



Jones, Stephanie

From: McClain, Lucy R. <lbr118@psu.edu>
Sent: Monday, June 7, 2021 3:34 PM
To: ED, State Board of Ed
Subject: [External] Pennsylvania Science Standards and Environmental Education

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Dear Karen Molchanow,

Thank you for supporting the process of revising the Pennsylvania Science, Technology, and Environment and Ecology standards. Based on the public information shared on the PA Department of Education website, I have concerns about the proposed Integrated Standards for Science, Environment and Ecology at the secondary level (grades 6-12) and how it will impact current and future students in our state.

The new proposed standards do not explicitly include Environment, Ecology and Agriculture as performance expectations. After review of the proposed standards, I have found that the following areas are weakly connected or NOT CONNECTED at all to the proposed standards:

- Watersheds and Wetlands – Cycles, Role of Watersheds, Physical Factors, Characteristics and Functions of Wetlands, Impacts of Watersheds and Wetlands
- Renewable and Nonrenewable Resources – Uses, Influential Factors
- Environmental Health – Biological Diversity
- Agriculture and Society – Society Needs, Agriculture Science, Agriculture Systems, Technology
- Integrated Pest Management – Effects Benefits and Impacts, Health Risks, Management Practices
- Ecosystems and their Interactions – Change Over Time
- Threatened, Endangered, and Extinct Species – Management Strategies
- Humans and the Environment – Society Needs, Sustainability, Supply and Demand
- Environmental Laws and Regulations – Environmental Laws and their Impacts
- These were previously independent state standards that teachers were required to cover. The proposed integrated standards for grades 6-12 must include Environment, Ecology, and Agriculture as a separate, fifth domain. Furthermore, the proposed standards DO NOT address NAAEE's Guidelines for Excellence in the following areas:
 - Human Systems – Individuals Groups and Societies, Culture, Political Systems, Economic Systems
 - Decision-Making and Action Skills – Forming and Evaluating Personal Views, Evaluating Need for Action, Planning and Taking Action, Evaluating Results of Action
 - Personal and Civic Responsibility – Recognizing Rights and Responsibilities, Recognizing Efficacy and Developing Agency, Accepting Personal Responsibility

These topics are critical to ensure that Pennsylvania students are informed citizens and are prepared for the challenges and opportunities of the 21st century economy. The new standards may be in place for several years, leaving these critical topics out of student's education will result in a deficit of valuable learning.

Please ensure Environment, Ecology, and Agriculture standards are not lost. I implore you to create a fifth, separate domain for these three content topics, ensuring these vital subject areas are not neglected and that Pennsylvania students are set up for success.

Thank you for supporting meaningful learning for students across the Commonwealth.

Lucy McClain

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