

Presentation on former executive director, Dr. W.B. (Bev) Scott

Dr. John M. Anderson gave a presentation on Dr. W.B. (Bev) Scott, and his work at the Huntsman Marine Science Centre, at the [Canadian Conference For Fisheries Research \(CCFFR\)](#) in Ottawa, Ontario, which was held January 9-11, 2009.

Dr. Scott, known as the dean of Canadian ichthyologists, is known for his seminal work, *Freshwater Fishes of Canada*, which he wrote with Ed Crossman, and for the book *Atlantic Fishes of Canada*, published with his wife, Milly. The presentation is reprinted in full below, with thanks to Dr. Anderson.

W. B. SCOTT AND THE HUNTSMAN MARINE SCIENCE CENTRE

ABSTRACT

Beginning in the 1950s, Dr. Bev Scott has had a long association with St. Andrews, New Brunswick, and its federal government Biological Station. The association became permanent when he accepted the position of Executive Director of the Huntsman Marine Laboratory (later renamed the Huntsman Marine Science Centre). He oversaw the development of the Huntsman during its critical formative years. The paper chronicles his administrative achievements during his 1976-82 tenure at the Huntsman, one of which was a pioneering program in the identification of fish eggs and larvae which eventually evolved into the now internationally known Atlantic Reference Centre. In 1998 he and his wife, Milly, moved to Kingston, Ontario.

W. B. SCOTT AND THE HUNTSMAN MARINE SCIENCE CENTRE

He took the Huntsman at a critical time in its development and solidified its foundation for future growth.

William Beverley Scott, widely known by his friends and colleagues as Bev, and his wife, Milly (Mildred), have had a long association with St. Andrews, New Brunswick. Depending on one's interests, St. Andrews is known as a tourist/resort town, or a marine science centre. At the time Bev received his PhD from the University of Toronto in 1950, it was the federal government's Biological Station in St. Andrews that gave the town its international attention in the marine sciences. (Since then, the establishment of the Huntsman Marine Science Centre and the Atlantic Salmon Federation have added new dimensions to the town's marine science imprimatur.)



Dr. W.B. (Bev) Scott

As the newly-appointed (1950) Curator of Fishes at the Royal Ontario Museum in Toronto, and before that a volunteer at the ROM as far back as 1937 during his undergraduate years, Bev was well aware of the Biological Station in St. Andrews, but the reason he and Milly came to St. Andrews during an Atlantic coast vacation in 1952 was not because of fishes. Milly, who loved New England and its coastal communities, assumed St. Andrews was like a New England town and thus had to be visited, and Bev readily agreed because he wanted to look up three of his army pals whom he had met in Europe in World War II and knew were working at the Fisheries Research Board of Canada's Biological Station - Bob Martin, who ended up in Ottawa as Assistant to the Chairman of the FRB, Lou Day, who moved to Halifax to become the founding Secretary of the International Convention of the Northwest Atlantic Fisheries, and Frank McCracken, who served me well as Assistant Director during my 1967-72 term at the Biological Station.

St. Andrews more than lived up to Milly's expectations, and Bev's friends made certain he had a thorough tour of the Biological Station, and the surrounding waters to see first-hand the local wealth of marine flora and fauna. This was a determining factor in the choice of St. Andrews as the location in 1899 of Canada's first marine biological laboratory.

The St. Andrews visit turned out to be a turning point in Bev's career. Until then, Bev's experience had been mostly with freshwater fishes, culminating in *The Freshwater Fishes of Canada* (Scott and Crossman, 1973). As ROM's Curator of

Fishes, however, Bev knew he needed to expand his ichthyologic horizons to include marine fishes. He came often to St. Andrews to do this, usually in the summer. He and Milly would stay in one of the cottages set aside for visiting scientists. This set the stage for the Director of the Biological Station, Dr. J.L. Hart, to persuade Bev to carry on the work of Alex H. Leim after Leim's untimely death in 1960. Dr. Leim had been working on a book on Canadian Atlantic fishes since 1956. *Fishes of the Atlantic Coast of Canada* (Leim and Scott) was published in 1966.

In 1974, the Scotts built a house, backing on the golf course, close to the Biological Station and the Huntsman Marine Science Centre, formalizing what St. Andrews had become for the Scotts... a permanent summer destination.

Bev had not intended to take retirement from the ROM when he first became eligible to do so in 1976. But the Huntsman needed a replacement then for its retiring, first Executive Director, Dr. Alfred W.H. Needler, and Bev's name quickly surfaced. I was Chairman of the HML at the time and was successful in persuading Bev to join the Huntsman. I was roundly congratulated on my luck in landing Bev, but as is clear from the foregoing, luck had little to do with it. The appointment was a career move for Bev. It was a perfect fit for his professional life, which he had no intention of abandoning, and plans for what he would do when he finally did leave the ROM. Bev was no stranger to the Huntsman since the University of Toronto was a founding member and he was a Professor in its Department of Zoology (the ROM had been a part of the University of Toronto in its early years, and academic appointments continued when the ROM became independent). He attended the Huntsman's official opening in August 24, 1970.

There is no better testimony to his early interest in the Huntsman than the three-year \$45,000/year grant to the Huntsman from the Canadian National Sportmen's Show, which, as a member of its Board of Directors, Bev had promoted... and found a receptive audience because of the CNSS's interest in expanding its involvement in marine fishes. Bev's Huntsman connection actually goes back to the 1940s, when he was noticed by Dr. A.G. Huntsman during Bev's undergraduate years. Huntsman had the prescience to see in Bev the makings of a fisheries scientist, encouraged him to go for a PhD, and helped make it happen. He co-supervised Bev's thesis - on the biology and systematics of ciscoes in Lake Erie - with Dr. J. R. Dymond, himself a noted ichthyologist, then Director of the ROM and a Professor of Zoology at the UofT, and later Chairman of the Department of Zoology.

Bev took over the Huntsman on July 1, 1976. The times were challenging. After its first five years, it was clear the Huntsman filled a need and was going to succeed, but it was still young enough that its future development was open and would depend on leadership. Bev certainly did his part. His first major move was the creation of a larval fish sorting centre, sometimes referred to in the Huntsman literature as the Larval Fish Centre, but more commonly as the Ichthyoplankton Laboratory. It was a relatively new area of research for Bev. He had been introduced to it in 1974 by Dr. William Leggett - a future Chairman of the Huntsman - then at McGill University, who was having trouble finding someone competent to identify larval striped bass he and his graduate students were collecting in Chesapeake Bay. He asked Bev for help, who unhesitatingly said "sure," and then proceeded to learn about a field he had not worked in before. He did the job for Leggett, and never looked back.

Most importantly, Bev had the foresight to realize when he arrived at the Huntsman, that here was an opportunity to develop expertise in the early life histories of marine fishes not just as an academic end in itself, but to assist in the management of fisheries. In 1977, he hired two key players, Lou Van Guelpen and Doug Markle, the latter as Director of the new unit. The CNSS supported Bev's initiative with another grant, this one of \$10,000 per year for three years. The new lab had a total of ten employees by the end of 1977. The lab work continued to grow, but by the end of Bev's term in 1982, the number of employees was reduced to only three.

This seemingly paradoxical situation is explained by the fact that in order not to deny firms from the private sector a chance to bid on contracts (the basis for this being the fact that the Huntsman received annually from the federal government a substantial "core" grant in support of the Huntsman's total operation), the Huntsman shared contracts for the initial sorting of the specimens to an outside contractor, Marine Research Associates at nearby Bocabec. MRA did good work. The data it provided were compiled and synthesized by Markle and Van Guelpen, and the specimens returned to the Huntsman for quality control of identifications.

As like any idea whose time had come, the Ichthyoplankton Laboratory continued to grow. The Department of Fisheries and Oceans recognized its practical potential; and both the government and the Huntsman realized that if the Biological Station's Identification Centre and the Ichthyoplankton Laboratory were combined, the result would be a powerful and efficient unit. Thus was born the Atlantic Reference Centre (ARC). Quoting from a recently-released brochure, In 1984, the Huntsman Marine Science Centre and Fisheries and Oceans Canada (DFO) created the ARC to archive samples of Canadian Atlantic marine life collected by research surveys and as a source of taxonomic information. Operationally, DFO provides facilities and partial funding - while the Huntsman provides staffing,

additional program funding, and program administration. Together the ARC and DFO collaborate on marine biodiversity research and planning.

Even though he was retired from the Huntsman, Bev helped with the planning for the ARC. Markle became its first Director, and when he left in 1985, was replaced by Ken Sulak, who in turn left in the early 1990s. Thereafter, directorship was shared, as it still is: Van Guelpen as Curator of fishes, and Gerhard Pohle as Curator of invertebrates (with Bill Hogans as Taxonomic Specialist and Curatorial Assistant until 2000). Interestingly, the all-important processing and sorting has been done since 1987 entirely by the ARC itself, although current ichthyoplankton workload requires only part of the time of one technician. Without question Bev set the ARC into existence. In 1996, the last time a survey was published, the ARC was recognized as having the largest collection of fish eggs and larvae in North America.

Bev was involved in another example of the application of administrative novelty in the operation of a scientific enterprise. The newly-formed International Atlantic Salmon Foundation (later renamed the Atlantic Salmon Federation), had decided in 1973 to locate its headquarters in Chamcook (the outskirts of St. Andrews), and to undertake a research program that would help with the management of salmon stocks. The decision was made to investigate the extent to which the application of genetics and selective breeding in Atlantic salmon (*Salmo salar*) could benefit wild stocks.

The founding Executive Director of the IASF, Dr. Wilfred M. Carter, had made a deal in 1973 with the federal government that IASF would provide the capital for the construction of the research hatchery if the government would provide \$200,000 per year for five years. The accord also called for the Huntsman, of which IASF was a founding member, to administer the program. Because of construction delays, what became known as the Salmon Genetics Research Program (SGRP) did not get started until 1975, just a few months before Bev arrived at the Huntsman. The SGRP's first Director, Dr. John Calaprice, left in 1976, and was replaced by Dr. Richard L. Saunders, on executive interchange from the Biological Station. Upon his arrival in St. Andrews in 1977 as Director of the Biological Station, Dr. Robert H. Cook played a critical role in the SGRP by persuading his somewhat recalcitrant headquarters in Ottawa to renew the five-year, \$1 million contract.

The tripartite agreement responsible for implementation of the SGRP - the first of its kind for a commercial fish species - was a novel arrangement, far ahead of the collaboration, partnering and cooperation which characterize major scientific programs today. Carter had made it clear that the newly-formed IASF was eager to sponsor a major scientific program such as the SGRP, but with no experience in such matters, felt it was in no position to administer it.

The Huntsman, given its mandate in research and education in the marine sciences, however, even though it wasn't much older itself than the IASF, appeared to be well positioned. From the federal government's perspective, it was the Huntsman, of course, that would, optically and practically, be spending its not inconsiderable funds, and it needs to be said that Bev's hands on the Huntsman's tiller had to be a significant factor in Ottawa's acquiescence to Cook's recommendations. In fact, however, until Bev started the larval fish sorting centre in 1977, the Huntsman had little experience in administering, much less directing, scientific programs (professors were in charge of their and their graduate students' research, and their home universities administered their NRC [now NSERC] grants). Bev was as good as he was a quick learner. Cook had no difficulty in having the contract renewed in 1983. Starting in 1984, administration of the SGRP was taken over by ASF, and the program expanded to include the production of brood stock for the burgeoning aquaculture industry in New Brunswick.

The SGRP was responsible for another administrative challenge for Bev. Carter was concerned about where future staff for his research hatchery would come from. The solution was a course designed for hatchery technicians. He wanted to make it part of the SGRP, but Saunders was not supportive, believing, correctly, that he had his hands full directing the first-of-its-kind genetics-based research program. The Huntsman's mandate, of course, was a perfect fit for such an education program, and gladly accepted Carter's suggestion to give such a course. Dr. Chris Frantsi was hired by Bev in 1976 to put together a twelve-month program. Frantsi did, with help in producing the training modules from Ron la Brie of the N.B. Community College, and others, notably Chris Aldridge from Lever Bros' aquaculture operations in Scotland. The Aquaculture Technician Training Program began in January, 1978.

The timing was propitious. Graduates of the program found a ready market for their services in the Atlantic salmon aquaculture industry which began from a standing start in New Brunswick in 1980. The ATTP was the first of its kind in Canada. Malispina College, in Nanaimo on Vancouver Island, quickly followed with a similar program for the

commercial culture of Pacific salmon which had begun a few years earlier. Frantsi left the Huntsman in 1985 (to join Connors Bros. aquaculture operations headquartered in nearby Blacks Harbour). Dr. Brian Glebe took over the ATTP, but in a few years it was transferred to the St. Andrews campus of the NBCC, where it has remained.

Fundraising was not new to Bev. As Associate Director of the ROM well before he left, he was aware of the importance of the ROM's charitable status to its financial health. Fundraising is time-consuming, and the problem for Bev was that he had no staff to assign to such duties - a problem plaguing all his successors, until recently - but he was not stymied. His success with CNSS, both before and after he joined the Huntsman, has been noted, to which can be added that he persuaded the CNSS it to become a member. But he had bigger plans for CNSS. During 1982, his last year at the Huntsman as Executive Director, he put together a proposal to CNSS for a major grant for the establishment of an endowment fund to help provide financial stability to the Huntsman. In 1983 CNSS announced a grant to the Huntsman in the amount of \$500,000, at \$100,000 per year for five years, with the condition that it be matched by an equivalent amount each year. Dr. Tom Moon, Bev's successor, tried his best, without success. The CNSS meant what it said. The endowment never happened. Further evidence of Bev's Grantsmanship prowess were expansions of the Museum-Aquarium in 1977 and 1978 from grants from the federal Department of Regional Economic Expansion and Museums Canada, respectively.

The appeal of the Huntsman to the universities was, of course, access to the sea and its flora a fauna for teaching a research. The experimental Visiting Investigators Program at the Biological Station in 1968 and 1969 had established without any question that there was a large, untapped interest on the part of Universities to do research in St. Andrews. A companion interest in teaching was assumed. It could not be confirmed because such activities were excluded from federal agencies by the BNA Act, making education a matter of provincial jurisdiction. The assumption, of course, turned out to be correct. Courses given by universities (Figure 1) steadily increased in number from their start at the Huntsman in 1970, reaching the low twenties during Bev's first year in 1976, thereafter showing no particular trend, up or down, until 1986, the end of available data. For the most part, university courses were conducted in the spring and fall of the year. Often the home universities offered places for students from other universities. From the start, the Huntsman itself gave one university-credit course in the summer until Bev arrived, when soon after the number increased substantially... to as many as seven in 1980.

Figure 1 Courses Given by Universities at Huntsman

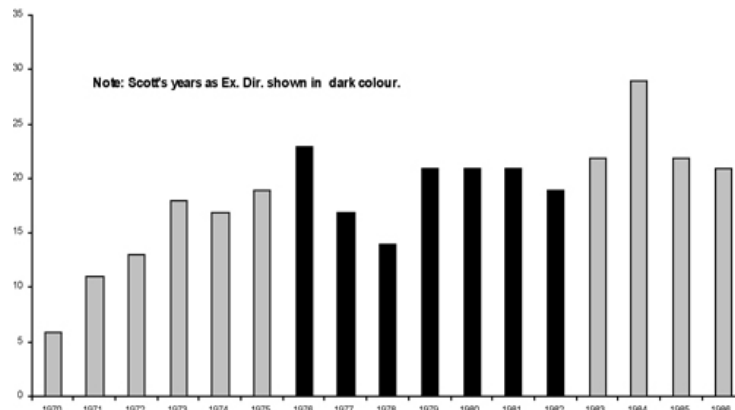


Fig. 1 Courses given by universities at the Huntsman - Scott's years as executive director are shown in dark colour.

The number of visiting researchers, including professors, graduate students and technicians, did show trends (Figure 2).



From 1970 until 1973, there was a decline, probably as a result of the Biological Station ramping down its Visiting Investigators Program, requiring researchers to find limited space and facilities at the newly-formed Huntsman. By 1974, however, an upwards trend began, which, during Bev's term, was significant, reaching 100 by the end of his term in 1982, culminating in an astounding 204 in 1984. Thereafter, numbers dropped sharply to 45 in 1987, the last year for which these data are available. Researchers have, of course, continued to use the Huntsman, but not in the numbers of the early years. As an explanation for the upwards trend during Bev's term, it occurred that variations in the number of member universities might be responsible; but it appears not. The member universities actually declined in number during the time in question. It would be useful to know the circumstances which persuaded at the time so many scientists in the marine sciences to follow up on the Huntsman's entreaties, led by Bev, to come to St. Andrews to do their research.

During Bev's term the research vessel was the *Miss Michelle*, a wooden 48 ft, so-called Cape Islander, purchased in 1972 from the New Brunswick Fisheries Loan Board, that had been used mostly for commercial lobster fishing. She served the Huntsman well, although her narrow beam and limited after-deck space made for crowded quarters for student groups. In 1978 the federal Department of Transport inspected the vessel and reduced the number of persons allowed on board to 8, including the Captain and one crew member. In 1985 she was replaced by the *W.B. Scott*, a 42 ft., fibre glass hull vessel with a much roomier afterdeck, originally constructed as a Norwegian longliner. She was certified to carry 12 persons, plus Captain and crew. A laboratory area aft of the wheelhouse provided heated work space, a chart table, and a bench for sample analysis, and a safe area for scientists and students during operation of heavy sampling gear. Both Scotts were present for the christening. Milly performed the traditional champagne-bottle-breaking.

The Huntsman has many sister intuitions around the world - and one in Canada, the Western Canadian Universities Marine Biological Society in Bamfield on the west coast of Vancouver Island, which all share in common an academic uniqueness conferred by the nature of its members. The Huntsman, however, differs from many of its counterparts by the degree to which it engages in contract research for governments and the private sector. This began to take serious form at the Huntsman during Bev's watch. with the multi-million dollar SGRP contract., and the formation of the Ichthyoplankton Laboratory, which benefited from grants from CNSS, but nevertheless depended on contracts with the federal government for its financial survival. An interesting contract was one the Huntsman had with the Food and Agriculture Organization in Rome, and the Canadian International Development Agency in Ottawa, for Milly Scott to edit and coordinate publications of all North American contributions.

Bev was right for the times. That he left the Huntsman in good shape is a matter of record in the 1982 Annual Report. In many ways 1982 was probably the best year for the Huntsman Marine Laboratory. Visiting investigator use was up substantially, course numbers remained stable, and its financial health continued to be sound. Bev continued his association with the Huntsman as he had began...as a volunteer, although with two titles, Executive Director Emeritus, and Senior Scientist, which gave him an office so he could continue with his first love, systematics. When he agreed to Hart's request to finish the book started by Leim, the deal included a revision in due course. Now Bev could devote full time to the task, this time with co-author, Milly. *Atlantic Fishes of Canada*, Scot and Scott, was

published in 1988. It covered 538 species, 240 more than in Leim and Scott.

Because of Milly's ailing health, the Scotts moved to Kingston where there were better medical facilities, and, fortuitously, Queen's University. With encouragement and assistance of Dr. John Casselman, Bev has continued his involvement in fisheries at the University's Department of Biology and at the province's nearby Glenora Fisheries Station. Milly's death in 2006 was a devastating blow. He nevertheless rallied, and when, at 92, he attended the 100th anniversary celebrations of the Biological Station in St. Andrews, in October, 2008, he was very much the Bev we all knew.

Bev's legacy in words and deeds live on. Perhaps the greatest will be the young people who, as a direct result of their experience at the Huntsman, were turned on by the marine sciences and decided to make some aspect of them a career. Some will be tomorrow's leaders. With any luck, a future W.B. Scott is in the making.

