maths and the fisheries scientist

careers in mathematics
the possibilities are infinite

“Mathematics is my ‘toolkit’ for creating virtual fish populations... to test different management strategies for fisheries.”

Natalie Dowling
Resource Modeller,
CSIRO Marine Research, Hobart

Natalie studied marine science and mathematics at Flinders University in Adelaide. Now with CSIRO Marine Research in Hobart, she uses mathematical equations to create computer models describing fish behaviour and responses to fishing. These models combine biological, oceanographic and fishery information to create ‘virtual fish stocks’ within which fish can breed, grow, move and be ‘captured’.

By projecting forward in time, these models can predict the effect of different levels of fishing effort into the future. This allows managers to evaluate various harvest strategies and avoid guesswork in setting catch quotas.

Education summary:

Secondary
- 1987-1991 Blackwood High School, Adelaide, SA (Mathematics 1 & 2, Physics, Chemistry).
- Westpac Mathematics Competition entrant 1988-1991 (3 Distinction cert, 1 Credit cert)

Tertiary
- 1992-1996 Honours Degree of BSc (Marine Science), The Flinders University of South Australia. Major studies in Marine Science and Mathematics.
- 1997-2000 (full-time) & 2000-2002 (part-time): PhD, The Flinders University of South Australia and SARDI Aquatic Sciences.

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