

Science & research

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Sutherland Shire was home to two innovative research facilities during the 20th century. While one continues to undertake important work crucial for our health system, the other, whose research had vital implications for sustainable fishing in Australian waters, was closed without explanation in 2013.

Cronulla Fisheries

The third fish research station in the world – there were similar institutions in Norway and Scotland – was established at Cronulla in 1906. For some time, there had been growing concern about the depletion of fish stocks, so it was with some pride, the New South Wales government founded this scientific fish research institute under the direction of a Norwegian, Harald Dannevig.

A colonial attitude at the time meant it was considered desirable to stock Australia with exotic species such as rabbits and deer in an effort to ‘improve’ what were thought to be inferior native animals, birds and fish. This was the mindset when fisheries research first came to Cronulla.

Dannevig had been recruited in 1902 to take charge of the acclimatisation of exotic fish species program and was appointed Superintendent of Fisheries Investigations and Fish Hatcheries at the fish hatchery that the Department of Fisheries had established in 1900, on the southern shore of Port Hacking at Cabbage Tree Basin. The *St George Call* commented how at this location adjoining the National Park, ‘every kind of foreign fish is acclimatised and propagated for stocking the rivers of the state.’

When this venture proved unsuccessful, despite its early promise, Dannevig decided to move operations to the other side of Port Hacking. He chose Hungry Point, a government reserve at the southern tip of the south Cronulla peninsula because of the ‘density, purity and temperature of the salt water’.

This magnificent spot with breathtaking water views had long been a favourite living space for the Dharawal people. Evidence of their long use can be found on the site in the form of remnant middens. An ancient burial site was discovered there in 1977.

The hatchery pond and buildings were constructed in 1904 and opened on 29 November 1905. As well as a centre for science, this would be a tourist attraction open to the public two days a week. Early in 1906, after some delay, the hatchery was in operation. It was certainly of interest for local residents and tourists who visited at all hours, so much so that the staff complained this interfered with their work.

Tasmanian flounder was brought in to hatch, but this did not proceed as was hoped. By 1912 the site was being used for fish curing, and potential visitors found they were no longer allowed to drop into the site, because of the disturbance they caused.

Eventually experiments in curing and pickling fish were deemed to be unsuccessful and in 1914 the 'temporary' closure of the hatchery was announced. The final straw may have been the death of fish in February 1914 during a period of extreme hot weather on a day when there was a particularly low tide. A caretaker, Henry Aldrich, and his family lived at the hatchery until 1920. As Frank Cridland commented in 1924, 'The concrete breeding ponds and other appurtenances [trappings] of the hatchery remain, but nursery operations have long since been suspended'.

All was quiet until 1938 when the CSIRO chose Hungry Point for the location of its Marine Biological Station. Serious research had returned to the site and continued when the NSW Department of Fisheries took control in 1985 after the CSIRO moved its operations to Hobart. Cronulla residents regarded the 'Fisheries' with pride as it was appreciated how vital its research was for the health of Australia's fish stocks.

Scientist Professor Steve Kennelly first worked at the Fisheries Research Institute in 1987 when it was under the direction of Dr Bob Kearney who, Kennelly comments, set a new direction for research at the Institute and really 'put it on the map'. Life was good, doing vital research at a site he loved, especially on his speciality, bycatch – the unwanted fish and other marine creatures trapped by commercial fishing nets when fishing for a different species. As Kennelly says, Hungry Point:

is a great location, not just because of the views, but also because of its topography. It allowed us ... to pump good quality seawater up the hill to the header tank and then gravity feed it down through the aquarium system so you can maintain very high-quality water and do all kinds of great experiments.

Kennelly was appointed to the position of Director of Cronulla Fisheries Centre in 2000, and also took on a new role as Chief Scientist for NSW Fisheries, in charge of all fisheries research in the state. In 2011, however, he experienced a 'life-shifting moment' when he learnt that this world-class research facility would be closed.

After accessing 'freedom of information' records, he believes the claim the closure related to 'decentralisation' was a last-minute ploy 'to explain the inexplicable'. He strongly suspects that Department of Primary Industries bureaucrats thought the site could be sold, as they seemed to have little knowledge of its Aboriginal heritage significance or its long history of fisheries research.

A report on future uses for the site by government-appointed consultant David Harley recommended that the site remain in public ownership, and that there should be no large-scale commercial or hotel development.

The closure of Cronulla Fisheries Centre in 2013 has meant the dispersal of teams of scientists and a loss of expertise in NSW fisheries research. Marine Rescue NSW now occupies much of the site, but a small portion is open to the public.

The Nuclear Reactor

The Cold War was at its height in the mid-1950s when plans for a nuclear reactor in Sutherland Shire were first mooted.

Britain, anxious to develop its own atomic weapons –with the agreement of Australia's prime minister Robert Menzies – conducted atomic tests at Maralinga in South Australia. Since described as an 'exercise in futility', these ended in 1957. As Australia's major allies built nuclear power plants, Labor politicians regarded nuclear energy as a clean source of power that would eliminate the need for coal mining.

Therefore, when the news was leaked early in 1955 that the Commonwealth Atomic Energy Commission – later Australian Nuclear Science and Technology Organisation, ANSTO – would build Australia's first nuclear reactor, there was little public dissent. The site chosen was Commonwealth military land two miles from the township of Menai in what was then a sparsely populated area. Despite some initial reluctance Sutherland Shire Council agreed to the plan. Joe Monroe – now retired but through whom the initial leak may have come – commented complacently that as Menai had no water supply there was 'no danger of pollution by radio-activity'.

When prime minister Menzies officially opened the Atomic Energy Research Establishment on 18 April 1958 on the bushland site – now called Lucas Heights – he declared that this was a 'historic occasion not only for Australia but for the world'.

The Hifar reactor – Hiflux Australian reactor – was designed to produce radioactive isotopes for use in industry, agriculture and scientific research. Australian scientists would be trained in collaboration with Britain, Canada and the USA. The Commonwealth Atomic Energy Commission's long-term aim, under the chairmanship of Philip Baxter was to generate electricity through nuclear power, but as electricity could be generated more cheaply by coal and hydro-electricity, this did not happen.

Twenty years later there was less agreement on the benefits of the reactor. Since its opening, suburban sprawl – especially with the development of Menai and the expansion of North Engadine – meant that it was no longer in isolated bushland. In 1979 a group called Sutherland Shire Residents' Action Group led opposition to the construction of a new reactor to replace the aging Hifar. Indeed, during the 1970s the reactor – once a source of pride – became a pet hate for some Shire residents.

Over the years there have certainly been problems such as a fire in a 'hot cell' in 1987, and an ongoing issue concerning the disposal of low-level radioactive waste. But the greatest problem seems to have been public relations,

In the 1990s Sutherland Shire Council spent large sums on anti-nuclear campaigns about which many Shire residents were either half-hearted or actively opposed. Community surveys indicated that the further residents lived from the reactor the less

they were concerned. Residents in the east of the Shire pointed out to those who lived in close proximity to the reactor that it was there before they were.

Nevertheless, veteran campaigner against the reactor and Sutherland Shire councillor Genevieve Rankin commented in 2004, prior to her retirement from council politics, on the 'incredible culture of secrecy' at ANSTO. As efforts were made to reduce this and regular public open days held, ANSTO officials suggested that the reactor might become one of Sydney's 'iconic' tourist attractions.

Inevitably Hifar aged, and was replaced in 2007 by a modern nuclear research reactor, Open Pool Australian Lightwater or OPAL. Described as a state-of-the-art 20-megawatt multi-purpose reactor, it uses low enriched uranium (LEU) fuel for a range of activities that benefit human health. It also enables research to be conducted to support a more sustainable environment and provide innovative solutions for industry.

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