

This article was downloaded by: [Michigan State University]

On: 12 August 2011, At: 13:43

Publisher: Taylor & Francis

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Fisheries

Publication details, including instructions for authors and subscription information:
<http://www.tandfonline.com/loi/ufsh20>

Forging New Perspectives of Fisheries Science and Management

Abigail J. Lynch^a

^a Department of Fisheries & Wildlife, Michigan State University, Ph.D. student, East Lansing, Michigan E-mail: lynchabi@msu.edu

Available online: 08 Jul 2011

To cite this article: Abigail J. Lynch (2011): Forging New Perspectives of Fisheries Science and Management, *Fisheries*, 36:7, 353-354

To link to this article: <http://dx.doi.org/10.1080/03632415.2011.599696>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.tandfonline.com/page/terms-and-conditions>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan, sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Student Angle: The Fenske Fellowship

Forging New Perspectives of Fisheries Science and Management

Abigail J. Lynch

Ph.D. student, Department of Fisheries & Wildlife, Michigan State University, East Lansing, Michigan
E-mail: lynchabi@msu.edu

Climate change is often the subject of scathing headlines and vicious debates, and is unquestionably a highly politicized topic. As a result, discussion of climate management and its relationship to fisheries and aquatic ecosystems is a contentious topic that can often be overwhelming, particularly for a graduate student. When I began my doctoral research at Michigan State University (MSU) on climate change effects to Great Lakes fisheries, the concept of fisheries management was also still quite theoretical and foreign to my way of thinking. I understood that fisheries science could be used to inform and design conservation objectives; but how fisheries management achieved those objectives was a large, black box to me. It remained that way for me until I became the 2009-2010 Janice Lee Fenske Excellence in Fisheries Management Fellow.

Jan Fenske was the first female Fisheries Biologist and District Fisheries Biologist in the history of the Michigan Department of Natural Resources (MDNR) Fisheries Division. She is often credited by her mentees and colleagues with changing the workplace culture in this groundbreaking role. Her strong character, confidence, and commitment to aquatic resource management allowed her to overcome internal obstacles within MDNR. Jan also overcame external prejudices from stakeholders and partners to become one of the most successful and appreciated fisheries biologists within the agency. "Jan was a trailblazer in fisheries, highly capable in both theory and application," according to Dr. William Taylor, my graduate advisor at MSU and a Fenske Fellowship committee member. By sharing what she learned from her own career, Jan was a selfless and



One of the methods used to harvest Lake whitefish commercial (*Coregonus clupeaformis*) in the Great Lakes is a trap net, a passive form of entrapment gear. Photo: Eric MacMillan



passionate mentor to future generations of female fisheries professionals, including Jessica Mistak, a MDNR Fisheries Supervisor and Fenske Fellowship committee member. From experience, Mistak knows that Jan "was a natural mentor, someone you could trust immediately and someone who always had your best interests at heart. She was always, even when she was ill, thinking about helping others."

The Fenske Fellowship honors Jan's legacy each year by awarding funding for an agency linked mentorship opportunity to an incoming graduate student in the MSU Department of Fisheries and Wildlife through an endowment established in the Department with additional support related to leadership programs from the MSU Graduate School. Over the course of the year-long mentorship, the Fellow works with a natural resource agency mentor on a project that is beneficial to the student's research and is a high priority for the agency involved. As such, the Fenske Fellowship provides graduate students the opportunity to conduct research that is intended to directly inform fisheries management decisions. According to Dr. Dana Infante, a professor at MSU and Chair of the Fenske Fellowship committee, the Fellowship "puts students in the arena where decisions are being made – that's not a regular component of many graduate programs." This exposure was, however, the experience I needed to find a window into the workings of that management "black box."

What I have discovered from my Fellowship interactions are that other issues than science affect fisheries management decision-making. For example, fisheries managers must consider the potential and often unavoidable political, financial, and social consequences when making fisheries management decisions. Frequently, the academic structure and tradition of fisheries and aquatic science graduate programs make it difficult to convey these additional management considerations to students through theoretical discussions and management case studies. Speaking from her own Fellowship experience, Dr.



Lake whitefish (*Coregonus clupeaformis*) support the most economically valuable commercial fishery in the upper Laurentian Great Lakes. Photo: Eric MacMillan

Amy Schueller, the first Fenske Fellow, recognizes “the complexity of decisions is not evident to students until they venture into the management realm.” Fisheries science students can, to modify an old cliché, often miss the “school” for the “fish” because their education is often limited to specific disciplines and experiences.

I did not fully appreciate the role of fisheries science in decision-making before I received the Fenske Fellowship. Through my Fellowship, Dr. Kelley Smith, Chief of MDNR Fisheries Division and my Fenske mentor, taught me that “science is a service to management. It provides information to management; but management still drives the bus.” This awareness is particularly important for issues like climate change. According to Infante, “If we’re going to solve large problems like climate change that operate in a global context, it’s absolutely critical to have people who can link science and management.” I could not agree more. For this reason, I designed my Fellowship project to supply MDNR Fisheries Division, the general public, and targeted constituents with information on potential changes to select Michigan’s fisheries as a result of climate change. My research will result in a chapter of the MDNR Fisheries Division manual of fisheries survey methods on climate change. Specifically, the product of this research will evaluate the long-term data needs for understanding the impact of climate change on Great Lakes fishes and provide managers with a framework to monitor fish populations and habitats under changing climatic conditions. This guidance should help the MDNR Fisheries Division focus their efforts toward mitigating and adapting regional and global environmental change impacts on local fish populations, their habitat and the people that depend on these fisheries resources for their livelihood and enjoyment.

The issue of climate change has shifted managers’ efforts to ecosystem-based and landscape-level perspectives and actions. As such, climate change *will* force managers to be more

adaptive as the likely impacts of climate change are uncovered. Taylor believes that training managers to be more adaptive is a clear benefit of a program like the Fenske Fellowship. “As the Fellows broaden their thinking because of this experience,” he says, “they develop skill sets that will broaden their perspectives and approach to solving the fisheries management problems they will encounter during their career.” One major fallacy he finds rampant in agency and university bureaucracies is their reluctance to change. “We don’t know how to deal with dynamic change,” he says. “All of our institutions are set up for stability and for maintaining the success of the past.”

However, there are individuals within the management system that “swim upstream” (pun intended) and thrive on dynamic change within fisheries management. Jan Fenske was one such individual. While she understood that management bureaucracies create systems that resist change, Jan recognized that conservation needs clear objectives and an adaptive approach to achieve them. “Things won’t be fixed overnight,” Smith warned me. “Don’t ever break your principles or lose sight of your objectives, but recognize that compromise, flexibility, and perspective will be necessary to reach your goals in the long run.” One of the most important lessons I’ve learned from Jan’s story and my Fenske Fellowship experience is that, with persistence and adaptive approaches, the dynamic, complex process that constitutes fishery management will allow us to maintain, and hopefully improve, our aquatic resources. I thank Jan Fenske and the Janice Lee Fenske Excellence in Fisheries Management Fellowship for the opportunity to learn this.



Photo courtesy of Dr. Kelley Smith

Jan Fenske (1954-2005) was the first female Fisheries Biologist and District Fisheries Biologist in the history of the Fisheries Division of the Michigan Department of Natural Resources (DNR). The Janice Lee Fenske Excellence in Fisheries Management Fellowship honors Jan’s legacy by providing underserved graduate students within the Department of Fisheries and Wildlife at Michigan State University (MSU) with a management agency experience to assist in developing successful careers in fisheries management.

The Janice Lee Fenske Excellence in Fisheries Management Fellowship is a recruitment Fellowship for incoming students in the Michigan State Department of Fisheries and Wildlife interested in integrating a management experience into their graduate studies. For more information on the Fellowship, search for it on Facebook and please visit fenskefellow.wordpress.com. For more information on applying, please contact Dr. Dana Infante (infanted@msu.edu).