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Developing Australian Fisheries Management Training

Final Report of FRDC Project 2000/308

2000-2001



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April, 2002

**Final Report of the FRDC (Fisheries Research and Development Corporation) Project
2000/308**

Developing Australian Fisheries Management Training

By Alistair McIlgorm and Marc Wilson, April, 2002

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Cover Picture:

John Smythe (Abalone MAC, NSW) and Steve Nathan (Victorian Commercial Fisher) engage in debate on the Policy Development Program, in Melbourne, April, 2001. Background: Noel Gogerley (Rock Lobster MAC, NSW) and Corrie Banks (Victorian Co-management Council and Recreational Fishing Representative).

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Picture 2: Participants at the NSW MAC Course, Cronulla, April 2001



Picture 3: Participants at the WA MAC Course, Perth, October 2001

1. NON TECHNICAL SUMMARY

2000/308 Developing Australian Fisheries Management Training

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OBJECTIVES:

1. Short course training for fishing industry representatives and non-government Management Advisory Committee (MAC) representatives in fisheries management.
2. Training for fisheries administrators and managers on an in-service basis through the provision of interactive residential schools at (Australian Maritime College) AMC.
3. To develop "a strategy to integrate the delivery of MAC management courses with the training package developed by Seafood Training Australia" (STA) FRDC 2000/308 contract document.

NON TECHNICAL SUMMARY:

Outcomes Achieved

The project developed training through a suite of three levels of courses to enhance the skills of Management Advisory Committee members from all stakeholder groups involved in the co-management committee process across Australia. A management course and a subsequent workshop, trained fishery managers and thus increased professionalism among government fishery management staff.

The project proposed training 50 stakeholders involved in Management Advisory Committees in one year using a selection of MAC courses. A third level MAC course, the Policy Development Program, was developed to train 10 stakeholders in how to develop and change policies in the MAC process. This was delivered for the first time in the April to June 2001 period, by a mix of internal course delivery and participant teleconferences.

A total of 53 MAC participants were trained in 2000-01, 42 MAC members attending the MAC I short course program, and 11 stakeholders participated in the Policy Development Program. The courses were well received by both 32 industry (60.4%) and 21 other stakeholders/government participants (39.6%). Approximately 14% of MAC course participants were female.

Fisheries Management training was also provided for 27 professional fisheries managers through FRDC B 3 day workshops (11 persons) and the FRDC A 10 day short course (16 persons). Participants were from most fisheries agencies in Australia. Approximately 55% of FRDC B participants and 50% of FRDC A participants were female.

The previous MAC training project (FRDC 97/337) had identified that measuring MAC participants learning achievement and behavioural change is difficult to measure in this complex, adult learning environment. The current project continued to address this issue in course delivery and appraised participants through workbooks and observation, enabling in-house accreditation by AMC staff, rather than recognising only attendance.

Course attendance was good, with 26 from 30 attending in WA and 16 from 20 in NSW. The attendance of MAC members is often impacted by local fisheries management issues and disputes, disillusionment with the MAC process and volunteer fatigue. Communication with Fishery department staff assisted MAC participant attendance and minimised last minute cancellations.

The Policy Development Program (PDP) for MAC members had an objective of following participants through the policy development process, each participant benefiting from the two day internal courses and from several subsequent teleconference calls over a three month period. Several notable policy proposals were developed and had differing degrees of success in achieving implementation. The progress of each participant was logged and the participants liked the program delivery and the continuation of the group dynamic developed in the short course. Adult learning through programs and mentoring is an area worthy of further research.

The project also undertook a strategic development exercise of the MAC framework developed in projects 1997/337 and 2000/308 with the national training framework developed by Seafood Training Australia (STA). The review examined recently developed leadership units and recommends that industry examine turning the MAC programs into unit options as part of the STA package. The MAC training is significantly different from existing STA units with approximately 30% commonality. The proposal to develop MAC units, as an option on the STA seafood industry training package will be further investigated by a FRDC funded project with the Australian Seafood Industry Council in late 2001.

The FRDC B Fisheries Managers workshop investigated "Increasing professionalism in fisheries management". This led to the development of a list of attributes and characteristics required by a fisheries manager and the workshop investigated how these requirements are changing with co-management and environmental influences in fisheries management.

The project identified the following challenges:

- the whole MAC course proposal was not achieved, as there was not a MAC available or prepared to trial this group conflict resolution concept;
- the complexity of technical, managerial and leadership issues in the MACs resource management roles, in comparison to generic industry training; and
- the potential to develop competencies and professional standards in all MAC and fishery manager training.

For both managers and stakeholders the co-management experiment is still developing and will require significant participant training in the future to overcome educational differences and inherent structural weaknesses in the MAC and fisheries management system. This FRDC sponsored research and development project has made significant steps in addressing these issues and in moving towards incorporation of MAC training in the STA's national training package.

KEYWORDS: **Training, Fisheries, and Fisheries Management**

2. BACKGROUND

The FRDC supported project 94/057 in the 1994-97 period to provide for stakeholder training in MACs. The FRDC Project 97/337 in the 1997-2000 period built on the success of the first project and further development MAC training. Project 2000/308 was a one year project.

3. NEED

The project identified the following needs:

1. Short course training for fishing industry representatives and non-government representatives in fisheries management.

The project identified that many stakeholders from industry, recreational and community sectors are not clear on their roles and duties in the co-management process and have little resource management training. MAC training courses were to be used to produce greater competence in stakeholders in their role as MAC representatives and in advising on resource management issues. The policy development program was designed to enhance the capacity of stakeholders to influence the co-management system.

2. Training for fisheries administrators and managers on an in-service basis through the provision of interactive residential schools in Fisheries Management at AMC.

Many fisheries administrators and policy makers have little formal training in fisheries management. Their participation in residential schools at AMC, with a limited time away from work, was proposed as increasing the professional competence of fisheries administrative and management staff through increasing their resource management knowledge and management skills.

In both course programs, the use of the Australian Maritime College staff for training and selection of regional venues provided interchange and networking on a national scale, training taking place “in state” due to cost constraints. The project offered some subsidisation of airfares to assist attendance at courses. This enabled each state based course to have attendees from interstate, lifting the perspective of participants to wider than local issues.

3. A need to develop a strategy to reconcile the MAC courses with the national package developed by Seafood Training Australia.

The MAC courses process can be examined in relation to the developing national training package developed by Seafood Training Australia. The national training package initially focused on training for the vocational needs of industry through the development of a national set of competencies, but it is now a framework in which leadership and MAC training can potentially be incorporated. This requires the AMC program content to be reconciled with the existing STA framework, thus identifying areas where development is required.

4. OBJECTIVES

The objectives were:

1. Short course training for fishing industry representatives and non-government Management Advisory Committee (MAC) representatives in fisheries management.
2. Training for fisheries administrators and managers on an in-service basis through the provision of interactive residential schools at Australian Maritime College (AMC).
3. To develop “a strategy to integrate the delivery of MAC management courses with the training package developed by Seafood Training Australia” (STA) FRDC 2000/308 contract document.

5. METHODS

The first two objectives were addressed by the MAC I and II short courses and the new Policy Development Program to address the MAC training objectives. Training of fisheries managers was via a workshop and ten day training course at AMC. A brief overview of each course is given below.

The third objective was completed and was submitted to the FRDC as a report and is included in Appendix 4. The strategic report identifies the potential for common delivery in the MAC and leadership units of the STA National Training Package and recommends a study into the development of the MAC skills as competencies in the National Seafood Training Package of Seafood Training Tasmania. Such a study has been commissioned by the FRDC through the Australian Seafood Industry Council (ASIC) and Seafood Training Australia and commenced in September 2001 (Johnstone et al., in draft).

In 1998 the previous FRDC project introduced assessment sheets for participants based on learning outcomes in order to be able to recognise not only course attendance, but potentially accredit students under the AMC’s course framework. This was used in each course. Participant records are had by AMC and can be used to award recognition of prior learning (RPL) if required by the student. The effectiveness of delivery is reviewed in the results section.

Objective 1: Management Advisory Committee Courses (MAC Courses)

The needs for MAC training were seen as being on three distinct stages - the MAC I, MAC II, and Professional Development Program (PDP).

Need: The MAC I course was developed to meet the needs of all stakeholders to equip them with basic representation and fisheries management skills required to function competently on a MAC. This project continued to refine the most appropriate learning methods for the fishers and other MAC representatives.

Method: A short two day course in-state was used. Instructors deliver a 10 minute presentation as an overview on the subject material and then promote participant questioning and debate on the subject. Greater participant involvement was incorporated in 2000-2001 through more participative exercises.

(a) MAC I

The original 2 day MAC course developed in the FRDC project 94/057 and 97/337 was delivered as a two day course program with four sections, as reported in Box 1a below.

Box 1a: Structure of the MAC 1

	Morning	Afternoon
Day One	Introduction/responsibilities	Educational /theory
Day Two	Management issues/skills	Making MACs work

The first day is an introduction to the duties and responsibilities of a MAC member, with the first afternoon being educational, rather than issue specific. Each session included a discussion period to draw on the participant's experience as well as a participant dinner as part of the program which assisted the continuation of discussions in a non-formal atmosphere - a course highlight where participants welcomed the chance to learn from each other.

Day two of the MAC I continues the educational theme with stock assessment, risk assessment and environmental and technology issues in the morning and a discussion of management issues subsequent to these presentations. The afternoon of the second day covers issues in making the MAC process work, conflict resolution and communication with stakeholders.

The curriculum of the MAC I is reported in Box 1b below and the MAC *learning outcomes* are reported in Appendix 4 (Table 1).

Box 1b: The MAC I curriculum

Introduction: Training and MACs; Review of MAC arrangements in different states of Australia; trends in operation;

Roles and Responsibilities: Legislation and MACs; the role of the MAC; responsibilities of a MAC member – legal liability, advising and procedural matters (minutes, paperwork, reporting, consensus, meeting protocol);

Communication and the MAC member: need for communication skills; principles of communication; technical and functional models; public speaking; writing skills; drafting papers for MACs; communication within the MAC and with external parties;

The processes of government: the structure of government and advisory committees; co-management process; fisheries legislation and departmental responsibilities; ministerial responsibilities and the decision hub; putting information through the system; problem solving.

Role of a Chairperson: responsibilities of a chair; selection of chairs; essential duties; managing information and conflict resolution; selection of independent chairs and payment.

Fisheries research and stock assessment: role of research in management; biological principles – growth; recruitment; mortality; the marine environment and uncertainty; role of models in stock assessment; types and accuracy of models; costs and limits of fishery research /stock assessment.

Fishery rights, access and resource security: Common property and open access regimes; limited entry and rights development; characteristics of a licence and further rights; developing access security;

Fishery economics: The open access problem; addressing reductions in productivity and profitability; sustainability and economic viability; economics of fishery management policies; enhancing rights and economic performance;

Fishery management and leadership: Management and regulation; limits to management; developing leadership skills; leadership and MACs; (Substantial part of adult education is discussing the experiences of participants with these issues).

Risk assessment and fisheries management: fisheries ecology; appraising risk; attitude to risk and precaution; accounting for ecological risk;

Environment and the fishing industry: international developments; national legislation; new obligations and costs; habitat issues;

Technology and the environment: managing fishing technology; bycatch reduction; MAC responses to technical fishing issues;

Strategic planning and development: Moving to strategic planning; principles of planning;

Fisheries Management Plans: structure of fishery management plans and legislation;

Conflict resolution in fisheries management: sources of fishery conflict; the conflict spiral; personal conflict resolution skills;

Communication and constituency: communication with fishers and the community– duty, role, methods, limitations, and leadership.

During the one year project, all MAC courses were conducted outside AMC. This was less expensive for participants, but diluted the potential for “cross pollination” of fishing industry culture and policies between the different states. However, the April 2001 MAC course in NSW had two attendees from out of NSW, from SA and Queensland. Industry peak bodies found that funding participant expenses was difficult over the project period, both MAC courses depending on the support of the State Fisheries Department (WA and NSW).

(b) MAC II

Need: Participant feedback from MAC I led to the development of MAC II. “ A *second more intensive course is needed on personal skills*” national MAC attendee, 1998. This need was “*to build on previous exposure to fisheries issues and develop greater understanding, skills and leadership as a MAC participant*” (MAC II brochure).

Method: The MAC II builds on the MAC I and involves 2.5 days of skills identified for the MAC process, including policy making, managing information and representative skills, such as conflict resolution, negotiation and leadership. The overview of the MAC II program is given in Box 2 below and the associated learning outcomes are reported in Appendix 4 Table 2.

Box 2: The MAC II curriculum

(i) Policy Making

Legal principles for MAC members: MAC legislation and empowerment; review of contract law, tort (negligence) and Fisheries law.

(ii) Managing Information

Information management: skills and tools for MAC members;

Budget principles: Financial, costing principles and budgets in MACs.

Computers and data management: fisheries data, managing information and data;

Costing principles: cost recovery and service delivery

Catch effort data and its use: use and interpretation of fisheries scientific (catch and effort) and economic implications.

(iii) Representative Skills

Communication and the MAC member: written and spoken communication;

Developing a MAC position paper: communicating with government and other stakeholders;

Meeting skills and protocol: simulated meeting;

Publicity and media: managing publicly released information and responding to media;

Teamwork and MACs: cooperative exercises;

Conflict resolution: issues of conflict and skills to reduce conflict in MAC meetings ;

Conflict of interest: operational, legal requirements and ethics;

Strategy and goal development: Focusing on goals and strategic outcomes for MAC policies;

Personal communication: inter personal skills to improve communication in MAC meetings;

Leadership in the MAC process: influence and leadership skills development.

Project 2000/308 added a third level Policy Development Program to these two existing courses.

(c) The Policy Development Program

The Policy Development Program was developed in 2001 and delivered in the March to June period.

Need: The need for the policy Development Program came from MAC members who wished to present a position paper at a MAC and deal with the issues following the proposal, including media relation and influencing the government process. This was seen by MAC stakeholders as being the next step in competent representation.

Method: The Policy Development Program came from previous project investigations which identified the need for on going contact and mentoring for MAC participants attempting to add new policies in the MAC process. Suitable candidates were selected and a two day intensive skills course provided instruction on essential skills and the development of the participants policy development idea. A group identity was formed in the two day program and this was followed up with teleconferences to monitor and develop the policy programs being proposed and developed by participants.

The PDP was the first attempt to move from short course delivery to use of telephone conferencing among participants after an initial two day course. This initiative was supported by fishers suiting their lifestyle, commitments and enabled the PDP program theme to continue over the duration of the three month program. The progress achieved through the teleconferences and the networking of participants, was a major element in the success of the program.

The program sought to:

- enable the participants to implement new policy in their co-management committee and be mentored through the process by the AMC staff;
- enable the MAC representative to identify potential issue they want to change;
- enable the MAC representative to develop and deliver paper at MAC;
- enhance the management skills of participants through a mixture of presentations and teamwork;
 - encourage sharing and mentoring among participants through on going contact and teleconferencing with staff from AMC; and
- give participants a greater understanding of their role in fisheries management.

Box 3: The PDP curriculum

Subjects included in the internal part of the program were:

Communication Skills: Focused communication;

Managing Information I: Administrative and management information;

Fisheries Management I: Strategic development;

Communication: Issue paper development and planning;

Leadership and teamwork: Team strategy and skill development exercise;

Fisheries Management II: Industry and strategic planning.

Managing Information II: Use of scientific information;

Media Session: Dealing with a media interview and the media;

Media session on camera session: On camera interview by professional journalist.

Participant Policy Development: Review and appraisal of draft policy proposal;

Managing information III: Economic and social issues;

Leadership and teamwork: Exercise;

Fisheries environment and planning: Environmental constraints and responsible policy development.

Conflict resolution and policy development: Conflict considerations, reduction strategies;

Report on draft policy development: Participants present and appraise each other's policy development proposals, suggesting improvements.

The internal course part of the program was well received by all participants as seen in the participant surveys (see Appendices). The participants enjoyed developing and presenting a short position paper as well as teamwork and individual exercises. Some comments received were:



Picture 4: "Media Interview"

Mr. Karl Tesar (Estuary General MAC, NSW) a participant on the Policy Development Program, Melbourne, April, 2001 is interviewed and videotaped by a professional journalist.

"On the whole, this course was an excellent presentation. Interesting, relevant and useful. Should have had more days for a course like this." PDP Participant, Melbourne, April 2001.

The course also sought to make these leaders aware of their need to master skills to deal with the media. This was accepted with comments like:

"Good to integrate the media session into the course."

"Good to be dealing with real issues... With such varied interests we should spend longer on issues such as fisheries environment and planning."

The program continued with several mailouts and two teleconferences of over an hour and half each between project staff and the participants. As of the end of June several of the participants were of the opinion that their involvement in the program had assisted their chosen policy issue to get on the right path, and in several cases significant developments had been made by the participant as reported in Box 4 below.

Box 4: Policy Development Program: Summary of Participant's Policy Issue and Progress in April to June 2001.

The issues chosen are common to several participants and are reported under general issue headings.

1. Eliminating Conflict in the Fishing Industry Between Stakeholders and User Groups

Corrie Banks - Victoria

Present a paper on reduction of conflict to the recreational marine fishing sub committee of the Fisheries Co-management Council (FCC) and then to get that adopted and presented to Bays and Inlets committee.

Karl Tesar - NSW

Promote the industry through the use of publicity material (posters etc advertising campaigns, videos, books in libraries, school clubs on regional basis). Addressing the perception that professional fishers are doing the wrong thing. Communication to defuse wrong perceptions.

2. Marketing and Resource Management

Rodney Trelloggen - Tasmania

How can marketing be used to maximise returns to participants in the catching sector under an ITQ regime for Rock Lobster. To work out a strategy and learn from other industries. Then get others in industry aboard.

Tas Warn - Victoria

To restructure the Abalone Industry Australia wide to provide more uniform export and internal marketing of Abalone. Looking for mutual gain from reducing the booms and busts of Abalone price within the industry. Capturing the benefit of this for Australia with a win-win for industry and processors.

Tony Jurinovich - Western Australia

To form a peak body in the WA Cray industry that will assist fishers not to endure reductions in price due to over supply. To convince fishers to examine alternatives to the current arrangements.

3(a) Cost Recovery and Service Provision

John Smythe - NSW

Efficient use of industry funds (raised through cost recovery) in the supply of fisheries management services to the NSW Abalone fishery. Recent delivery of services charged under cost recovery has been below expectations.

Noel Gogerley - NSW

Examining and reducing charges on fishers in the NSW Rock Lobster fishery. Recent cost recovery and community contribution in this small fishery make it very high cost for fishers.

3(b) Surrender Provisions

Peter Riseley - SA

Developing a paper on bycatch surrender provisions in the Southern Shark Fishery (SSF). Developing a draft surrender provision that the MAC and AFMA may consider.

4(a) Access

Brian Hughes

Turning an aquarium permit into a licence. Presenting a case to fisheries to consider this.

4(b) Steve Nathan & Robert Davis

Problem to retain access by handing in gills net entitlements and replacing with hook fishing entitlements, catching live fish (wrasse etc, 5-10 year view). In Portland area a gill net free area for the community, run by a community committee with community benefits.

In summary, the MAC training objective was addressed through the three levels of training developed.

Objective 2: Professional fisheries management courses

The training for professional fisheries managers was through residential schools that were divided into two parts: the FRDC A course and the FRDC B workshop.

Need and delivery: The need is twofold. The FRDC A is to enable fisheries administrators, usually with limited fisheries background, to be given a comprehensive overview of the essential elements in fisheries management. The delivery is in a residential 10 day course at AMC away from the workplace, with a highly instructive delivery.

The FRDC B workshop is for more experienced fisheries management personnel who wish to develop and enhance both fishery and personal management and leadership skills. The workshop uses invited speakers and requires participants to present their current work within the theme of the workshop. In 2001 the FRDC B was based at AMC.

The FRDC A (10 working days duration)

In June 2001 a FRDC A course was undertaken. The FRDC A remained a popular introductory course for new and junior staff in Fisheries Departments. The typical participant has several years of administrative experience or training to degree level, seeking a rapid introduction to fisheries problems and ways that these can be addressed. Unlike 1999 and 2000, no industry participants attended the 2001 course.



Picture 5: “Sea Safety Briefing”
Mr. Tony Boyle, Sea Safety Instructor, AMC explains the team exercise about to be undertaken by participants on the FRDCB workshop at AMC in May 2001. This exercise was introduced to increase awareness of teamwork and to reduce lecture room fatigue during the 3 day workshop.

The FRDC B Fisheries Management Workshop (3 working days duration)

The FRDC B workshop investigated the theme “Increasing professionalism in fisheries management”. Eleven fishery managers’ representatives from different fisheries agencies attended the workshop. Participants were from TAS Fisheries, SA Fisheries, New South Wales Fisheries, AFMA, and WA Fisheries.

The course sought to:

- ***develop a framework of the key skills required as a “fishery manager”;***
- ***enhance the skills of participants in their communication role in the co-management process and note how this impacts manager skill requirements;***
- ***scope how a fishery manager’s skill base will need to alter to meet developing environmental requirements.***

The main purpose of the workshop was to develop a formal listing of the key skills, aspects and attributes of a fishery manager and the impacts of co-management and the developing requirements of environmental management in fisheries on these skills. The workshop papers are available from the graduate School of Marine Resource Management at AMC. Keynote speakers delivered several overview addresses as reported in Box 5.

Box 5: Sessions included in the course

Existing Frameworks and Literature	Communication and the Co-Management Process
The Essential Skills of a Fishery Manager	Environmental Developments and Fisheries Management
Survival at Sea - Team Exercise	Management
Improving Your Presentation Skills	Fisheries Environment - Change and Leadership

Mr. Peter Millington (Director Fisheries Management in WAF) gave a keynote address on “The Essential Skills of a Fishery Manager.” This outlined key elements of the duties and characteristics of the fishery manager and was a sound review of Peter’s experience in WA fisheries.

Mr. Michael Arbuckle (Director of Fisheries Management - Ministry of Fisheries New Zealand) gave a review of fisheries management in New Zealand and the developing skills of fisheries managers.

Dr. Alistair McIlgorm (Dominion Consulting) delivered an address on the training of the fisheries managers outlining the development of the manager/administrator from the biological regulator. Further contributions to the workshop were made in a session on “Improving presentation skills” and in “Leadership and the marine environment”.

Mr. Marc Wilson (AMC) outlined the developing requirements of the co-management system and their impact on skills required by fishery managers.

Mr. Mark Flanigan (Environment Australia) gave a review of the development environmental profile in Commonwealth Australian law and policy and its potential impact on fishery management.

The participants are required to deliver a short presentation based on the investigation of an area of fishery manager skills as reported in Box 6. The other participants and lecturers discussed the presentations.

Box 6: FRDC B Workshop - Titles of Participant's papers

The papers presented by participants were:

"Fishing License Unit: Client Servicing" *Katrina Edwards, Steve Withers & Diana Darcey (TASF).*

"Co-Management in SA Fisheries" *Ben Loiterton (SAF).*

"Project Development and Communication: The NSW Recreational Fishing License Project" *Rebecca Keech (NSWF).*

"Administrative Law, Management and Quota Allocation" *Larissa Arney (AFMA).*

"Notifying Closures in the EG Fishery NSW" *Heath Calder (NSWF).*

"Compliance and Multiple Use" *Paul Fitzpatrick (WAF).*

"Impact of Environmental Requirements on the Development of the Management Plan for the Scallop Fishery" *Marguerite Clark (AFMA).*

"Responding to Environmental Objectives" *Anthony de Fries (AFMA).*

"Implementing Spatial Restrictions in the Estuary Fisheries of NSW" *Sharne Ridge (NSWF).*



Picture 6: "FRDC B Workshop participants"
Mr. Mark Flanigan, Environment Australia, and Mike Arbuckle, MF NZ, join with the participants of the FRDCB workshop, at AMC in May 2001.

The workshop was well received by all participants.

Participant Feedback

In all courses feedback from participants was sought and was used to alter the program content and delivery when necessary. Course survey sheets were part of AMC Search Ltd's quality guidelines. Results from survey sheets are presented in the results section below.

Objective 3: Strategic Integration of MAC courses and the Seafood Training Australia (STA) national training package (NTP)

During the years 1994-2001 when MAC courses were developed by AMC under FRDC funding the national seafood industry training package was developed. The national package was initially based on providing national competencies for vocational elements in fishing. In 2000 the package was extended to include leadership units and potentially MAC units could also be added.

Need: In the 2000-2001 period the FRDC proposed that FRDC Project 2000-308 develop a strategy examining the potential integration of MAC courses and the STA package.

This exercise involved considerable reconciliation of the content of the MAC programs and the potential use of standardised NTP units. The Strategic discussion document is reported in Appendix 4.

In summary the following was determined and recommended:

- (a) Approximately 30% of the existing MAC course units have an equivalent unit in the National Training Package. (See Box 7 below.)

Box 7

For **MAC I**, the relevant STA units with potentially similar content are in:

- a) management, change and business elements;
- b) leadership;
- c) legal;
- d) conflict resolution.

For **MAC II**, the relevant STA units with potentially similar content are in:

- a) legal;
- b) computers;
- c) budgets;
- d) business;
- e) presentations.

For **Policy Development Program**, the relevant STA units with potentially similar content are in:

- a) computers;
- b) budgets;
- c) management planning;
- d) leadership;
- e) presentations;
- f) conflict resolution

- b) There are subject areas in the MAC programs which are not in the National Training Package and would require the development of new units. (See Box 8 below.)

Box 8

In the **MAC I** training course:

- a) The MAC process - responsibilities, roles, etc;
- b) The process of government and co-management;
- c) Biological management of fishery resources;
- d) Fisheries economics and management of fishery resources;
- e) Risk assessment in fisheries management;
- f) Fisheries management and the environment;
- g) Fishing technology and the environment;
- h) Fishery management plans and planning;
- i) Fishery specific conflicts and their resolution.

In the **MAC II**:

- a) Law and the MAC member - legislative responsibilities and liabilities;
- b) Managing information - MAC papers, report, etc, eg. Costing principles for services provided, budgeting for MAC operations;
- c) Management information (specialised) - managing scientific and economic information, catch and effort databases and their use in management;
- d) MAC specific strategic communication/representative skills, eg. developing MAC issues papers;
- e) Conflict of interest and professionalism in the MAC process;
- f) MAC specific training needs and MAC teamwork.

In the Policy Development Program:

- a) Managing information - development of issue specific policy, papers to the MAC, reports etc;
- b) Use specialised information using scientific and economic data, catch and effort data to develop fisheries policy;
- c) MAC specific strategic communication/representative skills, eg. developing a MAC policy paper requiring understanding of the government MAC process.

c) The recommendation to the FRDC and STA is that:

- the MAC training courses could be added to the NTP as MAC 500, 600, 700 units;
- this would require turning MAC courses into competencies.

The recommendation on competency development requires a national approach and verification by industry and stakeholders that:

- MAC competencies are required by industry;
- Existing MAC courses have adequately captured the training needs and can be used in the national competency development process.

In August 2001, FRDC and STA proposed a project to examine and confirm the need for MAC competencies by industry and stakeholder groups (Johnstone et al, in draft).

6. RESULTS

Training project results can be measured in terms of course delivery and course feedback, but participant achievement is more difficult to appraise due to the intangible nature of measuring achievement. The project has increasingly addressed this in design and execution of the program. The results are presented in four sections:

1. **Achievement of Course Delivery;**
2. **Participant Course Survey results and feedback of program offered;**
3. **Appraisal of participant achievement;**
4. **Discussion of the results.**

1. Achievement of Course Delivery

a) Management Advisory Committee Courses

The execution of courses during the project is reported below.

Box 9: MAC courses in 2000-2001 period

Venue		Number	Participating States
October 2000	Perth - WA (MAC I)	13	WA
October 2000	Perth - WA (MAC I)	13	WA
April 2001	Melbourne - Vic (PDP)	11	Tas, WA, SA, NSW, Vic
April 2001	Cronulla - NSW (MAC I)	16	NSW, SA, Qld
Total Participants:		53	

The project delivered 3 envisaged MAC courses in the one year period. The project directly trained 53 stakeholders, 96% of the envisaged 55 representatives. Numbers of MAC participants for each MAC I course were eroded by last minute cancellations, at an average of 4 per MAC course cancelling within one to two days of the course execution date. This is a significant issue in planning MAC training.

The participants in the 2000-2001 were from the different states and sectors as shown in Figure 1 and 2 (below).

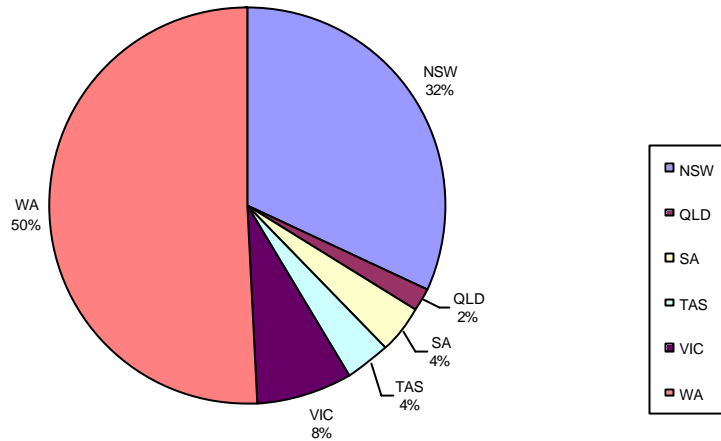


Figure 1: State of Origin of MAC Participants 2000-01.

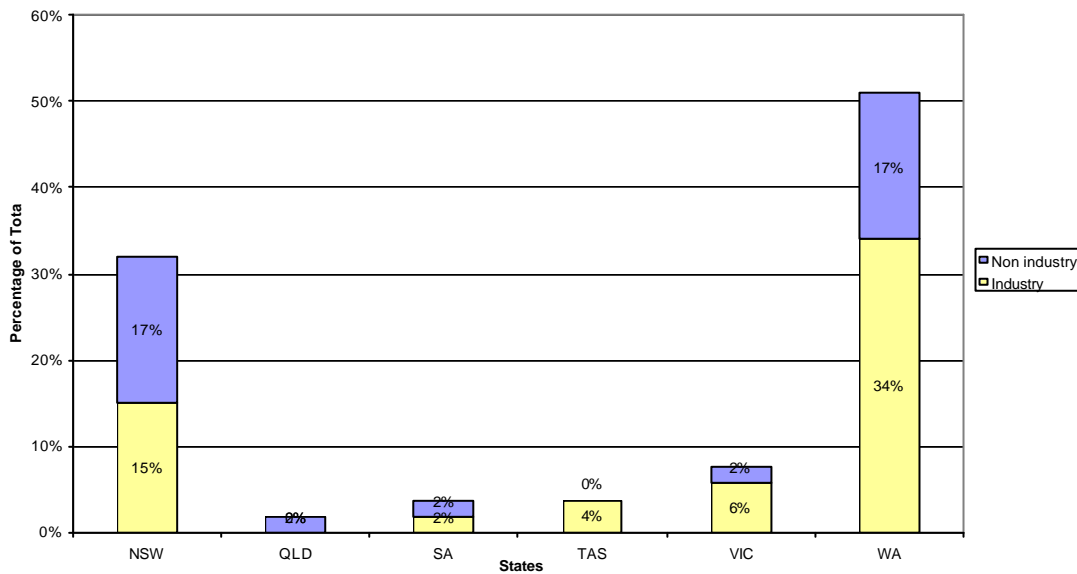


Figure 2: MAC Courses 2001 Representation by State and Industry/non-industry group

All states were represented with major participation from WA, NSW and Victoria. Of the 53 participants only 3 were part of the AFMA MAC system.

Gender Participation

A total of 7 female participants attended the MAC courses, from a total 53 participants (13.2%). There was more female participation from non-industry sectors, (6 of the 7).

b) Professional Fisheries Management Courses

The execution of management courses are reported in Box 10 below.

Box 10: Fisheries Managers courses 2000-2001

Venue	Type	Number	Agencies & States Participating
May 01 AMC	FRDC B	11	WA, AFMA, TAS, SA, VIC, NSW
June 01 AMC	FRDC A	16	AFMA, NSW, NT, WA, TAS, VIC
Total Participants:		27	

The project met the training number requirement for these courses. The project has been able to address significant personal and professional development issues and policy deficiencies in the fisheries management process through the FRDC B Fisheries Managers workshop.

In summary, the course delivery was sound, achieving a range of between 96%-100% of projected trainee numbers on the envisaged project budget.

2. Participant Course Survey Results

Each course delivered was appraised by the participants via a written survey. The results can be interpreted numerically and written comments are given on the lecturing and content of each course. An overall appraisal by the participant is also given.

Participant Appraisal of Lecturing

The participants had the opportunity during the course to grade the lecturer, relevance and subject content. The system used to grade the performance was:

Lecturer: Poor, Fair, Good, Excellent (translating to 1,2,3 and 4 points).

Course content: Too Much, About Right, Not Enough (1,2 and 3 points).

The results for each course reported were collected and tabulated and are presented in Appendix 3. A summary table of lecturer results in all lectures of the programs is reported in Table 2 below.

Table 1: Participants Grading of Presentations in MAC & FRDC Managers Courses 2000-2001

MAC COURSES - Lecturer Grade % Overall

Date	Venue	Participants	Poor	Fair	Good	Excellent	GPA (%)
Oct 2000	Perth -WA	27	0	8	83	9	75
Apr 2001	Melbourne -VIC (PDP)	9	0	2	69	30	82
Apr 2001	Cronulla -NSW	16	1	6	61	33	81
Total Participants		52	<1%	4%	70%	25%	80%

FRDC COURSES - Lecturer Grade % Overall

Date	Venue	Participants	Poor	Fair	Good	Excellent	GPA (%)
May 2001	FRDC B AMC - Tas.	9	0	6	57	37	83
Jun 2001	FRDC A AMC - Tas	24	0	8	59	33	81
Total Participants		33	0%	7%	58%	35%	82%

The results indicate a high level of satisfaction with the performance of lecturers on all courses.

On MAC courses, 75% of participants rated the lecturing performance at good/excellent. Less than 1% of comments were rated as poor and 4% fair.

In the FRDC A and B managers courses the average overall suggests that out of 27 people on all courses, 93% thought that lecturing was good or excellent, 7% fair, and 0% of gradings were poor. This is the equivalent of an average mark of 81% for all lecturers on all courses. In both the MAC and manager programs this is a very high standard and is supported by the written survey feedback (Appendix 3).

Participant Appraisal of Content

The subject content was appraised by a combination of numerical results, survey comments and after course discussions. From the analysis of the “too much”, “about right”, and “not enough” comments, a numerical figure was developed (see right hand side of columns in Appendix 3). An index number of 2 indicated the balance was about right, where a number above this indicated not enough, and a number below two was indicative of too much content. The results need to be interpreted in the context of each course and the written comments received. However, the following general points are made from the numerical analysis in Appendix 3, summarised in Box 11 below.

Box 11: Participants comments on course content

<u>DATE</u>	<u>VENUE</u>	<u>COURSE</u>	<u>CONTENT COMMENTS</u>
October 2000	Perth	MAC I *2	Not enough: Communication and the MAC member; Fisheries access rights and resource security; Environment and fishing industry; and Fishing technology and environment. Too much: Role of Chairman, Fisheries economics; and Processes of Government.
<i>Comment: The two courses had a considerable number of experienced industry MAC members.</i>			
April 2001	Melbourne	PDP	Not enough: Fisheries environmental and planning; Conflict resolution; and Policy Development. Too much: Managing Information - Scientific.
<i>Comment: The focus of the participants was generating policies and guiding them through the process.</i>			
April 2001	Cronulla	MAC I	Not enough: MAC arrangements nationally; Stock assessment; and Fishing technology and the environment. Too much: Communication and fishing rights and access.
<i>Comment: This course has a significant number of freshwater MAC and recreational and community MAC members</i>			
May 2001	AMC	FRDC B	No not enough or too much comments.
<i>Comment: The presented material was seen contributing to the themes of the workshop generating few comments as participants concentrated on their own presentations.</i>			
June 2001	AMC	FRDC A	Not enough: Native title and indigenous rights; the Fishing industry and what the industry expects from fisheries managers; Environment and fisheries management. Too much: Stock assessment and International law.
<i>Comment: May reflect participant composition and lack of industry awareness in this group.</i>			

Participant Appraisal - Overall Written Comments

Written comments were sought on each individual lecture and on the overall course. The individual lecture comments are used to alter the content and improve the quality of the courses. Course participant comments are summarised in Appendix 3 beneath the numerical results.

Results indicate the courses were of high standard and met the needs of the MAC representatives and the fisheries managers. There were no responses on the overall course that were negative in all courses surveyed. Any negative comments were expressed on individual sessions, but these were only a small percentage of all comments received.

The encouraging part of the written responses was that all course participants were more than satisfied that the course met their needs. This was the objective of the courses and the project as the training envisaged was to address the shortfalls of skills in the fishing industry and fisheries management sectors. The positive responses in the written comments indicate this objective was met and a significant contribution made to the course participants.

3. Appraisal of participant achievement

Participant achievement is recognised as the most difficult output to measure from training. While learning outcomes can be specified, the implementation of what has been learned can be limited. The established theory of reviewing is that of Kirkpatrick's (1976) three level review criteria.

The three levels are:

- Level 1 – reaction to the course, facilitators, etc?
- Level 2 – what have participants learned?
 - has it changed behaviour?
- Level 3 – can participants implement it?

In the previous results sections we see the MAC courses are well accepted on level 1 criteria, and feedback indicates some achievement of level 2 criteria. The project developed a framework to assess the learning taking place. The delivery of the Policy Development Program is an attempt to assist participants in increasing retention and implementation of knowledge through a three month program, rather than a two day short course.

The learning appraisal framework was built around the syllabus of MAC I and MAC II, used workbooks and evidence to assess participants. The framework is a step towards a competency based assessment for MACs, which had not been developed to any national standards, which is a recommendation of the current project.



***Picture 7 “How much will they take away and use?”
Marc Wilson, AMC, delivers instruction on environmental risk to participants on the NSW MAC course in Cronulla, April 2001.***

Evidence of Participation and Learning

The MAC I and PDP have used four approaches to measuring achievement of learning outcomes:

- Work book material designed for MACs;
- Observation of participants' discussions by instructors;
- Presentations made by participants;
- Supplementary evidence from the feedback survey.

The use of workbooks, presentations and 23 different discussion techniques are proposed as sufficient. However the timing of the assessment may be preferable after the workshop when participants are in the MAC arena. The achievement of participants is evidenced as authentic by observation of the instructors. The costs effectiveness of copious administrative assessment material is questioned due to the adult learning techniques employed, (not “school teacher”) and the write up of workbooks during (not after) the course. The use of a standard workbook ensures validity and reliability.

The PDP sought to address the shortfall in level 3 learning by the development of PDP, which had a pre-course exercise, a short course of 2-3 days and subsequent assessment of the participant's "workplace" experience and success in implementing change through policy development through interactive group teleconferencing. The participant feedback indicated that the continued contact with the course instructors and the rest of the PDP group participants over a three month period was beneficial. Discussions on teleconferences led to several participants sharing ideas and contacting each other outside the teleconference time to pursue ideas and share experiences.

4. Discussion of the results

The results show that the delivery of the courses was sound and the feedback from participant surveys shows satisfaction with the course content of all programs at the time of the course delivery. This is evident in the oral and written feedback survey material. This material also indicates there are no immediate gaps evident in the MAC I and II course material, though emphasis varies between participants, regions and fisheries.

The PDP sought to follow participants in the workplace and improved the understanding of the needs of MAC members in implementation of course material. By observation we noted that participants on the PDP had increased retention of knowledge and information where they thought that information would be needed in the development of their specific policy proposal. Other information that was viewed as being "generic" and hence less relevant. This holds with experience in adult education and indicates that after they have mastered the basic representative skills and resource management issues, MAC stakeholders are more likely to be interested in specific themes, where all material is seen as relevant to solving immediate pressing issues. This may show potential for whole MAC training on specific issues faced by the MAC, but assumes a basic level of competence among MAC members to interpret and implement the material presented in a specific session.

7. BENEFITS

The benefits of this training project may be realised in both the short and longer term. Immediate recognisable benefits are in the comments of MAC representatives and fisheries managers who, on completion of short courses, indicated that the objectives to give a better understanding of fisheries management principles, practices and policy have been met and a successful learning outcome achieved.

Networking of participants to gain a greater national focus remains a significant benefit of the program. A significant number of non-commercial fishery stakeholders have attended MAC courses and this has been a significant opportunity to influence non-industry MAC representatives.

Longer term benefits of the project are also apparent. The courses have contributed to changing industry perceptions and attitudes on issues, policies and other parties in the fisheries management process in a way that will have long term benefits in fisheries management. In particular the course has made a strong contribution to defusing the culture of conflict that often exists between stakeholders and government. It has done this by being between government and industry and talking between parties as independent to either side.

The development of the policy development program contributed to the leadership and representative skills of participants. More importantly, it enabled these skills to be built in with actual resource management issues the participant was concerned about and assisted them in developing policies and remedies to their issues. This is not achievable in a two day course and was a new step in training for co-management representatives.

Co-management demands a greater contribution to the management process by stakeholders than in the past. Thus a program like the PDP benefits both MACs and managers, as the gap between the cultures is bridged. There are signs that there is a continuing need for issue specific intensive training for MAC members who have achieved competence in the basics of representation and resource management.

8. FURTHER DEVELOPMENT

MAC Training

The Management Advisory Committee (MAC) system has been adopted in all states of Australia and is part of the co-management framework in fishery management. It is going to become more important in stakeholder consultation with environmental legislation such as the Environmental Protection, Biodiversity and Conservation (EPBC) Act 2000 requiring significant stakeholder consultation through co-management .

Since 1994, approximately 350 MAC members have been afforded MAC training through the two FRDC 3 year projects (FRDC 94/057 and 97/337) and the current project (2000/308). Given an estimated national MAC population of say 900 persons, there is a significant future MAC training requirement.

The third project objective was to develop an ongoing strategy for MAC training delivery reconciling it to the Seafood Training Australia (STA) national training package. This document was presented to FRDC and STA for ongoing discussions. (McIlgorm and Wilson, 2001.)

After the completion of this project, in September 2001, FRDC approved the Australian Seafood Industry Council (ASIC) to review the stakeholder needs in MAC training and to further investigate the integration with Seafood Training Australia (STA) national training package units (Johnstone et al., in draft). The intention is to develop unit competencies and form MAC training within the STA training package in 2002.

In compiling the final project report the following needs are evident:

- to train MAC members not only in committee and representative skills, but in awareness of sustainable fisheries management and environmental issues;
- to further develop the MAC learning outcomes and nationally recognised competencies so as to get all MAC members to a basic level of competence (currently being addressed through the FRDC/ASIC project - Johnstone et al., in draft);

- to further develop the implementation of MAC training into the MAC process, at a level above induction for new members – via the MAC II and Policy Development Programs. This could extend towards thematic workshops for whole MACs;
- to promote joint learning initiatives between stakeholders and professional fishery managers in government via joint training (this may be achieved through specific thematic workshops);
- MACs need access to specific conflict resolution resources to assist the discussion of disputes in the MAC process.

Constraints also are evident in the MAC process, with frustration and some volunteer fatigue showing in a questioning of the benefits of training. The solution to this involves an examination of the effectiveness of the MAC system and addressing the token nature of consultation and advice from stakeholders.

Manager Training

The major need of the fisheries administration has been fisheries familiarisation and training in fisheries management and administration. Industry/user group involvement in training courses, has been an essential part of this induction and the FRDC A and FRDC B workshops have progressed industry/stakeholder and government interchanges, addressing key issues for the working of the whole co-management system. It is predicted, as the MAC process matures that the requirement for industry and stakeholder representatives to gain more detailed fisheries management skills will increase. It is also desirable to promote industry and administrator discussion, in a learning environment which includes stakeholders. It is also recommended that we move towards developing a set of professional standards in the training of professional fisheries managers. This project has contributed to this process.

9. PLANNED OUTCOMES

This project has progressed MAC training, identifying and addressing shortfalls in the maturing MAC process through course development and delivery of programs. A total of 53 MAC representatives accessed training in the 2000-2001 period through the MAC I course and through the development of the Policy Development Program. A total of 27 professional fisheries managers also were assisted in training to increase their professionalism in fisheries management.

The current project also developed a strategic discussion document addressing the potential for integration of the three MAC courses developed in this project with the STA national training package. This has led to an exercise through FRDC and ASIC to further develop MAC training as part of the national Seafood Training Australia package (Johnstone et al., in draft). The research and development from this project will be significant in the achievement of the objectives of the co-management process.

10. CONCLUSIONS

This project has identified and developed courses to meet the training needs of all stakeholder groups in the Management Advisory Committee process. A three level suite of courses has been developed and tested, with the Policy Development Program being added to existing MAC I and MAC II courses. A total of 53 MAC stakeholders were trained in 2000-01 and this met the first objective of the project.

The second objective was to develop training for fisheries managers. A total of 29 participants undertook a fisheries management course and a more advanced fishery management workshop. The workshop examined the development of professionalism in fisheries management refining training needs in the light of new environmental requirements being placed on management.

The final objective was to develop a strategy for potential incorporation of the MAC courses into the national training framework of Seafood Training Australia. A comparison exercise revealed about 30% commonality between MAC course units and the units existing in the STA national package. The strategy recommended that industry be approached regarding their need to have national competencies developed for MAC training within the STA national package. This exercise was being undertaken in late 2001.

The project achieved all objectives within budget and contributed a suite of tested training courses for the development of MAC members and professional fishery managers.

11. REFERENCES

Johnstone, I. G. Evans and A. Mcllgorm (in draft). *Incorporating MAC Competencies into the Seafood Industry Training Package*. Draft document to Seafood Training Australia on behalf of the Australian Seafood industry Council (ASIC), CIT Solutions Pty Ltd, Canberra. December, 2001.

Kirkpatrick, D. (1976). *Evaluation of Training* –in Craig, R.L. *Training and Development Handbook* (2nd ed. Chap.18), McGraw Hill.

Mcllgorm, A. and Buxton, C. (1997). *Training For Fisheries Management*, Final Report of the FRDC Project 1994/057, Australian Maritime College.

Mcllgorm, A. and M. Wilson (2000). *Training for Fisheries Management*. Final Report of the FRDC Project 1997/337, Australian Maritime College, ISBN 095772652x.

Mcllgorm, A. and M. Wilson (2001). *Integrating the FRDCMAC management courses with the Seafood Training Australia (STA), national training framework: A strategic discussion document prepared for FRDC as part of project 2000-308, given to FRDC in July 2001 (Appendix 4, this document).*

APPENDIX 1

Intellectual Property

APPENDIX 2

Staff and Distribution of the Report

APPENDICES

Appendix 1: Intellectual Property

Intellectual property is shared between FRDC and AMC under the original project contract.

Appendix 2: Staff and Distribution of the Report

STAFF

Principal Investigator and Project Officer

Principal Investigator	2000-01	Mr. Marc Wilson
Project Officer	2000-01	Dr. Alistair McIlgorm

SHORT COURSE LECTURERS

Industry/Consultants

Mr. Stuart Richie (Richie Fishing), Dr. Alistair McIlgorm (Project Officer and Dominion Consulting Pty Ltd, Sydney).

Government

Mr. Bill McDonald (AFMA), Mr. Mark Flanigan (Environment Australia), Mr. Peter Millington (WA Fisheries).

Academic

Dr. Marcus Haward (UTas), Prof. Martin Tsamenyi (U.Wollongong).

AMC Staff

Mr. Marc Wilson, Dr. Paul McShane, Dr. Shekar Bose, Mr. Steve Eayrs, Dr. Warren Gullett.

DISTRIBUTION OF THE REPORT

Fisheries Agencies

Australian Fisheries Management Authority (AFMA)

New South Wales Department of Fisheries (NSWF)

Tasmanian Sea Fisheries (TSF)

Queensland Fisheries Service (QFS)

Northern Territory Fisheries (NTF)

Western Australian Fisheries (WAF)

South Australian Fisheries (PISA)

Victorian Fisheries (VF)

Fishing Industry Representative bodies

Queensland Seafood Industry Association (QSIA)

Western Australian Fishing Industry Council (WAFIC)

South Australian Fishing Industry Council (SAFIC)

Seafood Industry Council (SIC) - South Australia

Seafood Industry Victoria (SIV)

Northern Territory Fishing Industry Council (NTFIC)

Tasmanian Fishing Industry Council (TFIC)

Australian Seafood Industry Council (ASIC)

Seafood Training Australia (STA)

CSIRO Division of Fisheries (CSIRO).

APPENDIX 3

*Participant Feedback Comments and Gradings from the MAC and
Manager's Training Courses*

Appendix 3: Participant Feedback Comments and Gradings from the MAC and

National MAC Course
Perth, 5th -6th Oct 2000

No. of Participants :17

No. of respondents: 14

Lect initial	Session Topic	Lecturer					Content			
		poor	fair	good	excel	GPA	too much	about right	not enough	Index
1 am	What is a MAC course	0	2	11	1	2.93	0	13	1	2.07
2 am	Review of MAC arrangement in diffn. states	0	3	11	0	2.79	1	12	1	2.00
3 mw	Responsibility of FMC/MAC members	0	0	14	0	3.00	0	13	1	2.07
4 am	Communication and the MAC members	0	0	12	2	3.14	0	10	4	2.29
5 mw	Process of government	0	2	11	1	2.93	2	11	1	1.93
6 mw	Fisheries research & stock assessment	0	0	11	3	3.21	1	11	2	2.07
7 am	Fisheries rights, access&resource security	0	3	10	1	2.86	0	11	3	2.21
8 am	Fisheries economics	0	2	12	0	2.86	1	13	0	1.93
9 am	Management and leadership	0	0	11	3	3.21	1	11	2	2.07
10 am	Role of chairman in a MAC	0	0	13	1	3.07	3	11	0	1.79
11 mw	Risk assessment in fisheries management	0	1	10	3	3.14	1	12	1	2.00
12 am	Environment and fishing industry	0	1	11	2	3.07	1	10	3	2.14
13 mw	Fishing technology and the environment	0	3	10	1	2.86	1	10	3	2.14
14 mw	Strategic planning and Policy development	0	1	13	0	2.93	0	14	0	2.00
15 am	Fisheries management plan	0	0	13	1	3.07	0	14	0	2.00
16 mw/am	Conflict resolution in fisheries management	0	0	13	1	3.07	1	13	0	1.93
%in each rating		0%	8%	83%	9%		6%	84%	10%	
Course lecturer average					75%	3.01			51%	2.04

Lecturer :

AM Allistair McIlgorm

MW Marc Wilson

Manager's Training Courses

Written Comments

Session

- No comments.
- Needs to compare the MACs within the state.
- This could have been more interactive.
- No comments.
- Interesting, but we needed to have it all. This is something I know very little about and I need more things explained.
- More relevant to the fishery MACs but I took a lot from it still. I really enjoyed this session.
- This was very thought provoking.
- Very rapid treatment of some very difficult concepts.
- I thought this could have been more interactive. The concepts were subtle.
- No comments.
- No comments.
- No comments.
- Again, fishing wild-stock focus, I think the focus could have been a little wider.
- Useful tools and interesting, perhaps needed some concrete examples.
- No comments.
- No comments.

Course Content - Overall Response

Comments

- Very comprehensive a lot of preparatory work obviously. Very wild-stock fishing focused which is not as relevant to the other MAC's - recreational more so but certainly not for aquaculture and coastal management MAC's. This core process of each issue has relevance to all but it might pay to use other examples occasionally.
- I enjoyed the areas covered.
- Contents are good for short course.

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- 4 Should have been more group discussion and presentation, perhaps the program could have had some video background materials, e.g. simulation of MAC meeting.
- 5 Just about enough for my brain. Good materials.
- 6 Greater needs to local content. Do not forget you are preparing to the true believer or converted. Leave MAC I course as introduction course for new MAC members. Introduction MAC II course as an extension to this course in 12 to 24 months time.
- 7 The workshop has two main focuses, fisheries management and MAC membership, and while these topics are obviously interrelated, it was more or less left to us to integrate.

Lecturer - Overall Response

Comments

- 1 Excellent presentation. Both understandable and professional.
- 2 Very impressive wit your knowledge and ease of understanding the issues. Thoroughly enjoyed the opportunity and you make a great tag team.
- 3 Lecturers were excellent, able to deliver the information to all in the course - well done.
- 4 Both lecturers had a very clear understanding of their subject matter and presented the information of each session in an excellent manner.
- 5 Top blokes.
- 6 No comments.
- 7 Both lecturers were very good in different ways. Both were thought provoking presenters tending to challenge through at least some aspects of their subject matter. Maybe less should be actually dealt with (the rest of the information provided for reference).

General Comments on Course

- 1 Some of the question in the assessment I think would have been good discussed in groups as a way of better understanding of the answers/issues.
- 2 Good course, well organized, well done!

**National MAC Course Policy Development Program
Melbourne, 23-24 April 2001**

No. of Participants : 9

No. of respondents: 9

	Lect initial	Session Topic	Lecturer					Content			
			poor	fair	good	excell	GPA	too much	about right	not enough	Index
1	am	Communication Skills	0		6	3	3.33	0	8	1	2.11
2	am	Managing Information I	0		7	2	3.22	0	8	1	2.11
3	mw	Fisheries Management- Strategic Development	0		7	2	3.22	0	8	1	2.11
4	am	Communication - Issue paper	0	1	5	3	3.22	0	8	1	2.11
5	mw	Leadership and teamwork	0		6	2	3.25	0	8	0	2.00
6	mw	Fisheries Management- Strategic planning	0	1	7	1	3.00	0	8	1	2.11
7	mw	Managing Information II - Scientific	0		8	1	3.11	1	8	0	1.89
8	be	Media Session	0		5	4	3.44	0	8	1	2.11
9	be	Media on camera session	0		4	5	3.56	0	8	1	2.11
10	mw/am	Participant Policy Development Sessions	0		5	2	3.29	0	6	1	2.14
11	am	Managing information II - Economic & Social issue	0		6	2	3.25	0	8	0	2.00
12	mw	Leadership and teamwork (exercise 2)	0		4	2	3.33	0	6	0	2.00
13	mw	Fisheries environment and planning	0		5	4	3.44	0	7	2	2.22
14	mw/am	Conflict resolution and policy development	0		6	2	3.25	0	6	2	2.25
%in each rating			0%	2%	69%	30%		1%	89%	10%	
Course lecturer average						82%	3.28			52%	2.09

Lecturer :

AM Alistair McIlgorm
MW Marc Wilson

BE Business Essentials (media company)

Written Comments

Session

1. All right in the perfect world. Time was too short, or perhaps this is due to the participants all having input.
2. Should be expanded further.
3. Time element is against us. Help to understand fisheries.
4. No comments.
5. No comments.
6. A use of an example would be helpful.
7. No comments.
8. Good to integrate the media session into the course. Different emotions needed, e.g. politics and media. Different approach needed for politics and media.
9. Good to be dealing with real issues.
10. More time to build on.
11. No comments.
12. No comments.
13. Issues highlighted were of great benefit. With such varied interests we should spend longer on this.
14. More information on how the other side thinks.

Course Content - Overall Response

Comments

1. On the whole, this course was an excellent presentation. Interesting, relevant and useful. Should have had more days for a course like this. Further development of our proposal should be looked at one-on-one with intention to allow better understanding for participants to answer the questions.

Lecturer - Overall Response

Comments

1. Very good as the subjects made everyone feel involved. Made course interesting.
2. Able to draw on wide range of experiences and to draw out of participants their knowledge and experiences. Good to have practical input such as jurors, perhaps this could be done for other subject matter, e.g. department member could help.
3. Made the two days interesting, informative and easy-going in spite of having to engage brain.

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**National MAC I Course
Cronulla, 26-27 April 2001**

No. of Participants : 16

No. of respondents: 15

Lect initial	Session Topic	Lecturer					Content			
		poor	fair	good	excel	GPA	too much	about right	not enough	Index
1 am	What is a MAC course	0	2	9	4	3.13	2	12	1	1.93
2 am	Review of MAC arrangement in diffn. states	0	1	11	4	3.19	0	13	2	2.13
3 mw	Responsibility of MAC members	0	1	10	4	3.20	1	12	2	2.07
4 am	Communication and the MAC members	0	1	7	7	3.40	2	13	0	1.87
5 mw	Process of government	0	3	4	8	3.33	2	11	2	2.00
6 mw	Fisheries research & stock assessment	0	0	9	6	3.40	0	13	2	2.13
7 am	Fisheries rights, access & resource security	1	1	9	4	3.07	4	9	2	1.87
8 am	Fisheries economics	0	2	9	4	3.13	1	12	2	2.07
9 am	Role of chairman in a MAC	1	0	10	4	3.13	1	14	0	1.93
10 am	Management and leadership	0	1	8	6	3.33	1	12	2	2.07
11 mw	Risk assessment in fisheries management	0	0	8	7	3.47	1	12	2	2.07
12 am	Environment and fishing industry	0	0	9	6	3.40	0	15	0	2.00
13 mw	Fishing technology and the environment	0	0	10	5	3.33	0	13	2	2.13
14 mw	Strategic planning and Policy development	0	1	11	3	3.13	0	15	0	2.00
15 am	Fisheries Management Plans	0	0	11	4	3.27	0	15	0	2.00
16 am/mw	Conflict resolution in fisheries management	0	1	11	3	3.13	1	13	1	2.00
%in each rating		1%	6%	61%	33%		7%	85%	8%	
Course lecturer average					81%	3.25			50%	2.02

Lecturer :

AM Alistair McIlgorm
MW Marc Wilson

Written Comments

Session

- 1 Need more on Training Development for MAC Members. Process and planning of training. Friendly introduction. Need for public address system.
- 2 More issues on the effectiveness of MACs and ZACs. What have been some of the achievements of these in NSW and Australia? Doubtful relevance to NSW. Some terms undefined - share fisheries, lots of acronyms that some of us do not know.
- 3 Raised more questions than it answered!
- 4 Need to remove the constrictions placed on a member to discuss research issue. Ignored the role of active listening as an aid to communication. Very applicable and practical.
- 5 Need to look more at local state process from issues to consultation to fisheries management then to Government processes, in-house drafting, debate, lobbying people and find reading, law and regulation from its debate. Consistent active course participation needed in this time slot. Reason: difficult topic - participant exhaustion.
- 6 Need more time for this interesting material. Active participation was good. Not convinced this is supposedly practical to use as base for making decision. Shorter time than scheduled although not as relevant to some.
- 7 Cannot be heard at the back of the room at all times.
- 8 No comments.
- 9 No comments.
- 10 No comments.
- 11 We could have discussed the meaning of "sustainability" clearly that sustainability of the catch rates is only one indicator of one element of triple bottom line. Certainly acts as downer and give fishers (recreational and commercial) no room to move but support the over indulgence of aquatic resources/marine parks and no take zones proposed in this state (NSW). Excellent content, very interesting material. Projector image with sharp colour and contrast, looks nice, but is poor communication.
- 12 Failure to teach from the centre creates postural stress for some participants therefore decreasing attention. Not especially relevant to freshwater industry (is MAC left out?).
- 13 Not especially relevant to freshwater industry.
- 14 No comments.
- 15 No comments.
- 16 Afternoon session require increase individual participation - suggest format changes.

Course Content - Overall Response

Comments

- 1 On the whole, this course was very useful.
- 2 Subjects covered were of interest from the perspective of additional information agenda. Decisions from this will lead more to inform and balance opinions during discussions, debate and talk.
- 3 I really found this course to be excellent!
- 4 Subject matters were well presented on all subjects and I thought covered all aspects of context of management Advisory Committees.
- 5 Slightly difficult associating some questions to the content of the course. Overall has helped greatly to give me directions as to my role and responsibility to the MAC and the constituents that I represent.
- 6 Great course, notes contained are good, perhaps add references and background information. Came with no expectations but considered the content of the course interesting, relevant and well presented. Good to meet others representing other issues about the resource. Most aspects of subject covered and many not anti-political.
- 7 Generally about right as much as can be observed and retained within the limited time available.
- 8 Some context required for some topics - why are we learning this? What has it got to do with our roles as MAC members? Much of fishery/technology/legislation stuff largely irrelevant (to new people) or already known (to fishers).

Lecturer - Overall Response

Comments

- 1 Marc: Good presentation, response to questions and raised practical issues. Need to ensure notes are the same as what is being presented (participants lost direction whilst finding what was not there).
Alistair: Good presentation, real life issues and practical about day-to-day issues.
- 2 Presentation, communication and expertise shown by both lectures was excellent in all aspects of this course.
- 3 Both Marc and Alistair are excellent lecturers - able to infuse knowledge and experience to present dynamic discussions. Both bring broad range of experience - practical through political and do not mix words. Excellent stuff.
- 4 Confident speakers, very knowledgeable and friendly.
- 5 Found both Alistair and Marc good at their ability to put over ideas. I found Marc especially was good at this task.
- 6 Very good presentation.
- 7 Both good communicators, well prepared and informed.
- 8 Both excellent speakers, responsive to audience although some questions left unanswered - never did learn about share fisheries. Marc's slides had small print that we could not read. There were many acronyms that not all of us are familiar with. Definitions would reduce confusion.

General Comments on Course Organisation

- 1 More knowledge information to be sent out regarding night's plans if there is one. Organisational stuff - people from similar areas may wish to meet and pre-plan their movements.
- 2 No information on dinner being organised - difficult to attend this and continue networking/learning due to travel back home.
- 3 Well presented and professional, I was impressed and glad I attended.
- 4 Projector screen too far from the back of room, unreadable at times.
- 5 Very good organisation and presentation.
- 6 Very good dinner, excellent meal at RSL. We were an hour behind schedule after the first hour, this was a bit stressful for participants. The notes contained repeated pages and some mixed between sections and some missing.

**FRDC Fisheries Management
Part B May 2001 - AMC**

No. of participants: 9

No. of respondents: 9

Lect. initial	Session Topic	Lecturer					Content			
		poor	fair	good	excell	GPA	too much	about right	not enough	Index
1 AM	Existing Frameworks and Literature	0	0	8	1	3.11	0	9	0	2.00
2 PM	The Essential Skills of a Fishery Manager	0	0	4	5	3.56	0	9	0	2.00
3 TB	Survival at Sea Team Exercise	0	1	1	7	3.67	0	9	0	2.00
4 AM	Improving your presentation skills	0	1	3	5	3.44	1	7	1	2.00
5 MV	Communication & the Co-Management Process	0	1	7	1	3.00	0	9	0	2.00
6 MF	Environmental Development & Fishery Management	0	0	8	1	3.11	0	9	0	2.00
7 AM	Fisheries Environment - Cancelled	0	0	0	0		0	0	0	
%in each rating		0%	6%	57%	37%		2%	96%	2%	
Course lecturer average					83%	3.31		50%		2.00

Lecturer

AM Alistair McIlgorm
MW Marc Wilson
PM Peter Millington

TB Tony Boyle
MF Mark Flanigan

Written Comments

Sessions

- 1 Very informative topic, I was not aware of most of that.
- 2 Useful overview, rather entertaining.
- 3 Really handy skills to have, better than training I received as a compliance officer. Valuable activity, team-building exercise, informative and very well presented. A bit rushed, but completely understandable, good team-building exercise.
- 4 I will definitely refer to these notes in the future. First day rather than second; just prior to first presentation did not give anyone a chance to rehearse their presentation using skills taught. Need for more directions concerning expectations of participants when giving talks.
- 5 No comments.
- 6 Took up a little too much time, missed out on the detailed wrap up. Put some of the things going on in the state fisheries in perspective for me.

Course Content - Overall Response

Comments

1. Good useful insight and workshop of relevant issues. Valuable tool for information exchange on a national basis.
2. Found the course worthwhile, good balance of issues. Nice to see jurisdictional issues discussed.
3. I found the workshop process rather frustrating. I did not feel the focus of workshop worked very well.

Lecturer - Overall Response

Comments

1. Good coverage of expertise from speakers with time to question.
2. All speakers worthwhile.
3. The presentations were an excellent opportunity to gain a different perspective.

General Comments on Course Organisation

1. Good Welcome. Stay off-campus. Dinner was excellent. Continue to develop the fisheries management. Extremely useful workshop, should consider Part C.
2. The transport, accommodation and dinners were fantastic. The course was relevant, promoted lengthy discussion even out of classroom environment.
3. The transport was fine, the accommodation was comfortable and good value and delicious course dinner. The course is very well organised and professional.

FRDC A Fisheries Managers Course, June 2001

		No. of participants: 24					No. of respondents: 20				
Lect initial	Session Topic	Lecturer				GPA	Content				
		poor	fair	good	excell		too much	about right	not enough	Index	
1	MW	Fisheries Biology for Admin I	0	0	14	6	3.30	0	19	1	2.05
2	SB	Common Prop.& Fisheries Economic		1	9	10	3.45	1	18	1	2.00
3	MW	Gear Tech. Essentials for Admin I	0	0	12	8	3.40	0	17	3	2.15
4	MW	Fish Biology for Admin II	0	1	16	3	3.10	0	20	0	2.00
5	MW	Stock Assessment	0	2	14	4	3.10	1	19	0	1.95
6	SE	Gear Tech. Essentials for Admin II	0	0	9	11	3.55	0	20	0	2.00
7	SB	Fisheries economics and management	0	0	11	9	3.45	1	19	0	1.95
8	MW	Aquaculture Policy	0	4	14	2	2.90	0	18	2	2.10
9	WG	Fishers law, admin law & managing marine	0	5	14	1	2.80	0	19	1	2.05
10	SE	Fisheries technology	0	0	12	8	3.40	0	20	0	2.00
11	MH	Politics and fisheries management	0	2	14	4	3.10	0	20	0	2.00
12	MT	International Law Treaties- LOSC	0	0	10	10	3.50	2	18	0	1.90
13	MT	Native Title and Indigenous Rights	0	3	9	8	3.25	0	17	3	2.15
14	MT	Environment & fisheries mgnt - legislation	0	2	9	9	3.35	0	19	1	2.05
15	MW	Fishing industry	0	1	16	3	3.10	1	16	3	2.10
16	AM	Managing Marine resources I	0	2	13	5	3.15	0	18	2	2.10
17	HH	Damage control - team work exercise	0	2	7	11	3.45	0	18	2	2.10
18	SR	What the fishing industry expect from management and fisheries manages	0	2	11	7	3.25	0	17	3	2.15
19	BM	Enforcement & Compliance	1	6	9	4	2.80	1	17	2	2.05
20	AM	Environment & fisheries management	0	0	14	6	3.30	0	20	0	2.00
21	RS	Recreational Fisheries management	0	0	10	10	3.50	0	18	2	2.10
22	AM	Managing Marine resources II	0	1	13	6	3.25	1	18	1	2.00
%in each rating			0%	8%	59%	33%		2%	92%	6%	
Course lecturer average						81%	3.25		51%		2.04

Lecturers

AM	Alistair McIlgorm	MT	Martin Tsamenyi	Warwick Gullet
BM	Bill McDonald	RS	Richard Sellars	
HH	Hugh Hurst	SE	Steve Eayrs	
MW	Marc Wilson	SB	Shekar Bose	
MH	Marcus Haward	ST	Stuart Richie	

Written Comments

Sessions

- Assumed a high level of knowledge. Good overview of fisheries biology. Excellent presentation, example would assist. Very good for future fisheries managers but pay vary from one state/society to another. Good to get the brainy stuff in first when we were the most focused. Very confident presenter. Knows his topic well. Would be great to have course notes as we go along. Could have mention alternative uses, e.g. tagging of fish - migration movement, etc. Need to use more examples from state fisheries. Not all Commonwealth fishery examples. Probably not needed to be so focused for non-scientific people.
- I found it difficult to grasp the concept presented. Good lecture about what can potentially be a tough subject make interesting from a non-economist perspective! Common property issues discussed in detailed in passion. Excellent presentation, example of calculation would assist, very good body language. The importance of economics in any fisheries management issues was excellent. Sometime a little hard to determine what the question he asked were (in order to answer them). The most stimulating presenter on the course, Shekar's passion, vitality, etc, made the course totally worthwhile. Give me more. I want to be an economist, all thanks to Shekar! Job well done for such a dry topic, very good information.
- Excellent presentation. Disappointed that did not get a chance to go out on the boat to see real gear actually working -but certainly very informative and useful. Good coverage of gear technology essentials. A video or slides of purse seining could have added context. Very interesting and informative, great to see different types of gear I hadn't encountered before. Some more details about setting would have been good. Very informative. Steve is easy to listen to and his hands-on experience gave this topic an interesting twist. Probably doesn't need to be such a basic lecture. Fantastic presenter, very good speaker. Excellent presentation, good mix and match, well reviewed.
- Population dynamics of fishery covered well. A case study may have been helpful to practically show population dynamics. It was done too late in the afternoon to be teaching in biology. You felt that Marc did not allow other opinions other than his own to be viewed. Would have been nice to hear how to actually manage the aquaculture farm. Mind you seeing a real farm was fantastic. Sometimes assumes the participants have a knowledge of acronyms are to be more proficient than it is. Need to provide participants with a summary of background information to bring all into a base level.

5. Interesting, but perhaps can use of a couple of real models, i.e. school of shark assessment model would have been useful to demonstrate application. Good coverage of fish stock assessment. A practical case study may have enforced the calculation to a higher degree. Presents well, but commands too much.
6. Terrific, given that has never seen fishing gear set up before - consolidates theory. The Flume Tank session was really good. Great to see gear visually. It would be good if all of the component were described in detail. Actually seeing the nets was great. Variety would have been nice, however Steve obviously enjoys what he does. Great way to demonstrated the 'actual' movement of the gear. Fantastic, could be more emphasis on the real implications of fishing methods and possible permutation and options for management via fishing practicalities. Good, refreshing session.
7. Thoroughly enjoyed this lecture. Fishery sector's role in the overall economy well presented. Good to take it from open access approach as well as highly regulated fishery. As previously mentioned Shekar's presentation is of the highest standard. He kept me on edge of my chair. I fond how he related to the gap - giving and receiving information. Brilliant! Good presenting style, very knowledgeable. Good value.
8. It could have been my lapse in concentration, for some reason this just didn't all pull together like Marc's other lectures. Would be good to give solutions how to incorporate aquaculture proposal to general management of the ecosystem. Should allow other's opinions. Make you feel intimidated. His opinion is not the only one. Though I accept that he is very knowledgeable on this and other topics. Gave him a 'fair' score because of his attitude, very good session.
9. More needed on interpretation skills. Use of real life examples, i.e. current legal cases very interesting! MORE! Very dull. It would be good to know the effects of Commonwealth on State legislation and how it affects State governance. A touch boring. I could not get into this topic at all and being kind, the topic itself is not riveting. Warwick needs some oomph! Nice guy I am sure, but we need to be captivated. Very interesting information! More realistic practical examples would put it in better perspective, i.e. real reasons for refusing to issue a permit instead of the green hair example; could liven up the presentation a bit. Law can still be fun.
10. As above, this section was exceptionally useful for an 'unfishing' person. Really good, most people had no idea of how gear actually operates. Interesting because of the variety in the topic. His approach to this subject and how he puts 'it' to us is done well. Now sell the positives to the broader community. Practical examples in the Flume Tank are good to see. Excellent again.
11. More practical examples - but interesting nonetheless. I thought the lecturer need a little more focus. Marcus presented well, friendly personality, interacted well. Very good presenter, nice unassuming style.
12. Very dry - perhaps exploration of the conversion using current practice examples/application would have been useful. Lots of information but not necessarily targeted, i.e. how do we apply this what are the attractions. Very interesting and a great background to the LOS of which previously I did not understand. Like Shekar, this guy has passion and personality and is great to listen to. His knowledge of the subject was excellent. Extremely interesting as I have had little exposure on the subject until now. Excellent! Fantastic! Very important session.
13. It was good that the NT participants finally could comment on something they (vaguely) knew about. Spot on.
14. It would be good to deal with how fisheries legislation may interact with other department's legislation. Made a not so exciting topic EXCITING! This guy has it, many could learn from him, but only he could carry it off. Well done "Beautiful". Great speaker, very interesting subjects.
15. Interesting, good use of interpretative material (video) reinforced main concepts/points from lecture. The lecture was portrayed in a slightly negative light. Knows his stuff, but I still felt that it was still one-way. Would have liked to spend more time on the "Fishing Industry". Loved the "Money Fish" video.
16. The lecture would possibly be aided but some visual aided to focus topics. Easy to listen to but how much I did take in? What did exercise actually prove? - How to work as a team? Dynamics - could not see the need or the benefit from completing this. The thing it did for me was to make me annoyed with others - saw the power players. Great presenter, nice relaxed style.
17. Very beneficial exercise. This was a lot of fun! Would have liked a lecture on a sea safety, etc, rather than just doing the simulator. Good! Bloody Cold! Highly enjoyable. Great fun. Great breaker from tedious classroom situation. But what did us actually learn? A bit of "crash course". Hugh was fantastic in that we were treated as if we were his first class, nice, and special. Excellent. Very short exercise. Could have spent more time discussing the significant of this exercise and would have liked to watch it rehearsing on video over a few beers that evening.
18. Good use of local examples. Great to hear it from other side. I think it enlightened some of us! Good to get industry perspective. Interesting to see how reasonable that perspective is. It was great hearing it from another perspective. Stuart covered all his areas well, variety allowed input. Realistic views, good to have as a change of focus from other theoretical subjects. It's good to hear about the other side of the fence. The scallop case study was excellent. Cannot stress enough the importance of incorporating industry examples, video footage, photos, diagrams, etc.

19. The use of some overheads and other form of interpretative material would have assisted. Not clear on outcomes/focus of this lecture. Perhaps a case study may have aided the discussion; this guy knows how it should be done. Kept us awake, involved, interested and wanting more. Wasn't interested in listening to his own voice. Lots of interaction. Very theory based, did not accurately reflect the real compliance rate. Concentrated on "perfect world" stuff. Those with a compliance background were not impressed.
20. This was a very interesting and useful lecture, probably one I found most interesting and set the scene for the next five years in fishery management. Some visual aides would be beneficial to focus key words rather than jargon. Nice guy. Alistair is easy to listen to. Found the topic interesting and well presented. Interacted well with his audience. What are we going to do about it though and not just a lip service? Very valuable discussion. A topic not discussed nearly enough.
21. Well presented, good speaker, case study good at reinforcing points. It would be good to provide a few possible solutions to the problem rather than just stating the problems. Not enough due to lack of data. Richard understood his audience. He kept us entertained for the duration. Case study provided a change and active participation. Good speaker and interesting information. Doing the case studies in small groups was great. Great presenter. Down-to-earth, casually confident and the case study was good.
22. Vital lecture, would appreciate a week of this topic. Brave person to do the Friday morning lecture after dinner the night before. Did pretty well to keep people on the ball! Essential stuff for Fisheries Managers. Very good presentation of the subject matter. Did well to give a lecture after the night before! Good to get the history behind management practices. Great to listen to, personable. Heard nothing new. Talking about roles and responsibilities of our jobs as managers was good value. Leadership talks of great benefit, agree. Good to hear plenty of examples.

Course Content - Overall Response

Comments

1. Excellent course! I have learnt a lot from the course. As much from the participants as from the lecturers.
2. A high level of base knowledge and experience was assumed. I thought that the subject context was excellent considering the course duration.
3. Content pretty well for an overview of fisheries management. Two weeks definitely long enough, three weeks would be too long. Most major disappointment was not being able to go on the Bluefin.
4. The diversity of presentation within the two weeks period was very enriching. The importance of integrative approach to fisheries management has been emphasised by many speakers. Just about every aspect of fisheries management has been covered. The challenges that fisheries managers are facing today were also discussed with passion for the subject matter.
5. From the fisheries management point of view the course/subjects were adequate. Managers don't need to know in detail.
6. Great course will encourage other fishers to attend. The course has improved my understanding of fisheries management.
7. No comments
8. No comments.
9. No comments.
10. Generally a very good course and will become very useful as experience in fisheries management increases. To make the course even better. The unexplained unavailability of a Bluefin was a major disappointment. Thought homework exercise could have been better. A complex fisheries scenario would have been more useful to encourage thought rather than examining what very coarse skills make up a fisheries manager. Industry perspective interesting, what about a 'Greenpeace' representative? Jargon (especially acronyms) should not be assumed. Not a major problem.
11. Good general coverage of all of the issues surrounding fisheries management. Two comments regarding the structure of the course:
 - (i) The teamwork exercise should be in the first week -early in the course to promote the team building;
 - (ii) The lectures on international law should have proceeded those of state/ national law in order to Australia's law in context and the reason it has developed the way it has.
12. I have gained so much from this course and wish that I had participated years ago. I can honestly say that I found each topic interesting and would not suggest that any of them be removed from the course. There are 24 people here, all with different levels of experience/knowledge of the industry, each with different needs and to make everyone happy (totally) would be a very hard thing to do unreachable goal. I came here with an open mind, no expectation and have been pleasantly impressed.
13. I found that the course to an excellent blend /mix of topics. Most of my involvement with fisheries has been office based, so there were parts of the course that were new (great exposure) and some part that confirmed and expanded on my existing experience and knowledge. I have gained a great deal of knowledge from the course and started the thought process working about some issues.
14. No comments.

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15. I would have enjoyed more practical exercises i.e. you present a fishery with various problems and then in groups from different perspectives, write up a management plan. More involvement for us would have been better, exercises examples that could have split us into smaller groups, maybe even debates, groups with different perspectives. The one group exercise that we were given was generally thought not to be a useful task, the meaning of the exercise was obscure - what was it, we supposed to achieved? Overall a good general overview.
16. No comments.
17. No comments.
18. Very interesting, learnt a great deal.
19. I found the course to be immense value. Most of the content was relevant to my role, however far too much focus on Commonwealth managed fishery, which don't accurately reflect the vast majority of Australian Fishery management techniques and issues. Need to spend more time on the state fisheries and before fisheries are used to examples, students need to be provided with a brief 'down to earth' summary of that fishery's making, i.e. gear type, fish caught, price/kg for fish, markets serviced by fishery management tools, etc.
20. No comments.

Lecturer - Overall Response

Comments

1. All the lecturers were great. All were friendly and prepared to talk to us after class.
2. Extremely knowledgeable lecturers with the ability to impart some of their knowledge.
3. Good mixed of academics, agencies and industry, perhaps an NGO would have balanced the perspectives a bit! Generally good - some lecturers could have used more practical, realistic examples, rather than expose lots of theory! Provision of some notes/key points missing from some lecturer. Good to use representatives from agency at different levels continue to do this as break ups presenters and provides various current examples.
4. The lecturers who came from various disciplines are masters in their own field. Their styles of presentation were interesting. Most of the lecturers had good sense of humour too.
5. All presentations were good, clear and understandable.
6. Good variety of lecturers, good understanding of the materials presented.
7. No comments.
8. Some lecturer could have included more practical or involvement and interaction from class member.
9. No comments.
10. I thought lecturers were generally very good, use of PowerPoint very good. Having notes also very useful, especially when concepts are not well known/being introduced for the first time. Papers also good to allow the development of thoughts/concepts introduced in lectures. Slide/video footage of fishing really good and could be extended to cover different types of fishing where possible.
11. Lecturers were appropriate. It is always good to get lecturers who work in the fields they teach. Academic theory is great to understand but practical problem solving is more relevant to our jobs and hence lecturers should focus on this which the course and lecturers did!
12. Shekar Bose - an absolute gem. Martin Tsamenyi - wonderful. Bill McDonald - give me more.
13. No comments.
14. No comments.
15. Shekar Bose is an excellent speaker. Keeps the class interested the whole lecture. I would have enjoyed more of his lectures.
16. No comments.
17. No comments.
18. Very professional.
19. I thought the lecturers were very professional. Very obvious understanding of their subjects and nice to hear some different accents and presenting styles. Would like to have heard more from Steve Eayrs and Alistair. Both presenters addressed very important and interesting issues. Could have been presented with notes for each session prior to the session, this did happen sometimes, but file was incomplete. File did not contain summary and details for all course participants. This is very handy when trying to understand participants' points of view, comments, etc.
20. No comments.

Course Organisation

1. Great transport, the accommodation at Endeavour Hall was excellent. Dinners were variable but other meals were good. Excellent course overall. The use of some more case studies could have been useful.
2. Excellent well planned, and professional staff. Food was great if only I had the willpower to say no! Bluefin would have been beneficial to all. Very disappointing that the vessel was not available. An excellent networking exercise.
3. Some more practical components would have been good to break up long blocks at lectures, even the use of videos would be good.

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4. Food and special dinners were absolutely fascinating. General organisation of the course was systematic and appealing.
5. Excellent transport arrangement, too much good food to eat.
6. Excellent, great food, too much, well looked after and friendly staff.
7. Hospitality was great, more group exercises.
8. Possibly do a team exercise with a management plan early in the first week to be completed by the second last day then compare/discuss at the end.
9. Beauty Point is fine for venue but makes getting anywhere else difficult, e.g. to Launceston or anywhere in the evening. Study areas and computer access adequate. Accommodation on-campus was fine for what it was, however the two-hour turn off switch on the heater is a pain. The food on campus was very average. Breakfast was fine, lunch was okay, but generally dinner was horrible (too oily or too dry). The special dinners were excellent. Some days we spent the entire session sitting and listening in the class. Perhaps it could be arranged so that we don't spend so long just sitting and listening. Overall, a very good and highly educational workshop.
10. Really good, Ben and Chris were A1.
11. Organisation of the course prior to arrival was seriously lacking. A lot of us had a hard time finding out what was happening, a lack of communication in advance. Apart from this, all other aspects, once at Beauty Point was great. Special dinners were very good for networking! Good organisation and a little relaxed - which lead to flexibility for the participants. Thank you for a very beneficial course. I hope it keeps running in the future!
12. The course is very intense, full on. To keep us motivated longer, you need more presenters like Shekar Bose, Martin Tsamenyi and Bill McDonald. More interaction/being talk to/at for hours on end is hard from our side of the fence. Steve's section was great too because you actually get to see something move out of the room, be active, hands-on. Lunches were great but maybe a little too much from during the day. Overall, however I thought the course was very-very good. Well organised and varied.
13. Very well organised. All accommodation, food and venue excellent.
14. Overall excellent!
15. Transport in regards to getting wherever we needed to go was excellent! Chris and Ben were very flexible and amenable to taking us places, whether to the chemist in Beaconsfield or collecting us from dinner, to drop off/collection from Launceston on the weekend - thank you. Food too much, I'll have to go on diet when I get home. Special dinners were well organised. More small group activities like with Richard Sellers would have been beneficial. More interactions are necessary and more involvement in case studies.
16. Excellent transport, heaps of food.
17. Fantastic transport, no suggestion for improvement, look forward to seeing Chris presenting at some stage. Heaps of food provided would have liked more salad and lighter lunches. "Fee and Me" very nice, but not really practical. Too cramped, too much travel and time lost in travel. Very well organised. Would have liked a few more field trips or time spent out of the classroom environment. Very disappointed about the cancellation of "Bluefin".
18. Can I suggest maximum of an hour in class, and then five or ten minute break? More case building work, student participation.

APPENDIX 4

Strategic Integration of MAC Courses and the STA National Training Package

**Integrating the FRDC MAC management courses
with the Seafood Training Australia (STA) National
Training Framework**

Strategic Discussion Document

Prepared by A. McIlgorm and M. Wilson

July, 2001

SUMMARY

The opportunity exists to develop the MAC training project courses to be part of the national training framework developed by Seafood Training Australia. This raises some core issues on the differences in the MAC training course and the more directly measurable vocational skills perspectives of the STA framework and their potential for integration. The review finds that there are significant similarities in some areas of the MAC and STA existing courses, but insufficient to cater for the resource management attributes called for in training of a MAC member. The strategy proposed is to have MAC training as an adjunct to the STA framework, similar to the recently added leadership units.

This would require an exercise to turn the MAC program into competency based format similar to that used in the STA's framework and as required by ANTA. This step would require the approval of the fishing industry and funding sourced to develop the new MAC unit/s in STA format.

Fundamental issues as to the relevance, benefits and implementation of such an approach need to be further evaluated. The viability of MAC training undertaken within the vocational training arrangements for fishers need to be considered by industry, STA and FRDC. A consideration of the age, experience and educational profile of fisher representatives may suggest a potentially poor uptake of the proposed structure. If this were the case then it may undermine the desired goal of a sustainable supply of stakeholder representatives contributing the co-management process.

BACKGROUND

The FRDC project No. 2000-308 involved development of:

“a strategy to integrate the delivery of MAC management courses with the training package developed by Seafood Training Australia” (STA). (FRDC project no. 2000-308).

The current document is a draft strategy, but also raises issues as to the relevance, benefits and implementation of such a strategy.

INCORPORATION OF MAC MATERIAL INTO STA TRAINING FRAMEWORK

a) Introduction

The Australian Maritime College has been supported by the Fisheries Research and Development Corporation to undertake training of Management Advisory Committee (MAC) members in the 1994-2001 period. This has led to the development of a three tiered program available for MAC members in all states of Australia.

It was estimated in 1997 that there were approximately 700 stakeholder representatives in Macs within Australia. This is believed to be closer to 1,000 in 2001 with the co-management committees becoming the core of most marine resource management committee and consultation arrangements. A total of 330 stakeholders have undertaken the two day and three day MAC short courses through the AMC's FRDC funded training projects in the 1994-2001 period.

The courses started in order to research the training requirements of stakeholder groups coming into the co-management process and develop appropriate training to meet their needs as a co-management committee member charged with a range of responsibilities and giving advice on a range of management issues. The training of new members was also a priority for government fisheries agencies and the turnover and term appointments of MAC committee members has continued to necessitate the MAC I course as an induction for MAC members.

At the request of stakeholders the MAC II course was developed to introduce more personal and policy development for committee representatives. Fewer fishers attended these, but those that did wished to alter specific issues in the management of the MAC. The project met this need with the Policy Development Program in 2001 which had 11 stakeholders for a two day internal short course and then followed their progress through a three month period via teleconferences between facilitators and participants.

In the 1994-2001 period a suite of courses have been developed and delivered successfully to all stakeholder groups and in all states of Australia.

In funding a one year extension of the project the FRDC asked the AMC to investigate reconciling this MAC training program with the national training framework for the seafood industry developed by Seafood Training Australia (STA). A recent report to STA on leadership in the seafood industry (Evans, 1999) recommended the addition of a number of leadership electives into the existing STA training framework, in an attempt to meet an *“urgent need to address leadership skills in Australia’s Seafood Industry”*.

This document investigates the existing MAC training courses and their relationship to the STA structure and the proposed lead 500 and 700 series units. We identify gaps in the STA framework for industry to consider.

b) Overview of the STA National Training Package

STA has seafood industry training qualifications in sector specific courses from Certificate I through to Diploma level. Different industry sector training courses are at different levels of development. The existing STA package is shown in Figure 1 below.

Figure 1: STA National Training Package Framework

SEAFOOD TRAINING PACKAGE QUALIFICATION OUTCOMES						
AQF Level	Aquaculture	Fishing	Fishing Charter	Compliance	Seafood Process	Sales
CERT I						
CERT II						
CERT III						
CERT IV					To be	
Diploma					developed	

c) Seafood Industry Leadership

The recent **Evans Report** (Evans, 1999) recommended the addition of a number of leadership electives into the existing STA training framework. Evans proposed seven *key capability areas* leaders and potential leaders need expertise in:

1. Industry Knowledge
2. Strategic Thinking
3. Working Relationships;
4. Leading to achieve results
5. Communication
6. Professionalism and Commitment
7. Corporate Leadership

Evans also defined two broad leadership levels, “*Industry Sector Leaders*”(ISL) and “*Strategic Industry Leaders*” (SIL). Proposed training focused around creating units for these seven capability areas at 500 and 700 levels as shown in Box 1 overleaf. The LEAD 500 series titles refer to courses for “Industry Sector Leaders”, and LEAD 700 series titles refer to courses for “Strategic Industry Leaders”.

BOX 1: Seven Capability Sectors for Seafood Sector Leadership

1. Industry Knowledge		
	LEAD 501	Develop and Communicate industry knowledge
	LEAD 701	Develop and Promote Industry Knowledge
2. Strategic Thinking		
	LEAD 702	Shape Strategic Thinking
3. Working Relationships		
	LEAD 502	Use Networks to Benefit the Industry
	LEAD 703	Cultivate Productive Working Relationships
4. Leading to achieve results		
	LEAD 704	Lead to Achieve Results
5. Communication		
	LEAD 503	Communicate Effectively within the Industry
	LEAD 705	Communicate with Influence
6. Professionalism an Commitment		
	LEAD 504	Provide Commitment and Professionalism
	LEAD 706	Provide Personal Drive and Integrity
7. Corporate Leadership		
	LEAD 707	Provide Corporate Leadership

The 700 leadership units are to be expanded into units of competency by Evans under the current development project (October-December, 2000). The proposed place of the lead 500 and 700 units in the STA framework is presented in Figure 2 overleaf. The leadership units will be electives.

Figure 2: The STA Framework with the addition of two leadership elective streams (after Evans, 1999)

SEAFOOD TRAINING PACKAGE QUALIFICATION OUTCOMES								
<u>AQF Level</u>	<u>Aqua-culture</u>	<u>Fishing</u>	<u>Fishing Charter</u>	<u>Com-pliance</u>	<u>Seafood Process</u>	<u>Sales</u>	<u>Industry Sector Leader</u>	<u>Strategic Industry Leader</u>
<u>CERT I</u>								
<u>CERT II</u>								
<u>CERT III</u>								
<u>CERT IV</u>					<u>To be</u>			
<u>Diploma</u>					<u>developed</u>		<u>Elective Units</u> LEAD 501 LEAD 502 LEAD 503 LEAD 504	<u>Elective Units</u> LEAD 701 LEAD 702 LEAD 703 LEAD 704 LEAD 705 LEAD 706 LEAD 707

South Australian Developments

Some leadership training courses have been proposed and developed by the South Australian Seafood Council (SC) and the Australian Fisheries Academy (AFA).

The first program is funded within the SA industry and is to increase **participation** through personal development of industry personnel with leadership potential.

The second program is under development as a FRDC project and examines **representation** in the seafood industry and leadership development. The program is to be developed to use the lead 700 competencies under development by Evans. It means that in the next two years the personal development side of seafood industry leadership will be turned into leadership training programs.

d) The AMC/FRDC Management Advisory Committee Training Program

The AMC/FRDC Management Advisory Committee (MAC) Training Program has been in operation since 1994. The courses have been developed to meet the training needs of stakeholders on the MAC process. They have the following content as seen in Box 2.

BOX 2: The MAC Course Summary Headings

First Level Course - MAC I

Introduction to the Management Advisory Committee

Introduction to the management of fisheries resources

Introduction to communication, leadership and management in the MAC process

Second Level Course - MAC II

Policy making

Managing information I

Representative skills I

Advanced Course – Policy Development Program

Managing Information II

Leadership and teamwork

Representative skills II

Fisheries management

Fisheries environment

The MAC I and MAC II have been delivered in all states of Australia. The Policy Development Program has currently been developed in April - June, 2001 under AMC's project 2000-308.

The MAC program was compared with the existing STA units and the leadership units under development as a mapping exercise. These are reported in Tables 1, 2 and 3.

COMPARISON OF THE MAC PROGRAMS TO THE STA NATIONAL FRAMEWORK AND THE LEADERSHIP UNITS

The MAC Course Content and the STA Framework

This comparison is of the MAC course overview Tables 1, 2 and 3 (left hand columns) and the existing STA units (right hand columns).

For **MAC I**, the relevant STA units with potentially similar content are in:

- (a) management, change and business elements
- (b) leadership
- (c) legal
- (d) conflict resolution

For **MAC II**, the relevant STA units with potentially similar content are in:

- (a) legal
- (b) computers
- (c) budgets
- (d) business
- (e) presentations

For **Policy Development Program**, the relevant STA units with potentially similar content are in:

- (a) computers
- (b) budgets
- (c) management plans
- (d) leadership
- (e) presentations
- (f) conflict resolution

Conclusion: *The similarity between STA and the MAC course is estimated at about 10%-15% of MAC material (not including L500-L700 units- see below).*

The MAC Courses and the Lead 500 and 700 Series Courses

Each MAC course has some leadership training content, which similar to the proposed 500 and 700 series units.

The mapping exercise in Tables 1, 2 and 3. From this an estimate of similar content between MAC and lead units is made in Table 4 below.

Table 1 : Comparison of MAC I, STA and Leadership Units

First Level Course - MAC I					
MAC Courses		Strategic Leadership		STA Units	
Content	Learning Objectives	Dup	Relevant unit	Dup	Relevant unit
1. Introduction to the Management Advisory Committee.					
The MAC Process in different states of Australia	Outline the objectives of Management Advisory Committees under the relevant Fisheries Acts.	NONE		NONE	
	Briefly describe the functions, role and responsibilities of a Management Advisory Committee in fisheries management in different states in Australia.	NONE		NONE	
The responsibilities of a MAC member	Identify the duties and skills required of a MAC member by the legislation and the Fisheries Management process.				
The processes of government	List the roles of the main decision makers in the fisheries management process and how the MAC relates to these in institutional arrangements, resourcing and responsibilities.	Some	LEAD 501, 701. But not in MAC Context	Some	THHGLE20A Develop and Update the Legal Knowledge Required for Business Compliance
	Be able to describe the range of issues in dealing with the processes of Government.				
2. Introduction to the management of fisheries resources					
Fisheries research and stock assessment	Outline the central issues and information that can be gained from fisheries research and stock assessment.	NONE		NONE	
Fisheries access rights and resource security	Describe current and potential access right and resource security options for fishers.	NONE		NONE	
Fisheries economics	Use simple economic principles to describe the open access fisheries problem.	NONE		NONE	
Risk assessment in fisheries management	Describe the risks involved in the management of fishery resources and ecosystems.	Some	LEAD 704	Some	BSXFMI510A Facilitate and Capitalise on Change and Innovation
Environment and fisheries management	Identify the rise in the efficiency of the technology used in the fishing process.	Some	LEAD 501	NONE	
Fishing technology and the environment	To explain the available gear adaptations for more environmentally friendly fishing gear	NONE		NONE	
Fisheries management plans	Developing structured management plans for the fishery.	Some	LEAD 702/704. More fish specific	Some	THHGGA09A Manage Projects THHGLE03A Develop and Implement Operational Plans
3. Introduction to communication, leadership and management in the MAC process					
Conflict resolution in fisheries management	Outline ways to resolve and defuse personal conflict in the MAC process.	Some	LEAD 502, 703 Not fisheries management	Some	THHGCS03A Deal with Conflict Situations
Communication skills for meetings and resolving personal conflict	Briefly describe essential communication skills for a MAC member in presenting ideas and position papers.	Some	LEAD 502, 703	Some	THHGGA05A Plan and Manage Meetings THHGCS03A Deal with Conflict Situations
Leadership and management	Comparing and contrasting management and leadership skills in a MAC.	Close	LEAD 702, 704, 707	Some	BSXFMI402A Provide Leadership in the Workplace BSXFMI502A Provide Leadership in the Workplace
Leadership in the fishing industry and MAC process	Promoting the leadership that can be shown by a MAC member in the MAC process.	A mix	LEAD 702, 704, 706, 707	Some	BSXFMI402A Provide Leadership in the Workplace BSXFMI502A Provide Leadership in the Workplace
Communication with stakeholder groups	Advise on ways to communicate effectively with different stakeholder groups.	Close	LEAD 503, 705	Some	THHGCS08A Establish and Conduct Business Relationships
Training needs and MAC development	Identify the training needs of MAC members in the developing MAC process.	NONE		NONE	

Table 2: Comparison of MAC II, STA and Leadership Units

Second Level Course - MAC II					
MAC Courses		Strategic Leadership		STA Units	
Content	Learning Objectives	Dup	Relevant unit	Dup	Relevant unit
1. Policy making	1. Policy making				
Basic legal principles, contract, tort and Fisheries Acts	Outline the legal responsibilities of Management Advisory Committees under the relevant Fisheries Acts.	NONE		Some	THHGLE20A Develop and Update the Legal Knowledge Required for Business Compliance
	Briefly describe the different legal elements of contract and law of tort as relating to a MAC representative.	NONE		Some	THHGLE20A Develop and Update the Legal Knowledge Required for Business Compliance
Administrative law and the MAC representative	Describe the Administrative principles which are relevant to MAC representatives and for policy development in fisheries management.	Close	LEAD 702	NONE	
Developing policy	Be able to develop policy positions from issues that confront the MAC.				
	Recognise the policy skills and legal constraints faced by a MAC member in the Fisheries Management process.				
2. Managing information I	2. Managing information I				
Managing information on computer	Recognise the different ways information is utilised and managed.	NONE	Generic ?	Some	BSATEC202A Operate a Computer to Gain Access to and Retrieve Data BSATEC203A Operate a Computer to Produce Simple Documents
Financial and technical information for MAC budgeting	Use of information for budgetary and costing exercises.	NONE	Generic ?	Some	RUHHRT422A Operate Within a Budget Framework RUHHRT512A Prepare and Monitor Budgets and Financial Reports
Costing principles for services provided	Familiarity with standard costing principles used in MAC planning	NONE		NONE	
Managing scientific and economic information	Identify key elements in using economic and scientific information for management purposes.	NONE	Generic ?	NONE	
Catch and effort databases and their use	Reviewing catch and effort data, its uses and limitations.	NONE		NONE	
3. Representative skills I	3. Representative skills I				
Improving written and verbal communication	Improving written and verbal communication for representatives	Close	LEAD 503, 705	Some	THHGCS04A Make Presentations THHGCS08A Establish and Conduct Business Relationships
Communicating with stakeholders	Outline how to communicate more effectively with stakeholders.	Close	LEAD 503, 705	Some	THHGCS04A Make Presentations THHGCS08A Establish and Conduct Business Relationships
Meeting skills and protocol	Recognise good meeting skills and protocol.	Some	LEAD 503, 705	Some	THHGCS04A Make Presentations
Presentation of issue papers to MAC's	Develop a short written position on a fisheries issue and present it to a group.	Some	LEAD 503, 705	Some	THHGCS04A Make Presentations
Resolving conflict and conflict of interest issues	Resolve a conflict or conflict of interest issue.	Some	LEAD 502, 703	Some	THHGCS08A Establish and Conduct Business Relationships
Developing strategic planning and goals in MAC	Develop strategic objectives and goals.	Some	LEAD 702	Some	THHGCS08A Establish and Conduct Business Relationships
Recognition of personal leadership skills requiring development	Recognise key leadership skills and their potential use in MACs.	NONE		NONE	

Table 3: Comparison of Policy Development Program, STA and Leadership units.

Third Level - Policy Development Program					
MAC Courses		Strategic Leadership		STA Units	
Content	Learning Objectives	Dup	Relevant unit	Dup	Relevant unit
1. Managing Information II	1. Managing Information II				
Managing and using computer database information	Recognise the different ways information is utilised and managed.	NONE	Generic	Some	BSATEC202A Operate a Computer to Gain Access to and Retrieve Data
Budgeting for MAC operations	Describe essential information for budgetary and costing exercises.	NONE	Generic	Some	RUHHRT422A Operate Within a Budget Framework RUHHRT512A Prepare and Monitor Budgets and Financial Reports
Appraising service provision	Comparison of different services available under multiple criteria	NONE		NONE	
Managing scientific and economic information II	Identify key elements in using economic and scientific information for management purposes.	NONE		Some	BSXFMI506A Manage Workplace Information
Using Catch and Effort information in management	The use and mis use of catch and effort data in fisheries policy development	NONE		NONE	
2. Leadership and teamwork	2. Leadership and teamwork				
Leading other people	Personal leadership awareness				
Leadership in the MAC process	Recognise key leadership skills and their potential use in MACs.	703, 705	703, 705	Some	BSXFMI502A Provide Leadership in the Workplace
Appraising personal leadership skills	Identifying personal leadership requirements in MAC polic development.	NONE		NONE	
Communication for teamwork	Communication for team work	Close	LEAD 705	Some	BSXFMI504A Participate in, Lead and Facilitate Work Teams
Building teams	Identifying people and building teams	Close	LEAD 703	NONE	
3. Representative skills II	3. Representative skills II				
Improving written (communication?) skills and developing MAC issues papers	Develop a short written position on a fisheries issue and present it to a group.	Some	LEAD 705	NONE	
Improving Public Presentations	Practice in presentation of case information	Close	LEAD 705	Some	THHGCS04A Make Presentations
Communication, meeting skills, stakeholders and the government process	Outline how to communicate more effectively with stakeholders.	Some	LEAD 705	Some	THHGCS04A Make Presentations
Dealing with the media	Recognise good meeting skills and protocol.			NONE	
Strategic planning and the MAC process	Develop strategic objectives and goals.	Some	LEAD 702	Some	THHGLE03A Develop and Implement Operational Plans
Conflict of interest and professionalism in MAC's	Resolve a conflict or conflict of interest issue.	Some	LEAD 706	NONE	
4. Fisheries management	4. Fisheries management				
Fisheries stock assessment models and management	Use of fisheries modeling in policy development	NONE		NONE	
Improving Access Rights and Resource Security	Appraising fishing rights and access security of policy proposals	NONE		NONE	
Fisheries Economic Models and Survey Methods	Identifying economic issues that surveys and modeling can address	NONE		NONE	
Fisheries Management Legislation and Planning	Legal and planning aspects of polciy development	NONE		NONE	
Resolving Conflict in Fisheries Management	Resolving conflict in the process of presenting policy changes	NONE		Some	THHGCS03A Deal with Conflict Situations
5. Fisheries environment	5. Fisheries environment				
Habitat Protection and Management	See the need for structured management plans for the fishery.	NONE		NONE	
Risk Assessment and the Ecology of Fisheries Environment	Describe the risks involved in the management of fishery resources and ecosystems.	NONE		NONE	
Accreditation of Fisheries Environment	Appraisal issues in fisheries auditing	NONE		NONE	
Managing Fisheries Technology and Environment	Management of technical and environmental issues	NONE		NONE	
International and National Environmental Legislative Requirements	Awareness of the developing legislative framework within which policy development is set.	NONE		NONE	

Table 4: Estimation of similarity between MAC course content and Lead Units

MAC I	Similar Units by number	Course Weight	Commonality	Total
Introduction to MAC	1/5	0.25	0.1	0.025
Introduction to fish resources	3/7	0.5	0.2	0.1
Communication, leadership & management	5/6	0.25	0.5	0.125
				0.25
MAC II				
Policy making	1/3	0.33	0.25	0.0825
Managing information	-	0.33	0.1	0.033
Representative skills	6/7	0.33	0.5	0.165
				0.28
Policy Development Program				
Managing information	-	0.2	0.1	0.02
Leadership and teamwork	3/5	0.2	0.6	0.12
Representative skills	5/5	0.2	0.75	0.15
Fisheries management	-	0.2		
Fisheries environment	-	0.2		
				0.29

The similarity in content are estimated non conservatively and are thus an upward limit. While similarities exist it does not imply fully substitutable content.

In summary, from the comparison the STA and leadership units cover some business, management, legal, conflict resolution and leadership material that is part of MAC training. This extends to just below 30% on occasions.

The MAC process is about the co-management of fishery resources between stakeholders and government - managing the long term supply side of the industry and involves subjects not covered in the STA or leadership units. These are outlined below.

MAC I:

1. The MAC process - responsibilities, roles, etc.
2. The processes of government and co-management.
3. Biological management of fishery resources.
4. Fisheries economics and management of fishery resources.
5. Risk assessment in fisheries management.
6. Fisheries management and the environment.
7. Fishing technology and the environment.
8. Fishery management plans and planning.
9. Fishery specific conflicts and their resolution.

MAC II:

1. Law and the MAC member - Legislative responsibilities and liabilities.
2. Managing Information - MAC papers, reports etc, e.g. costing principles for services provided, budgeting for MAC operations.
3. Management Information (specialised) managing scientific and economic information, Catch and effort databases and their use in management.
4. MAC specific strategic communication/representative skills, e.g. developing MAC issues papers
5. Conflict of interest and professionalism in the MAC process.
6. MAC specific training needs & MAC teamwork.

Policy Development Program:

1. Managing Information – development of issue specific policy, papers to the MAC, reports, etc.
2. Use specialised information using scientific and economic data, Catch and effort data to develop fisheries policy.
3. MAC specific strategic communication / representative skills, e.g. developing a MAC policy paper requiring understanding of the government process.

e) Discussion

The review has shown that MAC courses were designed around the skills needed in the emerging and developing MAC process. It has three core concerns:

1. That MAC members understand the process, their responsibilities and workings of government and MACs;
2. They have knowledge of technical, biological, economic and resource management issues to enable them to advise from more than personal experience and protect sustainable seafood supply and that develop a familiarity with the strategic requirements of sustainable fisheries management; and
3. That they translate their concerns into relevant vocal comment and written strategic policy papers.

During the FRDC MAC training project the maturing MAC process and participant feed back indicated that further personal development aspects be emphasised to improve the communication within MAC meetings. MAC II increased personal development awareness around topics and issues that confront MAC members.

In the exercise to reconcile the content of the MAC courses with the existing STA material, the similarity of units is minimal (10%-15%), with a few existing units being able to be used.

For the MAC courses in relation with the L700 competencies there is more room for use of generic seafood industry leadership L700 material. There is the potential for the MAC to use these units (25% similarity).

It then is a matter of turning about 75%-90% of the MAC into competency units so as it could sit as an elective in the national STA framework. This requires a national consultation process with industry. It will also require funding to turn the MAC into competencies so as to fit into the STA framework.

There are two issues here:

- The first relates to the reasonable proposition that the MAC training courses should be prepared in vocational format for inclusion in the STA package.
- The second relates to the ongoing need to develop confident, interested, well informed and equipped industry participants able to provide advice to the underpinning co-management process – management advisory committees.

It is our view that the latter pre-eminent short to medium term need is being forsaken (perhaps because of its past success) for the development of leadership programmes which may in the long term assist the production of skilled industry representatives.

The need is for skilled MAC members now! The pool of industry representatives willing to undertake such a task still remains with the older well established, more financially secure members of the industry. Will they be interested in attending the types of vocational courses envisaged within STA? Much of the success of the AMC/FRDC MAC training courses has been due to the method of delivery and

personal expertise of the presenters. The delivery has always been at the cost of working time forgone for commercial and recreational fishing representatives.

There are therefore fundamental issues as to the relevance, benefits and implementation of having the MAC as part of STA framework. The proposed approach needs to be further evaluated. A consideration of the age, experience and educational profile of fisher representatives may suggest a potentially poor uptake of the STA framework. If this were the case then ultimately it could undermine the long term sustainability of the co-management process. The viability of MAC training undertaken within the vocational training arrangements for fishers need to be considered by industry, STA and FRDC.

f) Recommendations

The FRDC /AMC MAC training courses could augment the STA framework as Diploma/ Advanced Certificate level electives similar to the developing leadership electives. For example having MAC 500, 600 and 700 units.

This would require turning MAC courses into competencies. The industry, FRDC, and the STA should consider this.

FRDC should address the urgent and ongoing need to develop confident, interested, well informed and equipped industry participants able to provide the advice underpinning the co-management process - management advisory committees to facilitate the sustainability of this process.