WESTERN WASHINGTON UNIVERSITY
ITEM SUBMITTED TO THE BOARD OF TRUSTEES

TO: Members of the Board of Trustees

FROM: President Sabah Randhawa by Provost Brent Carbajal

DATE: February 9, 2018

SUBJECT: **Annual Sustainability Report**

PURPOSE: Information Item

Purpose of Submittal:

Seth Vidaña, Campus Sustainability Manager, is providing members of the Board of Trustees with the following annual report on Western Washington University's sustainability programs, initiatives, and activities.

2017 Report

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Office of Sustainability

Western Sustainability Report 2017

Preface

The 2017 Western Washington University Sustainability Report highlights the recent forward-thinking initiatives, projects, and advances implemented by departments and programs across the University's campus. This year, Western affirmed its commitment to create a more equitable, environmentally-secure world by establishing its Sustainable Action Plan, which codifies the University's operational strategies, inventive coursework, outreach efforts, and student endeavors in the realm of sustainability. Western was also recognized by the Sierra Club as Washington's top "Cool School" in 2017, an acknowledgement of our ongoing sustainability measures.

This report lists some of the many labors made by Western students, staff, faculty, and friends to progress the cause of sustainability through environmental, economic, and social engagement. The report highlights our progress in four arenas: Academics, Operations, Engagement, and Planning & Administration. These four categories reflect the model set forth by the Sustainability Tracking and Rating System (STARS), a campus sustainability assessment tool created by the Association for the Advancement of Sustainability in Higher Education. Western uses this tool with full understanding of the inherent intersections among these categories, and awareness that all sustainable endeavors require a fully interdisciplinary approach.

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ACADEMICS

Sustainability initiatives in academic curriculum and research can be found in every college at Western. The projects produced in these varied disciplines across campus combine to provide a broad spectrum of knowledge and potential solutions to local and global concerns. Currently, over 100 Western faculty members self-identify as engaged in sustainability teaching, research, or community service. Some academic highlights from the past year include:

- **Western Creates New Mountain Environments Research Institute**
  Western Washington University created a new research center, the Mountain Environments Research Institute (MERI) and named Environmental Sciences Department research faculty member John All as its founding director. The mission of MERI is to develop an inclusive and collaborative research, conservation, and education community through local and international field-based programming to facilitate innovative scientific research, improve life for mountain peoples, foster effective mountain stewardship, and create the next generation of skilled mountain researchers.

  "We're going to take Western students into alpine research environments across Washington and the world," said All. "Mountain environments are changing quickly as the global climate warms. Fragile indicator environments like the world's mountain environments are among the first to be impacted by climate change."

  Courses offered through MERI will include Introduction to Mountain Research and Mountain Permaculture Science, which will examine long-term, small-scale sustainable production and ecosystem health in the mountains. MERI also hosted a study abroad program in the Andes in Peru's Cordillera Blanca Mountains, featuring five weeks of backpacking and research.

  MERI also began laying the groundwork for a Mountain Research Skills Certificate Program. After multiple surveys revealed a strong interest among students in mountain research courses, MERI faculty will create this certificate to provide the skills to conduct research in mountain environments as well as foster stewardship within the region's communities.

  Besides All, faculty in MERI come from disciplines across the Western's campus, including the departments of Anthropology, Biology, Environmental Science, Environmental Studies, Geology, Recreation, and the Fairhaven College of Interdisciplinary Studies. Their research interests and areas of expertise cover everything from how black carbon molecules and snow algae are helping melt glaciers in the Andes to how land use is impacting climate change in the Himalaya.

- **A Western Graduate Student and Professor Monitor the Health of Padilla Bay Using Drones**
  Western Washington University graduate student Jefferson Emm and Professor of Environmental Science David Wallin spent the summer of 2017 using a pair of unmanned aerial vehicles to complete a census of the eelgrass beds in Skagit County's Padilla Bay.

  Healthy eelgrass beds are vital nursery habitat for a variety of ecologically and commercially important fish and shellfish species such as herring, salmon and Dungeness crab. Padilla Bay, one of twenty-nine waterways in the

country's National Estuarine Research Reserve system, is the largest contiguous eelgrass meadow in the country south of Alaska and the second-largest on the entire West Coast.

Mapping eelgrass beds has largely in the past been done by aerial imagery taken from manned aircraft or via satellites, but this project is the first to use unmanned aircraft systems (also called UAVs or "drones") to conduct an eelgrass census, and Emm said part of the draw to attempt this project wasn't just the importance of the data, but it was the novel way being employed to get that information.

Understanding how the invasive eelgrass species is competing with – or coexisting with – the native species is a huge part of what they hope to find out, said Wallin. "The invasive species, japonica, tends to live in shallower water than its native cousin," he said. "But there is some overlap, and we are trying to understand how the two are working together."

Wallin's research has heretofore been as a terrestrial ecologist, but he is trying to find more applications for UAS to do remote sensing of populations that might not be as easily discoverable or accurately counted without the eyes in the sky. He worked with the U.S. Geological Survey using a UAS to seek out and count the Skagit County elk herd, for example, but this is the first time he has literally set up his office in knee-deep water more than a mile out into a bay.

"There is a bit of a "perfect storm' which makes Padilla Bay a great place for this research. It's quite shallow, with a relatively solid bottom, which allows us to access the vast expanses of eelgrass, by foot, during extremely low tides in summer months during daylight hours," said Emm.

- **Huxley's Marco Hatch Conducted Field Work in the San Juan Islands**
  Last summer, Western Washington University Assistant Professor of Environmental Science Marco Hatch took to the islands of the Pacific Northwest to study clam gardens.

  Clam gardens are terraced in order to create ideal conditions, similarly to how farmers terrace hills to grow more grapes. "Clam gardens are intertidal areas that indigenous peoples of the Pacific Northwest have historically cultivated to harvest shellfish," said Hatch.

  Hatch said he became interested in clam gardens while living and working with his tribe, the Samish Indian Nation, and studying traditional indigenous resource management. In his study, Hatch is comparing beaches that are actively managed by Coast Salish people to those that are unmanaged, to understand how active management may increase clam productivity. Specifically, he and his students looked at the mechanisms of indigenous management through physical changes in beach sediment, geochemistry, and clam recruitment. Research has shown that clam gardens have increased clam density and growth rate compared to unmanaged beaches which leads to indigenous communities having greater access to food.

  Hatch's research is unique because his team spent half their time in the field collecting samples and the other half working with local communities. This research is part of a partnership between NWIC and Western called PAGE - Partnerships in Geoscience Education - funded by a five-year $1.65 million National Science Foundation grant. This partnership also provides funding for NWIC graduates to pursue a master's degree in Environmental Science.

New Courses Offered in the 2017-2018 Academic Year

Western continues to develop new courses that investigate how to sustainably approach critical social, environmental, and economic challenges. Some of the new courses that Western students are offered in 2017 include:

- A/HI 348 - Art and Ecology: This cross-disciplinary course examines how our natural environment is conceptualized in art, science, and media. Through lectures, collaborative projects and experiential learning, students engage with historic debates associated with discoveries in natural science and current controversies on climate change, ecology and biodiversity.

- AMST - 410 Advanced Seminar in Critical Race Feminist and Queer Studies: An advanced investigation of contemporary scholarship at the intersections of critical ethnic studies, feminist studies, and queer studies. Topics engage questions of colonialism, slavery, migration, globalization, empire, militarism, solidarity, and justice through emergent and historical frameworks.

- BIOL 194 - Ecology of Local Marine Habitats: An examination of environmental and biological factors that affect the distribution, abundance, and diversity of marine organisms, using local marine habitats to examine ecological patterns.

- BIOL 423 - Environmental Genomics: An introduction to the fields of computational biology and bioinformatics for the purposes of analyzing environmental genomic data. Students will gain a conceptual understanding of the state of the fields, power and limitation of analytical tools, a practical understanding of the data analysis, and an experience posing and testing hypothesis on existing large data sets.

- ENRG 320 - Science of Energy Resources: An overview of energy resources and processes within a unified physical framework. Addresses traditional and renewable resources including fossil fuels, nuclear, wind, solar, hydroelectric, geothermal, and biofuels. Systems-level issues such as efficiency, transmission, and reliability are also covered.

- ENRG 354 - Energy in American History: An exploration of the uses and meanings of energy in American history. Topics include development of and transitions between different energy regimes; relations between energy producers and communities; energy and American foreign policy; and social, cultural, and environmental changes linked to changing patterns of energy production and consumption. Also offered as HIST 354.

- ENRG 420 - Advanced Energy Science: A quantitative analysis of energy resources and processes within a unified physical framework. Covers traditional and renewable resources including fossil fuels, nuclear, wind, solar, hydroelectric, geothermal, and biofuels. Energy processes covered include electricity generation and energy storage in batteries and fuel cells. Systems-level issues such as efficiency, transmission, and reliability are also analyzed.

- ENVS 355 - Environmental Law and Policy: Environmental law and policy provide tools to prevent and address environmental harm. Explore, analyze, and critique policy tools and processes relating to air and water quality, hazardous wastes, and species protection.

- ENVS 563 - Native American Planning and Natural Resources Management: A survey of political and jurisdictional considerations, treaty rights, and social and environmental conditions and conflicts facing tribal communities in their pursuit of self-governance. Consideration of the effects of historic federal Indian policy, court rulings, and off-reservation treaty rights in regional planning. Evaluation of effective approaches toward encouraging intergovernmental cooperation in sustainable natural resources management.

- ESCI 307 - Topics in Environmental Science: In this is a variable credit, self-paced, independent study course, students study, analyze, and write about topics selected from five subject areas. For each credit, students first write a detailed outline; after outline approval and advisement, a final paper is written. Academic credit is earned as follows: one credit for each approved outline and final paper written, submitted, and graded.

- ESCI 308 - Writing in Environmental Science: A variable credit, non-repeatable, writing proficiency, self-paced, independent study course. Students earn from one to three academic credits through personal study and writing about topics selected from five possible subject areas. For each writing proficiency credit, students first write a detailed outline; after outline approval, a draft paper is written; and, upon approval of a draft paper, a final paper is written.

- ESCI 465 - Plant and Soil Interactions: The interactions between plants and their soil environments determine many above-ground ecological patterns and processes. In this class, we will examine soil as an ecosystem that supports plant growth by exploring how the physical, chemical, and biological components of soil interact to control plants' access to oxygen, water, and nutrients.

- SPED 462 - Teaching for Learning, Motivation, and Achievement in a Diverse Society: This course focuses on teaching to improve the attention, memory, motivation, mindset and self-monitoring in a diverse classroom. Focus of the course is on the application of strategy instruction, academic vocabulary instruction, study skills instruction, assistive technology and current best practice in designing and delivering powerful interventions for learning in an inclusionary setting. Additional emphasis is placed on understanding the impact of a teacher's mindset, beliefs, and dispositions, especially in relation to culture, disability, and ethnicity, on potential student learning outcomes.

- WGSS 350 - Feminist and Queer Methodologies: This course examines feminist and queer methodologies in the social sciences and humanities.

- WGSS 356 - Gender and History: This course surveys how historians approach the topic of gender and how the discipline of Gender Studies has altered the way professionals study history. Rather than focusing on a particular region or era, this course examines how notions of femininity, masculinity, and the relationships between the two have changed and endured across different temporal and spatial contexts. Students will learn about the development of gender as a category of historical analysis, the growth of interdisciplinary approaches to gender in and out of academe, and current approaches to both gendering history and historicizing gender. Also offered as HIST 356.

Huxley College Adds New Program of Study in Business & Sustainability

Business & Sustainability — Energy Studies Concentration, BA. This degree in Business & Sustainability, which is offered jointly with the Huxley College of the Environment, is designed to combine business practices with the principles of sustainability. The transition to a more sustainable energy system is a key to reconciling our economic and environmental aspirations. The energy concentration in the Business & Sustainability major gives graduates a strong blend of analytic and communication skills, along with energy-related expertise that industry and government experts have identified as essential to workforce needs in the emerging energy economy.

University-wide Educational Lectures in 2017

Every year, the Huxley College Speaker Series brings guest lecturers to campus to address topics of contemporary environmental concerns in the region and beyond. The Huxley College Speaker Series in 2017 included:

- Christine Biermann delivered her talk, “Securing Forests from the Scourge of Blight: Nature, Nation, and the American Chestnut.”

- Bill Moyer provided his talk, “Solutionary Rail: A People-Powered Campaign to Electrify America's Railroads and Open Corridors to a Clean Energy Future.”

- Dr. Peter Robinson presented “The End of the Baby Boom and the Future of Environmentalism.”

- Dr. Mitchell Thomashow, the author of three influential books, "Ecological Identity," "Bringing the Biosphere Home," and "The Nine Elements of a Sustainable Future", spoke on the future of environmental learning.

- George Lakey, co-founder Earth Quaker Action Team, delivered his talk, "Climate Action and the Struggle for Economic Justice."

- Kimberly Larson, Director of Communications and Marketing for Climate Solutions, gave a talk titled “It’s Okay to Talk about Global Warming: Effectively Communicating about Climate in a Heated Climate.”

- Larry Chexanexwh and Ellie (Solomon) Tah Mahs Kinley, Lummi Nation community leaders and life-long fishers, reflected on changes of the Salish Sea and the importance of inter-generational transfer of knowledge.

- Eric C. Munscher, a Research Ecologist with SWCA Environmental Consultants, discussed “Turtle Survival: The Plight of the World’s Turtle Species. What has happened? What is happening?”

- Dr. Sarah E. Myhre, a scientist, activist, and public communicator who investigates and publishes on the paleoceanographic history of the Pacific Ocean, spoke on “Women, Science, and the Trump Administration.”

- Grace Wang spoke about “What Influences Public Land Managers? An Analysis of BLM Decision Makers.”

- Kelly McAllister of the Washington State Department of Transportation gave a talk titled, “Balancing Washington’s Transportation Needs with Stewardship of Natural Resources.”

- Chris James of the Regulatory Assistance Project delivered a talk titled, “After Paris Withdrawal by U.S., Will China Lead? What Does This Mean for Actions by U.S. States and Other Subnational Jurisdictions?”

The World Issues Forum at the Fairhaven College of Interdisciplinary Studies brought a variety of thought-provoking discussions to Western in 2017 to encourage an informed and engaged global citizenry. World Issues Forum Speakers in the past year included:

- Standing Rock and the Media: The Standing Rock movement has become historic not only in its size and message, but in how that message was delivered. This is the first time in history that Native American people took control of their own narrative using such a massive medium as social media. Jason Begay, an associate professor at the University of Montana where he teaches the Native News Honors Project, gave the talk.

- Transforming Outlooks and Forms of Resistance: Palestinian Public Opinion Two Decades After the Oslo Accords. Dr. Karam Dana, a Palestinian-American academic and Assistant Professor of Middle East and Islamic Studies at the University of Washington Bothell, shared his research on elite politics in Palestinian society in the 1920s and 1930s, and contemporary Palestinian public opinion.

- Development through Design: Kai Wood Mah, a registered architect, design historian, and professor, and Patrick Lynn Rivers, a political scientist and professor at a leading school of art and design, shared how design and social science can together advance a more progressive international development agenda.

- Why History Matters: Race and National Identity: reflected on the importance of history in the era of partisan political polarization and "fake news." Peter S. Onuf, Thomas Jefferson Foundation Professor of History Emeritus, University of Virginia, discussed how better understanding the past's complexity can reveal who we have been, who we are, and who we are becoming.

- Migrants, Refugees, and Citizens: Some Hard Questions for Immigration Policy: A discussion with Hiroshi Motomura, the Susan Westerberg Prager Professor of Law at the UCLA School of Law, author of two award-winning books, and founding director of the Rocky Mountain Immigrant Advocacy Network.

- Human Rights in Mexico: How U.S. Policies affect State Violence, Militarization, and Displacement: Roberto Mendoza Pérez, a rural indigenous community organizer from the Red Nacional de Defensoras de Derechos Humanos en Mexico, provided the talk on Mexico's issues that stem from U.S. border policies.

Operations

Western strives to be at the forefront of renewable energy use, conservation, and green-building in the Higher Education field. The University's physical throughput includes energy and water use, CO2 and solid waste production, transportation, green building, and other aspects that contribute to the university's physical footprint. 2017 operational highlights of the University's sustainability efforts in these measures include:

- **Western wins EPA's ENERGY STAR National Building Competition Top Energy Savings – College/University**

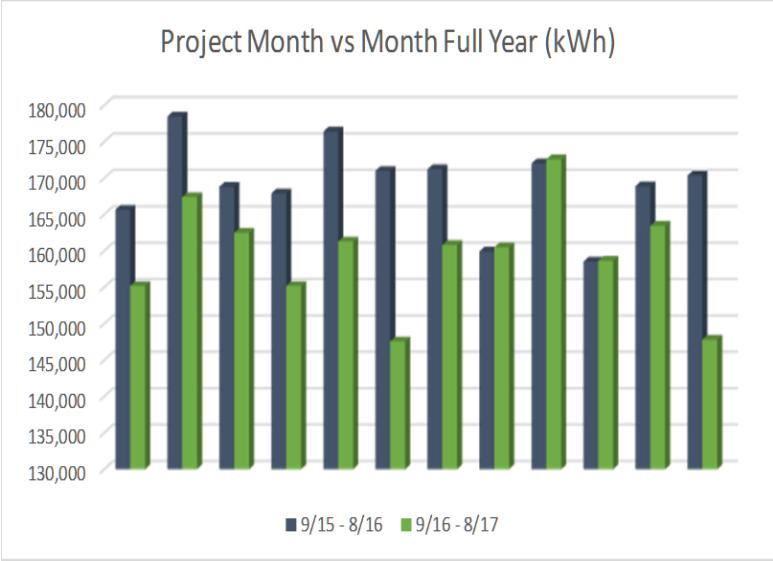
Western Washington University won the EPA's ENERGY STAR National Building Competition in the category of Top Energy Savings – College/University for upgrades to the Biology building (86 total college/university buildings). Overall, WWU placed 11th out of more than 800 total properties in the competition. All colleges/universities in Washington are required to submit data of their energy use through the Department of Enterprise Services. A representative from DES insisted Western enter the competition based on data they noticed from our Biology building.

Two distinct projects contributed to this award. Wind assisted exhaust fans were implemented in the ventilation stacks to both increase efficiency and reduce the need for energy to maintain air quality. Separately, fans called air handlers (which control conditions of the entire building, including air pressure) were programmed to work more efficiently. They do this by balancing the workload more evenly, rather than having one fan always running at high capacity and the other at low capacity till needed. Functioning for optimal energy use, both fans now run at medium/low capacities together.

Western originally estimated saving around $21K per year ($17K from electricity and $4K from natural gas). Actual savings were $24, 942.34 (approximately $20,600 from electricity). In total, this saved 319,800 kWh across the two major projects, wind and fan reprogramming. These savings are expected to continue annually.

- **University Energy Report Reveals Improved Conservation Success**

  In 2017, campus saw a continuing downward trend of electricity and natural gas use. Over the past five years, electricity use has decreased at annual rate of 2.2% per year and natural gas at an annual rate of 1.9% per year. Energy conservation projects in Biology and the Steam Plant contributed to this result and were together awarded a $202k grant through Puget Sound Energy's (PSE) rebate program. Overall energy conservation on campus over the last three years was also recognized through a Resource Conservation Manager performance grant of $43k. From the signing of the President's Climate Commitment in 2010, accumulative savings to Western from all conservation programs total over $1 million dollars.



- **Western Partners with PSE on Green Direct Renewable Energy Program**

  In 2017 Western Washington University finalized its agreement with Puget Sound Energy to join the Green Direct Renewable Energy Program, a ground-breaking program where customers, in an effort to use energy that meets their financial and carbon reduction goals, have agreed to a long-term service agreement in order to make this project viable. This innovative program recently was approved by the Washington Utilities and Transportation Commission (UTC). Once complete, the project would produce enough renewable energy to power nearly 30,000 Washington homes.

  "Western has long been recognized for leadership and innovation in environmental education, but we're equally committed to 'walking our talk' outside of the classroom as well, in terms of how our operations and energy usage impact the environment. We're proud to support the Green Direct program and deepen our commitment to sustainable operations in a really meaningful, concrete way," said Western President Sabah Randhawa.

  For the past decade, Western has annually offset 100 percent of its electrical consumption from green sources via purchases of renewable energy credits (RECs). The purchase of RECs make wind power production more lucrative and act as a potential incentive for further investment in wind farms. However, the direct connection between REC purchases and creation of new wind resources has been criticized.

  "Our agreement with PSE will ensure that Western's investments contribute directly to new renewables coming online," said Seth Vidana, Sustainability Manager with Western's Office of Sustainability. "I can't wait to see the Western logo on a wind turbine; there's no doubt that our dollars will have made it possible."

- **Three Western Offices Obtain Sustainability Certification**

  Western's Office of Sustainability offers Sustainable Office Certification to reduce costs, protect the environment, conserve resources, and promote fairness, safety, and health. The program provides a simple way of measuring sustainability efforts that happen at the office level. Participating offices are recognized for their level of achievement, as a way of showing thanks and appreciation for measurement of work well done.

  Four offices were recognized in 2017. The President's Office, the Associated Students organization, the Chemistry Department, and Science, Mathematics, and Technology Education were each acknowledged for their commitment to sustainability. Their efforts make the entire University more sustainable.

Engagement

Western's operational and academic sustainability endeavors are initiated and developed through goal-setting, collaboration with administration, and outreach to students, staff, faculty, and the greater Bellingham community. Ultimately, this civic engagement is at the center of all of the University's conservation efforts. 2017 highlights in this area include:

- **Climate Change, Snowmelt, and Salmon: Western Faculty Seeks to Save a Pacific Northwest Icon**
  Jim Helfield is in a race against time, and he knows it. Helfield, an associate professor of Environmental Science at Western Washington University, is researching ways improve the habitat for spring- and summer-run Chinook salmon on the South Fork of Whatcom County's Nooksack River. Also known as king salmon, Chinook are the largest Pacific salmon species, growing to sizes upwards of 100 pounds in some rivers.

  In conjunction with colleagues in the Nooksack Tribe, Helfield is measuring how large, engineered logjams, placed systematically up and down the South Fork, change the river's topography and form deep pools for the Chinook to rest and shelter in on their way to their breeding grounds upstream.

  "These summer-run Chinook already have a tough task ahead of them," Helfield said. "They enter the river at a time when its flows are at their lowest and its temperatures are at their highest. When temperatures get above 16 degrees Celsius or so (about 60 degrees Fahrenheit), they really start having a tough time and mortality rates jump. So we are trying to build these deep pools for them to rest in and sort of leapfrog their way upstream."

  Fisheries biologists with the tribe have built scores of the large logjams, and more are planned. Helfield plants temperature loggers each summer to gather temperature data above, below and in the pools; checks the temperatures to see if the river's action of scouring the pools is also causing an upwelling of cool, beneficial groundwater through a process called hyporheic exchange; and just as importantly, also surveys to see how or if the logjams are being used by Chinook and other salmonids.

  So far, the results are very positive. But this is where the race against time comes in: water temperatures on the South Fork are only going to get higher. Unlike the North Fork and Middle Fork of the river, which are fed by glaciers from Mount Baker and Mount Shuksan, the South Fork is fed entirely by snowfields from the Twin Sisters, a massive slab of upthrust rock separated from Mount Baker by the Middle Fork valley.

  And according to research by Helfield's colleague Robert Mitchell, a professor of Geology at Western who specializes in watershed hydrology and numerical modeling, the planet's rapidly climbing temperatures will in all probability mean far less snow in those snowfields, and thus higher summer water temperatures and lower stream levels.

- **Western and Northwest Indian College Co-Hosted Columbia River Treaty Symposium**
  Western Washington University and Northwest Indian College co-hosted a symposium, "The Changing Environment and The Columbia River Treaty." The symposium brought together lead negotiators from the United States and representative from Canada, Tribal and First Nations leaders, government representatives, non-government organizations, academics, and members of private industry from across the Columbia Basin to address the modernization of the Columbia River Treaty.

The Columbia River Treaty is a 1964 agreement between Canada and the United States on the development and operation of dams throughout the Columbia River Basin for power and flood control benefits in both countries. Aspects of the Treaty are set to expire in 2024. While the dams have provided enormous economic benefits to British Columbia and the U.S. Pacific Northwest through hydroelectric generation and flood control, there are longstanding concerns regarding the effects on local communities and the environment. In the process of modernizing the CRT, there is widespread agreement that First Nations and Tribes, as well as provisions about fish and other ecosystem impacts, must be include in the discussion as they are absent in the original treaty. Climate Change has also added a new dimension to the management of the river.

The symposium was co-sponsored by Northwest Indian College's Native Environmental Science program and Western's Border Policy Research Institute, Huxley College of the Environment, and Institute for Energy Studies.

- **Skagit County Signs Sustainable Communities Partnership with Western**

During the 2017-18 academic year, Western Washington University students and faculty will assist Skagit County staff on a range of projects – such as developing recommendations on county setbacks, determining locations of abandoned septic systems, writing a community plan for Edison, developing and executing a public opinion survey on land use policy issues and making recommendations for proper disposal of junk that has collected in the county.

This is part of Western's Sustainable Communities Partnership (SCP), housed in the WWU Office of Sustainability, which focuses the energy and ideas of WWU faculty and students upon the issues that communities face as our society transitions to a more sustainable future. SCP partners with communities during the academic year, facilitating a program in which many Western courses complete service-learning projects that address problems identified by the partner.

"This is a great opportunity for Western students, through their coursework, to gain real-world municipal problem-solving. While students may lack in experience, they often provide innovative ideas and creativity to solve sustainability issues," said Grace Wang, WWU professor of Environmental Studies and academic program director for Sustainability.

Ryan Walters, assistant director, Skagit County Planning and Development Services, said that, "Skagit County is looking forward to this program not just to accomplish several important projects that we've not been able to get to, but also to continue our longstanding partnership with WWU. Skagit County has a history of productive internships with Western students, many of whom have gone on to obtain jobs with the County."

The Association of Washington Cities and Western launched the Sustainable Cities Partnership in 2016 in Edmonds, based on a successful model pioneered at the University of Oregon seven years ago and now replicated in dozens of sites around the country. The partnership paired students and faculty together with Edmonds to work on city-defined projects. A similar partnership between Western and the City of Stanwood also is planned for this year.

- **Western's David Shull Gathers Data on the Health of Bellingham Bay**
  Western Washington University Professor of Environmental Science David Shull will work alongside the Washington Department of Ecology this summer to sample from twenty-five sites in Bellingham Bay, the beginning of a multi-year process to attempt to answer one question: How is Puget Sound changing?

  "We know a couple of things are happening that aren't good for the health of the Sound," said Shull. "For example, we know that nitrogen levels are rising, and we know at the same time that levels of important animals on the sea floor, like clams, worms, and crustaceans, are dropping. What we don't know is why – and how these two questions are intertwined. But that's hopefully what we're going to start to find out this summer."

  Rising nitrogen levels are a concern to oceanographers like Shull because the chemical acts as fertilizer for many kinds of algae, and large blooms from these species can tip the balance of the Sound's food web in many ways, from altering its chemistry to reducing delivery to the seafloor of the food that the bottom-dwelling organisms need.

  Shull will take core samples from the bottom sediment at the sites and analyze them to better understand what chemical reactions are occurring there, how much food is making its way to the bottom, and how this information points to other impacts such as rising ocean acidification.

  Shull will work alongside Washington Department of Ecology scientists aboard the department's research vessel the Skookum, and while Shull will be focused on chemistry and core sampling of sediments, Ecology will work to gather baseline data on the tiny animals that live there.

Planning and Administration

- **Western Washington University Releases Sustainability Action Plan**
  Western Washington University has released its Sustainability Action Plan, which will serve as the university's roadmap for protecting local and global ecology, upholding social equity, creating economic vitality, and maintaining human health.

  "The completion of the Sustainability Action Plan is a milestone in Western's commitment to sustainability. It not only advances a vision for how all members of the Western community can embrace and implement sustainable practices, it expands our thinking about how sustainability is connected to other important Western values, including social justice," said Western President Sabah Randhawa, who approved the plan in October 2017

  "I am grateful for the commitment, passion, and hope that so many invested in the creation of this document and look forward to the seeing the campus community work together to implement this aspirational vision," Randhawa said.

  The Sustainability Action Plan infuses sustainable practices throughout campus, including academics; campus and community engagement; operations; and planning and administration.

Since January 2014, the Campus Sustainability Advisory Committee has been charged with creating the Sustainability Action Plan. Their efforts were extensive, with ten committees that included 150 members, and actionable feedback from thirty-five campus departments, committees, student clubs, and off-campus partners. The Committee is now working to implement the plan, promote climate neutrality, and infuse sustainability across the curriculum.

Steve Hollenhorst, dean of Huxley College of the Environment, and co-chair of the Sustainability Advisory Committee, which provided guidance on development of the plan, said the intent is to enhance the wellbeing of the campus and region. “This plan will create a more sustainable Western, and more sustainable Salish Sea,” Hollenhorst said.

John Furman, director of Facilities Management and the other co-chair of the committee, noted that Western already follows many sustainable practices in its operations. "Sustainability is part of Western’s fabric,” Furman said.

- **University Backs Initiative on Climate Change, Commits to uphold Tenets of Historic Paris**
  Western Washington University President Sabah Randhawa signed an open letter to the international community in support of the Paris Climate Agreement and to endorse local, state and governmental action on climate change and carbon reduction. Randhawa joined more than 180 other university presidents, 125 mayors, nine governors and almost 1,000 businesses in signing the Grand Coalition Statement on the Paris Agreement.

  "Joining the coalition of institutions and organizations committed to upholding the goals of the Paris Climate Accord is an opportunity to express one of Western's deepest commitments. Environmental stewardship and responsibility has long been a core value of Western's academic excellence, community, and physical operations,” said Randhawa. “We are proud to be in the company of those who are committed to holding themselves to these critically important standards."

- **Western Takes Top Spot in Washington in Sierra Club’s 2017 “Cool Schools” Sustainability Rankings**
  Western Washington University placed 29th nationally and claimed the top spot in Washington State on the 2017 Cool Schools sustainability rankings done annually by the Sierra Club.

  The Cool Schools list ranks participating institutions based on data in categories ranging from energy use, investments, food, innovation, and academics to planning, purchasing, transportation, water and waste. Western not only finished as the top school in the state, but is also the second-highest public institution in the entire Pacific Northwest – the states of Washington, Oregon, Idaho, Montana, and Alaska – behind only Oregon State University.

  “It’s an honor for us to be included in the Cool Schools list, because Western’s commitment to sustainability is integrated throughout so much of what we do and who we are. ‘Walking our talk’ when it comes to sustainability is deeply important to our campus community, and we are always looking for ways to improve in that regard,” said WWU President Sabah Randhawa. “Beyond outstanding academic opportunities in our Huxley College of the Environment, or interdisciplinary programs like our Institute for Energy Studies, sustainability at Western is about finding ways to be more intentional and aware of our environmental impact.”

  Western’s placement in the rankings was fueled by a host of initiatives on campus, such as being the first university in the nation to have its students impose a green-energy fee to pay for it becoming 100 percent powered by renewable energy; its academic focus on sustainability and innovation across its curricula; and student-centered efforts on campus on recycling, waste, and alternative transportation. The University’s efforts placed it ahead of such notable institutions as Stanford, Princeton, Vanderbilt, and Duke.

- **Western Partners with Department of the Interior and Four Regional Universities on New Northwest Climate Science Center**
  Western Washington University is one of five regional schools to partner with the U.S. Department of the Interior on its Northwest Climate Science Center; the University of Washington will host the center on its campus, and Boise State University, the University of Montana and Washington State University, along with Western, are the member institutions in the consortium.

  These five universities were selected as the CSC host and consortium partners after an open competition and extensive review by scientific experts. They will work as part of the collaborative network that defines the Northwest CSC. This includes working closely with federal, state and tribal entities, including those responsible for managing and protecting the land, water and natural resources of the Northwest, to develop actionable climate science and decision support tools.

  Western's efforts with the center will be led by John Rybczyk, professor of Environmental Science and current Environmental Science department chair. Rybczyk will serve on the center's leadership team, and has been involved in the effort to being the center to the Pacific Northwest since its start

- **Sustainable Action Fund Grant Awards in 2017**
  Western's Sustainable Action Fund Program had a successful 2017, increasing outreach, funding student proposals, and improving our campus and community's sustainability, inclusivity, and fairness. Over four-hundred students participated in Sustainable Action Fund activities throughout the year, and thousands more were impacted by the successful projects designed and implemented by their peers. Projects grants that were awarded or completed in 2017 are listed below.

  Large Grants of over $5,000 were awarded to create these projects:
  - A Change in Course - The Office of Sustainability, AS Environmental and Sustainability Programs, and the AS Social Issues Resource Center held "A Change of Course - How We Inhabit the Earth." The event featured a panel discussion that explored various types of activism around the themes of environmental justice and social sustainability – the different ways people inhabit their world and advocate for what they believe in – a healthier planet and people. Each of the five panelists work for environmental justice, have revealed grit and perseverance in the face of huge environmental problems, and through the workshops and the panel inspired attendees to do the same.

  - EV charging Stations – After a year of research, a team of three Western students received approval of an SAF grant to purchase and install electric vehicle charging stations on Western's campus, a first for the University. By bringing EV charging stations to campus, the students hope to reduce greenhouse gas emissions from cars by building the infrastructure necessary for a transition from gas-powered vehicles to EVs. These stations will be open to the entire Western community, including students, faculty, guests, and the public.

- Dr. John Francis - The Environmental and Sustainability Programs brought Dr. John Francis, the Planetwalker, to Western for Earth Day 2017. Dr, Francis is a United Nations Environment Program's Goodwill Ambassador to the World's Grassroots Communities and visiting associate professor at the Gaylord Nelson Institute for Environmental Studies, at University of Wisconsin-Madison. The day consisted of a series of speakers and interactive engagement amongst the audience, of which John Francis was the keynote speaker. The theme was "Turning Empathy Into Action", and Dr. Francis concluded the evening by leading a silent walk downtown.

Small Grants, up to $5,000, were awarded to facilitate these activities:

- Another Food system is Possible - This event featured a four-speaker panel discussing will the future of our food system and how it is envisioned by local farmworkers. Speakers included the leader of Familias Unidas por la Justicia, a member of Community to Community Development, and Dr. Michael Dorsey, a former member of the U.S. Environmental Protection Agency's National Advisory Committee.

- Clothing Consciousness - The Clothing Consciousness project taught people at Western Washington University about the environmental and social impacts of the "fast fashion" industry. The 2017 event featured a workshop and speaking session with textile-industry activist Frau Fiber.

- Community Ambassadors - This pilot project placed Western students in community gardens and farms to work and study in the local sustainable food network and build capacity for sustainable campus-community connections.

- Microadventures - This novel program offered microadventures for a diverse group of Western students to teach them about sustainable travel and how to become eco-friendly travelers.

- Real Food Challenge West - Western's Students for Sustainable Food club hosted a campus intensive for students from the Pacific Northwest to collaborate on the Real Food Challenge implementation at Western and other universities.

- Take Back the Night - This annual march from campus to downtown Bellingham, presented by the Women's Council, raised awareness about the crucial issues of sexual assault/violence and safety within our community.

Summary

Western Washington University developed valuable innovations, advanced meaningful collaborations, and introduced new program to the University's sustainability efforts in 2017. In league with staff, faculty, students and the Bellingham community, Western progressed its vision of a more interconnected, resilient, and viable global community. These efforts will continue in 2018 as the University strives to build an equitable, just, sustainable future.