ROBERT L. HUNT

Unsurpassed Influence on Wisconsin's Trout Resource Conservation

Introduction

Bob Hunt, born 1933 in Madison, graduated from Madison East High in 1951 and served in the army with duty in Germany. At the University of Wisconsin-Madison, he earned a bachelor's degree in 1958 and his master's in 1959, both in Zoology, with the latter's thesis research on invertebrate surface drift and trout diet in the Brule River.

Bob was—and remains—especially fascinated by wild brook trout, the beautiful natives that once dominated Wisconsin's cold streams but diminished after people inflicted plows, cows, and brown trout on the land- and waterscape. While a university student, he handcrafted a leather briefcase for himself. On it, in anticipation of a career no doubt, he tooled the image of a leaping brook trout and the words

Salvelinus fontinalis. Soon thereafter, his exceedingly productive 36-year career as a WCD and DNR aquatic biologist began, and now, thanks largely to him, the species is recovering.

Bob played a major role in conserving and enhancing the natural resources that underpin the special experience that he and many others cherish: fishing in trout streams. More than anyone else, he has contributed to knowledge about Wisconsin's over 10,000 miles of trout streams and to advanced stewardship of them.

His pioneering research on wild trout and the management recommendations he formulated from the findings helped to improve conservation and angling throughout North America's trout-producing regions. His work has garnered many awards and honors.

Bob performed efficiently in all he did. To watch him fish was to see none of the over-gadgeted fuss and flailing that many anglers display. Bearing just the right gear and bypassing unsuitable spots, Bob would stride straight toward the most promising habitat, false-cast little, and keep his fly on the water and over trout a greater share of the time than anyone. No wonder he caught (and often released) so many more than the rest of us. He was almost never skunked. Likewise, Bob planned work well, focused on it intensely, and executed it with dispatch. The result: amazing professional productivity.

Each year, for hundreds of rain-snow-or-shine hours, Bob Hunt and his electrofishing crew sampled tens of thousands of trout and other fishes, identifying and counting them all, measuring the lengths and weights of most, and seeing to it that a note-taker set all the data to paper. During his career, this fieldwork covered hundreds of stream miles. And each year, he would spend months at the desk analyzing the collected data, reporting the results, and designing new research. Like the field operations, he did the analyses and reports with orderliness and dispatch.

The findings from Bob's work and from the team of biologists he directed led to improved trout resource management and increased trout populations for anglers to enjoy. Bob achieved great significance by doing superb research and making its results known in ways that guided DNR and others, notably Trout Unlimited (TU) at state and national levels, toward enhancing trout resources and angling opportunity.

A man of few words, he chose them well, stating scientific findings and management implications effectively. Clear communication in professional publications, popular articles, oral presentations, and his book, *Trout Stream Therapy*, strongly influenced fellow scientists, fishery managers, natural-resource decision-makers, and the angling public. He often took part in scientific and public forums on trout management as a presenter, sometimes as an organizer. Thereby, he became recognized as the state's top authority on trout stream science and management and a leader in those fields throughout North America. The core significance of Bob's career lay in improved, healthy trout streams and better quality fishing.

Productive Career

Bob's work took place during an era of fundamental change in Wisconsin's trout stream management. He began with WCD in 1959: only 25 years after the agency hired its first fishery biologist and little more than 10 years after it began major stream habitat work. It had been fewer years yet since the Fish Management Division began research in earnest, and still fewer since the Division stopped diverting biologists from research for "brush-fire" duty, such as investigating a complaint that ice-out on some lake revealed dead fish.

In 1959, the WCD trout management program still consisted mainly of operating hatcheries, stocking their products (often with little regard for stream suitability), and setting angling regulations. Public input took the form of "county quota meetings," where sportsmen and resort owners argued about apportioning the annual hatchery handout among streams and lakes. Almost all trout streams were stocked, most of them so devastated by cattle grazing and other human-generated harm that the hatchery trout had poor chances of surviving or reproducing. Rapidly eroding streambanks offered little hiding cover and filled pools with mud and sand, which also inundated spawning gravels. The rare habitat that was excellent and supported wild trout was also stocked—needlessly and causing genetic and competitive harm.

By the time Bob retired in 1992, the DNR program to protect, enhance, and restore trout habitat had grown tremendously, was regarded by many as the best in North America, and was emulated by other states and provinces. Helped as well by decreased riparian grazing, thousands of miles of streams had healed, and good fishing had increased immensely. DNR still stocked trout, but more judiciously and in fewer waters. Instead of meeting to argue about stocking quotas, anglers would assemble in conservation groups to assist the DNR with habitat projects. Bob deserves the lion's share of credit for Wisconsin's late-20th-century ascension to preeminence in trout management and for public awareness of proper management.

Exceptionally well organized, Bob's work was visionary, scholarly, insightful, diligent, persistent, and thorough. Some visionaries and planners develop sound ideas, which are never put into practice. Other people are tacticians who, however skilled in execution, build or manipulate needlessly—even harmfully—because they lack proper vision and strategy. Bob Hunt integrated vision, strategy, and execution. He saw where knowledge was needed, and, by following rational strategies in obtaining it, and in transferring it to professionals and the public, he converted it into action.

Trout Mentor

Bob's accomplishments toward understanding and managing trout habitat, populations, and fisheries formed the primary basis for modern stewardship of the resource. Over 100 DNR studies, most emanating from his leadership, many under his direct conduct, have evaluated habitat managements for trout—more such studies by far than in any other state or province.

Wisconsin's diversity of streams and of habitat techniques required many evaluations. Those evaluations revealed what works and what doesn't. The methods that worked yielded striking increases in trout abundance. This justified expanded habitat work by Wisconsin's DNR and conservation groups and by counterparts beyond the state. Other important aspects of trout ecology and management received Bob's attention, notably angling regulations, which, with changes he advocated, resulted in more rational fishery management. Wisconsin's trout fishing is now much better than it was 50 years ago, and the angling public owes much of that improvement to Bob Hunt.

Throughout, his career, Bob acted loyally, thoughtfully, and dependably in dealing with associates and the public. He advised on the projects of others and helped them with fieldwork and writings. He promoted advancement of subordinates and colleagues. His many professional and personal kindnesses helped knit together the DNR family and the wider conservation community.

In retirement, Bob has continued work on trout issues. With the University of Wisconsin-Green Bay, he produced a video, *Trout Stream Habitat Restoration—A Case History*, covering the classic habitat work on Lawrence Creek. He also organized a display on trout fishing at the Waupaca Public Library, the second-best-attended exhibition in the library's history. Recently, he helped forge a partnership between the Central Wisconsin Trout Unlimited Chapter (CWTU), the DNR, and the City of Waupaca to install habitat structures in a stream in that town. With a kiosk explaining the habitat work and promoting proper release of landed trout, this project is a boon to the resource and the city. And in July 2010, Bob and a fellow CWTU board member proposed a Central Sandhills Ecosystem Restoration Initiative before the Wisconsin TU Council. This would combine the resources of TU, DNR, other natural resource agencies, private and public organizations, and interested persons to restore, maintain, and protect 201 streams comprising 917 miles of trout water in ten counties.

The results of Bob Hunt's work on Wisconsin's trout resource can be summed up as *scientific advance*, *sound conservation*, and *better fishing*.

Special Foundations

Bob considers a major factor in his life to have been his father's gift of a fine fly rod on his seventeenth birthday. It was his first really good fishing rod, and a fly fishing obsession ensued.

As people who most influenced his career, Bob names his father Roy, his brother Dick, Oswald "Os" Matson, and Prof. Arthur Hasler. Matson, a WCD wildlife technician, taught Bob much about fly-fishing. Hasler, a UW-Madison limnologist, served as Bob's graduate advisor. He credits DNR Research Bureau Chief Cyril Kabat for backing long-term projects and Fishery Research Section Head Lyle Christenson for giving him freedom in choosing research subjects and methods, and for consistent support.

Four other DNR colleagues were also especially important partners in helping Bob complete assignments: Ruth Hine and Susi Nehls, superb Bureau of Research technical editors; and Kent Niermeyer and Harry Sheldon, Cold Water Group technicians who faithfully carried out a variety of essential office and field work chores. Oscar Brynildson and Ray White provided essential mentoring throughout Bob's career.

Humble Beginnings

Bob began with WCD in 1959 as leader of the Lawrence Creek research project, established in 1955 to test effects of angling restrictions on wild brook trout. The project, near Westfield, operated from a field station—an old, dilapidated, two-story frame farmhouse, "not modern," as the euphemism goes, and so near the end of useful existence that its shabby exterior didn't deserve new paint—not even WCD's cheap cream and green.

The interior, though, had been tidied with a layer of institutional pastel green. At a front-room counter, anglers got permits to fish in the creek, and then returned there to show their catch. There were bedrooms for visiting personnel, a kitchen, and an office where Bob bundled up for drafty deskwork in winter. Especially on hot days, the pungent, long-lived-in ambience of old homesteads prevailed, for the spaces between wall studs served as hoppers for bat guano. This was a field station, not the cushy quarters of administrative offices and fish hatcheries.

Bob concluded the Lawrence Creek Station's angling restriction tests in the early 1960s and switched the project's objective to evaluating efficacy of stream channel structures installed to improve trout habitat. This yielded a 10-year record (three years pre-, seven years post-construction) of increased habitat and trout abundance, then and long afterward the most intensive such study ever done. Important reports resulted, culminating in a professional journal article on the long-term evaluation and its relation to improving management-related research (Hunt 1976), still one of the most widely cited publications on stream restoration.

Exemplary Leadership

In 1967, Bob moved the trout research office to Waupaca, and eventually, he became the DNR coldwater research group leader. With fellow biologists Robert Carline and Ed Avery, he expanded statewide study of trout management in streams, headwaters, and spring ponds.

Bob's innovative research and growing expertise brought increased responsibility and influence—and widespread recognition, professional and public. His evaluatory research led to modifications of habitat structures, as well as development of new structural methods. The results clearly demonstrated benefit to trout populations and angling. He pioneered testing of streambank debrushing and the use of brush bundles and half-logs as habitat improvement—now widely applied in Wisconsin and other states.

His publications and reports to anglers' groups, especially Trout Unlimited, elicited public support for legislation which created Wisconsin's inland trout stamp, a program that now generates $1.5 million annually for DNR trout habitat work. Ultimately, he became the first person to hold a new Wisconsin civil service position: Senior Scientist. His career served as the model for that classification.

Of particular importance in resource stewardship, Hunt's pioneering research dealt mainly with *wild* trout at a time when widespread, often indiscriminate stocking of hatchery fish was the state's major thrust in trout management. His findings engendered fishery managers' interest in the role of wild trout, leading to Wisconsin's system of classifying trout streams, which took self-sustaining populations into account. Knowing that many streams produce ample trout without stocking enabled DNR to concentrate its hatchery output on other waters, thus providing for increased angling while reducing the harm (disease,

genetic contamination, and behavioral chaos and competition) that artificially-reared trout cause for wild trout populations. Bob considers the emphasis on wild trout to have been one of his personally most satisfying efforts.

Bob was instrumental in developing concepts for Wisconsin's present system of trout angling regulations, tailored to zones of the state and to the productive capacities of streams and the species inhabiting them. In the course of testing effects of various angling restrictions on trout fisheries, he was one of the world's first experimenters (perhaps the very first) on use of an "open-slot limit"—a size range within which a number of trout may be creeled, but below and above which the fish are protected.

Above and Beyond

Within DNR, Bob performed as an authoritative consultant to top management. He served on many committees and often influenced the strategic direction expressed in committee action. For example, he was a member of the Bureau of Fisheries Trout Committee, the Brule River Task Force, and the Environmental Quality Division's Statewide Interdisciplinary Committee on Stream Rehabilitation and Improvement. In addition, he often responded to specific requests from various management and administrative levels for information and advice, and he served as a DNR expert witness at hearings and in the courts. He made presentations to the Natural Resources Board on trout habitat management and research, provided major input on the comparative benefits of trout stocking and habitat improvement, and prepared information outlining future trout management and research needs. In 1990, he testified before the Natural Resources Board on the need for emergency trout fishing regulations during drought.

Bob's national and international services as expert and consultant were many. He was certified as a Fisheries Scientist by the American Fisheries Society, and served on that organization's Awards Committee and Certification Board of Review. He provided consultation and training sessions for personnel of natural resource agencies in six other U.S. states and two Canadian provinces, as well as for employees of the U.S. Forest Service and the Society of American Foresters.

Organizers of national and international workshops and symposia invited papers and oral presentations from Bob, which he accepted on 12 occasions. Published proceedings of those meetings often became standard technical references.

In 1975, with on-campus help from Prof. Jack Heaton, Bob co-chaired the first national Workshop on Management of Brook Trout, held on the UW-Stevens Point campus. Three years later, he helped organize a second workshop on the subject in North Carolina. In 1988, his advice was sought again to develop a workshop on brown trout management. He contributed three papers and served on two discussion panels at these species-management conferences.

In 1978, Bob and Jack organized a Trout Stream Habitat Improvement Workshop at UW-Stevens Point, the first conference of its kind, bringing together 75 habitat biologists and managers from North American states and provinces. The workshop dealt with practical aspects of habitat work and included field trips to project sites. Thereafter, it was held every two years in various parts of the U.S. and Canada, was expanded to include salmon habitat issues, and attracted participants from abroad. In 2002, Ireland biologists hosted the workshop. For many of these events, Bob helped on the steering committee and presented papers.

Bob was one of eight American fishery scientists that Trout Unlimited invited to present papers at a Soviet-American conference held at Racine in 1989. Following that, he served as principal organizer and guide for a two-day field trip to observe trout habitat projects.

Career Highlights

Highlights of accomplishments from Bob's innovative scientific and technical studies and projects can be listed as follows:

1. Authorship: 45 technical publications (17 on stream habitat, 12 on angling regulations), several articles in popular outlets, and a book, *Trout Stream Therapy*. The latter is a fully illustrated field

guide to improving trout habitat in streams damaged by human activities associated with agriculture, forestry, and urbanization.

2. First evaluations of streambank debrushing and use of brush bundles and "half-log" devices.
3. First intensive evaluation of newly designed habitat structures for Wisconsin's higher-gradient streams.
4. First *long-term* evaluation of bank-covers, now a standard device.
5. First evaluation of catch-and-release angling regulations in Wisconsin.
6. First compilation and interpretation of Wisconsin's many evaluations of habitat management in one document.
7. First evaluation of size-limit regulations on wild brook trout at a time when little attention was being paid to wild trout.
8. First evaluation of Canadian-strain brook trout stocked in Wisconsin waters.
9. First measurement of biological production (total elaboration of flesh) by a generation of wild brook trout throughout its lifespan (and thereafter by several generations), a study widely used as a model for similar research and by academicians teaching fishery science.
10. Innovations in electrofishing gear and fish sampling procedure: custom-built fiberglass boats, testing of a lightweight DC generator, and development of population inventory methods that became standard for Wisconsin biologists and managers.
11. Initiation of a TU project to promote anglers' unharmed release of trout that they do not wish to keep, CPR (Consider Proper Release); this project included five steps to reduce post-release mortality. Thousands of released fish have had their lives extended by anglers who followed these simple practices. Bob considers this project one of his most important accomplishments.

In addition to the many direct and indirect public benefits of Bob's research and of recommendations emanating from it, which are discussed above, a few other items deserve mention. His research and his technology transfer led to appointment as Scientific Advisor to the Wisconsin TU Council, the state's most influential organization of trout anglers—and to service on TU's National Scientific Advisory Board. He suggested research topics and provided field assistance and guidance to several M.S. students and two Ph.D. students at the University of Wisconsin campuses in Madison and Stevens Point, and he presented occasional lectures to fishery biology classes at those universities. In a nutshell, the scope and public influence of policies and standards that Bob developed were immense within our state.

Professional Awards and Honors

- 1979, 1982 and 1987 – Wisconsin DNR Exceptional Performance Award
- 1981 – National Trout Unlimited Conservation Award (Professional Category)
- 1982 – Gulf Oil Conservation Award (Professional Category)
- 1992 and 1999 – Wisconsin DNR Bureau of Research Award for Excellence
- 1992 – Special Recognition Award at the 7th International Salmonid Stream Habitat Workshop, Everett, Washington, for being the workshop's founder (1978) and serving often on its steering committee
- 1992 – Wisconsin Council of Trout Unlimited Award of Merit
- 1992 – American Fisheries Society Special Award of Recognition

- 1999 – Elected to the American Fishery Society National Hall of Excellence, the first DNR biologist to be so honored
- 2000 – Presented with the prestigious Starker Leopold Award (Professional Category) at the Wild Trout VII Conference in Yellowstone Park in recognition of "outstanding long-term service to the coldwater fishery resource"

Bibliography

Avery, E. L., and R. L. Hunt. 1981. Population dynamics of wild brown trout and associated sport fisheries in four central Wisconsin streams. Technical Bulletin 121, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1960. The search for better trout regulations. Wisconsin Conservation Bulletin 25(9 November-December):39-42.

Hunt, R. L. 1964. Evaluation of fly-fishing-only at Lawrence Creek: a three-year progress report. Research Report 10, Wisconsin Conservation Department, Madison.

Hunt, R. L. 1965. Dispersal of wild brook trout during their first summer of life. Transactions of the American Fisheries Society 94:186-188.

Hunt, R. L. 1965. Food of northern pike in Wisconsin trout streams. Transactions of the American Fisheries Society 94:95-97.

Hunt, R. L. 1965. Two views of a trout stream. Wisconsin Conservation Bulletin 30(July-August):24-25.

Hunt, R. L. 1966. Production and angler harvest of wild brook trout in Lawrence Creek, Wisconsin. Technical Bulletin 35, Wisconsin Conservation Department, Madison.

Hunt, R. L. 1968. Effects of habitat alteration on production, standing crop, and yield of brook trout in Lawrence Creek, Wisconsin. Pages 281-321 *in* T. G. Northcote, editor. H. R. MacMillan Lectures in Fisheries. University of British Columbia, Vancouver, B.C.

Hunt, R. L. 1968. Mighty little trout stream. Wisconsin Conservation Bulletin 33(July-August):12-14.

Hunt, R. L. 1969. Overwinter survival of wild fingerling brook trout in Lawrence Creek, Wisconsin. Journal of the Fisheries Research Board of Canada 26:1473-1483.

Hunt, R. L. 1970. A compendium of research on angling regulations for brook trout conducted at Lawrence Creek, Wisconsin. Research Report 54, Wisconsin Conservation Department, Madison.

Hunt, R. L. 1971. Responses of a brook trout population to habitat development in Lawrence Creek. Technical Bulletin 48, Wisconsin Department of Natural Resources, Madison, Wisconsin.

Hunt, R. L. 1972. Recipe for better trout streams. Wisconsin Conservation Bulletin 37(September-October):26-26.

Hunt, R. L. 1974. Annual production by brook trout in Lawrence Creek during eleven successive years. Technical Bulletin 82, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1975. Angling regulations in relation to wild trout management. Pages 66-74 *in* W. King, editor. Wild Trout Management Symposium. Trout Unlimited, Inc., Yellowstone National Park.

Hunt, R. L. 1975. Species-specific size limits for trout. Wisconsin Conservation Bulletin 40(July-August):12-13.

Hunt, R. L. 1975. Use of terrestrial invertebrates as food by salmonids. Pages 137-151 *in* A. D. Hasler, editor. Coupling of land and water systems. Springer-Verlag, New York.

Hunt, R. L. 1976. In-stream improvement of trout habitat. Trout 17(Supplement Winter):26–31.

Hunt, R. L. 1976. A long-term evaluation of trout habitat development and its relation to improving management-related research. Transactions of the American Fisheries Society 105:361-364.

Hunt, R. L. 1976. Wild brook trout with two anal fins. Progressive Fish-Culturist 38:101.

Hunt, R. L. 1977. Instream enhancement of trout habitat. Pages 19-27 *in* K. Hashagen, editor. Symposium on Wild Trout Management. Cal Trout and American Fisheries Society, San Francisco, CA.

Hunt, R. L. 1977. An unsuccessful use of catch and release regulations for a wild brook trout fishery. Pages 125-136 *in* R. A. Barnhart and T. D. Roelofs, editors. Symposium on Catch and Release Fishing as a Management Tool. Humboldt State University, Arcata, CA.

Hunt, R. L. 1978. Trout population dynamics. Pages 23-26 *in* E. E. Anderson, editor. Upper Midwest Trout Symposium I and II. University of Minnesota Office of Special Programs, Agricultural Extension Service, St. Paul, MN.

Hunt, R. L. 1979. Exploitation, growth, and survival of three strains of domestic brook trout. Research Report 99, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1979. Management of brook trout in Wisconsin through manipulation of environmental factors. *in* R. D. Estes, editor. Second Brook Trout Workshop. Tennessee Technical University, Cooksville, TN.

Hunt, R. L. 1979. Removal of woody vegetation to improve trout habitat. Technical Bulletin 115, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1980. Two recent modifications of habitat development techniques in Wisconsin. Pages 60-62 *in* M. E. Seehorn, editor. Second Trout Stream Habitat Improvement Workshop. U.S. Forest Service, Asheville, NC.

Hunt, R. L. 1981. A successful application of catch and release regulations on a Wisconsin stream. Technical Bulletin 119, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1982. An evaluation of half-logs to improve brown trout habitat in Emmons Creek. Research Report 116, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1982. New regulations for your favorite trout stream. Wisconsin Sportsman (March-April):50-51.

Hunt, R. L. 1984. Assessment of a daily limit of two trout on the sport fishery at McGee Lake, Wisconsin. Technical Bulletin 142, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1985. A follow-up assessment of removing woody streambank vegetation along two Wisconsin trout streams. Research Report 137, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1985. Results and trout management implications of a 9-month creel census on Timber Coulee Creek in 1984. Research Report 135, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1986. An evaluation of brush bundles and half-logs to enhance carrying capacity of two brown trout streams. Pages 31-62 *in* J. G. Miller, R. F. Carline, and J. A. Arway, editors. Fifth Trout Stream Habitat Improvement Workshop. Lock Haven University, Lock Haven, PA.

Hunt, R. L. 1987. Characteristics of three catch-and-release fisheries and six normal-regulation fisheries for brown trout in Wisconsin. Pages 33-48 *in* R. A. Barnhart and T. D. Roelofs, editors. Catch-and-Release Fishing: A Decade of Experience. Humboldt State University, Arcata, CA.

Hunt, R. L. 1987. Glossary of Wisconsin trout habitat development techniques. Wisconsin Department of Natural Resources Bureau of Research, Madison.

Hunt, R. L. 1988. A compendium of 45 trout stream habitat development evaluations in Wisconsin during 1953-1985. Technical Bulletin 162, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1988. Management of riparian zones and stream channels to benefit fisheries. Pages 54-58 *in* T. W. Hoekstra and J. Capp, editors. Integrating forest management for wildlife and fish. U.S. Forest Service.

Hunt, R. L. 1988. Upper Midwest trout stream habitat improvement techniques. *in* P. J. Wingate, editor. Trout and the Angler in the Upper Midwest Workshop. Minnesota Department of Natural Resources.

Hunt, R. L. 1989. Development of a catch and release fishery for brook trout in McGee Lake. Final Report D-J Study RS 414, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1989. Lawrence Creek. Trout (Spring issue):67-68.

Hunt, R. L. 1990. Dynamics of brook trout populations and the sport fisheries they sustain in northeastern Wisconsin. Final Report D-J Study 411, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1990. Habitat development techniques used to improve brown trout fisheries in Wisconsin. Pages 12-20 *in* J. C. Borawa, editor. Brown Trout workshop: Biology and Management. Trout Committee, Southern Division of the American Fisheries Society, Asheville, NC.

Hunt, R. L. 1991. Evaluation of a catch and release fishery for brown trout regulated by an unprotected slot length. Technical Bulletin 173, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1991. Habitat improvement remedies for sick trout streams. Proceedings of the Issues and Technological in the Management of Impacted Wildlife (Thorne Ecology Institute, Boulder, CO) 5:165-174.

Hunt, R. L. 1992. Evaluation of trout habitat improvement structures in three high gradient streams in Wisconsin. Technical Bulletin 179, Wisconsin Department of Natural Resources, Madison.

Hunt, R. L. 1993. Trout stream therapy. University of Wisconsin Press, Madison.

Hunt, R. L. 1994. Management for wild trout fisheries in the Midwest: status and trends. Pages 29-36 *in* R. A. Barnhart, B. Shake, and R. Hamre, editors. Wild Trout V: Wild Trout in the 21st Century. UY.S. Department of the Interior and five other agencies and organizations, Yellowstone National Park.

Hunt, R. L., and O. M. Brynildson. 1964. A five-year study of a headwaters trout refuge. Transactions of the American Fisheries Society 93:194-197.

Hunt, R. L., O. M. Brynildson, and J. T. McFadden. 1962. Effects of angling regulations on a wild brook trout fishery. Technical Bulletin 26, Wisconsin Conservation Department, Madison.

Hunt, R. L., and K. W. Niemeyer. 1984. Food habits of brook trout in McGee Lake, 1980-82. Research Report 125, Wisconsin Department of Natural Resources, Madison.

Mason, J. W., and R. L. Hunt. 1967. Mortality rates of deeply hooked rainbow trout. Progressive Fish-Culturist 29:87-91.

White, R. J., and R. L. Hunt. 1969. Regularly occurring fluctuations in year-class strength of two brook trout populations. Wisconsin Academy of Sciences, Arts and Letters 57:135-153.