Approved by the Regents
May 20, 2021

PROMOTION RECOMMENDATION
The University of Michigan – Flint
College of Arts and Sciences
Department of Biology

Heather A. Dawson, associate professor of biology, with tenure, Department of Biology, College of Arts and Sciences, is recommended for promotion to professor of biology, with tenure, Department of Biology, College of Arts and Sciences.

Academic Degrees:

Ph.D.	2007	Michigan State University, Fisheries and Wildlife Ecology, Evolutionary Biology, and Behavior, East Lansing, MI
M.S.	2003	Eastern Michigan University, Ecosystems Biology (Acquatic), Ypsilanti, MI
B.S.	1997	University of Michigan, Biology, Ann Arbor, MI

Professional Record:

2016-Present	Associate Professor of Biology, University of Michigan-Flint, Michigan
2019-Present	Adjunct Associate Professor, Department of Fisheries and Wildlife, Michigan State University, East Lansing, Michigan
2009-2016	Assistant Professor of Biology, University of Michigan-Flint, Michigan
2004-2009	Fishery Biologist, U.S. Fish and Wildlife Service, Marquette, MI

Summary of Evaluation:

Teaching: Since earning tenure, Professor Dawson has taught eight distinct courses ranging from Biology 111 (Organismal Biology) to Advanced Ecology and Evolution (Biology 503). She teaches core courses for the undergraduate programs and for the M.S. in biology, advanced courses that are required for the program in Wildlife Biology, capstone courses, and upper-level electives in lectures, laboratories, field experiences, online and in mixed mode formats. This speaks to her ability to communicate well across a wide range of academic levels and modes of delivery. She is constantly redesigning and improving courses, whether with new tools or technologies to prepare students for future work or to align to professional standards. Professor Dawson also has a strong record of career advising, participation in course and program assessment, and data driven curricular reforms. She was instrumental in the design of the certification as an associate wildlife biologist by The Wildlife Society and is currently working to create a B.S./M.S. track for the Wildlife program.

Her teaching philosophy emphasizes active engagement in the learning process, increasing information literacy skills in all students, and creation of an open cooperative learning environment. She has co-developed courses with colleagues to ensure students have access to multiple faculty perspectives and faculty expertise to best prepare them for future work. Student evaluations since her initial promotion have an average median score of 4.6. Student evaluations suggest she is a passionate instructor who works to ensure her students' success. One of her peer observers noted, "Dr. Heather Dawson is an expert instructor who designs active and engaging courses for her students. It is abundantly clear her students respect and venerate her, and are willing and able to rise to the challenges she sets for them." Professor Dawson has a consistent

record of mentoring both undergraduate and graduate students through high quality research projects, providing these students with valuable experience and knowledge.

Research: Professor Dawson's research focuses on the management of natural resources, with a major focus on invasive species, and in particular, sea lamprey in the Great Lakes. Her track record for grants and publications in this domain is excellent, with several projects involving novel tools and techniques that contribute to strategic decision making regarding the management of sea lamprey. Since her last promotion, Professor Dawson has published six articles in the *Journal of Great Lakes Research* (3), *North American Journal of Fisheries Management*, *The Journal of Wildlife Management*, and *Natural Resource Modeling* and has two additional manuscripts under review. Professor Dawson's research is collaborative in nature. She is first, second, or corresponding author on five of her six recent publications and her contributions to each article are significant. She is also active in other ways in her professional community, authoring more than 20 technical reports, conference papers, or posters, nearly half with student co-authors.

Professor Dawson has a remarkable record of involving both undergraduate and graduate students in her research. Since her last promotion, she has supervised 19 undergraduate students across eight projects, as well as five graduate students in thesis research. Students involved in Professor Dawson's research are active and productive participants, and her success at mentoring students through the scientific process to publishing their work is a key factor in their future professional success. She has seven student co-authors on published papers or manuscripts that are currently under review since 2016. Professor Dawson has a consistent record of successful procurement of funding to support her research, both from internal sources and from external agencies (about $75k since her last promotion). She was also lauded for the caliber of her engagement of students in her research endeavors.

Recent and Significant Publications:

Allison, M., Dawson, H.A., Rusin, G. 2018. Towards an AUV Swarm Based Mobile Underwater Sensor Network for Invasive Species Data Acquisition. 2018 4th International Conference on Universal Village (UV), Boston, MA, USA, pp. 1-4.

Starking-Szymanski, M.D.Ł, Yoder-Nowak, T. Rybarczyk, G., Dawson, H.A. 2018. Movement and Habitat Use of Headstarted Blanding's Turtles in Michigan. *Journal of Wildlife Management* 82(7):1516-1527.

Dawson, H.A., Bravener, G., Beaulaurier, J.Ł, Johnson, N.S., Twohey, M. McLaughlin, R.L., and Brenden, T.O. 2017. Contribution of manipulable and non-manipulable environmental factors to trapping efficiency of invasive sea lamprey. *Journal of Great Lakes Research* 43:172-181.

Service: Professor Dawson has contributed extensive service at the department level, including membership on the personnel, scholarships, and greenhouse committees, leadership of the MS program in biology, and serving as the chair or co-chair on four of the five most recent searches for tenure track faculty. For two years, she assumed significant leadership responsibilities associated with the chairperson role in her large department including, supervision of administrative staff, course schedule, and dealing with student concerns/waivers/petitions. At the college and university levels, she served on the Common Read Committee, served on and chaired

the Research and Creative Activities committee, and was co-lead of the Biosequestration Internal Analysis Team for the University of Michigan President's Commission on Carbon Neutrality, which has also led to a peer reviewed manuscript (under review). She has been an active participant in new faculty orientations, as well as student recruitment and orientation events.

Professor Dawson actively reviews manuscripts in her field and in at least eight scientific journals. She actively supports her profession by serving on committees such as the Publication Committee for the *Journal of Great Lakes Research*, which is the publication by one of her professional societies, The International Association for Great Lakes Research. She also devotes a significant effort to community engagement and outreach activities. In particular, she participated in planning for the removal of the Hamilton Dam in downtown Flint and is active in several groups associated with the analysis and recreational use of the Flint River. She has done presentations for various community groups including the Citizen Science Program at For-Mar Nature Preserve, the Saginaw Valley Audubon Society, and various local schools.

External Reviewers:
Reviewer (A): "As her career continues to develop at the University of Michigan so too does her research program."

Reviewer (B): "Her contribution in Natural Resource Modeling that evaluated the use of pheromone-baited traps to improve the monitoring of sea lamprey is of particular note because of the value of this effort towards the effective management of a pervasive invasive species. … I consider her research performance excellent."

Reviewer (C): "…since 2016 her manuscripts have been cited 228 times suggesting the manuscripts are useful and well respected by her peers. … My overall impression of Dr. Heather Dawson's scholarship and creative work is very favorable."

Reviewer (D): "Her research of different control methods (trapping, lampricides, physical removal) will inform future Sea Lamprey management throughout the Great Lakes region."

Reviewer (E): "Dr. Dawson…has branched out by exploring the efficacy of using autonomous underwater vehicles (AUV) in 'swarms' to collect data. … I suspect that this technology will expand greatly in the coming years, with her contributions being at the forefront."

Reviewer (F): "… external funding agencies seem to be increasingly willing to fund projects involving Dr. Dawson, which speaks to her reputation as a reliable and competent researcher."

Reviewer (G): "It is her work focused on improving strategies for the control on Sea Lamprey that in my opinion has the greatest potential scholarly and societal impact. Research such as Dawson et al. (2020) and Miehls et al (2020) show promise to improve efficacy of Sea Lamprey control, and are thus critical for fisheries, the broader ecosystem and economies…"

Reviewer (H): "The review on the ecology of the early life stages of lampreys (Dawson et al. 2015) is an important contribution to the field and has garnered nearly 100 citations since publication."

Summary of Recommendation:
Professor Dawson is a highly effective and innovative teacher who is broadly praised by both her students and her peers. She has a strong record of student mentorship in research and in career advising and support. She has a productive research program that is supported by both internal and external funding sources; she also has an outstanding record of integrating undergraduate and graduate students into her research and publishing with them. She has an exemplary record of service to her department, college, university, profession, and community that presents a balance of important and meaningful service in each of these dimensions. It is with the full support of the College of Arts and Sciences Executive Committee that I recommend Heather A. Dawson for promotion to professor of biology, with tenure, Department of Biology, College of Arts and Sciences.

Recommended by:

Susan Gano-Phillips, Dean
College of Arts and Sciences

Recommendation endorsed by:

Sonja Feist-Price, Provost and
Vice Chancellor for Academic Affairs

Debasish Dutta, Chancellor
University of Michigan – Flint

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