

# National Centre for Fisheries & Aquaculture

*generating wealth for New Zealand*

Fisheries and aquaculture industries contribute about \$1.3 billion annually to the New Zealand economy in exports and domestic sales. NIWA has very strong capabilities in fisheries and aquaculture planning, development, and research that benefit from the wide blend of scientific skills in New Zealand. Our goal is to use the unique set of skills available within NIWA to help New Zealanders with the further development and sustainable management of marine resources. The National Centre for Fisheries & Aquaculture was established to enhance access to this expertise.

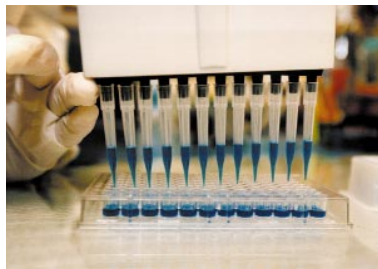
Over the past year we have strengthened our expertise in eel aquaculture, bioactive chemistry, and microbiology. Our newly established bioactives team is developing probiotics (the use of good bacteria to exclude or replace bad bacteria) for use in the aquaculture industry, and is involved in two significant FRST-funded programmes focusing on non-steroidal anti-inflammatory drugs for the pharmaceutical market, and nutraceuticals for the skin-care market. Further developments and partnerships have been a key feature at NIWA's Bream Bay Aquaculture Park, including the first pilot-scale commercial production of yellowtail kingfish in New Zealand. The Centre now supplies paua, salmon, and kingfish juveniles on a commercial scale to help develop these industries in New Zealand.

We have worked closely with fishing industry groups in a number of research projects, including the survey, assessment, and modelling of Bluff oysters with the Bluff Oyster Management Company, commercial vessel-based acoustic surveys with the Hoki Management Company, and the assessment of scallops with the Challenger Scallop Enhancement Company. These arrangements have been complemented by an increasing number of requests from stakeholder groups for help with the development of fisheries, contributions to regional strategic plans (e.g., the Northland regional aquaculture study), and the facilitation of a regional collaborative approach to the surveys required for marine farming licences. NIWA also became SITO-registered assessors – formal registration as a training provider offering courses in general aquaculture, paua farming, recirculation and reticulation, and disease management in aquaculture.

We help bring fisheries and aquaculture developments to the attention of stakeholders across the industry through our free quarterly newsletter, *Fisheries & Aquaculture Update*, which is also available on our webpage.

[www.niwa.co.nz/ncfa](http://www.niwa.co.nz/ncfa)

*Consumer demand for natural products in the lucrative skin-care market is continuing to grow. Estimates for 2000 put the value at NZ\$15 billion in the USA alone. NIWA's bioactives team is researching the potential for byproducts and bycatch from the fishing industry (which are currently discarded or used for low-value products such as fishmeal) to be used in the production of skin-care products. The FRST-funded programme, Te Whatukura a Takaroa: nutraceuticals from seafood, is a partnership between NIWA and Ngāi Tahu Seafood. The team is focusing on antioxidants which help prevent skin ageing, and vasodilators which help increase blood flow in the skin.*



Debbie Hulston



*Joint research with the Hoki Management Company.*



*NIWA produced more than 30 000 kingfish fingerlings during the 2002–03 spawning season – the first pilot-scale commercial production of yellowtail kingfish in New Zealand. Future kingfish R&D is planned to capitalise on the gains made this year in larval-rearing and nursery technologies. Other developments will include the use of probiotics, optimisation of feeding strategies, and manipulation of environmental variables to achieve optimal growth and survival.*