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# FISHING INDUSTRY RESEARCH TRUST ACCOUNT

TITLE OF PROPOSAL	OYSTER PATHOLOGY PROGRAMME
APPLICANTS NAME	NEW SOUTH WALES STATE FISHERIES
ORGANISATION	

*briefing note F146  
minutes FIRE 21 F145.*

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The general objectives of this programme were identification of diseases and parasites in introduced and indigenous oyster stocks. Establishment of a registry of appropriate material such as literature references and photographs and histological sections of parasites and diseased material was also proposed.

The registry is maintained at Fisheries House, Sydney, and contains wet tissue specimens of abnormal tissue or parasites, some 9000 samples of oyster tissue in paraffin blocks, and approximately 10,000 histological slides. Parasites and discarded tissue have been photographed and the photographs have been filed in the registry.

Histological slides and oyster tissue are regularly exchanged with four oyster pathology laboratories in the United States and two in France.

Material in the registry includes Crassostrea commercialis from New South Wales and Queensland, Crassostrea gigas from Tasmania and South Australia, Crassostrea amasa and echinata from Queensland and Northern Territory, and Pinctada maximum from Western Australia.

A wide range of parasites has been detected in indigenous oysters. These include:

- a. Haplosporidian, Marteilia sydneyi (Perkins & Wolf) N.sp. in C. commercialis and C. echinata in subtropical and tropical waters.
- b. Tylocephalum sp., larval helminth parasite in C. commercialis, C. echinata and C. amasa ( and in several other overseas oysters) in sub-tropical and tropical waters.
- c. Unknown ovarian parasite (possibly a Coccidian) from Darwin Harbour found in C. echinata. A similar parasite has been found in C. gigas from Korea.
- d. Ancistrocoma (?), a ciliate in the tissue of the diverticulae of heavily infected or moribund C. commercialis parasitized with M. sydneyi.
- e. Unknown platyhelminth (?) parasite in C. echinata from Northern Queensland. Identification only possible if more live material can be obtained.
- f. Bucephalus sp., trematode in C. echinata from Darwin and C. commercialis from N.S.W. Very rare in Australia but abundant in oysters from N. & S. Carolina, U.S.A.
- g. Unidentified Protistan parasite in the Pearl oyster, Pinctada maxima, from N.W. Australia.

Examination of the introduced Pacific oyster, Crassostrea gigas, comprised a major part of the project with our 1200 specimens from Tasmania and South Australia being examined microscopically after histological processing. Although particular care was taken to recognise Mytilicola orientalis, a parasitic copepod, causing big problems in the French oyster

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industry from Arcachon, it was not possible to find any M. orientalis in the above sections. However, a number of oysters were infected with Pseudomyicola another parasitic copepod, (described by Dinamani in the N.Z. oysters) which also occurs in the indigenous oyster, C. commercialis.

C. gigas from Coffin Bay, South Australia, harboured an unknown flatworm, similar to the N.S.W. "wafer", which was also found in Ostrea angasi in the Coffin Bay area.

Specimens of Pacific oysters which were introduced to South Australia in 1976 as spat from Scottish Seafarms Pty. Ltd, in Scotland were also examined, and a disease outbreak in pearl oysters in Western Australia was investigated.

A number of papers have been published in recognised journals.

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