



DALHOUSIE UNIVERSITY
HALIFAX, N.S.
B3H 4H6

VICE-PRESIDENT

Date: February 25, 1985

To: Dalhousie Ocean Studies Council and Other Interested Parties

From: Bob Fournier, Assistant Vice-President (Research)

Re: ICOD, Dalhousie and a One-Year Diploma Programme

I have been approached by Gary Vernon, President of ICOD, with a request to consider a possible joint venture. ICOD would like to see Dalhousie develop a one-year diploma programme in marine affairs which might include economics, law, marine science, etc. They would like to see such a programme underway by September 1986. ICOD would sponsor this programme through the subsidy of a chair for someone who could act as coordinator or focal point. In addition, they would be prepared to cover some administrative costs.

As everyone is undoubtedly aware, these discussions are in the earliest possible stages. I finished my discussions with Gary Vernon by assuring him that I would discuss this with interested parties in the university. Therefore, although this is very short notice, I wish to invite you to attend a discussion of this matter in the **Board and Senate Room at 2:00 p.m. on Monday, March 4.**

R. O. Fournier

R. O. Fournier

ROF/hc

cc: T. Bowen, Oceanography
E. Gold, DOSP
J. Gratwick, CMTG
J. Hall, Centre for Marine Geology
A. Hanson, IRES
D. Johnston, DOSP/MELP
E. Mann Borgese, Foreign Policy Studies
P. Lane, Biology
I. McAllister, Pearson Institute
D. Patton, Bus. Admin.
T. Shaw, Political Science
G. Winham, Foreign Policy Studies
M. Zentilli, Geology



DALHOUSIE OCEAN STUDIES PROGRAMME

5th Floor

Central Services Building

1236 Henry St

Halifax, Nova Scotia

Canada

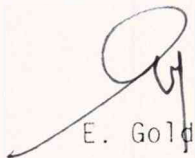
B3H 3J5

COPY

DATE: March 5, 1985
TO: Members of the ICOD Diploma Proposal Working Group
FROM: Dr. Edgar Gold
SUBJECT: Working Group Meeting

On 4 March 1985, at a meeting to discuss the ICOD request to develop a diploma programme in marine affairs, it was agreed that a small working group should develop a discussion paper for a further meeting of the full group, tentatively scheduled for 19 March 1985.

In the meantime, DOSP was requested to prepare a rough draft of a working paper for discussion by the Working Group. It is hoped that this draft will be circulated to a Working Group meeting which will take place on Monday, 11 March 1985 at 1:30 pm in Seminar Room 511, Dalhousie Ocean Studies Programme, 5th Floor, Central Services Bldg., 1236 Henry Street (424-6557). PLEASE ATTEND.



E. Gold

cc: Members of the Working Group:
T. Bowen, Oceanography
R. Cote (or A. Hanson), IRES
P. Lane, Biology
E. Mann Borgese, Poli. Science
D. Patton, Bus. Admin.
P. Saunders, DOSP

For information: Dr. R.O. Fournier



DALHOUSIE OCEAN STUDIES PROGRAMME

5th Floor

Central Services Building

1236 Henry St.

Halifax, Nova Scotia

Canada

B3H 3J5

DATE: March 11, 1985.
TO: Members of the ICOD Diploma Proposal Working Group
FROM: Edgar Gold
SUBJECT: Working Group Meeting - 1:30 p.m. March 11.

Enclosed please find some brief notes for discussion by the Working Group, as requested by the full meeting on March 4, 1985.

E. Gold

cc: Members of the Working Group:
T. Bowen, OCEANOGRAPHY
R. Cote (or Art Hanson), IRES
P. Lane, BIOLOGY
E. Mann Borgese, POLI. SCIENCE
D. Patton, BUS. ADMIN.

DISCUSSION NOTES ON ICOD DIPLOMA PROPOSAL

I. Format and Content of Programme

A. Introduction/Orientation Course

A relatively brief (2 weeks approx.) introductory period, allowing for familiarization with goals of programme, and initial assessment of student skill and language levels.

B. General Courses

A list of potential courses should be compiled from a number of disciplines, including: Economics, Fisheries Management, Law, Environmental Studies, Oceanography, Marine Biology, Geology, Business, Public Administration, Political Science, Anthropology/Sociology. In order to maintain flexibility, each student's course load should be designed with the Coordinator, tailored to the individual's requirements.

This may eliminate the need for a compulsory core of courses, but this requires discussion. In general, the course load in this category should be 3-4 per term.

C. Marine Policy Course

The marine policy course, an intensive overview course from a multidisciplinary perspective, will extend over two terms, structured as follows:

Term I- Either: (a) Taught solely within the normal first term period, designed for this approach;

or (b) Placement of students with existing I.O.I. course in summer, with course modified as required to suit diploma programme objectives.

or (c) Taught in first term, but optional for students to attend modified I.O.I. in fulfillment of course requirement.

Term II - Whichever option is adopted for the first half of the marine policy course, in the second term two options would be available:

a) Country Studies- Students perform detailed, practically-oriented studies relevant to their own countries and/or jobs, reporting back to the general seminar.

b) Practicum Option- If suitable to their specialty, students would be posted as assistants/observers in industry and government jobs related to their future work; again reporting back to the general seminar.

II. ICOD Funding and Project Phasing

- a) Initial Phase (Pre-teaching) - Salary of Coordinator and Associate Coordinator, Overhead. Substantial sum for curriculum and teaching materials development for Marine Policy course.
- b) First Teaching Year - Introductory course, Coordinator and staff, any additional teaching time for new courses, student support.
- c) Subsequent Years - Basic support for Coordinator and staff, student support, for relatively long period. Funding of Chair in Marine Affairs. Dal/ICOD to seek additional funding (government, industry) for expansion of teaching capability within marine affairs programme, moving towards full Masters programme.

III. Role of Coordinator and Associate Coordinator

- a) In initial phase, to seek agreement of Faculties, prepare course listings, investigate content of existing course. Major role, if possible in cooperation with I.O.I., in developing curriculum and integrated course materials ("workbook" format) for use by Marine Policy course and possibly by I.O.I. (May include A/V and other materials).
- b) Teaching and coordination of marine policy course.
- c) Student support and advisory role.
- d) Seek future funding for expansion of marine affairs programme.

IV. Some Remaining Questions

- a) What additional, non-ICOD funding can be sought at an early stage? DFO, for example, has funds set aside for fisheries training - could this be used to fund the fisheries management portion of the programme?
- b) What structure should be adopted for the Coordinator's office? Nucleus of new institution, or based in existing institution but with independent project status? Also, space must be set aside for student use.
- c) Where will existing course content require supplementary lectures/tutorials, or perhaps entirely new courses, in order to suit programme? Is it possible to estimate this now, in order to write in the costs?
- d) What can be done next year? Possibly use I.O.I. plus existing courses for small number of students? Coordinator could work with I.O.I. to begin curriculum development during this period.

Directors of IOI Training Programme

Dr. Lennox Ballah, Trinidad & Tobago

Dr. Salvino Busuttil, Malta

Dr. Peter Serracino Inglott, Malta

Ambassador Reynaldo Galindo Pohl, El Salvador

Dr. S.P. Jagota, India

Dr. Geoffrey Kesteven, Australia

Ambassador Tommy Koh, Singapore

Charles Odidi Okidi, University of Kenya

Dr. Velimir Pravdic, Yugoslavia

Dr. T.S. Rao, India

Harvey Silverstein, Dalhousie University

Paul White, McGill University



DALHOUSIE OCEAN STUDIES PROGRAMME

5th Floor, Central Services Building, 1236 Henry Street, Halifax, Nova Scotia Canada B3H 3J5 Phone (902) 424-6557

DATE: March 18, 1985
TO: R. Fournier, Asst. Vice-President (Research)
FROM: Dr. Edgar Gold, Director, Dalhousie Ocean Studies Programme
SUBJECT: Report of ICOD Diploma Working Group

Enclosed please find the report of the Working Group, as agreed at its meetings of March 11 and 15. The group was comprised of E. Gold, P. Lane, E. Mann-Borgese, T. Bowen, R. Cote, D. Patton and P. Saunders.

We look forward to discussing the report with you at the next full meeting, Tuesday, March 19 at 2:00 p.m. in the Board and Senate Room.

E. Gold

EG:an

cc: J. Gratwick, CMTC
J. Hall, Centre for Marine Geology
R. Cote, IRES
D. Johnston, DOSP/MELP
E. Mann-Borgese, Foreign Policy Studies
P. Lane, Biology
I. McAllister, Pearson Institute
D. Patton, Bus. Admin.
T. Shaw, Political Science
G. Winham, Foreign Policy Studies
M. Zentilli, Geology
A. Hanson, IRES
T. Bowen, Oceanography

REPORT OF ICOD DIPLOMA WORKING GROUP

March 18, 1985.

Membership: E. Gold, P. Lane, E. Mann-Borgese, T. Bowen, R. Cote,
D. Patton, P. Saunders.

This document sets out the recommendations and comments of the working group in five areas:

- activities prior to implementation of the full diploma programme
- development and content of the diploma programme
- role of the programme Coordinator (s)
- questions of funding and phasing
- remaining general issues.

I. INTERIM PROGRAMME (1985-1986)

a) Scholarships

It is impractical to proceed with a full diploma programme in September 1985. If ICOD is anxious to begin this year, scholarships could be made available for some of the following:

- i) Students attending this year's I.O.I. course in Halifax.
- ii) Students registered as:
 - a) graduate students in existing programme, e.g. M.Sc., LL.M.
 - b) undergraduate students in existing programme, e.g. B.A., B.Sc.
 - c) non-degree students, either:
 - 1. taking courses for credit, or
 - 2. as audit students.

Given the time constraint, ICOD may wish to select the degree candidates from among I.O.I. participants - either at this year's course or from dossiers of students from previous years. In addition, an ICOD Seminar Series could be set up to add cohesion to this group of students.

II. ONE-YEAR DIPLOMA PROGRAMME

a) Development Phase

As soon as is practical, the coordinator(s) should be posted and begin development of the diploma programme. Tasks include:

- i) Identification and analysis of available courses at Dalhousie and TUNS; discussions with faculty to determine appropriateness for diploma students and; clarification of additional requirements.
- ii) Teaching in I.O.I. summer course, to gain familiarity with this programme.

- iii) With ICOD, search for additional sources of funding for components of programme.
- iv) Student support and advice for scholarship students.
- v) Major task would be development of curriculum for Marine Policy core course (see below), with involvement of I.O.I. and representatives of various disciplines. Includes work on A/V materials (e.g. video-tapes).

b) Content of One-Year Diploma Programme (beginning Sept. 1986)

- i) Introduction and Orientation - Brief introductory period (approx. 2 weeks) for familiarization with goals of programme, initial assessment of skills and language levels. If language skills cannot be assured, longer advance period may be necessary.
- ii) General Course Load - Courses should be selected from a number of disciplines, including; among others: Economics, Fisheries Management, Law, Environmental Studies, Oceanography, Marine Biology, Geology, Business, Engineering, Fisheries Technology, Public Administration, Political Science, Anthropology/Sociology. In order to maintain flexibility, each student's course load should be tailored to the individuals's requirements. As experience is gained in the first 1-2 years, it may become necessary to designate 2 or 3 "streams" with its own compulsory core courses.

Where existing courses are too advanced (especially in the sciences), a tutorial system should be used to supplement as necessary, with tutorials led by research fellows and graduate students.

iii) Marine Policy Course

Led by the Coordinator(s), this intensive, multidisciplinary course should be given over two terms, using the new curriculum. A "work-book" - style set of looseleaf materials will be employed in order to allow future use by the students in their own jobs. The course should be organized as follows:

Term I : Multidisciplinary overview , on a sectoral basis. Possible to give alternative credit for this portion if student has attended I.O.I. course, which would move towards use of same work-book materials.

Term II: Two options, depending upon student needs:

- i) Country Studies - Students perform detailed, practically-oriented studies relevant to their own countries and/or jobs, reporting back to the general seminar.
- ii) Practicum Option - If suitable to their specialty and future employment, students would be posted as assistants and observers in industry and government jobs, again reporting back to the general seminar.

III ROLE OF COORDINATOR(S)

- a) In initial phase, seek agreement of Faculties, prepare course listings, investigate content of existing courses. Major role, in cooperation with I.O.I. and various disciplines, to develop curriculum and integrated course materials ("workbook" format) for use by Marine Policy course and possibly by I.O.I. (May include A/V and other materials).
- b) Teach and coordinate marine policy course.
- c) Support and advise students, with respect to adjustment, accomodation, academic difficulties.
- d) Seek future funding for expansion of marine affairs programme.

It will probably be necessary to have a Coordinator and Associate Coordinator (perhaps each for half-time plus an assistant). It is essential that, for the two key people, one should be from the social sciences and one from the physical sciences.

V. PROJECT FUNDING AND PHASING

- a) Interim Phase (1985-1986) - Salary of Coordinator and Associate Coordinator, Overhead. Substantial sum for curriculum and teaching materials development for Marine Policy course, scholarships for students in existing programme.
- b) First Teaching Year - Introductory or orientation course, Coordinator and staff, any additional teaching time for new courses, student support (including language instruction if necessary).
- c) Subsequent Years - Basic support for Coordinator(s) and staff, student support, for relatively long periods. Funding of Chair in Marine Affairs. Dal/ICOD to seek additional funding (government, industry) for expansion of teaching capability within marine affairs programme, moving towards full Masters programme. This funding search should begin immediately.

VI. REMAINING QUESTIONS AND COMMENTS

- a) What structure should be adopted for the Coordinator's office? Nucleus of new institution, or based in existing institution but with independent project status? An early decision on this point would facilitate project development.
- b) Where will existing courses require supplementary lectures/tutorials or perhaps entirely new content to suit programme? Is it possible to estimate this now, in order to write in the costs?

- c) Evaluation may be difficult as students enrol in existing courses in different disciplines. Is grading flexibility possible?
- d) Other funding sources for components of the programme should be sought. Are there suggestions in this area?
- e) In addition to the Coordinator's office, space must be set aside for students to allow some sense of community in programme. Where can this be done?
- f) What is the likely timing for Senate and MPHEC approval of the diploma? Possible problem areas?
- g) It is important to view the programme as including Canadian and other developed-country students. Can this lead to additional funding sources?
- h) What methods will be used for student selection and admission, and what will be ICOD's role? It is possible to use the network of past I.O.I. students to assist in initial student assessments.
- i) Can non-degree, non-diploma students be accommodated, perhaps with a "Certificate" course? Continuing Education could advise on this point.
- j) What is the role of other institutions (TUNS, Nautical Institute, etc.)? Credit for diploma or use in practicum offerings?
- k) It may be necessary, depending upon student selection, to offer an intensive language course in advance with some preparation for special needs of the various disciplines? Possible to seek, e.g. CIDA funding for this purpose.

ANNEX 1



International Ocean Institute

P.O. Box 524 Valletta - Malta

Cables: Interocean

DRAFT SYLLABUS

CLASS A

OCEAN MINING

Malta: April 1 - May 3, 1985

Course Director: Dr. Reynaldo Galindo Pohl

WEEK 1 General Introduction to the entire programme.
 Scientific and environmental background

1 April
A.M.
Centre

Inauguration at the Mediterranean Congress

Welcoming Address by C.F. Vanderbilt ✓
Executive Director of the IOI

"Background and Scope of the IOI"

Welcoming Address by Dr. Reynaldo Galindo Pohl ✓
Class A Course Director

Welcoming Address and official Inauguration by ✓
H.E. Miss Agatha Barbara
President of the Republic of Malta

Keynote Address by H.E. Ambassador Layachi Yaker ✓
President, Board of Trustees
International Ocean Institute

P.M. Discussion

Overview of the Class A Ocean Mining Programme ✓

April 2-3 Introduction to Oceanography ✓

Note: In the following set of four lectures and discussion sessions, an attempt will be made to define terms and describe large-scale phenomena, i.e., to show the various interrelationships existing across the globe. This will be followed by a narrowing of the view so as to focus on processes which operate close to shore or on the continental shelves. The goal will be to give some basic principles and examples which would be useful to the non-scientist as a means of putting potential problems dealing with resource exploitation or conservation and pollution in their proper oceanic context.

Lecture 1

April 2
A.M.

The oceanography lectures begin with an overview of the major features of the ocean basins. This is a descriptive look at the sea floor showing the relationship of various important features such as the position of mid-ridges, continental margins and other topographic features. Any future consideration of ocean dynamics (e.g., circulation) requires a knowledge of the basin in which the liquid resides. Also consideration of various resources depends on some knowledge of their location.

Following this descriptive overview, consideration will be given to the dynamics of sea floor spreading, continental drift and plate tectonics. This will not be an attempt to provide detail on these processes but rather to show how over the past 150 millions years they have

contributed and continue to contribute to the discovery of marine resources valuable to man (e.g., oil on the continental shelves or metal deposits at hydro-thermal vents). Finally a brief review of sedimentary processes will be important as a means of understanding river input to continental shelves, sediment transport along coast lines and deep sea deposits such as manganese nodules. In general, this initial consideration should provide a basic overview of that part of the earth which must be considered in the context of the new United Nations Convention on the Law of the Sea.

P.M. Lecture 2

The second lecture and discussion will deal with sea water itself, as a premise to understanding both physical and biological processes. Attention will be devoted to residence in time in the context, e.g., of possibly following pollution, the heat capacity of water and the ocean/atmosphere link as a means of understanding both atmospheric and oceanic circulation. The fundamentals of circulation are essential for anyone interested in understanding the dynamics of the oceans: the general pattern and rate of current movement, their temporal and spatial scales and how these affect coastal States. Finally, consideration will be given to energy in the sea in the form of waves and tides. These considerations are extremely important since they are generally perceived as the way in which energy is transferred from the ocean to the land. Specific examples are storm surges, tidal currents and tsunamis.

April 3
A.M.

Lecture 3 - 3 -

The third lecture and discussion will concern the coastal regions including inland seas, estuaries and the coastline itself. Attention will be given to defining these regions on the basis of their physical differences and especially the way physical processes differ close to shore compared with the open ocean. Specifically, consideration will be given to temporal and spatial scales and the attention given to these when dealing with potential problems along a shoreline. Since estuaries play an important role in transportation, food supply, waste disposal, etc., a short review of estuarine circulation will be considered.

P.M.

Lecture 4

The final lecture and discussion will deal with life in the sea. Building on previous discussions, an attempt will be made to show which regions of the world ocean are productive. Attention will be given to the various factors which contribute to this production: including biological, physical and chemical factors. An important point that will be emphasized is that oceanic production is very heterogeneous and that a variety of local factors can have considerable importance, e.g., tidal mixing, local circulation, prevailing winds, orientation of the coastline, fronts, etc. Finally some attention will be paid to specialized situations such as reefs, upwelling situations, and deep vent communities.

Lecturer: Dr. Robert Fournier

April 4
A.M.

Lecture 5 ✓

Ocean Energy. A presentation of various modes of extracting energy from the oceans. this includes energy from tides, waves, and currents; ocean thermal energy and salinity gradient energy conversion; and extraction of energy from biological systems. The lecture includes technological as well as economic considerations.

Lecturer: Dr. P. Marchand
CNEXO

P.M. Field Trip: Visit to CNEXO Oceanographic Ship.

April 5
A.M.

Summary of the week

P.M.

Library work

WEEK 2

Introduction to the Law of the Sea

April 8
A.M.

Lecture 6

The Convention on the Law of the Sea. A General Introduction.

Lecturer: Dr. Reynaldo Galindo Pohl ✓
Course Director

p.m.

Film and Discussion: The Law of the Sea. The film features Ambassador Tommy Koh, President, UNCLOS III.

April 9
A.M.

Lecture 7

The Convention: Part V. Implications for the exploitation of nonliving resources.

Lecturer: Dr. Reynaldo Galindo Pohl ✓

P.M. Workshop: Boundary Delimitation

Workshop leader: Judge Shigeru Oda —
ICJ

April 10

A.M. Lecture 8

The Convention: Part XI. Structure and Functions of the International Seabed Authority. Annexes III and IV.

Lecturer: Dr. Reynaldo Galindo Pohl ✓

P.M. Lecture 9

Resolutions I and II. the Preparatory Commission for the International Sea-bed Authority and for the International Tribunal for the Law of the Sea. Review of its work and prospects.

Lecturer: Dr. Reynaldo Galindo Pohl ✓

April 11

A.M. Lecture 10

The Law of the Sea, the concept of the Common Heritage, and the New International Economic Order.

Lecturer: Dr. Reynaldo Galindo Pohl ✓

P.M. Discussion:

The Role of developing countries in
ocean mining. India. The Saudi-Sudanese Red
Sea Authority

April 12

A.M. Lecture 11

Joint Enterprises. The Jaenicke Model as pro-
posed to the Prep.Com. JEFERAD

Lecturer: Dr. Reynaldo Galindo Pohl ✓

P.M. Summary of the Week

WEEK 3: The Economy of Oil and Gas and
Ocean Minerals

April 15

A.M. Lecture 12

The geology of oil, its origin and for-
mation.

Lecturer: Dr. Tom Gaskell — Larminie
E&P Forum (Rt.)

P.M. Lecture 13

Evolution of petroleum contracts; royalty ex-
penses; participation agreements; service con-
tracts. Maximising Third-World countries' parti-
cipation in management, processing, and market-
ing.

Lecturer: Mr. ~~Marc Lador~~ Cockcroft
Petroconsultants S.A.

April 16

A.M. Lecture 14

Origin and evolution of OPEC. Its role in the development of the concept of a New International Economic Order.

Lecturer: Prof. Robert Meagher ✓
Fletcher School of Law & Diplomacy

P.M. Lecture 15

The oil and gas industry: Future trends. World oil and gas map. Energy demand projections.

Lecturer: Prof. Robert Meagher. ✓

April 17
A.M.

Lecture 16

Problems of tanker traffic. Tanker separation schemes. Navigational safety at sea. IMO and its Conventions.

Lecturer: Capt. A.N. Caoockcroft LADOR seminar ✓
London Polytechnic

P.M. Fieldtrip:
Visit to UNEP/IMO Regional Oil Combatting Centre

April 18
A.M.

Lecture 17

Mineral resources of the oceans. distribution of mineral resources on the continental margins of coastal States

Lecturer: Mr. Franz Diederich
F.I.Z., Aachen Technical University

P.M. Lecture 18

The Mineral Market; includes consideration of the difficulties of forecasting demand curves and examines the reason for instability of prices.

Lecturer: Ni Odunton *— phone*
OETB, U.N. Secretariat.

April 19
A.M. Participants' presentations: Country Reports

P.M. Summary of the week

WEEK 4 Introduction to Management

April 22
A.M. Lecture 19

The changing environment

The monetaroy system. Banking, credit and debt financing.

international trade

transnational enterprises

Lecturer: Dr. Orio Giarini
Geneva

P.M. Lecture 20

The changing environment of the enterprise: technological, socio-economic, political, ecological, international aspects.

Resistance to change, and how to cope with it.

Lecturer: Dr. Paulo Moura

Brazil

April 23

A.M.

Lecture 21

Strategic Planning and Management in the Private Sector

Relations with Governments, community and social responsibilities, unions, environmental responsibilities.

investment policy; financial management and resource allocation; budgeting for productive R&D.

Lecturer: Dr. Paulo Moura

P.M.

Lecture 22

Strategic Planning in the Public Sector

Relations with the Private Sector, International relationships. Community and Social responsibilities; Unions; environmental policies.

The planning, programming, budgeting system; budgeting for productive R&D

Lecturer: Dr. Praxi Fernandes
International Centre for
Public Enterprises in
Developing Countries

April 24

A.M.

Lecture 23

The Joint Venture Enterprise

Goal and policy frameworks; programme management financial management and production policy. Marketing policy.

Lecturer: Dr. Praxi Fernandes

P.M. Lecture 24

Planning, financing and controlling productive R&D; technology management; productivity and employment. Automation, technology transfer; co-development of technology; environmental policy.

Lecturer: Dr. Paulo Moura

April 25
A.M. Lecture 25

Human Resources Policy

Negotiating skills (behavioural aspects and attitudes; Management of culturally diverse expectations and resources.

Lecturers: Dr. Paulo Moura and Dr. Praxi Fernandes

P.M. Conclusions.

April 26
A.M. Summary of the week.

P.M. Library Research and Report Writing

WEEK 5: Contract negotiation and simulation exercise

April 29
A.M.

Lecture 26

Detailed examination of various types of contracts and how they can be adapted to seabed mining.

Lecturer: Prof. G. Winham
Dalhousie University

P.M.

Lecture 27

Examination of different kinds of ownership and their consequences; majority vs. equal vs. minority participation of the investor.

Lecturer: Prof. G. Winham

April 30
A.M.

Lecture 28

Meaning and elements of negotiation as a technique to achieve results; what kind of knowledge and expertise is needed to strengthen developing countries in contract negotiations.

Lecturer: Prof. G. Winham

P.M.

Workshop:

Computer-aided negotiation

Workshop leader: Dr. Mike Staley
IIASA

May 1 Simulation Exercise: A Contract Negotiation

May 2 Simulation Exercise, continued

May 3 Evaluation of Results

CLASS A

OCEAN MINING

Aachen Draft Syllabus: 6 May - 17 May, 1985
27 May - 7 June, 1985

WEEK 6

6 May
A.M.

Opening Session

Welcoming Address by the Pro-Rector of the
Aachen Technical University, Prof. Dr. Rudolf
Schulten

Opening Remarks by Dr. Peter Arndt of the Carl
Duisberg Gesellschaft e.V.

"Activities of the Carl Duisberg Gesellschaft"

Interim Report on the Training Programme by a
Course Participant

Opening Remarks by Prof. Dr. Dr. W. Gocht of the
Institute for International Technical and
Economic Cooperation (FIZ)

"The Future Importance of Ocean Mining"

Opening Remarks by Prof. Dr. Günther Friedrich
of the Institute for Mineralogy and Economic
Geology

"Exploration of Inorganic Marine Mineral
Resources"

Opening Remarks by Prof. Dr. Joachim Krüger of
the Institute of Non-ferrous Metals and
Electrometallurgy

"Metal Production and Environmental Control"

P.M. Lecture 1a

Exclusive Economic Zone

Lecturer: Mr. Franz Diederich
FIZ

Lecture 1b

Genesis and Occurrence of Mineral Place Deposits

Lecturer: Prof. Günther Friedrich
Institute for Mineralogy and Economic
Geology

7 May
A.M.

Lecture 2

Manganese Nodules: Genesis, Distribution,
Prospecting, Exploration.

Lecturer: Mr. David Pascho
Lands, Mines & Resources, Canada

P.M. Field Trip
Visit to Rheinisch Lignite district; open cast
mine Fortuna Garsdorf and open cast mine Berg-
heim.

8 May
A.M.

Lecture 3a

Genesis & Occurrence of Mineral Placer Deposits

Lecturer: Prof. Dr. Günther Friedrich

Lecture 3b

Prospecting and Exploration of Mineral Placer
Deposits (Part I)

Lecturer: Mr. Joachim Martin
Inst. for Mineralogy and Ec. Geology

P.m.

Lecture 4a

Prospecting and Exploration of Mineral Placer
Deposits (Part II)

Lecturer: Mr. Joachim Martin

Lecture 4b

Cobalt-rich Ferromanganese Deposits in Sea
Areas of the Central Pacific

Lecturer: Prof. Dr. P. Halbach
Inst. of Applied Min., Geochem., and
Raw Mat. Sci.

WEEK 7

13 May
A.M.

Lecture 5

Mining of Heavy Mineral Placers

Lecturer: Prof. Dr. Dr. W. Gocht
FIZ

P.M. Lecture 6

Techniques of Mining Manganese Nodules

Lecturer: Mr. Franz Diederich
FIZ

14 May
A.M.

Lecture 7

Analytical Methods: Determination of Metal
Contents of Manganese Nodules

Lecturer: Dr. Walter Plüger
Inst. of Mineralogy and Ec. Geology

P.M. Lecture 8

Aspects of Dressing Marine Mineral Resources

Lecturer: Prof. Dr. Heinz Hoberg
Inst. for Mineral Processing, Coking
and Briquetting

15 May

Laboratory Work

Practical and Theoretical Course in Pyrometal-
lurgy and Hydrometallurgy.

Lecturers: Prof. Dr. J. Krüger and Dr. K.W.Krone
Inst. for Non-ferrous Metals and
Electrometallurgy

16 May

Laboratory Work

Practical and Theoretical Course in Pyro-and
Hydrometallurgy

Lecturers: Prof. Dr. J. Krüger and Dr. K.W.Krone

17 May Field Trip
Visit to Natural Gas District South Oldenburg
and Drilling Rig Farwick 24. Visit to Gas Plant
Schneiderkrug.

WEEK 8 Visits to Hannover and Hamburg. See pp.21-23.

WEEK 9

27 May
A.M.

Lecture 9

Mining Aspects of the International Tin Agree-
ment

Lecturer: Prof. Dr. Dr. W. Gocht
FIZ

P.M.

Lecture 10

German Development Policy

Lecturer: Dr. H. Seifert
FIZ

28 May
A.M.

Lecture 11

Development and Design of Marine Mining Machines

Lecturer: Dr. Alfred Welte
O&K Schiffstechnik GmbH

P.M.

Laboratory Work

Practical and Theoretical Course in Pyro- and
Hydrometallurgy: Presentation and Discussion of
Results.

Lecturers: Prof. Dr. J. Krüger and Dr. K.W.Krone

May 29

A.M.

Field Trip
Visit to Jülich Nuclear Research Centre

P.M.

Lecture 12

Hydrocarbon Exploration in Offshore Areas:
Methods, Concepts, and Future Developments

Lecturer: Dr. Detlev Leythaeuser
Jülich Nuclear Research Centre

May 30

A.M.

Lecture 13

Offshore Structures, State-of-the Art, Engineering Problems

Lecturer: Prof. Dr. K. Kokkinowrachos
Inst. for Shipbuilding, Design
& Dynamics

P.M.

Lecture 14

Technical Aspects of Offshore Oil & Gas
Production

Lecturer: Dr. Hans E. Kolb
Inst. for Petrol. Eng., Clausthal
University

31 May

A.M.

Lecture 15

Future Market Chances in Offshore and Marine
Technology

Lecturer: Mrs. G. Winterhagen
Ass. of German Oceanic Industries Inc.

CLASS A

OCEAN MINING

Field Trip to Hannover in Cooperation
with Preussag AG

WEEK 8

20 May
A.M.

Opening Session

Welcome at Preussag Marine Technology Office by
Dr. Erich Blissenbach, Director

Introduction to Preussag's Activities

Overview of Marine Resource Exploration and De-
velopment, and Related Technologies.

P.M.

Presentation Continued and Concluding Dis-
cussions

21 May
A.M.

Visit to Prakla-Seismos GmbH
Presentation and Discussion of Worldwide Marine
Activities of Prakla-Seismos & Tour of Premises

P.m.

Visit to BGR (German Federal Geological Survey)
Presentation of BGR's Many Missions in Develop-
ing Countries and Activities in Marine Geology
and Geophysics.

22 May
A.M.

Visit to Clausthal University

P.M.

Travel to Hamburg

P.M. Lecture 16

Activities of German Industry in the Field of
Marine Technology

Lecturer: Mr. K.L. Steinbrinck
Ass. of German Oceanic Industries Inc.

WEEK 10

3 June Field Trip
Visit to the Colliery Anna-Emil Mayrisch, "Esch-
weiler Bergwerks-Verein AG," Aldenhoven

4 June
A.M. Lecture 17

The Polymetallic Sulphides: New Discoveries

Lecturer: Dr. Alexander Malahoff
NOAA, U.S.A.

P.M. Discussion with Dr. Malahoff

5 June Preparation of Final Report

6 June Preparation of Final Report

7 June Symposium: "Ocean Mining '85"

CLASS A

OCEAN MINING

Field Trip to Hamburg in Cooperation with
Institute of Hydrobiology and Fisheries Research
University of Hamburg

WEEK 8

23 May
A.M.

Opening Session

Welcoming Address by the Acting Dean of the
Faculty of Biology of Hamburg University,
Dr. H. Kausch

General Introduction: Marine Research in the
Federal Republic of Germany, Research Institu-
tions, Research Vessels, Research Programmes, by
Prof. Dr. H. Thiel

Environmental Research Related to Deep Sea-bed
Mining: Case Study: Red Sea, by Dr. L. Karbe,
Dr. H. Thiel, and Dr. H. Weikert

P.m.

Visit to Blohm and Voss Shipyard

Presentation, Discussion, and Demonstration of
Ships, Modules, and Structures for Offshore
Activities.

24 May
A.M.

Institute of Hydrobiology and Fisheries Research

Marine Environmental Research: Use of Aquatic
Resources, Quality Criteria, Pollution Monitor-
ing, Strategies for Protecting the Marine En-
vironment, by Dr. L. Karbe



International Ocean Institute

P.O. Box 524 Valletta - Malta

Cables: Interocean

SUMMER TRAINING PROGRAMME IN OCEAN MANAGEMENT

conducted by

The International Ocean Institute

in cooperation with

The Lester Pearson Institute

and

The Centre for Foreign Policy Studies

at

Dalhousie University

Halifax, N.S., Canada

June 17 - August 23, 1985

Professor Elisabeth Mann Borgese
Chairman of the Planning Council

Dr. Velimir Pravdic
Course Director

SYNOPSIS

- Week 1: The United Nations Convention on the Law of the Sea
- Week 2 The Sea Around Us. an Introduction to Oceanography
- Week 3: National Experience in Ocean Management: Case Studies.
- Week 4: Regional Programmes. The Role of the "Competent International Organisations."
Resource Management: Fisheries
- Week 5: Resource Management: Fisheries
- Week 6: Resource Management: Oil and Gas
- Week7: Resource Management: Oil and Gas
- Week 8: Offshore Minerals - Shipping & Navigation
- Week 9: Offshore Labour, Health & Safety. Simulation Exercise
- Week 10: Reports by Participants. Evaluation. Award of Certificates.

SYLLABUS

Week 1: Introduction to the Programme. The United Nations Convention on the Law of the Sea.

Monday, June 17

9 A.M. Registration; collection of documents and materials

10 A.M. Inauguration at the McMechan Auditorium, Killam Library, Dalhousie University

Welcome. President Andrew MacKay, Dalhousie University

The Lester Pearson Institute
Professor Ian McAllister

The Centre for Foreign Policy Studies
Professor Gil Winham

The International Ocean Institute
Professor Elisabeth Mann Borgese

The Training Programme
Professor Velimir Pravdic

Keynote Address: The United Nations Secretariat and the Implementation of the Convention on the Law of the Sea.

H.E. Ambassador Satya Nandan,
Special Representative of the Secretary General for the Law of the Sea

1 P.M. Luncheon

3 PM - 5 PM discussion with participants. the Syllabus: Questions and suggestions. Organisational and administrative questions.

Tuesday, June 18

9 A.M. - 12 noon: A brief overview of developments leading up to UNCLOS III.

Speaker: Ambassador Christopher W. Pinto.

2 P.M. - 5 P.M. Roundtable discussion.

Wednesday, June 19

9 A.M. - 12 Noon: Analysis of the main provisions of the Convention: Maritime zones: Territorial sea, contiguous zone, exclusive economic zone, continental shelf, high seas, international seabed area; limits of maritime ones.

Speaker: Ambassador Christopher W. Pinto.

2 P.M. - 5 P.M. Workshop on boundary delimitation.

Workshop leader: Aldo Chircop.

Thursday, June 20

9 am - 12 noon: Provisions concerning the resources of the sea: fisheries oil and gas; polymetallic nodules; sulphides and crusts.

Speaker: Ambassador Christopher Pinto.

2 P.M. - 5 P.M. Provisions concerning the other uses of the sea. Navigation, energy, artificial islands and installations, etc. - Other provisions: Archipelagic States, landlocked States; geographically disadvantaged States; islands;

Friday, June 21

9 A.M. - 12 Noon. Marine scientific research; conservation of the marine environment; transfer of marine technology.

Speaker: Professor Alexander Yankov, Bulgaria.

2 P.M. - 5 P.M. Settlement of disputes

Speaker: Ambassador Christopher Pinto.

Week 2: UNCLOS (continued) and Introduction to Oceanography

Monday, June 24

9 A.M. - 12 Noon. Preparatory Work after signing of the Convention.

1983-1985: Preparatory Commission for the International Seabed Authority; Implementation of the Resolution on pioneer activities, and the establishment of the International Tribunal for the Law of the Sea.

Speaker: Professor Elisabeth Mann Borgese.

2 P.M. - 5 P.M. Access to marine information. Visits to Killam Library, Law Library.

Tuesday, June 25 and
Wednesday, June 26

Introduction to Oceanography

Coordinator: Professor Robert Fournier, Vice President for Research, Dalhousie University.

Note

In the following set of four lectures and discussion sessions, an attempt will be made to define terms and describe large-scale phenomena, i.e., to show the various interrelationships that exist across the globe. This will be followed by a narrowing of the view so as to focus on processes which operate close to shore or on the continental shelves. The goal will be to give some basic principles and examples which would be useful to the non-scientist as a means of putting potential problems dealing with resource exploitation or conservation and pollution in their proper oceanic context.

Tuesday, June 25

9 A.M. - 12 noon: The oceanography lectures begin with an overview of the major features of the ocean basins. This is a descriptive look at the sea floor showing the relationship of various important features such as the position of mid-ocean ridges, continental margins and other topographic features. Any future consideration of ocean dynamics (e.g., circulation) requires a knowledge of the basin in which the liquid resides. Also, consideration of various resources depends on some knowledge of their location. Following this descriptive overview, consideration will be given to the dynamics of sea floor spreading, continental drift and plate tectonics. This will not be an attempt to provide detail on these processes but rather to show how over the past 150 million years they have contributed and continue to contribute to marine resources valuable to man (e.g., oil on the continental shelves or metal deposits at hydrothermal vents). Finally a brief

review of sedimentary processes will be important as a means of understanding river input to continental shelves, sediment transport along coastlines and deep sea deposits such as manganese nodules. In general, this initial consideration of the sea floor should provide a basic overview of that part of the earth which must be considered in the context of the new United Nations Convention on the Law of the Sea.

2 P.M. - 5 P.M. The second series of lectures and discussions will deal with sea water itself, as a precondition to understanding both physical and biological processes. Attention will be devoted to residence in time in the context, e.g., of possibly following pollution, the heat capacity of water and the ocean-atmosphere link as a means of understanding both atmospheric and oceanic circulation. The fundamentals of circulation are essential for anyone interested in understanding the dynamics of the oceans: the fact that they are all interconnected, the general pattern and rate of current movement, their temporal and spacial scales and how these affect coastal States. Finally, consideration will be given to energy in the seas in the form of waves and tides. These considerations are extremely important since they are generally perceived as the way in which energy is transferred from the ocean to the land. Specific examples are storm surges, tidal currents and tsunamis.

Wednesday, June 26

9 A.M. - 12 noon. The third series of lectures and discussions will concern the coastal regions including inland seas, estuaries and the coastline itself. Attention will be given to defining these regions on the basis of their physical differences and especially the way physical processes differ close to shore compared with the open ocean. Specifically, consideration will be given to temporal and spatial scales and their importance when dealing with potential problems along a shoreline. Since estuaries play an important role in transportation, food supply, waste disposal, etc., a short review of estuarine circulation will be attempted.

2 P.M. - 5 P.M. The final set of lectures and discussions will deal with life in the sea. Building on previous discussions, an attempt will be made to show which regions of the world ocean are productive. Attention will be given to the various factors which contribute to this production: including biological, physical and chemical factors. An important point that will be emphasized is that oceanic production is very heterogeneous and that a variety of local factors can have considerable importance, e.g., tidal mixing, local circulation, prevailing winds, orientation of the coastline, fronts, etc. Finally, some attention will be paid to specialized situations such as reefs, upwelling situations, and deep vent communities.

Thursday, June 27

All-day visit to the Bedford Institute of Oceanography.

A.M. an overview of the operation of a major institution devoted to the development of research in all aspects of oceanography and its application to industry and government management.

(a) The nature of marine scientific research, the required support facilities, communications and associations, the international nature of scientific research and its effect on the study of local marine systems and problems, the question of balance between basic and applied research.

(b) Introduction to currently important scientific and management problems seen within the major oceanographic disciplines.

(c) Discussion of ways in which administrators can best utilize scientific expertise to solve problems in the context of both changing social objectives and new scientific insights.

P.M. Participants will visit laboratories to review and discuss particular projects. Attention will be directed to identification of the social motivations and the scientific context of the project, the technologies involved and the expected applications in increased scientific knowledge and effective management. Participants should have a better chance to appreciate the cost of marine scientific research and both the necessity and possibilities for international cooperation.

Speakers and Discussants:

Dr. Alan Longhurst, Director-General of BIO, and members of his staff.

Friday, June 28

9 .M. - 12 noon: .Visit to Dalhousie Ocean Studies Programme. Short address by Professors Gold and Johnston.

P.M. Free for work in the library

2 P.M. - 5 P.M. Free for work in the library

Week 3: National Experience

Case studies. Discussion will cover: national legislation; national institutional arrangements; national ocean policy, and, in each case, an appraisal of achievements, shortcomings, needs (technology; funds; data; personnel, ecc.)

Monday, July 1: National holiday.

Tuesday, July 2:

9 A.M. - 12 noon: Introduction to nationl infrastructure

Speaker: Dr. Jean-Pierre Levy, OETB, United Nations

2 P.M. - 5 P.M.: Workshop. Project Planning.

Workshop leader: Dr. Jean Pierre Levy.

Wednesday, July 3

9 A.M. - 12 noon: Coastal Management

Speaker: Dr. Velimir Pravdic

2 P.M. - 5 P.M. Coastal Management, continued.

Speaker: Dr. Velimir Pravdic.

Thursday, July 4

9 A.M. - 12 noon: National experience in ocean management: the case of Mexico and the Caribbean

Speaker: Dr. Alberto Szekely, Legal Adviser
Ministry for Foreign Affairs, Mexico

2 P.M. - 5 P.M. The case of Indonesia

Speaker: Ambassador Hasjim Djalal of Indonesia

Friday, July 5

9 A.M. - 12 noon: The case of Sierra Leone

Speaker: Ambassador Abdul Koroma, Sierra Leone

2 P.M. - 5 P.M.: the case of Canada

Speaker: Professor Douglas Johnston

Week 4: Regional Cooperation. The Role of
 the "Competent International Orga-
 nisations."

Monday, July 8

9 A.M. - 12 noon: The Regional Seas Programme

Part XII of the Convention provides, for the first time in history, a global comprehensive framework for legislation on the protection and conservation of the marine environment. It does not yet provide an institutional infrastructure for the realisation of the principles and standards established by the Convention. It is left to the specialized agencies (in particular UNEP and IMO) and to regional cooperation to "put teeth" into the general provisions of the Convention. The Regional Seas Programme has begun to articulate the global law in regional terms, responsive to local conditions and needs. since environmental policy must be conceived within the context of ocean management and development, the Regional Seas Programme deals with all uses of the seas in an integrated manner.

Overview of developments until now. Future

trends.

Speaker: Dr. Stjepan Kećkeš, Director Regional Seas Programme

2 P.M. - 5 P.M. The role of IMO. the IMO Conventions on safety of navigation and the protection of the environment against ship-borne pollution

Speaker: Mr. Tom Busha, IMO

Tuesday, July 9

9 A.M. - 12 noon: The Role of UNESCO and IOC. International cooperation in marine scientific research

Speaker: Dr. Mario Ruivo, IOC

2 P.M. - 5 P.M. The Role of the World Bank. The World Bank has made a series of studies on development strategies, including ocean development, and it assists developing countries in financing ocean development projects. This discussion will focus on the ways and means of organising ocean development projects for possible world Bank Financing.

Speaker: The World Bank

The Management of Living Resources

Wednesday, July 10

Fisheries science

9 A.M. - 12 noon: Biological dynamics of the resource: the concept of renewable natural resources, the food chain, relation of fishery

production to primary production, the concepts of maximum and optimum sustainable yield, fluctuating yield, the stock-recruitment problem and the influence of climate.

Speaker: Dr. Lloyd Dickie, BIO.

2 P.M. - 5 P.m. Sustainable levels of yield. Multispecies fisheries, the stock concept and fisheries assessment, abundance vs. availability, yield vs employment. the development of new methods of assessment and prediction, the relation of yield and catch per boat to the level of technology and the total fishing intensity.

Speaker: Dr. Lloyd Dickie, BIO.

Thursday, July 11

Fisheries Economics.

9 A.M. - 12 noon: The social and economic setting of fisheries: The value of landings, the value of exports. the costs of fishing: ownership the resource and the problem of allocation of fishing rights in relation to costs and benefits, inshore fishermen vs. industrial fisheries, national fisheries vs. international quotas, national use vs. foreign exchange, products, storage, transportation and markets.

2 P.M. to 5 P.M. The economic structure of the fishing industries: Independent fishermen vs. cooperative systems, vertical integration, national and international companies. the role of government in maintaining the balance, introducing new methods, products and standards. The development of national fisheries policy and

international relations.

Speaker: Dr. James Crutchfield

Friday, July 12

Monitoring and Surveillance

9 A.M. - 12 noon: Security and surveillance. New problems arise in the EEZ with regard to security, monitoring and surveillance. Technologies and methodologies.

Speaker: Col. Creelman, Deputy Chief of Staff Operations, Marine Command, Dept. of National Defense.

2 P.M. - 5 P.m.: Maritime Surveillance and Enforcement Units.

A tour of the facilities of Canada's Maritime command and its major units. Air, surface, and subsurface platforms and the associated support structures. Depth of involvement and sophistication required to maintain control of the EEZ.

To what extent can developing countries afford the investment in manpower and resources necessary to create and sustain a credible maritime surveillance & enforcement organisation? What are the peripheral benefits of establishing such a force?

Week 5: Management of Living Resources,
 continued.

Monday, July 15

Fisheries Management

9 A.M. - 12 noon: Stock assessment: Introduction

Speaker: Mike Staley, IIASA

2 P.M. - 5 P.M. Stock and Recruitment: Building
an Apple Stock-Recruitment Model

Tuesday, July 16

9 A.M. - 12 noon: Catch effort Analysis

Speaker: Mike Staley

2 P.M. - 5 P.M. Adaptive Management: Feedback
Control; Forecasting; Why Stock Assessment won't
Work; Myths of Fisheries Management

Speaker: Mike Staley

Wednesday, July 17

Fisheries technology

9 A.M. - 12 noon: Detecting
 Catching
 Processing
 Storage & Transport

Speaker: Dr. Gunnar Saetersdal, Norway.

2 P.M. - 5 P.M. Fish Protein and Human Nutrition

Speaker: Dr. Gunnar Saetersdal, Norway.

Thursday, July 18

Aquaculture

8:30 A.M. - 11 A.M.: Aquaculture. Evolution of
- 16 -

aquaculture systems, geographic and species diversity, biological and economic productivity, simple and complex systems; sources of nutrients, waste disposal, special problems in operation and management, social acceptance and economic viability, government incentives, relation to traditional fishing; basic nutrition vs. luxury markets.

Speakers: Professor E.M. Borgese
Dr. Art Hanson

11 A.M. - 12:30 P.M. Visit to Dalhousie University Shellfish Hatchery

2 P.M. - 4 P.M. Visit to Fisheries Department

5:30 P.M. Visit to Sambro Oyster Project. Demonstration of European Flat Oyster culture.

Speaker: Dr. Cathy Enright

Friday, July 19

Round Table discussion with Provincial and Federal officials, representatives of Industry and of Fishermen's organisations on the Canadian Experience; Achievements and problems. Lessons for developing countries.

Saturday, July 20

Trip on a fishing boat.

Week 6 and 7: Oil and Gas

Monday, July 22

General introduction: Worldwide energy demand and supply; energy use projections; the

prospects of offshore oil; historical background of oil industry development.

Basic oil and gas accumulation concepts; origin of oil and gas; sedimentary rock accumulation; geological concepts and principles; source rocks, migrations and traps; geophysical exploration methods; gravity, magnetic, seismic operations and equipment; manpower requirements for geophysical activities.

Tuesday, July 23

Geological exploration methods; sedimentary deposition, lithology; dating, fossils, trends; cores and cuttings analysis; correlations and exploration; introduction to land-based drilling operations; drilling fundamentals; drilling rig components and equipment, cuttings, retrieval, cores; core analysis.

Basic drilling procedures; drill bits, pipe; drilling muds: casing and cementing; logging and testing.

Wednesday, July 24

Field trip to Bedford Institute to review core and cuttings storage area and cataloguing procedures; geological evaluations; manpower requirements.

Basic offshore drilling: vessel types; mooring systems; guideline systems; basic drilling differences to landbased drilling.

specialized offshore equipment: subsea wellhead systems; subsea blow-out preventors; emergency disconnect systems.

Well completions; completion methods; specialised operations and equipment; perforating, packers, tubing; wellheads; emergency shut-downs; specialised services; logging, cementing, testing, safety. Blow-outs and blow-out prevention.

Thursday, July 25

Offshore rig supply and support systems; rig operations; marine crew; drilling crew; computer operations; catering, housekeeping, maintenance; crane operators; supply base; logistics, loading; warehouse; forklifts; cranes; containers; fuel; parts.

Supply vessels and workboats; cargo area; anchor handling; loading, offloading.

Field trip to oil company offshore supply base and supply boat.

Friday, July 26

Communications: rig positioning logistics; navigational; ship to shore, telecommunications; weather broadcasts; production facilities; telemetry. Other offshore support manpower and skills requirements to operate and support an offshore drilling operation.

Field production operations; separators, treaters, dehydrators, compressors, pumps; production platforms, selection criteria, costs, economics.

Transportation and refining; crude oil

transportation by pipelines and tankers;
refinery consideration and basic process.

Field trip to refinery facilities.

Saturday, July 27

A field trip to an offshore rig (weather permitting and arrangements successful).

Co-ordinators
July 22-27

Mr. B.N. McLean
N.S. Inst. of Technology

Mr. G.D. Sutherland
Geofossil Canada Ltd.
Calgary, Alberta

Monday, Tuesday and Wednesday, July 29, 30 and 31

Environmental Control and Considerations

- Introduction to environmental considerations
- Petroleum hydrocarbon chemistry, toxicity
- Effects of pollutants in oceans
- Impact of oil pollution on fisheries
- Remedial measures to combat oil spills;
dispersants; sinkants; clean-up apparatus,
applications
- Contingency Plans
- Regulations, impact assessments
- Case histories
- Coastal Management: Environmental control
model participation exercise

Co-ordinators:

Dr. J.H. Vandermeulen
Marine Ecology Lab.

BIO

Mr. C.W. Ross
Senior Environmental
Co-ordinator
Mobil Oil Canada Inc.
Halifax, N.S.

Thursday, August 1

9 A.M. - 12 noon: The Social impact of oil on coastal communities

Identification and measurement of socio-economic impact, desired objectives; financial balance sheets and the quality of life; the cycle of on-shore impacts; national and local strategies for responses to offshore developments; coping with impacts -- reactions of the offshore operators. Case study: Offshore production and small coastal communities.

Speaker: Professor Leonard Kasdan, Dalhousie University

2 P.M. - 5 P.M. Films and discussion.

Friday, August 2

9 A.M. - 12 noon: The structure of the industry
The role of the multinational oil companies, methods of operation, internal organisation, patterns of relations with host countries, ownership and payment arrangements with host countries, nationalisation and its effects; employment and training of host-country nationals; the evolution of OPEC and its interaction with the oil companies.

What are the costs and benefits to a developing country for developing an association with a multinational oil company to exploit offshore economic zone petroleum resources? How can this economic, political, and contractual relationship be structured to maximize benefits to the host country?

Speaker: Professor Robert Meagher
Fletcher School of Law &
Diplomacy

2 P.M. - 5 P.M. Alternative models.

Controlled vs. maximal production development; internalization of technology vs. continued dependence on foreign companies. The British, the Norwegian, the Venezuelan, the Indian model.

Speaker: Professor Robert Meagher.

Week 8: Offshore Minerals, Shipping & Navigation

Monday, August 5

9 A.M. - 12 noon: The Economics of Ocean Mining. the mining of metals and minerals from the ocean --whether in areas under national jurisdiction or in the international area -- may, in the future, have a major impact on mineral markets and on the economy of developing countries which produce, on land, the same minerals that will be extracted from the oceans. the U.N. Convention on the Law of the Sea has tried to cope with these problems in various ways. The Preparatory Commission, established by UNCLOS III, has to adjust the measures prescribed by the Convention to the changing reality.

Speaker: Mr. Ni Odunton, OETB

2 P.M. - 5 P.M. Project preparation, Library work.

Tuesday, August 6

9 A.M. - 12 noon: Offshore minerals. A survey of mineral exploration, near shore and on the deep sea floor. The polymetallic nodules. Recent discoveries of polymetallic sulphides. Scientific, economic and legal implications.

Speaker: Dr. Alexander Malahoff, NOAA.

2 P.M. - 5 P.M. Offshore minerals: Technology. The state of the art. Keeping pace with the offshore oil production technology, ocean mining technology has made dramatic steps forward, during the past decade, into deeper waters farther from shore. While deep-sea mining technology is still in an R&D stage, the offshore mining of tin, especially in Southeast Asia, has become a major economic factor. Technologies range from fairly simple to highly sophisticated.

Speaker: David Pasho. Energy & Mines, Canada.

Wednesday, August 7

9 A.M. - 12 noon: The Economics of shipping.

Sea-borne trade is a factor of crucial importance in development strategy. The current dramatic changes in the shipping industry may offer possibilities for a restructuring increasing the participation of developing countries.

Speaker: Awny Behnam, UNCTAD

2 P.M. - 5 P.M.: Vessel Traffic Management. Navigational Aids. Traffic congestion near ports, in straits and crowded sea lanes, require traffic safety regulations, in accordance with the provisions of the U.N. Convention on the Law of the Sea.

Legal, institutional, and technical aspects of traffic regulation will be discussed.

Speaker: Professor Edgar Gold

Thursday, August 8

9 A.M. - 12 noon: Field trip: The Halifax-Dartmouth Port Complex -- Modern Vessel Control and Cargo Handling.

(1) Visit to the ECAREG Control Centre, vessel status & pollution control in the EEZ; (2) a tour of the Port Cargo Handling facilities for vehicle traffic at Autoport and Container Cargo, Halterm; (3) Visit to Halifax Traffic Control, a modern port vessel traffic management (VTM) centre.

2 P.M. - 5 P.M. Port Management. Technological, economic, environmental aspects.

Inefficiency in port management; lack of up-to-date loading and unloading technology; failure to adjust to new integrated multi-modal systems of transportation have led to port congestion in many developing countries entailing tremendous losses in time and money and often spoilage of perishable goods. UNCTAD has developed audio-visual material to demonstrate deficiencies and remedies.

Speaker: Awny Bahman, UNCTAD.

Friday, August 9

9 A.M. - 12 noon: Flags of Convenience. Liner Conferences. Code of Conduct.

The United Nations Convention on a Code of Conduct for Liner Conferences entered into force in October, 1983. This has a number of implications for, and offers new opportunities to, developing countries. An institutional machinery will have to be established to implement article 46 of this Convention. Developing countries will have to increase substantially their shipping tonnage in order to carry their equitable share of liner cargoes generated by their trade. Developing countries need more technical assistance to implement the provisions of the Convention. The implications of the Code of Conduct will be analysed from the point of view of the participants' home countries.

Speaker: Awni Behnam, UNCTAD

P.M. Free for Project work and Library

Week 9: Offshore Labour, Health and Safety
 Simulation Exercise

Monday, August 12

9 A.M - 12 noon: The protection of offshore labour. In many countries, the rights of offshore workers are not protected the same way as they are on land, while hazards and hardships are greater than on land. The offshore working environment; types of labour required;

recruitment; training needs; compensation; Labour organizations and relations with management; national regulations and standards; utilization of foreign nationals; international organisation. The International Labour Office (ILO) has begun to elaborate international standards for the regulation of offshore labour. the implementation of such standards requires national legislation as well as international cooperation and is an essential component of a New International Economic Order.

Speaker: P. Gopinath, ILO

2 P.M. - 5 P.M.: Offshore Labour: Health and Safety

Dangers to the work force in marine environments; the SOLAS Convention; standards for equipment and life-saving devices; deep-sea diving safety problems; accident investigations; injury compensations.

How may the developing nations protect the health and welfare of the offshore workers:

Speaker: Dr. James Holland
Offshore Medical Advisor.

Tuesday, August 13

9 A.M. - 12 noon: Contract Negotiations. The intensification and diversification of ocean uses generates new relationships with foreign and multinational entities. To maximize benefits for their own populations, developing countries must develop new skills in contract negotiation.

Briefing for simulation exercise.

Speaker: Professor Gilbert Winham
Dalhousie University

Wednesday, August 14 and
Thursday, August 15

All day: Simulation Exercise

Friday, August 1

Free for preparation of Reports

Week 10: Reports and Awards

Monday, August 19 and
Tuesday, August 20

All day: Country Reports by participants

Wednesday, August 21 and
Thursday, August 22

Special Reports: Research Projects
by Participants

2 P.M. - 5 P.M. Programme Evaluation
by Participants. Suggestions for
future programmes

Friday, August 23

10 A.M. - 12 noon: Closing Ceremony
at McMechan Auditorium, Killam Library.

Award of Certificates.



International Ocean Institute

P.O. Box 524 Valletta - Malta

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TRAINING PROGRAMME

IN THE

MANAGEMENT AND CONSERVATION OF MARINE RESOURCES

CLASS C: THE MEDITERRANEAN

Activity Brief

<u>Title:</u>	Training Programme, Class C 1985
<u>Collaborating Institutes:</u>	International Ocean Institute (IOI) International Center for Public Enterprises in Developing Countries (ICPE)
<u>Duration:</u>	Ten weeks: September 16 - November 23, 1985.
<u>Arrival:</u>	September 15, 1985
<u>Inauguration:</u>	September 16, 1985
<u>Departure:</u>	November 24, 1985
<u>Venue:</u>	Ljubljana, Yugoslavia
<u>Language:</u>	English
<u>Course Director:</u>	Žiga Vodusek
<u>Executive Director:</u>	F.C. Vanderbilt
<u>Assistant Director:</u>	



International Ocean Institute

P.O. Box 524 Valletta - Malta

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TRAINING PROGRAMME, CLASS C 1985

Introduction

Technological change and political and legal developments during the second half of the twentieth century have basically transformed the uses of the oceans and the role of ocean space and resources in the political and economic life of the world community and of every State. The new marine sciences have opened new perspectives of our planet and of man's place on it. The penetration of the industrial revolution into the oceans has added a new dimension to development strategy, and the United Nations Convention on the Law of the Sea, adopted in 1982 and signed by 159 States, could, if properly implemented and utilized, constitute the first building block of a new international order, including a new international economic order.

New concepts such as "integrated ocean management," new methodologies to calculate the contributions of the marine sector to GNP; new economic theories, aiming at a synthesis between economy and ecology, are emerging.

All this requires a new type of civil servant and a new type of manager, at home both in the natural and the social sciences, in the management of high technology, the management of the environment, and the management of multinational human resources.

It is in this context that the IOI has been organising a series of training programmes in the management and conservation of marine resources, designed especially for civil servants and managers from developing countries. Three types of programmes have been conducted: Class A deals with all forms of ocean mining (including offshore oil); Class B is devoted to the issues of Economic Zone management, and Class C covers all uses of the sea in a particular oceanic region, for participants only from that region. Such regional courses have been conducted in the Indian Ocean, in

North & Central Africa, in the South Pacific, and in the Caribbean.

All these oceanic regions are bordered by developing countries. The Mediterranean programme, in this respect, is different from all other Class C programmes: The Mediterranean Sea is bordered by developed as well as developing countries, of all shades of social and economic organisation. Not a single State in the Mediterranean is considered among the poorer nations of the world. The Mediterranean exhibits the most advanced marine uses: Transportation; fishing; oil and gas; mineral mining; fresh water extraction; marine archeology; tourism -- to name the most important ones. One-third of the world's tourism is attracted to the shores of the Mediterranean. The largest concentration of naval power is in the Mediterranean. The most advanced marine environmental programmes have been developed here. Some of the largest genuine ship-owners are Mediterranean.

The Mediterranean coastal States have extensive marine skills, thanks to their historic links to the sea. This makes the Mediterranean training programme more advanced than the other IOI training programmes: because the region is more advanced.

Most marine resource management problems in the Mediterranean can only be solved on a regional basis. This will provide a focus for the programme. We shall attempt to discover the common interests of developed and developing States in the management and conservation of marine resources. The Mediterranean is a microcosmos, a world community in a nutshell. If cooperation between developed and developing countries in marine resource management can be achieved in the Mediterranean, if new forms of scientific/industrial organisation can be created here, prospects will be brighter for the world as a whole.

The Regional Seas Programme started in the Mediterranean, and now practically covers the world ocean

with its networks of cooperation and organisation. The Mediterranean peoples may be called upon to play a pioneering role in ocean management as a whole, in developing the kind of contribution ocean management can make to the building of a better world.

The programme will focus on Mediterranean problems, in particular:

- the new context created by the Convention on the Law of the Sea;
- the Regional Seas Programme in the Mediterranean;
- fisheries;
- tourism;
- shipping and navigation;
- military uses;
- maritime boundaries and zones;
- management schemes;
- organisation of multiple marine uses;
- marine development planning;
 - national legislative needs;
 - national institutional needs;
 - national marine policy formulation;
- bilateral/multilateral cooperation structures and levels of cooperation;
- organisation of information processes.

- case presentation;
- group session;
- field trips;
- simulation exercises;
- report presentations by participants.

Participative and problem-oriented lectures

Lecturers/discussion leaders will be drawn largely from the Mediterranean region, both from developed and developing countries. A few lecturers come from the international organisations, including the United Nations, with activities in the Mediterranean. In the field of some special expertise, lecturers/discussion leaders come from other regions of the IOI network. participants will be organised in discussion groups. Each group, by rotation, will select the chairman and a discussant for each session. Each participant will have the opportunity of chairing at least one or two discussion sessions, commenting on the presentation by the discussion leader as a discussant, and present his/her country's experience with regard to ocean affairs.

Case method

Case studies from different countries will be presented to analyse marine policy and management practices in countries of different stages of development and with different economic interests, to assist participants in the preparation of their own presentations.

Country Reports

Each participant is requested to prepare a country report related to (marine legislation in his or her country; (b)

Objectives

The basic purpose of the programme is to improve the analytic competence of the participants on issues relating to ocean management, performance improvement approaches and strategic management techniques. Specifically, the objectives of the programme are the following:

(a) to familiarize the participants with all the major uses of the marine environment and its resources in their interaction and with a systems approach to management;

(b) to stress the comunality of interests between developed and developing countries in ocean management;

(c) to assist participants in the ongoing process of harmonizing national legislation and integrating the policies of national and international institutional structures to maximize the contribution of the marine sector to GNP, with due consideration for the conservation of marine resources and the marine environment.

The programme will therefore present a blend of policy-making and managerial concerns, with emphasis on the economic/ecological, legal and technological macro-environment in which marine resource management has to function, as well as on the different managerial processes and alternatives at the amicro level.

Methodology

The programme structure itself will reflect the methodology it attempts to convey to the participants on marine resource management and marine policy making. This methodology will be based on

- participative and problem-oriented lecturing;
- case method;

institutional infrastructure; (c) resource basis; (d) marine policy making; (e) regional cooperation mechanisms; (f) contribution of the marine sector to GNP. These reports will be presented and discussed during the final week of the programme.

Participants should bring with them the necessary background material such as national legislation, national development plan, and statistical data on marine resources. In the preparation of their reports they also will benefit from the voluminous background reading material especially prepared for this programme.

Group Sessions

A "resource person" from faculty will be assigned to each group to facilitate the discussion of topics and issues. Group discussions will be linked to the subject(s) of the week's programme and should result in the drafting of a weekly summary of issues, information, and recommendations.

Field trips

Participants will visit the most important sites of marine enterprises in offshore oil, fisheries, aquaculture, naval construction, etc., and have the opportunity for discussions with managerial personnel.

Report presentation

Besides individual country reports, participants will be required to prepare one group report incorporating the information presented during the entire programme, raising the major issues that have emerged, drawing conclusions and attempting some policy recommendations of their own.

Simulation exercise

An exercise simulating a contract negotiation or boundary negotiation in which participants will be assigned the roles

of various negotiators, will be conducted towards the end of the programme. Participants will be shown the use of computers as aids in negotiation.

Participants

The programme is intended for mid-career civil servants from all government branches involved in one way or another in marine affairs (Foreign Affairs, Agriculture/Fisheries; Mines & Energy; Science & Technology; Shipping and Navigation; Ports & Harbours; Coastguards & Navy; Tourism; Environment, etc.)

Countries

The countries to be invited are:

Algeria, Cyprus, Egypt, France, Greece, Italy, Jordan, Lebanon, Lybia, Malta, Monaco, Morocco, Spain, Syria, Turkey, and Yugoslavia.

Duration

The duration of the programme will be ten weeks.

Daily Schedule

There will be four sessions of one and a half hour each, Mondays through Fridays. In addition there will be some evening lectures on selected days. The discussion leader will be given about 45 minutes for his presentation in each of the sessions; the discussant, about 10-15 minutes, and the remaining time will be reserved for general discussion.

The daily schedule will be as follows:

Session I: 09:00 - 10:30

Break: 10:30 - 10:45

Session II: 10:45 - 12:15

Lunch: 12:30 - 14:00

Session III: 14:00 - 15:30

Break: 15:30 - 15:45

Session IV: 15:45 - 17:15

Evaluation

An appropriate questionnaire will be distributed to the participants before the closing session for programme evaluation and feedback.

COURSE SYNOPSIS

- Week 1: Introduction to the programme. Introduction to Oceanography
- Week 2: Introduction to the Law of the Sea
- Week 3: National context of marine development and management
- Week 4: The role of the public sector in marine resource management and development
- Week 5: Marine uses of the Mediterranean:
Living Resources
- Week 6: Marine uses of the Mediterranean:
Nonliving Resources.
- Week 7: The protection of the environment
- Week 8: Shipping and navigation
- Week 9: Regional marine organisation and cooperation
Negotiation theory and simulation exercise
- Week 10: Participants' reports, final symposium, award of certificates.



International Ocean Institute

P.O. Box 524 Valletta - Malta

Cables: Interocean

COURSE DRAFT SYLLABUS

TRAINING PROGRAMME, CLASS C

September 16 - November 23, 1985

Week 1: Introduction to the programme. Introduction to Oceanography

Monday, September 16

9 A.M. Registration; collection of documents and materials

10 A.M. Inauguration at the auditorium of the ICPE.

Welcome. Director Dr. Žiga Vodusek

The International Ocean Institute
Professor Elisabeth Mann Borgese

The Training Programme
Course Director

Key-note address: The Growing Importance of the Oceans
in World Economics and Politics
Dr. Anton Vratuša

1 P.M. Luncheon

3 P.M. - 5 P.M. discussion with participants. The syllabus: questions and suggestions. Organisational and administrative questions.

Tuesday, September 17 and

Wednesday, September 18 Introduction to Oceanography

Coordinator: Professor Robert Fournier, Vice President for

Research, Dalhousie University

Note

In the following set of four lecture and discussion sessions, an attempt will be made to define terms and describe large-scale phenomena, i.e., to show the various interrelationships that exist across the globe. This will be followed by a narrowing of the view so as to focus on processes which operate close to shore or on the continental shelves. The goal will be to give some basic principles and examples which would be useful to the non-scientist as a means of putting potential problems dealing with resource exploitation or conservation and pollution in their proper oceanic context.

Tuesday, September 17

09:00 -10:30 and 10:45 - 12:15: The oceanography lectures begin with an overview of the major features of the ocean basins. this is a descriptive look at the sea floor showing the relationship of various important features such as the position of mid ocean ridges, continental margins and other topographic features. Any future consideration of ocean dynamics (e.g., circulation) requires a knowledge of the basin in which the fluid resides. also, consideration of various resources depends on some knowlede of their location. Following this descriptive overview, consideration will be given to the dynamics of sea floor spreading, continental drift and plate tectonics. This will not be an attempt to provide detial on these processes but rather to show how over the past 150 million years they have contributed and continue to contribute to marine resources caluable to man (e.g., oil on the continental shelves or metal deposits at hydrothermal vents). Finally, a brief review of sedimentary processes will be important as a means of understanding river input to continental shelves, sediment transport along coast

lines and deep sea deposits such as manganese nodules. In general, this initial consideration of the sea floor should provide a basic overview of that part of the earth which must be considered in the context of the new United Nations convention on the Law of the Sea.

14:00 - 15:30 and 15:45 - 17:15: The second series of lectures and discussions will deal with sea water itself, as a precondition to understanding both physical and biological processes. Attention will be devoted to residence in time in the context, e.g., of possibly following pollution, the heat capacity of water and the ocean/atmosphere link as a means of understanding both atmospheric and oceanic circulation. The fundamentals of circulation are essential for anyone interested in understanding the dynamics of the oceans: the fact that they are all interconnected, the general pattern and rate of current movement, their temporal and spatial scales and how these affect coastal States. Finally, consideration will be given to energy in the sea in the form of waves and tides. These considerations are extremely important since they are generally perceived as the way in which energy is transferred from the ocean to the land. Specific examples are storm surges, tidal currents and tsunamis.

Wednesday, September 18

09:00 - 10:30 and 10:45 - 12:15: The Third series of lectures and discussions will concern the coastal regions including inland seas, estuaries and the coastline itself. Attention will be given to defining these regions on the basis of their physical differences and especially the way physical processes differ close to shore compared with the open ocean. Specifically, consideration will be given to temporal and spatial scales when dealing with potential problems along a shoreline. Since estuaries play an important role in transportation, food supply, waste disposal, etc., a short review of estuarine circulation will be

made.

14:00 - 15:30 and 15:45 - 17:15: The final set of lectures and discussions will deal with life in the sea. Building on previous discussions, an attempt will be made to show which regions of the world ocean are productive. Attention will be given to the various factors which contribute to this production: including biological, physical and chemical. an important point that will be emphasized is that oceanic production is very heterogeneous and that a variety of local factors can have considerable importance, e.g., tidal mixing, local circulation, prevailing winds, orientation of the coastline, fronts, etc. Finally, some attention will be paid to specialized situations such as reefs, upwelling situations, and deep vent communities.

Thursday, September 19

09:00 - 10:30 and 10:45 - 12:15: Oceanography of the Mediterranean Basin. Marine Geology. Distribution of nonliving resources.

Speaker: Dr. Bosko Lonkarević, BIO, Canada

14:00 - 15:30 and 15:45 - 17:15: The Marine Biology of the Mediterranean. Distribution of ecosystems and living resources.

Speaker: Dr. Jose Stirn

Friday, September 20

09:00 - 10:30 and 10:45 - 12:15: Physical geography of the Mediterranean region. Coastal geography. River systems. Climatology, etc.

14:00 -15:30: Human and economic geography of the Mediterranean region.

Speaker: Dr. Giuseppe Barbieri, University of Florence

15:45 - 17:15 Group Sessions

Week 2: Introduction to the Law of the Sea

Monday, September 23

09:00 - 10:30 and 10:45 - 12:15: A brief overview of developments leading up to UNCLOS III.

Speaker: Dr. Budislav Vucas

14:00 - 15:30 and 15:45 - 17:15: Inventory of the Mediterranean Law of the Sea

Speaker: Dr. Budislav Vucas

Tuesday, September 24

09:00 - 10:30 and 10:45 - 12:15: Analysis of the main provisions of the Convention: Marine zones: Territorial sea, contiguous zone, exclusive economic zone, continental shelf, high seas, international seabed area; limits of maritime zones. The regime of landlocked and geographically disadvantaged States. The regime of enclosed and semi-enclosed seas.

Speaker: Dr. Vladimir Ibler.

14:00 - 15:30 and 15:45 - 17:17: Workshop on maritime zones and boundaries in the Mediterranean.

Workshop leader: Aldo Chircop, Malta. (Dalhousie Law School.

Wednesday, September 25

09:00 - 10:30 and 10:45 - 12:15: Part XII, XIII and XIV of the U.N. Convention. Environmental law : Global background.

Marine Scientific Research and Transfer of Technology.

Speakers :Prof. Alexander Yankov and DR. Budislav Vukas

14:00 - 15:30 and 15:45 - 17:15: Mediterranean environmental law: Global treaties applicable to the Mediterranean. the Barcelona Convention and its Protocols.

Speaker: UNEP

Thursday, September 26

09:00 - 10:30 and 10:45 - 12:15: The legal regime of offshore oil and gas development.

Speaker: Dr. Fabrizio Bastianelli, ENI

14:00 - 15:30 and 15:45 - 17:15: The legal regime of fisheries

Speaker: Tullio Scovazzi, Italy

Friday, September 27

09:00 - 10:30 and 10:45 - 12:15: The legal regime of navigation

Speaker: Dr. Budislav Vukas

14:00 - 15:30: The Preparatory Commission and bringing the Convention into force.

Speaker: Egypt and Yugoslavia

15:45 - 17:15: Group Sessions

Week 3: National Context of Marine Development and Management

Monday, September 30

09:00 - 10:30 and 10:45 - 12:15: Introduction to marine development and management: Multiple uses of ocean space and resources. Conceptual framework

Speaker: Dr. Douglas Johnston, Dalhousie Ocean Studies Programme.

14:00 - 15:30 and 15:45 - 17:15: National marine policy formulation.

Speaker: Dr. Jean-Pierre Levy, OETB, United Nations

Tuesday, October 1

09:00 - 10:30 and 10:45 - 12:15: Legislative responses to marine development and management needs, and international obligations.

Speaker: Dr. Jean-Pierre Levy.

14:00 - 15:30 and 15:45 - 17:15: Marine institutional infrastructure needs.

Speaker: Dr. Jean Pierre Levy.

Wednesday, October 2

09:00 - 10:30 and 10:45 - 12:15: Ocean economics: The contribution of marine sector to the GNP.

Speaker: OETB

14:00 - 15:30 and 15:45 - 17:15: Marine development strategy: case study. The case of Yugoslavia

Speakers: teamwork, coordinated by Zagreb University

Thursday, October 3

0:00 - 10:30 and 10: 45 - 12:15: Marine development
strategy: case study: France

Speaker: France

14:00 - 15:30 and: Marine development strategy: case
study: Algeria

Speaker: Algeria

Evening: Lecture by M. Bedjaoui on the Common Heritage
of mankind

Friday, October 4

Field trip

Week 4: The Role of the Public Sector in Marine Resource
Development and Management

Coordinator: ICPE

Week 5: Marine uses of the Mediterranean: Living Re-
sources

Monday, October 7

09:00 - 10:30 and 10:45 - 12:15: Marine scientific
research on living resources in the Mediterranean

Speaker: Dr. Sidney Holt

14:00 - 15:30 and 15:45 - 17:15: Introduction to
fishing and fisheries industries in the Mediterranean

Speaker: FAO-GFCM

Tuesday, October 8

09:00 - 10:30 and 10:45 - 12:15: Patterns of fisheries

economics and trade in the Mediterranean

Speaker: FAO

14:00 - 15:30 and 15:45 - 17:15: Fisheries Management

Speaker: Dr. Geoffrey Kesteven

Wednesday, October 9

09:00 - 10:30:30 and 10:45 - 12:15: Highly Migratory species in the Mediterranean.

Speaker: FAO-GFCM

14:00 - 15:30 and 15:45 - 17:15: Coastal fisheries in the Mediterranean: Artisanal fisheries and coastal communities.

Speaker: Dr. Hedia Baccar, Tunisia

Thursday, October 10

09:00 - 10:30 and 10:45 - 12:15: Foreign fishing in areas under national jurisdiction

Speaker: Dr. Tambina, Yugoslavia

14:00 - 15:30 :Aquaculture: A Global perspective

Speaker: Dr. Pillay, FAO

15:45 - 17:15: Group Sessions

Evening: Lecture by Dr. Pillay

Friday, October 11

Field trip to aquaculture facilities (Split)

Week 6: Nonliving Resource

Monday, October 14

09:00 - 10:30 and 10:45 - 12:15: Marine scientific research and the exploration and exploitation of the continental shelf

Speaker: IOC/CNEXO

14:00 - 15:30 and 15:45 - 17:15 Rigs and installations. State-of-the-art technology.

Speaker: A. Subelj, Mining Institute of Ljubljana

Tuesday, October 15

09:00 - 10:30 and 10:45 - 12:15: Rigs and installations -- jurisdictional problems. Overlap with fishing and navigation. Offshore safety.

Speaker: IIan Townsend Gault, U.K. *Deputy Director, Mediterranean Program*
2 P.M. - 5 P.M. the prospects for the mining of solid minerals in the Mediterranean.

Speaker: Brambati, Italy

Wednesday, October 16

09:00 - 10:30 and 10:45 - 12:15: The changing structure of the petroleum industry. Petroleum industry in the Mediterranean.

Speaker: Dr. Robert Meagher, Fletcher Institute of Law and Diplomacy

14:00 - 15:30 and 15:45 - 17:15: The future of the oil economy

Speaker: Dr. Robert Meagher
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Thursday, October 17

09:00 - 10:30: Submarine cables and pipelines in the Mediterranean

Speaker: A Subelj.

10:45 - 12:15: Tanker Traffic in the Mediterranean. Economic and ecological aspects

Speaker: Captain Cockroft

14:00 - 15:30: Tanker traffic in the Mediterranean: continued.

15:45 - 17:15: Group sessions

Friday, October 18

All-day trip to offshore platform.

Week 7: The Protection of the Environment

Monday, October 21

09:00 - 10:30 and 10:45 - 12:15: Marine uses hazardous to the marine environment: state of pollution of the Mediterranean

Speaker: Dr. Mohammed Kassas, Egypt

14: 00 - 15:30 and 15:45 - 17:15: Pollution from land-based sources. Technological means for pollution abatement. Cost/benefit analysis.

Speaker: UNEP

Tuesday, October 22

09:00 - 10:30 and 10:45 - 12:15: vessel-borne pollution

Speaker: HELMEPA

14:00 - 15:30 and 15:45 - 17:15: Tourism: Economic and ecological impact in developed and developing countries.

Speaker: Schaffner, UNESCO

Wednesday, October 23

09:00 - 10:30 and 10:45 - 12:15: Marine Parks in the Mediterranean

Speaker: Dr. Peter Dohrn

14:00 - 15:30 and 15:45 - 17:15: Marine Archeology in the Mediterranean

Speaker: Dr. George Bass

Thursday, October 24

09:00 - 10:30 and 10:45 - 12:15: The management of the environment

Speaker: Dr. Velimir Pravdić, Rudjer Bosković Institute

14:00 - 15:30: Coastal Zone use and Management: an integrated model.

Dr. Velimir Pravdić

15:45 - 17:15: Group sessions

Friday, October 25

Field Trip

Week 8: Shipping and Navigation

Monday, October 28

09:00 - 10:30 and 10:45 - 12:15: The economics of shipping. The state of the ship-building industry in developed and developing countries. Shipyards in the Mediterranean.

Speaker: HELMEPA

14:00 - 15:30 and 15:45 - 17:15: Vessel Traffic Management. Navigational aids. Traffic congestion near ports, in straits and crowded sea lanes, requires traffic safety regulation, in accordance with the provisions of the U.N. Convention on the Law of the Sea. Legal, institutional, and technical aspects of traffic regulation.

Speaker: Dr. Edgar Gold, Dalhousie Ocean Studies Programme.

Tuesday, October 29

09:00 - 10:30 and 10:45 - 12:15: Port Management: Technological, economic, environmental aspects.

Speaker: Dr. Awni Behnam, UNCTAD

14:00 - 15:30 and 15:45 - 17:15: Flags of Convenience. Liner Conferences. Code of Conduct. What are the common interests of developed and developing countries in the Mediterranean?

Speaker: Dr. Awni Behnam.

Wednesday, October 30

09:00 - 10:30 and 10:45 - 12:15: the economic impact of
- 23 -

containerisation on developed and developing Mediterranean countries

Speaker: Awni Behnam

14:00 - 15:30 and 15:45 to 17:15: Military uses of the Mediterranean Sea (coastal States).

Speaker: Branko Branković

Thursday, October 31

09:00 - 10:30 and 10:45 - 12:15: Military uses of the Mediterranean Sea (extra-Mediterranean States)

Speaker: U.K.

14:00 - 15:30: National Security of Mediterranean States. Monitoring and surveillance. The economy of multi-purpose forces.

Speaker: Italy

Friday, November 1

Field trip.

Week 9: Regional Marine Organisation and Cooperation

Monday, November 4

09:00 - 10:30 and 10:45 - 12:15: The need for regional cooperation in the Mediterranean. The inadequacy of EEZ as management units in the Mediterranean. Regional and bilateral arrangements for fisheries management. Scientific cooperation. Common management zones.

Speaker: Professor Peter Serracino Inglott, Malta

14:00 - 15:30 and 15:45 - 17:15: A survey of regional

organisations in the Mediterranean. Their achievements.
Their problems.

Speaker: Professor Serracino Inglott.

Tuesday, November 5

09:00 - 10:30 NS !):45 - 12:15: Inter-organisational
cooperation. Schemes of institutional integration for
the management of marine space and resources. Actuality
and potential.

Speaker: Professor Serracino Inglott.

14:00 - 15:30 and 15:45 - 17:15: Management of inter-
national marine conflicts - case studies

Speaker: Professor Gaetano Arangio-Ruiz, Italy

Wednesday, November 6

09:00 - 10:30 and 10:45 - 12:15: Negotiation Theory

Speaker: Professor Gil Winham, Dalhousie University

14:00 - 15:30 and 15:45 - 17:15: Introduction of
simulation exercise.

Speakers: Professor Gil Winham and Mike Staley

Thursday, November 7 and
Friday, November 8

Simulation exercise.

Week 10: Paritipants Reports. Final Symposium. Award of
Certificates

Monday, November 11 and
Tuesday, November 12

Free, for completion of reports.

Wednesday, November 13, and
Thursday, November 14

Presentation of Participants' Country Reports.

Friday, November 15

Final Symposium. Presentation of Participants' Group
Report. Discussion of Report by a Group of Experts.
Conclusions and Recommendations. Award of Certificates.

ANNEX 2

Classes A and B, selected list of lecturers



International Ocean Institute

P.O. Box 524 Valletta - Malta

Cables: Interocean

Professor Bernhard Abrahamsson, Graduate School of Internat.
Studies, ZUniversity of Denver

Dipl.-Geol. Eberhard von Alten, Inst. for Tech.& Ec.
Cooperation, University of Aachen

DR. E. Akyuz, FAO

Ambassador J. Alan Beesley, Canada

Mr. Awni Behnam, UNCTAD

Dr. Erich Blissenbach, Preussag AG. Hannover, FRG

Dr. E.D. Brown, U.K.

Dipl. Betriebswirt Klaus W. Bubeck, Thyussan AG, ESsen FRG

Mr. Thomas Busha, IMO

Dr. Barry Buzan, Canada

Dr. Roger Charlier, Free University, Brussels

Mr. Pierre Comeau, Dept. of fisheries and Oceans, Canada

Dr. A.D. Couper, UWIST, U.K.

Col. Creelman, Deputy Chief of Staff-Operations, Marine
Command, Dept. of National Defence, Canada

Mr. Graham Day, Dome Shipyards, Calgary, Alberta,
Canada

Professor John Dean, University of South Carolina

Dipl.-Ing. Franz Diederich, Inst. for Int'l Technical & Ec.
Cooperation, University of Aachen

Mr. Larry Edelstein, Fed. Ocean Industries Development,
Canada

Les Foster, Dalhousie Law Library, Canada

Professor Ernst Frankel, Mass. Institute of Technology

Dip. Ing. Johann R. Frey, Deutsche Babcock anlagen, AG, FRG

Dr. Günther Friedrich, Inst. for Minealogy and Economic
Geclogy, University of Aachen

Vice Admiral J.A. Fulton, Maritime Command, Dept. of
National Defence, Canada

Professor Gerhard Hafner, University of Vienna, Austria

Dipl. Ing. Udo Hahlbrock, O&K Orenstein & Koppel AG, Lübeck,
FRG

Dr. Wolfgang Hauser, Inst. for Foreign and Internat. Trade
Law, Frankfurt, FRG

Mr. T.P. Higgins, Lockheed Missiles & Space Co.Inc. Cali-
fornia

Prof. Dr. Ing. Heinz Hoberg, Instit. for Mineral Processing,
Coking and Briquetting, University of Aachen

Dr. James Holland, Offshore Medical Advisor, Dalhousie
University, Canada

Dr. Sidney Holt, U.K.

Prof. David Huntley, Oceanography, Dalhousie University

Dr. S.P.Jagota
House No. 748, Sector 14
Gurgaon, Haryana
India

Dr. Edgar Gold, Dalhousie Ocean Studies

Dr. Douglad Johnston, Dalhousie Ocean Studies

Dr. Ludwig Karbe, University of Hamburg

Prof. Leonard Kasdan, Dalhousie University, Canada

Dr. Stjepan Kečkeš, Director, Regional Seas Programme UNEP

Mr. P. Kirthisingha, UNCTAD

Prof. Dr. Ing. Konstantin Kokkinowrachos, Ocean Engineering
Division, University of Aachen

Mr. A. Körner, Prakla-Seismos GmbH, Hannover, FRG

Ambassador Abdul Koroma, Sierra Leone

Dr. Joachim Krüger, Inst. for Non-ferrous and Electrometal-
lurgy, University of Aachen

Dr. Marc Lador, Petroconsultants, SA, Geneva

Dr. J. Lange, Preussag AG, Hannover, FRG

Mr. Arthus Laurenson, Lerwick Harbour Trust, Shetland

Mr. Norman Letalik, DOSP, Canada

Dr. Detlev Leythaeuser, Inst. of Chemistry, Jülich, FRG

Professor Dr. K. Lillelund, Acting Director of Inst.
of Hydrobiology and Fisheries Research, University
of Hamburg

Dr. John Lindsay, Exxon Production Research, Houston, Texas

Dr. Bosko Loncarevic, BIO, Canada

Dr. Peter Lonsdale, Scripps Institute of Oceanography

Dr. Allan Longhurst, BIO, Dartmouth, N.S.

Mr. K. Lück, Preussag AG, Hannover, FRG

Dr. Alexander Malahoff, NOAA, USA

Dipl. Min. J. Martin, Inst, for Mineralogy & Ec. Geology
University of Aachen

Prof. Michael Mccguire, Brookings Institution, Washington,
D.C.USA

Mr. Ted McDorman, DOSP, Canada

Mr. Allen McIver, Environment, Canada

Mr. Barry N. McLean, Nova Scotia Inst. of Technology,
CanadaDr.

Ms Terry McLellan, Director of Corporate Affairs, DEVCO,
Sydney, NS, Canada

Mr. Jim McLevey, Training director, Nova Scotia Dept. of
Fisheries, Canada

Dr. Robert Meagher, Fletcher School of Law & Diplomacy
Tufts University, Medford, Mass. USA

Dr. Maurice Mendelson, Oxford University, U.K.

Dr. John Mero, Graton, California USA

Kurt Meyer, Preussag AG, Hannover, FRG

Dr. Carlyle Mitchell, Ottawa

Mr. Lawrence Newman, OETB, United Nations

Professor Kaldone Nweihed, Simon Bolivar University,
Venezuela

Dr. Gary Newkirk, Dalhousie University

Mr. Rainer Offergeld, Minister for Economic Cooperation,
FRG

Dr. Peter Odell, Erasmus University, Netherlands

Dr. Ashok Parthasarathi,, Secretary of the Electronics
Commission of India

Mr. Mati Pal, OETB, United Nations

Dr. Walter Plüger, Inst. for Mineralogy and Ec. Geology

Dr. David Pasho, Energy, Mines, Resources, Canada

Ambassador Christopher Pinto, Sri Lanka

Mr. A. Cambbell Reid, Inter-Union Offshore Oil Committee

Dr. Mario Ruivo, Secretary, IOC/UNESCO

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Norway

Dr. H. Thiel, University of Hamburg

Dr. John Vandermeulen, BIO; Dartmouth, N.S. Canada

Mr. Alexei Volkov, soviet Fisheries Representative in
Canada

Dr. Carol Williams, Caambridge University/UNESCO

Dr. Gil Winham, Dalhousie University

Christian Wiktor, Dalhousie Law Library, Canada

Dr. Francis Wolf, ILO

Mr. William E. Wells, President, Fisheries Association of
Newfoundland, Canada

Mr. Cornelius Weennink, U.K.

Mr. Kenneth Wood, President, Halifax Industries Ltd. Canada

Ambassador Layachi Yaker, Algeria

Professor Alexander Yankov, Bulgaria

LIST OF INVITED EXPERTS (FOREIGN)

1. Madame Elisabeth Mann Borgese
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Dalhousie University
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2. Prof. Robert Meagher
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Tufts University
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3. Dr. Manfred Krutein
26 Mountain View
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Ca 92 745
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4. Peter Faust
Division of Shipping
UNCTAD
Palais des Nations
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5. Dr. John Craven
Ocean Studies
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6. Dr.G.L. Kesteven
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10. Capt. Cockroft
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11. Carlyle L Mitchell
President
North-South Intermedium
Ottawa
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12. Dr.M. Tangi
Programme Officer
UNEP Regional Seas Programme
United Nations
Geneva
Switzerland
13. Dr.Arsewis Rodriquez
United Nations Environment Programme
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14. Dr.D. Elder
Programme Officer
United Nations Environment Programme
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Switzerland
15. Dr.Dominique Alheritiere
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16. Mr. Anton Reginald
Atapattu
Assistant Director
Programme & Planning
Department of Fisheries
Colombo
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17. Dr. David Cronan
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Sci & Tech.
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18. Dr. Hansa Chansang
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19. Dr.P. Driver
Head of Ecology &Pollu-
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27. Dr.A. Crusado
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Member (Offshore)
Oil & Natural Gas Commission
Bombay Offshore Project
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Bombay - 400 021
19. Vice.Adm.Schunker
Director-General
Coast Guard
E Block Hutments
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20. Dr.S.P. Jagota
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38. Shri. P.S.N. Murthy
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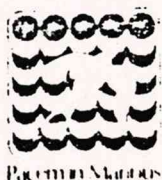
Appendix C.

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12. Mr. R. V. Burne
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13. Mr. Ralf Carter
CCOP/SOPAC Technical Secretariat
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14. Mr R. A. Eden
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15. Mr. Walter Schmidt
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16. Mr. R. Stone
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17. Mr. Tun U. Manng
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18. Mr. C. D. Aidney
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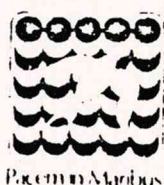
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Mr. P. Faust
Shipping Division
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H.E. Minister Anil Gayan
Minister of Foreign Affairs and Tourism
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Mr. Didier Gaujous,
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Mademoiselle Seridji
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M. Mokhtar Yahyiaoui
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Chef de projet de Recherches
Algiers
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M. Ali Meboukrine
Enseignant
Institut de Droit
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M. Djeroumi
Ministère de l'Energie et des Industries,
Pétrochimiques
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M. Mekideche
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ANNEX 3

TRAINING PROGRAMME FOR THE MANAGEMENT AND CONSERVATION OF MARINE RESOURCES

CENTRE FOR FOREIGN POLICY STUDIES
DALHOUSIE UNIVERSITY



INTERNATIONAL OCEAN INSTITUTE
MALTA

TRAINING PROGRAMME MANAGEMENT AND CONSERVATION OF MARINE RESOURCES CLASS B85 THE ECONOMIC ZONE

Draft Budget

EXPENDITURES

I. Project Preparation (2 months)

IOI Chairperson	CA\$ 3,000.00
Administr. Assistant	720.00
Secretary	1,680.00
Communications	3,000.00
Supplies (printing, equipment)	<u>1,500.00</u>
Subtotal	9,900.00

II. Project implementation (3 months)

Staff

Director (20,000 + 11%)	22,200.00
Coordinator (5,000 + 11%)	5,550.00
Admin. Assistant	1,080.00
Secretary	2,520.00
Lecturers' honoraria	<u>12,000.00</u>

Subtotal 43,350.00

Travel

Participants	46,000.00
Lecturers	<u>25,000.00</u>

Subtotal 71,000.00

Participant support

Accommodations	25,550.00
Meals	26,500.00
Allowances (\$35x25x10)	8,750.00
Medical Insurance	3,000.00

Subtotal	63,800.00
----------	-----------

Other

Field trips	5,750.00
Public relations	2,000.00
Communications	1,000.00
Supplies, printing, equipment	2,000.00
Teaching materials	<u>2,000.00</u>

Subtotal	12,750.00
----------	-----------

III. Project Follow-up (7 months)

IOI Chairperson	5,250.00
Admin. Assistant	2,520.00
Secretary	5,880.00
Communications	4,000.00
Supplies, printing, equipment	<u>8,000.00</u>

Subtotal	25,650.00
----------	-----------

GRAND TOTAL	226,450.00
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INCOME

CIDA	100,000.00
Commonwealth Secretariat	40,000.00
ICOD (4 scholarships)	40,000.00
Dalhousie Lawschool	20,000.00
UNDP	<u>26,450.00</u>

TOTAL INCOME	226,450.00
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ANNEX 4

ANNEX 5

ANNEX 6



THE UNITED NATIONS UNIVERSITY

Toho Seimei Building
15-1, Shibuya 2-chome, Shibuya-ku,
Tokyo 150, Japan

国際連合大学

〒150 東京都渋谷区渋谷2-15-1 東邦生命ビル
TELEPHONE: (03)499-2811

24 December 1984

Dear Prof. Mann Borgese,

Many thanks for your letter dated 15 November and received on 5 December. I do apologize for being so late in answering but this is due to various missions overseas and the semi-annual meeting of our Council.

We have screened the video-cassette you sent to me. The film is technically extremely well done and the contents most interesting and, without any doubt, very useful as a teaching or training aid. I have also carefully studied the synopsis of "Blue Revolution" related to both a documentary film and 12 teaching aid units.

Since one of our Council's concerns is with "global studies" at various educational levels, I will have to consider our possible participation in the light of the specific considerations expressed by Council members. Generally, there is a tendency to link our involvement in the elaboration of learning materials to areas where the University itself is undertaking research or other activities; and, so far, we have not been active in oceanography in view of the work carried out by other important institutions such as your own. However, I will give further consideration to the various options set out in your letter and be in touch with you again in January.

In the meantime, I send you my best wishes for the Holiday season and for the New Year.

Yours sincerely,

Edward W. Ploman
Vice Rector
Global Learning Division

Prof. Elisabeth Mann Borgese
International Ocean Institute
P.O. Box 524 Valletta-Malta

assistance with further training, whether at Dalhousie or elsewhere.

Conclusion

We are deeply convinced that this type of cooperation would be mutually beneficial to ICOD and IOI: a joint effort in a common cause that would amount to much more than the addition of the two parts, and would greatly enhance much needed training efforts at the national, regional and global level.



DALHOUSIE UNIVERSITY
HALIFAX, N.S.
B3H 4H6

VICE - PRESIDENT (ACADEMIC AND RESEARCH)

May 28, 1985

TO: ICOD Diploma Working Group

FROM: Dr. R. O. Fournier, Assistant Vice-President (Research)

SUBJECT: Meeting with ICOD personnel to discuss Dalhousie proposal.

The Dalhousie proposal to ICOD concerning the possible Collaborative Diploma Program was received and reviewed by ICOD staff. Rather than continue this exchange by document, Evlyne Meltzer, Advisor to Gary Vernon, has suggested that a meeting with all concerned individuals might be very profitable as a means of quickly establishing some common ground. Specifically, Ms. Meltzer would like to see a number of the budget items explained and clarified. Therefore, I suggest a meeting on Thursday, June 6th at 2:00 p.m. in the Board and Senate Room of the Arts and Administration Building.

R.O. Fournier

Dr. R. O. Fournier

ROF:clc

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E. Gold, DOSP	A. Hanson, I.R.E.S.
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P. Saunders, DOSP	G. Newkirk, Biology
J. Hall, Centre Marine Geology	T. Shaw, African Studies
I. McAllister, Pearson Institute	I. Townsend-Gault, DOSP
S. Frick, Continuing Education	T. Bowen, Oceanography
D. Patton, Business Admin.	E. Mann-Borgese, Pearson Institute
E. Meltzer, ICOD	R. Doyle, Biology
G. Winham, Foreign Policy Studies	

called my 36

TRAINING PROGRAMME FOR THE MANAGEMENT AND CONSERVATION OF MARINE RESOURCES

CENTRE FOR FOREIGN POLICY STUDIES
DALHOUSIE UNIVERSITY



INTERNATIONAL OCEAN INSTITUTE
MALTA

PROPOSAL

This is a proposal to unite existing organisations and expertise in an integrated effort in marine resource management and conservation primarily, but not necessarily exclusively, in Third-World countries. Such an effort would involve the public sector and the private sector (both NGO and industry). It will be carried out in close cooperation with the competent international organisations of the U.N. system, especially the UNEP Regional Seas Programme. It aims at the training of civil servants and future decision makers, the systematic preparation of teaching materials (texts and audi-visual material) and the training of trainers in the different regions. It would put Canada on the map as No. 1 in this new sector of development cooperation.

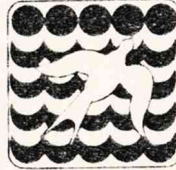
Background

There are three institutions in Canada, devoting their full time to ocean development in the context of national and international development strategy.

The International Ocean Institute has served, over the past fifteen years, as an international forum for the advancement of new ideas and approaches to issues relating to the Law of the Sea and ocean management. During the past five years, it has developed a training programme for civil servants in developing countries which attempts to translate these ideas and approaches into practical action. The programme is unique in its comprehensiveness, its scope and the quality of the personnel involved. During the past five years 14 programmes, ten weeks on the average, have been carried out in the First and in the Third World (Canada, Malta/FRG, India, Algeria, Fiji, Trinidad&Tobago. In the coming years, the programme will be expanded to the Second World: An annual programme, corresponding to the Canadian programme,

TRAINING PROGRAMME FOR THE MANAGEMENT AND CONSERVATION OF MARINE RESOURCES

CENTRE FOR FOREIGN POLICY STUDIES
DALHOUSIE UNIVERSITY



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will be organised in the Soviet Union;; and an invitation has been already received to organise a programme in the PR of China. The IOI training programme thus is the only existing programme that is as universal as the United Nations.

The three syllabi for the programmes completed in 1984 are attached as Annex 1.

The IOI has initiated a programme of textbooks and videotapes, in cooperation with the National Film Board of Canada. The plan for this programme is attached as Annex 2. One video tape has been completed. The text book, by Ambassador Tommy Koh of Singapore is still in preparation. Work on a second video tape, on offshore oil and gas production, is being initiated.

The IOI also publishes the Ocean Yearbook (600 pages annually) which is used as text for the training programme.

Lack of manpower and funding are slowing down the full and timely implementation of this programme.

The Dalhousie Ocean Studies Programme has developed a unique expertise in research in ocean development in various regions, particularly, the Caribbean, South East Asia, and West Africa. [please insert a few paragraphs]. The material, already developed, has been a most valuable input into the IOI Training Programme. DOSP has also provided lecturers for the IOI Training Programme. DOSP has no comprehensive training programme of its own.

The International Centre for Ocean Development has the unique mission to assist developing countries in the utilization of their marine resources and in integrating ocean management into their development strategy.

While IOI and DOSP each has made its record in the past and ICOD has a great mission for the future, it is quite obvious that, if these three organisation, all operating in Halifax,

will be organised in the Soviet Union;; and an invitation has been already received to organise a programme in the PR of China. The IOI training programme thus is the only existing programme that is as universal as the United Nations.

The three syllabi for the programmes completed in 1984 are attached as Annex 1.

The IOI has initiated a programme of textbooks and videotapes, in cooperation with the National Film Board of Canada. The plan for this programme is attached as Annex 2. One video tape has been completed. The text book, by Ambassador Tommy Koh of Singapore is still in preparation. Work on a second video tape, on offshore oil and gas production, is being initiated.

The IOI also publishes the Ocean Yearbook (600 pages annually) which is used as text for the training programme.

Lack of manpower and funding are slowing down the full and timely implementation of this programme.

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Plan of Action

We propose, therefore, a joint programme, for the next four years, 1985-1988. These years will be crucial for the interpretation, implementation and application of the U.N. Convention on the Law of the Sea, 1982, which, it is generally expected, will come into force at that time.

The programme will have two major components:

1.

Four to Five annual training programmes of ten weeks each.

Class A: Ocean Mining: Malta/FRG

Class B: EEZ Management, Dalhousie University

Class C: Regional cooperation and Development

Class D: EEZ Management, USSR.

During 1985, 1986, 1987, Class C programmes are scheduled in the Mediterranean (Yugoslavia, Tunis, Malta). A fourth Class C Programme could take place in China in 1987.

Additional Class C Programmes could be planned in conjunction with ongoing DOSP research work and with the Regional Seas Programme (in West and East Africa, in South East Asia).

2.

The preparation of texts and films, for utilization by the Training programme itself, as well as by institutions in developing countries, or regional institutions established in the context of the Regional Seas Programme, which decide to run training programmes of their own, modelled on the IOI programme. (This has already happened in two regions: in the South Pacific and in the Philippines.)

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Methodology

A small consultative committee should be established to discuss, on a regular basis

I. The Training programme

- a. The venue of training programmes
- b. the curriculum/syllabus;
- c. the Teaching Staff, including the Director.
- c. funding needs
- d. Cooperation and division of labour.

II. Texts and Audiovisual aids

- a. Research on already existing and utilizable material (IDRC, National Filmboard; CNEXO, Preussag, Saudi-Sudanese Red Sea Authority, etc.
- b. New material to be developed by National Film Board
- c. Authors for textbooks.
- d. Funding needs
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Budget

11 video tapes	\$2,000,000.00
Editing and production of 12 text books	?.00
Scholarships	200,000.00

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Programme coordination and development 200,000.00

GRAND TOTAL, for four years

Programme coordination and development 200,000.00

GRAND TOTAL, for four years

1312 ROBIE STREET
HALIFAX, NOVA SCOTIA
CANADA B3H 3E2



TELEPHONE: (902) 424-3632
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CABLE: DALIRES

DALHOUSIE UNIVERSITY

INSTITUTE FOR RESOURCE AND ENVIRONMENTAL STUDIES

7 June 1985

MEMORANDUM TO: R. Fournier
E. Meltzer
Members of DOSC Marine Affairs Planning Group

FROM: A. J. Hanson *AJH*

SUBJECT: Revised Draft Proposal ICOD Dalhousie Diploma Programme

Following the meeting of 6 June, I took the liberty of redrafting the proposal based on the ideas and concerns raised at the meeting. I have tried to develop a detailed budget. I hope this outline may serve the needs of a formally-submitted proposal. It is on the CYBER word processing system and can be altered as necessary by contacting Brenda Finn (3632). My understanding is that a deadline of about 12 June is important.

AJH:bf
encl.

DALHOUSIE UNIVERSITY

PROPOSAL FOR DALHOUSIE/ICOD MARINE

AFFAIRS DIPLOMA PROGRAMME

INTRODUCTION

Since 1945, Dalhousie University has been developing teaching and research programmes in the field of marine affairs. Initially, this effort focussed exclusively on the marine sciences, and by the 1960's Dalhousie had achieved international prominence as one of the leading oceanographic centres in North America, greatly reinforced by the wealth of expertise available at the Bedford Institute of Oceanography and other research and teaching institutions in the Atlantic region. In the early 1970's, the University began to develop teaching and research capabilities in the marine-related areas of law and the social sciences. By the late 1970's no less than seven institutes with ocean-related interests had emerged at Dalhousie University, and a proliferation of both graduate and undergraduate courses in marine affairs had taken place in various faculties on the campus. Because of this emergence of marine affairs as a priority area at Dalhousie, the President established a coordinating mechanism, the Dalhousie Ocean Studies Council (DOSC), to help develop integrated teaching, training and research activities throughout the University community, in conjunction with the Bedford Institute and other marine-related institutions in the region. This Council meets as required. The present proposal was developed by a committee of DOSC coordinated through the office of the Assistant Vice-President for Research.

In recent years, DOSC members have begun to consider the need for developing a master's degree programme in marine affairs, as five United States universities have done in recent decades. Within the last five years, Dalhousie has undertaken short (ten week) training programmes in marine affairs in cooperation with the International Ocean Institute (IOI), based in Malta. These successful courses have attracted government officials from over thirty countries to the Dalhousie campus. Moreover, the research activities of several institutes and departments in both the physical and social sciences have taken Dalhousie ocean-related scholars out into several developing regions, especially the Caribbean, Africa and South East Asia. Dalhousie's long-term involvement with development studies generally was reinforced by the recent establishment of the Pearson Institute for International Development, reflecting the University's commitment to Canadian international development assistance both within and beyond the field of marine affairs.

In light of the priority assigned to marine affairs and international development, Dalhousie University feels it has a major role to play in the development and implementation of a variety of training programmes in the

field of marine affairs, especially training programmes designed for the benefit of governments and other institutions in developing countries. The year-long diploma course proposed in this document is seen by DOSC as the next logical step towards that end, and it is believed that such a programme would supplement shorter and longer term training programmes that are already available at Dalhousie and around the world.

The proposed diploma would be available to and oriented towards the needs of fisheries and ocean personnel and decision-makers from developing countries. These individuals would be supported through ICOD and other international agencies, or their own government. It is anticipated, and hoped, that the programme would become a "flagship" effort for ICOD with appropriate attention to preparation of outstanding materials for use in the course and for dissemination world-wide. The diploma programme also will be available to interested Canadians, especially for those currently engaged in work pertaining to marine affairs.

The time frame of the proposal is five years, incorporating a detailed budget for the first three years and a suggested arrangement for years four and five. Over this time period, it is proposed that a programme development sequence take place as noted below. The first three years will be a trial period heavily-oriented to materials preparation, with a certification for work completed until the diploma programme can be formally approved through channels which include the MPHEC. The experience with the diploma programme will be extremely valuable in determining whether to move towards a further stage of development, the Master of Marine Affairs, at the conclusion of the five-year initial period. It is anticipated that a concerted effort will be made to diversify funding sources to ensure stability of the programme as it matures.

DEVELOPMENT PHASES

Year 1 (1 Sept 1985 - 31 August 1986) Programme development and draft materials preparation phase. Candidate identified but training not underway before September 1986.

Year 2-3 (1 Sept 1986 - 31 ^{May} ~~August~~ 1988) Trial phase with certificate program in 86-87 and diploma programme (assuming approval) 87-88; preparation of materials in final format.

Year 4-5 (1 Sept 1988 - 31 August 1990) On-going operational phase.

It is possible that dates may be advanced to begin the detailed programme development phase in summer '85. Also, consideration may be given to the possibility of having students begin during the summer rather than the fall. It is anticipated that the program will take a full calendar year to complete.

PROGRAMME CONTENT

(1) Marine Affairs Course (2 terms)

The central core of the diploma programme will be an intensive, multidisciplinary seminar course in Marine Affairs. This course will analyze current concepts in marine policy, management and ocean use. ~~and partly taught by the Coordinator(s), the course will also use guest lecturers from various disciplines, other institutions, government and industry. The course will utilize a workbook-style set of looseleaf materials (prepared during the development phase), an approach which allows for flexibility in modifying materials in future, and which also encourages subsequent use by students after returning to their home countries. The materials will also be used to develop further training courses at regional and national institutions in developing countries.~~

The general organization of the course will be as follows:

Term I: Multidisciplinary overview, on a sectoral basis. Possible to give alternative credit for this portion if student has attended I.O.I. course, which would move towards use of same work-book materials.

Term II: In addition to continuing with seminar activities, including research reports and simulation exercises, two options for further work will be offered:

i) Country Studies - Students perform detailed, practically-oriented studies relevant to their own countries and/or jobs, reporting back to the general seminar.

ii) Practicum Option - If suitable to their specialty and future employment, students would be posted as assistants and observers in industry and government jobs, again reporting back to the general seminar.

(2) General Course Load

Other courses should be selected from a number of disciplines, including, among others: Economics, Fisheries Management, Law, Environmental Studies, Oceanography, Marine Biology, Geology, Business, Engineering, Fisheries Technology, Public Administration, Political Science, Anthropology/Sociology. In order to maintain flexibility, each student's course load should be tailored to the individual's requirements. As experience is gained in the first 1-2 years, it may become necessary to designate 2 or 3 "streams" each with its own compulsory core courses.

Where existing courses are too advanced (especially in the sciences), a tutorial system will be used to supplement as necessary, with tutorials led by research fellows and graduate students. It is also possible that special courses may evolve in the response to needs arising from experience

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122

5 make contact with governments & research & policy groups
c liaise with heads of staff & other
d

- 5 -

- b) Teach and coordinate marine policy course.
- c) Support and advise students, with respect to adjustment, accommodation, academic concerns.
- d) Seek future funding for marine affairs programme.
- e) Liaise with ICOD and advisory group on programme progress and development.

In the first year prime emphasis of the coordinator's work will be on development of a detailed programme, liaison with other institutions and within Dalhousie to ensure only the most cost-effective and academically-acceptable plans are forwarded for consideration, selecting satisfactory candidates and, most importantly preparing materials in marine affairs.

MATERIALS DEVELOPMENT

The series of written and audio-visual materials will cover a broad spectrum of marine affairs topics. They will require a substantial amount of editorial attention and evaluation through class use before finally being distributed internationally. With the variety of quality printing devices and computerized word processing available at Dalhousie, it will be possible to create visually attractive written materials at reasonable costs, even in the draft stage. In the final distribution stage, funds will be required for translation into several languages and final printing. These figures are difficult to estimate prior to production of materials. Hence, the budget covers only the preparation stage.

at this time should be possible
of 1000 contracts for
the work to be done

Audio-visual and possibly computer disk materials will be produced. Only limited use of professional filming and taping is possible within the proposed budget framework. Discussion leading to mutual agreement between Dalhousie and ICOD on the level/quality/quantity of such materials is essential.

The preparation of written materials may require honoraria in some cases (especially for self-employed individuals who are dependent upon contracts). In general, however, attention should be given to the "prestige" of being invited to contribute to the written series. In this way costs should be held to the minimum. It is hoped that in the material development process, the outstanding speakers invited to I.O.I. courses may be tapped for written materials, or taped for A/V. This activity could begin as early as June/July 1985 if funds and a suitable individual to do the work are available.

It is understood that people and audio-visual need much help
preparing ICOD. It is essential however, that the material be produced
in close cooperation with the programme staff. It will be a few days
longer for the programme staff. The programme coordinator should
advise ICOD & all other people of the progress of the material. Regular
consideration

*Memorandum should be made by
date / application should be reviewed by
the applicant; Government. This is essential
est. of all other additional funding, est. for
convey*

STUDENT NUMBERS AND SELECTION

A minimum number of students is ten, with a more desirable number being 15 to 20. Depending upon the success in attracting additional outside funding and in enrolling Canadian students, the programme may grow to accommodate 30 or more.

Selection criteria will be defined by the Programme Coordinator in consultation with the academic advisory group. Minimum English language proficiency level, formal academic qualifications, experience in marine affairs, and geographic spread will be included as relevant factors in the selection. Final acceptance will be at the discretion of Dalhousie since individuals will be enrolled as non-degree students.

PROGRAMME APPROVAL

The first group will be given a certificate indicating their completion of a series of courses offered by the University. Certificates are offered without formal approval by MPHEC or by the Senate (in contrast to degrees and diplomas, where not only the programme itself is approved but also the individual candidate's successful completion is approved). During the development year, a proposal for the diploma would be submitted to the Faculty of Graduate Studies, for eventual approval by Senate. Once approved there, the proposal would then be forwarded to MPHEC and, upon approval, the diploma could then be offered. This process may take 8-15 months.

The certificate programme would be identical in content to the diploma programme. Once the diploma is approved, it may be useful to make a modified certificate programme available, especially for individuals with considerable experience, but lacking in graduate-level academic qualifications.

Normally programmes operate from a department, school or institute. This programme will require a base compatible with multidisciplinary perspectives. Several possibilities exist; the decision concerning reporting structure likely will be made before the end of 1985. Facilities such as desks or carrels and meeting space also will be designated.

Diploma there will need the approval of 3 professors in different disciplines

BUDGET

The program will require a substantial commitment of funds over the first five years. It will only be successful if there are sufficient inputs to develop outstanding materials. Furthermore, there must be a reasonably long assured funding period to commit first class people inside and outside the University to participate in the structuring and offering of the programme. A five-year funding period is proposed, with an initial three-year funded agreement which will include an opportunity for

evaluation in the third year. At that time, detailed requirements for the fourth and fifth year, and any period beyond, can be developed. For the long-term stability of the Programme and for internal reasons within the University, it is important that a commitment in principle be established for the entire five year period.

In the budget outlined below, there are three components: ICOD funding for programme development and operation, ICOD support for students, and Dalhousie University in-kind support for the programme. It is important to recognize that the University cannot allocate new financial resources, at least over the coming five years. However, the contribution in terms of staff effort, space, etc., the University will be very substantial. Furthermore, it is recognized that the training effort will likely attract additional people outside of the ICOD-supported people. These other individuals may contribute substantial fees that will help to make the programme self-supporting. In the longer-term, the stimulus offered by this initiative may help to shape funding priorities in the field of marine affairs in the University.

Budget Outline

Year 1

(1) Programme Development - ICOD Funding

Staff

Coordinator (salary and benefits)	42,000
Associate coordinator (part-time, one day per week)	8,000
Graduate assistant	9,500
Secretarial services (1/2 time)	8,500
	<u>68,000</u>

Draft Materials Development

Preparation of material including word processing, editorial services, graphics, printing	35,000
Purchase of books and other materials, including fees for reprint of copyright items	5,000
Honoraria (primarily for self-employed individuals)	10,000
	<u>50,000</u>

Travel

Within region by coordinator or other staff to develop linkages with other institutions	2,000
Abroad by coordinator to meet with other marine training units and to develop channels for student selection	5,500
	<u>7,500</u>

Other Expenses

Communications, including postage, telex, cables, long long distance telephone, courier	6,000
Photocopy, office supplies and other materials	3,000
Computer charges including Dalhousie system, software, and access to information systems	1,500
	<u>10,500</u>

Subtotal 136,000

University Overhead (based on 30% of salaries of staff) 20,400

Total 156,400

(2) Student Support - ICOD Funding 5,000

Students will not be attending Dalhousie in the development year. However, a small allocation is essential to cover possible preparatory expenses (e.g. language training) within their own countries.

(3) University In-Kind Support (within existing University budget)

Faculty and administrative time for programme development	30,000
Faculty and staff time for preparing materials	25,000
Seminar speakers	4,000
Allocation of physical facilities and necessary office equipment and support services not outlined above	12,000
	<u>71,000</u>

Years 2 and 3 (Total for each year)

(1) Programme Operation - ICOD Funding Year 2 Year 3

Staff

Coordinator (salary and benefits)	44,100	46,300
Associate Coordinator	8,400	8,800
Graduate Assistant	10,000	10,500
Secretary (1/2 time)	8,900	9,400
Instructors (only a limited number of self-individuals invited as lecturers)	5,000	5,000
Tutors	15,000	17,000
	<u>91,400</u>	<u>97,000</u>

Guest Lecturers

<u>7,000</u>	<u>7,000</u>
<u>7,000</u>	<u>7,000</u>

Materials Development

Preparation of second draft materials and circulation of limited review and revision	25,000	15,000
Audio-visual materials (possibly under subcontract)	20,000	20,000
Honoraria (for self-employed individuals)	5,000	5,000
	<u>50,000</u>	<u>40,000</u>

Travel

Within region by students and coordinator	8,000	9,000
Selection process and attendance at training sessions abroad	<u>10,000</u>	<u>10,000</u>
	<u>18,000</u>	<u>19,000</u>

Other Expenses

As noted in Year 1 (incorporating inflationary cost increases)	12,000	12,000
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Evaluation

Consultants Services	<u>---</u>	<u>8,000</u>
Subtotals	178,400	183,000

<u>University Overhead</u> (based on 30% of salaries of staff)	<u>27,420</u>	<u>29,100</u>
Totals	205,820	212,100

(2) Student Support - ICOD Funding

15 candidates x 15,000	225,000	
20 candidates x 16,000		320,000
These figures include air fares, preparatory work in home country, university fees, living allowance, health insurance, and book allowance.		
Totals	<u>225,000</u>	<u>320,000</u>

(3) University In-Kind Support

Faculty and administrative time for programme development	20,000	20,000
Faculty and staff time for preparing materials	40,000	40,000
Seminar speakers	5,000	5,000
Allocation of physical facilities and necessary office equipment and support services not outlined above	<u>18,000</u>	<u>15,000</u>
Totals	83,000	80,000

Years 4 and 5

The budget for these years would be subject to review in the third year evaluation. The annual totals required would likely be similar to year 3. It would be anticipated that co-funding of program operations, or additional fellowship funds might start to be secured by this point, to the extent considered mutually acceptable by ICOD and Dalhousie University.

Overall Comments on Budget

Staff salary figures are estimates only and might require adjustment upward to downward, depending upon the experience and qualifications of the individuals hired.

The need to start the programme in a reasonably-funded and visible fashion (i.e. with outstanding materials and carefully selected students) warrants a substantial "front-end" budget commitment to the programme.

It may be desirable to have substantial fees for individuals sponsored by agencies other than ICOD (e.g. FAO, World Bank, etc.) in order to move towards a self-supporting longer-term operation.

EVALUATION AND REPORTING

Evaluation procedures should be agreed upon early in the life of the programme so any necessary data spanning the whole period of the programme is properly collected. The evaluation should take place during the Fall of 1987 so decisions pertaining to years 4 and 5 may be made in a timely fashion.

Annual reports of programme activities will be prepared.



DALHOUSIE UNIVERSITY
HALIFAX, N.S.
B3H 4H6

VICE-PRESIDENT

13 June 1985

TO: ICOD Diploma Working Group
FROM: R. O. Fournier, Assistant Vice-President (Research)
RE: Draft Proposals for Dalhousie/ICOD Diploma Program

Enclosed are two proposals which are the product of the ICOD/Dalhousie diploma program working group. The first was distilled from a series of meetings but was actually written by David Van Der Zwaag and Phil Saunders. It was submitted to ICOD about six weeks ago. It was not passed on to all members simply because of an oversight on my part.

The second document is the product of a meeting between Evlyne Meltzer of ICOD and the working group on 6 June. At that time the merits of the first document were debated and that resulted in a revised version -- the actual writing being done by Art Hanson. The second document was then forwarded to ICOD.

I have received an unofficial response from Evlyne Meltzer. She and her chairman, Garry Vernon, will place this proposal before their board in Ottawa on 14 June but they will not recommend its acceptance. They feel that it is too costly, even though they do not question the quality of the people or the proposed program.

R. O. Fournier

Robert O. Fournier

ROF:kn

encls.

DALHOUSIE UNIVERSITY

DRAFT PROPOSAL FOR DALHOUSIE/ICOD
MARINE AFFAIRS DIPLOMA PROGRAMME

1. INTRODUCTION

Since 1945, Dalhousie University has been developing teaching and research programmes in the field of marine affairs. Initially, this effort focussed exclusively on the marine sciences, and by the 1960's Dalhousie had achieved international prominence as one of the leading oceanographic centres in North America, greatly reinforced by the wealth of expertise available at the Bedford Institute of Oceanography and other research and teaching institutions in the Atlantic region. In the early 1970's the University began to develop teaching and research capabilities in the marine-related areas of law and the social sciences. By the late 1970's no less than seven institutes with ocean-related interests had emerged at Dalhousie University, and a proliferation of both graduate and undergraduate courses in marine affairs had taken place in various faculties on the campus. Because of this emergence of marine affairs as a priority area at Dalhousie, the President established a coordinating mechanism, the Dalhousie Ocean Studies Council (DOSC), to help develop integrated teaching, training and research activities throughout the University community, in conjunction with the Bedford Institute and other marine-related institutions in the region.

In recent years, DOSC members have begun to consider the need for developing a master's degree programme in marine affairs, as five United States universities have done in recent decades. Within the last five years, Dalhousie has undertaken short (ten-week) training programmes in marine affairs in cooperation with the International Ocean Institute, based in Malta. These successful courses have attracted government officials from over thirty countries to the Dalhousie campus. Moreover, the research activities of several institutes and departments in both the physical and social sciences have taken Dalhousie ocean-related scholars out into several developing regions, especially the Caribbean, Africa and South East Asia. Dalhousie's long-term involvement with development studies generally was reinforced by the establishment of the Pearson Institute for International Development, reflecting the University's commitment to Canadian international development assistance both within and beyond the field of marine affairs.

In light of the priority assigned to marine affairs and international development, Dalhousie University feels it has a major role to play in the development and implementation of a variety of training programmes in the field of marine affairs, especially training programmes designed for the benefit of governments and other institutions in developing countries. The year-long diploma course proposed in this document is seen by DOSC as the next logical step towards that end, and it is believed that such a programme would supplement shorter and longer term training programmes that are already available at Dalhousie and around

the world.

This draft proposal addresses four major areas: the possible content of an interim programme for 1985-1986, the development and content of a full one-year marine affairs diploma programme, beginning in September 1986; the role of the diploma programme and; implications of the proposed programme.

II. INTERIM PROGRAMME (1985-1986)

Dalhousie is prepared to proceed in September, 1985, with an interim programme based on existing university resources. This interim phase would involve two components:

a) ICOD Fellowship Students

Students can be funded as ICOD Fellows in one or more of the following categories:

- i) Participants in the 1985 I.O.I. course in Halifax;
- ii) Students at Dalhousie, registered as:
 - 1. graduate students in existing degree programmes;
 - 2. undergraduate students in existing programmes;
 - 3. non-degree students, either taking courses for credit or auditing.

Given the time constraints, ICOD may wish to select candidates for ICOD Fellowships from among I.O.I. participants (at the 1985 course or from dossiers of former students), or from among students attending the eight week summer course in Marine Geology at Dalhousie.

b) ICOD Seminar Series

In addition to the Fellowship programme, Dalhousie will organize the ICOD Seminar Series, with guest lecturers and discussions on subjects relating to the scientific, legal and administrative aspects of ocean development. This series will both focus the attention of the "oceans community" in the region on problems of developing countries, and at the same time provide a degree of cohesiveness to Fellowship students based in different disciplines.

III. ONE-YEAR DIPLOMA PROGRAMME (Sept. 1986)

a) Development Phase (1985-1986)

The Coordinator(s) should be posted as soon as possible in order to begin development of the diploma programme. Tasks include:

- 1) Identification and analysis of available courses and other resources at Dalhousie, TUNS, BIO, DFO, the Nautical Institute, N.S. Resources Limited and other institutions; discussions with faculty to determine appropriate-

- ness of courses for diploma students and; clarification of additional requirements.
- 2) Teaching in I.O.I. summer course, to gain familiarity with this programme.
 - 3) With ICOD, search for additional sources of funding for components of programme.
 - 4) Student support and advice for scholarship students.
 - 5) Major task would be development of curriculum for Marine Policy core course (see below) , with involvement of I.O.I. and representatives of various disciplines. Includes work on A/V materials (e.g. video-tapes).

b) Content of One-Year Diploma Programme

- 1) Introduction and Orientation- Brief introductory period (approx. 2 weeks) for familiarization with goals of programme, initial assessment of skills and language levels. If language skills cannot be assured, longer advance period may be necessary.
- 2) General Course Load - Courses should be selected from a number of disciplines, including, among others: Economics Fisheries Management, Law, Environmental Studies, Oceanography, Marine Biology, Geology, Business, Engineering, Fisheries Technology, Public Administration, Political Science, Anthropology/Sociology. In order to maintain flexibility, each student's course load should be tailored to the individual's requirements. As experience is gained in the first 1-2 years, it may become necessary to designate 2 or 3 "streams" each with its own compulsory core courses.

Where existing courses are too advanced (especially in the sciences), a tutorial system will be used to supplement as necessary, with tutorials led by research fellows and graduate students.

3) Marine Policy Course

The central core of the diploma programme will be an intensive, multidisciplinary seminar course in Marine Policy. Led and partly taught by the Coordinator(s), the course will also use guest lecturers from various disciplines, other institutions, government and industry. The course will utilize a workbook-style set of looseleaf materials (prepared during the development phase), an approach which allows for flexibility in modifying materials in future, and which also encourages subsequent use by students after returning to their home countries. The materials could also be used to develop further training courses at regional and national institutions in developing countries.

The general organization of the course will be as follows:

Term I : Multidisciplinary overview, on a sectoral basis. Possible to give alternative credit for this portion if student has attended I.O.I. course, which would move towards use of same work-book materials.

Term II: In addition to continuing with seminar activities, including research reports and simulation exercises, two options for further work will be offered:

- i) Country Studies - Students perform detailed, practically-oriented studies relevant to their own countries and/or jobs, reporting back to the general seminar.
- ii) Practicum Option- If suitable to their specialty and future employment, students would be posted as assistants and observers in industry and government jobs, again reporting back to the general seminar.

IV. ROLE OF COORDINATOR(S)

It will be necessary to have a Coordinator and Associate Coordinator (not necessarily each for full-time). It is essential that, for the two key people, one should be from the physical sciences and one from the social sciences and one from the physical sciences. Duties of the Coordinator(s) will include the following:

- a) In initial phase, seek agreement Faculties, prepare course listings, investigate content of existing courses. Major role, in cooperation with I.O.I. and various disciplines, to develop curriculum and integrated course materials ("workbook" format) for use by Marine Policy course and possibly by I.O.I. (May include A/V and other materials).
- b) Teach and coordinate marine policy course.
- c) Support and advise students, with respect to adjustment, accommodation, academic difficulties.
- d) Seek future funding for expansion of marine affairs programme.
- e) Liase with ICOD on programme progress and development.

V. FINANCIAL IMPLICATIONS

The following are preliminary estimates of the total costs of the programme, relatively more detailed for the first years and less so for the later years. Although substantial portions of the total cost may be sought from sources other than ICOD, it should be emphasized that a basic commitment to support the core of the programme will be required for at least seven years.

Year 1: July 1, 1985- June 30, 1986

i) Basic Programme Costs

Salaries (Coordinator and Associate)	70,000
Administrative/Overhead	15,000
Travel (primarily regional)	8,000
* Materials (computer, printing, A/V)	27,000
* Honoraria (authors)	10,000
Seminar Series (10 lectures)	20,000

* - ONE TIME	TOTAL	150,000
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ii) Other

The Fellowship Programme cost will be dependant on the number of students chosen, but approximately \$15,000 per student will be required.

iii) University Contribution

Office space, telephone, utilities, office equipment and supplies, library/research services.

\$ 15,000 — INCLUDES ?
AIR FARE
SUPPORT
TUITION

Years 2 and 3: Total for July 1, 1986 - June 30, 1988

i) Basic Programme Costs

	PER Ann	
Salaries	75,000	150,000
Administrative/Overhead	17,500	35,000
* Instructors*/Tutors**	12,500	25,000
Guest Lecturers***	12,000	24,000
Travel (Coordinator)	5,000	10,000
Student Support ****		525,000
		<hr/>
* - NEW IN 2 ND YR	122,000	769,000
TOTAL (over two years)		

ii) University Contributions

As above, and additional contribution of portions of classroom, laboratory and teaching time.

*	Where required for Marine Policy Course		
**	Supplementary tutorials		
***	Year 2: 15 students	X \$15,000	= 225,000
	Year 3: 20 students	X \$15,000	= 300,000
			<hr/>
			\$525,000

**** Combined Seminar Series and outside guests for Marine Policy course.

Years 4,5,6,7

The programme will develop beyond 15-20 students, but the level of continuing ICOD support should be negotiable and dependant upon success of outside funding search.

DALHOUSIE UNIVERSITY

PROPOSAL FOR DALHOUSIE/IOI/ICOD MARINE AFFAIRS

DIPLOMA PROGRAMME

INTRODUCTION

Since 1949, Dalhousie University has been developing teaching and research programmes in the field of marine affairs. Initially, this effort focussed exclusively on the marine sciences, and by the 1960s Dalhousie had achieved international prominence as one of the leading oceanographic centres in North America, greatly reinforced by the wealth of expertise available at the Bedford Institute of Oceanography and other research and teaching institutions in the Atlantic region. In the early 1970s, the University began to develop teaching and research capabilities in the marine-related areas of law and the social sciences. By the late 1970s no less than seven institutes with ocean-related interests had emerged at Dalhousie University, and a proliferation of both graduate and undergraduate courses in marine affairs had taken place in various faculties on the campus. Because of this emergence of marine affairs as a priority area at Dalhousie, the President established a coordinating mechanism, the Dalhousie Ocean Studies Council (DOSC), to help develop integrated teaching, training and research activities throughout the University community, in conjunction with the Bedford Institute and other marine-related institutions in the region. This Council meets as required. The present proposal was developed by a committee of DOSC coordinated through the office of the Vice-President for Research.

In recent years, DOSC members have begun to consider the need for developing a master's degree programme in marine affairs, as five United States universities have done in recent decades. Within the last five years, Dalhousie has undertaken short (ten week) training programmes in marine affairs in cooperation with the International Ocean Institute (IOI), based in Malta. These successful courses have attracted government officials from over thirty developing countries

to the Dalhousie campus. Outstanding lecturers have come from all parts of the world as well as from all the competent United Nations agencies and institutions. Moreover, the research activities of several institutes and departments in both the physical and social sciences have taken Dalhousie ocean-related scholars out into several developing regions, especially the Caribbean, Africa and South East Asia. Dalhousie ocean-related scholars have also participated in the IOI regional training programmes, in the Pacific and Indian Ocean and in the Caribbean. Dalhousie marine related activities thus have become part of a global network. Dalhousie's long-term involvement with development studies generally was reinforced by the recent establishment of the Pearson Institute for International Development, reflecting the University's commitment to Canadian international development assistance both within and beyond the field of marine affairs.

In light of the priority assigned to marine affairs and international development, Dalhousie University feels it has a major role to play in the development and implementation of a variety of training programmes in the field of marine affairs, especially training programmes designed for the benefit of governments and other institutions in developing countries. The year-long diploma course proposed in this document is seen by DOSC as the next logical step towards that end, and it is believed that such a programme would supplement shorter and longer term training programmes that are already available at Dalhousie and around the world.

The proposed diploma would be available to and oriented towards the needs of civil servants and decision-makers in marine affairs from developing countries. These individuals would be supported through ICOD, the Commonwealth Secretariat, UNESCO, UNDP, or their own governments. It is anticipated, and hoped, that the programme would become a "flagship" effort for ICOD with appropriate attention to preparation of outstanding materials for use in the course and for dissemination world-wide. The diploma programme also will be available to interested Canadians, especially for those currently engaged in work pertaining to marine affairs.

The time frame of the proposal is three years. Over this time period, it is proposed that a programme development sequence take

place as noted below. These first three years will be a trial period, with a certification for work completed until the diploma programme can be formally approved through channels which include the MPHEC. The experience with the diploma programme will be extremely valuable in determining whether to move towards a further stage of development, the Master of Marine Affairs, at the conclusion of the initial period. It is anticipated that a concerted effort will be made to diversify funding sources to ensure stability of the programme as it matures.

DEVELOPMENT PHASES

Year 1 (1 Sept 1985 - 31 August 1986) Programme development and materials preparation phase

Sept.1985 - June 1986 Intra-University coordination and coordination with other institutions (BIO, etc.)

June 1986 - August 1985 IOI Training Programme with credits toward Diploma programme.

Year 2-3 September 1986 - May 1988 Trial phase with certificate programme in 86-87 and diploma programme (assuming approval) 87-88.

It is anticipated that the programme will take a full calendar year to complete, starting in June with the IOI summer programme, followed by an academic year (September-May) of project work.

PROGRAMME CONTENT

The central core of the diploma programme will be an intensive, multidisciplinary seminar course in Marine Affairs. This course will analyze current concepts in marine policy, management, law of the sea, (national, regional, and global) and ocean use. Since this precisely is the content of the IOI programme, it will be most cost-efficient and expeditious to utilize this programme for the diploma programme, with appropriate adjustments, if necessary. Beginning 1986, the IOI programme thus will have a dual function: There will be students who will attend, as heretofore, the ten-week programme and, upon its completion, will be awarded an IOI certificate. And there will be

students who will move on to the Diploma Programme of which the IOI programme constitutes Part I.

The general organisation of the diploma course thus will be as follows:

Term I: June–August Multidisciplinary overview: in cooperation with IOI. As an illustration, The syllabus for the current IOI training programme is attached as Annex 1.

Term II: September–May. Students will focus on a specific project leading to the Diploma Thesis on any of the following interdisciplinary subjects:

1. Management of living resources
2. Management of nonliving resources
3. Shipping and Navigation. Management of Ports and Harbours.
4. Regional Development.
5. Public Administration in marine affairs
6. Marine ecology and coastal management
7. Marine Economics
8. Law of the Sea
9. Monitoring and surveillance
10. Environmental and occupational health of offshore labour

A number of procedural options will be offered:

(a) Students may choose 3–5 full-credit courses from the regular University programme dealing with ocean affairs. A course

listing is attached in Annex 2. the Diploma programme must include at least one course in the marine sciences, one course in the social sciences, and one course in law or administration. Where existing courses are too advanced (especially in the sciences), a tutorial system will be used to supplement as necessary, with tutorials led by research fellows and graduate students. It is also possible that special courses may evolve in the response to needs arising from experience with the first few groups. However, initially students will select from undergraduate and graduate courses currently offered. The students will be evaluated according to standards applied to all other students in the particular course.

(b) Practicum Option - If suitable to their specialty and future employment, students would be posted as assistants and observers in scientific laboratories (BIO), in industry and government jobs (the Navy), for a period of eight months. At the end they would have to present a comprehensive report as their diploma thesis.

Introduction and Orientation

During the first weeks of the interdisciplinary summer course, an initial assessment of skills and language levels will be made. If language skills are inadequate, intensive language lessons will be built into the programme. The cost of language training is included in the over-all budget: Full-time student tuition will have been paid to the University, and one of the 3-5 courses students are expected to select may be the language course.

Overall Organisation and Course Load

Part I of the programme consists of 300 hours in class. Part II will incorporate a load equivalent to 3-5 two-term courses. The details of organisation, including identification of courses and development of modules for the core course, will be a prime responsibility of the programme coordinator, with inputs from an academic advisory group.

ROLE OF COORDINATOR AND STAFF

The full-time Programme Coordinator would be an individual with advanced degree qualifications in marine affairs and academic experience on the staff of Dalhousie University. In addition an Executive Assistant would be required to serve practical needs in the core course and, more generally, in the implementation of the programme.

The academic advisory group will contain 6 to 8 representatives of the key fields relevant to marine affairs. Individuals may be drawn from outside Dalhousie as well, including a representative of ICOD.

Duties of the Coordinator will include the following:

- (a) In the initial and trial phase, to seek agreement for the diploma, prepare course listings, investigate content of existing courses. Major role, in cooperation with various disciplines, to keep the core course (IOI) updated and developing in response to participants' requirements and changing circumstances. Coordinator should have an advisory function in the preparation of teaching materials (loose-leaf work book format and A/V) by ICOD;
- (b) to maintain contacts with governments and intergovernmental organisations for the recruiting of participants;
- (c) liaise with teaching staff for core course;
- (d) teach and coordinate core course;
- (e) support and advise students, with respect to adjustment, accommodation, academic concerns;
- (f) seek future funding for programme;
- (g) liaise with ICOD and advisory group on programme progress and development.
- (h) advise ICOD on teaching materials development.

MATERIALS DEVELOPMENT

A series of written and audio-visual materials, covering a broad spectrum of marine affairs topics, should be developed. It is understood that this will be the responsibility of ICOD. Such material, however, cannot be developed in a vacuum. It is essential that it be produced in close cooperation with the programme itself. It will in fact largely emerge from the programme itself and needs evaluation through class use before finally being distributed internationally. The Programme Coordinator should advise ICOD in all phases of the preparation of this material.

Considering the variety and quality of printing devices and computerized word processing available at Dalhousie, it would be possible to create visually attractive written materials at reasonable costs. One might therefore consider the possibility of ICOD contracting out part of this work to Dalhousie.

STUDENT NUMBER AND SELECTION

A minimum number of students is ten, with a more desirable number being 15 to 20. Depending upon the success in attracting additional outside funding and in enrolling Canadian students, the programme may grow to accommodate up to 30.

Selection criteria will be roughly the same as those for the selection of IOI participants. They may be refined by the Programme Coordinator in consultation with the academic advisory group. Minimum English language proficiency level, at least one academic degree, experience in marine affairs, and geographic spread will be included as relevant factors in the selection. Nominations should be made by governments or paragonovernmental institutions or intergovernmental organisations. All applications should be endorsed by applicant's government. This is essential for attracting additional funding, e.g., from the Commonwealth Secretariat. Final acceptance will be at the discretion of IOI and Dalhousie since individuals will be enrolled as non-degree students.

PROGRAMME APPROVAL

The first group will be given a certificate indicating their completion of a series of courses offered by the University, following completion of the IOI programme. Certificates are offered without formal approval by MPHEC or by the Senate (in contrast to degrees and diplomas, where not only the programme itself is approved but also the individual candidate's successful completion is approved). During the development year, a proposal for the diploma would be submitted to the Faculty of Graduate Studies, for eventual approval by Senate. Once approved there, the proposal would then be forwarded to MPHEC and, upon approval, the diploma could then be offered. This process may take 8-15 months. The certificate programme would be identical in content to the diploma programme.

Normally programmes operate from a department, school, or institute. This programme will require a base compatible with multidisciplinary perspectives. Diploma theses will require the approval of three professors in different disciplines.

BUDGET

Year 1

(I) Programme Development - ICOD Funding

(1) Staff

Coordinator (salary & benefits)	\$ 42,000.00
Executive Assistant	31,500.00
Secretarial Services ($\frac{1}{2}$ time)	<u>8,500.00</u>
	82,000.00

(2) Travel

Local, to develop linkages with other institutions	2,000.00
overseas, to meet with other marine training units and to develop channels for student selection	<u>5,500.00</u>
	7,500.00

(3) Other Expenses

Communications, incl. postage, telex, long distance phone, courier	6,000.00
xerox, supplies & materials	3,000.00
Computer charges including Dal. system, software, access to information systems	<u>1,500.00</u>
	10,500.00
Subtotal	100,000.00

University Overhead	
(30% of staff salaries)	<u>24,600.00</u>
Total	124,600.00

Note: According to the new regulations, an overhead of 65% may be required. This would bring this amount up to \$53,300, and the total to \$153,300.

(II). Student Support, funded by
ICOD, Comsec, UNDP, UNESCO

10 scholarships for programme	
1986-87 @\$15,000	<u>150,000.00</u>
Total	150,000.00

(III) University In-Kind Support (within existing University budget)

Faculty & administrative time for programme development	30,000.00
Seminar speakers	4,000.00
Allocation of physical facilities and necessary office equipment & support services not outlined above	<u>12,000.00</u>
Total	46,000.00

Grand total, at 30% overhead:	320,600.00
at 65% overhead:	349,300.00

<u>Years 2 and 3 (Total for each year)</u>	<u>Year 2</u>	<u>Year 3</u>
(I) Programme Operation - ICOD Funding)		
<u>Staff</u>		
Coordinator (salary & benefits	44,100	46,305
Executive Assistant	33,075	34,728
Secretary ($\frac{1}{2}$ time)	8,900	9,345
Tutors	<u>15,000</u>	<u>15,750</u>
	101,075	106,128
<u>Travel</u>		
Within region	2,000	2,000
overseas	<u>5,000</u>	<u>5,500</u>
	7,000	7,500
Total	7,000	7,500
<u>Other Expenses</u>		
As noted in Year 1 (incorporating inflationary cost increases	11,025	11,576
<u>Evaluation</u>		
Consultants' Services	<u>--</u>	<u>8,000</u>
Subtotals	119,100	133,204
University Overhead (30% of staff salaries	<u>30,322</u>	<u>31,838</u>

Note: If 65% overhead is required, this amount comes up to \$65,698 and \$68,983 respectively, with the respective totals as \$184,798 for the second year and \$202,187 for the third year.

		<u>Year 2</u>	<u>Year 3</u>
Totals	30% overhead	149,422	165,042
	65% overhead	<u>184,798</u>	<u>202,187</u>
		<u>149,422</u>	<u>165,042</u>
(II) <u>Student Support -ICOD et al.</u>			
15 Students, year 2			
20 students, year 3			
@ \$15,000		<u>225,000</u>	<u>300,000</u>
Total		225,000	300,000
(III) <u>University In-Kind Support</u>			
Faculty & administrative time for programme development		34,000	34,000
Allocation of physical facilities & office equipment & support not outlined above		<u>12,600</u>	<u>13,260</u>
		46,600	47,260

The budget can be summarized as follows:

	ICOD Input Overhead		Dal. in kind	student support	Total	
	30%	65%			30%	65%
Year 1	124,600	153,300	46,000	150,000	320,600	349,300
Year 2	137,577 149,422	184,798	46,600	225,000	421,022	456,398
Year 3	165,042	202,187	47,260	300,000	512,302	549,447
TOTAL	439,064	540,285	139,860	675,000	1,253,924	1,355,145

Overhead: $1,355,145 : 1,253,924 \times 100 = 8\%$ difference over 3 years 30% vs 65%.

Dal In-Kind: $139,860 : 1,355,145 \times 100 = 10\%$

ICOD Input: $540,285 : 1,355,145 \times 100 = 40\%$

Student Support: $675,000 : 1,355,145 \times 100 = 50\%$

Over-all Comments on Budget

Two major cuts have been made in this budget as compared with the budget of the previous version of the proposal. Costs for the core course have been practically omitted since it is assumed that the IOI course will be supported from other sources as heretofore. The IOI course would benefit from the award of a certain number of ICOD Diploma Scholarships, which would be allocated as follows:

Tuition, IOI programme	\$3,000.00
Tuition, Dalhousie	3,000.00
Living costs, 12 months @ \$600	7,200.00
overseas travel	<u>1,800.00</u>
Total	15,000.00

It is assumed that participants will continue to receive their salaries from their Government (this being the contribution that Governments make to the programme). \$15,000 are to cover merely the participant's costs while on mission with the programme. The amount of this scholarship is equivalent to that granted by the Commonwealth Secretariat for students working for their Ph.D.

The second major cut was made on the assumption that teaching materials will be developed by ICOD, albeit in close cooperation with Dalhousie.

The budget as presented has three major components:

1. Programme coordination and development. ICOD funded. This amounts to 40% of the total over the 3-year period.
2. Student support, funded through a variety of sources. The number of ICOD funded scholarships is negotiable. Student support amounts to 50% of the total over the 3-year period.
3. University support, in-kind. This amounts to 10% of the total over the 3-year period.

Assuming ICOD would support ten students per year, its total contribution to the programme would be \$993,750 over the 3-year period.

Unlike the previous budget, however, this budget is based

on the assumption that scholarships can begin in Year 1, since, with the inclusion of the IOI programme, both components of the programme are already essentially in place, so that the Certificate programme could begin in June, 1986, within the first year as programmed in this proposal. The proposal covers in fact three and a half years, including three full operational years plus the period of preparation, that is, September, 1985 - May 1989.

DALHOUSIE UNIVERSITY

PROPOSAL FOR DALHOUSIE/IOI/ICOD MARINE AFFAIRS

DIPLOMA PROGRAMME

INTRODUCTION

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The full-time Programme Coordinator would be an individual with advanced degree qualifications in marine affairs and academic experience on the staff of Dalhousie University. In addition an Executive Assistant would be required to serve practical needs in the core course and, more generally, in the implementation of the programme.

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A series of written and audio-visual materials, covering a broad spectrum of marine affairs topics, should be developed. It is understood that this will be the responsibility of ICOD. Such material, however, cannot be developed in a vacuum. It is essential that it be produced in close cooperation with the programme itself. It will in fact largely emerge from the programme itself and needs evaluation through class use before finally being distributed internationally. The Programme Coordinator should advise ICOD in all phases of the preparation of this material.

Considering the variety and quality of printing devices and computerized word processing available at Dalhousie, it would be possible to create visually attractive written materials at reasonable costs. One might therefore consider the possibility of ICOD contracting out part of this work to Dalhousie.

STUDENT NUMBER AND SELECTION

A minimum number of students is ten, with a more desirable number being 15 to 20. Depending upon the success in attracting additional outside funding and in enrolling Canadian students, the programme may grow to accommodate up to 30.

Selection criteria will be roughly the same as those for the selection of IOI participants. They may be refined by the Programme Coordinator in consultation with the academic advisory group. Minimum English language proficiency level, at least one academic degree, experience in marine affairs, and geographic spread will be included as relevant factors in the selection. Nominations should be made by governments or paragovernmental institutions or intergovernmental organisations. All applications should be endorsed by applicant's government. This is essential for attracting additional funding, e.g., from the Commonwealth Secretariat. Final acceptance will be at the discretion of IOI and Dalhousie since individuals will be enrolled as non-degree students.

PROGRAMME APPROVAL

The first group will be given a certificate indicating their completion of a series of courses offered by the University, following completion of the IOI programme. Certificates are offered without formal approval by MPHEC or by the Senate (in contrast to degrees and diplomas, where not only the programme itself is approved but also the individual candidate's successful completion is approved). During the development year, a proposal for the diploma would be submitted to the Faculty of Graduate Studies, for eventual approval by Senate. Once approved there, the proposal would then be forwarded to MPHEC and, upon approval, the diploma could then be offered. This process may take 8-15 months. The certificate programme would be identical in content to the diploma programme.

Normally programmes operate from a department, school, or institute. This programme will require a base compatible with multidisciplinary perspectives. Diploma theses will require the approval of three professors in different disciplines.

BUDGET

Year 1

(I) Programme Development - ICOD Funding

(1) Staff

Coordinator (salary & benefits)	\$ 42,000.00
Executive Assistant	31,500.00
Secretarial Services ($\frac{1}{2}$ time)	<u>8,500.00</u>
	82,000.00

(2) Travel

Local, to develop linkages with other institutions	2,000.00
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overseas, to meet with other marine training units and to develop channels for student selection	<u>5,500.00</u>
	7,500.00

(3) Other Expenses

Communications, incl. postage, telex, long distance phone, courier	6,000.00
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xerox, supplies & materials	3,000.00
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Computer charges including Dal. system, software, access to information systems	<u>1,500.00</u>
	10,500.00

Subtotal	100,000.00
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University Overhead	
(30% of staff salaries)	24,600.00
Total	<u>124,600.00</u>

Note: According to the new regulations, an overhead of 65% may be required. This would bring this amount up to \$53,300, and the total to \$153,300.

(II). Student Support, funded by
ICOD, Comsec, UNDP, UNESCO

10 scholarships for programme 1986-87 @\$15,000	<u>150,000.00</u>
Total	150,000.00

(III) University In-Kind Support (within existing University budget)

Faculty & administrative time for programme development	30,000.00
Seminar speakers	4,000.00
Allocation of physical facilities and necessary office equipment & support services not outlined above	<u>12,000.00</u>
Total	46,000.00

Grand total, at 30% overhead:	320,600.00
at 65% overhead:	349,300.00

<u>Years 2 and 3 (Total for each year)</u>	<u>Year 2</u>	<u>Year 3</u>
(I) Programme Operation - ICOD Funding)		
<u>Staff</u>		
Coordinator (salary & benefits	44,100	46,305
Executive Assistant	33,075	34,728
Secretary ($\frac{1}{2}$ time)	8,900	9,345
Tutors	<u>15,000</u>	<u>15,750</u>
	101,075	106,128
<u>Travel</u>		
Within region	2,000	2,000
overseas	<u>5,000</u>	<u>5,500</u>
	7,000	7,500
Total	7,000	7,500
<u>Other Expenses</u>		
As noted in Year 1 (incorporating inflationary cost increases	11,025	11,576
<u>Evaluation</u>		
Consultants' Services	<u>--</u>	<u>8,000</u>
Subtotals	119,100	133,204
University Overhead (30% of staff salaries	<u>30,322</u>	<u>31,838</u>

Note: If 65% overhead is required, this amount comes up to \$65,698 and \$68,983 respectively, with the respective totals as \$184,798 for the second year and \$202,187 for the third year.

~~175,111~~

		<u>Year 2</u>	<u>Year 3</u>
Totals	30% overhead	149,422	165,042
	65% overhead	184,798	202,187
		144,775	175,111
(II) <u>Student Support -ICOD et al.</u>			
15 Students, year 2			
20 students, year 3			
@ \$15,000		<u>225,000</u>	<u>300,000</u>
Total		225,000	300,000
(III) <u>University In-Kind Support</u>			
Faculty & administrative time for programme development		34,000	34,000
Allocation of physical facilities & office equipment & support not outlined above		<u>12,600</u>	<u>13,260</u>
		46,600	47,260

The budget can be summarized as follows:

	ICOD Input Overhead		Dal. in kind	student support	Total	
	30%	65%			30%	65%
Year 1	124,600	153,300	46,000	150,000	320,600	349,300
Year 2	137,377 149,422	184,798	46,600	225,000	421,022	456,398
Year 3	165,042	202,187	47,260	300,000	512,302	549,447
TOTAL	439,064	540,285	139,860	675,000	1,253,924	1,355,145

Overhead: $1,355,145 : 1,253,924 \times 100 = 8\%$ difference over 3 years 30% vs 65%.

Dal In-Kind: $139,860 : 1,355,145 \times 100 = 10\%$

ICOD Input: $540,285 : 1,355,145 \times 100 = 40\%$

Student Support: $675,000 : 1,355,145 \times 100 = 50\%$

Over-all Comments on Budget

Two major cuts have been made in this budget as compared with the budget of the previous version of the proposal. Costs for the core course have been practically omitted since it is assumed that the IOI course will be supported from other sources as heretofore. The IOI course would benefit from the award of a certain number of ICOD Diploma Scholarships, which would be allocated as follows:

Tuition, IOI programme	\$3,000.00
Tuition, Dalhousie	3,000.00
Living costs, 12 months	
@ \$600	7,200.00
overseas travel	<u>1,800.00</u>
Total	15,000.00

It is assumed that participants will continue to receive their salaries from their Government (this being the contribution that Governments make to the programme). \$15,000 are to cover merely the participant's costs while on mission with the programme. The amount of this scholarship is equivalent to that granted by the Commonwealth Secretariat for students working for their Ph.D.

The second major cut was made on the assumption that teaching materials will be developed by ICOD, albeit in close cooperation with Dalhousie.

The budget as presented has three major components:

1. Programme coordination and development. ICOD funded. This amounts to 40% of the total over the 3-year period.
2. Student support, funded through a variety of sources. The number of ICOD funded scholarships is negotiable. Student support amounts to 50% of the total over the 3-year period.
3. University support, in-kind. This amounts to 10% of the total over the 3-year period.

Assuming ICOD would support ten students per year, its total contribution to the programme would be \$993,750 over the 3-year period.

Unlike the previous budget, however, this budget is based

on the assumption that scholarships can begin in Year 1, since, with the inclusion of the IOI programme, both components of the programme are already essentially in place, so that the Certificate programme could begin in June, 1986, within the first year as programmed in this proposal. The proposal covers in fact three and a half years, including three full operational years plus the period of preparation, that is, September, 1985 - May 1989.

DALHOUSIE UNIVERSITY

PROPOSAL FOR A DALHOUSIE/IOI/ICOD MARINE AFFAIRS

DIPLOMA PROGRAMME

SUMMARY

In cooperation with the International Ocean Institute and the International Centre for Ocean Development, Dalhousie University proposes to initiate a Marine Affairs Diploma Programme. The programme will last one year, from June through May. The programme will be designed primarily for civil servants from developing countries. It would also be available to Canadians with an interest in marine management issues. The programme would consist of two parts: (a) an intensive, 10-week marine policy course, (June/August), and (b) one full academic year of course work. ICOD is requested to provide \$576,430 to support the costs nine months of development and the initial three years of the actual programme. This amount includes \$135,000 in tuition fees for the IOI summer course at Dalhousie which will form the initial multidisciplinary phase of the diploma programme.

DALHOUSIE UNIVERSITY
PROPOSAL FOR DALHOUSIE/IOI/ICOD MARINE AFFAIRS
DIPLOMA PROGRAMME

INTRODUCTION

Since 1949 Dalhousie University has been developing teaching and research programmes in the field of marine affairs. Initially, this effort focussed exclusively on the marine sciences, and by the 1960's Dalhousie had achieved international prominence as one of the leading oceanographic centres in North America, greatly reinforced by the wealth of expertise available at the Bedford Institute of Oceanography and other research and teaching institutions in the Atlantic region. In the early 1970's the University began to develop teaching and research capabilities in the marine-related areas of law and social sciences. By the late 1970's no less than seven institutes with ocean-related interests had emerged at Dalhousie University, and a proliferation of both graduate and undergraduate courses in marine affairs had taken place in various faculties on the campus.

For the last five years the International Ocean Institute has undertaken short (ten week) training programmes in marine affairs in cooperation with Dalhousie University. These successful courses have attracted government officials from over thirty developing countries to the Dalhousie campus. Outstanding lecturers have come from all parts of the world as well as from United Nations agencies and institutions. Moreover, the research activities of several institutes and departments in both the physical and social sciences have taken Dalhousie ocean-related scholars out into several developing regions, especially the Caribbean, Africa and South East Asia. Dalhousie ocean-related scholars have also participated in the IOI regional training programmes, in the Pacific and Indian Oceans and in the Caribbean. Dalhousie marine related activities thus have become part of a global network. Dalhousie's long-term involvement with development studies generally was reinforced by the recent establishment of the Pearson Institute for International Development, reflecting the University's commitment to Canadian international development assistance both within and beyond the field of marine affairs.

In light of the priority assigned to marine affairs and international development, Dalhousie University feels that it has a major role to play in the development and implementation of a variety of training programmes in the field of marine affairs, especially training programmes designed for the benefit of governments and other institutions in developing countries. The year-long diploma course proposed in this document is the next logical step toward this end, and it is believed that such a programme would supplement shorter and longer term training programmes that are already available at Dalhousie and around the world.

The proposed diploma would be available to, and oriented toward, the needs of civil servants and decision-makers in marine affairs from developing countries. These individuals would be supported through ICOD, the Commonwealth Secretariat, UNESCO, UNDP, or their own governments. It is anticipated, and hoped, that the programme would become a "flagship" effort for ICOD. The diploma programme also will be available to interested Canadians, especially those currently engaged in work pertaining to marine affairs.

It is anticipated that the programme will take a full calendar year to complete, starting in June with a multi-disciplinary marine policy programme followed by an academic year (September-May) of project work and the writing of a thesis. The time frame of the proposal is a preparatory period of nine months, followed by a trial period of three years. Over this time period it is proposed that a programme development sequence take place as noted below. The first three years will be a trial period, with a certificate presented for work completed until a diploma programme can be formally approved by the Maritime Provinces Higher Education Commission.

DEVELOPMENT PHASES

Preparatory Phase	1 September 1985 - 31 May 1986. Programme development and materials preparation phase. Intra-university coordination and co-ordination with other institutions (BIO, St. Mary's, etc.)
Certificate Phase (Year 1)	1 June 1986 - 31 May 1987 Programme development continued. June - August: marine policy programme September - May: course and thesis work leading to the certificate
Diploma Phase (Years 2 and 3)	1 June 1987 - May 31, 1989 Programme development continued. June - August: marine policy programme September - May: course and thesis work leading to the diploma

PROGRAMME CONTENT

The central core of the diploma programme will be an intensive, multi-disciplinary course in marine affairs. This course will analyze current concepts in marine policy, management, law of the sea, (national, regional, and global) and ocean use. Since this is the content of the IOI course which

is held at Dalhousie each summer, we propose to utilize this programme as the initial phase of the diploma programme. Beginning in 1986 the IOI programme thus would have a dual function: some students will attend, as heretofore, the ten-week programme and, upon its completion, will be awarded an IOI certificate. Other students will move on to the diploma programme of which the IOI summer programme would constitute the first part.

Following completion of this introductory overview, diploma students would move on to an academic program based substantially on courses already offered at the university. The students would be expected to participate in a seminar course which would continue the themes developed during the summer.

The general organization of the course will be as follows:

Phase I: June - August

Multi-disciplinary overview: in cooperation with IOI. As an illustration, the syllabus for the current IOI training programme is attached as Annex 1.

Phase II: September - May

A number of procedural options will be offered during the normal academic year. The choice of option will be determined by the interests and qualifications of individual students.

- (a) Course option - Students may choose three to five full-credit courses from the regular University programme dealing with ocean affairs. Students will be encouraged to select at least one course in the marine sciences, one course in the social sciences and one course in law or administration. Certain courses at St. Mary's University may also be included. Where existing courses are too advanced (especially in the sciences), a tutorial system will be used as necessary, with tutorials led by research fellows and graduate students. It is also possible that special courses may evolve in response to needs arising from experience with the first few groups. Initially, however, students will select from current undergraduate and graduate courses. The students will be evaluated according to standards applied to all other students in the particular course.
- (b) Thesis option - As part of their program students might select a thesis course which would allow them to focus on a specific project leading to a diploma thesis on any of the following inter-disciplinary subjects:

- 1. Management of living resources
- 2. Management of non-living resource
- 3. Shipping and navigation; management of ports and harbours
- 4. Regional development
- 5. Public administration in marine affairs

6. Marine ecology and coastal management
7. Marine economics
8. Law of the Sea
9. Monitoring and surveillance
10. Environmental and occupational health of offshore labour.

(c) Practicum option - if suitable to their specialty and future employment, students would be posted as assistants and observers in scientific laboratories (BIO), in industry and government jobs (the Navy) for a period of eight months. Students would be evaluated on the basis of a comprehensive report which would be equivalent to a diploma thesis.

Introduction and Orientation

During the first weeks of the inter-disciplinary summer course, an initial assessment of skills and language levels will be made. If language skills are inadequate, intensive language training will be built into the programme. This will usually be accomplished by asking students to select a language course as one of their courses during the regular academic year. If additional assistance is required, attempts would be made to have the appropriate training available at St. Mary's University. This would entail additional costs.

Overall Organization and Course Load

Phase I of the programme consists of 300 class hours. Phase II will incorporate a load equivalent to 3 to 5 two-semester courses. The details of organization, including identification of courses and development of modules for the core course, will be a prime responsibility of the programme coordinator, with input from an academic advisory group.

ROLE OF COORDINATOR AND STAFF

The diploma programme would be managed by a full-time Programme Coordinator who would be an individual with advanced degree qualifications in marine affairs and academic experience on the staff of Dalhousie University. The Coordinator would be responsible for overall supervision of the program, including syllabus development, student recruitment and fund-raising. An executive assistant would be required to assist the Coordinator in the implementation and administration of the programme.

An academic advisory group would assist the coordinator in determining the content and structure of the programme. This group would contain six to eight representatives of the key fields relevant to marine affairs. Members of this group might be drawn from outside Dalhousie. ICOD would be invited to name a representative to the group.

STUDENT NUMBER AND SELECTION

The program would require a minimum of ten students with a more desirable number being fifteen to twenty. Depending upon the success in attracting additional outside funding and in enrolling Canadian students the programme may grow to accommodate up to thirty.

Selection criteria in the first year of the programme will be similar to those currently used by the IOI. In subsequent years, the criteria will be determined by the university and will be comparable to the entrance criteria for Dalhousie's Faculty of Graduate Studies. Selection would be carried out by the academic advisory group in consultation with the Coordinator. Minimum English language proficiency level, at least one academic degree and experience in marine affairs, will be included as relevant factors in the selection.

PROGRAMME APPROVAL

The first group of students will be given a certificate indicating the completion of a series of courses offered by the university. Certificates are offered without formal approval by the MPHEC or by the Senate (in contrast to degrees and diplomas, where not only the programme itself is approved but also the individual candidate's successful completion is approved). During the development year a proposal for the diploma would be submitted to the Faculty of Graduate Studies for eventual approval by Senate. Once approved within the university the proposal would then be forwarded to MPHEC and, upon approval by the Commission, the diploma could then be offered. This process will take eight to fifteen months.

K. Lotter
says this
isn't true.
It came from
A. Hanson's
original proposal.

MATERIALS DEVELOPMENT

A series of written and audio-visual materials, covering a broad spectrum of marine affairs topics, should be developed. This material would be used in the summer multi-disciplinary program as well as in the seminar during the academic year. This proposal suggests that development of these materials become the responsibility of ICOD. It is essential, however, that the materials be produced in close cooperation with the staff of the programme. The impetus for development will largely emerge from the needs of the students and evaluation through class use will be required before the materials should be distributed internationally.

The variety and quality of printing devices and computerized word processing available at Dalhousie would make it possible to create visually attractive written materials at reasonable costs. ICOD might therefore wish to contract all or part of materials development to Dalhousie.

BUDGET

Preparatory Phase

1 September 1985 - 31 May, 1986

ICOD Funding

Salaries

Programme Coordinator (salary and benefits)	\$31,500
Secretary (half time)	8,025
	<hr/>
	\$39,525

Equipment

Office equipment and furnishings	8,000
	<hr/>
	8,000

Travel

Local, to develop linkages	1,500
Overseas, to meet with other marine training units and for student recruitment	4,000
	<hr/>
	5,500

Other expenses

Communication	4,500
Materials and supplies	2,250
	<hr/>
	6,750

University Overhead

65% of salaries	25,691
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Total	<hr/>	\$77,466
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University In-Kind Support

Faculty and administrative time	\$22,500
Physical Facilities	9,000

Total	<hr/>	\$31,500
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Year 1

ICOD Funding

Staff

Coordinator (salary and benefits)	\$ 42,000
Executive Assistant	31,500
Secretarial services (half time)	8,500
Tutors	14,000
	<hr/>
	96,000

Travel

Local, to develop linkages	2,000
Overseas, to meet with other marine training units and for student recruitment	5,500
	<hr/>
	7,500

Other Expenses

Communications	6,000
Materials and Supplies	3,000
	<hr/>
	9,000

IOI Tuition Fees

Ten students at \$3,000 per student	30,000
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University Overhead

65% of salaries	53,300
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Total

\$195,800

University In-Kind Support

Faculty and administrative time	30,000
Seminar speakers	4,000
Physical facilities	12,000
	<hr/>

Total

\$ 46,000

Years 2 and 3
(totals for each year)

Year 2

Year 3

ICOD Funding

Staff

Coordinator (salary and benefits)	\$ 44,100	\$ 46,305
Executive Assistant	33,075	34,728
Secretary (half time)	8,900	9,345
Tutors	18,000	21,000
	<hr/>	<hr/>
	104,075	111,378

Travel

Local	2,000	2,000
Overseas	5,000	5,500
	<hr/>	<hr/>
	7,000	7,500

Other Expenses

As noted in Year 1 (incorporating inflationary cost increases)	9,450	9,922
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IOI Tuition Fees

Fifteen and twenty students at \$3,000 per student	45,000	60,000
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Evaluation

Consultant's Services	---	8,000
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University Overhead

65% of salaries	65,698	68,983
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Total	<hr/> \$231,223	<hr/> \$265,783
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University In-Kind Support

Faculty and administrative time	34,000	34,000
Physical facilities	12,600	13,260

Total	<hr/> \$56,600	<hr/> \$47,260
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This budget has been prepared based on the assumption that the International Ocean Institute course at Dalhousie will function as the multi-disciplinary marine affairs program which forms an introduction to the diploma programme. ICOD will be asked to provide tuition to the IOI for each diploma student. It is estimated that the tuition costs will be \$3,000 per student. This item may be the subject of further negotiation between ICOD and the IOI.

If the IOI course is not used as the multi-disciplinary summer programme it will be necessary for the university to mount an equivalent course, either within the normal academic structure or as a special offering. The costs of such a course would include honoraria for instructors or faculty, travel and accommodation for non-Dalhousie speakers and the costs of field trips relevant to course content. We estimate that these costs are equivalent to the IOI tuition noted in the proposal. This is the case whether ICOD is asked to provide either the direct costs of a special course or Dalhousie tuition for a normal summer course.

We therefore recommend that, at least in the initial years of the diploma programme, ICOD provide tuition for students who register in the IOI course which is held at Dalhousie.

The budget does not include a category for student support. Such support is calculated to be \$15,000 to \$16,000 per student per year. This amount would provide university fees and living expenses for one year. ICOD may wish to provide scholarships in this amount to a limited number of students. It is anticipated that a number of other organizations and governments would be willing to provide such scholarships. We believe that the fact that the diploma will be offered by an academic institution will be a positive factor in the ability of programme staff and students to attract scholarship support.

SUMMARY

In cooperation with the International Ocean Institute and the International Centre for Ocean Development, Dalhousie University proposes to initiate a Marine Affairs Diploma Programme. The programme will last one year, from June through May. The programme will be designed primarily for civil servants from developing countries. It would also be available to Canadians with an interest in marine management issues. The programme would consist of two parts: (a) an intensive, 10-week marine policy course, (June/August), and (b) one full academic year of course work. ICOD is requested to provide \$576,430 to support the costs nine months of development and the initial three years of the actual programme. This amount includes \$135,000 in tuition fees for the IOI summer course at Dalhousie which will form the initial multidisciplinary phase of the diploma programme.

DALHOUSIE UNIVERSITY
PROPOSAL FOR DALHOUSIE/IOI/ICOD MARINE AFFAIRS
DIPLOMA PROGRAMME

INTRODUCTION

Since 1949 Dalhousie University has been developing teaching and research programmes in the field of marine affairs. Initially, this effort focussed exclusively on the marine sciences, and by the 1960's Dalhousie had achieved international prominence as one of the leading oceanographic centres in North America, greatly reinforced by the wealth of expertise available at the Bedford Institute of Oceanography and other research and teaching institutions in the Atlantic region. In the early 1970's the University began to develop teaching and research capabilities in the marine-related areas of law and social sciences. By the late 1970's no less than seven institutes with ocean-related interests had emerged at Dalhousie University, and a proliferation of both graduate and undergraduate courses in marine affairs had taken place in various faculties on the campus.

For the last five years the International Ocean Institute has undertaken short (ten week) training programmes in marine affairs in cooperation with Dalhousie University. These successful courses have attracted government officials from over thirty developing countries to the Dalhousie campus. Outstanding lecturers have come from all parts of the world as well as from United Nations agencies and institutions. Moreover, the research activities of several institutes and departments in both the physical and social sciences have taken Dalhousie ocean-related scholars out into several developing regions, especially the Caribbean, Africa and South East Asia. Dalhousie ocean-related scholars have also participated in the IOI regional training programmes, in the Pacific and Indian Oceans and in the Caribbean. Dalhousie marine related activities thus have become part of a global network. Dalhousie's long-term involvement with development studies generally was reinforced by the recent establishment of the Pearson Institute for International Development, reflecting the University's commitment to Canadian international development assistance both within and beyond the field of marine affairs.

In light of the priority assigned to marine affairs and international development, Dalhousie University feels that it has a major role to play in the development and implementation of a variety of training programmes in the field of marine affairs, especially training programmes designed for the benefit of governments and other institutions in developing countries. The year-long diploma course proposed in this document is the next logical step toward this end, and it is believed that such a programme would supplement shorter and longer term training programmes that are already available at Dalhousie and around the world.

The proposed diploma would be available to, and oriented toward, the needs of civil servants and decision-makers in marine affairs from developing countries. These individuals would be supported through ICOD, the Commonwealth Secretariat, UNESCO, UNDP, or their own governments. It is anticipated, and hoped, that the programme would become a "flagship" effort for ICOD. The diploma programme also will be available to interested Canadians, especially those currently engaged in work pertaining to marine affairs.

It is anticipated that the programme will take a full calendar year to complete, starting in June with a multi-disciplinary marine policy programme followed by an academic year (September-May) of project work and the writing of a thesis. The time frame of the proposal is a preparatory period of nine months, followed by a trial period of three years. Over this time period it is proposed that a programme development sequence take place as noted below. The first three years will be a trial period, with a certificate presented for work completed until a diploma programme can be formally approved by the Maritime Provinces Higher Education Commission.

DEVELOPMENT PHASES

Preparatory Phase	1 September 1985 - 31 May 1986. Programme development and materials preparation phase. Intra-university coordination and co-ordination with other institutions (BIO, St. Mary's, etc.)
Certificate Phase (Year 1)	1 June 1986 - 31 May 1987 Programme development continued. June - August: marine policy programme September - May: course and thesis work leading to the certificate
Diploma Phase (Years 2 and 3)	1 June 1987 - May 31, 1989 Programme development continued. June - August: marine policy programme September - May: course and thesis work leading to the diploma

PROGRAMME CONTENT

The central core of the diploma programme will be an intensive, multi-disciplinary course in marine affairs. This course will analyze current concepts in marine policy, management, law of the sea, (national, regional, and global) and ocean use. Since this is the content of the IOI course which

is held at Dalhousie each summer, we propose to utilize this programme as the initial phase of the diploma programme. Beginning in 1986 the IOI programme thus would have a dual function: some students will attend, as heretofore, the ten-week programme and, upon its completion, will be awarded an IOI certificate. Other students will move on to the diploma programme of which the IOI summer programme would constitute the first part.

Following completion of this introductory overview, diploma students would move on to an academic program based substantially on courses already offered at the university. The students would be expected to participate in a seminar course which would continue the themes developed during the summer.

The general organization of the course will be as follows:

Phase I: June - August

Multi-disciplinary overview: in cooperation with IOI. As an illustration, the syllabus for the current IOI training programme is attached as Annex 1.

Phase II: September - May

A number of procedural options will be offered during the normal academic year. The choice of option will be determined by the interests and qualifications of individual students.

(a) Course option - Students may choose three to five full-credit courses from the regular University programme dealing with ocean affairs. Students will be encouraged to select at least one course in the marine sciences, one course in the social sciences and one course in law or administration. Certain courses at St. Mary's University may also be included. Where existing courses are too advanced (especially in the sciences), a tutorial system will be used as necessary, with tutorials led by research fellows and graduate students. It is also possible that special courses may evolve in response to needs arising from experience with the first few groups. Initially, however, students will select from current undergraduate and graduate courses. The students will be evaluated according to standards applied to all other students in the particular course.

(b) Thesis option - As part of their program students might select a thesis course which would allow them to focus on a specific project leading to a diploma thesis on any of the following inter-disciplinary subjects:

1. Management of living resources
2. Management of non-living resource
3. Shipping and navigation; management of ports and harbours
4. Regional development
5. Public administration in marine affairs

6. Marine ecology and coastal management
7. Marine economics
8. Law of the Sea
9. Monitoring and surveillance
10. Environmental and occupational health of offshore labour.

(c) Practicum option - if suitable to their specialty and future employment, students would be posted as assistants and observers in scientific laboratories (BIO), in industry and government jobs (the Navy) for a period of eight months. Students would be evaluated on the basis of a comprehensive report which would be equivalent to a diploma thesis.

Introduction and Orientation

During the first weeks of the inter-disciplinary summer course, an initial assessment of skills and language levels will be made. If language skills are inadequate, intensive language training will be built into the programme. This will usually be accomplished by asking students to select a language course as one of their courses during the regular academic year. If additional assistance is required, attempts would be made to have the appropriate training available at St. Mary's University. This would entail additional costs.

Overall Organization and Course Load

Phase I of the programme consists of 300 class hours. Phase II will incorporate a load equivalent to 3 to 5 two-semester courses. The details of organization, including identification of courses and development of modules for the core course, will be a prime responsibility of the programme coordinator, with input from an academic advisory group.

ROLE OF COORDINATOR AND STAFF

The diploma programme would be managed by a full-time Programme Coordinator who would be an individual with advanced degree qualifications in marine affairs and academic experience on the staff of Dalhousie University. The Coordinator would be responsible for overall supervision of the program, including syllabus development, student recruitment and fund-raising. An executive assistant would be required to assist the Coordinator in the implementation and administration of the programme.

An academic advisory group would assist the coordinator in determining the content and structure of the programme. This group would contain six to eight representatives of the key fields relevant to marine affairs. Members of this group might be drawn from outside Dalhousie. ICOD would be invited to name a representative to the group.

STUDENT NUMBER AND SELECTION

The program would require a minimum of ten students with a more desirable number being fifteen to twenty. Depending upon the success in attracting additional outside funding and in enrolling Canadian students the programme may grow to accommodate up to thirty.

Selection criteria in the first year of the programme will be similar to those currently used by the IOI. In subsequent years, the criteria will be determined by the university and will be comparable to the entrance criteria for Dalhousie's Faculty of Graduate Studies. Selection would be carried out by the academic advisory group in consultation with the Coordinator. Minimum English language proficiency level, at least one academic degree and experience in marine affairs, will be included as relevant factors in the selection.

PROGRAMME APPROVAL

The first group of students will be given a certificate indicating the completion of a series of courses offered by the university. Certificates are offered without formal approval by the MPHEC or by the Senate (in contrast to degrees and diplomas, where not only the programme itself is approved but also the individual candidate's successful completion is approved). During the development year a proposal for the diploma would be submitted to the Faculty of Graduate Studies for eventual approval by Senate. Once approved within the university the proposal would then be forwarded to MPHEC and, upon approval by the Commission, the diploma could then be offered. This process will take eight to fifteen months.

K. Lofgren
says the
MPHEC
is not
A. Hudson

MATERIALS DEVELOPMENT

A series of written and audio-visual materials, covering a broad spectrum of marine affairs topics, should be developed. This material would be used in the summer multi-disciplinary program as well as in the seminar during the academic year. This proposal suggests that development of these materials become the responsibility of ICOD. It is essential, however, that the materials be produced in close cooperation with the staff of the programme. The impetus for development will largely emerge from the needs of the students and evaluation through class use will be required before the materials should be distributed internationally.

The variety and quality of printing devices and computerized word processing available at Dalhousie would make it possible to create visually attractive written materials at reasonable costs. ICOD might therefore wish to contract all or part of materials development to Dalhousie.

BUDGET

Preparatory Phase

1 September 1985 - 31 May, 1986

ICOD Funding

Salaries

Programme Coordinator (salary and benefits)	\$31,500
Secretary (half time)	8,025
	<hr/>
	\$39,525

Equipment

Office equipment and furnishings	8,000
	<hr/>
	8,000

Travel

Local, to develop linkages	1,500
Overseas, to meet with other marine training units and for student recruitment	4,000
	<hr/>
	5,500

Other expenses

Communication	4,500
Materials and supplies	2,250
	<hr/>
	6,750

University Overhead

65% of salaries	25,691
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Total	<hr/>	\$77,466
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University In-Kind Support

Faculty and administrative time	\$22,500
Physical Facilities	9,000
	<hr/>

Total	\$31,500
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Year 1

ICOD Funding

Staff

Coordinator (salary and benefits)	\$ 42,000
Executive Assistant	31,500
Secretarial services (half time)	8,500
Tutors	14,000
	<hr/>
	96,000

Travel

Local, to develop linkages	2,000
Overseas, to meet with other marine training units and for student recruitment	5,500
	<hr/>
	7,500

Other Expenses

Communications	6,000
Materials and Supplies	3,000
	<hr/>
	9,000

IOI Tuition Fees

Ten students at \$3,000 per student	30,000
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University Overhead

65% of salaries	53,300
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Total

\$195,800

University In-Kind Support

Faculty and administrative time	30,000
Seminar speakers	4,000
Physical facilities	12,000
	<hr/>

Total

\$ 46,000

Years 2 and 3
(totals for each year)

Year 2

Year 3

ICOD Funding

Staff

Coordinator (salary and benefits)
Executive Assistant
Secretary (half time)
Tutors

\$ 44,100
33,075
8,900
18,000

\$ 46,305
34,728
9,345
21,000

104,075

111,378

Travel

Local
Overseas

2,000
5,000

2,000
5,500

7,000

7,500

Other Expenses

As noted in Year 1 (incorporating
inflationary cost increases)

9,450

9,922

IOI Tuition Fees

Fifteen and twenty students at
\$3,000 per student

45,000

60,000

Evaluation

Consultant's Services

8,000

University Overhead

65% of salaries

65,698

68,983

Total

\$231,223

\$265,783

University In-Kind Support

Faculty and administrative time
Physical facilities

34,000
12,600

34,000
13,260

Total

\$56,600

\$47,260

This budget has been prepared based on the assumption that the International Ocean Institute course at Dalhousie will function as the multi-disciplinary marine affairs program which forms an introduction to the diploma programme. ICOD will be asked to provide tuition to the IOI for each diploma student. It is estimated that the tuition costs will be \$3,000 per student. This item may be the subject of further negotiation between ICOD and the IOI.

If the IOI course is not used as the multi-disciplinary summer programme it will be necessary for the university to mount an equivalent course, either within the normal academic structure or as a special offering. The costs of such a course would include honoraria for instructors or faculty, travel and accommodation for non-Dalhousie speakers and the costs of field trips relevant to course content. We estimate that these costs are equivalent to the IOI tuition noted in the proposal. This is the case whether ICOD is asked to provide either the direct costs of a special course or Dalhousie tuition for a normal summer course.

We therefore recommend that, at least in the initial years of the diploma programme, ICOD provide tuition for students who register in the IOI course which is held at Dalhousie.

The budget does not include a category for student support. Such support is calculated to be \$15,000 to \$16,000 per student per year. This amount would provide university fees and living expenses for one year. ICOD may wish to provide scholarships in this amount to a limited number of students. It is anticipated that a number of other organizations and governments would be willing to provide such scholarships. We believe that the fact that the diploma will be offered by an academic institution will be a positive factor in the ability of programme staff and students to attract scholarship support.

DALHOUSIE UNIVERSITY

PROPOSAL FOR A DALHOUSIE/IOI/ICOD MARINE AFFAIRS

DIPLOMA PROGRAMME

1312 ROBIE STREET
HALIFAX, NOVA SCOTIA
CANADA B3H 3E2



DALHOUSIE UNIVERSITY

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INSTITUTE FOR RESOURCE AND ENVIRONMENTAL STUDIES

December 30, 1985

Memo to: T. Bowen
P. Lane
D. Vanderzwaag
E. Mann-Borgese ✓
I. Townsend Gault

From: A.J. Hanson *AJH*

Subject: ICOD Call For Proposal - Marine Affairs Diploma Program

Attached is the Call for Proposals letter received earlier in December. I would like to call a meeting of the Working Group to determine what response is desired to this letter. I suggest that we meet and then pass on our initial recommendations to the President's office before investing time in writing or rewriting a document of any substantial length. The deadline for proposals is 31 March 1986.

The meeting will be 4:00 p.m. Wednesday, 15 January at the Pearson Institute.

AJH/101

cc: R. Fournier