As part of the West Virginia University Board of Governor's Rule 2.2 Program Review process, the WVU Provost's Office required that a single Program Review Self-Study Form be completed on behalf of all identified programs in the department or unit. This Program Review Self-Study Form was to be submitted to the Provost's Office by end of day on August 1, 2023. The Provost's Office reviewed the submitted Program Review Self-Study Forms in early August.

Self-Study content is unvetted by the Provost's Office. As such, the WVU Provost's Office cannot attest to the accuracy of any data, analyses, or statements provided within. Also, redactions were made where warranted for the protection of individual identities around sensitive information.

Q1.1.
BOG Program Review Self-Study Form

This is the self-study form that will be completed in support of the summer 2023 academic transformation program portfolio review.

Only one program review self-study is to be submitted per unit; all of the unit's *programs* will be covered by one self-study.

Q1.2. Select the appropriate academic unit under review.

College	Davis College of Agriculture, Natural Resources, and Design
Department or School	Resource Economics and Management

Q1.3. List all of the unit's programs.

Example:

BA Biology
BS Biology
MS Biology
PhD Biology

B.S. Resource Management – majors of Agribusiness Management, Environmental and Energy Resources Management, and Environmental and Natural Resource Economics M.S. Energy Environments M.S. Resource Economics and Management Ph.D. Resource Management and Sustainable Development – areas of emphasis are Natural Resource Economics and Resource Management

Q1.4. Name and Email of the person completing the self-study

Name	Alan Collins
Email Address	alan.collins@mail.wvu.edu

Q1.5. How were faculty given the opportunity to contribute to, review and provide feedback on this self-study?

July 11 – Faculty were informed of self-study along with the Academic Transformation Public Data Table. July 12 – Director met with undergraduate and graduate coordinators to get their input and assistance in materials to be used in self-study responses. July 14-19 – Proposed program changes sent around by email with subsequent email discussions among the faculty occurring thereafter. July 20 – Draft responses for REM self-study were distributed to faculty by the Director for a five-day response period (through July 25). Faculty feedback was accepted via the online comment form or direct email reply to the Director. All REM faculty provided feedback. July 28 – A zoom meeting for REM Faculty was set up to receive comments and a second draft was distributed for final comments prior to July 31..

Q2.1. Explain how the unit and its programs contributes to WVU's mission.

This response is limited to 7500 characters, approximately 2 single spaced pages.

The Division of Resource Economics and Management (REM) maintains research, teaching, and service missions within the disciplines of agribusiness and the applied economics field of environmental and natural resource economics offering both undergraduate and graduate degree programs. REM's mission is to provide innovation and leadership to better understand the tradeoffs that occur between interdependent community, economic and natural systems. As part of this leadership, REM offers a diverse and inclusive culture, starting by its faculty composition, allowing for diverse perspectives to be shared in the classroom and impacting the sense of belonging for students of various backgrounds. The three undergraduate majors are (1) Agribusiness Management (AGBM), (2) Environmental and Energy Resources Management (EERM), and (3) Environmental and Natural Resource Economics (ENRE). These majors fall under a B.S. in Resource Management. These majors display the range and depth of expertise within REM faculty. The AGBM major provides the necessary tools to access relevant to in-demand jobs in agribusiness, farm management, and general business for firms of all sizes, as well as the opportunity to contribute to transforming West Virginia through entrepreneurial pursuits. This major prepares students for national and international careers in agribusiness. Students learn an applied approach to economics and management. This major promotes prosperity for all by providing access to education for managing agricultural businesses in WV, a state where the food and agriculture sectors generate $800 million and 98% of farms are considered small farms by the WVDA . The AGBM major is a fundamental and indispensable component of the educational portfolio of land grant institutions across the country. This major is especially important in West Virginia. Many students with agricultural or natural resource backgrounds want to remain in West Virginia and REM provides the tools for students to find jobs or start businesses in WV which provides prosperity for all. The EERM major provides access to education relevant to in-demand and high-growth jobs in environmentally focused occupations and energy occupations . Many of these occupations are located here in West Virginia thereby educating students who want to remain in the state contributes to economic growth within the state. West Virginia is a top-5 energy producing state so that energy related majors are necessary to fulfil WV's land grant mission of prosperity for all by supporting economic development in WV, providing graduates access and opportunity to careers in the energy industry, and enhancing WVU's role leading energy transformation in West Virginia. EERM contributes to WVU's mission of advancing prosperity for all by providing education that yields students prepared to manage WV's energy, natural, and environmental resources. The field of environmental and resource economics includes a variety of topics related to environmental externalities and natural resource utilization. Environmental externalities arise when market transactions do not reflect the full costs of production or consumption as a result of environmental pollution. Consequentially, economically inefficient (excessive) pollution and resource extraction are observed in practice. These problems, including climate change, water quality impacts (cancer causing chemicals, nutrient runoff, acid mine drainage, etc.), ecosystem degradation, biodiversity loss require professionals and decision makers who have adequate training in environmental economic principles and the role of economic policy in correcting the externalities. The ENRE major advances education in the efficient use of natural resources while anticipating and addressing environmental and economic concerns to promote sustainability within the economy. This major also educates leaders to understand the interdisciplinary nature of environmental problems and links between natural resource and economic development issues Concerns about environmental quality, sustainability, and climate change are growing and are likely to continue growing. Gen Z students identify climate change as one of the top economic and social issue concerns . Hence, demand for such professionals (undergraduate and graduate) will continue to grow. The question is whether WVU will invest in this growth area or will WVU choose to let other universities take leading roles in influencing the future sustainability trajectory. REM graduate and undergraduate programs provide a balance between a) industry interests and market forces, and b) public values that include environmental quality and sustainability. This balance is critical for WVUs mission as a land grant University and for WVU's image as a well-rounded and wholistic curator of scientific advances rather than an institution that is mostly focusing on promoting fossil fuel technology and agenda when it comes to balancing environment and growth. Maintaining this balance is critical for WVU's credibility as an unbiased source of scientific information. As a land grant University, WVU needs to have credibility in the arenas of agriculture economics (the importance of maintaining a balance within the environment and agriculture) and environmental economics to complement WVU's strength in fossil fuel technology research and training programs. WVU needs to show the outside world that we are proficient not only in fossil fuel resources but also in environmental quality research and training, that is of high priority to gen Z students and future students who are increasingly exposed to climate education in K-12. This credibility is only possible if we show that we have a dedicated unit, with necessary resources, to engage in training future policy makers and industry leaders who understand the principles of market economics in conjunction with environmental externalities. The PhD program in Natural Resource Economics (NRE) provides advanced training in within the discipline of environmental and natural resource economics. This program provides students with a strong foundation in economic theory, economic and policy analysis, and quantitative methods such that students are prepared to secure employment within academic, industry, or government sectors. During the past six years (2018 through 2023), 22 students have graduated with a PhD in NRE and each of these students has successfully found employment. Finally, REM offers a Master's degree in Energy Environments (MS-EE), which is under review. The MS-EE is a transdisciplinary program which offers students experience with and exposure to applied natural resource science and environmental management (including challenges in energy landscapes), but perhaps more importantly, prepares them for careers in professional project management and public policy in the broader context of sustainable development with regard to environmental resources. The MS-EE is highly synergistic with the Natural Resource Analysis Center's (NRAC) vision and and direction and is closely linked with our Graduate Certificate Program in GIS and Spatial Analysis. The MS-EE contributes to WVU's land grant mission by exposing students to applied teaching, research, and service opportunities with NRAC projects that supply graduate research assistants supported entirely through external funding.

Q3.1.
Resources, Revenue, and Expenses

The purpose of this section is to ensure the accessibility and adequacy of the unit's infrastructure and resources and its financial viability.

Responses in this section are limited to 7500 characters or approximately 2 single spaced pages.

Q3.2. Has the unit experienced significant issues with any of the following during the past five years?

By "significant," we mean issues that interfere with either the unit's ability to deliver its programs to its students or the students' ability to complete those programs in a timely manner.

	Yes	No

Ability to schedule required classrooms	○	◉
Access to adequate technological infrastructure	○	◉
Access to adequate technological support	○	◉
Access to adequate physical infrastructure (labs, performance spaces, etc.)	○	◉

Q3.3. Describe the issues the program has faced in the area(s) identified above.

This question was not displayed to the respondent.

Q3.4. Data have been provided on the unit's last three years of tuition revenue, expenses, and net revenue. Address any negative net revenue or any significant changes (positive or negative) to unit's net position.

Revenue by department is the actual tuition revenue, net of any discounting, paid by students taking courses in course subject codes affiliated with the department.

Expense by department is the actual unrestricted, operating expenditures by department within the functions of instruction and academic support.

Net revenue is the revenue minus the expense.

Revenue net expenses for the Division of Resource Economics and Management (REM) show net numbers all three years (2020 to 2022) with an average of $581,234. As a positive note, total expenses declined more than net tuition revenue during this period for REM, largely due to non-replacement of faculty along with adjustments in instructional assignments to adjuncts, graduate students, and staff. As described in faculty productivity response, during the 2020-22 time period, 24.5% of faculty salaries in REM were paid for out of federal funds. Additional cost saving actions are being taken within the Division in response to this negative revenue net expenses. The Director position in REM has been combined with the Director position for Forestry and Natural Resources to create a Director position for the School of Natural Resources, saving administrative costs within the College. This self-study outlines curricula plans in the enrollment trends response that involve undergraduate degree mergers and instructional adjustments that will enable the Division to withstand non-replacement of an announced faculty retirement in order to accommodate the instructional needs of our undergraduate and graduate programs. Thus, there will be cost savings from one REM faculty position will not be replaced upon retirement. Teaching responsibilities from this position will be re-allocated to existing faculty in order to maintain existing graduate programs and merged undergraduate programs.

Q4.1.

Faculty Composition and Productivity

Responses should be concise but also specific and supported by evidence. Responses in this section are limited to 7500 characters or approximately 2 single spaced pages.

Specific data definitions for these metrics are available on the Academic Transformation webpage.

Q4.2. Data have been provided on the unit's faculty full-time equivalency (FTE) to the median of all majors for fall 18 to fall 22.

Address any differences in the unit's student to FTE ratio and the institution's student-to-faculty ratio of 18-to-1 per IPEDS reporting for academic year 2021-2022.

Make-up of Division of Resource Economics and Management faculty and their assignments for Academic Year 2023/24 are shown in Table 1 (attached as additional evidence). There are nine tenure-track position (eight in REM and one in Extension) and two non-tenure-track – one Teaching Associate Professor (Byrd) and one Research Assistant Professor (Kinder). Dr. Michael Dougherty is formally part of the School of Design and Community Development, but he is listed below as Dr. Dougherty teaches courses under the RESM subject code, which is managed by the Division. Since 2020, REM faculty numbers are down by two faculty retirements (not replaced). Other changes include two new assistant professors (Bora and Hwang) to replace experienced faculty members who secured positions elsewhere and one faculty position change to 100% administration (Stephens appointed Director of Regional Research Institute) – the cost saving from this appointment change was used by the College to cover spending reductions in FY23 and FY24 within the College and not to hire additional faculty or adjunct instructors. Based upon current faculty assignments, 4.45 FTE of instructional resources exists within the Division (Table 1). This number of FTE reflects the minimum instructional resources needed to offer current undergraduate and graduate programs. Curricula changes described in Q5.2 are being put in place to ensure that a reduced FTE below 4.45 will be sufficient to continue to offer undergraduate and graduate programs that complement the expertise of REM faculty. Table 1 shows that there is about 3 FTE of research appointments in REM. All REM faculty with research appointments are on federally funded Hatch or Hatch multi-state research projects so that a portion of their research appointment is paid by federal funds. During the period of FY2020 to FY2022, federal Hatch funds paid 24.5% of faculty salaries in REM based upon budget data provided by Tom Green, Assistant Dean of Business Affairs in the Davis College Davis College budget. Table 2 (attached as additional evidence) illustrates the productivity of the Natural Resource Analysis Center (NRAC) in supporting graduate student participation over the last three years by documenting 23 graduate student years of effort contributing to over $5.27 million in externally supported projects. Again, without a larger number of permanent NRAC staff (currently at 2.0 FTE), the externally funded projects brought in by NRAC depend upon graduate students in not only to assist in securing this funding, but more importantly in the execution of deliverables. This linkage between MS Energy Environments students and NRAC arguably helps these graduate students to develop the knowledge-base, professional networks, and project related experience to become successful natural resource professionals. For Division of Resource Economics and Management (REM), an undergraduate student to FTE ratio of 21.5 was computed using median enrollments for the three majors (172) divided by eight FTE reported in 2023. This ratio is above non-HSC WVU median of 15. One way to interpret this ratio is that it demonstrates efficiency in REM's use of instructional resources to deliver undergraduate programs. Differences between the ratio for REM and WVU median are explained by loss of REM faculty members due to retirement with the resulting non-replacement of these faculty positions leading to increased use of adjunct and graduate student instructors as replacements.

Q4.3. This question is optional and required only if a unit's doctoral programs are under review.

Data have been provided on the unit's tenure-track / tenured FTE to doctoral student headcount ratio across all of the unit's doctoral programs.

Address any differences in the unit's doctoral student to tenure-track and tenured faculty FTE ratio to the institutional expectation of 2-to-1.

Based upon data provided by academic transformation public data table, the Division of Resource Economics and Management (REM) has a doctoral student and tenure-track and tenured FTE ratio of very close to the institutional expectation with a 2.1-to-1 ratio. REM has been able to maintain a high student per FTE ratio by formulating creative solutions for instructional needs of the PhD program. For example, we have taken advantage of cross unit and cross college collaboration in instruction. PhD students in Natural Resource Economics (NRE) take core courses in microeconomic theory and econometrics from the Economics Department within the Chambers College of Business and Economics. Advanced field courses for the PhD in NRE are taught by REM faculty. These courses include Advanced Environmental Economics, Advanced Natural Resource Economics, and Spatial Analysis. Previous faculty retirements and departures to other universities or administrative positions within WVU have not been replaced. This non-placement has decreased the Division's capacity to mentor graduate students and to attract external grants that would support additional graduate student assistantships lines. The Division has been able to find creative solutions to maintain graduate instruction with decreased FTEs. However, fewer faculty numbers have increased the workload of individual graduate faculty mentoring. Nonetheless, significant success was achieved despite decreased FTEs per student with graduate student output, graduation, and job placement in academia (including R1 schools) and industry.

Q4.4. Data have been provided that show the changes to the unit's total number of faculty over the review period. Data have also been provided that show the total student headcount enrolled in all of the unit's programs over the same period of time as well as a three-year trend in student credit hour (SCH) production.

Explain the relationship between the change in the number of faculty in the unit and the change in the units total headcount enrollment and SCH production trends.

SCH production within the Division of Resource Economics and Management (REM) declined between 2020 and 2022 at about 17%. This percentage reduction mirrors reductions in undergraduate majors of Environmental and Energy Resources Management (EERM) and Environmental and Natural Resource Economics (ENRE) but does not reflect the slight enrollment growth in the Agribusiness Management (AGBM) major. Other factors going on within REM include courses no longer being taught within the Division (ARE 360, 401, 445, and Special Topics courses, like Social Entrepreneurship) attributed to reduced faculty numbers. Reduced course offerings mean that SCH are being filled with courses outside of REM, but perhaps within Davis College. Other changes include reducing the capstone requirement from 5 to 3 credit hours in Environmental and Energy Resources Management major with students are filling those credit hours outside of REM. Finally, individual classes (like ARE 110, ARE 431, ARE 450, and ARE 461) are producing fewer SCH due to lower enrollment in courses. This trend seems to be mostly affecting courses in the Agribusiness Management major. One potential explanation is that this major is getting a lot of transfer students from within WVU (e.g. Potomac State or the Business and Economics College) who are bringing in transfer credits from elsewhere and so don't need to take REM courses.

Q4.5. Data have been provided that shows the unit's research expenditures per the Higher Education Research and Development Survey (HERD).

Does this data capture all of the unit's research expenditures? If not, explain the difference here and provide evidence of additional research expenditures below.

FY2022 research expenditure data for the Division of Resource Economics and Management was provided by Tom Green, Assistant Dean of Business Affairs in the Davis College. These data are provided below and add up to $720,648, the exact same amount as reported in HERD. However, within the Division of Resource Economics and Management, there is the Natural Resource Analysis Center (NRAC) whose Director is supervised by the REM Division Director. NRAC research expenditures are not included in the $720,648. NRAC had external grant expenditures of over $200,000 during FY2022. Division Name: Resource Economics and Management External Grant Expenditures 280,072 Hatch Expenditures 306,650 Multistate Expenditures 133,926

Q4.6. Upload evidence of research expenditures here.

Q5.1.
Student Enrollment and Graduation History

Responses in this section are limited to 7500 characters (approximately 1.5 single spaced pages). Responses should be concise but also specific and supported by evidence.

Specific data definitions for these metrics are available on the Academic Transformation webpage.

Q5.2. Data have been provided on all of the unit's program's student enrollment trends.

That data includes:

4-year median fall enrollment (fall 18 through fall 21);
Fall 2022 change from 4-year median (in headcount and in percentage).

Units should address any programs with enrollment below the median for the program level or which has experienced a negative change in enrollment.

The Division will address enrollment trends for the Division by taking the following curricula actions: (1) merging the Environmental and Energy Resources (EERM) major with the Energy Land Management (ELM) degree program; (2) merging the Agribusiness Management (AGBM) and Environmental and Natural Resource Economics (ENRE) majors into one major; (3) make the necessary instructional adjustments within the Division to ensure that undergraduate and graduate courses are taught to support all programs; and (4) re-structure the M.S. in Energy Environments (MS-EE). In the supplementary evidence, ideas for growing undergraduate student enrollment are presented. Both undergraduate merger plans along with the re-structured MS-EE have been entered and saved into the CIM system for programs. Catalog descriptions of these curricula changes are included as attachments in the supplementary evidence. Upon additional vetting from the REM faculty during the fall semester, these curricula changes will be submitted for the approval process for revised curricula. Upon merger approvals, inactivate program for both the EERM and ENRE majors will be submitted in CIM. The merger of EERM with ELM includes a proposed name and curriculum changes for the B.S. in Energy Land Management. The new name being proposed is a Bachelor of Science in Environmental, Energy, and Land Management and curriculum changes include EERM coursework incorporated into required courses along with the addition of an area of emphasis in Environmental Resource Management. This merge of undergraduate programs will positively impact enrollment/revenue, simplify recruiting and marketing with an outward facing presence that is easier for recruiters to explain to one energy/environmental management degree. The goal of this merge is to be able to recruit more students into one program compared to the existing two majors with energy management in the name. This merger of EERM and ELM also will reduce instructional expenses and increase efficient delivery of curriculum by streamline course offerings and reducing course redundancy (eliminating an introductory course ARE 187 and a GIS course ENLM 442). By sharing faculty across two units, this will reduce reliance on part-time instructors in the ELM program and reduce barriers to student retention and timely degree completion. There is projected improvement in assessment of student learning by exploring the option of a capstone course instead of required internship for EERM along with improved assessment of student learning with the capstone course. A merged program will lead to a robust degree program able to better weather downturns in the economy/associated industry. Enrollment in energy majors is dependent on boom/bust cycles in the energy industry. Enrollment in environmental (management) majors is likely to continue to increase given the national focus on environmental issues and renewable energy sources. Finally, the Bachelor of Science in Environmental, Energy, and Land Management will be managed by a coordinated effort between REM and the ELM program in the Division of Forestry and Natural Resources. The merging of the remaining two undergraduate majors in REM (AGBM and ENRE) will be into a Bachelor of Science in Agribusiness and Environmental Economics major. This program will transform these majors into areas of emphasis (AoE) in Agribusiness Management and Environmental and Natural Resource Economics. Course overlaps between these two majors will be put into major course requirements for both AoEs which will result in increased enrollment in low enrolled ENRE courses. The goal of this AGBM and ENRE merger is the create a single major that is attractive to more students compared to the current narrowly defined majors. The merged major and AoE names will be aimed to maximize student enrollment. For example, while agribusiness is a valuable name and certainly attracts students from a traditional agricultural background, we would like to attract more students to this major from different backgrounds. This new, more general major name will also benefit students who are seeking jobs. Employers often have a narrow set of prerequisite majors listed in job postings and having a more general name will help students in their internship and job searches. This name change will help students meet the list of prerequisite majors often included on job listings in their field. Providing the instructional resources necessary to support the two Bachelor of Science degrees along with a PhD in Natural Resource Economics and a M.S. in Resource Economics and Management will require adjustments within the Division with less faculty resources. Adjustment options being considered include: (1) increasing annual teaching loads of faculty, (2) teaching a group of graduate and upper level undergraduate courses every other year rather than teaching each course annually; and (3) increased cross-listing of upper level undergraduate and MS courses. Each of these options along with combination of options are being considered by REM Faculty. These decisions will be made during the 2023/24 academic year to be implemented in the 2024/25 academic year. A re-structuring of the MS-EE will first involve a change the program name to “Environmental Management”. While this new program name will not exclude energy-related issues, it will broaden the program focus to include more transdisciplinary investigation of environmental sustainability particularly in our Appalachian region. Students will purse topics in natural resource and environmental management that will prepare them for professional careers in industry, government, and academia (particularly if they choose thesis option). Trends in our student interests have gravitated away from energy-centric environment issues to stream/wetland conservation and restoration, ecological diversity, landscape management, and food insecurity. As we embrace these changes in student interest, we are simultaneous pursing externally funded projects to support more graduate research assistantships. In 2024, we anticipate 6 to 8 additional GRA positions from external grant proposals awarded. Additionally, all required courses in a MS in Environmental Management (EMLM 500, ESWS 525, RESM 505L, and RESM 560) will be cross-listed with high enrollment undergraduate courses to reduce instructional load on faculty and increase alignment with a new direction in environmental management focus.

Q5.3. Data have been provided on the unit's three-year trend in student credit hour (SCH) production.

Units should address any programs with a negative trend in SCH production.

SCH in the Division have been declining between 2020 and 2022. Explanations for these declines are outlined in response to explaining the relationship between the change in number of faculty and total headcount and SCH production trends. Division plans as part of this self-study are described in the enrollment trends response. No additional SCH responses are planned for REM.

Q6.1.
Assessment of Learning and Program Improvement

The Provost's Office will review the self-studies from the most recent Board of Governor's five-year program reviews for this section.

Units may provide updated information below if they so choose.

Q6.2. Provide the unit's plans or ideas to make significant changes to its operations, structure, offerings, or personnel in order to reduce its costs or improve its efficiency.

Provide any significant changes to the department's program curricula, its assessment of learning practices, or any other improvements that have been made since the department's programs completed their most recent Board of Governor's five-year review.

A review for the PhD program in NRE was completed in 2020-2021 and covered the period of 2015-2019. No major issues were identified besides the need to clarify learning outcomes and to implement assessment mechanisms. Both issues were addressed with input from Louis Slimak, Associate Provost for Curriculum and Assessment, and appropriate revisions have been implemented. A review for the B.S. in Resource Management was submitted in 2020 covering the period of 2015-2019. A follow-up report was required showing evidence of assessment and post graduate outcomes as well as identifying areas for improvement which was submitted in January of 2022. We have implemented some of those changes and have suggested others in this self-study (e.g. use of a capstone course for more consistent and holistic assessment). Summarized below are the REM plans for significant changes to operations, structure, offerings, and/or personnel which are designed to reduce costs and improve efficiency into the future. The Director position for REM has been combined with the Director position for Forestry and Natural Resources to create a Director position for the School of Natural Resources, saving administrative costs. In enrollment trends response, this self-study describes the following curricula plans in detail which consist of: (1) merging the Environmental and Energy Resources (EERM) major with the Energy Land Management (ELM) degree program; (2) merging the Agribusiness Management (AGBM) and Environmental and Natural Resource Economics (ENRE) majors into one major; (3) make the necessary instructional adjustments within the Division to ensure that undergraduate and graduate courses are taught to support all programs; and (4) re-structure the M.S. in Energy Environments (MS-EE). These curricula changes will enable the Division to withstand non-replacement of an announced faculty retirement and maintain its undergraduate and graduate programs. Thus, one REM faculty position will not be replaced upon retirement.

Q6.3. The program may provide additional evidence of program improvement here.

REM Program Improvement.docx
18.9KB
application/vnd.openxmlformats-officedocument.wordprocessingml.document

Q7.1. The unit may provide any additional context or information about the unit's programs here.

It is important to discuss the potential for undergrad and grad REM programs. Demand for the degrees environmental economics and sustainability is growing and will continue to grow as concerns and public awareness of environmental quality problems, sustainability, and climate change at national and international scales intensify. These problems are rooted in economic systems and social structures and therefore require solutions that are firmly grounded in economic principles. REM is the only unit on campus that focuses on these problems as “externalities” of market systems. Gen Z students are highly concerned about environmental sustainability and climate change. However, there is also recognition that economic growth and development requires proper policies and regulations that balance environmental quality objectives with economic growth. It is our duty as land grant university to ensure that future policy makers and leaders understand the frameworks, incentives, instruments, that are critical for addressing these problems effectively. Environmental economics focuses on understanding the economic impact of environmental policies, natural resource management, and the evaluation of environmental goods and services. Several factors contribute to the increasing demand for environmental economic degrees: • Environmental Awareness: There is a heightened awareness of environmental challenges such as climate change, resource depletion, and pollution. This awareness has led to an increased demand for professionals who can analyze and address these issues from an economic perspective. • Sustainability Initiatives: Governments, organizations, and businesses are implementing sustainability initiatives to minimize their environmental impact. This has created a demand for individuals with expertise in environmental economics to design and implement effective strategies. • Policy Development: Environmental policies and regulations play a crucial role in addressing environmental challenges. Professionals with environmental economic expertise are needed to develop and evaluate these policies, assess their economic implications, and propose efficient solutions. • Green Technology and Renewable Energy: The growth of green technology and renewable energy sectors requires individuals who can assess the economic viability of these technologies, analyze their impact on markets and industries, and identify opportunities for sustainable development Job Market Opportunities: The demand for environmental economists is driven by various sectors such as government agencies, non-profit organizations, research institutions, consulting firms, and private companies that focus on sustainability and environmental management. Overall, the increasing global concern for the environment, combined with the recognition of the economic dimensions of environmental issues, has contributed to a growing demand for professionals with environmental economics degrees. The discussion above provides additional reasons why the REM faculty believe it is vital that West Virginia University continues to offer undergraduate and graduate degrees within the disciplines of environmental economics and natural resource economics.

Q7.2. You may use this section to provide any additional evidence referenced in the program review.

Supplemental Materials_REM.docx
155.6KB
application/vnd.openxmlformats-officedocument.wordprocessingml.document

Q7.3. You may use this section to provide any additional evidence referenced in the program review.

Proposed Curricula.docx
38.7KB
application/vnd.openxmlformats-officedocument.wordprocessingml.document

Q7.4. You may use this section to provide any additional evidence referenced in the program review.

BOG Follow Up Report- post graduate outcomes.pdf
122.7KB
application/pdf

Q8.1.
Thank you for completing your self-study for the West Virginia University Board of Governors program review. You may now submit the survey and your self-study will be passed on to the Provost's Office for review.

Location Data

Location: [redacted]

Source: GeoIP Estimation