deeply about sustainability and how ISU incorporates sustainability into its major activities. In addition, the quotes show that faculty and staff have diverse, creative ideas about ways that ISU can improve its sustainability outcomes. In addition to the many ideas for specific technical fixes that employees expressed, they also emphasized that ISU should increase its leadership and show its commitment to sustainability by making it a priority in all facets of university activities, encompassing both operations and the research, education, and extension enterprise.

5. Conclusion

Overall, the survey results indicate that ISU employees are strongly supportive of sustainability initiatives at the university. In addition, employees have many creative ideas about pathways toward improving sustainability efforts. While awareness and use of/participation in sustainability-related resources and initiatives could be perceived as low, the extraordinary levels of environmental concern and agreement that ISU should be a leader in sustainability indicates that there is much room for growth in faculty and staff awareness and participation in current and future sustainability efforts.

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Appendix A

Comparison of Respondents to the Full Population of Faculty and Staff

A goal of sample survey research is to ensure that respondents accurately represent the overall population. In a census survey like this one, the objective is to have as many members of the population as possible participate. When response rates are low, as with this survey, it is crucial to examine whether survey respondents differ from the general population. Understanding these differences or similarities helps researchers identify potential sources of bias and limitations in the findings. To that end, we compared survey respondents with ISU Human Resources (HR) records on key variables.

In general, our survey respondents were comparable to the overall populations of faculty and staff but differed slightly on some characteristics. For example, faculty respondents were more likely to report full-time employment status (94%), while 85% of ISU faculty overall are full-time (Table 12). Staff respondents were virtually the same as the overall staff population, at 95%. There were slight percentage differences in terms of employment tenure, with respondents tending to have been employed by ISU for longer compared to the full population of both faculty and staff (Table 13). Similarly, respondents tended to be slightly older than the overall population of faculty and staff (Table 14).

Table 12. Comparison of survey respondents to all employees by employment type (percentage)

	Faculty		Staff	
	Respondents	Overall	Respondents	Overall
Full-time	94.3	85.0	95.4	95.2
Part-time	5.7	15.0	4.6	4.8

Table 13. Comparison of survey respondents to all employees by years of service at ISU (percentage)

	Faculty		Staff	
	Respondents	Overall	Respondents	Overall
Less than 1 year	4.9	7.2	8.5	13.9
1-3 years	6.9	14.2	23.4	28.2
4-7 years	13.1	17.3	19.9	19.9
8-15 years	35.1	29.0	21.1	18.2
16-25 years	27.8	21.4	14.2	11.5
26 years or more	12.2	10.9	12.9	8.5

Table 14. Comparison of survey respondents to all employees by age (percentage)

	Faculty		Staff	
	Respondents	Overall	Respondents	Overall
Under 18	0.0	0.0	0.0	0.0
18-24	0.0	0.0	1.6	4.6
25-29	1.2	0.9	8.4	11.5
30-34	4.9	7.2	10.4	14.0
35-39	7.8	11.9	8.1	12.7
40-44	11.8	16.4	12.3	12.8
45-49	16.3	14.3	11.3	11.1
50-54	13.5	13.8	11.3	9.4
55-59	15.2	11.7	12.5	10.1
60-64	12.2	11.0	12.3	9.6
65-69	7.8	8.0	5.6	3.2
70+	4.5	4.8	1.7	1.1
Prefer not to answer	4.9	n/a	4.5	n/a

Gender comparisons indicate substantial differences between our sample and the overall populations of both faculty and staff (Table 14). While the overall population of faculty is predominantly male (59% vs. 41%), more survey respondents were female than male (47% vs. 46%). The gender distribution of staff respondents was more similar to the overall population, but still skewed slightly more toward females.

Table 15. Comparison of survey respondents to all employees by gender (percentage)

	Faculty		Staff	
	Respondents	Overall	Respondents	Overall
Male	46.3	58.9	33.4	43.3
Female	47.2	41.1	60.3	56.6
Non-binary	0.0	0.1	1.4	0.1
Prefer not to say	6.5	n/a	4.9	n/a

Note: ISU HR categorizes gender into male, female, and "other/intersex/no answer." This survey categorizes gender into male, female, non-binary, and prefer not to say. Thus, they are not exactly comparable.

Finally, we collected data on college or unit affiliation. However, the categories we used 1) differed for faculty and staff, and 2) did not match up with the categories that ISU HR uses, so we cannot effectively compare our respondents to the overall populations. We include the results in Tables 16 and 17 nevertheless, as they allow for limited comparisons.

Table 16. Comparison of faculty survey respondents to all faculty by college or unit (percentage)

	Respondents	Overall
College of Liberal Arts & Sciences	29.8	32.8
College of Agriculture & Life Sciences	27.2	15.4
College of Engineering	14.0	16.7
College of Veterinary Medicine	6.6	8.8
College of Human Sciences	6.3	9.1
Debbie and Jerry Ivy College of Business	5.9	8.4
College of Design	5.1	8.4
Graduate College	2.2	n/a
Other (please specify)	1.1	n/a
ISU Library	0.4	0.3
Ames Laboratory	0.4	n/a

Table 17. Comparison of staff survey respondents to all staff by college or unit (percentage)

	Respondents	Overall
College of Agriculture & Life Sciences	15.9	11.4
College of Liberal Arts & Sciences	9.5	6.0
Other (please specify)	8.6	n/a
Extension & Outreach	8.2	n/a
Facilities, Planning & Management	6	n/a
College of Human Sciences	5.5	2.9
College of Veterinary Medicine	5.4	9.7
College of Engineering	5.3	6.0
Research	4.7	n/a

	Respondents	Overall
Campus Life	4.5	n/a
Information Technology Services	3.9	n/a
Student Health & Wellness	3.2	n/a
Library	2.9	1.9
College of Business	2.5	1.7
Finance Services	2.5	n/a
Dean of Students	2.4	n/a
College of Design	2.1	0.9
Specialty Business Services & Cultural Arts	2	n/a
Graduate College	1.9	n/a
Ames Laboratory	1.9	n/a
General Counsel	1.8	n/a
Not sure	1.6	n/a
Athletics	1.4	n/a
University Human Resources	1.1	n/a
Strategic Relations & Communications	1.1	n/a
Economic Development & Industry Relations	1.0	n/a
Alumni Association	1.0	n/a
School of Education	0.9	n/a
Diversity & Inclusion	0.9	n/a
Equal Opportunity	0.7	n/a
Payroll, Benefits & Tax	0.6	n/a
Federal Relations	0.6	n/a
State Relations	0.5	n/a
Institutional Financial Strategy	0.3	n/a
Internal Audit	0.3	n/a
Non-college	n/a	59.5