

The Continuing Development of the IHO Category A Program at the University of Otago

Scott Preskett
University of Otago

www.surveying.otago.ac.nz

1

New Assets at the University

- Previous practical 'voyage' 2-3 weeks onboard RNZN survey ship
 - Limited involvement in planning/management
- University purchase of 21m RV *Polaris II*
 - Greater range than previous vessel
 - Benthos C3D bathymetric sidescan and sub bottom profiler
- Now able to conduct in house 'voyage'
 - Students conduct planning, operations, processing, reporting to LINZ standards



www.surveying.otago.ac.nz

2

Program Development

- Category A program redeveloped to meet changing technology, and student progression towards conduct of final voyage
 - Essentially one year beyond standard surveying degree
- Series of subjects (papers), some of which are available to other surveying students to provide insight into Hydrography, and enable participation in small surveys
 - Eg engineering works

Naval Schools v Universities

- Same goal of producing Hydrographic Surveyors
- Different approaches – different cultures, different timetabling techniques
- **Naval School** – core staff some outside expertise, lectures in *series*, practical work gained as needed
- **University** – readily available range of expertise, lectures in *parallel*, weekly timetable with practical slots

Nautical Sciences

- Differences between working on land and on water
 - Need for ‘securing’, fire fighting and other safety aspects, ‘Rule of the Road’
- For Nautical Charting – what does the mariner need?
 - Understand the working world of the mariner
 - Charts more than just a ‘road map’, integral part of the safety system of the vessel and its personnel

Maritime Experience

- Effect of weather on equipment
 - Far more significant than on land equipment
 - Wind, sea state, swell, turbidity
- Ability to steer vessel directly correlating to data collection coverage
- Attempt to give maximum exposure – different vessels (5m half cabin cruiser up to 21m *Polaris*), different locations (wharf areas, in harbour (<5m), channels, coastal navigation)

Standards of Competence

- A number of changes and improvements over the years – now in 10th edition
- Most areas included are ‘obvious’
 - Not all, and not to everyone
 - Must be underlying reasoning, short synopsis for each section beneficial for explanation, especially for those outside the Hydrographic community

Need for a Solid Theoretical Understanding

- Ever increasing levels of technology involved – reflected in changing Standards
- No longer simple and ‘intuitive’ – in danger of becoming ‘black box’ technology
 - Need to understand different approaches to multibeam surveying for different results
 - Dangerous when considering uncertainties without underlying theoretical knowledge of equipment
 - CUBE will give an answer – is it the ‘right’ one?
- Need solid theoretical understanding, followed by practical experience for better understanding and application