

CFAES

School of Environment and Natural Resources

THE ENVIRONMENTAL AND
SOCIAL SUSTAINABILITY LAB
FY20 ANNUAL REPORT

In partnership with The Sustainability Institute (SI)



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

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The Environmental and Social Sustainability Lab

FY20 Report

LAB MISSION AND GOALS

The Environmental and Social Sustainability (ESS) lab is a collaborative community of scholars working to build scientific understanding of environmental and social sustainability in an interdisciplinary context. Our mission is to support a viable socio-ecological future through applied social science research.

In an effort to promote the ESS Lab as a hub of sustainability research at Ohio State, the goals of the lab are the following:

1. Promote the development, generation, and dissemination of academic research in the field of sustainable behavior
2. Initiate and develop research partnerships with OSU-internal and external collaborators
3. Develop and share research tools and materials for scholars in the sustainability domain and the broader Ohio State community
4. Mentor students and early career researchers in behavioral methods and theories in sustainability
5. Communicate opportunities for sustainable-behavior research, training, and employment

The following sections delineate progress achieved by the ESS Lab on these goals in FY20, as well as plans to further promote the lab's accomplishment of these goals in the future. The majority of this work would not have been possible without the dedicated time of a shared ESS/TWEL postdoctoral scholar, a shared SI/SENH postdoctoral scholar, and two undergraduate research assistants.

FY20 OUTCOMES AND IMPACTS

Goal 1. Promote the development, generation, and dissemination of academic research in the field of sustainable behavior

Research project development: Working with the SI/SENR postdoc and the wider SI community of researchers, the campus-wide team was awarded \$348,726 from the City of Columbus to assess impacts of the Smart Columbus program (see Goal 2 for details). The ESS Lab's role in this project is primarily in the programmatic assessment of residential satisfaction and well-being, as well as any associated changes in travel-related behaviors. At the project level, the lab will also employ intercept surveys to evaluate the use of and satisfaction with Smart Mobility Hubs. Notably in this area, the ESS lab's SuB group (see below) was awarded \$308,117 to fund the Behavioral Energy Conservation (BEC) living lab.

Future Development: The lab manager continues to engage Dr. Adam Zwickle at Michigan State University on the topic of the ASK scale. Future plans include developing a publication that evaluates the revised ASK scale, in order to maintain leadership in this important area. The lab continues to receive regular inquiries regarding the ASK scale, and is currently limited to unpublished suggestions to support the revised scale.

Sustainable Behavior (SuB) working group formation: In the summer of 2018 the ESS Lab introduced the Sustainable Behavior working group (SuB): a collaborative virtual space for facilitating sustainability research across Ohio State. The group aims to share and pursue collaborative research opportunities among a diverse team; current members include over 30 OSU faculty, graduate students, and full-time researchers across various disciplines (e.g., Psychology, Marketing, Economics, Sociology, Anthropology, and Public Policy). ESSL engagement with the SuB group resulted in a large-scale funded project: a campus living lab for research on residential energy conservation (see BEC lab, above).

Future Development: Members of the SuB group are working with SI to develop a close working relationship with Student Life, and to initiate the BEC lab in Fall 2020. Research opportunities and associated resources are continuously being shared with SuB members via listserv.

Goal 2. Initiate and maintain research partnerships with OSU-internal and external collaborators

Research partnership development: During FY20 the ESS Lab initiated several partnerships with OSU-internal and external partners in an effort to promote sponsored research projects and secure future funding for lab operations. Notably, the ESS Lab supported external, locally-focused research with interdisciplinary teams (e.g., Columbus BluePrint, Smart Columbus, and Franklin Soil and Water Conservation District). In FY20, the ESS Lab created and distributed surveys to assess the impacts of the Smart Columbus program, and supported similar assessments for Columbus BluePrint. Additionally, the ESSREP study pool was utilized to give feedback on the structure and wording of one of FSWCD's surveys concerning water quality knowledge and behavior around central Ohio (see [report](#) for detail).

We continued to work with internal partners (FOD, SI, Student Life) on the Campus Sustainability Survey, supporting the assessment of internal OSU objectives and curriculum development. Additionally, we worked with SENR instructors in ENR3500 to develop plans for research-based course assessment, leveraging existing mechanisms within the ESSREP.

To facilitate future partnerships, we developed a pamphlet summarizing the function and uses of the lab. This document may be passed out physically or electronically at conferences, events, etc. to give a concise overview of the lab to those that are unfamiliar.

Future Development: In FY20, we look towards discovering options to consistently fund the campus sustainability survey, as well as identify additional

external collaborations that would yield long-term relationships and funding opportunities.

Goal 3. Develop and share research tools and materials for scholars in the sustainability domain and the broader University community

Lab space: The lab manager continues to manage the five computer workstations in room 231, as well as a workstation in room 316, which provide shared access to numerous analytic software, video-conferencing and audio-recording capabilities, as well as survey processing and storage spaces. In FY20, the Lab space was utilized by over a dozen survey and data analysis projects associated with several different ESS faculty PIs (e.g., Drs. Wilson, Toman, Dietsch, Labao, Mehmood, Bruskotter, and Brooks) and several Sustainability Institute faculty (Drs. G. Akar, E. Irwin, and H. Miller). The space is also regularly used by numerous graduate students, research staff members, and undergraduate RAs associated with said projects. This remains an important shared resource, considering that faculty members and graduate students would have to find alternative locations and resources to call participants, analyze data, process and store paper surveys, and provide training, meeting, and work space for their undergraduate RAs.

Additions to Lab Space: In FY20, the ESS Lab was able to add several months of free access to the software program, Sawtooth, for graduate students and partner projects by leveraging previous investments in the program. During the COVID-19 shelter-in-place order, we arranged remote access to analytic PCs for 5 graduate students to continue thesis and course work, as well as access to recorders for those continuing research via remote interviews with participants. We worked with project PIs, Dr. Wilson and M. Beetstra, to add a WIFI hotspot, a new transcription pedal and transcription software, and one additional copy of MAXQDA to the lab resources, supporting fieldwork and qualitative projects. Finally, we added virtual “lab space” via a Box folder designed specifically for

ESS graduate students, where they can share information on myriad research-related topics, including conferences, funding, coursework, etc.

Future development: In the next fiscal year, efforts will be made to continue to update ESS workstations and software to provide more research opportunities, particularly focused on Undergraduate RAs and Honors student needs.

Student Research Experience (ESSREP) Subject Pool: The ESS Lab continues to offer and improve upon the SENR-based student subject pool, where undergraduate students have to opportunity to participate in research in exchange for class credit. We chose not to run the student pool in the Fall due to a mismatch of researcher goals and expected class participation. We worked to develop projects with graduate students and postdocs via one-on-one meetings and presentations in the research methods course and ESS faculty meetings. In Spring 2020, we ran 9 studies with 11 grads/faculty and provided extra credit and research experience to 480 undergraduate students. In the midst of the COVID-19 crisis, we provided a steady source of extra credit and consistency for undergraduates and instructors, as well as a continuity of research for postdocs and graduate students alike.

Future development: The ESS Lab plans to continue to expand the number of student participants in the subject pool to provide even more opportunities for ESS and SuB-affiliated research, while also streamlining our process. In support of this goal, we may explore the addition of classes from other departments in CFAES (e.g., AEDE, ACES), while offering research opportunities to affiliated faculty. We also began development of the ESSREP as a tool for evaluation of course outcomes for ENR 3500, and continue working with instructors to plan for assessment of community building and learning in Fall 2020 (though these plans may be delayed by COVID-19). This may prove to be a useful application of the ESSREP at a time when studies and participating classes may be low (typically in Fall).

Campus Sustainability Survey: Continuing our data collection reboot starting in 2018, we again deployed the longitudinal, campus-wide sustainability survey in partnership with The Sustainability Institute (SI), the ENGIE-Axium energy partnership, The Office of Student Life, Facilities, Operations, and Development (FOD), and ESS researchers. We added items to support university assessment of goals set by OSU's Interdisciplinary Ecosystem Services Panel, in addition to informing course development goals led by SI. Following distribution to 20,500 Undergraduates by the lab manager in Fall 2019, survey results were again shared with campus partners and lab affiliates in a remotely-led meeting a descriptive report. In Spring of 2020, development then began on the Fall 2020 installment of the annual survey. This survey has and will continue to provide valuable panel data on student's sustainability perceptions, values, and behaviors, as well as inform campus sustainability activities and numerous research efforts.

In January 2020, Dr. Brooks applied for internal funding from OSU Energy Partners, and in April 2020, the lab was awarded \$26,690 in support of the lab manager to continue the Campus Sustainability Survey in Fall 2020.

Future development: Following data collection in the fall of 2020 the ESS Lab team will again create and share a summary report of results and make data available to lab affiliates. We will continue to contribute further to OSU's STARS score and provide data for multiple academic and administrative needs. Additionally, we continue to provide guidance to at least 1 request/month regarding the ASK scale. This remains an area where the ESS lab could provide leadership and innovation, particularly by partnering with institutions like MSU, who have also collected continuous ASK data. This is the one opportunity in the lab where partner funding from the University could be sought to offset the expense of the lab manager.

Goal 4. Mentor students and early career researchers in behavioral methods and theories in sustainability

Undergraduate Research Assistant (RA) Support: The ESS Lab remains committed to providing Undergraduate students with the tools, resources, and guidance needed to develop their social scientific skills. In FY20, the lab served as a work space to undergraduates serving on various projects, such as Columbus BluePrint, Smart Columbus, and others; the lab resources allowed the students to conduct an array of tasks such as interviews, analyses, and response tracking. In particular, we supported the research objectives of Callia Tellez, a Udall Foundation Scholar and distinguished senior award winner on her projects: 1) Researching the Effectiveness of Agricultural Programs- funded by the Great Lakes Restoration Initiative through the U.S. EPA, and 2) Stakeholder Assessment for a HABs Early Warning System- funded by the Great Lakes Observing System. In FY20, we hired two undergraduate RAs to help with various tasks concerning the lab; such as (but not limited to), website updating, the creation of a lab summary, and input and interpretation of data for the Smart Columbus project. In June, URA Mac McCloy completed a summary of ESSREP demographic data, gaining report writing experience while informing past and future researchers using the ESSREP as a data collection method.

Graduate Student Recruitment: The ESS Lab is also invested in attracting the highest level of Graduate talent to SENR. To this end, in FY20 the ESS Lab manager organized one, multi-day group campus visit for 8 prospective students in February 2020. We engaged GradRoots and leveraged their monthly coffee break to allow for wider interaction among grad students and visitors. GradRoots also enabled a wider connection of ESS lab graduate students, resulting in a well-attended happy hour. New for this year, we encouraged open office hours among faculty instead of specific one-on-one meetings, which created a less formal and less stressful atmosphere for the day. We also worked with SENR graduate student coordinator, Taylor White, to move the orientation to the

lunch hour, which shortened the day overall and allowed visitors from other times zones an extra hour in the morning to adjust.

In addition to this coordinated visit, the lab manager provided feedback to Dr. Ard for an earlier prospective student visit in January, and met via Zoom in March with prospective Dr. Sintov students who were unable to make an in-person visit due to COVID-19 related travel restrictions. Overall, these efforts again saved the time of numerous faculty members (as advisers have historically organized the visits of potential students), and connected potential students with the lab at a very early stage in their careers.

Future development: Assuming travel restrictions are lifted, in FY21 the ESS Lab plans to again coordinate group recruitment events for the Spring semester. We will continue to keep records of admission rates and make efforts to improve recruitment events, particularly aimed towards attracting Fellowship nominees. We will also establish more specific guidelines and responsibilities for faculty and the lab manager regarding event planning.

Development of Lab Staff:

Future development: The current lab manager (FY20/21) is a postdoc in SENR supported by multiple funding streams. In the future, we aim to sustain this position in a more permanent capacity, via both internal and external partnerships.

Goal 5. Communicate opportunities for sustainable-behavior research, training, and employment

ESSL website and promotional materials: We are currently engaged in a redesign of the ESS.osu.edu website intended to make information more accessible, both for current members and prospective students or research partners. We updated all recent publications and the project summary page, and clarified the ASK measure page.

Future development: In FY21 the ESS Lab plans to continue improving our website, including posting summaries related to the aforementioned research efforts. We also plan to publish new promotional materials to better communicate the strengths and goals of the lab to potential partners and students.

Lab Communications: In FY20 the ESS Lab was largely focused updating the website and revising ESS summary outreach materials. During that time, the SENR-based ESS Lab community was regularly updated on the resources being developed under Goals 1, 3, and 4, and as well as data available through certain efforts such as the Campus Sustainability Survey. Likewise, affiliated graduate students and faculty were notified throughout the stay-at-home order of research reopening plans related to the lab, as well as remotely available lab resources to enable continued progress on research. Finally, we worked with the Sustainability Institute's outreach team, as well as the SENR communications team to develop news releases promoting the [findings](#) and [existence](#) of the Campus Sustainability Survey.

Future development: Our faculty will continue to plan to develop the most strategic distributions of the lab summary in an attempt to further external relationships as well as secure funding for the lab.



For more information, please contact: ESSI@osu.edu

The ESS Lab is led by the ESS lab steering committee: [Jeremy Brooks](#) (faculty director), [Robyn Wilson](#) and [Nicole Sintov](#) (lab PIs), and [Kristina Slagle](#) (lab manager). Please contact [Atar Herziger](#) with any questions or concerns regarding SuB.

APPENDIX A: Lab Manager Time Allocation FY20 (12mo; 50% FTE)

<i>Goal and task</i>	<i>Percent Time (appx.)</i>
Management of ESS Lab space (rm. 231) and equipment	25%
ESSREP Student Subject Pool development and administration	25%
Annual Campus Sustainability Survey development	25%
Graduate Student Recruitment; outreach and events	15%
ESSL website and promotional material development	10%
Annual total:	100%

APPENDIX B: SENR/SI Post-Doc Time Allocation FY19 (12mo; FT)

<i>Goal and task</i>	<i>Percent Time (appx.)</i>
Internal research projects (SENR)	35%
Partnered research projects (ENGIE, FOD, Smart Columbus)	50%
Campus Sustainability Survey development	5%
Conferences and training	10%
Annual total:	100%