Approved by the Regents
May 19, 2016

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

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

Academic Degrees:

Ph.D.	2007	Michigan State University, Lansing, Michigan
M.S.	2003	Eastern Michigan University, Ypsilanti, Michigan
B.S.	1997	University of Michigan, Ann Arbor, Michigan

Professional Record:

2009-Present	Assistant Professor, University of Michigan-Flint-Michigan
2009	Instructional Facilitator, University of Phoenix, Phoenix, Arizona

Summary of Evaluation:

Teaching – Professor Dawson is an outstanding science educator who has successfully taught a wide range of courses ranging from introductory level lectures and laboratory courses (BIO 111) through advanced graduate seminars (BIO 555). Professor Dawson's student evaluation ratings are quite positive and have consistently improved over her years at the University of Michigan-Flint. She has developed three new courses in her area of specialization, wildlife biology, including BIO 423/523 Wildlife Ecology and Management, BIO 453/533 Evolution and Adaptation, and BIO 455/555 Biology and Management of Fishes. Professor Dawson's syllabi and course materials reveal a dedication to requiring students to read and think critically, problem solve both individually and in groups, and develop both writing and speaking communication skills. She is an active and sought after advisor in both the wildlife and general biology programs, and she routinely works in close collaboration with students on various research projects. Her work with 18 different students over the past six years on research as well as her multiple publications with students as co-authors are a testament to Professor Dawson's success in mentoring student research in addition to her talents as a classroom lecturer.

Research – Professor Dawson has continued a line of research that began while she was employed at the U.S. Fish and Wildlife Service that uses field, laboratory, and modeling techniques to study and predict impacts of aquatic invasive species to improve decision-making in natural resource management. She is active in her professional community, having made 17 presentations at professional conferences during her time at UM-Flint. She has published three peer reviewed journal articles, a highly regarded peer reviewed book chapter, as well as three technical reports since arriving at UM-Flint. She has successfully competed for both internal and extramural grants, recently as a co-principal investigator on a $160,000 Great Lakes Fisheries grant. Professor Dawson's work was positively regarded by external reviewers and her book chapter on larval and

metamophosing lampreys is expected to be widely cited. She is sought after by scientific journals, having served as a reviewer 16 times, and exhibits an extremely collaborative style of scholarship with colleagues and students. The consistent quality and trajectory of Professor Dawson's research is excellent.

Recent and Significant Scholarly Activity:

Peer-Reviewed Articles:

Dawson, H. A., Jones, M. L., Irwin, B. J., Johnson, N. S., Wagner, C. M. and Szymanski, M.* "Management Strategy Evaluation of a New Control Tactic to Manage an Invasive Fish," *Canadian Journal of Fisheries and Aquatic Sciences. (In review – revision submitted)*

Dawson, H. A., Quintella, B. R., Almeida, P. R., Treble, A. J. and Jolley, J. C. (2015). "The Ecology of Larval and Metamorphosing Lampreys." In Docker, M. F. (ed), Lampreys: Biology, Conservation and Control, Springer, New York.

Dawson, H. A., Potts, D. D.,* Maguffee, A. C.,* O'Connor, L. M. (2015). "Feasibility of Passive Integrated Transponder Technology to Study in Situ Movements of Larval Sea Lamprey." *Journal of Fish and Wildlife Management* – online, http://blogs.umflint.edu/cas/2014/06/24/um-flint-biology-professor-and-students-conduct-lamprey-research/.

Potts, D. D.,* Dawson, H. A., Jones, M. L. (2015). "Validation of a Relationship Between Statolith Size and Age of Larval Great Lakes Sea Lamprey *(Petromyzon marinus)*." *Environmental Biology of Fishes*-online early.

Johnson, N. S., Siefkes, M. J., Wagner, C. M., Dawson, H. A., Wang, H., Steeves, T. M., Twohey, M. and Li, W. (2013). "A Synthesized Mating Pheromone Component Increases Adult Sea Lamprey *(Petromyzon marinus)* Trap Capture in Management Scenarios." *Canadian Journal of Fisheries and Aquatic Sciences*, 70: 1101-1108.

Technical Reports:

Dawson, H. A., Bravener, G., Beaulaurier, J.,* Johnson, N. S., Twohey, M. and McLaughlin, R. L. (2014). "Evaluating Adult Sea Lamprey Behavior at Traps Using Video." Project Completion Report, Great Lakes Fishery Commission, Ann Arbor, Michigan. http://www.glfc.org/research/scr.php.

Dawson, H. A. and Harbin, D.* (2011). "Tracking Bloodsucking Fish," (Ed.) Kendra S. Cheruvelil, Michigan Chapter of the North American Lake Management Society *Lake Effect Newsletter*. http://www.mcnalms.org/images/LakeEffect_Jan_ecopy.pdf.

Gaden, M. and Dawson, H. A. (2010). "It's Better to Eat at a Crowded Table." Great Lakes Fishery Commission – online, http://www.glfc.org/pressrel/pr100823_2.pdf.

Dawson, H. A. and Jones, M. L. (2010). "Summary of Factors Affecting Recruitment Dynamics of Great Lakes Sea Lamprey Populations." (Ed.) Yolanda Morbey, London, ON: The Siscowette, 2(1). http://publish.uwo.ca/~ymorbey/The%20Siscowette%20Jan%202010.pdf.

Recent Presentations:

Dawson, H. A., Jones, M. L., Irwin, B. J., Johnson, N. S., Wagner, C. M. and Szymanski, M.* "Evaluation of 3kPZS-Baited Trapping Using a Management Strategy Evaluation Model." Pheromone-Enhanced Sea Lamprey Trapping Workshop, Michigan State University, East Lansing, Michigan, March 2015.

Dawson, H. A., Bravener, G., Beaulaurier, J.,* Johnson, N. S., Twohey, M. and McLaughlin, R. L. "Factors Affecting Trapping Efficiency of Invasive Sea Lamprey and Implications for Improved Control." 144th Annual Meeting of the American Fisheries Society, Quebec City, Canada, August 2014.

Dawson, H. A., Jones, M. L., Irwin, B. J., Johnson, N. S., Wagner, C. M. and Szymanski, M.* "Model Evaluation of Pheromone-Baited Trapping to Control Invasive Sea Lamprey." 144th Annual Meeting of the American Fisheries Society, Quebec City, Canada, August 2014.

Maguffee, A.,* Dawson, H. A. and Potts, D. D.* "Feasibility of Using Passive Integrated Transponder (PIT) Technology to Study Behavior of Great Lakes Larval Sea Lampreys (*Petromyzon marinus*)." 21st Annual Meeting of Minds, Oakland University, Rochester, Michigan, May 2014.

Brown, A.,* Elkassis, E.,* Schaft, D.* and Dawson, H. A. "The Effect of Great Lakes Sea Lamprey Recruitment Dynamics on the Potential Management Options to Control This Species." Poster presentation at the 21st Annual Meeting of Minds, Oakland University, Rochester, Michigan, May 2014.

Jones, M. L., Dawson, H. A. and Infante, D. M. "Evaluating Trade-Offs for Sea Lamprey Management Using an Operating Model of the Control Program." Sea Lamprey Research Board, Ann Arbor, Michigan, March 2014.

Dawson, H. A., Bravener, G., Beaulaurier, J.,* Johnson, N. S., Twohey, M., McLaughlin, R. L., Jones, M. L., Irwin, B. J., Johnson, N. S., Wagner, C. M. and Syzmanski, M.* "Evaluating Our Ability to Improve Trapping Success of Great Lakes Sea Lamprey." Michigan State University Veterinary School's Aquatics Club, East Lansing, Michigan, March 2014.

Dawson, H. A., Bravener, G., Beaulaurier, J.,* Johnson, N. S., Twohey, M., McLaughlin. R. L., Jones, M. L., Irwin, B. J., Johnson, N. S., Wagner, C. M. and Syzmanski, M.* "Evaluating Our Ability to Improve Trapping Success of Great Lakes Sea Lamprey." University of Michigan-Flint Faculty Spotlight Series, Flint, Michigan, April 2014.

* UM-Flint graduate or undergraduate student.

Service – The service contributions of Professor Dawson has been excellent across the spectrum of department, college, profession, and community. She has served her department in search committees, academic assessment planning and implementation, and as an interim director of the graduate biology program. She has also served on the college's Academic Standards Committee and several scholarship committees. Professionally, Professor Dawson is a reviewer for five scientific journals, is actively engaged in community service ranging from mentorship of science fair projects to instruction in citizen science programs at local nature preserves, and supporting STEM education for high school girls. Professor Dawson is an excellent academic citizen who has served her various constituencies well through her effective service contributions.

External Reviewers:

Reviewer (A): "The publications, especially those in *Canadian Journal of Fisheries and Aquatic Sciences* and *Environmental Biology of Fishes*, will reach a broad scientific community of aquatic

scientists. Co-authors of these publications include University of Michigan-Flint students, indicating Dr. Dawson's success as a research mentors [sic]."

Reviewer (B): "All of Dr. Dawson's publications are very well written, strategically tackle problems that are instrumentally important for invasive species management and are published in very good journals that are aimed at the appropriate audience to successfully disseminate the results of her research... She has been successful in obtaining grants, collaborates efficiently with other researchers, managed to conduct and publish important studies in her field that tackle real-life problems efficiently, delivered or was co-author of 19 various presentations and two guest lectures at other institutions, publishes in very good journals that are well-suited for her target audience and she has been diligently supervising many undergraduate and graduate students over the past several years."

Reviewer (C): "Dr. Dawson's ability to make contributions using both computer modelling and direct experimentation is also an asset and can have significant benefit increasing the impact of her work in the long-term; the blend of applied experimentation and modelling approaches shows promise for future work... I particularly enjoyed reading the book chapter recently published by Dr. Dawson and her co-authors. The chapter was well-written, comprehensive and a timely review of the larval lamprey ecology. The fact that Dr. Dawson was invited to write this chapter attests to her impact on the field of larval lamprey ecology. It is also noteworthy that she as an assistant professor led an international team to write this chapter."

Reviewer (D): "...mentoring students, both graduate and undergraduate, is also a strong indicator of scholarly activity. Dr. Dawson has a strong record in this area, having mentored 2 master's students, participated on 4 committees, and has served as a mentor to 18 undergraduate students."

Reviewer (E): "Dr. Dawson has established herself as a leader in the Great Lakes as an expert on the ecology and management of sea lamprey, an invasive fish species in the Great Lakes... ... I believe Dr. Dawson's chapter in the Lamprey book is outstanding. She is the lead author on a chapter that will likely be highly cited... ... Dr. Dawson has provided peer-review on over a dozen publications, she is an active member of the American Fisheries Society where she serves as a representative on the Centrachid Technical Committee, and she is a member of the annual meeting committee for the Midwest Fish and Wildlife Conference. Her selection to these committees indicates her positive reputation in the fisheries field."

Reviewer (F): "Her research publications are of high quality and she has employed solid statistical approaches to her analysis of data. She has partnered with high quality respected researchers in several of these papers. I am impressed with the use of a management strategy evaluation (MSE) model in her latest publication in the Canadian Journal of Fisheries and Aquatic Sciences. This demonstrates her ability to step out of the fine scale approach to help management at a larger scale."

Reviewer (G): "...I am sure her research continues to be important to inform the management of lamprey invasions in tributaries of the Great Lakes. This scholarly impact is often manifested in technical reports that do not garner citations in the primary literature."

Summary of Recommendation:

Professor Dawson is an exemplary teacher, one who is never satisfied with the status quo, a fine scholar whose applied scholarship is making a difference in sea lamprey management in the Great Lakes, and a colleague who is recognized for her thoughtful and committed service. With enthusiasm and great pride, I recommend that Heather A. Dawson be promoted to associate professor of biology, with tenure, Department of Biology, College of Arts and Sciences.

Recommended by:

Susan Gano-Phillips

Susan Gano-Phillips, Dean
College of Arts and Sciences

Recommendation endorsed by:

Douglas G. Knerr, Provost and
Vice Chancellor for Academic Affairs

Susan E. Borrego, Chancellor
University of Michigan-Flint

May 2016