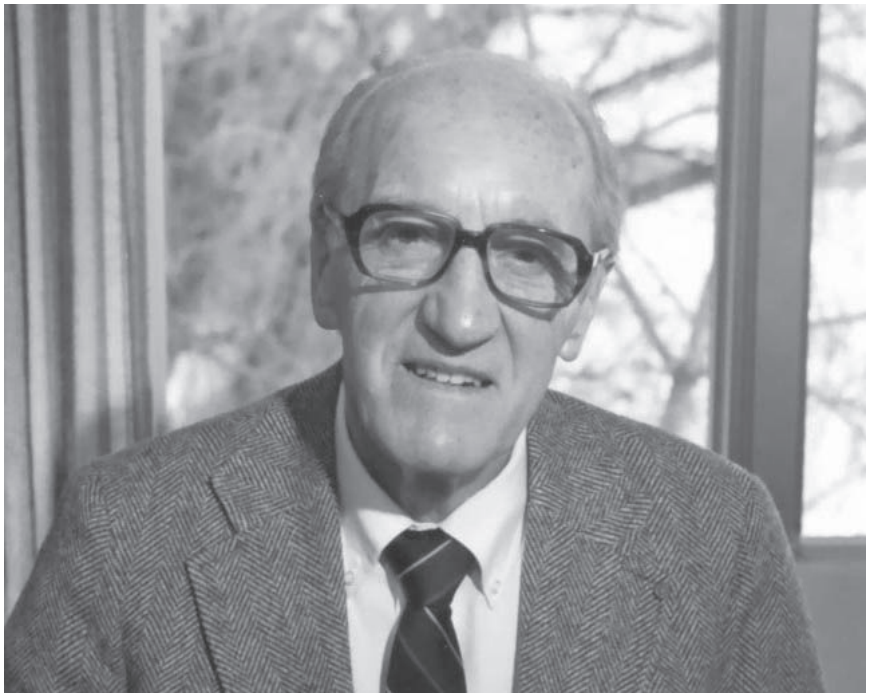
# Resolution of Respect

## Arthur Davis Hasler

## 1908–2001



Arthur Hasler, one of the leading figures in 20th century freshwater ecology, whose research answered an intriguing mystery of nature—how migrating salmon precisely identify their "home" waters—died in Madison, Wisconsin on 23 March 2001.

Hasler was born 5 January 1908 in Lehi, Utah. He graduated from Brigham Young University with a bachelor's degree in 1932. He earned his Ph.D in zoology from the University of Wisconsin-Madison, under the supervision of Chancey Juday, in 1937. His dissertation addressed the digestive physiology of crustacean zooplankton. Hasler's contributions to ecology were summarized by Beckel (1987), who cites many of his significant publications and includes a list of theses by his 52 graduate advisees. He was the author of more than 200 publications and seven books on the field of limnology. In 1961, Hasler served as President of the Ecological Society of America. He also served as President of the American Society for Limnology and Oceanography (1951) and the American Society of Zoologists (1971). He was a founder and first director of the Institute for Ecology. Hasler was elected to the National Academy of Sciences (1969) and the American Academy of Arts and Sciences (1972), and held many lifetime service and achievement awards from professional societies.

During his 41 years on the faculty at the University of Wisconsin-Madison, Hasler made a number of enduring contributions to the field of lake research. His most famous research came in the late 1940s, when Hasler developed ways to demonstrate how "olfactory imprinting," a finely honed and ingrained sense of smell, enabled salmon to journey literally hundreds of miles to their original home spawning grounds (Hasler 1966).

The idea for that study occurred to Hasler when he visited a mountain stream near his home town in Utah, and was struck by how the smells of native plants seemed to rekindle childhood memories. Hasler's research formed the basis for better management practices on an international scale, and impacted salmon management programs in the Great Lakes, the Pacific Northwest, and Europe.

"Many people who work on ecological problems today are awed by the insightfulness of Hasler's research," says John Magnuson, retired director of the UW-Madison Laboratory of Limnology and longtime colleague of Hasler. "He was a big thinker and had grand ideas, but he also believed you were not done with your research until you dealt with the management implications it raised."

Hasler also pioneered a new way to study ecological problems by creating controlled experiments of entire ecosystems. Magnuson says that Hasler recognized that many problems were too complex to be studied piecemeal in a laboratory setting. His most famous "whole-lake manipulation" was at Michigan's Peter Lake and Paul Lake in the 1950s. Hasler constructed a barrier in the middle of the hourglass-shaped, connected lakes and used one side as a control, while using the other to measure the effects of water chemistry on aquatic life (Johnson and Hasler 1954, Hasler 1964). The whole-ecosystems approach to research is widely used today to study issues such as acid rain and pollution, and scientists who were trained under Hasler went on to found research centers in the Midwest and Canada that follow his research model.

Hasler's research also helped to define the importance of land–water interactions as a primary variable in the water quality and ecological health of lakes. His work on problems such as "cultural eutrophication," or the excessive loading of nutrients into lakes surrounded by

agricultural land, helped to inform efforts to control fertilizer runoff and soil erosion in lakes, including Lake Mendota in Madison and the Yahara River chain of lakes (Hasler 1947).

At UW-Madison, Hasler played key roles in the development of the Laboratory of Limnology, built along Lake Mendota, and the Trout Lake Biological Station in northern Wisconsin. Hasler built these institutions on the legacy of limnological leadership established by his predecessors, E. A. Birge and Chancey Juday (Beckel 1987).

According to Magnuson, Arthur Hasler made a profound impression on many of his graduate students, not only as a scientist, but also for the sense of social responsibility that he conveyed. "He used to read poetry in his classes about the beauty of lakes. He imparted a moral and ethical sense of the value and beauty of nature," Magnuson says.

One project that Hasler pursued in his retirement years was "Salmon for Peace," a policy effort meant to bring the governments of Russia and China together around the shared goal of salmon management in the Amur River. This massive river, which shares borders with Russia and China, has a famous salmon population that was collapsing due to overfishing.

Arthur Hasler is survived by his wife, Hatheway, and his children, Sylvia (Thatcher), A. Frederick, Bruce, Mark, Galen, and Karl. The family suggests that those wishing to contribute a memorial make donations to the Arthur Davis Hasler Limnology Fund at the UW Foundation, 1848 University Avenue, Madison, WI 53706.

### Literature cited

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## Arthur D. Hasler—A Personal Note

Arthur D. Hasler was my graduate thesis advisor. Beyond that, and more to the point, he played a major role in my career and my life. When I arrived at the University of Wisconsin-Madison as a very naive "farm boy," he nurtured my core values and guided my maturation into becoming a scientist. In fact, he made it a point to provide not just academic training, but personal advice as well. He did the same for many. Art usually had a large number of students under his supervision, but he took a special interest in each of us. His achievements, career, and style were an inspiration for us, and he invested much time promoting us after we left the "nest."

Art's pioneering research on the use of entire-lake manipulations resonated with me and served as a model for the whole-ecosystem research that has been undertaken at the Hubbard Brook Experimental Forest in New Hampshire, as well as at the Experimental Lakes Area in Ontario. Art's research interests were remarkably broad, ranging from endocrine control in fish, to behavioral ecology, to ecosystems.

Art's passions went far beyond science. His love of music and poetry was legendary. He recited Goethe at every opportunity, and played the horn (Waldhorn) for some 30 years in the Madison Civic Symphony. He freely shared these interests with us; the songbooks would appear on long road trips to a research site or a professional meeting, and we were "encouraged" to join in the singing.

During an era when a "Washington presence" was not in fashion, Art spoke out frequently, eloquently, and effectively on environmental issues that he knew about and cared about, such as the "cultural eutrophication" of lakes. Art was an outstanding scientist, a wonderful mentor and friend, and an effective spokesman for the protection of natural resources. We are saddened by his death, but he will not be forgotten.

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