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Expanding Reach of Extension Programming Through Partnerships with State Park Naturalists

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Cover Page Footnote

We would like to thank our collaborators with the IDSP for helping promote and deliver Purdue Extension programs. This innovative and reciprocal partnership allowed Purdue Extension to reach larger audiences through Indiana's extensive state park system. We would like to extend an extra special thanks to the state parks and their naturalists for expanding this program above and beyond what could be accomplished through Extension alone.

Expanding Reach of Extension Programming through Partnerships with State Park Naturalists

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Abstract. Partnerships between natural resources agencies and Extension have existed for years and Extension has served in many roles. These roles include writing grants, facilitating meetings, training, and designing collaborative programming. Herein, we highlight a partnership between Purdue Extension and the Indiana Division of State Parks (IDSP) where Purdue Extension used an existing partnership to create programming about eastern hell-benders in a format presentable by interpretive naturalists, Extension educators, and K-12 teachers. The program increased pre/post knowledge gain scores for attendees by 129.27%. This model has successfully expanded Purdue Extension's outreach efforts while satisfying a need expressed by IDSP. Forming reciprocal partnerships with non-traditional partners can have a tremendous positive impact on the success of outreach and education efforts.

NATURAL RESOURCES AGENCY AND EXTENSION PARTNERSHIPS

There is a long history of partnership between natural resource agencies and Extension. Extension has been used as a source of relevant, science-based information for agencies such as the Natural Resources Conservation Service (Ishler et al., 2006). Other roles include Extension collaborating (e.g., writing grants and facilitating meetings) with natural resources agencies, including parks, to develop National Heritage Areas (Selin & McGill, 2005). More recently, Miller and Walker (2016) described how Extension educators taught portions of a park's staff training program and evaluated the impact of the program.

Herein, we highlight a partnership between Purdue Extension and the Indiana Department of Natural Resources (IDNR) Division of State Parks (IDSP). Purdue Extension needed to expand the reach of its eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*) conservation program, and IDSP identified a complementary need to develop programming based on local conservation issues. The objective of the partnership was to create programming usable by trained IDSP naturalists while broadening the reach of Purdue Extension's hellbender conservation efforts. This model expands upon the typical Extension process of program development and delivery, which includes a simple specialist to Extension educator model, to one that includes specialists, Extension educators, and state park naturalists.

ADDRESSING NEEDS

The IDNR is Indiana's primary conservation agency, and the IDSP serves as interpreter for conservation education. In this role, IDSP requires a continuous supply of science-based information to ensure that the division's naturalists convey interesting, relevant, and accurate messaging to the public. To address this requirement, IDSP expressed a desire for the development of programming based on local conservation issues.

Purdue University and the IDNR Division of Fish and Wildlife have been engaged in a long-term research study and conservation project focused on restoring the eastern hellbender throughout its historic range in southern Indiana. The eastern hellbender is an endangered, fully aquatic salamander found only in high-quality rivers

and streams throughout the lower Midwest, the Southeast, and a few northeastern states (Mayasich et al., 2003). In Indiana, the species is now restricted to one Ohio River tributary in southern Indiana.

Purdue Extension has engaged in limited outreach and education efforts throughout the life of this project, but a need was identified for a high-quality outreach and education campaign aimed at significantly expanding the reach of hellbender and water conservation education to ensure an educated and engaged public. A local partnership already existed between Purdue University and O'Bannon Woods State Park; however, there had not previously been resources available division-wide for IDSP interpretive naturalists to teach about hellbenders in the format required for successful IDSP programs. To address the needs of both Purdue Extension and IDSP, we developed a program combining the existing Purdue Extension program model with IDSP's Interpreter's Guidebook. IDSP's guidebook is modeled after the National Association for Interpretation's (NAI) Certified Interpretive Guide and is given to new IDSP interpretive naturalists at their annual training (Brochu & Merriman, 2017).

PROGRAM DEVELOPMENT

We developed the program using a format that IDSP has used successfully in the past. We developed an Extension publication that is usable by both formal and informal educators and directly applies IDSP program formatting (NAI) for increased usability. We wrote a script in an interpreter's format and produced a traditional, peer-reviewed Extension publication for formal educational settings (https://mdc.itap.purdue.edu/item.asp?Item_Number=FNR-573-W). The program included an evaluation to be given to participants and returned to Purdue Extension by the program presenter.

The evaluation was a six-question retrospective pre/post knowledge gain questionnaire with a 1-5 rating scale. Many NAI and IDSP programs are not formally evaluated; however, Extension encourages program evaluation. To further improve usability, we created portable program kits for distribution throughout Indiana state parks. The program kit comprises a large, durable plastic tote with necessary materials for implementing the program.

IMPLEMENTATION AND IMPACT

In May of 2018, we trained 96 full-time and seasonal IDSP staff on the delivery of the program at their annual interpreters' training event. Following the training, we distributed program kits to 14 IDSP properties. IDSP staff delivered and evaluated programs throughout 2018 and 2019. IDSP naturalists gave one evaluation per family and returned these to Purdue Extension when completed.

From 2018 through 2019, IDSP interpreters delivered 99 programs, 38 of which were fully evaluated. Two hundred twenty-seven (227) pre/post evaluations were returned, and results confirmed an increase in knowledge gain across our six core subjects (Figure 1). The knowledge gain for each question ranged from 70.29% to 194.94% (Figure 2). The total cumulative knowledge gain for the entire program was significant (129.27%; $t(37) = -9.04, p < .01$).

This partnership has expanded Purdue Extension's hellbender outreach and education programming and satisfied IDSP's need for programs focused on local conservation. Without the partnership with IDSP, Purdue Extension's hellbender outreach and education efforts would be focused on only a three-county area in southern Indiana and would target only individuals able to attend the limited programming. This partnership has expanded the program's reach to at least 12 counties, including two major metropolitan areas.

It is important for educators to identify opportunities for possible partnerships to maximize their potential for success. Moreover, without this partnership, IDSP would lack suitable materials and knowledge to adequately address the conservation of a species that the Indiana Department of Natural Resources is promoting as one of its focal species for its nongame wildlife conservation efforts.

Herein, we described an exciting pathway for Extension to develop and deliver content to local communities. We have expanded the typical specialist to Extension educator pathway to include state park interpreters. While our programming was focused on hellbenders, the key component to this model was transforming local research and conservation projects into IDSP-ready programming. State parks are gaining interest in using local conservation research in programs with park visitors. We urge Extension specialists to reach out to their state park agencies for potential partnerships that highlight state-funded projects and expand Extension's reach in local programming.

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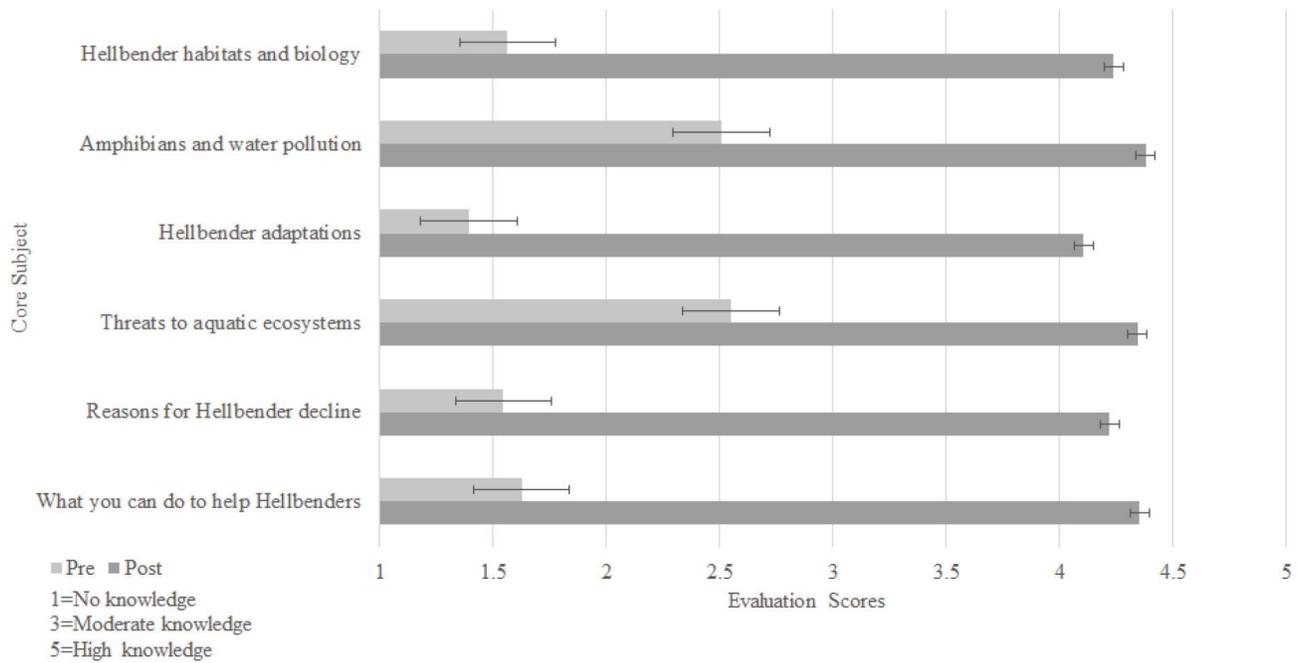


Figure 1. Combined pre/post knowledge score comparison for each core subject from all evaluated programs (n = 38).

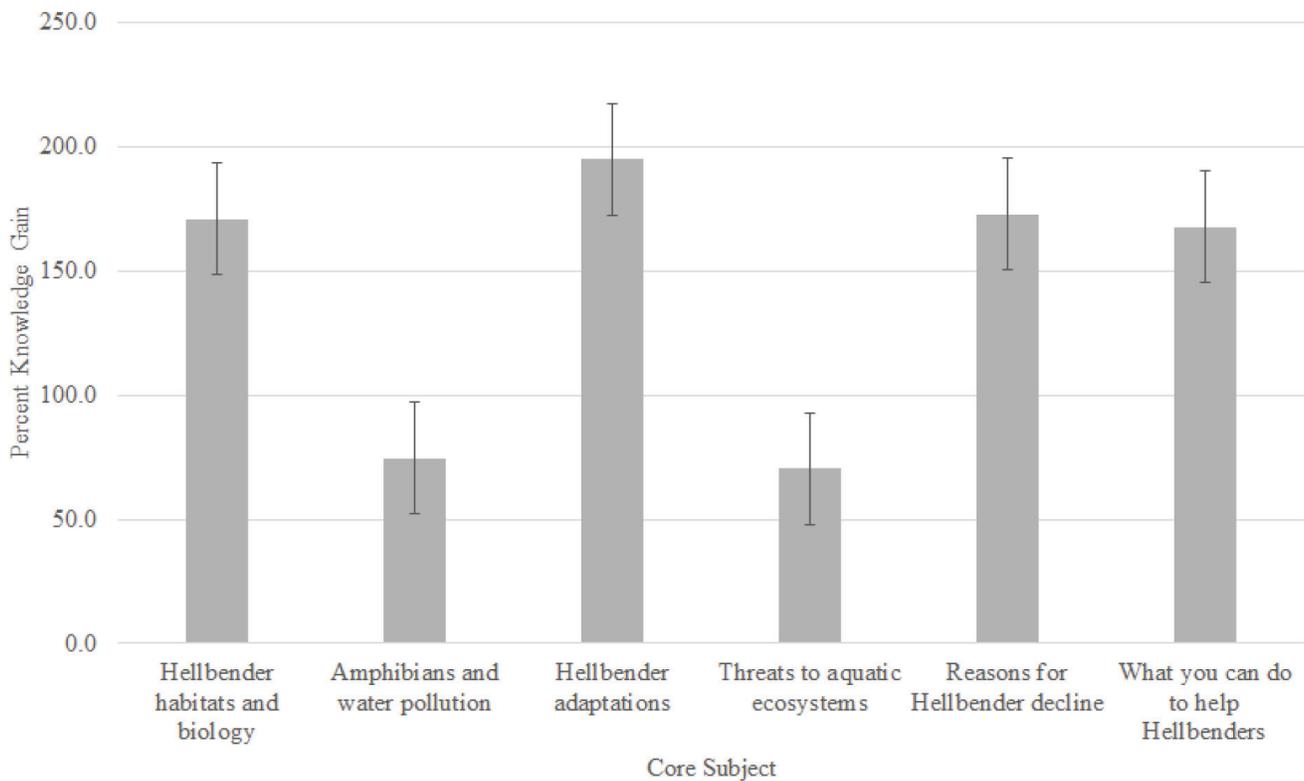


Figure 2. Combined percent knowledge gain by core subject matter from all evaluated programs (n = 38).

NEXT STEPS FOR THIS PROGRAM

The next step for this program is expansion to adjacent states. We have an existing hellbender management partnership with Kentucky Division of Fish and Wildlife Resources (KDFWR). The KDFWR partnership has led to a new partnership between Purdue Extension and Kentucky State Parks (KSP), and we are using the model described above (i.e., naturalist training, kit distribution, park naturalist programming, evaluation) to expand our hellbender education efforts throughout Kentucky. Purdue Extension will continue to look for opportunities to form creative partnerships and expand hellbender conservation education throughout areas of need.

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