

## Rod N. Williams

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### ACADEMIC POSITIONS:

2020-present Project Lead, Advancing Research Impact in Society, Purdue Office of Engagement  
2019-present Professor & Extension Wildlife Specialist, Purdue University, FNR  
2017-2019 Engagement Faculty Fellow, Purdue University, Office of Engagement  
2015-2017 Associate Department Head for Extension, Purdue University, FNR  
2013-2019 Associate Professor & Extension Wildlife Specialist, Purdue University, FNR  
2008-2013 Assistant Professor, Purdue University, FNR  
1999-2007 Vertebrate Curator and Coordinator of Laboratory Instruction, Purdue University, Department of Forestry and Natural Resources (FNR)

### EDUCATION:

2001- 2007 Ph.D., Evolutionary Genetics, Purdue University  
1996-1998 M.S., Conservation Genetics, Savannah River Ecology Lab and Purdue University  
1992-1996 B.S., Wildlife Science, Purdue University

### HONORS and AWARDS:

2019 Service to University Engagement, Office of Engagement, Purdue University  
2018 Purdue's Book of Great Teachers, Purdue University  
2017 Office of Engagement Service Learning Award, Purdue University  
2016 Charles B. Murphy Outstanding Teaching Award, Purdue University  
2016 PK-12 Emerging Faculty Impact Award, CoA  
2015 Richard L. Kohls Outstanding Undergraduate Teaching Award, CoA  
2015 Bravo Award, CoA  
2015 Gold Award for Interactive multimedia and web graphics, Association for Communication Excellence  
2014 Richard L. Kohls Early Career Award, FNR  
2014 Scholarship of Engagement Fellow, Office of Engagement, Purdue University  
2013 Richard L. Kohls Early Career Award, FNR  
2012 Exemplary Faculty Service Award, FNR  
2012 TEAM Award, Purdue ZipTrips, CoA  
2009 Outstanding Undergraduate Counselor Award, FNR  
2005 Outstanding Teacher Award, FNR  
2005 Outstanding Service to Students Award, FNR  
2004 Outstanding Professional Staff Award, FNR  
2004 Graduate Research Symposium Best Poster Award, FNR  
1998 Graduate Research Symposium Poster Award for Scientific Merit, FNR  
1996 William A. Rafferty Award for Demonstrating Outstanding Leadership and Citizenship in Wildlife Resources, FNR

## **LEADERSHIP EXPERIENCE**

Project Lead, Advancing Research Impact in Society (2020-21): As the project lead for Purdue's Advancement of Research Impact in Society (PARIS), I am working with a team of research and engagement faculty to enhance institutional capacity to support research impacts in communities. This is a new position at Purdue and will focus on establishing the following University infrastructure:

- Develop and disseminate research impact landscape survey
- Create a research impact partner database
- Establish an evaluation plan
- Create institutional research impact trainings
- Offer consultations for faculty and staff on research impact

Engagement Faculty Fellow (2017-2019): As an Engagement Faculty Fellow in the Office of Engagement, I focused on developing resources for promotion and tenure on the basis of the Scholarship of Engagement. I conducted a university-wide survey to assess faculty attitudes and understanding of engagement, the scholarship of engagement, and evaluating impact within faculty promotion documents. Survey data indicated a deep knowledge gap between what faculty expect to see reported (high impact) in documents, compared to what they self-reported being able to assess (that very same impact). To address this knowledge gap, the associate provost for engagement, Dr. Steve Abel, and I have developed a best management guide for creating high-impact dossiers for junior faculty and steps to evaluate high impact documents for senior faculty. I was also asked to co-lead the Scholarship of Engagement Fellows program. The purpose of the Scholarship of Engagement Fellows Program is to foster the development of the scholarship of engagement for faculty throughout the Purdue University system in support of the promotion and/or tenure process. Since my involvement, we have re-designed the program to consist of three two-hour workshops, group meetings, and post-fellows leadership trainings. A formal survey of the program reported the 21 fellows that have participated in the program leave understanding engagement, the scholarship of engagement, and most importantly can document impact and evaluate the impact from others. This program is directly addressing the deep knowledge gap indicated by the university-wide survey. Herein, I list a few of the university level initiatives I have led since 2017:

### **Scholarship of Engagement:**

- Abel, S. and R. Williams. 2019. The Guide: documenting, evaluating and recognizing engaged scholarship. Purdue University, Office of Engagement. 38 pp.

### **Faculty Assessment of Engagement:**

- Developed and disseminated a university-wide survey to assess faculty understanding of engagement, scholarship of engagement, and evaluating impact
- Presented survey results to University administration: provost, deans, engagement associate deans, and department heads
- Developed a best management guide for developing and assessing promotion documents on the basis of the scholarship of engagement

### **Scholarship of Engagement Fellows Program:**

- Re-designed the program to focus on understanding engagement, the scholarship of engagement and evaluating impact through a series of two-hour workshops and mentor meetings

- Created assessment tools to facilitate impact evaluation
- Led mentors associated with the program on the development and administration of the Fellows program evaluation
- Presented program results to engagement associate deans

### **Graduate Engagement Workshops:**

- Re-designed graduate extension course to fulfill university needs to integrate engagement in graduate education
- Developed graduate workshop series that includes: developing logic models, program assessment, and integrating engagement with teaching and research

Associate Head for Extension (2015-2017): As the Associate Head for FNR Extension, I reported directly to the Head. My responsibilities included administration of Extension programs for the department, conducting annual evaluations of staff extension specialists, cultivating relationships with partners and stakeholders, seeking development opportunities, highlighting accomplishments of faculty and staff, and consulting with the Head on budgetary and strategic planning issues. The department includes 29 tenure-track faculty, 13 adjunct faculty, 16 postdoctoral associates, 50 staff, 84 graduate students, and about 250 undergraduate students. In addition to the general duties, I chaired the Extension Strategic Planning Initiatives at both the College and Department levels. I have since led the development of many Extension programs that are directly aligned with the four core initiatives outlined in the College Strategic Plan:

### **Diversify Extension programs tailored to specific audiences.**

- Currently leading a university-wide workshop series that educates tenure-track faculty members about the scholarship of engagement.
- Leading extension workshops for graduate students to promote extension participation.
- Created new Extension programs with innovative technologies (e.g., podcasts, videos, etc.)

### **Raise awareness of Extension resources, programs, and successes.**

- Led FNR in developing a department-wide set of metrics to evaluate Extension programming.
- Developed new reporting and evaluation criteria to capture both qualitative and quantitative data to assist with annual reviews.

### **Increase attractiveness of Extension as a career choice.**

- Developed graduate model for the translation of research into Extension deliverables.
- Created and chaired the FNR Extension internship program to foster undergraduate involvement with specialists.
- Developed undergraduate Extension thesis track to parallel research opportunities for students.
- Created and led the first undergraduate student club focused solely on Extension.

### **Create innovative multidisciplinary education programming.**

- Created and led interdisciplinary teams of ANR, 4H, and HHS extension professionals to deliver programs across the state.

### LEADERSHIP TRAINING:

Big 10 Academic Alliance, Academic Leadership Program (2019): The goal of the Big Ten Academic Alliance Academic Leadership Program is to help a talented and diverse faculty and select executive-level professional staff further develop their ability to be effective academic leaders at all levels of research universities. It is intended to help those considering leadership positions understand the university as dynamic and inclusive institutions, and to help them build awareness of the diverse, complex, and changing landscape of higher education while exploring their role in that landscape.

Cornell Faculty Leadership Program (2017): The Cornell Faculty Leadership Program focuses on gaining professional and leadership skills, reflecting on career and personal goals, and connecting with colleagues. The program uses case-based and experiential learning to allow faculty to shape their future by enhancing self-awareness about personal style and impact in the unique and inclusive academic environment.

National Extension Leadership Development Program (2016): I participated in the 2016 NELD program hosted by the University of Minnesota. The NELD program focused on new and effective leadership strategies, organizational collaboration and change concepts. It allowed me to develop a better understanding of self and enhance personal effectiveness through assessments, coaching, feedback, and individual goal setting. In addition, it broadens understanding of Extension on a local, state, national and international level and helped me build a more robust national Extension network.

### EXTENSION ACTIVITIES

I strive to routinely integrate Extension programming with learning and discovery. My scholarship of engagement serves the Land-grant mission by working with university students, PK-12 students, teachers, wildlife professionals, and extension educators. For each of my focal areas, I develop comprehensive sets of outputs and deliverables to engage stakeholders. These include traditional Extension outputs that include peer-reviewed publications, field days, workshops, and presentations, but also new technology such as peer-reviewed videos, websites, Apps, social media frameworks, exhibits and podcasts. I assess the impact of programs by documenting increases in knowledge, adoption of program initiatives, and program recognition (i.e., net promoter score). My record of engagement scholarship has resulted in numerous awards at the department, college, university and national levels. A summary of my Extension outputs are as follows:

Category	Total
Community Partners	
Schools	139
Zoos	6
Federal Agencies/Offices	12
Engagement Outputs (publications, videos, workshops, presentations, podcasts, exhibits, websites, social media)	428
Peer-reviewed Extension publications (downloads)	42 (>325,000)
Presentations	236
Workshops	104
Videos (views)	26 (199,192)
Podcasts (downloads)	15 (2,289)

Exhibits	3
Websites (pageviews)	2 (185,000)
Social Media (people reached)	2 (>480,000)
Engagement Awards	6
Program Implementation/Use	161
Program Adoption	5

## OVERVIEW OF EXTENSION PROGRAMS:

My portfolio is comprised of three signature Extension programs and one university-wide Engagement program. For each program, I outline the issue, partnerships, highlight outputs, and document programmatic impact to determine if outputs were successful in addressing the identified issue.

### 1. Engaging University Students with Extension

**Issue:** The 1999 Kellogg commission report highlighted that an engaged institution must: enrich students' experiences by bringing research and engagement into the curriculum and offering practical opportunities for students to prepare for the world they enter. In response to these needs, I developed five Extension initiatives to engage university students with Extension: #1 an innovative service learning course, #2 an Extension internship program, #3 a formal course for graduate students, #4 graduate student Extension workshops, and #5 connecting graduate student research with Extension.

**Partnerships:** 120+ local schools, social scientists at Purdue, and 2 Purdue Extension specialists, 3 County Extension ANR Educators, and Purdue graduate and undergraduate students

**Outputs:** 13 Extension publications, 193 presentations, 20 workshops, 2 videos

**Outcomes:** For the service learning course, 51% of the student's in the course have produced a numbered, peer-reviewed Extension publication and have been downloaded more than 300,000 times. Interns increased their knowledge of the land-grant mission by 35%, increased their ability to communicate verbally by 27%, and increased their ability to communicate by writing by 25%. Fifty-seven percent indicated they would strongly consider a career in Extension after the internship. The graduate extension course allowed graduate students to produce 212 Extension deliverables. Student respondents indicated a 45% increase of their knowledge of the land-grant mission, a 46% increase in their understanding of the Cooperative Extension Service, and a 71% increase in their familiarity of the logic model for Extension and research planning. Twenty-eight percent indicated they are better able to make connections between research and Extension after taking the course. Student interest in Extension increased 50% as a result of the class and 28% indicated they would consider a career in Extension.

### 2. PK-12 Natural Resources Education

**Issue:** I am involved with helping K-12 teachers integrate natural resource information into formal K-12 education programming. Focus groups with licensed teachers identified the following academic needs: 1) a lack of adequate training to fully incorporate natural resources into existing curricula; 2) a lack of science-based lesson plans; and 3) no repository for natural resource-based information for teachers to access freely. In response to these needs, I created a comprehensive professional development program for teachers called *The Nature of Teaching*.

**Partnerships:** Maine Cooperative Extension Service, Maine Inland Fisheries and Wildlife, Maine Audubon Society, 50+ elementary schools, 12 Purdue University County Extension Educators (ANR, HHS, and 4-H)

**Outputs:** 31 Peer-reviewed Extension Publications, Website: 18,175 visits, 35,766 page views, Social Media: Facebook: 82 posts, 5,347 people reached, 6 Extension Videos, 2 Exhibits, and 21 Workshops

**Outcomes:** Teacher workshops showed knowledge gain from 30-65% among six core aspects of our curriculum (connecting youth with health and nature, personal connections with nature and health, school gardens, physical activity, nature, and comfort engaging youth with nature). A four month post-workshop survey indicated that roughly 80% of participants incorporated one or more aspects of our curriculum into their classrooms. We received evaluation data on ~2,000 students grades K-5 showing a positive change in attitude across four core questions: learning outdoors, interest in outdoor learning, readiness to learn and comfort with being outdoors for learning. Student evaluations found a 14% increase in readiness to learn.

### 3. Wildlife Conservation and Education

**Issue:** Amphibians and reptiles are important components to our ecosystems, yet are unknown or misunderstood by non-scientists. To address this need, I developed comprehensive Extension programming to increase public awareness and highlight management practices that will benefit wildlife professionals, landowners and herpetofauna.

**Partnerships:** 12 state agencies, 2 federal agencies, 8 zoos, and 11 universities

**Outputs:** 13 publications, 100+ presentations, 35 workshops, 16 videos, website: 85,000 pageviews, 2 Apps, 2 exhibits, and 16 podcasts

**Outcomes:** In 2017, I conducted a nation-wide survey to evaluate the use and implementation of my Extension materials. The survey captured data from 26 organizations representing 12 states, 5 state agencies, 2 federal agencies, 8 zoos, and 11 universities. Sixty-three percent of respondents indicated they used Extension products from my lab monthly to teach others. Eighty-two percent of respondents indicated they stay up to date on herpetofaunal research, conservation and outreach by using the social media sites I maintain. The majority of respondents (81%) were likely to recommend my materials to others as a source of information.

### 4. Scholarship of Engagement

**Issue:** In 2017, I was asked by the Provosts office to serve a two year term as an Engagement Faculty Fellow within the Office of Engagement to help deepen the understanding of the Scholarship of Engagement for faculty and students. I first conducted a university-wide needs assessment to assess faculty attitudes and understanding of engagement, the scholarship of engagement, and evaluating impact within faculty promotion documents. Survey data indicated a knowledge gap between what faculty expect to see reported (high impact) in documents, compared to what they self-reported being able to assess (that very same impact).

**Partnerships:** Provost, Associate Vice Provost for Engagement, 13 Engagement Associate Deans, University Deans, University Department Heads, 2 Regional Campuses (Purdue Northwest and Fort Wayne), 6 Engagement Mentors in 4 colleges, and 20+ Purdue faculty

**Outputs:** 12 presentations, 3 workshops

**Outcomes:** University programming resulted in an increase in knowledge among six core questions: understanding of Engagement by 47%, understanding of the scholarship of Engagement by 53%, ability to incorporate Engagement into their work by 64%, measuring impact by 80%, documenting impact by 74%, and evaluating the impact of others by 82%. Respondents also indicated they have implemented this new knowledge with regard to their promotion documents (33%), approach to community partnerships (25%), and methods of evaluating their Engagement programs (42%).

**PEER-REVIEWED EXTENSION PUBLICATIONS: (Total # of Downloads 2009-20:  
>325,000)**

**Books**

1. Williams, R.N., B.J. MacGowan, Z. Walker, J. Hoverman, and N. Burgmeier. 2017. Frogs and Toads of Indiana. 52pp. FNR-516.
2. MacGowan, B.J., and R.N. Williams. 2012. Snakes and Lizards of Indiana. 96pp. FNR-469
3. MacGowan, B.J., R.N. Williams, and Z. Walker. 2008. Snakes of the Central and Northeastern United States. 124pp. FNR-405
4. Williams, R.N., B.J. MacGowan, B.A. Kingsbury, and Z. Walker. 2006. Salamanders of Indiana. 91pp. FNR-261
5. MacGowan, B.J., B.A. Kingsbury, and R.N. Williams. 2004. Turtles of Indiana. 63pp. FNR-243

**Articles (^ indicates undergraduate co-author; \*indicates graduate student co-author)**

6. \*Bylsma, R., and R.N. Williams. 2021. Genetic diversity, gene flow, and human impacts. In press.
7. ^Haynes, B., ^Louden, C., ^Rhine, A., ^Short, S., ^Thomas, R., Koetz, R., and R.N. Williams. 2020. Transporting food waste. FNR-609-W.
8. ^Hullinger, K., ^Koedel, K., \*Widner, B., ^Palm, B., Busse, R., and R.N. Williams. 2020. What a waste of food. FNR-557-W.
9. ^Callahan, J., ^Clark, M., ^Duncan, H., ^Leffel, K., ^Mehan, L., ^Rhoden, C., \*Wasserman, D., Koetz, R., and R.N. Williams. 2020. Resources animal relationships. FNR-578-W.
10. \*Billet, L., Hoverman, J., Koetz, R., and R. Williams. 2020. Disease ecology. FNR-594W.
11. \*Billet, L., Hoverman, J., Koetz, R., and R.N. Williams. 2020. Ecotoxicology. FNR-595W.
12. ^Yager, V., Burgmeier, N., and R.N. Williams. 2019. Adaptations for aquatic amphibians. FNR- 573-W.
13. \*Busse, R. and R.N. Williams. 2019. Food waste and the environment. FNR-576-W.
14. \*Busse, R. and R.N. Williams. 2019. Food waste solutions. FNR-574-W.
15. \*Osinski, R., and R.N. Williams. 2018. The scientific process of conservation biology: analyze, design, debate. FNR-552-W.
16. \*Busse, R., and R.N. Williams. 2018. Food waste and natural resources. FNR-558-W.
17. Burgmeier, N., J.D. Grove, N. Shields, D. Plis, D. McGinnity, C. Pirovato, and R.N. Williams. 2018. How Zoos Help Hellbenders. FNR-544.
18. Hunt, M., L. Pedigo, K. Zuber, and R.N. Williams. 2016. Benefits of Connecting to Nature. FNR-539-W.
19. \*Busse, R., and R. Williams. 2016. Healthy Water, Happy Home, 527-W.
20. \*Busse, R., and R. Williams. 2016. Hellbenders Rock! 532-W.
21. Burgmeier, N., S. Unger, \*B. Osinski, and R. Williams. 2016. Help the Hellbender, North America's Giant Salamander 536-W.
22. Hoverman, J.T. Z. Olson, ^S. LaGrange, J. Grant, and R.N. Williams. 2015. A guide to larval amphibian identification in the field and laboratory. FNR-496.
23. Cordes, R.C., R. Chapman, and R.N. Williams. 2015. National guide to the Wildlife Habitat Evaluation Program Challenge. FNR-515-W.
24. Carroll, N., and R.N. Williams. 2015. Developing a Wildlife Habitat Management Plan. 4-H-991-W.
25. Williams, R.N., and N. Carroll. 2015. Wildlife Habitat Evaluation Program: Preparing for the Wildlife Challenge. FNR 509-W.
26. \*MacNeil, J., \*A. Currylow, R.N. Williams, and B. MacGowan. 2013. Forest Management

- for Reptiles and Amphibians: A Technical Guide for the Midwest. FNR 480.
27. MacGowan, B., and R.N. Williams. 2013. Enjoying Reptiles and Amphibians. FNR 478.
  28. \*Unger, S. and R.N. Williams. 2012. North America's Giant Salamander, the Eastern Hellbender. FNR-471.
  29. ^Kapitan, E., ^S. Lyttle, and R.N. Williams. 2012. Discovering the Watershed. FNR 476W.
  30. ^K. Boyles, ^H. Fink, ^E. Kapitan, ^S. Lyttle, ^N.Pakan, ^A. Pfeifer, ^S. Tuttle, and R.N. Williams. 2012. Coloration Exploration. FNR-470-W.
  31. ^J. Brooke, ^K. Dishmen, ^D. Hamilton, ^J. Hubley, ^K. McCaughland and R.N. Williams. 2012. Ashes to Ashes we all Grow Up. FNR-472-W.
  32. ^Callahan, J., ^M. Bradt, ^A. Gordon, and R.N. Williams. 2011. Ecollapse. FNR-431-W
  33. ^Woody, L., ^H. Powell, ^E. Coffin, and R.N. Williams. 2011. Reptiles, Amphibians, and the Scientific Method. FNR-430-W.
  34. VanLaeken, C., R. Chapman, and R. Williams. 2011. Mammals and Ecosystems. FNR-432-W.
  35. \*Burgmeier, N., \*S. Unger, T. Sutton, and R.N. Williams. 2010. The Hellbender. FNR-419.
  36. ^Woody, L.T., and R.N. Williams. 2010. Study Guide for the National FFA Environmental and Natural Resources CDE Identification Practicum. FNR-424-W.
  37. Carroll, N., and R.N. Williams. 2009. Teaching Wildlife Habitat Evaluation. 4-H-992.
  38. Williams, R.N., and R.N. Chapman. 2009. Becoming a Tooth Sleuth. FNR-408.
  39. Chapman, R.N., and R.N. Williams. 2009. Natural History of Indiana Mammals. FNR 413.
  40. Williams, R.N., and N. Carroll. 2009. Wildlife Habitat Evaluation Program: Wildlife ID & Equipment Flash Cards. 31pp. FNR-205.
  41. Williams, R.N., and R. N. Chapman. 2009. Food Webs. FNR-418-W.
  42. Williams, R.N., and R.N. Chapman. 2009. Animal Diversity and Tracking. FNR-417-W.

### **EXTENSION PRESENTATIONS:**

I have presented or coauthored 236 presentations on natural resource education and conservation to scientific, professional, landowner, and youth audiences. More recently, I have been invited to present on the integration of Extension, Research and Teaching (see 1, 2, 3, 4, 6, 9, 10 below).

### **Selected Extension Presentations:**

1. Engaged research for the conservation of hellbenders. 2020. Madison County NRCS annual meeting. Anderson, IN.
2. Incorporating outreach in conservation management. 2019. Virginia Tech University.
3. A decade of hellbender conservation. 2019. Indiana Outdoor Writers Association annual meeting, Merrillville, IN.
4. Developing the triad mission as a future faculty member. 2018. Purdue Future Faculty, Purdue University.
5. Integration of Extension, Research, and Teaching. 2017. PUCESA Professional Development Workshop. West Lafayette, IN.
6. Eastern Hellbender: a decade of discovery. 2017. 37th Annual Indiana Water Resources Association (Keynote Speaker). Angola, IN
7. An integrated approach to promotion and tenure. 2015. Purdue Office of Engagement, Scholarship of Engagement Workshop, West Lafayette, IN
8. Hellbender Conservation and Ecology: a decade of discovery. 2015. The Nature Conservancy Annual State Meeting, Indianapolis, IN
9. Using Hellbenders to improve water quality. 2014. Indiana Department of Environmental Management annual meeting, Indianapolis, IN.
10. Integrating Students into Extension and Research. 2014. Indiana Chapter of



11. Environmental Education, Spencer, IN.
12. Novel Models for Integrating Extension and Education. 2014. College of Agriculture, Academic Council, Purdue University, West Lafayette, IN
13. Hellbender Conservation Webinar: Purdue Water Community webinar series. 2014 (n=27)
14. It's a Gene Thing ZipTrip. 2011-14. West Lafayette, IN (n=24,000)
15. Water quality and aquatic amphibians. 2014. Washington County NRCS, Salem, IN (n=1200)
16. Raising the Bar: a graduate model for integrating extension in the Land Grant University. 2013. Triennial Fish and Wildlife Specialist Conference. Orlando, FL. (n=-60)

### WORKSHOPS and PROGRAMS ORGANIZED:

Type of Workshop	Number	Attendance
Professional Development for Teachers	22	>300
Environmental Educators Training	5	130
Youth Education	42	36,030
Wildlife Conservation	41	2,150
Total	104	38,546

### WEB SITES:

1. The Nature of Teaching,  
<http://www3.ag.purdue.edu/extension/nature/Pages/default.aspx>, 2010-2020 Totals:  
27,375 visits; > 75,000 page views
2. Help The Hellbender,  
<http://www3.ag.purdue.edu/extension/hellbender/Pages/default.aspx>, 2012-2020  
Totals: 21,019 visits, > 110,000 page views.

### PEER-REVIEWED, NUMBERED VIDEOS: (Total Views: 174,550)

1. How to score your white-tailed deer. FNR-507-WV, 129,000 views
2. Age determination in white-tailed deer. FNR-508-WV, 21,000 views
3. Hellbender ID YouTube Video. FNR 513-WV, 13,000 views.
3. Improving water by protecting sinkholes. 537-WV, 291 views
4. Improving water and your farm. 526-WV, 568 views
5. Improving water at your livestock operation. 528-WV, 374 views
6. How anglers and paddlers can help the Hellbender. 529-WV, 317 views
7. Handling Harvested Game – Episode 1. FNR-555-WV, 10,000 views

### OTHER SELECTED VIDEOS: (Total Views: 24,672)

1. Handling Harvested Game – Episode 2. 5,400 views
2. Handling Harvested Game – Episode 3. 4,706 views
3. Handling Harvested Game – Episode 4. 2,900 views
4. Hellbender research in Indiana. 6,200 views
5. Help The Hellbender YouTube video. 2,165 views.
6. TedX Purdue. Hellbenders. 540 views
7. Help the Hellbender day at Columbian Park. 307 views
8. Wildlife habitat education program. 611 views
9. Hellbender declines, 508 views
10. Helping Hellbenders at the Fort Wayne Zoo. 487 views
11. What is a Herp? (with IDNR). 818 views

**SOCIAL MEDIA:**

1. Facebook - HelpTheHellbender. 2012-2020 totals: >475,000 people reached; 80,000 people engaged.
2. Facebook - Nature of Teaching. 2016-2020 totals: >6,000 people reached; >1,000 people engaged

**APPS:**

1. Hellbender Havoc
2. Giant Chinese Salamanders

**PODCASTS: (Total Downloads: 3671; total visitors: 1235)**

1. Giant Salamanders Part 1: climate change and immune function. 2015
2. Giant salamanders part 2: climate changes and foraging ecology. 2015
3. Giant salamanders part 3: studying young giants. 2015
4. Rainscaping. 2015
5. The genetics behind growing trees. 2015
6. GMO trees. 2015
7. Boiler Up for Wildlife: whats digging up my yard. 2015
8. Boiler Up for Wildlife: deer warts. 2015
9. Boiler Up for Wildlife: flying south for the winter. 2015
10. Food plots. Guest: Rob Chapman, FNR Extension. 2014
11. What is extension? Guest: Brian MacGowan, FNR Extension. 2014
12. Invasive Species Part 1: Woodland Owners. Guest: Lenny Farlee, FNR extension. 2014
13. Invasive Species Part 2: Threat to our Environment. Guest: Drs. Mike Jenkins and Songlin Fei. 2014
14. Invasive Species Part 3: Invasion of the carp. Guest: Dr. Reuben Goforth. 2014
15. The story behind a sugar maple scar. Guest: Dr. Jeffery Holland, Purdue Entomology. 2014
16. Wildlife Pics worth 1000 words. Guest: Robert Cordes, Maine Dept of Inland Fisheries. 2014
17. Using DNA animals leave behind. Guest: Dr. Steven Spear, Orianne Society. Host S. Kimble. 2014

**EXHIBITS FOR LARGE (>100,000) AUDIENCES:**

1. A Salamander Tale, 2015 Indiana State Fair, Indianapolis, IN
2. Snakes, Rattles, and Holes, 2005 Michigan State Fair, August, Lansing, MI
3. Snakes of the Midwest, 2004 Indiana State Fair, August, Indianapolis, IN

**EXHIBITS FOR SMALL (<100,000) AUDIENCES:**

1. A Salamander Tale, Delaware County Farm Fest, 2017
2. A Salamander Tale, Mesker Park Zoo 2016
3. A Salamander Tale, Columbian Park Zoo 2016
4. Tooth Sleuth & A Salamander Tale, Imagination Station 2015
5. Tooth Sleuth, Children's Museum of Illinois 2013
6. Tooth Sleuth, Clay County Science Day 2013
7. Tooth Sleuth, Oak Park Conservatory 2013
8. Tooth Sleuth, Explorium of Lexington 2013
9. Tooth Sleuth, Hannah Lindahl Children's Museum 2013
10. Snakes, Rattles, and Holes, North Museum of Natural History and Science, Lancaster, PA 2008
11. Snakes, Rattles, and Holes, Science Central, Fort Wayne, IN 2005

## **TEACHING EXPERIENCE**

Throughout my academic career, I have been devoted to providing the highest quality education to students. My dedication to undergraduate education and service has been recognized at the University, College and Departmental levels. I regularly teach 3-4 courses each year and have created innovative ways to merge teaching with extension and research. Specifics of those innovative courses are highlighted in the Engagement section at the beginning of my CV.

### Teaching Awards

2018 – Purdue’s Book of Great Teachers  
 2017 – Purdue University - Office of Engagement Service Learning Award  
 2016 – Charles B. Murphy Outstanding Teaching Award, Purdue University  
 2015 – Kohls Outstanding Undergraduate Teaching Award, College of Agriculture  
 2014 – Kohls Early Career Award, Dept. of FNR

### Courses Taught

2010-Present FNR 506 – Theory and Application of Extension Programming (1 cr)  
 2008-Present FNR 251– Ecology and Systematics of Amphibians and Reptiles (3 cr).  
 2008-Present FNR 373 – Natural Resources Practicum in the U.P. of Michigan (4 cr).  
 2010-2016 FNR 498 – The Nature of Service Learning (3 cr)  
 2009-2015 FNR 598 – Advanced Herpetology (3 cr)  
 2009-2014 FNR 598 – The Nature of Teaching (3 cr)  
 2008-2010 FNR 242 – Ecology and Systematics of Mammals & Fish, (1 cr)  
 2008-2010 FNR 252 – Ecology and Systematics of Reptiles, and Amphibians, (1cr)

### Courses Evaluations

Enrollments and student credit hours generated for three undergraduate courses and two graduate courses are summarized below.

<b>Course</b>	<b>Credits</b>	<b>Dates</b>	<b>Total # of Students</b>	<b>Total # of Credits</b>	<b>Average Instructor Evaluation</b>
FNR 251 Ecology of Amphibians and Reptiles	3	08-19	1222	1833	4.8/5
FNR 373 Summer Practicum	4	08-18	345	345	4.8/5
FNR 498 Nature of Service Learning	3	10-11; 13; 16	56	168	4.9/5
FNR 598 Advanced Herpetology	3	09; 12; 14	52	156	4.7/5
FNR 506 Theories and Application of Extension Programming	1	10; 12-13; 15-19	200	200	4.7/5

### Extension Presentations (85) with undergraduate lead presenters (57): Selected shown

2010-16 Food webs. Lafayette, IN. (n=550)  
 2011-14 Reptiles, amphibians and the scientific method. Lafayette, IN. (n=400)  
 2011-14 Eco-llapse. Lafayette, IN. (n=400)  
 2012-14 Ashes to ashes. Lafayette, IN. (n=300)  
 2010-13 Animal adaptations. Lafayette, IN. (n=400)

Extension Workshops (9) with undergraduates (60): Selected shown

2014-15	Feast like a Hellbender. Corydon, IN. (n=200)
2009-14	Indiana wildlife habitat education program. W. Lafayette, IN. (n=600)

Undergraduate Mentoring

I recognize the importance of experiential learning in teaching, Extension, and research. I routinely provide research experiences for undergraduates in my lab. I work with undergraduates to develop research proposals prior to initiating a project. To date, 11 students have received \$500 awards to support their undergraduate research. The Office of Academic Programs requested a former undergraduate research proposal written by Ashley Daniels to be used as a model for submission. That research proposal is now highlighted on the Office of Academic Programs' research website. I have served as the faculty advisor for two students, Ashley Daniels and Kaylin Adams, who have received extramural funding from the Indiana Academy of Science totaling \$4,000, collectively. My commitment to working with undergraduate students is exemplified by publications co-authored with six undergraduate students. I have provided funding for many of my undergraduate researchers to travel and deliver oral presentations or posters at local and regional meetings.

Undergraduate Mentored Research Projects:

Madison Macke	2020	Evaluating artificial cover for juvenile hellbenders
Macey Lee	2019	Genetic sexing of eastern hellbenders
Paige Weldy	2016	Behavioral responses of crayfish to predator cues
Veronica Yager	2016	Assessment of macro-invertebrate communities
Montana Campbell	2014	Mitochondrial analysis of box turtles
Ardith Wang	2014	Genetic parentage analysis of hellbender eggs
Vanessa Wuerthner	2013	Population genetics of salamanders
Seth LaGrange	2013	Hematological reference intervals for timber rattlesnakes
Megan Winzeler	2012	Ranavirus and chytrid fungus prevalence in Indiana
Matt Hamilton	2012	Survivorship, genetics, and demography of rattlesnakes
Kaylin Adams	2010	Assessing effects of soil moisture and use of ACO's
Margo Wagner	2009	Assessment of amphibian malformation across landscapes
Ashley Daniels	2009	Influence of eutrophication on wetland host/parasite dynamics
Morgan Hanbury	2008	Amphibian malformations and parasites
Lisa Christie	2004	Amphibian colonization in constructed wetlands
Brooke Williams	2004	Breeding chronology of Ambystomatid salamanders

Select Undergraduate Research Presentations:

1. Yager, V. 2017. Comparison of the prey base for eastern hellbenders. Indiana Academy of Science. Indianapolis, IN
2. Yager, V. 2017. Comparison of the prey base for eastern hellbenders. Butler University. Indianapolis, IN
3. Weldy, P. 2017. Assessing predator detection and avoidance behavior of rusty crayfish (*Orconectes rusticus*) in the presence of hellbenders (*Cryptobranchus alleganiensis*) and largemouth bass (*Micropterus salmoides*). Butler University. Indianapolis, IN
4. Wang, A. 2016. Assessing the microbiome of historic and current river habitats for eastern hellbenders in southern Indiana. Indiana Academy of Sciences. Indianapolis, IN
5. Wang, A. 2015. Sequencing characterization of biotic components present in historic hellbender habitats in Indiana. Poster presentation. Midwest Fish and Wildlife Conference. Indianapolis, IN.
6. Wang, A. 2015. Sequencing characterization of biotic components present in historic hellbender habitats in Indiana. 7th Biennial Hellbender Symposium. St. Louis, MO.

7. Winzeler, M.E. 2013. Determining the presence of Ranavirus in green frogs of Indiana. International Symposium on Ranaviruses. Wildlife Disease Association Annual Conference. Knoxville, TN.
8. Winzeler, M.E. 2013. Determining the presence of Ranavirus in green frogs of Indiana. Butler Undergraduate Research Symposium. Indianapolis, IN.

### RESEARCH ACTIVITIES

I maintain an active research program in the fields of herpetology and genetics despite having no formal research appointment until 2012 (minor appointment of 10%). I have published 62 articles in peer-reviewed journals, and my current citation indices are 21 and 36 for “h” and “i10”, respectively. My research emphasizes both applied and theoretical studies of wild and captive populations. I am currently involved in several large projects to repatriate the eastern hellbender through translocation and captive rearing programs. This research has led to productive collaborations with state biologists in Missouri, Arkansas, Georgia, North Carolina, West Virginia, Kentucky, and Pennsylvania. I also work with several NGOs such as The Nature Conservancy, Western Pennsylvania Conservancy, St. Louis Zoo, Indianapolis Zoo, Fort Wayne Children’s Zoo, Columbian Park Zoo, Mesker Park and Botanical Garden, and the Good Zoo at Oglebay.

**Peer-reviewed PUBLICATIONS:** (An “\*” indicates primary authorship; an “†” indicates a student co-author; 5 publications with undergraduate co-authors listed under Teaching)

1. Williams, R. N., Brooke, J. M., Hunt, M., Koetz, R. B., Pedigo, L., & Cordes, R. *In press*. Addressing Nature-Deficit Disorder Using A Multi-program Area, Multi-State Approach. *Journal of Extension*.
2. Kenison, E.K., O. Hernandez-Gomez, R.N. Williams. 2020. A novel bioaugmentation technique effectively increases the skin-associated microbial diversity of captive eastern hellbenders. *Conservation Physiology* 8: <https://doi.org/10.1093/conphys/coaa040>.
3. \*†Osinski, B.L., \*J.M. Getson, B.Bentlage, G.Avery, Z. Glas, L.A. Esman, R.N. Williams & \*L.S. Prokopy. 2019. What’s the draw?: illustrating the impacts of cartoons versus photographs on attitudes and behavioral intentions for wildlife conservation, *Human Dimensions of Wildlife*, DOI: [10.1080/10871209.2019.1587649](https://doi.org/10.1080/10871209.2019.1587649)
4. \*†McCallen, E., \*†B. Kraus, N. Burgmeier, \*S. Fei., \*R.N. Williams. 2018. Movement and habitat use of Eastern Hellbenders (*Cryptobranchus alleganiensis*) following population augmentation. *Herpetologica* 74:283-293.
5. †\*Hernandez-Gomez, O., J. T. Briggler, \*R.N. Williams. 2018. Captivity-induced changes in the skin microbial communities of hellbenders (*Cryptobranchus alleganiensis*). *Microbial Ecology*. <https://doi.org/10.1007/s00248-018-1258-1> (1st tier, IF = 3.614)
6. Hernandez-Gomez, O., J. T. Briggler, R. N. Williams. 2018. Influence of immunogenetics, sex and body condition on the cutaneous microbial communities of two giant salamanders. *Molecular Ecology* <https://doi.org/10.1111/mec.14500>
7. Unger, S.D., and R.N. Williams. 2018. Genetic confirmation of filial cannibalism in North America’s giant salamander, the Eastern hellbender *Cryptobranchus alleganiensis alleganiensis*. *Ethology, Ecology & Evolution* 30:187-193
8. Kenison, E.K., and R.N. Williams. 2018. Training for Translocation: Predator Conditioning Induces Behavioral Plasticity and Physiological Changes in Captive Eastern Hellbenders (*Cryptobranchus alleganiensis alleganiensis*) (Cryptobranchidae, Amphibia). *Diversity* 2018, 10(1), 13; doi:[10.3390/d10010013](https://doi.org/10.3390/d10010013)
9. Kenison, E.K., and R.N. Williams. 2018. Rearing captive Eastern hellbenders (*Cryptobranchus a. alleganiensis*) with moving water improves swim performance.

- <https://doi.org/10.1016/j.applanim.2018.01.013>.
10. Kenison, E.K., †P.Y. Weldy, and R.N. Williams. 2018. There must be something in the water: assessing the behavioral responses of rusty crayfish (*Orconectes rusticus*) to fish and amphibian predator kairomones. *J Ethol* 36: 77.  
<https://doi.org/10.1007/s10164-017-0529-5>
  11. Hernandez-Gomez, O., J.T. Hoverman, and R. N. Williams. 2017. Cutaneous Microbial Community Variation across Populations of Eastern Hellbenders (*Cryptobranchus alleganiensis alleganiensis*). *Front. Microbiol.*,  
<https://doi.org/10.3389/fmicb.2017.01379>
  12. Kimble, S.J.A., A.J. Johnson, \*J.T. Hoverman, and \*R.N. Williams. 2017. A Severe *Ranavirus* Outbreak in Captive, Wild-Caught Box Turtles. *EcoHealth* (2017) 14: 810.  
<https://doi.org/10.1007/s10393-017-1263-8>
  13. Kraus, B., E. McCallen, and R.N. Williams. 2017. Evaluating the Survival of Translocated Adult and Captive-reared, Juvenile Eastern Hellbenders (*Cryptobranchus alleganiensis alleganiensis*). *Herpetologica* 73(4):271-276.
  14. Hernandez-Gomez, O., S. J. A. Kimble, J. T. Briggler, R. N. Williams. 2016. Characterization of the cutaneous bacterial communities of two giant salamander subspecies. *Microbial Ecology* DOI: 10.1007/s00248-016-0859-9
  15. Burgmeier, N.G., R.N. Williams, and S.Klueh-Mundy. 2016. One hell of a tale: a holistic model for hellbender conservation in Indiana. *Wildlife Professional* 10(3):32-35
  16. Winzeler, M.E., R.N. Williams, and S. J.A. Kimble. 2016. Surveying for ranavirus in green frogs (*Lithobates clamitans*) at five locations in Indiana. *Journal of North American Herpetology* 1:24-26
  17. Kenison, E.K., Z.H. Olson, and R.N. Williams. 2016. A novel transport system for Hellbender salamanders (*Cryptobranchus alleganiensis*). *Herpetological Conservation and Biology* 11(2):355-361.
  18. Unger, S.D. E.J. Chapman, D.J. Regeister, and R.N. Williams. 2016. Genetic signature follow dendritic patterns in the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*). *Herpetological Conservation and Biology* 11(1):40-51
  19. Unger, S.D., and R.N. Williams. 2015. Genetic analysis reveals multiple parentage in captive reared eastern hellbender salamanders (*Cryptobranchus alleganiensis*). *Zoo Biology* 9999:1- 3.
  20. \*Kimble, S.J.A., A.K. Karna, A.J. Johnson, \*J.T. Hoverman, and \*R.N. Williams. 2015. Mosquitoes as a potential vector of ranavirus transmission in terrestrial turtles. *EcoHealth*. 12:334-338.
  21. Olson, Z., B.J. MacGowan, †M.T. Hamilton, A.F.T. Currylow, and R.N. Williams. 2015. Survival of timber rattlesnakes (*Crotalus horridus*): investigating individual, environmental, and ecological effects. *Herpetologica* 71:274-279.
  22. Kimble, S.J.A., R.N. Williams, and J.T. Hoverman. 2015. Ranavirus detected in *Lithobates clamitans* and *L. catesbeianus* in Indiana. *Herpetological Review* 46(4):532-534
  23. \*†Kimble, S.J.A., O.E. Rhodes, Jr., and \*R.N. Williams. 2014. Unexpectedly low rangewide population genetic structure of the imperiled eastern box turtle *Terrapene c. carolina*. *PLoS ONE* 9:e92274. (1<sup>st</sup> tier, Impact Factor 4.092)
  24. \*Prokopy, L.S., \*A. Thompson, R.N. Williams, and L. Bowling. 2014. Service learning in natural resources classes: measuring the impacts on university students. *NACTA* September 2014:202-207.
  25. †\*Kimble, S.J.A. \*O.E. Rhodes, Jr., and \*R.N. Williams. 2014. Relatedness and

- other finescale genetic population processes in a declining forest-dwelling turtle, *terrapene c. carolina*. *Conservation Genetics*. 15:967-979 (1st tier, Impact Factor = 2.183)
26. †LaGrange, S.M., S.J.A. Kimble, B.J. MacGowan, and R.N. Williams. 2014. Seasonal variance in hematology and blood plasma chemistry values of the timber rattlesnake. *Journal of Wildlife Diseases* 50(4):990-993
  27. \*†Currylow, A.F., \*A.J., Johnson, and \*R.N.Williams. 2014. Ranavirus infections among sympatric populations of larval amphibians and Eastern Box Turtles (*Terrapene carolina carolina*). *Journal of Herpetology* 48:117-121. (2nd tier, Impact Factor = 1.078)
  28. Mullendore, N., †A.S. Mase, †K. Mulvaney, R. Perry-Hill, A. Reimer, L. Behbehani, R.N. Williams, and L. Stalker Prokopy. 2014. From surveys to the stream: Using social science research to conserve the eastern hellbender salamander. *Human Dimensions of Wildlife* 19:166-178. (Impact Factor = 1.381)
  29. MacNeil, J. E., R. N. Williams. 2014. Effects of timber harvests and silvicultural edges on terrestrial salamanders. *PLoS ONE* DOI: 10.1371/journal.pone.0114683
  30. †\*MacNeil, J.E., and \*R.N. Williams. 2013. Effectiveness of two artificial cover objects in sampling terrestrial salamanders. *Herpetological Conservation and Biology* 8:552-560. (2nd tier, Impact Factor = 0.67)
  31. \*†Unger, S.D., O.E. Rhodes, Jr., T. \*Sutton, and \*R.N. Williams. 2013. Projected population persistence of eastern hellbenders, *Cryptobranchus alleganiensis alleganiensis*, using a stage-structured life-history model and population viability analysis. *Journal for Nature Conservation* 21:423-432. (1st tier, Impact Factor = 1.864)
  32. \*†Unger, S.D., O.E. Rhodes, Jr., T. Sutton, and \*R.N. Williams. 2013. Population genetics of a cryptic, lotic species, the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*) across multiple spatial scales. *PLoS ONE* 8:e74180. (1st tier, Impact Factor 4.092)
  33. \*†Currylow, A.F., \*M.S. Tift, \*J.L. Meyer, \*D.E. Crocker, and \*R.N. Williams. 2013. Seasonal variation in plasma reproductive markers of male and female Box Turtles, *Terrapene c. carolina*. *General and Comparative Endocrinology* 180:48-55. (1st tier, Impact Factor = 3.061)
  34. \*†Currylow, A.F., \*B.J. MacGowan, and \*R.N.Williams. 2013. Hibernial thermal ecology of *Terrapene c. carolina* within a managed forest landscape. *Journal of Wildlife Management* 77(2):326-335. (1st tier, Impact Factor = 1.555)
  35. \*Olson, Z.H., \*†N.G. Burgmeier, \*P.A. Zollner, and \*R.N. Williams. 2013. Survival estimates for adult eastern hellbenders and their utility for conservation. *Journal of Herpetology* 47:71-74. (2nd tier, Impact Factor = 1.078)
  36. MacNeil, J.E., and R.N. Williams. 2013. Effectiveness of two artificial cover objects in sampling terrestrial salamanders. *Herpetological Conservation and Biology* 8:552-560
  37. \*Olson, Z., J. Briggler, and \*R.N. Williams. 2012. An eDNA approach to detect eastern hellbenders. *Wildlife Research* 39:629-636. (2<sup>nd</sup> tier, Impact Factor 1.323)
  38. \*†Currylow, A.F., \*B.J. MacGowan, and \*R.N. Williams. 2012. Short-term forest management effects on the long-lived reptile, *Terrapene c. carolina*. *PLoS ONE* 7(7):e40473. doi:10.1371 (1<sup>st</sup> tier, Impact Factor 4.092)
  39. \*†Unger, S.D., \*†N.G. Burgmeier, and \*R.N. Williams. 2012. Genetic markers reveal high PIT tag retention rates in giant salamanders. *Amphibia-Reptilia* 33:313-317. (2<sup>nd</sup> tier, Impact Factor = 0.976)
  40. \*†Kimble, S.J.A., and \*R.N. Williams. 2012. Temporal variance in hematologic and

- plasma biochemical reference intervals for free-ranging eastern box turtles (*Terrapene carolina carolina*). *Journal of Wildlife Diseases* 48:799-802. (1<sup>st</sup> tier, Impact Factor = 1.415)
41. \*†MacNeil, J., \*G. Dhjarmadon, and \*R.N. Williams. 2011. SalaMarker: A code generator for use of visible implant elastomers. *Herpetological Conservation and Biology* 6(2):260- 265 (2<sup>nd</sup> tier, Impact Factor = 0.67)
  42. \*†Burgmeier, N.G., \*†S. Unger, T.M. Sutton, and \*R.N. Williams. 2011. Health and habitat quality assessment for the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*) in Indiana. *Journal of Wildlife Diseases* 47:836-848. (1<sup>st</sup> tier, Impact Factor = 1.415)
  43. \*†Burgmeier, N.G., \*†S. Unger, T.M. Sutton, and \*R.N. Williams. 2011. Spatial ecology of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*). *Herpetologica* 67(2):135-145. (1<sup>st</sup> tier, Impact Factor = 1.667)
  44. \*†Burgmeier, N.G., T.M. Sutton, and \*R.N. Williams. 2011. Population status of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*) in Indiana. *Journal of Herpetology* 45(2):195-201. (2<sup>nd</sup> tier, Impact Factor = 1.078)
  45. \*†Kimble, S.J.A., \*J.A. Fike, \*O.E. Rhodes, Jr., and \*R.N. Williams. 2011. Identification of 12 polymorphic microsatellite loci for the eastern box turtle (*Terrapene carolina carolina*). *Conservation Genetics Resources* 3:65-67.
  46. \*†Currylow, A.F., \*P.A. Zollner, \*B.J. MacGowan, and \*R.N. Williams. 2010. A survival estimate of Midwestern adult eastern box turtles using radio telemetry. *American Midland Naturalist* 165:143-149. (3<sup>rd</sup> tier, Impact Factor = 0.526)
  47. \*†Unger, S.D., \*J. Fike, T. Sutton, \*O.E. Rhodes, Jr., and \*R.N. Williams. 2010. Isolation and development of 12 polymorphic tetranucleotide microsatellite markers for the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*). *Conservation Genetics Resources* 2:89-91.
  48. \*†Burgmeier, N.G., \*†S.D. Unger, T. Sutton, and \*R.N. Williams. 2010. The bender board: a new design for the restraint and measurement of hellbenders. *Herpetological Review* 41(3):319-320.
  49. \*Bos, D.H. Bos, \*R.N. Williams, D. Gopurenko, Z. Bulut, \*J.A. DeWoody. 2009. Condition-dependent female choice and a reproductive disadvantage for MHC-divergent male tiger salamanders. *Molecular Ecology* 18:3307-3315. (1<sup>st</sup> tier, Impact Factor = 6.457)
  50. Williams, R.N., D. Gopurenko, †K. R. Kemp, †B.C. Williams, and J.A. DeWoody. 2009. Breeding chronology, sexual dimorphism, and genetic diversity of congeneric Ambystomatid salamanders under different sexual selection regimes. *Journal of Herpetology* 43:438-449.
  51. \*Williams, R.N., and \*J.A. DeWoody. 2009. Reproductive success and sexual selection in tiger salamanders (*Ambystoma tigrinum*). *Evolutionary Biology* 36:201-213. (2<sup>nd</sup> tier, Impact Factor = 2.736)
  52. \*Bulut, Z., C.R. McCormick, D. Gopurenko, R.N. Williams, D.H. Bos, and \*J.A. DeWoody. 2009. Microsatellite mutation rates in the eastern tiger salamander (*Ambystoma tigrinum tigrinum*). *Genetica* 136:501-504. (2<sup>nd</sup> tier, Impact Factor = 2.358)
  53. \*Williams, R. N., D. H. Bos, D. Gopurenko, and \*J.A. DeWoody. 2008. Inbreeding and amphibian malformations. *Biology Letters* 4:549-552. (1<sup>st</sup> tier, Impact Factor = 3.651)
  54. \*Bos, D. H., \*D. Gopurenko, \*R.N. Williams, and \*J. A. DeWoody. 2008. Inferring population history and demography using microsatellites, mitochondrial DNA, and major histocompatibility complex (MHC) genes. *Evolution* 62:1458-1468. (1<sup>st</sup> tier,



- Impact Factor = 5.659)
55. \*Gopurenko, D., \*R.N. Williams, and \*J.A. DeWoody. 2007. Reproductive and mating success in the small-mouthed salamander *Ambystoma texanum* estimated via microsatellite parentage analysis. *Evolutionary Biology* 34:130-139. (2<sup>nd</sup> tier, Impact Factor = 2.736)
  56. \*Gopurenko, D., \*R.N. Williams, C.R. McCormick, and \*J.A. DeWoody. 2006. Insights into the aggregate breeding biology of the tiger salamander (*Ambystoma t. tigrinum*) as revealed by genetic parentage analyses. *Molecular Ecology*. 15:1917-1928. (1<sup>st</sup> tier, Impact Factor = 6.457)
  57. \*Williams, R.N., and \*B.J. MacGowan. 2004. Natural History Data on the Mole Salamander in Indiana. *Proceedings of the Indiana Academy of Science*. 113:147-150. (3<sup>rd</sup> tier, Impact Factor = 0.382)
  58. \*Williams, R.N., and \*B.J. MacGowan. 2004. Geographic Distribution. Mole Salamander. *Herpetological Review*. 35(3):279.
  59. \*Williams, R.N., and \*J.A. DeWoody. 2004. Fluorescent dUTP helps characterize 10 novel tetranucleotide microsatellites from an enriched salamander (*Ambystoma texanum*) genomic library. *Molecular Ecology Notes*. 4:17-19. (3<sup>rd</sup> tier, Impact Factor = 1.251)
  60. \*Williams, R.N., T.L. Serfass, and \*O.E. Rhodes, Jr. 2000. Assessment of genetic variance in source and reintroduced fisher populations. *Journal of Mammalogy*. 81:221-233. (1<sup>st</sup> tier, Impact Factor = 1.541)
  61. \*Beheler, A.S., \*R.N. Williams, \*O.E. Rhodes, Jr., E.P. Reat, A.M. Fedynich, D.B. Pence, and J.F. Bergan. 2000. Genetic polymorphisms in two species of whistling-ducks from Texas. *The Southwestern Naturalist*. 45:234-238. (3<sup>rd</sup> tier, Impact Factor = 0.417)
  62. \*Williams, R.N., L.K. Page, T.L. Serfass, and \*O.E. Rhodes, Jr. 1999. Genetic polymorphisms in the fisher (*Martes pennanti*). *American Midland Naturalist*. 141:406-410. (3<sup>rd</sup> tier, Impact Factor = 0.526)

**Peer-reviewed PUBLICATIONS:** (in review)

1. Busse, R., and R.N. Williams. Evaluating the effects of education on student knowledge, attitudes, and behavior regarding food waste. *Journal of Extension*
2. Burgmeier, N., R. Busse, V. Yager, and R.N. Williams. Expanding reach of Extension programming through partnerships with state park naturalists. *Journal of Extension*
3. Burgmeier, N., E. McCallen, E. Kenison, and R.N. Williams. Comparing the effects of environmental enrichment, seasonality, soft-release on site retention and survivorship of captive-reared eastern hellbenders (*Cryptobranchus alleganiensis*). *Herpetologica*
4. Macke, M. S. Royal, N. Burgmeier, B. Tornabene, and R.N. Williams. Juvenile eastern hellbender (*Cryptobranchus alleganiensis*) preference toward artificial hut designs. *Journal of North American Herpetology*.
5. Kimble, S.J.A., S. Unger, and R.N. Williams. Effective population size estimates of long-lived species should be used with caution. *Animal Conservation*.

**PUBLISHED PROCEEDINGS and GENERAL TECHNICAL REPORTS:**

1. Currylow, A., B. MacGowan, and R. Williams 2013. Spatial Ecology and Behavior of Eastern Box Turtles on the Hardwood Ecosystem Experiment: Pre-treatment Results. In: Swihart, R.K.; Saunders, M.R.; Kalb, R.A.; Haulton, G.S; Michler, C.H., eds. The Hardwood Ecosystem Experiment: A Framework for Studying Responses to Forest Management. U.S.Department of Agriculture, Forest Service, Northern For Experiment Station Gen. Tech. Rep.

2. MacNeil, J. and R. Williams 2013. Relative Abundance and Species Richness of Terrestrial Salamanders on Hardwood Ecosystem Experiment Sites before Harvesting. In: Swihart, R.K.; Saunders, M.R.; Kalb, R.A.; Haulton, G.S; Michler, C.H., eds. The Hardwood Ecosystem Experiment: A Framework for Studying Responses to Forest Management. U.S. Department of Agriculture, Forest Service, Northern Forest Experiment Station Gen. Tech. Rep.
3. Rhodes, O.E., Jr., R.N. Williams, J.R. Heffelfinger, L.K. Page, E.P. Reat, and J.C. Devos. 1999. Genetic variation in pronghorn antelope from Arizona. Proceedings of the 18<sup>th</sup> Biennial Pronghorn Antelope Workshop, Prescott Arizona. 18:53-63.

### **RESEARCH PRESENTATIONS:**

I have presented or coauthored 211 presentations for posters or oral presentations at local, regional, and national meetings.

### **INVITED PRESENTATIONS:**

1. 2020. Extensions role in the 21<sup>st</sup> century, North Dakota State University, Fargo, ND.
2. 2020. Extension in the 21<sup>st</sup> century, University of Alaska Fairbanks, Fairbanks, AK.
3. 2019. Advancing forestry and natural resources, Clemson University, Clemson, SC.
4. 2019. An engaged approach to endangered species management. The Ohio State University, Columbus, OH.
5. 2018. A decade of hellbender discovery, Purdue Fort Wayne, Fort Wayne, IN.
6. 2017. TEDxPurdueU. Help the Hellbender, West Lafayette, IN.
7. 2017. A decade of hellbender discovery, Indiana University, Bloomington, IN
8. 2017. Filial cannibalism of eastern hellbenders, Ball State University, Muncie, IN
9. 2017. What have we learned about hellbenders, Butler University, Indianapolis, IN
10. 2016. Chengdu Institute of Biology, Chengdu, China, The Eastern Hellbender.
11. 2016. 37th Annual Indiana Water Resources Association (Keynote Speaker), Angola, Indiana Eastern Hellbender: a decade of discovery.
12. 2016. Integration of Extension, Research, and Teaching. PUCESA Professional Development Workshop. West Lafayette, IN
13. 2015. An integrated approach to promotion and tenure. Purdue Office of Engagement, Scholarship of Engagement Workshop, West Lafayette, IN
14. 2015. Hellbender Conservation and Ecology: a decade of discovery. The Nature Conservancy Annual State Meeting, Indianapolis, IN
15. 2014. Using Hellbenders to improve water quality. Indiana Department of Environmental Management annual meeting, Indianapolis, IN.
16. 2014. Integrating Students into Extension and Research. Indiana Chapter of Environmental Education, Spencer, IN.
17. 2014. Hellbender Conservation in Indiana: lessons learned from a decade of research. Ohio Hellbender Partnership Meeting. Cumberland, OH.
18. 2012. Strategies for hellbender conservation. Eastern Illinois University, Charleston, IL.
19. 2012. Spatial ecology of hellbenders. World Congress of Herpetology, Vancouver, B. C.
20. 2012. Midwest Partners for Amphibian and Reptile Conservation, Pioneer, OH. Indirect assessment of population connectivity in herpetofauna.
21. 2009. Wabash College, Department of Biology, Crawfordsville, IN
22. 2009. Indiana State University, Department of Biology, Terre Haute, IN
23. 2008. Purdue Fort Wayne, Department of Biology, Fort Wayne, IN.
24. 2007. Penn State University Hazelton, Department of Biology, Hazelton, PA.

**GRANTS AWARDED: (only grants >\$10,000 listed; \*pending/not included in total)***Total Funding = \$4,226,193; PI unless otherwise noted*

Amount	Date	Title	Role	Agency
*\$2.2M	Pending	Farmers Helping Hellbenders	PI	Natural Resource Conservation Service
\$648,834	2019-23	Expanding hellbender captive rearing	PI	Indiana Division of Fish & Wildlife (IDFW)
\$15,000	2018	Building multistate extension teams	PI	FNR
\$92,845	2017-18	eDNA to detect mudpuppies	PI	IDFW
\$26,000	2016-18	Building interdisciplinary extension programs: HHS, ANR, and 4-H	PI	Purdue Extension
\$422,073	2015-19	Assessing hellbender habitat for potential reintroductions	PI	IDFW
\$274,574	2014-16	Assessing Juvenile survival in eastern hellbenders	PI	IDFW
\$75,128	2014-16	Mussel Habitat in the Tippecanoe River Stewardship Campaign	Co-PI	IDFW
\$171,327	2014-16	Developing an Outreach Campaign to protect mussels in the Tippecanoe River	Co-PI	IDFW
\$122,215	2013-15	Ranavirus surveillance in Box Turtles and aquatic amphibians	PI	IDFW
\$10,000	2011-12	Non-invasive e-DNA approach to detect eastern hellbenders	PI	Animal Welfare Inst.
\$450,332	2011-13	Repatriation of eastern hellbenders via translocations	PI	IDFW
\$118,000	2011-13	Evaluating awareness and attitudes of people towards eastern hellbenders	Co-PI	IDFW
\$343,504	2009-13	Ecology and genetics of eastern box turtles	PI	IDFW
\$414,000	2007-11	Assessment of eastern hellbender populations	PI	IDFW

**GRADUATE STUDENTS: Major Professor (\*co-advised)**

Name	Degree	Research Topic	Years
Rebecca Busse	MS	Reducing food waste in public schools	2016 - 2018
Emily McCallen*	PhD	Species distribution models for hellbender habitat	2013 - 2018
Erin Kenison	PhD	Novel approaches in hellbender husbandry	2014 - 2018
Brianna Osinski*	MS	Juvenile survivorship of captive hellbenders	2015 - 2017
Obed Hernandez	PhD	Molecular genetics of eastern hellbenders	2012 - 2017
Bart Kraus	MS	Spatial ecology of translocated hellbenders	2010 - 2015
Steve Kimble	PhD	Population genetics of eastern box turtles	2009 - 2012
Shem Unger	PhD	Ecology and genetics of eastern hellbenders	2008 - 2012
Jami MacNeil	MS	Effects of timber harvests on woodland salamanders	2009 - 2011
Andrea Currylow	MS	Effects of silvicultural treatments on box turtles	2009 - 2011
Nick Burgmeier	MS	Movement and habit use in hellbenders	2007 - 2010

**OTHER GRADUATE STUDENT COMMITTEES:**

<b>Student</b>	<b>Degree</b>	<b>Department</b>	<b>Years</b>
Alison Ochs	PhD	Forestry and Natural Resources	2019 - present
Rian Bylsma	MS	Forestry and Natural Resources	2018 - 2020
Maryam Ghadiri	PhD	Forestry and Natural Resources	2015 - 2019
Randy Creaser	MS	Forestry and Natural Resources	2014 - 2016
Vanessa Weurthner	MS	Forestry and Natural Resources	2013 – 2015
Patrick Ruhl	MS	Forestry and Natural Resources	2012 – 2014
Nick LaBonte	MS	Forestry and Natural Resources	2011 - 2013
Conor Keitzer	PhD	Forestry and Natural Resources	2009 - 2013
William Beatty	PhD	Forestry and Natural Resources	2010 - 2012
Tanya Aldred	MS	Forestry and Natural Resources	2008 - 2011
Jamie Nogle	MS	Forestry and Natural Resources	2008 - 2010

**POST DOCTORAL RESEARCH ASSOCIATES and VISITING SCHOLARS:**

<b>Name</b>	<b>Position</b>	<b>Department</b>	<b>Date</b>
Obed Hernandez	Post Doc.	Forestry and Natural Resources	2017
Steve Kimble	Post Doc.	Forestry and Natural Resources	2012-15
Zach Olson	Post Doc.	Forestry and Natural Resources	2011-12
Mehmet Nizamlioglu	Visiting Scholar	Selcuk University, Turkey	2015
Wang Jie	Visiting Scholar	Chengdu Institute of Biology, China	2012

**PROFESSIONAL SERVICE:** (committee member unless otherwise noted)

<b>Unit</b>	<b>Date</b>	<b>Position</b>	<b>Service Activity</b>
<b>University</b>	2019	Chair	Director, Wabash Heartland Office of Engagement Search committee
	2018-20	Chair	Engagement Awards Committee
	2018-20	Chair	Jefferson Awards Committee
<b>College</b>	2017-18		Dean Search Committee
	2014-15	Chair	Strategic Planning Task Force - Extension
	2013	Chair	Agenda and Policy Committee
	2011-12		Agenda and Policy Committee
	2012		Instructional Innovation
	2011-12		PK-12 Council
	2010		Purdue University Cooperative Extension Service Association Executive Committee
	2008-10		Grievance Hearing Committee
	2007		PK-12 Committee
	2005		Student Retention and Recruitment Committee
<b>Department</b>	2019		Media Specialist Search Committee
	2016		Department Head Search Committee
	2016		Natural Resources Coordinator Search Committee
	2016		Extension Wildlife Specialist Search Committee
	2016		Genetics Lab Manager Search Committee
	2016		Extension Agronomy Specialist Search Committee
	2016	Vice Chair	Budget and Steering Committee
	2015-16	Chair	Strategic Plan Committee (extension)
	2016	Chair	Website Committee
	2015-2017	Chair	Extension Internship Committee

	2015-2017	Chair	Mentoring Cluster: Cortney Mycroft
	2014-2017		Mentor – Dr. Shaneka Lawson
	2013-present		Primary Promotions Committee
	2013-2017		Woodlands Committee
	2012-2017	Advisor	Student Chapter of Environmental Education
	2015-16	Chair	Mentor- Rob Chapman
	2012-15		Awards Committee
	2013-15		Graduate Committee
	2014		Mentor: Dr. Liz Flaherty
	2013		Ecological Economics Search Committee (fall)
	2013		Ecological Economics Search (spring)
	2012	Chair	Wildlife Ecologist Search Committee (fall)
	2012		Wildlife Ecologist Search Committee (spring)
	2011		Vertebrate Ecologist Search Committee
	2011-13		Visiting Scientist and Seminar Speaker Committee
	2011		Department Head Review Committee
	2007		Fisheries Ecologist Search Committee
	2006		Aquatic Community Ecologist Search Committee
<b>Professional</b>	2014-18	Chair	Indiana Technical Advisory Committee - Herpetology
	2013	Chair	National Wildlife Habitat Education Program (WHEP)
	2011	Chair	Ecology Section for the Indiana Academy of Science
	2010-15		Executive Committee of WHEP
	2010-13		ASIH Education and Human Resources Committee
	2008-present		Indiana Herpetological Technical Advisory
	2007-15	Co-chair	Indiana Wildlife Habitat Education Program
	2008-11		Assoc. Editor for Herpetological Conservation and Biology
	2000-05	Chair	Student Chapter Coordinator for Indiana Chapter of The Wildlife Society