

# A Towering Intellect

**With the death of Sidney Holt late last year, the world lost a man blessed with a towering intellect, boundless curiosity and an unwavering commitment to conservation**

**S**idney began his professional life in 1947 at the Fisheries Laboratory in Lowestoft, UK. Michael Graham was the lab's director then and he set Sidney on the path that led, a decade later, to the publication of what is often called the Bible of fisheries science and which he co-authored with Ray Beverton. Titled *On the Dynamics of Exploited Fish Populations*, that seminal work, frequently described as the most-cited reference in fisheries science, continues to underpin fisheries management to this day. Not bad for a first effort!

The world of fisheries management was very small in the 1940s. Sidney soon found himself involved at all levels, from frequent research cruises at sea—Graham insisted on them for all scientists and Sidney considered them an excellent grounding in reality—to giving training courses and participating in negotiations for the future Law of the Sea. He fell in love—with Rome because he was already married!—and joined Food

that would simultaneously allow the depleted whale stocks to recover. Quotas were subsequently reduced, but too slowly to prevent further depletions. The extraordinary political attention on whaling in the 1980s led to both an indefinite moratorium on commercial whaling in 1986 and the development of an entirely new method for managing commercial whaling. As Sidney has noted, the moratorium allowed the IWC Scientific Committee to divert its attention from 'routine' stock assessments to exploring radical new approaches to the management of exploitation. These approaches involved the testing, by computer simulation, of various proposals for setting catch limits to whaling, based on initial work done by W K de la Mare. After many years of work, the result was the IWC's so-called Revised Management Procedure, adopted in 1994, though it has never been used to establish catch limits by the IWC. Sidney was instrumental in both of these processes.

Indeed, Sidney's membership in the Committee of Three was the beginning of his life-long engagement in the movement to end the commercial slaughter of whales, work that was largely successful by the time of his death.

Ever thinking ahead, Sidney became interested in the issue of interactions between fisheries and marine mammals. As the hunting of seals and whales became politically problematic in many quarters, suggestions were made that they were consuming so many valuable fish that they should be reduced in numbers, in order to benefit fisheries. In the 1990s, under the auspices of the UN Environment Programme (UNEP), Sidney led a coalition of inter-governmental and

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and Agriculture Organization of the United Nations (FAO), the first of his many appointments and positions in the UN system.

His fisheries expertise moved the International Whaling Commission (IWC) to engage him in 1961, along with K R Allen and D G Chapman, as the Committee of Three (later Four, with J Gulland). This was the Commission's first attempt to set rational catch limits

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Michael Earle in conversation with Sidney Holt. A colleague of Sidney recently wrote: "I decided from knowing Sidney that any day that one does not laugh is a day wasted." A fine epitaph to an extraordinary scientist and human being

non-governmental organizations (NGOs) in their development of a scientific protocol to evaluate whether a proposal for the culling of marine mammals to increase fishery yields would achieve its objectives.

In 1993 and then again in 2004, the fisheries Bible, which had been out of print for decades (the initial print run was only 1,500), was re-issued. In 2004 the Foreword by Sidney ruminated on the progress—or lack thereof—in fisheries management in the previous half-century. In it, he recounts that he and Beverton had long discussed whether the general failure of fisheries management was attributable to scientists offering bad advice, or governments not accepting the advice that was offered. Shortly before his co-author died, they agreed that it was probably a bit of both. It was partly due to this retrospective that Sidney subsequently returned to the problems in fisheries management, bringing in lessons he had learned elsewhere.

Though I had worked with Sidney, among others, on the UNEP protocol, and was well aware of his reputation, it was after he became once again

involved in fisheries management in the late 2000s, leading up to the reform of the European Union's Common Fisheries Policy (CFP), that I began to really understand the depth and breadth of his contributions and commitment.

His aim became to demonstrate the folly of using Maximum Sustainable Yield (MSY) as the objective of fisheries management. Beverton and he had never intended this. The enshrinement of MSY as an objective in international law, via UNCLOS and various regional management organizations, was a result of political pressure exerted by the US in the post-World War II years, as recounted in a fascinating history by C Finley. Sidney spent much of the past 15 years trying to correct what he considered to be a calamity.

### **Economically profitable**

Despite the widespread assumption that fishing so as to achieve MSY would be economically profitable, Sidney insisted that this was far from necessarily the case. In his work for the European Parliament during the reform of the CFP, he showed that reducing

the intensity of fishing by a significant amount—by as much as half—would reduce yields by insignificant amounts, on the order of 5-10 per cent. The result would be not only more sustainable fishing on more abundant and resilient stocks, but also much improved profitability. As Sidney was wont to say, what rational business would double its costs to improve profits by 10 per cent? Nonetheless, political compromises continue to keep fishing intensity too high, in the EU and elsewhere.

While doing this work, he returned to his earliest themes. He often quoted his mentor, Michael Graham, in Graham's 'Great Law of Fishing': "Fisheries that are unlimited become inefficient and unprofitable." Sidney was as concerned about the well-being of fishers as the sustainability of fish and other marine species. In his view, they were mutually reinforcing under proper management. His experience in the practical aspects of fisheries management led him to add his own 'Second Law of Fishing': "Operators will always react to regulation in such a way as to negate the intended effects."


But Sidney was more than the sum of his accomplishments, impressive though they are. He was very generous of his time, erudition and ideas, as many can attest, at least if he sympathized with what you were trying to do. If you found yourself on the other side of a professional argument, though, it was a different matter. In defence of his ideas he was ruthless and relentless. Stories are legion of his debates in meetings and correspondence with his scientific and political opponents.

I had the privilege of witnessing one such meeting in the late 1980s, in which Sidney and D M Lavigne, a Canadian seal biologist, discussed a proposed cull of grey seals with a scientist from the Canadian government. The government man was trying to justify a cull to enhance recovery of the recently collapsed northern cod stock or, probably more honestly, to divert blame for his colleagues' disastrous management of the fishery. He was annihilated by Sidney and Dave, to the point that when they made their final decisive point, he simply left the room! Moments later, the meeting was

abruptly adjourned and, within days, the government announced that there would be no cull.

I recalled that scene visiting him much later, watching his delighted fussing over his cats, and marvelled at the contrast with his professional prowess and reputation for unrelenting and ruthless combat in scientific forums.

Sidney also had a keen appreciation of the importance of history, besides an unparalleled knowledge of the development of his own discipline, including the role of politics in its history. This led to a lengthy, mutually beneficial collaboration with a group of fisheries historians. Sidney contributed first-hand experience to the more academic knowledge of the historians. His historical tales always reminded me of an old paper titled 'Nothing in biology makes sense except in the light of evolution'. That is undeniably true for fisheries management!

After his retirement from the UN system in 1980, Sidney moved to Umbria, Italy, latterly to the small village of Paciano, where he had enough grapevines and olive trees to keep him and his son Tim supplied with wine and oil year round. They were especially delighted when they—"a couple of Brits", as Sidney would note—won the local contest for the best oil of the year. He was always ready to engage in work to further conservation, and worked with numerous national and international NGOs, among others. 

#### For more

<https://science.sciencemag.org/content/367/6479/744.full>

#### **Sidney Holt (1926–2019)**

<https://www.theguardian.com/environment/2020/jan/08/sidney-holt-obituary>

#### **Sidney Holt obituary: Fisheries scientist who fought for nearly 60 years to save great whales from extinction**

<https://www.springer.com/gp/book/9780412549601>

#### **On the Dynamics of Exploited Fish Populations**